


Reformulated!
To enhance your experience.





**You asked for it...
AOCs is delivering!**

- ✓ Expanded
- ✓ Accommodating
- ✓ Dynamic

**See page 7 for the
new schedule!**

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103RD AOCS ANNUAL MEETING & EXPO

April 29–May 2, 2012

LONG BEACH CONVENTION CENTER
LONG BEACH, CALIFORNIA, USA

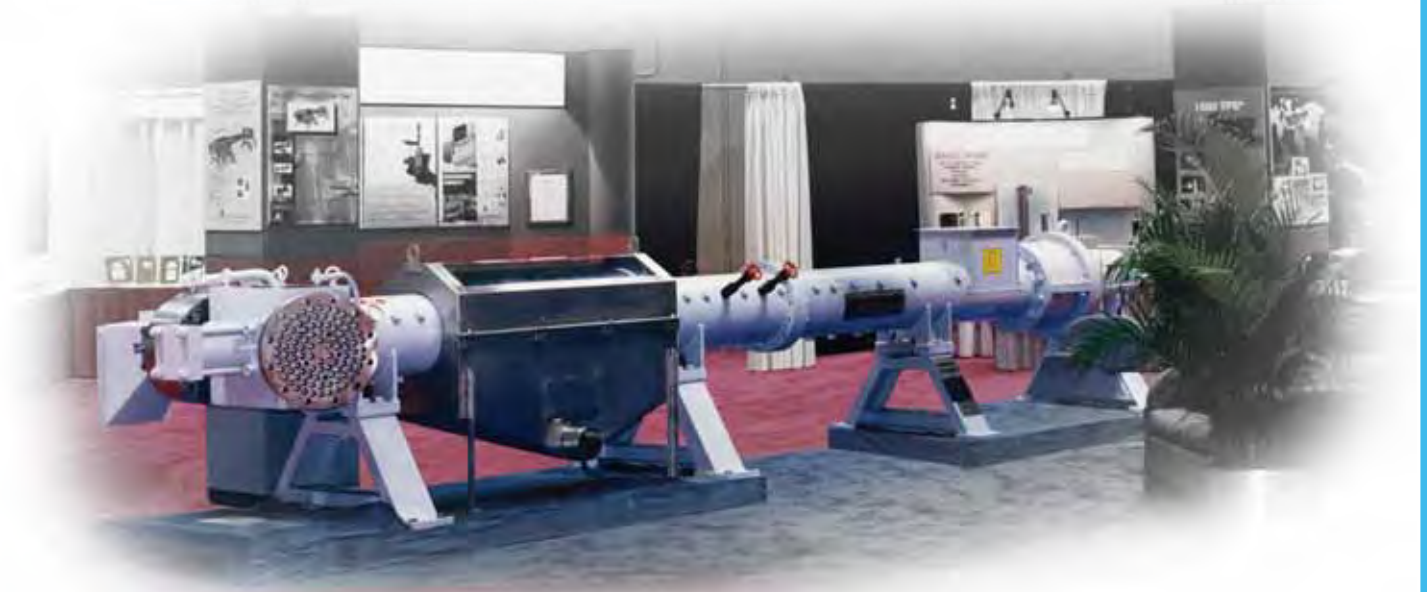
PROGRAM

Experience the science and business dynamics driving the global fats and oils industries.

DURABILITY

REPEATABLE RESULTS

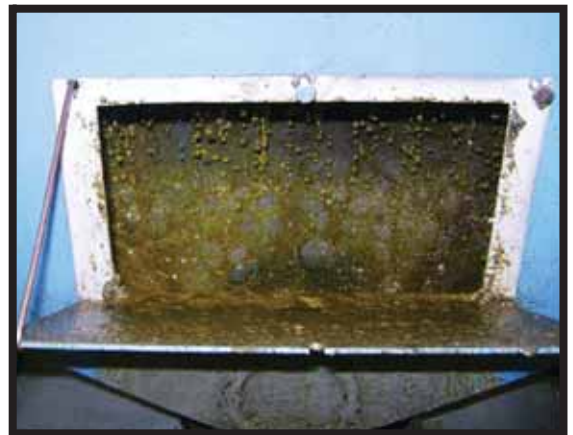
Introducing the Anderson 12" Hivex™ Series Expander



This new Anderson Hivex™ processes soybeans up to 2500 MTPD & high oil content seeds between 400-500 MTPD. It reduces oil content to 25-30% R.O. in high oil seeds and efficiently shears the oil cells to increase extractor capacities 25-50%.

Features:

- **Oil Drainage Cage**
- **Anderson Expeller® Shafts**
- **VFD Main Drive**
- **Hydraulically Operated Choke**
- **VFD Driven Feeder**



**ANDERSON
INTERNATIONAL
CORP** 

4545 Boyce Parkway, Stow, Ohio 44224 U.S.A.
Phone: (216) 641-1112 • Fax: (330) 688-0117
Website: <http://www.andersonintl.net>

Contact us today to learn more about how this unique oilseed processing machinery can benefit your current or future requirements.

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Put the people of Battelle to work for you. Today.
Stop by booth 343 to find out how.

800.201.2011
solutions@battelle.org
www.battelle.org

DURABILITY

REPEATABLE RESULTS

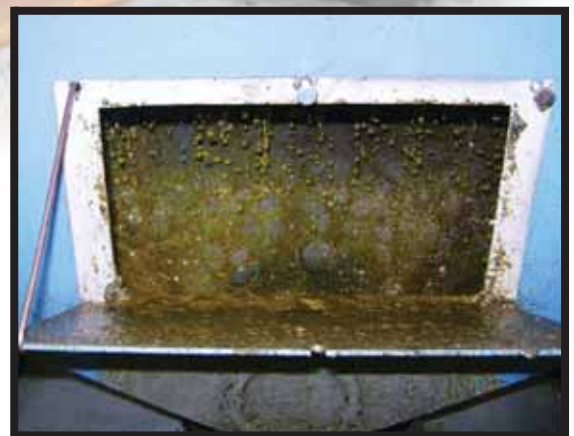
Introducing the Anderson 8" Dox/Hivex™ Series Expander

High Oil Content Seed Capacities, From 30-65 MTPD

This new Anderson Dry Dox/Hivex™ Expander reduces oil content to 19-25% R.O. and efficiently shears the oil cells to increase Expeller® capacities 40-100%.

Features:

- Oil Drainage Cage
- Anderson Expeller® Shafts
- V-Belt Drive
- Manually Operated Choke
- VFD Driven Feeder



**ANDERSON
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4545 Boyce Parkway, Stow, Ohio 44224 U.S.A.
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Web Site: <http://www.andersonintl.net>

*Contact us today to learn more
about how this unique oilseed
processing machinery can benefit
your current or future requirements.*

Welcome!

Dear Meeting Attendees,

It is with great pleasure that I welcome you to the 103rd AOCS Annual Meeting & Expo! This year promises to be filled with all of the benefits of past meetings, but **reformulated** to bring you an even better and more valuable meeting experience. Some new changes to this year's meeting are the addition of the Executive Fast Track, an Express Breakfast in the Expo Hall, The Forum on Emerging Technologies, and the Business Meeting/Keynote Luncheon on Monday, with an added dedicated Awards Session and Expo Break on Tuesday.



As always, three days of AOCS sessions provide you with the most up-to-date information and developments in the fats and oils fields and their related applications. The Opening Mixer and two Expo Receptions will offer you the opportunity to network with your colleagues while visiting with the exhibitors to find out about the latest in technology and services.

So, take advantage of all that this meeting has to offer to expand your knowledge, enhance your professional growth, and enrich your social and networking connections that make this face-to-face meeting irreplaceable.

I look forward to seeing you and hope that your 2012 experience is a memorable one.

Best regards,

Nurhan Turgut Dunford
General Chair
Professor
Oklahoma State University
Stillwater, Oklahoma, USA

THE ANNUAL MEETING EXPERIENCE

- 1,600+ Industry Professionals from 60+ Countries
- 12 Divisions/Interest Areas
- 7 Sections/Geographical Regions
- 68 Sessions
- 475 Oral Presentations
- 218 Poster Presentations
- 80+ Exhibiting Companies
- 100+ AOCS-Published Books, Scientific Methods, and Journals



Annual Business Meeting and Luncheon	26
AOCS Pavilion	10
Award Winners	24
CIG Networking Events	16
Corporate Members	5
Corporate Sponsors	9
Division Activities	18
Expo Guide	70
General Information	12
Indexes	81
Long Beach Information	14
Media Partners	9
Meeting Space Maps . . Program-at-a Glance	
Networking/Social Events	9
Presentation Information	33
Schedule by Day Program-at-a Glance	
Section Activities	19
Session Grids Program-at-a Glance	

AOCS—Over a Century of Service to the Fats and Oils Industries

Recognizing the need to standardize methodology and to foster new techniques, nine analytical chemists founded the American Oil Chemists' Society (AOCS) in 1909. This meeting continues the traditions developed in the Society's first century and is the launching point for new initiatives and technologies to foster increased growth for the industry over the next century.

AOCS Mission

To be a global forum to promote the exchange of ideas, information, and experience; to enhance personal excellence; and to provide high standards of quality among those with a professional interest in the science and technology of fats, oils, surfactants, and related materials.

Körting Clean and Efficient Vacuum Systems!



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**ACL
Alkaline Closed
Loop**

**103rd AOCS
Annual Meeting & Expo in
Long Beach, California,
April 29 - May 2, 2012,
Booth 438**

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ITS Testing Services (M) Sdn Bhd
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Modern Olives
MSM Milling PL
N. Hunt Moore & Assoc., Inc.
Nippon Yuryo Kentei Kyokai
Northstar Agri Industries
Novozymes AS
Novozymes North America, Inc.
Nutriswiss AG
NV Vandemoortele
OLYTRASA, Oleaginosas Tropicales
Pattyn Packing Lines NV
Peerless Holdings Pty., Ltd.
Perry Videx, LLC
Perten Instruments, Inc.
Plant Maintenance Service
Corporation
Pompe Cucchi Srl
Pompeian, Inc.
POS Bio-Sciences
Puerto Rico Dept. of Agriculture
Quala
Qualibet Testing Services Corp.
Rothsay, Maple Leaf Foods
Sanmark, Ltd.

Sea-Land Chemical Company
Separators, Inc.
SGS do Brasil, Ltda.
SGS Thailand, Ltd.
Silverson Machines Ltd.
Sime Darby Jomalina Sdn Bhd-
North Port
SNF Holding Company
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Solae, LLC
Solex Thermal Science, Inc.
Solvent Extractors Association of
India
Spectrum Organic Products
SPX Flow Technology
Sun Products Corporation
T6
Techno Sigma, Inc.
Thanakorn Vegetable Oil Products
Company, Ltd.
TMC Industries, Inc.
Tsuno Food Industrial Company,
Ltd.
Unilever R&D Port Sunlight Lab
Vegetable Oils & Fats Industrialists
Association Turkey
Ventura Foods, LLC
Wacker Chemie AG
WILD Flavors, Inc.
Wilmar Biotech R&D Center
Company, Ltd.
Wright Group
As of March 19, 2012

PILOT PLANT & ANALYTICAL SERVICES

ANALYTICAL

STRATAS FOODS ANALYTICAL LABS OFFER A COMPLETE RANGE OF SERVICES. IN ADDITION TO ROUTINE FATS AND OILS ANALYSIS, STRATAS FOODS IS QUALIFIED TO HANDLE:

- SOLID FAT CONTENT BY NMR
- DIFFERENTIAL SCANNING CALORIMETRY
- TRANS FATTY ACID BY GC
- OIL STABILITY INDEX (OSI)
- METTLER DROPPING POINT (MDP)

PILOT PLANT

STRATAS FOODS PILOT PLANT HAS THE CAPABILITY TO DEVELOP A WIDE RANGE OF FAT AND OIL BASED PRODUCTS FROM BENCHTOP TO 1,000 POUND BATCHES. SERVICES INCLUDE:

- REFINING
- DEODORIZING
- VOTATING
- BLEACHING
- HYDROGENATING
- CHEMICAL INTERESTERIFICATION

CONTACT

FOR MORE INFORMATION CALL 888-404-1004

- EXT 2237 FOR ANALYTICAL SERVICES
- EXT 4784 FOR PILOT PLANT SERVICES

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ACHIEVEMENTS



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STRATAS
FOODS

Check out what is new and different this year!

You asked for it...

AOCS is delivering!

Each year we strive to make the AOCS Annual Meeting & Expo better by bringing you the most current industry information and providing valuable networking opportunities.

✓ Expanded

More program topics, networking opportunities, and an increased focus on the driving force of business within the fats, oils, and home and personal care industries.

✓ Accommodating

Realigned meeting agenda with fewer scheduling conflicts; more opportunities.

✓ Dynamic

Thought-provoking keynote speaker and unique interactive events, including the Monday Expo Express Breakfast, The Forum, the AOCS Business Meeting/Luncheon, and more.

NEW Executive Fast Track

New to the 103rd Annual Meeting & Expo, this streamlined one-day package has been specifically designed to allow access to key sessions and networking opportunities for busy business executives in our industries who are not necessarily scientists, but whose jobs and companies rely on the research being done in fats, oils, oleochemicals, surfactants, and related materials.



New and Different

Executive Fast Track registration includes:

- Sunday Evening Opening Mixer
- Monday Expo Express Breakfast
- The Forum on Emerging Technologies
- Business Meeting/Luncheon and Keynote Address
- Monday Afternoon Sessions
- Monday Expo Networking Reception

NEW SCHEDULE OF EVENTS

Sunday, April 29	Monday, April 30	Tuesday, May 1	Wednesday, May 2
	7:30–9:00 am Expo Express Breakfast	7:00–7:55 am • Committee Meetings	7:00–7:55 am • Committee Meetings
9:00–11:45 am Division Leadership Meetings	9:00–11:45 am THE FORUM on Emerging Technologies	7:55–11:00 am Division Programming	7:55am–12:00 pm Division Programming
Reformulated! To enhance your experience.	12:00–1:55 pm Business Meeting/Luncheon with Keynote Address	11:00 am–12:15 pm Award Lectures and Recognition Plenary Session	
	1:55–5:00 pm Division Programming	12:30–1:55 pm Committee Meetings and Division/Section Luncheons	12:00–1:55 pm Committee Meetings and Division/Section Luncheons
1:00–5:00 pm Division and Committee Meetings		1:55–3:20 pm Division Programming	
		3:20–4:00 pm • Beverage Break in Expo Hall	
		4:00–6:00 pm Division Programming	1:55–5:00 pm Division Programming
5:30–7:00 pm • Opening Mixer	5:00–6:30 • Expo Networking Reception 5:30–6:30 • Poster Session—Authors Present 6:30–9:30 • Division Receptions/Dinners	6:00–7:30 • Expo Networking Reception 6:30–7:30 • Poster Session—Authors Present 7:30–9:30 • Division Dinners	



The Oilseed Industry Standard

French has been the leading supplier of oilseed processing machinery since 1900, providing innovative solutions in process technology that deliver maximum productivity and lower processing cost per ton. We are Your Partner in Processing.

Visit French in Booth 539



Cracking Mills



Flaking Mills



Screw Presses



French Oil Mill Machinery Co.
Piqua, Ohio, U.S.A. · 937-773-3420
www.frenchoil.com/oilseed-equipment.shtml

SOCIAL EVENTS

Opening Mixer

Sunday, April 29, 5:30–7:00 pm | Hall A | \$75

This event is included in the registration fee for full registrants, Executive Fast Track registrants, exhibit personnel, short course registrants, and guest package purchasers. Additional tickets may be purchased at the Registration Desk.

NEW Expo Express Breakfast

Monday, April 30, 7:30–9:00 am | Hall A

New this year is a continental breakfast being served in the Expo Hall just prior to The Forum. This is included in the fee for full registrants, Executive Fast Track registrants, exhibit personnel, Monday single-day registrants, and those who purchased the guest package.

NEW AOCs Annual Business Meeting/Luncheon

Monday, April 30, 12:00–1:00 pm

Grand Ballroom

Tickets not available on site

This event is included in the fee for all full registrants, Monday single-day registrants, Executive Fast Track registrants, and those who purchased the guest package.

Sponsored by
oil:dri
fluids purification

AOCs Press Social Hour

Monday, April 30, 5:30–6:30 pm | Hall A, Pavilion

Have a drink and spend some time with authors and editors of AOCs Press products. Get your book signed or learn how you can publish with AOCs Press.

Networking Receptions

Hall A | \$30

Monday, April 30, 5:00–6:30 pm
with Dedicated Poster Viewing
5:30–6:30 pm

Included in the registration fee for full registrants, Executive Fast Track registrants, Monday single-day registrants, exhibit personnel, and those who purchased the guest package. Additional tickets may be purchased at the Registration Desk.

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Tuesday, May 1, 6:00–7:30 pm

with Dedicated Poster Viewing 6:30–7:30 pm

Included in the registration fee for full registrants, Tuesday single-day registrants, exhibit personnel, and those who purchased the guest package. Additional tickets may be purchased at the Registration Desk.

NEW Networking Break

Tuesday, May 1, 3:20–4:00 pm | Hall A

Enjoy mid-afternoon refreshments at this new event which is included in the fee for full registrants, Tuesday single-day registrants, exhibit personnel, and those who purchased the guest package.

Thank you.

AOCs greatly appreciates the generous contributions from the following organizations. Without their assistance, the success of the 103rd AOCs Annual Meeting & Expo would not be possible.



Wireless Internet | Pens | Email Stations



AOCs Annual Business Meeting/
Luncheon



Monday Networking Reception



Badge Lanyards



The Chemical Company

Expo-To-Go



Industry

Notebooks

MEDIA PARTNERS

Biofuels International | F+L Asia | inform | Soyatech

Experience AOCS!

at the

Pavilion Hours

Sunday.....	10:00 am–7:30 pm
Monday.....	7:00 am–6:30 pm
Tuesday.....	7:00 am–7:30 pm
Wednesday.....	7:30 am–3:00 pm

Registration Area

- **Registration Desk** registrars provide meeting materials and offer assistance for purchasing on-site tickets.
- **Main Information Desk** attendants are available to assist you with any meeting- and AOCS-related questions.
- **Message Board** is available so you can leave messages for your colleagues. You may give messages for AOCS staff to the registrars.
- **Lost and Found** items can be turned in at the Registration Desk. Please check with the registrars for lost items.

Membership Area

Experience the member advantage!

- **Membership Area** hosts the awards display and member recognition boards. Stop by, browse, and find out how membership connects you to a world of resources!
- **AOCS Career Center** is free of charge to all meeting attendees. You are welcome to leave copies of résumés or job descriptions in the holders on the bulletin boards and to take copies of items of interest.

AOCS Press Bookstore

AOCS Press impacts the global fats and oils community through a variety of publications from our methods, special publications, and journals, to a variety of scientific books for all interest areas. Browse through our products and enjoy special conference discounts. We have Annual Meeting t-shirts, too!



AOCS Press Social Hour

Meet the authors and editors on Monday, April 30, from 5:30–6:30 pm.

Plinko returns!

Win prizes or receive additional discounts when you play this suspenseful game of chance at the AOCS Press Bookstore.

NEWCOMER OPPORTUNITIES

Newcomer Speed Networking

Sunday, April 29, 4:30–5:30 pm
Hall A, Pavilion

Meet fellow attendees in a relaxed environment and uncover the connections that lead to increased professional opportunities.

Newcomer Networking Breakfast


Monday, April 30, 7:30–9:00 am
Hall A, Pavilion


This is your opportunity to connect with professionals who can help you navigate the meeting's program and learn more about AOCS.




FREE Souvenir Photo and Social Media 101

LinkedIn, Facebook, and Twitter are not just for play! Stop by The Lab for a free souvenir photo and learn how to use social networking tools to enhance your professional and business development.

 Join us on LinkedIn

 Like us on Facebook

 Follow us on Twitter

AOCS Pavilion

Hall A

AOCS FOUNDATION Influencing Innovation



The Influencing Innovation Campaign raises money to fund the research and development of new products and services designed to continue building the global network you rely on.

Stop by the AOCS Foundation booth to make your contribution and learn more. Be a part of it!

17th Annual Student CIG Silent Auction

Sponsored by the AOCS Foundation and the Student Common Interest Group

This popular event begins at 1:00 pm on Sunday and ends at 6:30 pm on Tuesday. Now in its 17th year, the Silent Auction not only raises money for the outstanding AOCS Foundation student initiatives, but also generates friendly competition for the variety of creative items that are donated. Help support AOCS student programs by taking part in the bidding.

AOCS Meetings

Did you know in 2011 AOCS meetings, exhibitions, and short courses were attended by over 3,200 registrants and 155 exhibitors? Come see what meetings are coming up and what we can do for you! The AOCS Meetings schedule is on page 59.

TECHNICAL SERVICES



Stop by the Technical Services area to talk about how AOCS can help with achieving, maintaining, and promoting peak levels of laboratory accuracy and performance through our Methods and Proficiency Programs.

Expo 2012


Hall A

The AOCS Expo—the gathering place for delegates from around the globe—showcases more than 80+ exhibiting companies covering a variety of product categories:

- Consultants and Other Services
- Food Technology and Ingredients
- Instrumentation and Analytical Technology
- Non-Edible Products' Supplies and Services
- Processing/Manufacturing: Equipment Supplies and Services

The Expo Guide begins on page 70.

Also Available

- Email Stations *Sponsored by*  **DSM**
BRIGHT SCIENCE. BRIGHTER LIVING.
- Power outlets for charging laptops and mobile phones.



FREE WI-FI

Complimentary wireless Internet access is available in the Expo Hall during AOCS Pavilion hours. To access the complimentary Wi-Fi, enter:

Login: betterprocess

Password: purifineplc

The login and password are not case-sensitive.

Sponsored by:



12 GENERAL INFORMATION

Name Badges

Badge Lanyards sponsored by **NOVOZYMES**[®]
Rethink Tomorrow

Name badges are color-coded to indicate registration status:

All Full Registrations	Blue
Executive Fast Track	Yellow
Exhibit Personnel	White
Expo Pass	White
Guest	White
Monday Only	Yellow
Session Only	Red
Tuesday Only	Green
Wednesday Only	Purple

- Only registrants that have a badge with a *color* stripe are allowed to attend sessions.
- Badge checkers are present at the doors to all sessions, and only those with the correct badges are admitted.
- If you are not a full registrant, but would like to upgrade, please go to the Registration Desk.

Event Tickets

- Keep your tickets with you. Most AOCs events are ticketed functions and you will need your tickets to be admitted.
- Tickets fit inside your name badge holder for easy access.
- If you pre-registered, your tickets are in your registration envelope along with your name badge. If you registered on site, you received your tickets with your other meeting materials.
- You are encouraged to complete the reverse side of your name badge. This will help AOCs staff or medical personnel in case of an emergency situation.

Meeting Registration List

A link to the registration list for this meeting was emailed to all pre-registered delegates the week before the meeting. It is also available online at aocs.org/2012list.

Mobile Phones

During Sessions: Please turn off your mobile phone (or set it to vibrate).

Photography and Recording Policy

- **In the Session Rooms:** No video recording, tape recording, or still photography is allowed, except by registered media.
- **In the Expo Hall:** Video or still photography of exhibitors' booths is not allowed, unless permission is granted by the exhibitor. Video or still photography of poster presentations is also not allowed.

Smoking Policy

Smoking is prohibited at all AOCs functions.

Fire-Safety Precautions/Protection of Valuables

Please take a moment to familiarize yourself with fire-safety precautions that are posted in every hotel guest room. For your safety, double-lock the door when you are in your room, lock any connecting doors from your side, and make sure to lock your door when you leave your room. Hotels have limited liability regarding theft of personal property from hotel rooms, so please store extra cash or other valuables in a safe deposit box provided by the hotel.

Be Green! Donate Your Meeting Supplies

Don't want to take home your Annual Meeting portfolio bag, notepad, or pen? Please drop them off at the Registration Desk, and we will donate the items to local organizations.

You Can

Get involved and make a difference.

www.aocs.org/YouCan

Experience

AOCs 
Your Global Fats and Oils Connection

AT CROWN IRON WORKS, WE SEE A WHOLE LOT MORE THAN THE BEAN.

Crown Iron Works understands the oil processing industry well enough to know what revenue streams are important to you. Using this knowledge, we have worked endlessly to develop advanced processing technologies to improve your bottom line. Crown Iron Works' technologies are designed to give you the maximum return on your investment, so we can help you to grow your business, and grow it profitably. No other company protects your *people, performance, and profits* like Crown Iron Works, the world's leader in oilseed extraction.

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Processing Possibilities.

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call us today 1-651-639-8900 or visit us at www.crowniron.com

Additional offices in Argentina, Brazil, China, England, Honduras, India, Mexico, Moscow and the Ukraine.

14 LONG BEACH INFORMATION

Long Beach Convention Center

300 East Ocean Blvd.
Long Beach, California, USA
Tel: +1 562-436-3636
Fax: +1 562-436-9491

Annual Meeting Hotels

Hyatt Regency Long Beach

Headquarters Hotel
200 South Pine Ave.
Long Beach, California, USA
Tel: +1 562-491-1234
Fax: +1 562-432-1972

Hilton Long Beach & Executive Meeting Center

701 West Ocean Blvd.
Long Beach, California, USA
Tel: +1 562-983-3400
Fax: +1 562-983-1200

The Westin Long Beach

333 East Ocean Blvd.
Long Beach, California, USA
Tel: +1 562-436-3000
Fax: +1 562-436-9176

Best Western Convention Center

517 East 1st St.
Long Beach, California, USA
Tel: +1 562-285-0281
Fax: +1 562-285-0308

Courtyard Long Beach Downtown

500 East First St.
Long Beach, California, USA
Tel: +1 562-435-8511
Fax: +1 562-901-0296

Business Centers

All of the hotels in the AOCs block offer business centers. For a wider array of copying, printing, shipping, and other services, the following businesses are within walking distance of the convention center.

FedEx Office Print & Ship Center

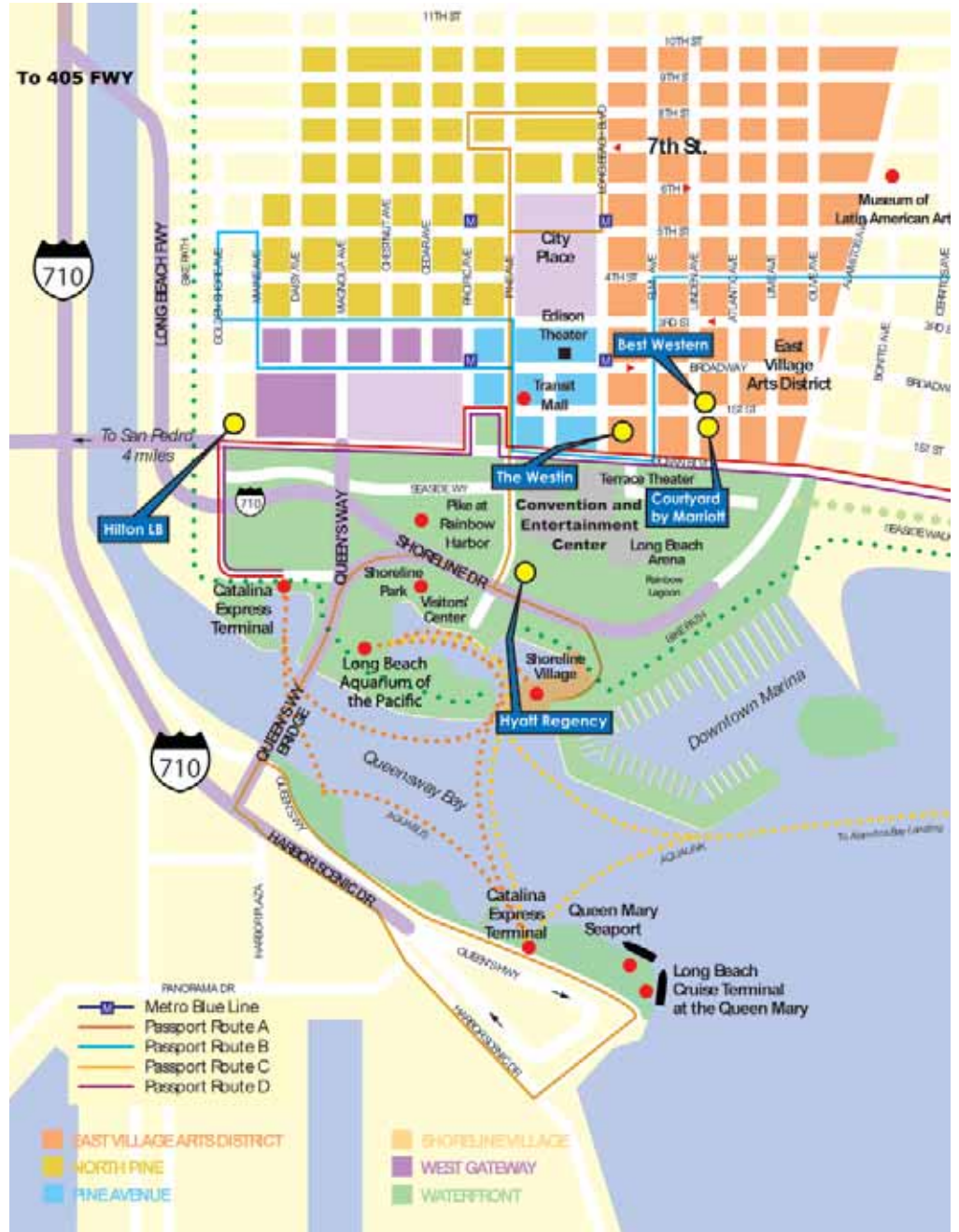
555 E Ocean Blvd., Suite 102
Long Beach, California, USA
Email: USA0328@fedex.com
Tel: +1 562-495-5767
Fax: +1 562-590-9051

Monday-Friday 7:00 am–11:00 pm
Saturday-Sunday 9:00 am–9:00 pm

The UPS Store #2896

65 Pine Ave.
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Sunday Closed



Monday-Friday
Saturday-Sunday

Long Beach Information Desk

Long Beach Convention Center
10:00 am–6:00 pm daily

Take advantage of special discounts and preferred placement when making restaurant reservations at the Long Beach Convention & Visitors Bureau Concierge Desk in the lobby of the Convention Center. Participating restaurants offer a variety of discounts, two-for-ones, reservation placement, and other enhancements. Offers vary depending upon the restaurant.

Long Beach Visitor/Transit Center

Pine Avenue and 1st Street (1-1/2 blocks from convention center)
11:30 am–4:30 pm daily

Aquarium of the Pacific

aquariumofpacific.org

Exclusive for attendees! Present your AOCS name badge for a special admittance price of only \$7.00 after 2:00 pm.

Home to more than 11,000 ocean animals representing nearly 500 species, this aquarium celebrates the planet's largest and most diverse body of water: the Pacific Ocean. Featuring 19 major habitats and 32 focus exhibits, this world-class institution offers visitors the opportunity to touch the sharks in Shark Lagoon, feed the winged residents of Lorikeet Forest, watch divers in the Blue Cavern or Tropical Reef habitats, and to observe experts working with sea otters, seals, and sea lions.



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16 CIG NETWORKING EVENTS

The Common Interest Groups (CIG) provide a mechanism not only for professional and mentoring activities, but also for the discussion and exchange of ideas for those involved within the group. Anyone interested is encouraged to attend the functions listed below.

Student CIG Business Meeting and Mentoring Session

Wednesday, May 2, 12:00–2:00 pm
Room 104 C

Professional Educators' CIG Business Meeting

Monday, April 30, 4:00–5:00 pm
Hyatt Regency, Shoreline B

17th Annual Student CIG Silent Auction

The AOCs Foundation hosts a silent auction on behalf of the students each year to help fund student programs. Stop by the auction to volunteer an hour of your time to help monitor the event. It's not hard work and anyone can do it. It's a good cause and a great way to start networking and building your professional contacts.



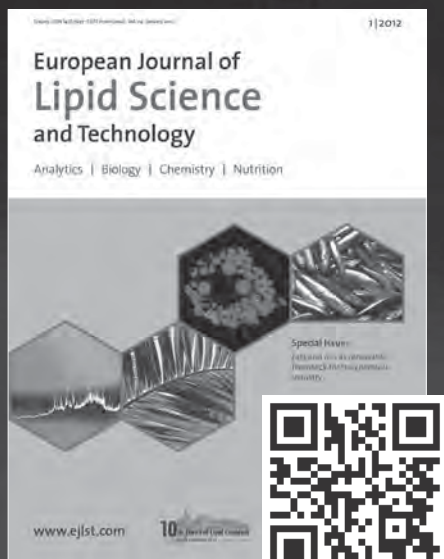
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DIVISION ACTIVITIES

Divisions provide a forum for individuals with similar interests to exchange ideas, develop programs and meetings, and publish related materials. Participation in Division functions is open to all, and anyone interested is encouraged to attend.

All incoming Division leadership meet on Sunday, April 29, Hyatt Regency, Harbor AB:

- Incoming Chairpersons: 9:00–9:45 am
- Incoming Vice Chairpersons: 10:00–10:45 am
- Incoming Secretary–Treasurers: 11:00–11:45 am

All Division Executive Steering Committees

Sunday, April 29, 1:00–2:30 pm, 104C

Division Council

Sunday, April 29, 2:30–3:30 pm, 104C

Note: Events not indicated as “Hyatt” take place at the Long Beach Convention Center.

Division	Roundtable	Networking Event(s)
AM	Monday, April 30 5:00–6:00 pm Room 202C	Luncheon: Tuesday, May 1 • 12:30–2:00 pm • Hyatt, Shoreline B Speaker: Glenn Kobata and Patricia Ramsey, California Food and Agriculture, USA <i>The Importance of Rice to California Agriculture</i>
ANA	Monday, April 30 5:00–6:00 pm Room 201A	Dinner: Tuesday, May 1 • 7:30–9:30 pm • Hyatt, Regency D Speaker: Wm. Craig Byrdwell, US Department of Agriculture, USA <i>Lessons Learned from Mass Spectrometry of Lipids</i>
BIO	Tuesday, May 1 12:30–1:30 pm Hyatt, Harbor C	Reception: Tuesday, May 1 • 7:00–7:30 pm • Hyatt, Regency A Dinner: Tuesday, May 1 • 7:30–9:30 pm • Hyatt, Regency B Speaker: Tadashi Ogawa, Research Institute for Development of Hypoallergenic Food, Japan <i>Japanese Paradox, Longevity and Soybean</i>
EAT	Tuesday, May 1 12:30–1:30 pm Hyatt, Seaview C	Dinner: Monday, April 30 • 7:30–9:30 pm • Hyatt, Regency EF Speaker: To be announced
FS&FF	No events scheduled	No events scheduled
H&N	Tuesday, May 1 12:45–1:45 pm, Room 103BC	Reception: Tuesday, May 1 • 7:00–7:30 pm • Hyatt, Regency A Dinner: Tuesday, May 1 • 7:30–9:30 pm • Hyatt, Regency B Speaker: Tadashi Ogawa, Research Institute for Development of Hypoallergenic Food, Japan <i>Japanese Paradox, Longevity and Soybean</i>
IOP	Monday, April 30 5:00–6:00 pm Room 202AB	Luncheon: Tuesday, May 1 • 12:30–2:00 pm • Hyatt, Regency B Speaker: Dan Ellig, Principal Engineer, uop—a Honeywell Company, USA <i>Renewable Jet Fuel</i>
LOQ	Monday, April 30 5:15–5:45 pm Room 101B	Reception: Tuesday, May 1 • 6:30–7:30 pm • Hyatt, Beacon Rotunda Dinner: Tuesday, May 1 • 7:30–9:30 pm • Hyatt, Regency EF Speaker: Ann-Dorit Moltke Sørensen, DTU Food, National Food Institute, Denmark <i>The Efficacy of Compounds with Different Polarities as Antioxidants in Emulsions with Omega-3 Lipids</i>
PHO	Tuesday, May 1 12:45–1:45 pm Room 103A	Dinner: Monday, April 30 • 7:30–9:30 pm • Hyatt, Regency EF Speaker: To be announced
PRO	Monday, April 30 7:30–8:30 am Hyatt, Shoreline A	Hospitality: Monday, April 30 • 7:00–10:00 pm • Hyatt, Suite 1726 Luncheon: Tuesday, May 1 • 12:00–2:00 pm • Hyatt, Regency EF Speaker: Robert L. Collete, President, Institute of Shortening and Edible Oils, USA <i>Issues and Policies Affecting the Edible Fats and Oils Industry</i>
PCP	Tuesday, May 1 12:30–1:30 pm Room 203C	Dinner: Tuesday, May 1 • 7:30–9:30 pm • Hyatt, Regency C Speaker: Elaine Krul, Science Fellow & Lead, Nutrition Discovery, Solae, USA <i>Soy: The Other High Quality Protein</i>
S&D	Monday, April 30 5:00–6:00 pm Room 104A	Networking Reception: Monday, April 30 • 6:30–8:00 pm • Hyatt, Seaview Rotunda/Seaview C Luncheon: Tuesday, May 1 • 12:30–2:00 pm • Hyatt, Regency A Speaker: Robert Reiersen, Rhodia Inc., USA <i>“Super Phos” Esters: The Key to Higher Performance Products</i>

SECTION EVENTS

Sections provide a mechanism for AOCS members and others residing in the specific geographic region to get together regularly to discuss common interests. Section activities include short courses, conferences, and annual meetings.

Anyone interested is encouraged to attend any Section event.

Section Council

Meeting: Wednesday, May 2, 12:00–1:30 pm, Hyatt, Harbor AB

Section	Leadership Team Meeting	Networking Event(s)
Asian	Wednesday, May 2 • 8:30–9:30 am Hyatt, Harbor C	
Canadian	Monday, April 30 • 11:00 am–12:00 pm Hyatt, Harbor AB	Luncheon: Tuesday, May 1 • 12:30–2:00 pm • Hyatt, Regency C
European	Monday, April 30 • 9:00–10:00 am Hyatt, Regency C	Breakfast: Monday, April 30 • 7:30–9:00 am • Hyatt, Regency C
Latin American		Breakfast: Tuesday, May 1 • 7:00–8:30 am • Hyatt, Regency C
USA		Luncheon: Tuesday, May 1 • 12:30–2:00 pm • Hyatt, Seaview B Speaker(s): Marcel Lie Ken Jie, University of Hong Kong, China (Bailey Award winner) and Tanushree Tokle, University of Massachusetts-Amherst, USA (Hans Kaunitz Award winner)

2012 Division and Section Sponsors

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As of March 28, 2012



Booth #142

TOLL DISTILLATION

*High Vacuum
Short Path
Medium Vacuum*

High Vacuum Molecular Distillation (MD)

TMC has been molecular distilling (MD) since 1982 and has production throughput to over 20 million lbs./yr on short path thin film stills to meet increasing demands. These stills can each distill up to 400 lb./hr. We have very successfully distilled a variety of chemistries such as edible oils, essential oils, waxes, fragrances, algae oils flavors and specialty chemicals at high vacuum.

Applications

Molecular distillation of edible oils, essential oils, waxes, flavors, fragrances, algae oils and others.

Remove color bodies and other undesirable contaminants.

Deodorize many oils in a safe manner.

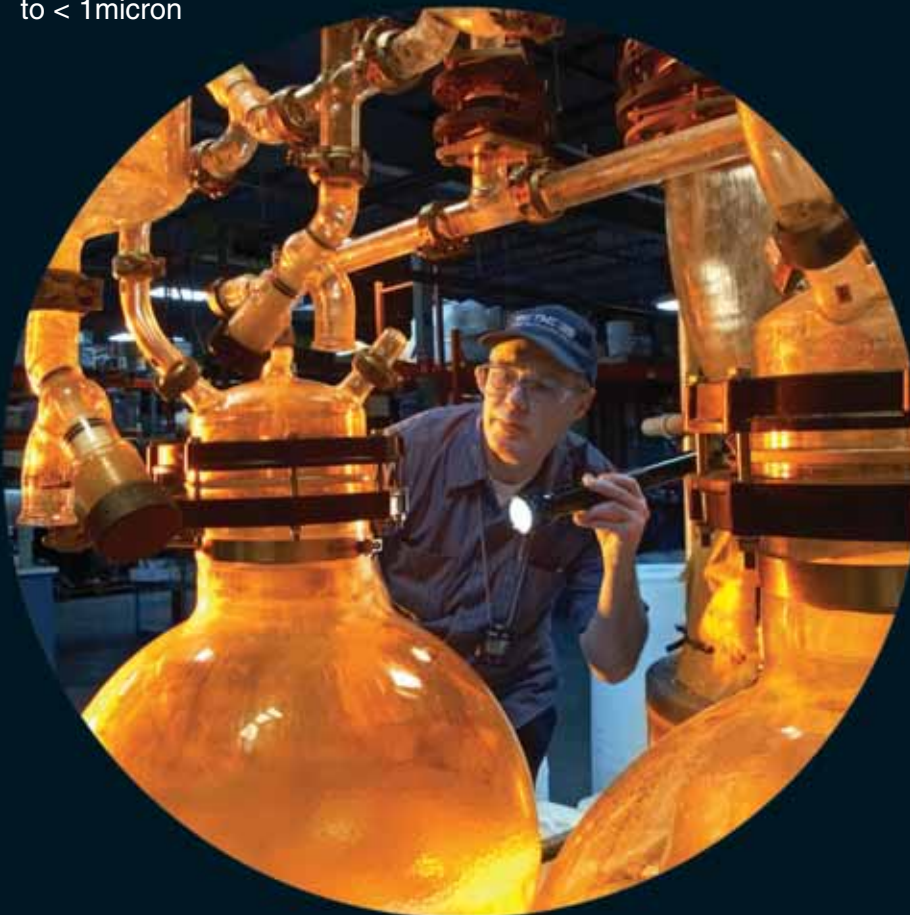
Fractionate high molecular weight resins.

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No capital expenditures/don't wait for expansion

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Low development costs with TMC's R&D

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Specialty chemicals that require medium to atmospheric distillation can be processed on this equipment and the separations can be very precise with the 20-40 theoretical plates on these stills. Very demanding distillations can be successfully accomplished.

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Algae Oils
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Cosmetics
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Molecular
Thin Film
High Vacuum



Cost/Benefits

No additional personnel required as TMC has experienced operators, Chemical Engineers and Chemists

Very competitive pricing with our high throughput production equipment

Over 30 years of experience in MD distillation

Get to the market earlier

Obtain value by distilling materials ordinarily disposed of

Work with TMC to obtain:

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TMC can do development projects on the smaller systems and scale up to larger quantities. A development run can determine yields and the best way to succeed with the process and product. We have many systems for R&D projects.

We have enough equipment to do your GMP kosher and specialty chemical projects on both the pilot and commercial scale machines. Let us develop a process for you and run it on one of our commercial machines. We are willing to take on difficult projects. Some of our largest customers have more equipment than us. Some customers always use our pilot machines. We look at long term relationships.

Quality Control

TMC has headspace and other capillary GC's, FTIR, UV Vis, colorimetry and other quantitative and qualitative methods.



You are invited to come and visit our facility in Waconia, MN.



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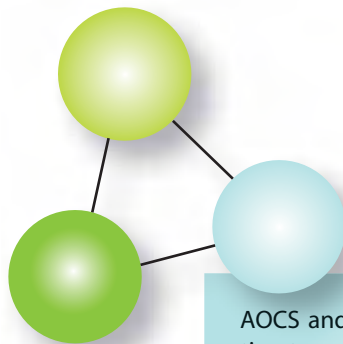
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website: www.tmcindustries.com e-mail: sales@tmcindustries.com

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Be a part of it!



AOCS and the AOCS Foundation are in a unique position to serve as the unifying platform for industry-wide engagement through the **Influencing Innovation Campaign**.

This campaign helps AOCS continue to advance the interests we serve in the following critical areas:

- **Technology** for professional collaboration problem solving.
- Global **Awareness** and thought leadership to drive innovation.
- **Knowledge** transfer through programs and products.

With shared investment and partnership by AOCS members, corporations, and other industry stakeholders, the AOCS Foundation is positioned to provide timely and value-based resources to meet the ever-changing needs of our constituents.

AOCS FOUNDATION
Influencing Innovation



Support the AOCS Influencing Innovation Campaign today!



Foundation Century Club

The AOCS Foundation gratefully acknowledges our 650+ Foundation Century Club members. See our distinguished list of Century Club members at www.aocsfoundation.org/centuryclub.cfm.

Honored Students

Thank you to AOCS members who included a donation to student programs when paying dues and to the following organizations for supporting the participation of the 2012 AOCS Honored Students at this year's Annual Meeting:

Nu-Chek-Prep Inc.

Appreciation is also extended to companies whose donations were received after the print deadline of March 1, 2012, for this program.

Be a Part of the Auction!

The AOCs Foundation is proud to again organize the Silent Auction, sponsored by the Student Common Interest Group (SCIG).

- Proceeds support student programs
- Bid generously on as many items as you like
- Auction starts on Sunday at 1:00 pm
- Bidding ends on Tuesday at 6:30 pm
- Visit the auction tables for bidding details
- Donations to the AOCs Foundation are tax-deductible

Visit the Silent Auction booth, located in the AOCs Pavilion, beginning Sunday and place your bids.

A special thank you to all companies, universities, and individuals who are helping to support the AOCs Foundation by donating their products and services, as well as bidding.



17th Annual Student CIG Silent Auction

Sponsored by the AOCs Foundation and Student Common Interest Group

The AOCs Foundation gratefully acknowledges and thanks the following organizations and individuals who donated products and services to the auction:

Agribusiness and Water Technology, Inc.—boxed golf balls
 Ag Processing, Inc.—duffle bag, leather tote, golf balls, cooler, thermos, fleece blanket, flashlight, boxed candies
 Dr. Casimir Akoh—gifts
 AkzoNobel Surface Chemistry—gifts
 American Emu Association—gift set
 Anonymous—multi-purpose shotgun tools, bore lights
 AOCs Administration Staff—gifts
 AOCs Advertising & Sales Department—full page, four color ad in inform
 AOCs Data Services—baking gift set
 AOCs Meetings Department—one full technical registration to the 104th AOCs Annual Meeting & Expo, May 2013
 AOCs Membership Department—gift basket
 AOCs Press—select books
 AOCs Technical Services—Official Methods and Recommended Practices of the AOCs, 6th Edition
 Archer Daniels Midland—logo wear, gifts
 BASF QTA—two sets QTA on-demand sample bundles for B100
 Bunge North America, Inc.—carving sets, maple syrup
 Ms. Ling-Zhi Cheong—bath gift set
 CPM Roskamp Champion—logo wear, gifts

Crown Iron Works—two “Literati” e-readers
 Dr. Erich Dumelin—gifts
 Dr. Sevim Erhan—gifts
 Ms. Kimmy Farris—framed photography
 Frito-Lay, Inc.—gifts
 Ms. Lee Ann Galaway—handmade journal
 GEA Westfalia Separator, Inc.—boxed wine glass set
 Genencor, A Danisco Division—gift
 Graham Corporation—Apple I-Pod Nano
 Dr. Frank Gunstone—antique books
 Dr. Steve Hill (Kraft Foods)—gift baskets
 Ms. Connie Hilson—photography
 K-State Alumni Association—commemorative book
 Kalsec, Inc.—golf balls, iTunes giftcard
 Körting Hannover AG—gift
 Leem Filtration—golf clubs, jacket, towel
 Mr. Gary List—gifts
 Long Beach Convention & Visitors Bureau—framed photography
 Ms. Amy Lopez—commemorative White House ornament
 Ms. Joy McLaugherty—Maker’s Mark gift basket
 Mecpro Heavy Engineering Ltd.—scarf, bracelet
 Mikrolab Aarhus—painting
 Dr. Bob Moreau—framed photography
 Nease Corporation—coffee mugs, polo shirt, bottle koozies
 Mr. Keith Nelms—hand-carved walking stick

Dr. Hans Nieuwenhuis—Dutch windmill collection golf balls
 Novozymes North America, Inc.—suitcase
 Nu-Chek-Prep, Inc.—gifts
 Oil-Dri Corporation—gifts
 Oils of Aloha—gift basket
 Oklahoma State University—spices gift basket
 optek-Danulat, Inc.—\$50 American Express gift card
 Ms. Nicole Philyaw—gift
 Rudolph Research Analytical—duffle bag, travel mugs, pens
 Supelco, Inc.—SP2560 capillary column, logo wear
 Surface Chemists of Florida, Inc.—remote control speedboat
 ThermPhos USA—golf shit, boxed golf balls
 Tourisme Montréal—museum passes, leather pouch, leather passport holder
 Tsuno Food Industrial Co., Ltd.—gifts
 Wacker Chemical Corporation—gift
 Waters Corporation—logo gifts
 Ms. Catherine Watkins—handmade sun book
 Mr. Neil Widlak—chocolate
 Mr. Jack Wolowiec—framed painting, t-shirt

Appreciation is also extended to donors whose items were received after the printing deadline of March 23, 2012 for this program.

24 AOCS AWARD WINNERS

AOCS honors those individuals and teams who have taken the industry to the next level, who have advanced the quality and depth of the profession, and who have leveraged their knowledge for the benefit of the Society.

Society Awards

A. Richard Baldwin Distinguished Service

Michael J. Haas, US Department of Agriculture, USA

Business Luncheon, Monday, Grand Ballroom

Fellows

Sevim Z. Erhan, US Department of Agriculture, USA

Richard W. Hartel, University of Wisconsin, USA

Steven E. Hill, Kraft Foods Inc., USA

Jerry W. King, University of Arkansas, USA

Luis Spitz, consultant, USA

Business Luncheon, Monday, Grand Ballroom

Scientific Awards

Supelco/Nicholas Pelick-AOCS Research

Casimir C. Akoh, University of Georgia, USA

Awards Plenary, Tuesday, Grand Ballroom

2012 Awards Sponsors

AOCS thanks all award sponsors for their generous support. Sponsors make it possible for AOCS to recognize outstanding scientists, researchers, technicians and students within our community.

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Stephen S. and Lucy D. Chang
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A/S

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Phospholipid Society (ILPS)

Kalsec, Inc.

Peter and Clare Kalustian Estate

Kraft North America

National Biodiesel Board (NBB)

Nu-Chek-Prep, Inc.

Nicholas Pelick

Milton Rosen

Vijai K.S. Shukla

Thomas Smouse and Family

Supelco, Inc.

Stephen S. Chang

Gary R. List, consultant, retired US
Department of Agriculture, USA

Awards Plenary, Tuesday, Grand Ballroom

George Schroepfer Medal

Michael R. Waterman, Vanderbilt
University, USA

STEROL 1, Tuesday, Room 101A

AOCS Young Scientist Research

Richard P. Bazinet, University of Toronto,
Canada

H&N 2, Tuesday, Room 103BC

Division/Section Awards

Analytical

Herbert Dutton

Wm. Craig Byrdwell, US Department of
Agriculture, USA

ANA Dinner, Tuesday, Hyatt, Regency D

Student Awards

Lisa Zhou, Pennsylvania State
University, USA

ANA Poster, Monday evening, Hall A

Alexia Agiomyrgianaki, University of
Crete, Greece

Not presenting

Biotechnology

Student Awards

Xue Pan, University of Alberta, Canada

BIO 3, Tuesday, Room 104B

Leslie Kleiner, The University of Georgia,
USA

BIO 3, Tuesday, Room 104B

Marya Aziz, McGill University, Canada

BIO Poster, Monday evening, Hall A

Edible Applications Technology

Timothy Mounts

Roman Przybylski, University of
Lethbridge, Canada

EAT 5, Wednesday, Room 102BC

Student Award

Ya'el Shufan, Hebrew University of
Jerusalem, Israel

EAT Poster, Tuesday evening, Hall A

Health and Nutrition

Student Award

Albert L. Zhou, Utah State University, USA

H&N 4, Wednesday, Room 103BC

Industrial Oil Products

ACI/NBB Glycerine Innovation

Adi Wolfson and Dorith Tavor, Sami
Shamoon College of Engineering, Israel

IOP 3, Tuesday, Room 202AB

Student Award

Rongpeng Wang, Missouri University of
Science and Technology, USA

IOP 4, Wednesday, Room 202AB

Processing

Student Award

Ehsan Jenab, University of Alberta,
Canada

PRO 4, Wednesday, Room 203AB

Surfactants and Detergents

Samuel Rosen Memorial

Robert L. Reiersen, Rhodia Inc., USA

S&D luncheon, Tuesday, Hyatt, Regency A

Student Award

Paul Tongwa, Missouri University of
Science and Technology, USA

S&D Poster, Tuesday evening, Hall A

USA Section

Alton E. Bailey

Marcel Lie Ken Jie, University of Hong
Kong, Hong Kong, China

USA Section Luncheon, Tuesday, Hyatt,
Seaview B

Hans Kaunitz

Tanushree Tokle, University of
Massachusetts-Amherst, USA

USA Section Luncheon, Tuesday, Hyatt,
Seaview B

Student Awards

AOCS Foundation

Thomas H. Smouse Memorial Fellowship

Bingan Chen, University of
Massachusetts-Amherst, USA

LOQ 5, Wednesday, Room 101B

Honored Students

Kollbe Ahn, Kansas State University,
USA [*Manuchehr Eijadi Award*]

PRO 4, Wednesday, Room 203AB

Seong-Chea Chua, Aarhus University,
Denmark

BIO 5, Wednesday, Room 104B

Anna Frisenfeldt Horn, Technical
University of Denmark, Denmark

EAT 5, Wednesday, Room 102BC

Ehsan Jenab, University of Alberta,
Canada

PRO 4, Wednesday, Room 203AB

Behnoush Maherani, Institut National
Polytechnique de Lorraine-Nancy, France

PHO 3, Tuesday, Room 103A

AOCS congratulates each of the 2011-2012 award recipients.

For detailed information on award lecture schedules, please refer to the Technical Program section.

Note: Events not indicated as "Hyatt" take place at the Long Beach Convention Center.

Atikorn Panya, University of
Massachusetts-Amherst, USA

LOQ 2, Tuesday, Room 101B

Jiajia Rao, University of Massachusetts-
Amherst, USA

EAT 4/S&D 4.1, Wednesday, Room 102BC

Utkarsh Shah, University of Arkansas, USA

ANA 4, Wednesday, Room 201A

Albert L. Zhou, Utah State University,
USA [Peter & Clare Kaulstian Award]

H&N 4, Wednesday, Room 103BC

Ralph Potts Memorial Fellowship

Chodchanok Attaphong, University of
Oklahoma, USA

S&D 1, Monday, Room 104A

Best Paper Awards

ADM/Protein & Co-Products Division Best Paper

Chemistry/Nutrition

*Comparison of Flavor Volatiles and Some
Functional Properties of Different Soy
Protein Products* (Journal of the American
Oil Chemists' Society 88:1621-1631)

N. Wu, L. Wang, X. Yang, S. Yin, Z. Teng,
and E. Zheng

PCP Dinner, Tuesday, Hyatt, Regency C

ADM/Protein & Co-Products Division Best Paper

Engineering/Technology

*Sunflower Protein Concentrates and
Isolates Prepared from Oil Cakes Have
High Water Solubility and Antioxidant
Capacity* (Journal of the American Oil
Chemists' Society 88:351-360)

P.R. Salgado, S.E. Molina Ortiz, S.

Petrucelli, and A.N. Mauri

PCP Dinner, Tuesday, Hyatt, Regency C

Edwin Frankel Award in Lipid Oxidation & Quality

*The Efficacy of Compounds with
Different Polarities as Antioxidants in
Emulsions with Omega-3 Lipids* (Journal
of the American Oil Chemists' Society
88:489-502)

A.-D. M. Sørensen, N.S. Nielsen, E.A.

Decker, M.B. Let, X. Xu, and C. Jacobsen

LOQ Dinner, Tuesday, Hyatt, Regency EF

Phospholipid Distinguished Paper

*Gut Flora Metabolism of Phosphatidyl-
choline Promotes Cardiovascular
Disease* (Nature 472: 57-63)

Z. Wang, E. Klipfell, B.J. Bennett, R. Koeth,

B.S. Levison, B. DuGar, A.E. Feldstein, E.B.

Britt, X. Fu, Y-M. Chung, Y. Wu, P. Schauer,

J.D. Smith, H. Allayee, W.H. Wilson Tang,

J.A. DiDonato, A.J. Lulis, and S.L. Hazen

PHO Dinner, Monday, Hyatt, Regency EF

ACI Distinguished Paper

*Comparison of a Cationic Gemini
Surfactant and the Corresponding
Monomeric Surfactant for Corrosion
Protection of Mild Steel in Hydrochloric
Acid* (Journal of Surfactants and
Detergents 14: 605-613)

M. Mahdavian, A.R. Tehrani-Bagha, and

K. Holmberg

S&D Luncheon, Tuesday, Hyatt, Regency A

oil:dri
fluids purification



pure:flo®
bleaching earths

Oil-Dri's adsorbent products have helped produce quality edible oils for over twenty-five years in more than sixty countries worldwide. Our Pure-Flo® and Perform® products deliver cost-effective options for purifying even the most difficult to bleach oils.



AOCS ANNUAL BUSINESS MEETING/LUNCHEON NEW

Sponsored by

oil:dri
fluids purification

Monday, April 30, 12:00–1:00 pm | Grand Ballroom

Tickets not available on site

AOCS President Erich Dumelin and AOCS Vice President Deland Myers are each delivering a brief address, Society and Fellow awards are presented, and routine AOCS business will be handled.

This event is included in the fee for all full registrants, Executive Fast Track registrants, and those who have purchased the guest package.

Keynote Address

Monday, April 30, 1:00–1:45 pm

Grand Ballroom

Tickets not required to attend the keynote address



Dr. Jackie Freiberg, best-selling author and leadership expert

Recognized as one of the “Top 30 Best Minds on Leadership” by *Leadership Excellence* magazine, Dr. Freiberg is one of the most sought-after female business speakers in the nation.

She is co-author (along with her husband, Kevin) of *NANOVIATION: How a Little Car Can Teach the World to Think Big and Act Bold*, and three other books. Her goal is to enable businesses to foster work environments where employees can ignite innovative and inspired professionalism.

Dr. Freiberg identifies what steps gutsy leaders must take to capture and motivate people while increasing profitability and maintaining competitiveness. For more information, visit her website at www.freibergs.com.

Society Awards

A.R. Baldwin Distinguished Service Award

Recognizes: Distinguished service to AOCS. The award was first presented in 1981 to Dr. A. Richard Baldwin to recognize his lengthy and distinguished service to AOCS and for his leadership within the Society.

Sponsored by: Cargill, Inc.



Michael J. Haas, Lead Scientist, US Department of Agriculture, ERRC, USA

Mike Haas exemplifies the spirit and intent of the award through his unselfishness, competent leadership, and dedication to the Society. He has had a long history of service to the Society including positions of high responsibility by serving on the AOCS Governing

Board, as Member-at-Large, Secretary, Vice President, and President (2005). For over 15 years, he has been involved in the editorship of *JAOCS*, and is presently a Senior Associate Editor. His major positive contributions ensure that *JAOCS* continues as the premier journal of the Society. In addition, he is a founding member of the Biotechnology Division and has served as Secretary/Treasurer/Vice Chairperson and Chairperson of the Division. Mike also has been involved in organizing sessions on biodiesel at various AOCS meetings, and has served as the General Chairperson of the International Congress on Biodiesel: The Science and The Technologies (2007, 2009).

During his tenure as President, AOCS experienced some major financial and organizational challenges. His considerable leadership skills and dedication to inclusiveness helped guide AOCS through the difficult decisions that redirected the organization on a new path that will ensure its health for years.

Mike's contributions to the Society are significant and have sustained over the past 22 years. AOCS applauds the exceptional leadership that he has provided to *JAOCS*, the AOCS Biotechnology Division, and ultimately to the entire international fats and oils community during his tenure as AOCS President.

Mike has received the Alton E. Bailey Award (AOCS, 2003) and the USB Industrial Uses of Soybean Oil Award (AOCS, 2011), and is an AOCS Fellow (AOCS, 2007).

AOCS Fellows

Recognizes: Veteran AOCS members whose achievement in science entitle them to exceptional recognition, or who have rendered unusually important service to the Society or to the profession, are eligible for Fellow membership status.



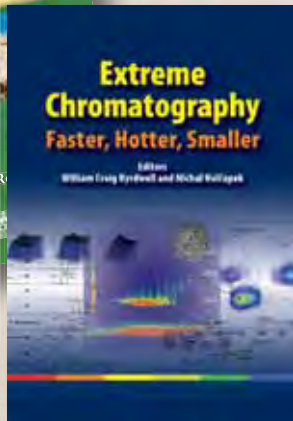
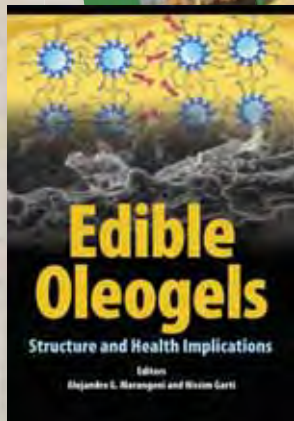
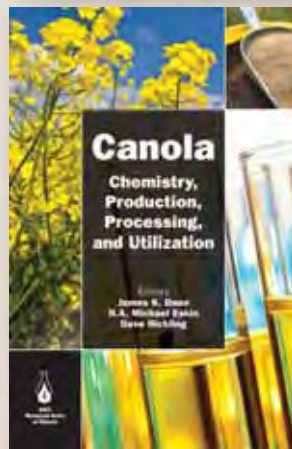
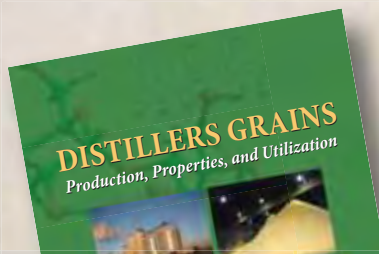
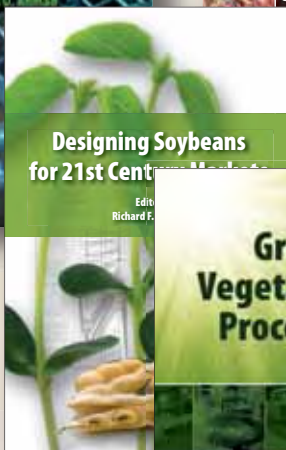
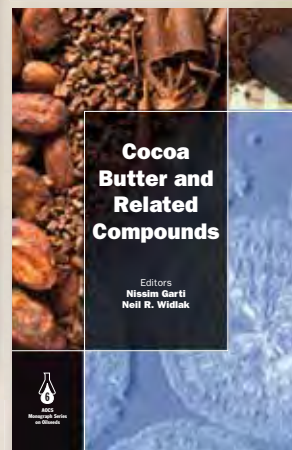
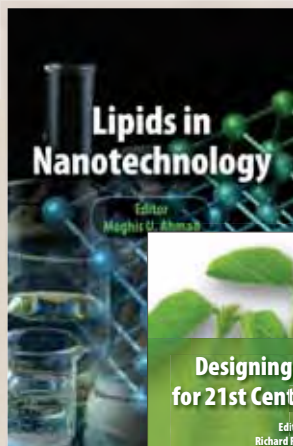
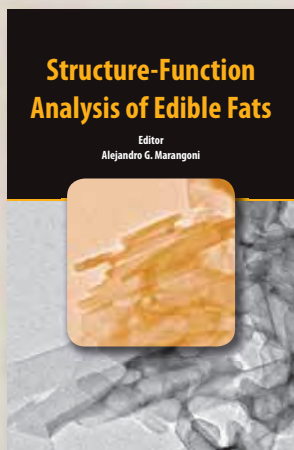
Sevim Z. Erhan, Center Director, US Department of Agriculture, ERRC, USA, is an established national and international authority on the industrial uses of vegetable oils. The results of her research in soy-based printing inks, hydraulic fluids, greases, lubricating oils and plastics have been adopted by the agribusiness community and created new uses and markets for industrial uses of vegetable oils. Her research accomplishments are documented in over 200 publications and US patents.

Sevim serves on the AOCS Governing Board (Secretary, 2010-2012, Member-at-Large, 2006-2009), and Publications Steering committee. She has been a leader in the Industrial Oil Products Division (Chairperson, 2008-2010), and program chair the World Conference on Oilseed Processing, Fats & Oils Processing, Biofuels & Applications (2011) and Technical



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Program Committee member of the World Conference and Exhibition on Oilseed and Vegetable Oil Utilization (2006).

Sevim received the Outstanding Achievement Award (NBB, 2009).



Richard W. Hartel, Professor, University of Wisconsin, USA, is a world-renowned scientist in the area of crystallization of fats, ice and sugars as well as an expert in products such as chocolate, ice cream and sugar candies. His research engages practical aspects of the food industry and helps address difficult problems they face.

Rich is the Editor-in-Chief for *JAOCs* and under his leadership the impact factor of *JAOCs* has increased significantly. In addition, Rich serves on the editorial boards of other technical food science journals. It is also noted, that Rich willingly offers his advice and shares his knowledge with others.

Rich is a Fellow (IFT, 2005), received the Timothy Mounts Award (AOCS, 2005), and the W. Cruess Teaching Award (IFT, 1998).



Steven E. Hill, Director, Kraft Foods Inc., USA, has been a leader in the work of the Society for his entire 25 years as an AOCS member. Beginning first with the North Central Section (now part of the USA Section), and contributing to *inform* as an Associate Editor (1992-2001). These interests were expanded into involvement with AOCS governance, AOCS Foundation, and organizing meetings and short courses. Steve served on the Governing Board (1999-2009) as Member-at-Large, Treasurer, and Secretary. His tenure as Treasurer was particularly helpful in guiding cultural changes at AOCS that laid the groundwork for a healthy financial state.

Steve is also a big proponent of student mentoring programs within AOCS and a passionate advocate for enhanced AOCS membership services. He received the Award of Merit from the University of Illinois, Urbana-Champaign (2012).



Jerry W. King, Professor, University of Arkansas, USA, is an international authority on critical fluid extraction technology and its applications to agricultural products, including fats and oils. He has published prolifically and contributes immensely to the exchange of ideas and enhancement of our understanding in the field of critical fluids technology. Analytical and separation

methodologies developed by him and his team using supercritical extraction and chromatography for lipid analysis and production are now adopted as standard methods.

Jerry has been actively involved in AOCS for well over two decades. He has organized many technical sessions, served as Associate Editor of *JAOCs*, on the Advisory Board of *inform* as well as holding leadership positions in the Analytical Division, including chairperson (2006-2008). With co-editor Gary List, he has contributed to AOCS Press books on *Supercritical Fluid Technology in Oil and Lipid Chemistry* and *Hydrogenation of Fats and Oils: Theory and Practice*, 2nd Edition. He has also lectured in several AOCS-sponsored short courses.

Jerry has received the Harvey W. Wiley Award (AOAC, 1997), Keene P. Dimick Award (Pittcon, 2000), and the Herbert Dutton Award (AOCS, 2003). Currently he is serving as Chairman of the 10th International Symposium on Supercritical Fluids (ISSF-2012).



Luis Spitz, consultant, USA, with more than three decades of service, is an icon for the soaps industry. His appreciation for the technology and history associated with soaps is legendary, and his personal soap museum, which AOCS has presented on more than one occasion, is extraordinary. Part of his personal museum was exhibited at the 95th AOCS Annual Meeting & Expo

under the title of *The History of Soaps and Detergents*. Later it was exhibited with ACI for their 80th celebration, entitled *The Evolution of Clean*.

His contributions to AOCS have been technical, cultural and historical. He has published four books through AOCS Press, chaired seven conferences and one short course. The goal of all these activities dedicated to Soaps, Detergents, Oleochemicals and Personal Care Products (under the acronym SODEOPEC) was bringing US, Latin American and other scientists from other countries together for technology exchange to better serve the needs of our industry.

Luis received the Award of Merit (AOCS, 1998) and the Surfactants and Detergents Division Distinguished Service Award (AOCS, 2004).

Tuesday, May 1, 11:00 am–12:15 pm | Grand Ballroom

Scientific Awards

Supelco/Nicholas Pelick—AOCS Research Award

Recognizes: Outstanding original research, as presented in high-quality technical papers regarding fats, oils, lipid chemistry, or biochemistry.

Award: Plaque, \$10,000 honorarium, and \$1,500 travel stipend.

Sponsored by: Supelco, Inc., a subsidiary of Sigma Aldrich Corp., and Nicholas Pelick, a longtime member and Past President of AOCS.



Casimir C. Akoh, Distinguished Research Professor, The University of Georgia, USA

Casimir Akoh has made creative, significant, and distinguished accomplishments in basic and applied research, and his laboratory and research are recognized worldwide. His research is based on the use of enzymes, specifically lipases and phospholipases, as biocatalysts for the modification of fats and oils for better health and functionality in foods. It also involves the modification of other lipids for use as flavor and fragrance materials. He has designed various structured lipids as infant-formula fat analogs, and has studied their applications in infant formula; synthesized *trans*-free structured lipids to replace hydrogenated fats and used them to make *trans*-free spreads, margarines, shortenings, etc.; and synthesized alkyl glycoside fatty-acid esters, and lysophospholipids for use as emulsifiers in foods and pharmaceuticals. Overall, Akoh's research has resulted in over 578 publications, and presentations that include up to 210 refereed publications, 39 book chapters, six books, three patents, 213 presentations, and more than 121 invited presentations at national and international conferences. He is an ISI Highly Cited Researcher in Agricultural Science.

fication of fats and oils for better health and functionality in foods. It also involves the modification of other lipids for use as flavor and fragrance materials. He has designed various structured lipids as infant-formula fat analogs, and has studied their applications in infant formula; synthesized *trans*-free structured lipids to replace hydrogenated fats and used them to make *trans*-free spreads, margarines, shortenings, etc.; and synthesized alkyl glycoside fatty-acid esters, and lysophospholipids for use as emulsifiers in foods and pharmaceuticals. Overall, Akoh's research has resulted in over 578 publications, and presentations that include up to 210 refereed publications, 39 book chapters, six books, three patents, 213 presentations, and more than 121 invited presentations at national and international conferences. He is an ISI Highly Cited Researcher in Agricultural Science.

Casimir Akoh has received many awards, including the Stephen S. Chang Awards (AOCS, 2004; IFT, 2008), Research and Development Award (IFT, 2008), the AOCS Biotechnology Division Lifetime Achievement Award (AOCS, 2009), and Fellow (IFT, 2005; ACS, 2006; AOCS, 2006). Akoh's noteworthy accomplishments are his leadership in defining the methods and conditions for the lipase-catalyzed modification of fats and oils and in spearheading efforts for their applications in food to benefit mankind.

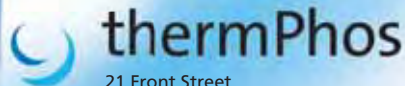
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Stephen S. Chang Award

Recognizes: A scientist, technologist, or engineer who has conducted distinguished basic research that was used by industry for the improvement or development of products related to lipids.

Award: Jade horse and \$4,000 honorarium.

Endowed by: The late Stephen S. Chang and his wife, Lucy D. Chang.



Gary R. List, consultant, retired US Department of Agriculture, USA

Gary List's long and distinguished career has resulted in improvements in the industrial processes for the production of fats and oils for human consumption. He has had a hand in at least some aspects of virtually every one of the major improvements in edible oil technology in the last four decades; from finding *trans*-fat alternatives, to developing tailored oils from genetically modified crops. List is the author of over 325 publications, proceedings, abstracts, and book chapters/books. He has presented 150 papers at national and international meetings, edited 7 books and made revisions to *Baileys Industrial Oil and Fat Products* (6th revision). He currently serves on the editorial boards of numerous journals including *JAOCS*, *inform*, the AOCs Lipid Library, and the *Journal of the Science of Food and Agriculture* (2002–2005).

Gary List has received many awards, including: A. Richard Baldwin Distinguished Service Award (AOCs, 2011), Tanner Lecture (IFT, 2011), Fellow Ag and Food Chemistry Division (ACS, 2011), Herbert J. Dutton Award, (AOCs, 2011), AOCs Processing Distinguished Service (AOCs, 2010), EuroFedLipid Technology (EFL, 2009), AOCs Award of Merit (AOCs, 2008), Division Lecture (IFT, 2008), Chemist of the Year (ACS Peoria Section, 2008), Outstanding Achievement Award (USB, 2006), Stephen S. Chang Award (IFT, 2003), Alton E. Bailey Award (AOCs, 1999), and is a Fellow (AOCs, 1999). List's work has always been oriented toward improvements in oils or oil processing techniques that have practical and commercially applicable uses—bringing genetically and structurally modified oilseeds to commercialization, reducing environmental pollution in refineries, minimizing oil oxidation, development of new technologies for lecithin productions, and development of *trans*-free food oils through interesterification and modified hydrogenation technologies.

George Schroepfer Medal

Recognizes: Significant and distinguished accomplishments in the steroid field, defined to encompass sterols and other natural and synthetic compounds incorporating the tetracyclic gonane ring system.

Award: Bronze medal and \$5,000 honorarium.

Endowed by: Colleagues and friends of the late George J. Schroepfer, Jr., a leader in the sterol and lipid field for more than 40 years.



Michael R. Waterman, Professor, Vanderbilt University, USA, is an elder statesman within the steroid field. For over 25 years, the Waterman laboratory has been making fundamental discoveries into the biochemistry and biology of steroid hormone biosynthesis and more recently sterol biosynthesis. The leadership demonstrated by this laboratory not only in scientific discoveries but also in making available cDNA clones and antibodies to laboratories throughout the world. He is one of the world's authorities on sterol 14 α -demethylases, an enzyme of much biomedical significance. Moreover, Waterman's studies on the soluble prokaryotic form of CYP51 from *Mycobacterium tuberculosis* are a major contribution to our knowledge of steroid metabolism and function.

Michael Waterman held an NIH Merit Award (1996–2006), and in 2007 the 15th International Conference on Cytochrome P450s held in Bled, Slovenia honored him for his many contributions to P450 research. In 2009, he was honored as a Fellow of the American Association for Advancement of Science. Over the 42 years of directing his independent laboratory his research has focused on the structure, function and regulation of cytochrome P450 enzymes required for steroid hormone and cholesterol biosynthesis. He has authored over 275 journal publications, about 80 symposia publications and 60 invited articles as well as editing 4 books. Waterman is also internationally recognized for his mentorship of young scientists including more than 50 postdoctoral fellows.

AOCs Young Scientist Research Award

Recognizes: A young scientist who has made a significant and substantial research contribution in one of the areas represented by the Divisions of AOCs.

Award: Plaque, \$1,000 honorarium and \$1,500 travel stipend.

Sponsored by: Prof. Dr. Vijai K.S. Shukla and the International Food Science Centre A/S in Denmark.



Richard P. Bazinet, Assistant Professor, University of Toronto, Canada.

Richard is internationally recognized for his developments toward understanding brain fatty-acid metabolism and the effect of docosahexaenoic acid on neuroinflammation. This research could provide much-needed information for studying the role of fatty acids in neurodegenerative diseases. He has received several individual awards including the ILSI Future Leaders Award (ILSI, 2009), the Jordi Folch-Pi Award (ASN, 2010), the inaugural ISSFAL Early Career Award (ISSFAL, 2009), and an Early Researcher Award from the Ontario Ministry of Research and Innovation (2011). He is the Editor-in-Chief of *Prostaglandins, Leukotrienes and Essential Fatty Acids* (PLEFA) and a Senior Associate Editor of *Lipids* and *Frontiers in Fatty Acid and Lipid Physiology*. He presently has over 60 publications, serving as first author or primary investigator on 39 of these articles. Individually, and especially collectively, these are all remarkable distinctions for such a young scientist.

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April 29–May 2, 2012

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PRESENTATIONS

Abstract Print Stations

Located on Level 1 in the Convention Center Lobby, these stations allow delegates to search and print abstracts for any of the presentations. Abstracts are also available online at: aocs.org/2012abstracts.

Copies of Papers—Many of the papers presented during the meeting will appear in AOCS Press publications or other journals in the future. However, it is impossible to know whether or when a specific paper will be published. If you want a copy of an individual presentation, please contact the author directly.

Presentation Ownership—Presentations at the meeting were prepared by and are the sole property of each presenter. Speakers have been given the AOCS guidelines for developing effective presentations and it is their responsibility to follow these guidelines.

Publication of Papers—AOCS encourages, but does not require, speakers to submit their papers to AOCS for publication in *inform*, *JAOCS*, *Lipids*, or the *Journal of Surfactants and Detergents (JSD)*. Speakers who wish to publish in *JAOCS*, *Lipids*, or *JSD* should visit the AOCS Press website at www.aocs.org/press/journals for more details. To submit a paper to *inform*, contact Kathy Heine, Managing Editor, at kheine@aocs.org.

Speaker Information

- Laptop computers (PC) are provided for all sessions, and speakers are expected to utilize PowerPoint for their presentations.
- Bring your file on a CD or memory stick directly to the session room approximately 30 minutes prior to the start of the session.
- Audio-visual technicians and the session chair are available to assist you.
- We recommend that you delete the file from the computer after you give your presentation.

Speaker Ready Room

201B

Laptop computers and an audio-visual technician are available during the following hours:

Sunday, April 29	12:00–6:00 pm
Monday, April 30	8:00 am–5:00 pm
Tuesday, May 1	7:00 am–6:00 pm
Wednesday, May 2	7:00 am–2:00 pm

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THE FORUM

on Emerging Technologies

What's on the Horizon?

Monday, April 30 • 9:00–11:45 am

The Forum on Emerging Technologies encompasses global discussions on matters that affect the future of our industries. These informative sessions expand beyond the science to address how these critical issues impact the business of fats and oils.

103B

Analytical Horizons

Organizer: Chris Dayton, Director, Fats and Oils Processing, Bunge Ltd., USA

104A

Breaking the Paradigm: Sustainable Use of Resources and Technologies

Organizer: Ena Cratsenburg, VP, Business Development, Amyris, USA; Jeffrey J. Schiebel, Principal Scientist, The Procter & Gamble Company, USA

102BC

Communication and Computer Technology in the Workplace

Organizer: Amy Lopez, Web Content Strategy Manager, AOCs, USA

104C

Functional Lipids

Organizers: Frank Flider, VP, Nutrition, Arcadia Biosciences, Inc., USA; Howard Knapp, Big Sky Medical Research, USA

104B

Renewable Oils for Biobased Products

Organizer: Jose A. Olivares, Executive Director, National Alliance for Advanced Biofuels and Bioproducts, USA

For the complete schedule of presentations, please see THE FORUM program insert located inside of your meeting portfolio.

8:00 AM—SPECIAL SESSION

Maximizing Yield: Optimal Strategies for Obtaining and Enforcing Patent Rights in the Wake of the America Invents Act

Monday, April 30 | 8:00 am–8:50 am | 101B
(prior to The Forum on Emerging Technology)

Co-Presenters: Paul S. Tully, Ph.D., Partner, and Jeremy E. Noe, Partner, McDonnell Boehnen Hulbert & Berghoff LLP, USA

The Leahy-Smith America Invents Act of 2011 (AIA), signed into law September 16, is the first significant overhaul of the U.S. patent system in nearly 60 years. This presentation will provide an overview of the AIA's impact on many important aspects of obtaining and enforcing patent rights.

AOCs SYMPOSIUM

PECIG 1: Teaching Lipids, Physics, and Engineering

Monday, April 30 | 9:00–11:45 am | 101A

Organizer: Roland Verhe, and Koen Dewettinck, Ghent University, Belgium

In this session, the physical-chemical complexity of lipids is discussed, and teaching techniques are illustrated by means of practical examples.

Sponsored by: AOCs Professional Educators' Common Interest Group (CIG)

The Professional Educators' CIG provides a venue for the discussion and exchange of ideas for those involved in university education and industrial training in lipids and oils.

ORAL PRESENTATIONS

The speaker is the first author or otherwise indicated with an asterisk (*). Abstracts are available online at aocs.org/2012abstracts. Abstract Print Stations are located on Level 1 in the Convention Center Lobby.

Monday Afternoon

AM 1: Agricultural Microscopy I

Chairs: P. Ramsey, California Dept. of Food and Agriculture, retired, USA; and G. Kobata, California Dept. of Food and Agriculture, USA

202C

- 1:55 **Introduction.**
- 2:00 **Combination of Methods for Prohibited Animal Proteins Detection with a View to the Conditional Relaxation of the Total Feed Ban in EU.** P. Veys and V. Baeten, European Reference Laboratory for Animal Proteins in Feedingstuffs (EURL-AP), Food and Feed Quality Unit, Valorisation of Agricultural Products Department, Walloon Agricultural Research Centre CRA-W, Belgium.
- 2:40 **The Effect of Fine Particle Removal on the Estimation of Protein Degradability Parameters in Dairy Cows.** C.W. Cruywagen and M. Nel, Stellenbosch University, South Africa.
- 3:00 **Quantification of Maize Dust in Industrial Dust Filter Samples: A Case Study.** C.W. Cruywagen and T. Calitz, Stellenbosch University, South Africa.
- 3:20 **Microstructure of Starch as a Biodegradable Polymer.** D.F. Wood¹, W.J. Orts¹, S.H. Imam¹, B.-S. Chiou¹, G.M. Glenn¹, T.G. Williams¹, and D. Hoffmann², ¹USDA, ARS, WRRRC, USA, ²USDA, ARS, SJVASC, USA.
- 4:00 **Detection of Processed Animal By-products in Feedingstuffs by Near Infrared Microscopy.** A. Boix, European Commission, Belgium.
- 4:40 **Corn Protein Blends, Part 1—Moisture Sorption Behavior.** K. Rosentrater¹ and J. Verbeek², ¹Iowa State University, USA, ²University of Waikato, New Zealand.

The Agricultural Microscopy Division Roundtable will take place at the conclusion of this session. All are welcome to attend and discuss plans for the Division's 2013 Annual Meeting program.

ANA 1: Biofuel Source Characterization

Chairs: T. Alleman, National Renewable Energy Laboratory, USA; and S. Howell, Marc-IV Consulting, USA

201A

- 1:55 **Introduction.**
- 2:00 **Rapid Determination of Actual Neutral Lipid Content in Microalgae using Nile Red Fluorescence.** H. Zhao¹, K. Lee², and P. Nam¹, ¹Missouri University of Science and Technology, USA, ²Lincoln University, USA.
- 2:20 **Mobile Phase Optimization for Separation of Neutral Lipid using 50-Å Phenogel Column.** S. Chumsantea¹, K. Aryusuk¹, N. Jeyashoke¹, S. Lilitchan², and K. Krisnangkura¹, ¹King Mongkut's University of Technology Thonburi, Thailand, ²Mahidol University, Thailand.
- 2:40 **The Production of Biodiesel from Yellow Mustard Emulsion.** S. Tabtabaei and L. L. Diosady, University of Toronto, Canada.
- 3:00 **Production of Fuels and Chemicals from Microalgal Lipids—Characterization of Properties and Productivity.** N. Nagle¹, L. Laurens¹, P. Pienkos¹, J. Shekiri¹, and J. McGowen¹, ¹National Renewable Energy Laboratory, USA, ²Arizona State University, USA.
- 3:20 **Characterization of Feeds and Products from Heterogeneous Biodiesel Transesterification.** J. Nieweg, Albemarle Corp., USA.
- 3:40 **Determination of Fatty Acid Composition in Wet Fermentation Broth via In Situ Transesterification.** C. Mallon and A. Shurer, DSM Nutritional Products, USA.
- 4:00 **Evaluation of PetroOxy Test as an Alternative Method to Oil Stability**

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- Index for Biodiesel and Biodiesel Blends.** N.U. Soriano, Jr., R. Maglinao, and A. Narani, Montana State University-Northern Bio-Energy Center, USA.
- 4:20 **Determining Biofuel Concentrations in Diesel Fuel Blends using Carbon Isotope Analysis.** G.A. Norton, Iowa State University, USA.

The Analytical Division Roundtable will take place at the conclusion of this session. All are welcome to attend and discuss plans for the Division's 2013 Annual Meeting program.

BIO 1: Biocatalysis I

This session is sponsored in part by both Nisshin Oillio Company and Malaysian Palm Oil Board.

Chairs: C.T. Hou, Renewable Product Technology Research Unit, NCAUR, ARS, USDA, USA; and J. Ogawa, Kyoto University, Japan

104B

- 1:55 **Introduction.**
- 2:00 **Microbial Oxygenases as Catalysts for Fine Chemical Synthesis.** J. Ogawa¹, M. Hibi², K. Yokozeki², and S. Shimizu^{1,3}, ¹Division of Applied Life Science, Graduate School of Agriculture, Kyoto University, Japan, ²Laboratory of Industrial Microbiology, Graduate School of Agriculture, Kyoto University, Japan, ³Faculty of Bio-environmental Science, Kyoto Gakuen University, Japan.
- 2:20 **Microbial Screening and Analytical Methods for the Production of Polyol Oils from Soybean Oil.** C.T. Hou and K. Ray, NCAUR, ARS, USDA, USA.
- 2:40 **(R)-3-hydroxyacyl-ACP:CoA transacylase of Pseudomonas Chlororaphis: Gene Cloning, Characterization and Knock-out on PHA and Rhamnolipid Syntheses.** D.K.Y. Solaiman, R.D. Ashby, and J.A. Zerkowski, USDA, ARS, ERRC, USA.
- 3:00 **Biocatalytic Synthesis of Chiral Drug Intermediates for APIs (active pharmaceutical ingredients) Synthesis.** R. Patel^{1,2} and S. Parekh², ¹SLRP Associates, USA, ²Unimark Remedies, Ltd., India.
- 3:20 **Identification of a Novel Arabidopsis thaliana Phospholipase A.** G. Chen¹, M.S. Greer¹, I. Lager², J.L. Yilmaz², E. Mietkiewska¹, A.S. Carlsson², S. Szymne², and R.J. Weselake^{*1}, ¹Dept. of Agricultural, Food and Nutritional Science, University of Alberta, Canada, ²Dept. of Plant Breeding and Biotechnology, Swedish University of Agricultural Sciences, Sweden, ³Scandinavian Biotechnology Research, Sweden.
- 3:40 **Applications of Castor Oil and the Castor Oil Plant.** T.A. McKeon, USDA, ARS, WRRRC, USA.
- 4:00 **Production and Conversion of Functional Carotenoids by Bacteria.** M. Hosokawa¹, K. Nishida¹, T. Sawabe¹, K. Miyashita¹, and C.T. Hou², ¹Hokkaido University, Japan, ²USDA, ARS, NCAUR, USA.
- 4:20 **Optimization of Environmental Conditions for Production of a Novel Cold-active Lipase from Pichia lynferdii Y-7723.** S.Y. Park¹, M.H. Kwon¹, C.T. Hou², and H.R. Kim^{*1}, ¹School of Food Science and Biotechnology, Korea, ²Renewable Product Technology Research Unit, National Center for Agricultural Utilization Research, ARS, USDA, USA.
- 4:40 **Unusual Sterol Production by Oleaginous Fungus Mortierella alpina.** E. Sakuradani¹, Y. Fukuoka¹, S. Shimizu^{1,2}, and J. Ogawa¹, ¹Kyoto University, Japan, ²Kyoto Gakuen University, Japan.

EAT 1: Functional Lipids

Chairs: D. Nakhasi, Bunge Oils Inc., USA; and F. Orthoefer, FTO Food Research, USA

102BC

- 1:55 **Introduction.**
- 2:00 **Structuring Oils for Use in Shortening System with Reduced Saturated Fatty Acids without Impacting the Functionality - Saturate Sparing Shortening System.** D. Nakhasi and N. Higgins, Bunge North America, Inc., USA.
- 2:20 **Impact of Alpha Linolenic Acid (ALA) Levels and TBHQ on Low Saturate High Oleic Soybean Oil Performance.** R. Wilkes and L. Jurado, Monsanto Company, USA.
- 2:40 **Novel Applications of Omega-3 Fatty Acids in Foods, Supplements and Pharma.** E. Hernandez, Omega Protein Inc., USA.

- 3:00 **Specialty Canola Oil Containing 80% Oleic Acid and its Functionality in Food Formulation.** D. Iassonova, L. DeBonte, and L. Liu, Cargill Incorporated, USA.
- 3:20 **Physicochemical Properties of Fats for Puff Pastry Formulated with Blends of Soybean Oil and Interesterified Soybean Fats Using a Neural Network.** B. Mattioni¹, K. Gandra², D. Barrera-Arellano², and J.M. Block^{*1}, ¹Santa Catarina Federal University, Brazil, ²Campinas State University, Brazil.
- 3:40 **Use of Saturated Diglycerides as Additives for Minimizing Oil Migration - Methodology, Modeling, and Results.** J. Botts and J. Robertson, Caravan Ingredients, USA.
- 4:00 **High Oleic Canola Oils and their Food Applications.** L. DeBonte, D. Iassonova, and L. Liu^{*}, Cargill, Incorporated, USA.
- 4:20 **Changing the Microstructure of a High Saturated Shortening using Power Ultrasound.** Y. Ye and S. Martini, Utah State University, USA.

EAT 1.1/FS&FF 1: Confectionery Fats, Cocoa Butter, and Related Topics on Crystallization

Chairs: N. Widlak, ADM Cocoa, USA; R. Campos, Mars Chocolate North America, USA; and D. Rousseau, Ryerson University, Canada

102A

- 1:55 **Introduction.**
- 2:00 **The Effect of Pressure and Volume on Fat Phase Behavior: Important But Often Overlooked System Variables.** R.W. Lencki and R.J. Craven, University of Guelph, Canada.
- 2:20 **Early-stage Crystallization of Cocoa Butter Influenced by Different Emulsifiers.** P. Podchong¹, S. Sonwai¹, and D. Rousseau^{*2}, ¹Dept. of Food Technology, Faculty of Engineering and Industrial Technology, Silpakorn University, Thailand, ²Dept. of Chemistry and Biology, Ryerson University, Canada.
- 2:40 **Surfactant Complementarity and Confined Gap Shear to Control Triglyceride Crystallization and Microstructure in Oil-Continuous Systems.** S. Ghosh^{1,2} and D. Rousseau², ¹University of Saskatchewan, Canada, ²Ryerson University, Canada.
- 3:00 **Influence of Cocoa Butter Diacylglycerols on the Isothermal Crystallization of Cocoa Butter.** N. De Clercq¹, S. Danthine², and K. Dewettinck¹, ¹Ghent University, Belgium, ²Université Gembloux Liege, Belgium.
- 3:20 **Influence of Monopalmitin on the Crystallization Behaviour of Palm Oil.** S. Verstringe¹, S. Dhantine², F. Depypere¹, V. De Graef¹, and K. Dewettinck¹, ¹Ghent University, Belgium, ²University of Liege, Belgium.
- 3:40 **Characterization by Rheo-NMR and Modeling of a Crystallizing Triglyceride Mixture.** M. Li and G. Mazzanti, Dalhousie University, Canada.
- 4:00 **Rheo-NMR Study of the Structural Consequences of Shear Variation during the Crystallization of Milk Fat.** G. Mazzanti^{1,2}, ¹Dalhousie University, Canada, ²Institute for Research in Materials, Canada.

FS&FF 1/EAT 1.1: Confectionery Fats, Cocoa Butter, and Related Topics on Crystallization

Chairs: N. Widlak, ADM Cocoa, USA; and R. Campos, Mars Snackfood US LLC, USA

102A

Joint Session: For details, see EAT 1.1/FS&FF 1, above.

EXH 1: Technology Showcase

Chairs: B. Cooke, Dallas Group, USA; and G. Hicks, Dallas Group, USA

101A

- 1:55 **Introduction.**
- 2:00 **Life Molecular Profiling with TCS CARS - CARS at Video Rate.** S. Landwehr, V.V. Krishnamachari, and W.C. Hay, Leica Microsystems CMS, Germany.
- 2:15 **Efficient Heat Transfer Equipment for Oilseeds Preheating.** W. Zapata, Solex Thermal Science, Canada.
- 2:30 **Analytical Methods for Controlling and Optimizing Purifine PLC Degumming at Plant Scale.** D. Walsh, Verenum Corporation, USA.

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- 2:45 **Evaluation of Dedicated FT-NIR Oil and Oil Seed Analyzer.** H. Li, Bruker Optics, Inc., USA.
- 3:00 **Inuline Derivatives—The Latest on Application and ECO-nomics of CMI and Cationic Inulin.** R. Nolles, Cosun Biobased Products, The Netherlands.
- 3:15 **Recent Advances of Benchtop NMR in the Food Manufacturing and Agriculture Industries.** K.P. Nott, A.I. Sagidullin, D. Williamson, J.P. Cerroti, and D. Gillett*, Oxford Instruments Magnetic Resonance, UK.
- 3:30 **A Single Method for the Direct Determination of Total Glycerols in All Biodiesels Using Liquid Chromatography and Charged Aerosol Detection.** M.A. Plante, B. Bailey, and I.N. Acworth, Thermo Scientific, USA.
- 3:45 **Innovative Hydrogen Solutions.** S. Ivanova, Air Products and Chemicals, Inc., USA.
- 4:00 **Increase Your Profits using ProFoss In-Line Monitoring and Control during Soy Meal Production.** O. Rasmussen and B. Schumann, FOSS North America, USA.
- 4:15 **Thermodynamics of Continuous Liquid/Solid Separation.** R. Williams, Anderson International Corp., USA.

H&N 1: Current and Emerging Biomarkers of Cardiovascular Disease Risk

This session is sponsored in part by Dairy Research Institute, Global Dairy Platform, and DSM.

Chairs: P.J. Huth, PJH Nutritional Sciences, USA; and J. Whittinghill, Solae, LLC, USA

103BC

- 1:55 **Introduction.**
- 2:00 **Use of Non-traditional Cardiovascular Risk Markers in Clinical Practice.** K.C. Maki, Biofortis-Provident Clinical Research, USA.
- 2:40 **A Biomarker Discussion. Should “Bad” and “Good” Cholesterol Remain the Focus of Clinical Attention?** J. Otvos, LipoScience, Inc., USA.
- 3:20 **LDL Subfractions and Risk of Cardiovascular Disease.** R.M. Krauss, Children's Hospital Oakland Research Institute and University of California-San Francisco, USA.
- 4:00 **Biomarkers for Management of Dietary Carbohydrate.** J.S. Volek, University of Connecticut, USA.
- 4:20 **Surrogate Endpoints Used by FDA for the Premarket Review of Health Claims.** P.R. Trumbo, Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration, USA.
- 4:40 **Panel Discussion.**

IOP 1: Alternative Fuels I

Chairs: J. Van Gerpen, University of Idaho, USA; and G. Chupka, NREL, USA

202AB

- 1:55 **Introduction.**
- 2:00 **Effects of Temperature Cycling on Formation of Solid Deposits in Biodiesel.** R. Dunn, USDA, ARS, NCAUR, USA.
- 2:20 **A Survey of Biodiesel Feedstocks under Performance Perspectives.** G. Knothe, USDA, ARS, NCAUR, USA.
- 2:40 **A Direct Method for the Synthesis of Fatty Acid Methyl Ester from Crude Jatropha Oil as Second Generation Feedstock Using Versatile Green Catalysts.** A. Baig and F.T.T. Ng, Dept. of Chemical Engineering, University of Waterloo, Canada.
- 3:00 **Sterol Glucoside Identification Using a New MALDI-TOF-MS Technique.** K. Duff and J. Van Gerpen*, University of Idaho, USA.
- 3:20 **Characterization of Lipids in Five Microalgae Species.** L. Yao, J.A. Gerde, T. Wang, Z. Wen, and S.-L. Lee, Dept. of Food Science and Human Nutrition, Iowa State University, USA.
- 3:40 **Carbon Residue Formation of Stressed Biodiesel and Biodiesel Blends.** A. Narani, R. Maglinao, and N. Soriano, Montana State University-Northern Bio-Energy Center, USA.
- 4:00 **Esterification and Transesterification of Greases to Fatty Acid Methyl**

Esters with Highly Active Diphenylammonium Salts. H. Ngo, H. Vanselous, G. Strahan, and M. Haas, USDA, ARS, ERRC, USA.

- 4:20 **Blends from Biodiesel, Diesel Fuel and Alcohols to Prevent Chemical Interactions between Fuel Components.** J. Krahl¹, L. Schmidt², O. Schröder², K. Schaper², C. Pabst², and A. Munack¹, ¹Coburg University of Applied Sciences and Arts, Germany, ²Johann Heinrich von Thünen-Institut, Institute of Agricultural Technology and Biosystems Engineering, Germany.
- 4:40 **Thevetia peruviana juss: Studies to Highlight its Economic Potentials as a Veritable Biodiesel Source.** S.A. Ibiyemi¹ and C.O. Aboyeji², ¹Landmark University, Nigeria, ²University of Ilorin, Nigeria.

The Industrial Oil Products Division Roundtable will take place at the conclusion of this session. All are welcome to attend and discuss plans for the Division's 2013 Annual Meeting program.

LOQ 1: Stability and Shelf Life Prediction using Analytical and Sensory Methods

This session is sponsored in part by Dow AgroSciences and Kellogg Company.

Chairs: U. Nienaber, Kraft Foods Inc., USA; and M. Stefanski, DSM Nutritional Lipids, USA

101B

- 1:55 **Introduction.**
- 2:00 **Consumer Defined Product Quality.** R.N. Bleibaum and C. Tao, Tragon Corporation, USA.
- 2:20 **Uncertainties, Pitfalls and Perspectives in the Shelf Life Testing of Food Undergoing Oxidative Reactions.** M.C. Nicoli, S. Calligaris, L. Manzocco, and M. Anese, Dipartimento di Scienze degli Alimenti, Università di Udine, Italy.
- 2:40 **An Alternative Approach to Shelf Life Prediction.** M. Peleg, University of Massachusetts, USA.
- 3:00 **Predictive Tests for Measuring Antioxidant Performance in Food.** S.P.J. Namal Senanayake, Danisco USA, Inc., USA.
- 3:20 **Determination of the Oxidation Stability of Antioxidant Protected Lipids using the Oxipres (Oxygen Bomb) Method.** A. Newson, C. Lok, and D. Prime, Vitablend Nederland BV, The Netherlands.
- 3:40 **Predicting Sensory Properties of Fish Oil using Volatile Oxidation Products.** J.C. Sullivan and S.M. Budge, Dalhousie University, Canada.
- 4:00 **Selection of Vegetable Oil Ingredients Based on Sensory Profile Aging.** J.C. Mifsud, M. Lamboy, and C. Schneider, Alpha MOS, USA.
- 4:20 **An Examination of the Use of Sensory and Analytical Measures to Develop an Accelerated Stability Model.** S. Salisu and S. Kassner*, DSM Nutritional Products, USA.
- 4:40 **An Approach to Optimize the Utility of Storage Testing and Predictive Modeling.** M. Sewald, General Mills Inc., USA.

The Lipid Oxidation and Quality Division Roundtable will take place at the conclusion of this session. All are welcome to attend and discuss plans for the Division's 2013 Annual Meeting program.

PHO 1: Lecithin from Alternative Sources

Chairs: M. Tomás, CIDCA, Argentina; and B. Sebree, Archer Daniels Midland Co., USA

103A

- 1:55 **Introduction.**
- 2:00 **Fractionation of Sunflower Lecithin at different processing conditions.** E.N. Guiotto¹, D.M. Cabezas¹, B.W.K. Diehl², and M.C. Tomás*¹, ¹Centro de Investigación y Desarrollo en Criotecnología de Alimentos, CONICET, Facultad de Ciencias Exactas (UNLP), Argentina, ²Spectral Service GmbH, Germany.
- 2:20 **Elaboration and Characterization of Nanoliposome Made of Soya, Rapeseed and Salmon Lecithins: Application to Cell Culture.** E. Arab Tehrani¹, C. Kahn^{2,3}, C. Baravian², B. Maherani¹, N. Belhaj¹, X. Wang², and M.

Linder¹, ¹Nancy-Université, LiBio, France, ²Nancy-Université, France, ³Nancy-Université, LPPIA, France.

- 2:40 **Oxidative Stability of Marine Phospholipids Emulsions.** H.F.S. Lu, C. Baron, N. Skall Nielsen, and C. Jacobsen, Technical University of Denmark, Denmark.
- 3:00 **Synergy in the use of Phospholipases for the Degumming of Vegetable Oils.** C. Dayton and F. Galhardo, Bunge Global Innovation, USA.
- 3:40 **Emulsifying Properties of Hydrolyzed Sunflower Lecithins by Phospholipases A₂ of Different Sources.** D.M. Cabezas¹, R. Madoery², B.W.K. Diehl³, and M.C. Tomás^{*1}, ¹Centro de Investigación y Desarrollo en Criotecología de Alimentos (CIDCA-CONICET-UNLP), Argentina, ²Cátedra de Química Orgánica, Facultad de Ciencias Agrarias, Universidad Nacional de Córdoba (FCA - UNC), Argentina, ³Spectral Service GmbH, Germany.
- 4:00 **Technology of Dry Powder Sunflower Lecithin for Food, Feed and Pharmaceuticals.** S.M. Shulga and I.S. Glukh, Institute for Food Biotechnology and Genomics, Ukraine.
- 4:20 **GumZyme™ Phospholipase A2 has Preference for Phosphatidic Acid, Ideal for Enzymatic Oil Degumming.** A. Sein, H.M.W.J.C. Uijen, A. de Roos, and W. Smits, DSM Food Specialties, The Netherlands.

PRO 1: New Technology

Chairs: D. Litle, Süd-Chemie Inc., USA; and R. Nyachoto, California Oils Corp., USA

203AB

- 1:55 **Introduction.**
- 2:00 **Innovation: An Instrumental Initiative in Palm Processing.** R. Skhariya, Mecpro Heavy Engineering Ltd., India.
- 2:20 **Integrating Enzyme-assisted Aqueous Extraction Processing in the Dry-grind Ethanol Plants.** J.M. L.N.de Moura¹, N.M. de Almeida², L. Yao¹, S. Jung¹, T. Wang¹, and L. Johnson¹, ¹Iowa State University, USA, ²Universidade Federal da Paraíba, Brazil.
- 2:40 **Emulsification-free Degumming of Oil.** G. Chou, Sunho Biodiesel Corporation, Taiwan.
- 3:00 **Nutritive Shortenings Produced from Regioselective Hardening of Soybean Oil with Pt Containing Zeolites.** A. Philippaerts¹, S. Paulussen¹, S. Turner², O.I. Lebedev², G. Van Tendeloo², P. Jacobs¹, and B. Sels¹, ¹K.U. Leuven, Belgium, ²University of Antwerp, Belgium.
- 3:20 **Design of Ru-zeolites for the Hydrogen-free Production of Conjugated Linoleic Acids and Conjugated Oils.** A. Philippaerts¹, J. Van Aelst¹, S. Goossens¹, M. Tromp², S. Turner³, G. Van Tendeloo³, P. Jacobs¹, and B. Sels¹, ¹K.U. Leuven, Belgium, ²Technische Universitat Munchen, Germany, ³University of Antwerp, Belgium.
- 3:40 **Improving the Efficiency of Lipases in Interesterification by Neutralization of Mineral Acidity.** W.D. Cowan¹, H.S. Yee², and H.C. Holm³, ¹Novozymes UK, UK, ²Novozymes Malaysia, Malaysia, ³Novozymes A/S, Denmark.
- 4:00 **Mitigation of 3-MCPD and G Esters in Refined Palm Oils.** F. Pudel¹, B. Matthäus², A. Freudenstein², and T. Rudolph¹, ¹Pilot Pflanzenöltechnologie Magdeburg e.V., Germany, ²Max-Rubner-Institute, Germany.
- 4:20 **In situ Destruction of MCPD and Glycidyl Esters During Triglyceride Production.** J. Rongione and J. Heydinger Galante, Stepan Company, USA.

PCP 1: Biofuel Co-Products: Recovery, Value Addition, and Sustainability

This session sponsored in part by Solae LLC.

Chairs: K. Liu, USDA, ARS, USA; H. Wang, Iowa State University, USA; and J.

Wanasundara, Agriculture and Agri-Food Canada, Canada

203C

- 1:55 **Introduction.**
- 2:00 **Increasing Protein Content of DDGS in Corn Dry Grind Process.** S. Li, W. Liu, K. Rausch, M. Tumbleson, and V. Singh^{*}, University of Illinois at Urbana-Champaign, USA.
- 2:20 **New Value-added Coproducts from Grain-based Ethanol Production**

by a Patent-pending Recovery Method. K. Liu and F. Barrows^{*}, USDA, ARS, USA.

- 2:40 **Value-addition to Dry-Grind Co-Products: α -zein Extraction and Characterization for Non-food Use.** B.P. Lamsal, Iowa State University, USA.
- 3:00 **Microalgal Protein Isolation from *Nannochloropsis* spp. Defatted Biomass.** J.A. Gerde¹, L. Yao¹, S. Jung¹, B. Lamsal¹, L.A. Johnson^{2,1}, and T. Wang¹, ¹Dept. of Food Science and Human Nutrition Iowa State University, USA, ²Center for Crops Utilization Research Iowa State University, USA.
- 3:20 **Challenges in Extraction and Recovery of Algae Biofuel Co-products.** R. Green, POS Bio-Sciences, Canada.
- 3:40 **Sustainability of Lignocellulosic and Lipid Biofuel Technologies and Feedstocks.** E. Mupondwa, X. Li, and J. Wanasundara, Bioproducts and Bioprocess, Agriculture and Agri-Food Canada, Saskatoon Research Centre, Canada.
- 4:00 **Investigation of Net Shape Forming of Protein Based Plastics for Industrial Applications.** D. Grewell and G. Srinivasan, Iowa State University, USA.
- 4:20 **Barley Oil as a Co-Product of Hulled and Hulless Barley.** R.A. Moreau, K.B. Hicks, and D.B. Johnston, ERRC, ARS, USDA, USA.
- 4:40 **Renewable Hydrocarbons from Pyrolysis Reaction of Unsaturated Fatty Acids.** D.C. Bressler, J. Asomaning, and P. Mussone^{*}, University of Alberta, Canada.

S&D 1: Surfactants in Oil and Gas

Chairs: M. Dahanayake, Rhodia, USA; and U. Weerasooriya, University of Texas, USA

104A

- 1:55 **Introduction.**
- 2:00 **Mechanisms of Stabilization and Destabilization of Oil-in-Water Emulsions from Chemical Enhanced Oil Recovery.** D. Nguyen and N. Sadeghi, Nalco, USA.
- 2:20 **New Developments in Chemical EOR.** U. Weerasooriya and G. Pope, The University of Texas, USA.
- 2:40 **Designing Surfactant Formulations for Oil Recovery from a High Salinity Reservoir: Single-well Test.** T.-P. Hsu, B.-J. Shiau, P. Lohateerapara, J. H. Harwell, and B. L. Roberts, University of Oklahoma, USA.
- 3:00 **Alternative Biofuel from Palm oil-Diesel Based Reverse Micelle Microemulsion.** N. Arpornpong¹, D.A. Sabatini², and S. Khaodhiar³, ¹International Postgraduate Programs in Environmental Management, Chulalongkorn University, Thailand, ²Schools of Civil Engineering and Environmental Science, University of Oklahoma, USA, ³Dept. of Environmental Engineering, Chulalongkorn University, Thailand.
- 3:20 **An Application of the Hydrophilic-Lipophilic Difference Concept in Surfactant Formulations for Enhanced Oil Recovery.** P. Lohateeraparp¹, B. Shiau², and J. Harwell¹, ¹Chemical, Biological and Materials Engineering, University of Oklahoma, USA, ²Mewbourne School of Petroleum and Geological Engineering, University of Oklahoma, USA.
- 3:40 **Green Agents to Confront Petroleum Oil Spills.** C. Podella and M. Goldfeld, Advanced BioCatalytics Corporation, USA.
- 4:00 **Optimizing the Formulation of Vegetable Oil Reverse-Micelle-Microemulsion Biofuel at Low Temperature Using Mixed Surfactant Systems.** C. Attaphong, (Ralph Potts Memorial Fellowship Award Winner), L. Do, and D. Sabatini, University of Oklahoma, USA.
- 4:20 **Surfactant Enhanced Oil Recovery in Oil-Wet Reservoirs with High Permeability Contrast.** R. Feng Li¹, A. Raju Sagi¹, M. Puerto¹, G. J. Hirasaki¹, C. A. Miller¹, M. Salehi², C. Thomas², and J. Kwan³, ¹Rice University, USA, ²TIORCO, USA, ³KinderMorgan, USA.
- 4:40 **Surfactant Structure-Performance Correlation in Chemical Enhanced Oil Recovery.** S. Solairaj, C. Britton, D. H. Kim, U. Weerasooriya, and G.A. Pope, University of Texas at Austin, USA.

The Surfactants and Detergents Division Roundtable will take place at the conclusion of this session. All are welcome to attend and discuss plans for the Division's 2013 Annual Meeting program.

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40-44

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Tuesday Morning

AM 2: Agricultural Microscopy II

Chairs: K. Koch, Northern Crops Institute, USA; and P. Veys, EURL Animal Proteins, Belgium

202C

- 7:55 **Introduction.**
- 8:00 **Chlorophyll Analysis by NIR.** V.J. Barthet and D. Sobering, Canadian Grain Commission, Canada.
- 8:40 **NIR Spectroscopy for Disclosure of Toxic Plant Material in Feed Production.** P. Veys, J.A. Fernández Pierna, and V. Baeten, European Reference Laboratory for Animal Proteins in Feeding Stuffs (EURL-AP), Food and Feed Quality Unit, Valorisation of Agricultural Products Department, Walloon Agricultural Research Centre CRA-W, Belgium.
- 9:20 **Efficient Extraction of Carotenoids (Canthaxanthin) from High Titre Escherichia Coli Strain.** M.A. Scaife^{1,2}, C.A. Ma^{1,3}, and R.E. Armenta^{*1}, ¹Ocean Nutrition Canada Ltd., Canada, ²University of Cambridge, UK, ³Southampton General Hospital, UK.
- 10:00 **Unlocking Nutrients from Fibre with Exogenous Fibrolytic Enzymes in Ruminant Nutrition.** C. Cruywagen and F. Van de Vyver, Stellenbosch University, South Africa.
- 10:40 **Extraction of Silica from RHA (Rice Husk Ash).** A. Farooq^{1,2}, A. Ghazanfar^{1,3}, Z. Suhail Warsi^{1,4}, and R. Umair^{1,5}, ¹COMSATS University of Science and Technology, Pakistan, ²Punjab College of Science, Pakistan, ³Government University College Lahore, Pakistan, ⁴Forman Christian College Lahore, Pakistan, ⁵Civil Lines College Lahore, Pakistan.

ANA 2: Olive and Specialty Oil

Chairs: V. Jain, Mars Chocolate North America, USA; and A. Proctor, University of Arkansas, USA

201A

- 7:55 **Introduction.**
- 8:00 **Review of International Standards for Olive Oil.** R.J. Mailer, Australian Oils Research, Australia.
- 8:20 **Evaluation of Chemical and Sensory Testing Methods for Commercial Olive Oils in California.** S. Wang¹, R. Mailer², J.D. Flynn¹, J. Ayton², S. Lee³, C. Shoemaker³, and J.X. Guinard³, ¹UC Davis Olive Center, University of California, Davis, USA, ²Australian Oils Research Laboratories, NSW Dept. of Primary Industries, Wagga Wagga Agricultural Institute, Australia, ³Dept. of Food Science and Technology, University of California, Davis, USA.
- 8:40 **Identifying Authentic and Quality Olive Oils using Analytical Instrumentation Based on Sensory Attributes.** J. Cappozzo, K. Banaszewski, F. Al-Taher, and R. Juskelis, Institute for Food Safety & Health, IIT, USA.
- 9:00 **Evaluation of New Analytical Methods to Detect Lower Quality Olive Oils.** C. Guillaume and L. Ravetti, Modern Olives Laboratory Services, Australia.
- 9:20 **Quality Assessment of Extra Virgin Olive Oil by NIR.** C. Gertz¹ and D. Behmer^{*2}, ¹Official Institute of Chemical Analyses, Germany, ²Bruker Optik GmbH, Germany.
- 9:40 **Characterization of Key Aroma Compounds in Styrian Pumpkin Seed Oil Using the Molecular Sensory Science Concept.** M. Granvogl¹, S. Poehlmann¹, and P. Schieberle^{1,2}, ¹Technical University of Munich, Chair for Food Chemistry, Germany, ²German Research Center for Food Chemistry, Germany.
- 10:00 **Review on the Processing of Table Olives.** E.N. Frankel, University of California, Davis, USA.
- 10:20 **Influence of Solvent Extraction on Fatty Acid Profile and Triacylglycerol Composition of Jackfruit Seed Oil.** H. Mirhosseini, B. Tabatabaee Amid, and F. Farivar, University Putra Malaysia, Malaysia.

BIO 2: Biocatalysis II

This session is sponsored in part by both Nisshin OilliO Company and Malaysian Palm Oil Board.

Chairs: C.T. Hou, Renewable Product Technology Research Unit, NCAUR, ARS, USDA, USA; and S.H. Yoon, Korea Food Research Institute, Korea

104B

- 7:55 **Introduction.**
- 8:00 **Production of Structured Lipids Using Palm Oil and its Application.** S.H. Yoon, Korea Food Research Institute, Korea.
- 8:20 **The Current Status of Oil Palm Proteomics and Metabolomics Studies.** U. Ramli, Malaysian Palm Oil Board, Malaysia.
- 8:40 **Synthesis and Characterization of Acylated Amino Acids: Potential Bioactive Oleochemicals.** I. Zainab¹, S. Mohd Wahid², and A. Hassan Hazimah¹, ¹Malaysian Palm Oil Board, Malaysia, ²Universiti Kebangsaan Malaysia, Malaysia.
- 9:00 **Directed Interesterification of Palm Oil.** N.L. Habi Mat Dian¹, M. Mat Sahri¹, T. Chin Ping², and L. Oi Ming², ¹Malaysian Palm Oil Board, Malaysia, ²Universiti Putra Malaysia, UPM Serdang, Malaysia.
- 9:20 **Synthesis of 1,3-dicapryloyl-2-docosaheptaenoylethylglycerol by Lipase Reaction.** Y. Yamauchi-Sato, H. Uehara, and S. Negishi, The Nisshin OilliO Group, Ltd., Japan.
- 9:40 **High Oxidative Stability of Functional Lipids during Fermentation of Marine Products.** N. Hamaoka^{1,2}, M. Hosokawa¹, and K. Miyashita^{*1}, ¹Faculty of Fisheries Sciences, Hokkaido University, Japan, ²Food Processing Research Center, Japan.
- 10:00 **Biosynthesis and Function of Polyunsaturated Fatty Acids in Thraustochytrid.** T. Aki, H. Iwasaka, H. Adachi, S. Kawamoto, and K. Ono, Hiroshima University, Japan.
- 10:20 **Production and Characterization of Structured Lipids Containing Palmitic Acid and DHA or GLA by Lipase-Catalyzed Acidolysis for Possible Use as Human Milk Fat Analogs.** S. Teichert and C. Akoh^{*}, University of Georgia, USA.
- 10:40 **Novel Enzyme in Lactic Acid Bacteria for Fatty Acid Conversion to Hydroxy Fatty Acids.** S. Kishino^{1,2}, S.-B. Park², K. Yokozeki², S. Shimizu^{1,3}, and J. Ogawa³, ¹Division of Applied Life Sciences, Graduate School of Agriculture, Kyoto University, Kyoto, Japan, ²Laboratory of Industrial Microbiology, Graduate School of Agriculture, Kyoto University, Japan, ³Faculty of Bio-environmental Science, Kyoto Gakuen University, Japan.

EAT 2: Lipid Structures — Fundamentals

Chairs: N. Garti, Hebrew University of Jerusalem, Israel; and B. Kickle, ADM Food Oils Research, USA

102BC

- 7:55 **Introduction.**
- 8:00 **Triacylglycerol Polymorphism is a Stereochemical Phenomenon.** R.J. Craven and R.W. Lencki, Dept. of Food Science, University of Guelph, Canada.
- 8:20 **Emulsifier Effects on Fat Crystallization as Influenced by Hydrogen Bonding with Triglycerides.** V. Kamara¹, S. Ghosh^{2,1}, and D. Rousseau^{*1}, ¹Ryerson University, Toronto, Ontario, Canada, ²University of Saskatchewan, Canada.
- 8:40 **Models for Tailoring Fat Products under the Nanocrystalline Paradigm.** G. Mazzanti^{1,2}, ¹Dalhousie University, Canada, ²Institute for Research in Materials, Canada.
- 9:00 **Polymorphic Behavior of Sunflower Oil Stearins.** J.A. Rincon Cardona¹, Y. Ye², S. Martini², R.J. Candal^{1,3}, and M.L. Herrera^{*3,4}, ¹University of San Martín, School of Science and Technology, Argentina, ²Utah State University, USA, ³National Research Council of Argentina (CONICET), Argentina, ⁴University of Buenos Aires, Faculty of Exact and Natural Sciences, Argentina.
- 9:20 **Surface Structure Observation on Growing Fat Crystals Examined with Optical Microscope.** H. Hondoh¹, G. Sazaki², K. Sato¹, Y. Furukawa²,

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and S. Ueno¹, ¹Hiroshima University, Japan, ²The Institute of Low Temperature Science, Hokkaido University, Japan.

- 9:40 **Effects of Matrix Nanostructure on Oil Migration using Magnetic Resonance Imaging Technique.** F. Maleky¹, A. Marangoni¹, K. McCarthy², and M. McCarthy², ¹University of Guelph, Canada, ²University of California, Davis, USA.
- 10:00 **Effect of High Intensity Ultrasound on Crystal Morphology, Melting Profile, and Viscoelastic Properties of a Low-saturated Shortening.** Y. Ye, S. Padilla, and S. Martini*, Utah State University, USA.
- 10:20 **The Determination of the Free Energy of Mixing During Crystallization of Triacylglycerol Binary Mixtures.** O. Al-Qatami and G. Mazzanti, Dalhousie University, Canada.
- 10:40 **Oils in Nanospace Confinement.** D.A. Pink^{1,3}, E. Papp-Szabo², M. S. Razul¹, C.J. MacDougall¹, F. Peyronel³, A.G. Marangoni³, and C.B. Hanna⁴, ¹Physics Department, St. Francis Xavier University, Canada, ²Physics Department, University of Guelph, Canada, ³Guelph-Waterloo Center for Graduate Work in Physics, Dept. of Food Science, University of Guelph, Canada, ⁴Dept. of Physics, Boise State University, USA.

H&N 2: Omega-3 Fatty Acids and Brain Health

This session is sponsored in part by Mead Johnson Nutrition.

Chairs: S. Bhale, Hill's Pet Nutrition, USA; and B. Berg, Mead Johnson Nutrition, USA

103BC

- 7:55 **Introduction.**
- 8:00 **Maintaining Brain PUFA Concentrations: Uptake and Rapid Metabolism.** R. Bazinet, (*Young Scientist Research Award Winner*), University of Toronto, Canada.
- 8:20 **Consumption of Docosahexaenoic Acid (DHA, 22:6n-3) in Pregnancy Decreases Risk for Postpartum Depression (PPD).** C.J. Lammi-Keefe¹, M.P. Judge², C.T. Beck², H. Durham¹, and M.M. McKelvey², ¹Louisiana State University, USA, ²University of Connecticut, USA.
- 8:40 **Sex-Specific and Dietary Regulation of Intrinsic Protective Lipid Circuits.** K. Gronert, University of California, USA.
- 9:00 **The DHA Metabolome Gives Rise to Potent Mediators of Neuroinflammation and Cell Survival.** N. Bazan, LSU Health Sciences Center, USA.
- 9:20 **Role of Docosahexaenoic Acid in Brain Development and Function: Emerging Evidence from Magnetic Resonance Imaging.** R.K. McNamara, Dept. of Psychiatry and Behavioral Neuroscience, University of Cincinnati College of Medicine, USA.
- 9:40 **DHA Function and Metabolism in the Nervous System.** N. Salem, Jr., DSM Nutritional Products LLC, USA.
- 10:00 **Therapeutic Effects of Omega-3 Fatty Acids on Brain Trauma.** F. Gómez-Pinilla, University of California Los Angeles, USA.
- 10:20 **Impact of Omega-3 Fatty Acids on Alzheimer's Disease.** G.M. Cole, Mary S. Easton Center for Alzheimer's Disease Research at UCLA, USA.

IOP 2: Catalysis

Chairs: D. Sparks, Mississippi State University, USA; and D. Pioch, CIRAD, France

202AB

- 7:55 **Introduction.**
- 8:00 **How to Select Catalysts for the Production of Sustainable Chemicals from Fats and Oils?** R.D. Seaman¹ and A. Zwiijnenburg^{*,3}, ¹Johnson Matthey Catalysts Inc., USA, ²Johnson Matthey Plc, UK, ³Johnson Matthey Chemicals GmbH, Germany.
- 8:40 **A Novel Green Technology for the Production of Biodiesel from Multi-Feedstocks for Global Applications.** A. Baig and F.T.T. Ng, Dept. of Chemical Engineering, University of Waterloo, Canada.
- 9:00 **Alkene Metathesis of Camelina FAME with Supercritical Ethylene.** R. Maglinao, A. Narani, and N. Soriano, Montana State University-Northern Bio-Engineering Center, USA.

- 9:20 **Reactive Extraction for Biodiesel Production using Solid Green Catalyst.** S. Kaul, J. Porwal, D. Bangwal, R. Bal, and M. Garg, Indian Institute of Petroleum, India.
- 9:40 **Catalytic Conversion of Crude Glycerin to Lactic Acid under Mild Reaction Conditions.** X.P. Ye, L. Chen, and L. Liu, University of Tennessee, USA.
- 10:00 **Study of a New Environment Friendly Catalytic System for the Oxidative Scission of Unsaturated Fatty Acids.** A. Godard^{1,2}, S. Thiebaut-Roux^{1,2}, P. de Caro^{1,2}, E. Vedrenne^{1,2}, and Z. Mouloungui^{1,2}, ¹Université de Toulouse, INPT, LCA (Laboratoire de Chimie Agro-Industrielle), ENSIACET, France, ²INRA, LCA (Laboratoire de Chimie Agro-Industrielle), France.
- 10:20 **Proposed Reaction Mechanism and Effect of Water on Esterification of Palmitic Acid Using Zeolite Catalysts.** A. Coker¹, R. Hernandez², A. Iretski¹, M. White¹, and T. French², ¹Mississippi State University, USA, ²Lake Superior State University, USA.
- 10:40 **Standardisation of Vegetable Oils to be Used as Oleochemistry Feedstock through a Selective Hydrogenation Process.** F. Zaccheria¹, P. Bondioli², R. Psaro¹, and N. Ravasio^{*,1}, ¹National Research Council ISTM, Italy, ²Stazione Sperimentale Oli e Grassi, Italy.

LOQ 2: Lipid Oxidation in Bioactive Lipid Delivery Systems

This session is sponsored in part by Kellogg Company.

Chairs: S. Zhou, Kellogg Company, USA; M. Peitz, Archer Daniels Midland Co., USA; and E. Decker, University of Massachusetts, USA

101B

- 7:55 **Introduction.**
- 8:00 **Challenges for the Delivery of Long Chain n-3 fatty Acids in Functional Foods.** H. Singh, Riddet Institute, Massey University, New Zealand.
- 8:20 **Oxidation of Submicron Emulsions Formulated with DHA Located either at the Interface or in the Bulk Oil.** T.H. Kabri, A. Meynier, L. Ribourg, D. Bontemps, and C. Genot*, INRA UR1268 Biopolymères Interactions Assemblages, France.
- 8:40 **An Investigation of the Mechanisms of the Varying Antioxidant Activity of Rosmarinic Acid Esters of Varying Polarity in Oil-in-Water Emulsions.** A. Panya¹ (*Honored Student Award Winner*), M. Laguerre², J. Lecomte², P. Villeaneuve², D.J. McClements¹, and E.A. Decker¹, ¹Dept. of Food Science, University of Massachusetts, USA, ²CIRAD, France.
- 9:00 **Antioxidant Activity of the Palmityl Ester of Carnosic Acid in Corn Oil Emulsion.** C. Hall and A. Prasad, North Dakota State University, USA.
- 9:20 **Phenolipids as Antioxidants in Emulsified Systems and the Effect of Alkyl Chain Length.** A.-D. M. Sørensen¹, C. Bayrasy², M. Laguerre², J. Lecomte², P. Villeneuve², and C. Jacobsen¹, ¹Technical University of Denmark, National Food Institute, Denmark, ²UMR IATE, CIRAD, France.

LOQ 2.1: Effect of Food Formulation on Lipid Oxidation

This session is sponsored in part by Dow AgroSciences.

Chairs: A. Syed, Dow AgroSciences, USA; and M. Peitz, Archer Daniels Midland Co., USA

101B

- 9:40 **Effects of Food Structure on Reactivity of Lipophilic Ingredients.** J. Coupland, Pennsylvania State University, USA.
- 10:00 **Successful Antioxidant Approaches for Preventing Lipid Oxidation in Complex Systems and Re-formulated Foods.** R. Nahas, Kalsec, Inc., USA.
- 10:20 **Omega-9 Oils: Longer Shelf Life, Cleaner Operations, Healthier Labels.** A. Syed, Dow AgroSciences, USA.
- 10:40 **Effect of the Endogenously Derived Canola Derived Antioxidants in Lipid Oxidation of Canola Oil-in-Water Emulsions.** D. Huidrom, N. Reddy, A.-D. Sorenson, J. Friel, M. Scanlon, and U. Thiyam-Holländer, University of Manitoba, Canada.

PHO 2: Structured Phospholipids and Lysophospholipids

Chairs: X. Xu, University of Aarhus, Denmark; G. Wang, Cargill, USA; and M. Ahmad, Jina Pharmaceuticals, Inc., USA

103A

- 7:55 **Introduction.**
- 8:00 **Lysophospholipids as Biomarkers of Oxidative Stress.** B. Fuchs, C. Schober, G. Vortmeier, X. Ouyang, and J. Schiller, University of Leipzig, Medical Faculty, Institute of Medical Physics and Biophysics, Germany.
- 8:40 **Analysis of Lysophospholipids and Glycerophosphates (double lyso) by ³¹P-NMR.** B. Diehl, Spectral Service GmbH, Germany.
- 9:20 **Structured Phospholipids: Synthesis and Applications in Food Systems.** L.-Z. Cheong and X. Xu, Dept. of Engineering, Aarhus University, Denmark.
- 9:40 **Diversity of Phospholipid Effect on Oil Oxidation.** O.T. Kasaikina, E.A. Mengers, D.A. Krugovov, and L.M. Pisarenko, N.N. Semenov Institute of Chemical Physics RAS, Russia.
- 10:00 **Preparation and Functionality of Phenolipids (Phenolics-enriched Phospholipids).** M.F. Ramadan¹ and B. Matthäus², ¹Agricultural Biochemistry Department, Faculty of Agriculture, Zagazig University, Egypt, ²Max Rubner-Institute, Federal Research Institute for Nutrition and Food Department for Lipid Research, Germany.

PRO 2: Plant Operations and Safety

Chairs: J. Willits, Desmet Ballestra North America Inc., USA; and M. Snow, Bunge North America Inc., USA

203AB

- 7:55 **Introduction.**
- 8:00 **Pinch Technology in Practice Today.** B. Pretty, KBC Advanced Technologies Inc., USA.
- 8:40 **Crystallization and Processing Technology.** K. Funch Hoeyer, SPX Flow Technology, Denmark.
- 9:20 **Plant Safety, a New Dimension –Food Safety Modernization Act Impact on Food Safety and Security in Plant Operations.** D. Strayer, Bunge North America, USA.
- 10:00 **Ammonia Refrigeration, Safe Design and Operation.** D. Sweet, Synergy, USA.
- 10:40 **Application of Chlorophyllase Enzymes in Oil Processing.** J.B. Soe, R. Mikkelsen, H. Vestergaard, T. Jorgensen, K. Carlson, and L. Lauridsen, DuPont Industrial Biosciences, Denmark.

PCP 2: Bioactive Food Proteins and Peptides I — Fundamentals

This session sponsored in part by Solae LLC.

Chairs: H. Ibrahim, Kagoshima University, Japan; and H. Kumagai, Nihon University, Japan

203C

- 7:55 **Introduction.**
- 8:00 **D-Amino Acid as a Novel Biofactor.** T. Yoshimura, S. Kato, T. Ito, and H. Hemmi, Nagoya University, Nagoya, Aichi, Japan.
- 8:20 **Fermentation of GABA Enriched Salt-free Soybean Paste and its Application.** H. Hatta¹, S. Shou¹, and Y. Ueno², ¹Kyoto Women's University, Japan, ²Kyoto Prefectural Technology Center, Japan.
- 8:40 **Orally Active Neuromodulatory Peptides.** K. Ohinata, Kyoto University, Japan.
- 9:00 **Suppressive Effect of Buckwheat Albumin against the Elevation of Blood Glucose.** K. Ninomiya, S. Ina, M. Akao, and H. Kumagai, Nihon University, Japan.
- 9:20 **Bioactive Amino Acid that Prevents Hepatic Injury.** H. Kumagai, Nihon University, Japan.

- 9:40 **Nutritional Aspect of β -conglycinin and its Physiological Function - Interaction with Body-fat Reducing Potential of CLA.** K. Koba¹, D. Oikawa², S. Tamaru¹, K. Tanaka¹, and M. Sugano³, ¹University of Nagasaki, Japan, ²Nagasaki University, Japan, ³Professor Emeritus, Kyushu University, Japan.
- 10:00 **Bioactivity of Protein and Phenolic Extracts of Brewer's Spent Grain (BSG) - Assessment of Their DNA Protective Effect Against Oxidant-induced DNA Single Strand Breaks in U937 Cells.** N.M. O'Brien¹, A.L. McCarthy¹, Y.C. O'Callaghan¹, A. Connolly^{2,1}, C.O. Piggott^{2,1}, and R.J. FitzGerald^{2,1}, ¹University College Cork, Ireland, ²University of Limerick, Ireland.
- 10:20 **Bone Growth Promoting Bioactive Peptides (Bonepep) from Egg Yolk.** M. Kim¹, K. Takeshima^{*1}, K. Horie¹, and T. Yamane², ¹Pharma Foods International Co., Ltd., Japan, ²Matsushita Memorial Hospital, Japan.
- 10:40 **Therapeutic Potential of Novel Bioactive Peptides from Honey.** H.R. Ibrahim, Faculty of Agriculture, Kagoshima University, Japan.

S&D 2: Advanced Formulation Design: Models and High Throughput Screening

Chairs: E. Szekeres, Clorox, USA; and P. Depa, Procter & Gamble Co., USA

104A

- 7:55 **Introduction.**
- 8:00 **Molecular Bases for HLD and HLD-NAC.** E. Acosta, A. Boza, and S. Kiran, University of Toronto, Canada.
- 8:20 **How to Cope with Screening the Vast Diversity of Surfactants and Detergents? Standardize and Accelerate.** M. Schneider and A. Schnyder, Chemspeed Technologies AG, Switzerland.
- 8:40 **Use of High Throughput Techniques to Aid in the Development of Complex Surfactant Based Formulations.** C.J. Tucker, K. Harris, C. Mohler, and A. Behr, The Dow Chemical Company, USA.
- 9:00 **Investigation of Structure-Fundamental/Functional Property**

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Relationships of (Bio)-surfactants for a Rational Design of their Preparation and Use in Food and Non-food applications. H. Razafindralambo, University of Liege, Gembloux Agro-Bio Tech, Belgium.

9:20 **Effects of Headgroup Flexibility in Anionic-Nonionic Mixed Micelles.** L. Jackson, B. Grady, C. Townsend, and R. Anglade, University of Oklahoma, USA.

S&D 2.1: Advanced Delivery Systems: Microencapsulation, Concentrated Surfactant Solutions

Chairs: E. Szekeres, Clorox, USA; and P. Depa, Procter & Gamble Co., USA

104A

9:40 **Innovative Approach to Increasing Actives in Solid Product Forms.** S. Mohammed, Evonik Degussa Corporation, USA.

10:00 **Cellulase Enzyme Technologies and Their Applications in Laundry Products.** T.J. Burns and N.E. Prieto, Novozymes North America, Inc., USA.

10:20 **Study of the Enzyme Storage Stability in Liquid Detergent with Thermodynamic Analysis.** T. Kurokawa, H. Ogura, H. Shindo, T. Okamoto, and H. Takaoka, Lion Corporation, Japan.

10:40 **Biodegradable Fabric Softener Active with Improved Dispersibility.** D. Parrish¹, M. Hisamoto¹, J. Hildebrand¹, and G. Schick², ¹Evonik Goldschmidt Corporation, USA, ²Evonik Stockhausen GmbH, Germany.

Awards Plenary Lectures

Moderator: D.J. Myers, North Dakota State University, USA

Grand Ballroom

11:00 **Introduction.**

11:05 **The Stephen S. Chang Award Lecture**

Hydrogenation: Is There Any Future? G.R. List, Retired, Consultant, USA.

11:35 **Awards Recognition.**

11:40 **The Supelco/Nicholas Pelick—AOCS Research Award Lecture Biocatalysis in Lipid Modifications to Benefit Food Industry and Human Health.** C.C. Akoh, The University of Georgia, USA

12:10 **Closing Remarks.**

Tuesday Afternoon

AM 3/PRO 3.1: Bulk Grain Traceability. A Joint Session with AACC

Chairs: C.R. Hurburgh, Jr., Iowa State University, USA; and C.W. Cruywagen, Stellenbosch University, South Africa.

102A

1:55 **Introduction.**

2:00 **The Science of Traceability.** M. Thakur, SINTEF Fisheries and Aquaculture, Norway.

2:40 **Outbreaks, Traceability and the FDA?** C. Hickey, Institute of Food Technologists, USA.

3:20 **Break**

4:00 **An Example of What a Feed and Food Company Can Do.** M. Williams, Land O'Lakes, USA.

4:40 **Discussion**

5:20 **Commercial Traceability Solutions.**

ANA 3: Process Contaminants

Chairs: M. Collison, Archer Daniels Midland Co., USA; and S. MacMahon, FDA, USA

201A

1:55 **Introduction.**

2:00 **LC-MS/MS Detection of Glycidyl Esters and 3-MCPD Esters in Edible Oils.** S. MacMahon, T. Begley, and G. Diachenko, U.S. Food and Drug Administration, USA.

2:20 **Direct Determination of 3-MCPD Esters in Edible Oils.** H. Shiro¹, Y. Masukawa¹, K. Osawa¹, S. Kawai², and N. Suzuki³, ¹Kao Corporation, Japan, ²Kao Corporation, Japan, ³Kao Corporation, Japan.

2:40 **3-MCPD Esters and Glycidyl Esters in Edible Fats and Oils as well as in Complex Foods - Comparison of Data Obtained by a Direct and an Indirect Quantitation Method.** M. Granvogel¹ and P. Schieberle^{1,2}, ¹Technical University of Munich, Chair for Food Chemistry, Germany, ²German Research Center for Food Chemistry, Germany.

3:00 **Analysis and Occurrence of Bound Glycidol and MCPD in Oil Containing Foods.** J. Kuhlmann, SGS Germany GmbH, Germany.

3:20 **"Indirect" Method for the Determination of 3-MCPD Esters: Hydrolysis Time and Recovery Considerations for the Acid Hydrolysis Method.** J.D. Pinkston, D.P. Iannelli, and T.R. Mertens, The Procter & Gamble Company, USA.

3:40 **Indirect Determination of Glycidyl Esters in Oils/Fats: A New Method Based on Acid Transesterification.** A. Ermacorra and K. Hrnčirik, Unilever R&D Vlaarding, The Netherlands.

BIO 3: Biotechnical Advances in Oilseed Improvement

Chairs: R. Wilson, Oilseeds & Bioscience Consulting, USA; J. Dyer, USDA, ARS, USA; and T. McKeon, USDA, ARS, WRR, USA

104B

1:55 **Introduction.**

2:00 **Using Molecular Genetic Strategies to Investigate the Triacylglycerol Biosynthetic Pathway in Flax.** X. Pan (*Biotechnology Division Student Paper Award*), R.M.P. Siloto, and R.J. Weselake, Dept. of Agricultural, Food & Nutritional Science, University of Alberta, Canada.

2:20 **Metabolic Engineering of Soybeans for Increased Oil and Protein Levels.** D. Hildebrand¹, R. Li¹, and T. Hatanaka², ¹University of Kentucky, USA, ²Kobe University, Japan.

2:40 **Exploring Novel Approaches for Producing Oils in Plants: The Role of CGI-58 in Plant Lipid Metabolism.** S. Park^{1,2}, S. Gidda³, N. Khuu³, P. Horn², C. James², K. Chapman², R. Mullen³, and J. Dyer^{*1}, ¹USDA, ARS, ALARC, USA, ²University of North Texas, USA, ³University of Guelph, Canada.

3:00 **Increasing the Energy Density of Plant Biomass by Allocating Photosynthate from Starch to Oil in Arabidopsis and Rutabaga.** S. Sanjaya^{1,2} and C. Benning^{1,2}, ¹Dept. of Biochemistry and Molecular Biology, Michigan State University, USA, ²Great Lakes Bioenergy Research Center, Michigan State University, USA.

3:20 **Commercial Introduction of Quality Traits: Priming the Market with High Oleic Soybean Oils.** S. Knowlton, DuPont Company, USA.

3:40 **Stearidonic Acid Content in Modified Soybean Oil was Enhanced by Lipase-mediated Acidolysis.** L. Kleiner¹ (*Biotechnology Division Student Paper Award*), L. Vazquez², and C. Akoh¹, ¹The University of Georgia, USA, ²Institute of Food Science Research (CIAL) (CSIC-UAM), Spain.

4:00 **Production of Industrial Proteins in Camelina.** E. Herman, Donald Danforth Plant Science Center, USA.

4:20 **Engineering Ricinoleic Acid Synthesis and Accumulation in Safflower Seed Oil.** X.-R. Zhou¹, S. Okada², C. Wood¹, S. Belide¹, V. Haritos², S. Singh¹, S. Stymne³, and A. Green^{*1}, ¹CSIRO Plant Industry, Australia, ²CSIRO Ecosystem Sciences, Australia, ³Swedish University of Agricultural Sciences, Sweden.

4:40 **Barriers to Biotech Crop Exports: Regulatory, Sustainability, and**



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Rachel Burton
Boyce Butler
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Liability Risks. T.P. Redick¹, ¹Global Environmental Ethics Counsel, LLC, USA, ²United Soybean Board, USA, ³U.S. Soybean Export Council, USA.

5:00 **Discussion.**

BIO 3.1/H&N 3: Food Form and Functionality of Lipids

This session is sponsored in part by DSM and CNIEL.

Chairs: M.-C. Michalski, INRA, France; and D. Hildebrand, University of Kentucky, USA

103BC

- 1:55 **Introduction.**
- 2:00 **Understanding Lipid Structures in Foods in Relation to Lipid Digestibility.** H. Singh, Riddet Institute, Massey University, New Zealand.
- 2:20 **Role of Lipid Structure and Food Matrix on Lipid Digestion and Absorption.** A.J. Wright, University of Guelph, Canada.
- 2:40 **Enhanced Absorption of n-3 Fatty Acids from Emulsified Compared with Encapsulated Fish Oil.** S. Raatz^{1,2} and D. Bibus^{3,2}, ¹USDA, Human Nutrition Research Center, USA, ²University of Minnesota, USA, ³Lipid Technologies, LLC, USA.
- 3:00 **Emulsified Fat Enhances Postprandial Lipemia and Exogenous Lipid Oxidation Compared with Spread Fat in Lean and Obese Humans.** M.C. Michalski^{1,3}, C. Vors^{1,2}, G. Pineau^{1,2}, L. Gabert³, M. Laville^{3,2}, and H. Vidal^{2,3}, ¹INRA USC1235, Lyon University, CarMeN Laboratory, France, ²INSERM U1060, Lyon University, CarMeN Laboratory, France, ³CRNH-RA, CENS, France.
- 3:20 **Effects of Supplementation of Rodent Diets with Milk Fat Globule Membrane on Lipid Metabolism and Gut Microflora in Fisher 344 Rats.** R.Ward¹, A. Zhou¹, K. Hintze¹, and R. Jimenez², ¹Nutrition, Dietetics and Food Sciences, Utah State University, USA, ²Dairy Science Department, California Polytechnic University, USA.
- 3:40 **Production, Characterization, and Functional Properties of Structured Triacylglycerols.** C.C. Akoh, University of Georgia, USA.
- 4:00 **Omega-3 Fatty Acids: Health Benefits and Sources for such Acids.** I.A. Guschina, C. Bascoul-Colombo, and J.L. Harwood*, Cardiff School of Biosciences, UK.
- 4:20 **Progress in Producing DHA in Oilseeds Using Algal PUFA Synthases.** T. Walsh¹ and J. Metz², ¹Dow AgroSciences LLC, USA, ²DSM, USA.
- 4:40 **Tailored Triglyceride Oils for Food Industry Applications.** W. Rakitsky, Solazyme, Inc., USA.
- 5:00 **Stearidonic Acid (SDA) Effects on EPA Levels in Red Blood Cells.** E. Krul², R. Mukherjee², S. Lemke¹, D. Goldstein¹, and R. Wilkes*¹, ¹Monsanto Company, USA, ²Solae, LLC, USA.
- 5:20 **Optimization of Nanoliposome Formulation Encapsulating Natural Dipeptide Antioxidant by Mixture Design.** B. Maherani, E. Arab-Tehrany, and M. Linder, Institut National Polytechnique de Lorraine, France.

EAT 3: Lipid Structures — Applications

Chairs: D. Kim, Kraft Foods Inc., USA; and P. Rousset, Nestlé Research Center, Switzerland

102BC

- 1:55 **Introduction.**
- 2:00 **Crystallization Behavior of Structured Lipids by Chemical Interesterification of Palm Stearin, Coconut Oil and Canola Oil.** F.A. Schafer De Martini Soares, R. Claro da Silva, J. Mayummi, J. do Rosario Matos, and L.A. Gioielli, University of São Paulo, Brazil.
- 2:20 **Effect of Ripening Time on Partial Coalescence and Butter Grain Aggregation in Cream.** P. Buldo and L. Wiking, Aarhus University, Denmark.
- 2:40 **Effect of Storage Temperature and–Period on Crystal Inversion Mechanisms and Water Droplet Size Distribution in Table Spreads.** S. Rønholt¹, J.J.K. Kirkensgaard², K. Mortensen², and J.C. Knudsen¹, ¹Dept. of Food Science, Faculty of LIFE Sciences, University of Copenhagen, Denmark, ²Dept. of Basic Sciences and Environment, Faculty of Life Sciences, University of Copenhagen, Denmark.

- 3:00 **Partial Coalescence and its Importance in Ice Cream.** R.W. Hartel¹, M.M. Warren², and P. Spicer², ¹Dept. of Food Science, University of Wisconsin, USA, ²Procter&Gamble, USA.
- 3:40 **Waxes as Organogelator for Soybean Oil.** H.S. Hwang, S. Kim, M. Singh, J.K. Winkler-Moser, and S.X. Liu, NCAUR, ARS, USDA, USA.
- 4:00 **Thixotropic Ethylcellulose Oleogels.** T. Stortz and A.G. Marangoni, University of Guelph, Canada.
- 4:20 **Stability of Wax/oil Self-assembled Materials as Affected by Oil and Wax Composition.** N. Chiew, C.Y. Tan, S. Padilla, and S. Martini*, Utah State University, USA.
- 4:40 **Development of a Response Surface to Tailor the Mechanical Properties of Edible Oil Oleogels for a Diverse Range of Applications in Food Systems.** A.J. Gravelle, S. Barbut, and A.G. Marangoni, University of Guelph, Canada.
- 5:00 **Formulation of trans-free Special Shortening and Semi-solid Fat for Production of Chocolate-filled Cookies.** F. Madadnoee^{1,2}, M.R. Moddal^{1,2}, F. Karami¹, H. Pour Rahman³, and M. Rashidian⁴, ¹Agri-Industry & Veg. Oil of Mahidasht,(A.I.V.M.Co.), Iran, ²Kesht Va Sanat Shomal (KVSS), Iran, ³Shirin Vatan Cookies Company, Iran, ⁴Agriculture and Food Industry Faculty of Research and Science, Azad University, Iran.
- 5:20 **New Family of 75% Reduced-fat Olestra Shortenings for Bakery Applications - Elimination of Post-hardening.** P. Lin, D. Back, D. Appleby, R. Berger, and L. Wen, Procter & Gamble Company, USA.
- 5:40 **Adsorption of Oil in Batter: Measurement by Synchrotron Radiation.** P. Smith¹, O. Vitrac², F. Coutois², A. Patsioura², and A. Menzel¹, ¹Cargill, Belgium, ²AgroParisTech, France.

H&N 3/BIO 3.1: Food Form and Functionality of Lipids

This session is sponsored in part by DSM and CNIEL.

Chairs: M.-C. Michalski, INRA, France; and D. Hildebrand, University of Kentucky, USA

103BC

Joint Session: For details, see BIO 3.1/H&N 3, on this page.

IOP 3: New Uses of Glycerin

Chairs: V. Wyatt, USDA, ARS, ERRC, USA; and T. Benson, Lamar University, USA

202AB

- 1:55 **Introduction.**
- 2:00 **Glycerol and its Derivatives as Sustainable Solvents for Organic Synthesis.** A. Wolfson and D. Tavor, (ACI/NBB Glycerine Innovation Award Winners), Sami Shamon College of Engineering, Israel.
- 2:20 **Effects of Swelling on the Viscoelastic Properties of Polyester Films made from Glycerol and Glutaric Acid.** V.T. Wyatt, ERRC, ARS, USDA, USA.
- 2:40 **Progress in the Fermentative Synthesis and Characterization of Glycerine/levulinic Acid-based Poly(hydroxyalkanoate) Biopolymers.** R.D. Ashby, D.K.Y. Solaiman, and G.D. Strahan, USDA, ARS, ERRC, USA.
- 3:00 **Development of Functional Green Materials Based on Bio-based Glyceric Acid from Raw Glycerol.** T. Fukuoka, H. Habe, S. Sato, D. Kitamoto, and K. Sakaki, National Institute of Advanced Industrial Science and Technology (AIST), Japan.
- 3:20 **Lactate Polyols based on Glycerol.** M. Ionescu, X. Wan, I. Javni, N. Bilic, and Z. Petrovic, Pittsburg State University, Kansas Polymer Research Center, USA.

IOP 3.1: Alternative Fuels II

Chairs: J. Van Gerpen, University of Idaho, USA; and G. Chupka, NREL, USA

202AB

- 4:00 **Characterization and Solvent Extraction of Oils from Digested Wastewater Sludge.** C.J. Coronella¹, C. Wagner¹, and G. DeShazo², ¹University of Nevada, Reno, USA, ²Nowa Technology, Inc., USA.
- 4:20 **Effect of Aerobic and Anoxic Conditions on Biocrude Production by**

Activated Sludge via Sugar Fermentation. A. Mondala, R. Hernandez, T. French, M. Green, and L. McFarland, Mississippi State University, USA.

4:40 **Solvent Based Fractionation of Alkyl Esters of Animal Fat.** M. Mittelbach, S. Schober, and K. Strohmeier, University of Graz, Austria.

5:00 **Emissions and Health Effects from Combustion of Hydrotreated Vegetable Oil (HVO) and Jatropha Oil Methyl Ester (JME) in a Euro III Heavy Duty Diesel Engine.** A. Munack¹, J.M. Bünger^{*2}, G.A. Westphal², N. Rosenkranz², O. Schröder¹, J. Schaak¹, C. Pabst¹, and J. Krahl³, ¹Johann Heinrich von Thünen Institute (vTI), Institute of Agricultural Technology and Biosystems Engineering, Germany, ²University of Bochum, Institute for Prevention and Occupational Medicine of the German Social Accident Insurance (IPA), Germany, ³Coburg University of Applied Sciences and Arts, Germany.

5:20 **Enzymatic Transesterification Process for Biodiesel Production and Beyond.** G. Chou, Sunho Biodiesel Corporation, Taiwan.

5:40 **Comparative Calorimetric and Viscometric Study of Biodiesel from Various Feedstocks and Blends with Petro-diesel.** L.N. Okoro¹, R. Ekop¹, and C. Nwaeburu², ¹American University of Nigeria, Nigeria, ²University of Technology, Germany.

LOQ 3: Frying Stability

Chairs: J. Moser, USDA, ARS, USA; and K. Hrnčirik, Unilever R&D Vlaardingen, The Netherlands

101B

1:55 **Introduction.**

2:00 **Frying Studies: A Tool to Evaluate Safety, Quality and Performance of Frying Oils.** R. Stier, Consulting Food Scientist, USA.

2:40 **Is the Oil Quality the Only Factor for the Shelf Life of the Fried Food?** M. Gupta, MG Edible Oil Consulting Int'l., USA.

3:00 **Lignans as Antioxidants for Soybean Oil at Frying Temperature.** H. Hwang, J. Winkler-Moser, and S. Liu, NCAUR, ARS, USDA, USA.

3:20 **Phytosterol Moiety Effects on Stability, Tocopherol Interaction, and Anti-polymerization Activity of Phytosteryl Ferulates.** J.K. Winkler-Moser, K.A. Rennick, S.F. Vaughn, H.-S. Hwang, and M.A. Berhow, USDA, ARS, NCAUR, USA.

3:40 **Solid Fat Content Measurement as a Substitute for Total Polar Compound Analysis.** E. Bakota, USDA, ARS, NCAUR, USA.

4:00 **Near Infrared Spectroscopy to Monitor Oil Degradation Processes during Frying.** C. Gertz¹ and D. Behmer^{*2}, ¹Official Institute of Chemical Analyses, Germany, ²Bruker Optik GmbH, Germany.

LOQ 3.1: Lipid Oxidation and Packaging

Chairs: B. Chen, University of Massachusetts, USA; J. Goddard, University of Massachusetts, USA; and T. Jeradechachai, Northern Crops Institute, NDSU, USA

101B

4:20 **Regulatory Framework of Active Packaging Materials to Inhibit Lipid Oxidation.** J. Koontz and Y. Song, U.S. Food and Drug Administration, USA.

4:40 **Antioxidant Active Packaging.** H. Soto-Valdez¹, E. Peralta¹, and R. Auras², ¹Centro de Investigación en Alimentación y Desarrollo, A.C., Mexico, ²School of Packaging, Michigan State University, USA.

5:00 **Control of Lipid Oxidation by Active Packaging Films Prepared by Photoinitiated Graft Polymerization.** F. Tian, E.A. Decker, and J.M. Goddard, University of Massachusetts Amherst, USA.

5:20 **Effects of Packaging and Storage Conditions on the Shelf Life of Flaxseed Tortillas.** T. Jeradechachai¹, E.B. Schlepp², C.A. Hall, III², and M.C. Tulbek¹, ¹Northern Crops Institute, USA, ²North Dakota State University, USA.

5:40 **PLA-Antioxidant Active Packaging; a Healthier Option for Protecting Oils and Oily Foods.** M. Jamshidian, E. Arab Tehrani, and S. Desobry, Laboratoire d'ingénierie des Biomolécules, Institut National Polytechnique de Lorraine, France.

PHO 3: General Phospholipids

Chair: B. Seabee, Archer Daniels Midland Co., USA

103A

1:55 **Introduction.**

2:00 **Effect of Calcein on Model Lipid Membranes.** B. Maherani¹ (*Honored Student Award Winner*), E. Arab-Tehrany¹, B. Korchowiec^{2,3}, E. Rogalska³, and M. Linder¹, ¹Institut National Polytechnique de Lorraine, France, ²Jagiellonian University, Poland, ³CNRS/Nancy-Université, France.

2:20 **Normalization of Phospholipid Membrane Structure with Phospholipid Emulsion in Neurological Disease.** P.C. Kane, M.O. Speight, S. Pouria, K. Bieber, and J. McLaren-Howard, NeuroLipid Research Foundation, USA.

PRO 3/EXH 2: Processing Exhibitors' Session

Chair: T. Neuman, GEA Westfalia Separator Inc., USA

203AB

1:55 **Introduction.**

2:00 **Oilseed Preheating Heat Recovery Optimization.** F. Sköld¹ and E. Le Clef², ¹Solex Thermal Science Inc., Canada, ²Desmet Ballestra Group, Belgium.

2:20 **Setting New Benchmarks for Efficiency and Productivity.** P. Garcia, Siemens Industry, Inc., USA.

2:40 **New Innovations in Oil Seed Preparation.** C. Brockmeyer, Buhler Inc., USA.

3:00 **BASF: Catalyst and Adsorbent Supplier to the Oleochemical and Biorenewable Industries.** D. Okonek¹ and T. von Fehren², ¹BASF Corporation, USA, ²BASF SE, Germany.

3:20 **Centrifugal Technologies for Clarification of Oil from Pressing and Extraction.** T. Neuman, GEA Westfalia Separator Inc., USA

3:40 **Purification of Glycerin from Biodiesel Plants.** P. Alasti, Artisan Industries Inc., USA.

4:00 **Dry Condensing - A Way to Save Energy.** S. Lassen, GEA Engineering, Denmark.

4:20 **Improvements in Miscella Distillation and Solvent Recovery in a Solvent Extraction Plant.** A. Subieta, Desmet Ballestra Group, USA.

4:40 **Precise Process Control of Suspended Solids, Dissolved Solids, Clarity, and Color in Water or Oil using Specified Light Waves.** T. Schwalbach, Optek, USA.

5:00 **How to Minimize Formation of 3-MCPD and Glycidyl Esters during Edible Oil Processing.** W. De Greyt, Desmet Ballestra Group, Belgium.

5:20 **Design Aspects of a Modern Pressing Plant.** H.C. Boeck, HF Press+LipidTech, Germany.

5:40 **Recent Developments in Phospholipase C Enzymatic Degumming.** T. Hitchman, Verenum Corporation, USA.

6:00 **Replacing Bleaching Earth with Enzymes—Report from 1st Industrial Trial.** K. Carlson, Danisco USA, USA.

PRO 3.1/AM 3: Bulk Grain Traceability. A Joint Session with AACC

Chairs: C.R. Hurburg, Jr., Iowa State University, USA; and C.W. Cruywagen, Stellenbosch University, South Africa

102A

Joint Session: For details, see AM 3/PRO 3.1, page 46.

PCP 3 Bioactive Food Proteins and Peptides II — Applications

This session sponsored in part by Solae LLC.

Chairs: N.S. Hettiarachchy, University of Arkansas, USA; and P. Kerr, Solae LLC, USA

203C

- 1:55 **Introduction.**
- 2:00 **New Separation Technology leads to Sustainable and Economical New Soy Proteins.** K. Keller, R. Konduru, B. Pierce, S. Stahl, and E. Ersen, Solae-DuPont, USA.
- 2:20 **Production and Efficacy Testing of Plant Protein-derived Antihypertensive Protein Hydrolysates and Peptides.** R. Aluko, University of Manitoba, Canada.
- 2:40 **Peptides Derived from Soybean Flour Bear Anti-cancer Activity against Kasumi-3 Blood Cancer Cells.** S. Rayaprolu, N. Hettiarachchy*, A. Kannan, and P. Chen, University of Arkansas, USA.
- 3:00 **Anti-inflammatory Peptide, Pyroglutamyl-leucine - Distribution in Fermented Foods.** K. Sato, T. Kiyono, E.Y. Park, and Y. Nakamura, Kyoto Prefectural University, Japan.
- 3:20 **Growth Performance and Health Characteristics of Broiler Chickens Fed with Cottonseed Proteins and Peptides.** A. Li, X. Zhang, L. Qiu, T. Yun, F. Han, J. Xu, Y. Wang, and H. Lu, Academy of the State Administration of Grain, China.
- 3:40 **Antibiotic Function of Sacchariterpenin Extracted from *Camellia oleifera* Seeds in Broiler Chickens.** A. Li, Y. Wang, T. Yun, Y. Zhao, F. Han, Y. Hou, and X. Luan, Academy of the State Administration of Grain, China.

PCP 3.1 Protein Structure and Functionality in Food and Non-Food Applications

This session sponsored in part by Solae LLC.

Chairs: J. Wu, University of Alberta, Canada; and N. Shah, Solae LLC, USA

203C

- 4:15 **Introduction.**
- 4:20 **Bowman-Birk Inhibitor; Purification and Preclinical Efficacy in Neuromuscular Disease.** C. Schasteen, J. Wu, B. Pierce, B. Tulk, P. Ghosh, and M. Meikel, Solae LLC, USA.
- 4:40 **Protein-lipid Interactions and Their Effect on the Quality of Soy Protein Isolates.** N. Shah, A. Irwin, and P. Kerr, Solae, USA.
- 5:00 **Industrial Applications of Functionalized Soy Storage Proteins.** R.E. Gagnon, P. Baele, and K.B. Cockerline, DuPont Soy Polymers, USA.
- 5:20 **Structure-function Study of Major Crucifer Oilseed Storage Protein: Emulsifying Properties and Hydrophobicity of Homomeric Cruciferin.** T.S. Withana-Gamage^{1,2}, D.D. Hegedus^{1,2}, X. Qui², and J.P.D. Wanasundara^{1,2}, ¹Agriculture and Agri-Food Canada, Canada, ²Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada.
- 5:40 **Corn Protein Blends, Part 2—Thermal Properties and Morphology.** C.J.R. Verbeek¹ and K.A. Rosentrater², ¹University of Waikato, New Zealand, ²Iowa State University, USA.
- 6:00 **Plastic from Feather Quills.** J. Wu and A. Ullah, University of Alberta, Canada.

STEROL 1: Sterols Symposium

This session is sponsored in part by Archer Daniels Midland.

Chairs: R. Moreau, USDA, ARS, ERRC, USA; and P. Jones, University of Manitoba, Canada

101A

- 1:55 **Introduction.**

- 2:00 **Cholesterol and Cytochrome P450 Monooxygenases.** M.R. Waterman, (*Schroepfer Medal Award Winner*), Vanderbilt University, USA.
- 2:40 **Evaluation of Bioactivities of Steryl Ferulates from Different Grain Sources.** L. Nyström, ETH Zurich, Switzerland.
- 3:00 **Break.**
- 3:20 **Methods for the Analysis and Removal of Steryl Glucosides from Edible Oil and from Biodiesel.** R.A. Moreau and M.J. Haas, Eastern Regional Research Center, ARS, USDA, USA.
- 3:40 **RP-HPLC/APCI-MS Analysis of Non-Polar Oligomers Formed During Thermo-Oxidation of β -Sitosterol.** E. Sosinska and R. Przybylski, Dept. of Chemistry and Biochemistry, University of Lethbridge, Canada.
- 4:00 **Design, Synthesis and Application of Biochemical Tools for the Study of Cholesterol Trafficking.** K.M. Byrd, A. Chatterjee, O. Wiest, and P. Helquist, University of Notre Dame, USA.
- 4:20 **Phytosterols Decrease Cholesterol Absorption by Molecular Interactions in the Intestinal Lumen.** A. Brown, Nutrition and Obesity Research Center, The University of Alabama at Birmingham, USA.
- 4:40 **Efficacy of Plant Sterols When Provided in Capsule and Tablet Formats.** P. Jones, S. AbuMweis, and S.B. Myrie, University of Manitoba, Canada.

S&D 3: General Surfactants I

Chairs: S. Adamy, Church & Dwight, USA; and R. Panandiker, Procter & Gamble Co., USA

104A

- 2:15 **Introduction.**
- 2:20 **Interaction of Glycylglycine with Surfactants in Aqueous Medium.** A. Ali¹, N.H. Ansari², and N.A. Malik¹, ¹Jamia Millia Islamia, India, ²Zakir Hussain College, University of Delhi, India, ³Jamia Millia Islamia, India.
- 2:40 **Staining of Cotton Fabric Before and After Finishing with Admicellar Polymerization.** S. Hanumansetty¹, J. Maity¹, P. Kothary¹, J. Ma¹, E. O'Rear¹, and N. Yanumet³, ¹School of Chemical, Biological and Materials Engineering, University of Oklahoma, USA, ²Institute of Applied Surfactant Research, USA, ³Petroleum and Petrochemical College, Chulalongkorn University, Thailand.
- 3:00 **Adsorption and Admicellar Properties of Mixed Anionic Extended Surfactants and a Cationic Surfactant.** D. Panswad^{1,4}, D.A. Sabatini², and S. Khaodhiar³, ¹Center of Excellence for Environmental and Hazardous Waste Management (EHWM), Chulalongkorn University, Thailand, ²School of Civil Engineering and Environmental Science, University of Oklahoma, USA, ³Dept. of Environmental Engineering, Faculty of Engineering, Chulalongkorn University, Thailand, ⁴Dept. of Environmental Science, Ramkhamhaeng University, Thailand.
- 3:20 **Disinfection Promoting Effect and its Mechanism of Zinc Complex in Laundry.** T. Majima, Y. Morita, M. Ohtani, T. Suekuni, T. Kubozono, and T. Okano, Lion Corporation, Japan.
- 3:40 **Properties of Guar Gum and Effect of Surfactants.** L. Ciemnomlonski and S. Adamy, Church & Dwight, Co. Inc., USA.
- 4:00 **Low Temperature Synthesis of Fatty Acid Amide (Erucamide) from Fatty Acid and Urea Using Micro-emulsion.** R.P. Singh, N.P. Awasthi, and A.S. Khare, Harcourt Butler Technological Institute, India.
- 4:20 **Biocide and Preservative Boosting with Use of Chelating Agents.** P. Kincaid and W. Parry, AkzoNobel Functional Chemicals, USA.
- 4:40 **Hydroxyl-modified Cationic Lipids with Carbamate as Gene Delivery.** W. Qiao, Z. Zheng, and W. Qu, Dalian University of Technology, China.
- 5:00 **Crystallization and Polymorphism in Binary Mixtures of Capric and Lauric acid.** S. Rønholt¹, J.J.K. Kirkensgaard², K. Mortensen², D. Rousseau³, and J.C. Knudsen¹, ¹Dept. of Food Science, Faculty of Life Sciences, University of Copenhagen, Denmark, ²Dept. of Basic Sciences and Environment, Faculty of Life Sciences, University of Copenhagen, Denmark, ³Dept. of Chemistry and Biology, Ryerson University, Canada.

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Top 10 of 2011



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Wednesday Morning

ANA 4: Innovative Techniques for Analysis

Chairs: J. Lay, University of Arkansas, USA; and W.C. Byrdwell, USDA, ARS, USA

201A

- 7:55 **Introduction.**
- 8:00 **High-Resolution Small Molecule Imaging as a Tool for Lipid Characterization.** K.A. Kellersberger, Bruker Daltonics, Inc., USA.
- 8:20 **Covalent Adduct Hybrid Chemical Ionization Mass Spectrometry for High Sensitivity Structural Analysis of Fatty Acid Methyl Esters.** C. Tyburczy¹, P. Delmonte¹, A. R. Fardin-Kia¹, J. T. Brenna², and J. I. Rader¹, ¹U.S. Food and Drug Administration, USA, ²Cornell University, USA.
- 8:40 **Rapid Generation of Fatty Acid Methyl Ester Profiles using Direct Analysis in Real Time (DART) Mass Spectrometry.** B. Musselman, E. Crawford, and J. Krechmer, IonSense, Inc., USA.
- 9:00 **An Introduction to the Unit Simulacrum as a Construct for Mass Spectrometry of Triacylglycerols.** W.C. Byrdwell, USDA, ARS, BHNRC, Food Composition and Methods Development Lab, USA.
- 9:20 **Determination of CLA *trans,trans* Positional Isomerism in CLA-rich Soy Oil by GC-MS and Silver Ion Chromatography.** U. Shah (*Honored Student Award Winner*), A. Proctor, J. Lay, and K. Moon, University of Arkansas, USA.
- 9:40 **Oil Measurements on Wet Algae Paste using TD-NMR.** W. Samaniego and S. Gosh, Bruker Corporation, USA.
- 10:00 **Novel NMR Technology to Assess Food Quality and Safety.** M. Link, M. Spraul, H.Schaefer, F. Fang, and B. Schuetz, Bruker BioSpin GmbH, Germany.
- 10:20 **Palm Oil Authentication by Fingerprinting Techniques.** A. Tres¹, G. van der Veer¹, C. Ruiz-Sambas^{1,2}, and S.M. van Ruth¹, ¹RIKILT, Wageningen University and Research Centre, The Netherlands, ²University of Granada, Spain.
- 10:40 **Atomic Force Microscopy: A Tool for Investigation the Effect of Lipid Composition on Nanoliposomes Characterization.** B. Maherani¹, E. Arab-Tehrany¹, F. Cleymand², and M. Linder¹, ¹Institut National Polytechnique de Lorraine, Vandoeuvre lès Nancy, France, ²Institut Jean Lamour, Ecole des Mines, France.
- 11:00 **Monitoring Volatile Products to Track Alternate Pathways in Lipid Oxidation.** B. Bogusz and K. Schaich, Rutgers University, USA.
- 11:20 **Evaluating the Transferability of FT-NIR Calibration Models for Fatty Acid Determination of Edible Fats and Oils Among Five Same-make Spectrometers.** M.M. Mossoba¹, H. Azizian², and J.K.G. Kramer², ¹FDA, USA, ²NIR Technologies Inc., Canada.
- 11:40 **Studying Heterogeneous Microstructures of Spherulites of Lipid Mixtures by Synchrotron Radiation Microbeam X-ray Diffraction Measurements.** L. Bayés-García¹, T. Calvet¹, M.A. Cuevas-Diarte¹, S. Ueno², and K. Sato², ¹University of Barcelona, Spain, ²Hiroshima University, Japan.

ANA 4.1/PCP 4: Practical Methods for Assessing By-Product Quality

Chairs: B. Musselman, IonSense, USA; and L. Reimann, Eurofins Scientific Inc., USA

203C

- 7:55 **Introduction.**
- 8:00 **Pyrolysis GCMS and GCMS of Pyrolysis Oil, Powerful Analytical Techniques in Bio-Mass to Gasoline Conversion Research.** M.T. Cheng, Chevron, USA.
- 8:40 **Development of a Simple and Green Analytical Method for Determination of Acid Number of Biodiesel and Biodiesel Blends using Green Chemistry Approaches.** A. Baig¹, M.D. Paszti², and F.T.T. Ng¹, ¹Dept. of Chemical Engineering, University of Waterloo, Canada, ²Rothsay, a Division of Maple Leaf Foods Inc., Canada.
- 9:00 **A Simple, One-step, Quantitative Analytical Method for the Analysis**

of Fatty Acids in Natural Products. R. Freeman¹, T. Yuzawa², C. Watanabe², and T. Ramus³, ¹Frontier US, USA, ²Frontier Laboratories, Japan, ³Diablo Analytical, USA.

- 9:20 **The Effect of Pea Protein on Physicochemical Characterization and Oxidative Kinetics of Rapeseed Oil Nanoemulsions.** E. Arab Tehrany, E. Mallo, N. Belhaj, B. Maherani, and M. Linder, Nancy Université, France.
- 9:40 **High Throughput Screening of Flax Peptides and Lignans.** C. Olivia¹, P.-G. Burnett², D. Okinyo-Owiti², M. Bagonluri², and M. Reaney², ¹Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada, ²Dept. of Plant Sciences, University of Saskatchewan, Canada.
- 10:00 **Atmospheric Pressure Photoionization (APPI) for LC-MS Analysis of Lipids—An Overview.** S.-S. Cai, Syagen Technology, Inc., USA.
- 10:20 **FAME Analysis Utilizing the Unique Selectivity of Ionic Liquid Capillary Columns.** L. Sidisky, G. Baney, J. Desorcie, K. Stenerson, and D. Shollenberger, Supelco, USA.
- 10:40 **Rapeseed Protein Extraction and Application.** F. Pudel¹, R.-P. Tressel¹, and K. Düring², ¹Pilot Pflanzenöltechnologie Magdeburg e.V., Germany, ²Axara Consulting, Germany.
- 11:00 **Algal Polar Lipids Quantification by HPLC.** J.A. Gerde, L. Yao, and T. Wang, Dept. of Food Science and Human Nutrition, Iowa State University, USA.
- 11:20 **Determination of Diacylglycerol Isomers in Vegetable Oils Gas Chromatography - Mass Spectrometry.** H. Zhu, S. Wang, M. Clegg, and C. Shoemaker, University of California Davis, USA.
- 11:40 **Algal Biomass Constituent Analysis: Method Uncertainties and Investigation of Underlying Measuring Chemistries.** L.M.L. Laurens¹, T.A. Dempster³, and H.D.T. Jones², ¹National Renewable Energy Laboratory, USA, ²Sandia National Laboratories, USA, ³Arizona Center for Algae Technology and Innovation, USA.

BIO 4/S&D 4: Biobased Surfactants

Chairs: D. Solaiman, USDA, ARS, NCAUR, USA; D.G. Hayes, University of Tennessee; and G. Smith, Huntsman Performance Products, USA

104B

- 7:55 **Introduction.**
- 8:00 **Use of Enzymes to Prepare Biobased Surfactants: Overview.** D.G. Hayes, University of Tennessee, USA.
- 8:20 **Vegetable Oil Based Surfactants: Physical Chemistry and Performance Properties.** G. Smith, Huntsman Corporation, USA.
- 8:40 **Rhamnolipid Production and Applications.** M. Sodagari, Y. Chen, S.S. Dashtbozorg, N. Callow, and L.-K. Ju*, The University of Akron, USA.
- 9:00 **Cyanophycin-based Lipo-dipeptides as Biosurfactants.** J.A. Zerkowski and D.K.Y. Solaiman, ERRC, ARS, USDA, USA.
- 9:20 **Fermentative Production and Interfacial Properties of Glycolipid Biosurfactants, Cellobiose Lipids by *Cryptococcus humicola*.** T. Imura, T. Morita, T. Fukuoka, and D. Kitamoto, Research Institute for Innovation in Sustainable Chemistry, National Institute for Advanced Science and Technology (AIST), Japan.
- 9:40 **Synergistic Interactions among Greener Surfactants and Their Synergistic Interactions with Enzymes.** P. Somasundaran, J. Wu, S. Lu, and M. Chin, NSF I/UCR Center for Particulates and Surfactants, Columbia University, USA.
- 10:00 **Sophorolipids and Sophorolactone: Properties and Application Potential.** D.W.G. Develter, Ecover Belgium NV, Belgium.
- 10:20 **Formulating with Bio and Bio-based Surfactants.** E. Acosta and M. Baxter, University of Toronto, Canada.
- 10:40 **Home Care Cleaning Products based on Renewable Materials with Novel Added Benefits.** P. Stuut, Purac, The Netherlands.
- 11:00 **Modified Activated Sludge Oil Phospholipids as Potential Bio-based Surfactants.** P.J. Pham, R. Hernandez, W.T. French, and W. Holmes, Dave C. Swalm School of Chemical Engineering Mississippi State University, USA.
- 11:20 **Achieving Effective, VOC Compliant, All-Purpose Cleaner Formulations**



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Using Renewable Surfactant Blends. M.I. Busby and K.K. McNally, Dow Chemical Corporation, USA.

11:40 **New Cyclic C-Glycoside Surfactants Derived from Carbohydrates.** N.A. Burns, P2 Science, Inc., USA.

EAT 4/S&D 4.1: Dispersions, Emulsions, and Foams

Chairs: A. Wright, University of Guelph, Canada; and C. Rojas, AMCOL, USA

102BC

7:55 **Introduction.**

8:00 **Role of Conformation and Interactions of Hybrid Silicones at Various Interfaces.** P. Somasundaran¹, P. Purohit¹, and S. Mehta², ¹Columbia University, USA, ²Dow Chemicals, India.

8:40 **Effects of Phase Behavior on Spontaneous Formation of Emulsions/Nanoemulsions and on Emulsion Destabilization.** C.A. Miller, Rice University, USA.

9:20 **Enzyme-Triggered Aroma Release from Emulsions.** B.C. Wong, R.J. Elias, J.D. Lambert, and J.N. Coupland, Pennsylvania State University, USA.

9:40 **Salt Release from Fat Crystal-Stabilized Water-in-Oil Emulsions.** S. Ghosh¹, M. Nadine², and D. Rousseau³, ¹University of Saskatchewan, Canada, ²AgroSup, France, ³Ryerson University, Canada.

10:00 **The Influence of Alcohol on Foam Behavior.** S.T. Adamy¹ and C.F. Neller², ¹Church & Dwight Co., Inc., USA, ²Rutgers University, USA.

10:20 **Bio-compatible Low Salinity Triglyceride Microemulsions and Detergency.** L.D. Do and D.A. Sabatini, The University of Oklahoma, USA.

10:40 **Effect of Emulsifiers on Micro- and Nano-structural Changes of Shear Sensitive Emulsions.** M.B. Munk^{1,2}, M.L. Andersen², and A.G. Marangoni³, ¹Palsgaard A/S, Denmark, ²University of Copenhagen, Dept. of Food Science, Denmark, ³University of Guelph, Dept. of Food Science, Canada.

11:00 **The Impact of Lemon Oil Composition on Formation and Functional Properties of Nanoemulsions.** J.J. Rao (*Honored Student Award Winner*), and D.J. McClements, Dept. of Food Science, University of Massachusetts, Amherst, USA.

11:20 **Physical Control of Fat Crystallization in O/W Emulsion-type Chocolate under Shear.** K. Sato, M. Ochi, H. Hondoh, and S. Ueno, Hiroshima University, Japan.

H&N 4: Lipids and Immune Function

This session is sponsored in part by Avanti Polar Lipids, Inc. and DSM.

Chairs: R. Ward, Utah State University, USA; and H. Durham, Louisiana State University, USA

103BC

7:55 **Introduction.**

8:00 **Role of Endogenous Endotoxin Absorption and Endotoxin Receptors in Inflammation Associated with High Fat Diets.** M.C. Michalski^{1,3}, F. Laugerette¹, M. Alligier^{2,3}, C. Vors^{1,2}, G. Pineau^{1,2}, C.O. Soulage¹, A. Geloën¹, M. Laville^{3,2}, and H. Vidal^{2,3}, ¹INRA USC1235, Lyon University, CarMeN Laboratory, France, ²INSERM U1060, Lyon University, CarMeN Laboratory, France, ³CRNH-RA, CENS, France.

8:20 **Inhibitory Effects of Carotenoids on Antigen-induced Activation of Immune Cells.** Y. Manabe, S. Sakai, T. Sugawara, and T. Hirata, Kyoto University, Japan.

8:40 **Dietary Milk Polar Lipids Benefit Lipid Metabolism and Gut Barrier in Obese Mice Fed Moderate High-fat Diet.** A.L. Zhou (*Honored Student Award Winner and Health and Nutrition Division Student Excellence Award Winner*), and R. Ward, Utah State University, USA.

9:00 **Differential Inhibition of PGE2 Synthesis by Sciadonic Acid (SCA) and Δ7-eicosatrienoic Acid (Δ7-ETra) in Murine RAW264.7 Macrophage.** L.-T. Chuang¹, P.-J. Tsai², and W.-C. Huang², ¹Dept. of Biotechnology, Yuanpei University, Taiwan, ²Dept. of Human Development and Family Studies, National Taiwan Normal University, Taiwan.

9:20 **The Endocannabinoid Metabolome: Inflammatory Response Dyad in the Last Half of Pregnancy.** H.A. Durham¹, J.T. Wood², J. Geaghan¹, A. Makriyannis², and C.J. Lammi-Keefe¹, ¹AgCenter, Louisiana State University, USA, ²Center for Drug Discovery, Northeastern University, USA.

9:40 **The Macrophage and Plasma Lipidomes in Health, Nutrition, and Disease.** E.A. Dennis, University of California, San Diego, USA.

10:20 **Anti-atherogenic Properties of Apolipoprotein E Mimetic Peptides.** G. Nayar, S.P. Handattu, D.W. Garber, V.K. Mishra, M.N. Palgunachari, G. Datta, and G.M. Anantharamaiah*, University of Alabama School of Medicine, USA.

11:00 **Omega-3 Fatty Acid Receptor, GPR120 Mediates Potent Anti-Inflammatory and Insulin Sensitizing Effects.** D.Y. Oh and J.M. Olefsky, University of California San Diego, USA.

11:40 Discussion

IOP 4: Polymers from Vegetable Oils

Chairs: G. Bantchev, USDA, ARS, NCAUR, USA; and P. Pham, Mississippi State University, USA

202AB

7:55 **Introduction.**

8:00 **Green Routes to Biobased Polyurethanes.** R. Narayan and D. Graiver, Michigan State University, USA.

8:20 **Novative Macromolecular Architectures from Vegetable Oils.** L. Averous, LIPHT-ECPM, University of Strasbourg, France.

8:40 **Vegetable-based Building Blocks for the Synthesis of Renewable Polyurethanes.** L. Maisonneuve^{1,2}, H. Cramail^{*1,2}, E. Cloutet^{2,1}, B. Gadenne³, and C. Alfos³, ¹Université de Bordeaux, Laboratoire de Chimie des Polymères Organiques, IPB-ENSCBP, France, ²CNRS, Laboratoire de Chimie des Polymères Organiques, UMR 5629, France, ³ITERG, Institut des France.

9:00 **Polymers from Algae Oil.** Z.S. Petrovic, X. Wan, A. Zlatanic, J. Hong, I. Javni, M. Ionescu, J. Milic, and D.P. Hong, Pittsburg State University, USA.

9:20 **Bio-based Non-Isocyanate Polyurethanes.** I. Javni, O. Bilic, and Z.S. Petrovic, Kansas Polymer Research Center, Pittsburg State University, USA.

9:40 **Polymerization of Euphorbia Oil in Carbon Dioxide Media.** Z. Liu, NCAUR, ARS, USDA, USA.

10:00 **Synthesis and Properties of Glycidyl Esters of Epoxidized Fatty Acids.** R. Wang (*Industrial Oil Products Division Student Award Winner*), and T. Schuman, Chemistry Department, Missouri University of Science and Technology, USA.

10:20 **Novel High Molecular Weight Polymer and Coatings Derived from Soybean Oil.** S. Alam, A. Jayasooriya, and B. Chisholm*, North Dakota State University, USA.

10:40 **Semicrystalline Polyamide Engineering Thermoplastics Based on the Renewable Monomer, 1,9-nonane Diamine.** A. Kugel, J. He, S. Samanta, J. Bahr, J. Lattimer, M. Fuqua, C. Ulven, and B. Chisholm*, North Dakota State University, USA.

11:00 **The Oleic Oils: Analysis from Demand to Supply.** F. Turon, FAT & Associés, France.

11:20 **Polyols Production by Chemical Modification of Palm Oil.** A. Mohd Zan, Z. Idris, T.N.M. Tuan Ismail, S.S. Hoong, S.K. Yeong, and H. Abu Hassan, Malaysian Palm Oil Board, Malaysia.

11:40 **Development of Bio Grease for Girth Gears.** S. Kaul, P. Nagendramma, R.P.S. Bisht, and M.R. Tyagi, Indian Institute of Petroleum, India.

LOQ 4: Protein and Lipid Oxidation: Meat and Fish Oxidation

This session is sponsored in part by Kalsec, Inc.

Chairs: R. Nahas, Kalsec, Inc., USA; and J. Gerde, Iowa State University, USA

101B

- 7:55 **Introduction.**
- 8:00 **Oxidative Stability of Sardines as Related to Storage Conditions.** V. Cardenia, M.T. Rodriguez-Estrada*, E. Baldacci, and G. Lercker, Dept. of Food Science/Alma Mater Studiorum-Università di Bologna, Italy.
- 8:20 **Protein and Lipid Oxidation in Muscle Food.** C.P. Baron, Technical University of Denmark, Denmark.
- 8:40 **Lipid Oxidation: Carboxymyoglobin Interactions in Muscle Food Systems.** S.P. Suman¹, P. Joseph², C.M. Beach³, R.A. Mancini⁴, and R. Ramanathan⁴, ¹Dept. of Animal and Food Sciences, University of Kentucky, USA, ²Dept. of Food Science, Nutrition and Health Promotion, Mississippi State University, USA, ³Proteomics Core Facility, University of Kentucky, USA, ⁴Dept. of Animal Science, University of Connecticut, USA.
- 9:00 **Use of Iron Chelators to Control Lipid Oxidation and Color Loss in Red Meats.** K. Allen, Utah State University, USA.
- 9:20 **The Effect of Market Needs on the Formulation and Flavor-Life of Value-added Meats.** T. Jones, M. Peltz, L. Burroughs, and A. Uhlir, Kalsec, Inc., USA.

LOQ 4.1: The Effect of Oxidation Products on Health

This session is sponsored in part by Dow AgroSciences, Kalsec, Inc., and Kellogg Company.

Chairs: R. Nahas, Kalsec, Inc., USA; and C. Jacobsen, Technical University of Denmark, Denmark

101B

- 10:00 **Biological Functions of Histidine-Dipeptides.** K. Yeum¹ and G. Aldini², ¹Jean Mayer USDA-Human Nutrition Research Center on Aging, Tufts University, USA, ²Dept. of Pharmaceutical Sciences, University of Milan, Italy.
- 10:20 **Free Radical Lipid Peroxidation: Mechanism, Analysis and Biological Relevance.** H. Yin, Laboratory of Fatty Acid Metabolism in Human Nutrition and Related Diseases, Institute for Nutritional Sciences, Shanghai Institute for Biological Sciences, Chinese Academy of Sciences, China.
- 11:00 **Oxidative Fate of Unsaturated Lipids in Food and During Digestion – Possible Metabolic Significance.** C. Genot¹, A. Meynier¹, M. Awada², and M.C. Michalski², ¹INRA UR1268 Biopolymères Interactions Assemblages, France, ²INSERM U1060, INRA USC1235, Lyon University, CarMeN Laboratory, France.
- 11:20 **Healthy Oil Development with Focus on Both Antioxidant and Heart Health Impact.** R. Jonas, PL Thomas, USA.
- 11:40 **Targeting Mitochondria to Improve Antioxidant Activity of Polyphenols through the Grafting of Lipid Moiety.** C. Bayrasy^{1,2}, M. Laguerre¹, J. Lecomte¹, C. Wrutniak-Cabello², G. Cabello², E. Decker³, and P. Villeneuve¹, ¹CIRAD UMR IATE, France, ²INRA, UMR DMEM, France, ³Dept of Food Science, University of Massachusetts, USA.

PRO 4: General Processing

Chairs: J. Mulholland, N. Hunt Moore & Assoc Inc., USA; and B. Cooke, Dallas Group, USA

203AB

- 7:55 **Introduction.**
- 8:00 **Efficient Recovery of Sterols and Tocopherols in Deodorizer Distillates: Myths and Facts.** W. De Greyt¹, J. Willits², B. Schols¹, and M. Kellens¹, ¹Desmet Ballestra Group, Belgium, ²Desmet Ballestra North America, USA.

- 8:20 **Formation of 3-MCPD/Glycidyl Esters During Processing of Edible Oil; Current State of Knowledge.** K. Hrnčirik and A. Ermacora, Unilever R&D, Vlaardingen, The Netherlands.
- 8:40 **Supercritical Carbon Dioxide Extraction of Corn Dried Distillers Grains with Solubles.** J. Calderon, O. N. Ciftci*, and F. Temelli, University of Alberta, Canada.
- 9:00 **Oil Extraction from Microalgae *Nannochloropsis* spp. with Isopropyl Alcohol.** L. Yao, J.A. Gerde, and T. Wang, Dept. of Food Science and Human Nutrition, Iowa State University, USA.
- 9:20 **Comparison of Alcohol Extraction of Oil from Oil-bearing Products with Different Lipid Compositions.** L. Yao, S.-L. Lee*, J.A. Gerde, and T. Wang, Dept. of Food Science and Human Nutrition, Iowa State University, USA.
- 9:40 **Minimal Refining Canola Oil: Maximizing Phytosterols and Tocopherols Contents and Removing Pesticides.** S. Mirzaee Ghazani¹, A.G. Marangoni¹, and G. García-Llatas², ¹Food Science Department, University of Guelph, Canada, ²Nutrition and Food Science Area, University of Valencia, Spain.
- 10:00 **Dehulling of Canola in a Fluid Bed Application.** M. Börner¹, M. Peglow¹, M. Ihlow², and T. Piofczyk³, ¹NaWiTec, Thermal Process Engineering, Otto-von-Guericke University, Germany, ²AVA, Germany, ³OEHMI Engineering GmbH, Germany.
- 10:20 **Mechanical Downstream Processing of Single Cell Oils for Biofuel Production.** M. De Coninck^{1,2}, R. Van Hecke¹, K. Deprez¹, I. Foubert^{2*}, and J. De Baerdemaeker², ¹KAHO Sint-Lieven, Association K.U. Leuven, Dept. of Mechanical Engineering, Belgium, ²Katholieke Universiteit Leuven, Division of Mechatronics, Biostatistics & Sensors, Belgium.
- 10:40 **Adsorbent Treatment of Biodiesel Feedstock with Synthetic Magnesium Silicate.** G.E. Hicks and B.S. Cooke, Dallas Group, USA.
- 11:00 **Lipase-catalyzed Transesterification of Carbon Dioxide-expanded Canola Oil and Fully-hydrogenated Canola Oil.** E. Jenab (*Honored Student Award Winner and Processing Division Student Award Winner*), F. Temelli, J. Curtis, and Y.Y. Zhao, University of Alberta, Canada.
- 11:20 **High Voltage Electrostatic Destabilization of Water-oil Emulsion for the Extraction of Lipids in Wastewater Bacteria for Biofuel Production.** E. Revellame¹, W. Holmes¹, L. Lerma², R. Hernandez¹, L.A. Estevez², and W.T. French¹, ¹Dave C. Swalm School of Chemical Engineering, Mississippi State University, USA, ²University of Puerto Rico, USA.
- 11:40 **UV Curable High Performance Pressure Sensitive Adhesives from Acrylated Epoxidized Soybean Oil.** K. Ahn^{1,2} (*Honored Student Award Winner*), and S. Sun¹, ¹Kansas State University, USA, ²University of California, Davis, USA.

PCP 4/ANA 4.1: Practical Methods for Assessing By-Product Quality

Chairs: B. Musselman, IonSense, USA; and L. Reimann, Eurofins Scientific Inc., USA

203C

Joint Session: For details, see ANA 4.1/PCP 4, page 52.

S&D 4/BIO 4: Biobased Surfactants

Chairs: D. Solaiman, USDA, ARS, NCAUR, USA; D.G. Hayes, University of Tennessee; and G. Smith, Huntsman Performance Products, USA

104B

Joint Session: For details see, BIO 4/S&D 4, page 52.

S&D 4.1/EAT 4: Dispersions, Emulsions, and Foams

Chairs: A. Wright, University of Guelph, Canada; and C. Rojas, AMCOL, USA

102BC

Joint Session: For details, EAT 4/S&D 4.1, page 54.

S&D 4.2: General Surfactants II*Chairs: B. Lin, Henkel, USA; and J. Pytel, Stepan Co., USA***104A**7:55 **Introduction.**8:00 **A General Overview of Crystallization Kinetics in Mixed Surfactant Systems.** B.P. Grady¹, A. Maneedaeng², A.E. Flood², K.J. Haller², J.F. Scamehorn¹, and P. Lohateeraparp¹, ¹University of Oklahoma, USA, ²Suranaree University of Technology, Thailand.8:20 **Dissolution of Calcium and Magnesium Soap Scums by Surfactant in the Presence of Chelant.** S. Itsadanont¹, J.F. Scamehorn², D.A. Sabatini², and S. Chavadej^{1,3}, ¹The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, ²Institution for Applied Surfactant Research, University of Oklahoma, USA, ³Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.8:40 **Nonyl Surfactants in Household Product Cleaning Systems.** P.T. Sharko and D. Li, Shell Global Solutions, USA.9:00 **Novel Amphiphilic Copolymers Derived from Soybean Oil.** H. Kalita, S. Alam, A. Bezbaruah, A. Voronov, and B. Chisholm*, North Dakota State University, USA.9:20 **Break.**9:40 **Effect of Counterions on Green Surfactant Properties.** L. Del Rosario, Church & Dwight Co. Inc., USA.10:00 **Solid Oily Soil Removal from Fabrics by Using Extended Surfactants.** J. Chanwattanakit¹, J.F. Scamehorn², D.A. Sabatini², and S. Chavadej^{1,3}, ¹The Petroleum and Petrochemical College, Thailand, ²Institute for Applied Surfactant Research, University of Oklahoma, USA, ³Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.10:20 **Development and Validation of Image Analysis in Degreasing Evaluation.** A. Devries^{2,1}, E. Theiner¹, and K. Yacoub¹, ¹Air Products and Chemicals, Inc., USA, ²Purdue University, USA.10:40 **Reformulation of I&I Autodish Detergents for the Removal of STPP or KTPP.** I. Leonard¹ and J. Kolpa², ¹Thermphos International, Belgium, ²Thermphos USA, USA.11:00 **Next Generation Biobased Builder: Polyitaconic Acid.** Y. Durant, Itaconix, USA.**Wednesday Afternoon****ANA 5: General Analytical***Chairs: R. Della Porta, Frito-Lay Inc., USA; and S. Bhandari, Silliker Inc., USA***201A**1:55 **Introduction.**2:00 **Analysis of Encapsulated Omega Fatty Acids in Selected Food and Ingredient Samples by Different Methods.** S.D. Bhandari and T. Gallegos, Silliker Laboratories, USA.2:20 **Identification of Minor Acylglycerols Less Polar than Triricinolein in Castor Oil by Mass Spectrometry.** J.-T. Lin, U.S. Dept. of Agriculture, USA.2:40 **Comparing the SLB-IL111 and SP-2560 Capillary Columns for the Quantification of *trans* Fatty Acids.** P. Delmonte¹, C. Tyburczy¹, A.R. Fardin-Kia¹, J.K.G. Kramer², M.M. Mossoba¹, and J.I. Rader¹, ¹U.S. Food and Drug Administration, USA, ²Retired from Guelph Food Research Center, Agriculture and Agri-Food Canada, Canada.3:00 **Vegetable Oil Analysis by FT-NIR Spectroscopy.** C. Heil, C. Moreland, M. Pressler, D. Drapcho, and H. He, Thermo Fisher Scientific, USA.3:20 **Combination of Glycine and Antioxidants as Potential Chelator for Iron(III) Intoxication Therapy.** A.E. Angkawijaya¹, E. Hernowo¹, L.H. Huynh¹, A.E. Fazary², and Y.H. Ju¹, ¹Dept. of Chemical Engineering, National Taiwan University of Science and Technology, Taiwan, ²Dept. of Chemistry, Faculty of Science, King Khalid University, Saudi Arabia.3:40 **Accelerated Solvent Extraction of Lipids from Extruded Dry Pet Food.** L. Yao and K.M. Schaich, Rutgers University, USA.4:00 **Evaluation of Saturated Fatty Acid in 2-position in the Triacylglycerols of Iranian Extra Virgin Olive Oils.** R. Alavian¹, Z. Piravi Vanak², H. Safar³, and J. Arab⁴, ¹Islamic Azad University, Varamin Branch, Iran, ²SIRI-Standard Research Institute, Iran, ³Techno Azma Lab, Iran, ⁴Ministry of Jihad, Agriculture, Iran.**ANA 5.1/S&D 5: Analytical and Characterization Techniques for Probing Structure/Performance Relationships of Colloidal Systems***Chairs: H. Li, Bruker Optics, USA; and D. Scheuing, Clorox Co., USA***104A**1:55 **Introduction.**2:00 **Quartz Crystal Microbalance (QCM) studies of C12E6 and CTAB Adsorbed at Interfaces and the Effect of Coadsorbents, Roughness and Temperature.** B.P. Grady, University of Oklahoma, USA.2:20 **Use of Isothermal Titration Calorimetry (ITC) to Evaluate the Adsorption of Surfactant on Iron Oxide.** E. Acosta and Z. Wang, University of Toronto, Canada.2:40 **Surfactant Analysis by Infrared Spectroscopy.** T. Tague, Bruker Optics, USA.3:20 **A Hard-surface Cleaning Performance Test Method with in-situ Photometric Characterization.** D. Li and P.T. Sharko, Shell Global Solutions (US) Inc., USA.3:40 **Imaging the Polymer Network Structure of Ethylcellulose Oleogels using Atomic Force and Cryo-scanning Electron Microscopy.** A.K. Zetzl, A.G. Marangoni, and S. Barbut, University of Guelph, Canada.4:00 **Direct Analysis of Surfactants using HPLC with Charged Aerosol Detection.** M.A. Plante, B. Bailey, and I.N. Acworth, Thermo Scientific, USA.4:20 **Viscous Heating in a Mini-Couette Cell Used in Rheo-XRD and Rheo-NMR Research.** F.C. Wang and G. Mazzanti, Dalhousie University, Canada.**BIO 5: General Biotechnology***Chairs: D. Solaiman, USDA, ARS, NCAUR, USA; and L.-K. Ju, University of Akron, USA***104B**1:55 **Introduction.**2:00 **Synthesis of Structured Lipid Enriched in LCPUFA from Palm Olein for Infant Formula and Nutraceutical Use.** S. Nagachinta and C.C. Akoh, Dept. of Food Science and Technology, UGA, USA.2:20 **Lipid Production from *Yarrowia lipolytica* Po1g Grown in Sugarcane Bagasse Hydrolysate.** Y.A. Tsigie¹, C.-Y. Wang¹, C.-T. Truong², and Y.-H. Ju¹, ¹National Taiwan University of Science and Technology, Dept. of Chemical Engineering, Taiwan, ²Cantho University, Dept. of Chemical Engineering, Vietnam.2:40 **Batch and Continuous Production of Microbial Oils as Biodiesel Feedstock from Hydrolyzate of Switchgrass.** G. Zhang, W.T. French, R. Hernandez, and W.E. Holmes, Dave C. Swalm School of Chemical Engineering, Mississippi State University, USA.3:00 **Ionic Liquids-mediated Chemo-enzymatic Epoxidation of Fatty Acid Esters and Vegetable Oils.** S.-C. Chua (*Honored Student Award Winner*), Z. Guo, and X. Xu, Dept. of Engineering, Aarhus University, Denmark.3:20 **Generation of Renewable Fuels and Carotenoids from *Rhodotorula glutinis* using Sweet Sorghum Juice.** M. Revellame¹, D. Sparks¹, R. Hernandez², W. Holmes², and A. Brown¹, ¹Dept. of Biochemistry, Molecular Biology, Entomology, and Plant Pathology, Mississippi State University, USA, ²Dave C. Swalm School of Chemical Engineering, Mississippi State University, USA.3:40 **Conversion of Glycerol to 1,3-Propanediol Using Ethanol Stillage.** K. Ratanapariyanuch¹, Y.Y. Shim², M. Haakensen³, and M. Reaney², ¹Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada, ²Dept. of Plant Sciences, University of Saskatchewan, Canada, ³Contango Strategies Limited, Canada.

- 4:00 **Development of a Novel Bioprocess to Produce Adipic Acid from Renewable Oils.** T.A. Beardslee, M. Walbridge, J. Yi, and S. Picataggio*, Verdezyne, Inc., USA.
- 4:20 **Protein Engineering of Lipases to Alter Their Fatty Acid Selectivity.** U.T. Bornscheuer, H.B. Brundiek, A.S. Evitt, and R. Kourist, Institute of Biochemistry, Germany.
- 4:40 **Specific Production of Polyunsaturated Fatty Acid by Oleaginous Filamentous Fungus *Mortierella alpina* Breeding.** A. Ando¹, T. Okuda¹, H. Kikukawa¹, E. Sakuradani¹, J. Shima¹, J. Ogawa¹, and S. Shimizu^{1,2}, ¹Kyoto University, Japan, ²Kyoto Gakuen University, Japan.

EAT 5: General Edible Applications Technology

Chairs: G.R. List, USDA Consultant (Retired), USA; and B. Farhang, University of Guelph, Canada

102BC

- 1:55 **Introduction.**
- 2:00 **Challenging Endogenous Oil Components.** R. Przybylski, (*Timothy L. Mounts Award Winner*), University of Lethbridge, Dept. of Chemistry and Biochemistry, Canada.
- 2:40 **Phytosterol Solubility in Lipid Vesicles of Phosphatidylcholine and its Relationship to Stability.** N.C. Acevedo and A.G. Marangoni, University of Guelph, Canada.
- 3:00 **Stability Evaluation of the Sucrose Laureate-stabilized Phytosterol Nanodispersion-containing Soy Milk.** W.F. Leong¹, C.P. Tan², Y. Che Man², O.M. Lai³, K. Long⁴, and M. Nakajima⁵, ¹School of Science, Monash University, Malaysia, ²Dept. of Food Technology, Universiti Putra Malaysia, Malaysia, ³Dept. of Bioprocess Technology, Universiti Putra Malaysia, Malaysia, ⁴Malaysian Agricultural Research & Development Institute (MARDI), Malaysia, ⁵Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan.
- 3:20 **Factors Affecting the Oxidative Stability of Omega-3 Emulsions Prepared with Milk Proteins.** A.F. Horn (*Honored Student Award Winner*), N.S. Nielsen, and C. Jacobsen, Division of Industrial Food Research, National Food Institute, Technical University of Denmark, Denmark.
- 3:40 **A Chemometric Approach for Finding the Relevant Fatty Acids Contributing to the Melting Fractions of Milk Fat.** P. Buldo, M. Krogh Larsen, and L. Wiking, Aarhus University, Denmark.
- 4:00 **Synthesis and Characterization of *trans*-free Margarine Fat Analogs by Enzymatic Interesterification of Cottonseed Oil and Palm Stearin.** G. Pande and C.C. Akoh, University of Georgia, USA.
- 4:20 **Reduced Saturated Fatty Acids Solutions for Confectionery Fats without Compromises to Process and Product Functionalities.** M.D. Andersen and B. Juul, AAK, Denmark.
- 4:40 **Microalgae as an Alternative Source of Omega 3 Fatty Acids?** E. Ryckebosch, K. Muylaert, and I. Foubert, Katholieke Universiteit Leuven KULAK, Belgium.

H&N 5: General Health and Nutrition

Chair: K. Park, Dairy Research Institute/National Dairy Council, USA

103BC

- 1:55 **Introduction.**
- 2:00 **Oxidation of Dietary Polyunsaturated Fatty Acids: Intestinal Absorption of End-products and Metabolic Impact.** M. Awada¹, A. Meynier², C. Soulage¹, B. Benoit¹, M. Guichardant¹, C. Genot², and M.C. Michalski¹, ¹INSERM U1060, INRA USC1235, Lyon University, CarMeN Laboratory, France, ²INRA U1268, BIA, France.
- 2:20 **Effects of Oxidized EPA on Apolipoprotein A-I Expression in HepG2 Cells and Caco-2 Cells.** H. Furumoto, T. Nanthirudjanar, T. Sugawara, and T. Hirata, Kyoto University, Japan.
- 2:40 **Fatty Acid Regiospecificity as a Potential Determinant of Tissue**

Uptake of Dietary DHA. M.Y. Abeywardena¹, C. Wijesundera¹, and P.D. Nichols², ¹CSIRO Food Futures Flagship, Food and Nutritional Sciences, Australia, ²Marine and Atmospheric Research, Australia.

- 3:00 **Composition and Regiospecific Distribution of Fatty Acids in Commercial Milk Fat and High CLA Content Milk Fat.** D. Zope¹, P. Angers^{1,2}, and J. Arul^{1,2}, ¹Dept. of Food Sciences and Nutrition, Faculty of Agricultural Sciences & Food, Université Laval, Canada, ²Institute of Nutraceuticals and Functional Foods (INAF), Université Laval, Canada.
- 3:20 **The Effect of Vegetables and Plant Oil on DNA Damage in Subjects with Type 2 Diabetes.** E. Müllner¹, S. Pleifer¹, C. Schiermayer¹, H. Brath², and K.-H. Wagner¹, ¹University of Vienna, Dept. of Nutritional Sciences, Austria, ²Diabetes Outpatient Clinic, Health Centre South, Austria.
- 3:40 **Metabolomics Study of the Effect of Omega-3 and Vegetables on Patients with Type 2 Diabetes Reveals the Metabolic Alteration in Plasma- Phospholipids and Ceramides.** A.A. Moazzami¹, E. Mueller², H. Brath³, E. Forster³, and K.-H. Wagner², ¹Swedish University of Agricultural Sciences, Dept. of Food Science, Sweden, ²University of Vienna, Dept. of Nutritional Sciences, Austria, ³Diabetes Outpatient Clinic, Austria.
- 4:00 **Effect of Palm Oil Mill Effluent on Cardiac and Renal Lipid Profiles in Normo Rats.** O.L. Erukainure^{1,3}, J.A. Ajiboye², F.O. Adebayo³, and O.C. Obode³, ¹University of Lagos, Nigeria, ²Bells University of Technology, Nigeria, ³Federal Institute of Industrial Research, Nigeria.
- 4:20 **Oil Palm Fruit as a Leading Source of Natural Antioxidants.** M.Y. Abeywardena¹, R. Sambanthamurthi², Y. Tan², and K. Sundram³, ¹CSIRO - Food & Nutritional Sciences, Australia, ²MPOC, Malaysia, ³Malaysian Palm Oil Board, Malaysia.

IOP 5: Oleochemicals

Chairs: J.O. Metzger, University of Oldenburg, Germany; and D. Kodali, Global Agritech Inc./University of Minnesota, USA

202AB

- 1:55 **Introduction.**
- 2:00 **Oleochemicals: Challenges, Opportunities and Trends.** B. Vijayendran, Battelle Memorial Institute, USA.
- 2:40 **Thermally Initiated Additions of Thiols to Unsaturated Fatty Compounds and Thiol Catalyzed *cis-trans* Isomerization of Methyl Oleate without Added Initiator.** U. Biermann, J.O. Metzger, and R. Koch, University of Oldenburg, Germany.
- 3:00 **Fatty-Acids as Renewable Feedstocks in the Synthesis of Diols, Hydroxyesters and Polyesters Made Thereof.** T. Lebarbe^{1,2}, L. Maisonneuve^{1,2}, E. Cloutet^{1,2}, B. Gadenne³, C. Alfos³, and H. Cramail^{1,2}, ¹Université de Bordeaux-LCPO, France, ²CNRS - LCPO - UMR5629, France, ³ITERG, France.
- 3:20 **Bio-renewable Plasticizers Derived from Vegetable Oil.** D.R. Kodali, L. Stolp, and M. Bhattacharya, Dept. of Bioproducts and Biosystems Engineering, University of Minnesota, USA.
- 3:40 **Film-forming Properties of Vegetable Oil-Synthetic Oil Blends in Elastohydrodynamic Conditions.** G.B. Bantchev and G. Biresaw, USDA, ARS, NCAUR, USA.
- 4:00 **Characterization of the Solvent Properties of Oleochemical Carbonates.** T. Huynh¹, K. Srinivas¹, J.A. Kenar², and J.W. King¹, ¹University of Arkansas, Dept. of Chemical Engineering, USA, ²USDA, ARS, NCAUR, USA.
- 4:20 **Performance of Vegetable Oil-based Biolubricants.** J. Nie¹, J. Shen², Y. Wang³, and M. Reany², ¹Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, ²Dept. of Plant Sciences, University of Saskatchewan, Canada, ³Dept. of Food Sciences and Engineering, Jinan University, China.
- 4:40 **Evaluation of the Relative Oxidative Stability of Potential Lubricants Based on Ricinoleic Acid.** J.A.C. da Silva^{1,2}, L. Yao², E. Hammond³, and T. Wang², ¹Petrobras - Research Center - CENPES, Brazil, ²Iowa State University - Dept. of Food Science and Human Nutrition, USA.

LOQ 5: General Lipid Oxidation

Chairs: X. Pan, Solae, LLC, USA; and U. Thiyam-Holländer, University of Manitoba, Canada

101B

- 1:55 **Introduction.**
- 2:00 **Antioxidant Activity of Canolol Isolated from Canola.** U. Thiyam-Holländer¹, ¹RCFFN, Human Nutritional Sciences, Canada; ²University of Manitoba, Canada.
- 2:20 **The Role of Iron on the Effectiveness of Antioxidants in Bulk Oil.** B.C. Chen (*AOCS Thomas H. Smouse Memorial Fellowship Award Winner*), D.J. McClements, and E.A. Decker, University of Massachusetts, USA.
- 2:40 **Antioxidant Protection of n-3 PUFA Enriched oil by Synergic Antioxidants at Different Temperature.** Y.R. Jiang, Y.Q. Zhang, J.M. Liang*, and F.H. Niu, Wilmar Biotechnology R & D Center (Shanghai) Co., Ltd., China.
- 3:00 **Effect of Thiol-quinone Reactions on Polyphenol and Lipid Instability in Foods.** N. Unnadkat and R. Elias, Pennsylvania State University, USA.
- 3:20 **Oxidative Characteristics of Polar Lipids and Their Antioxidant Activity.** J.S. Miyashita¹, M. Hosokawa¹, K. Miyashita*¹, and M. Shiota², ¹Faculty of Fisheries Sciences, Hokkaido University, Japan, ²Milk Science Research Institute, Megmilk Snow Brand Co., Ltd., Japan.
- 3:40 **Is Solid Phase Microextraction (SPME) an Appropriate Method for Extraction of Volatile Oxidation Products from Complex Food Systems?** C. Jacobsen, F.S.H. Lu, A.F. Horn, and L. Berner, National Food Institute, Technical University of Denmark, Denmark.
- 4:00 **Looking Beyond Hydrogen Abstraction in Lipid Oxidation: Evidence of Alternate Pathways in Non-volatile Products.** J. Xie and K. Schaich, Rutgers University, USA.

PRO 5: Biodiesel

Chairs: H.C. Holm, Novozymes A/S, Denmark; and R. Burton, Piedmont Biofuels, USA

203AB

- 1:55 **Introduction.**
- 2:00 **Lipase Esterification for Commercial Biodiesel Production.** R. Burton, G. Austic, P. Eudy, and X. Fan, Piedmont Biofuels Industrial, USA.
- 2:20 **Biodiesel Produced with Liquid Lipase Formulation.** P.M. Nielsen, Novozymes A/S, Denmark.
- 2:40 **A Robust Multi-enzyme Preparation for Industrial Production of Biodiesel.** S. Basheer, TransBiodiesel Ltd., Israel.
- 3:00 **Effect of Water Content on Liquid Lipase-mediated Alcoholysis for Biodiesel Production in an Oil/water Biphasic System.** L. Lv, G. Zhang, W. Du*, and D. Liu, Dept. of Chemical Engineering, Tsinghua University, China.
- 3:20 **Towards Continuous Enzyme-catalysed Processes for the Production of Biodiesel.** M. Nordblad, A.K. Pedersen, L.H. Meyland, Y. Xu, and J.M. Woodley*, Dept. of Chemical and Biochemical Engineering, Technical University of Denmark, Denmark.
- 3:40 **Improving Sustainability in Oils Processing by Fatty Acid Recovery.** W.D. Cowan¹, H.C. Holm², and H.S. Yee³, ¹Novozymes UK, UK, ²Novozymes A/S, Denmark, ³Novozymes Malaysia, Malaysia.

- 4:00 **Production of Biodiesel from Waste Frying Oils.** I. Vieitez, N. Callejas, B. Irigaray, Y. Pinchak, N. Merlinski, M. Pardo, M.A. Grompone, and I. Jachmanián, Laboratorio de Grasas y Aceites, Departamento de Ciencia y Tecnología de los Alimentos, Facultad de Química, Universidad de la República. Uruguay.
- 4:20 **Biodiesel Process Development for Industrial Applications: Alternative Bio-Feedstocks, Quality Challenges, and Emerging Green Technologies.** A. Baig and F.T.T. Ng, Dept. of Chemical Engineering, University of Waterloo, Canada.

PCP 5: General Protein and Co-Products

This session sponsored in part by Solae LLC.

Chairs: N. Deak, Solae LLC, USA; and S. Jung, Iowa State University, USA

203C

- 1:55 **Introduction.**
- 2:00 **Incorporation of Soybean Aqueous Extraction Co-products to Dry-grind Corn Ethanol Fermentation.** L. Yao, S.-L. Lee, T. Wang, J.M.L.N. de Moura, and L.A. Johnson, Dept. of Food Science and Human Nutrition, Iowa State University, USA.
- 2:20 **Ultrasound-assisted Extraction of Flaxseed Gum.** J.F. Fabre, E. Lacroux, G. Vaca-Medina, and Z. Mouloungui, Université de Toulouse- UMR1010 Chimie Agro-Industrielle, ENSIACET, INPT, INRA, France.
- 2:40 **Study on Different Components' Functional Properties in vitro of Rapeseed Protein Hydrolysate.** Y. Wang, Z. Duan, X. Luan, R. Ma, and C. Wei, Academy of State Administration of Grain, China.
- 3:00 **Integrated Process and Whole Flaxseed Emulsions Obtaining.** E. Lacroux, J.F. Fabre, G. Vaca Medina, and Z. Mouloungui, Université de Toulouse - UMR1010 Chimie Agro-Industrielle, ENSIACET, INPT, INRA, France.
- 3:20 **Isolation and Characterization of Starch from Defatted Cashew Nut Shell.** M. Yuliana and Y.-H. Ju, National Taiwan University of Science and Technology, Taiwan.
- 3:40 **Comparative Assessment of Various Agro-industrial Wastes for Saccharomyces Cerevisiae Biomass Production and Its Quality Evaluation as Single Cell Protein.** U. Bacha, M. Nasir, A. Khaliq, and A.A. Anjum, University of Veterinary & Animal Sciences, Pakistan.
- 4:00 **Wood Adhesive from a Protein-polymer Conjugate: Characteristics and Optimization.** C. Wang and J. Wu, University of Alberta, Canada.
- 4:20 **Isolation and Applications of Modified Flax Peptides.** P.D. Jadhav¹, D.P. Okinyo-Owiti², J. Shen², P.G. Burnett², and M.J.T. Reaney², ¹Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada, ²Dept. of Plant Sciences, University of Saskatchewan, Canada.

S&D 5/ANA 5.1: Analytical and Characterization Techniques for Probing Structure/Performance Relationships of Colloidal Systems

Chairs: H. Li, Bruker Optics, USA; and D. Scheuing, Clorox Co., USA

104A

Joint Session: For details see ANA 5.1/S&D 5, page 56.



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 Wednesday 7:30 am–3:00 pm

The presenter is the first author or otherwise indicated with an asterisk (*).

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Monday 5:30–6:30 pm

Analytical
 Biotechnology
 Health and Nutrition
 Lipid Oxidation and Quality
 Professional Educators' CIG
 Protein and Co-Products

Tuesday 6:30–7:30 pm

Edible Applications Technology
 Industrial Oil Products
 Processing
 Surfactants and Detergents

ANA-P: Analytical Posters

Chair: F. Eller, USDA, ARS, NCAUR, USA

Expo Hall A - Authors present during Monday reception

- Pro-oxidant and Antioxidant Effects of Bioactive Polyphenols in Lipid Foods.** L. Zhou (*Analytical Division Student Award Winner*), and R. Elias, Pennsylvania State University, USA.
- Tutorial on the Use of Radiocarbon Measurements to Determine the Modern Carbon Content of Biobased Products.** G.A. Norton, Iowa State University, USA.
- California Extra Virgin Olive Oil: Quality Parameters.** L. Scarafia, Agbiolab, Inc., USA.
- Kinetic Interactions between Cyclolinopeptides and Immobilized Human Serum Albumin.** Y.Y. Shim and M.J.T. Reaney, Dept. of Plant Sciences, University of Saskatchewan, Canada.
- An Alternative Test Method for Biodiesel (B100) Carbon Residue: Thermogravimetry.** W.P. Oliveira Filho¹, M.S.M. Quintino¹, E.M.S. Oliveira¹, M.I.G. Leles², and P.I.B.M. Franco², ¹Petroleum National Agency, Brazil, ²University of Goias, Brazil.
- Quantitation of Triacylglycerol Species in PUFA Rich Oils.** E. Schweiger and B. Mueller, DSM Nutritional Products, USA.
- Supercritical Fluid Extraction of Oil from Seed and Grain Materials. A Fast Green Alternative to Traditional Solvent Based Extraction Processes.** A.J. Aubin and J. Wright, Waters Corporation, USA.
- Physico-chemical Characterization of Aril Juice Extracted by Blender and Mechanical Press from Pomegranate Cultivars Grown in Georgia.** D. Rajasekar, C.C. Akoh, K.G. Martino, and D.D. MacLean, University of Georgia.
- Separation of Policosanol and Fatty Acid Ethyl Ester by a Phenogel Column.** S. Chumsantea¹, K. Aryasuk¹, N. Jeyashoke*¹, S. Lilitchan², and K. Krisnangkura¹, ¹Biochemical Technology Division, School of Bioresources and Technology, King Mongkut's University of Technology Thonburi, Thailand, ²Dept. of Nutrition, Faculty of Public Health, Mahidol University, Thailand.
- Modern Options for Lectin Analysis.** M. Breeze, G. Yeaman, J. Vicini, and L. Burzio, Monsanto Company, USA.
- Development of a Spatial Angular Measurement for Extra Virgin Olive Oil Classification Followed by Multivariate Calibration without Reference Samples.** J.H. Kalivas and K. Higgins, Idaho State University, USA.
- Fatty Acid Profiles of *Tilia* spp. Seed Oils.** M.K. Dowd and M.C. Farve, SRRC, ARS, USDA, USA.
- Evaluation of the Performance of Heated, Single and Multiple-Bounce ATR-FT-mid-IR Spectrometers for the Rapid Determination of Total *trans* Fat in Oils.** M. Mossoba, C. Tyburczy, A.-R. Fardin-Kia, P. Delmonte, and J. Rader, Food and Drug Administration, USA.
- Rapid (<5 min) FT-NIR Screening of Edible Oils for Total SFA, *trans* FA, MUFA and PUFA and Comparisons to GC and Values Declared on Nutrition Labels.** M. Mossoba¹, C. Tyburczy¹, F. Bueso², H. Azizian³, J. Kramer³, P. Delmonte¹, A.-R. Fardin-Kia¹, and J. Rader¹, ¹Food and Drug Administration, USA, ²Escuela Agrícola Panamericana, Honduras, ³NIR Technologies Inc., Canada.
- Analysis of Lipid Classes by HPTLC.** J.A. Noriega Rodríguez^{1,2}, F.J. Pino Bovey*², A. Onofre Sestiaga², and H.S. García³, ¹Universidad de Sonora Unidad Regional Norte, H. Caborca Sonora, Mexico, ²Universidad de Sonora, Mexico, ³Instituto Tecnológico de Veracruz, Mexico.
- Comparative Study of Methodologies for Determination of Total Glycerin Content in Biodiesel by Different Analytical Techniques.** F.R. Bürgel¹, M.M.J. Vinhoza¹, A.S. Vieira¹, J. Felcman¹, and S.C. de Menezes², ¹Pontific Catholic University of Rio de Janeiro, Brazil, ²Petrobras/Cenpes, Brazil.
- Analysis of Retinal Gangliosides by HILIC/ESI-MS.** O. Berdeaux¹, E.A.Y. Masson², A. Athias³, J.-P. Pais De Barros³, S. Cabaret¹, and L. Bretillon², ¹ChemoSens Platform, UMR1324 CSGA, INRA, Dijon, France, ²Eye and Nutrition Research Group, UMR1324 CSGA, INRA, France, ³Lipidomic Analytical Platform, IFR santé-STIC, Burgundy University, France.
- Characterizing Oils Shelf-life by Means of an Electronic Nose.** C. Schneider, H. Lechat, F. Ayouni, M. Lamboy, and M. Bonnefille, Alpha MOS, USA.
- Comparison of the Key Aroma Compounds in Raw and Roasted Styrian Pumpkin Seeds.** S. Poehlmann¹ and P. Schieberle^{1,2}, ¹Technical University of Munich, Chair of Food Chemistry, Germany, ²German Research Center for Food Chemistry, Germany.
- Evaluation of Protein, Fat and Fatty Acids Content in Damghan, Iran Pistachio (*Pistacia vera* L.) Cultivars.** A. Abdoshahi^{1,5}, S. Ali Mortazavi^{2,5}, A. Shabani³, M. Taheri⁴, and M. Heidarimajd⁵, ¹Semnan University of Medical Sciences, Semnan, Iran, ²University of Ferdowsi Mashhad, Iran, ³Biotechnology Center of Semnan University of Medical Sciences, Iran, ⁴Islamic Azad University, Damghan Branch, Iran, ⁵Dept. of Food Science and Technology, Sabzevar Branch, Islamic Azad University, Iran.
- Differential Hydrolysis of oxo-PtdChos by Group IIA, V and X Secretory PLA2s.** A. Kuksis and W. Pruzanski, University of Toronto, Canada.
- Determination of Sterols in Olive Oils from Different Varieties using Solid-Phase Extraction followed by Gas Chromatography-Mass Spectrometry.** Y. Zhou, S. Wang, H. Zhu, and C.F. Shoemaker, University of California Davis, USA.
- FTIR - A Rapid Method for Determination and Quantification of Polysorbate 60 in Fats and Oils.** K. Reihel and G. Sekosan, Bunge North America, USA.
- DSC and NMR Study of Crystallization Kinetics for Fats and Oils.** G. Sekosan, K. Reihel, and T. West, Bunge North America, USA.
- Chemical Properties of Oils Cold-pressed from 8 Varietals of California Grape Seeds (*Vitis vinifera* L.).** S. Tang, University of California, Davis, USA.
- Atmospheric Pressure Photoionization (APPI) for LC-MS Analysis of Lipids—An Overview.** S.-S. Cai, Syagen Technology, Inc., USA.
- Discrimination of Sesame Oil Blended with Other Edible Oil by Means of TAG Profile Analysis.** W.J. Lee¹, M.H. Lee², J.T. Lin³, and N.W. Su*¹, ¹Dept. of Agricultural Chemistry, National Taiwan University, Taiwan, ²Dept. of Nutrition

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and Health Science, Chung Chou University of Science and Technology, Taiwan, ³Flavor Full Foods Inc., Taiwan.

28. **Sensory Profiling of Omega-9 and Commodity Canola Oil during Oil Purification.** S. Wensing, Dow AgroSciences, USA.
29. **Separation, Identification and Quantification of the Unsaponifiables of Cottonseed Oil and its Deodorizer Distillate.** P. Mathur, G. Patel, S. Juma, and C. King, Dept. of Nutrition & Food Sciences, Texas Women's University, USA.
30. **Optimization of Ultrasound Extraction of Phenolic Compounds and Antioxidant Activity from *Phlomischema Parviflorum* by Response Surface Methodology.** M. Heydari, D. Salar Bashi*, and A. Abdoshahi, Dept. of Food Science and Technology, Islamic Azad University, Iran.
31. **Optimizing the Extraction of Methanolic Extract of *Phlomischema Parviflorum* and its Effect on the Stability of Soybean Oil.** M. Heydari, D. Salar Bashi*, and Anna Abdoshahi, Dept. of Food Science and Technology, Islamic Azad University, Iran.
32. **Investigation Effects of Duration Time of the Ultrasound-Assisted Extraction on the Total Phenolic Compound of Extracts from Two Species of Yarrow and the Stability of Soybean Oil.** D. Salar Bashi, M. Heydari, R. Shaddel, M. Mohammadi, and F. Khanzadeh, Dept. of Food Science and Technology, Islamic Azad University, Iran.

BIO-P: Biotechnology Posters

Chair: R. Ashby, USDA, ARS, USA

Expo Hall A - Authors present during Monday reception

The Biotechnology Division is enabling up to 8 poster presenters to give a brief talk on their research results on Monday, April 30 in the Expo poster area. Check the Program Addendum for presentation details.

1. **Enrichment of Erucic Acid from Crambe Oil in a Recirculated Packed Bed Reactor via Lipase-Catalyzed Ethanolysis.** D.S. No, T.T. Zhao, S.I. Hong, S.W. Yoon, and I.-H. Kim, Dept. of Food & Nutrition, Korea University, Korea.
2. **Cloning, Sequencing and Characterization of Lipase from a Polyhydroxyalkanoate- (PHA-) Synthesizing *Pseudomonas resinovorans*.** J.H. Lee³, K.T. Lee², and D. Solaiman^{*1}, ¹USDA, ERRC, ²Chungnam National University, South Korea, ³Daegu University, South Korea.
3. **Isolation and Partial Characterization of Phytosterols from Mixed Rapeseed and Soybean Deodorizer Oil Distillates.** W. Panpipat, Z. Guo, and X. Xu, Dept. of Engineering, University of Aarhus, Denmark.
4. **Isolation of Giant Panda Intestinal Microbes to be used in an Oil-based Biofuel Platform.** C. Williams¹, C. Johnston¹, A. Kouba², S. Willard¹, D. Sparks¹, and A. Brown¹, ¹Mississippi State University, USA, ²Memphis Zoological Society, USA.
5. **Using Extracted Fish Oil from By-products of Persian Sturgeon (*Acipenser persicus*) in the Formulation of the Hand Cream.** S. Shabanikakroodi¹, G. Shabanikakroodi², A. Keivan³, and A. Rustaiyan⁴, ¹Islamic Azad University, Iran, ²Mero Cosmetic Factory, Iran, ³Tehran University, Iran, ⁴Shahid Beheshti University, Iran.
6. **Rational Synthesis of 1,3-diolein by Enzymatic-Esterification.** Z.-Q. Duan^{1,2}, W. Du², and D.-H. Liu², ¹Academy of State Administration of Grain, China, ²Dept. of Chemical Engineering, Tsinghua University, China.
7. **Optimization of Biosynthesis of the Flavor Precursors Linoleic Acid Hydroperoxides, Using Selected Sources of Linoleic Acid.** M. Aziz¹ (*Biotechnology Division Student Paper Award*), F. Husson², and S. Kermasha¹, ¹McGill University, Canada, ²Université de Bourgogne, France.
8. **Production of Human Milk Fat Analogues Containing Docosahexaenoic and Arachidonic Acids by Enzymatic Reactions.** D. Turan^{1,2}, N. Sahin Yesilcubuk^{*1}, and C.C. Akoh², ¹Istanbul Technical University, Dept. of Food Engineering, Turkey, ²The University of Georgia, Dept. of Food Science and Technology, USA.
9. **Conversion of Rice Straw to Sugars by Microbial Hydrolysis using Bacteria Isolated from Thai Higher Termites.** P. Kerdkaeuw¹, S. Chavadej^{1,2}, and P. Rangsunvijit^{1,2}, ¹The Petroleum and Petrochemical College, Chulalongkorn

University, Thailand, ²Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.

10. **Sugars Evolution from Cassava Residue by Microbial Hydrolysis Using Bacteria Isolated from Thai Higher Termites.** P. Wongkeo¹, P. Rangsunvijit^{1,2}, and S. Chavadej^{1,2}, ¹The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, ²Center of Excellence for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.
11. **Discovery and Functional Characterization of Microsomal Oleate Desaturases of Santalaceae.** S. Okada¹, X.-R. Zhou², N. Gibb¹, K. Damcevski¹, and V. Haritos¹, ¹CSIRO Ecosystem Sciences, Australia, ²CSIRO Plant Industry, Australia.
12. **Production of Omega-3 LC-PUFAs in Oilseeds by Seed Expression of Multisubunit Microalgal PUFA Synthases.** T. Walsh¹, S. Bevan¹, D. Gachotte¹, C. Larsen¹, W. Moskal¹, A. Owens Merlo¹, and J. Metz², ¹Dow AgroSciences LLC, USA, ²DSM, USA.
13. **Modeling and Optimization of Lipase-catalyzed Synthesis of Beneficial Wax Esters Containing Conjugated Linoleic Acid by Response Surface Methodology.** T.T. Zhao¹, T.-Y. Ha², B.H. Kim³, S.W. Yoon¹, S.I. Hong¹, D.S. No¹, M.Y. Kim¹, and I.-H. Kim^{*1}, ¹Dept. of Food & Nutrition, Korea University, Korea, ²Korea Food Research Institute, Korea, ³Dept. of Food Science and Technology, Chung-Ang University, Korea.
14. **Preparation of Cocoa Butter Equivalents by Blending a Fractionated Palm Stearin with Shea Stearin.** H. Jeon¹, K.K. Kang¹, I.-H. Kim², H.-D. Choi³, C. Lee¹, and B.H. Kim^{*1}, ¹Chung-Ang University, Korea, ²Korea University, Korea, ³Korea Food Research Institute, Korea.
15. **Optimization of Lipase-Catalyzed Production of Symmetric Monounsaturated Triacylglycerols in a Packed Bed Reactor by Response Surface Methodology.** S. Kim¹, I.-H. Kim², C. Lee¹, and B.H. Kim^{*1}, ¹Chung-Ang University, Korea, ²Korea University, Korea.
16. **Enzymatic Process for Preparing Linoleic Acid from *Passiflora alata* Oil Used as Skin Whitening Agent.** K. Arroiteia¹, A. Jorge¹, Í. Santos¹, C. Ferrari¹, C. Lourenço¹, P. Moreira¹, R. Biaggio^{*1}, E. Andres², and S. Medina², ¹Natura Inovação de Produtos Ltda, Brazil, ²Natura Innovation and Product Technology SAS, France.
17. **Production of New Derivatives from Carophyllene Oxide, Humulene Epoxide and Epoxidated Sesquiterpene Fraction of *Copaiba* Oleoresin.** R. Biaggio¹, P. Imamura¹, and M. Beltrame², ¹Universidade Estadual de Campinas (UNICAMP), Brazil, ²Universidade do Vale do Paraíba (UNIVAP), Brazil.
18. **Evaluation of Deep Eutectic Solvents as New Media for iCALB-catalyzed Reactions.** E. Durand, J. Lecomte, B. Barea, G. Piombo, and P. Villeneuve, UMR IATE CIRAD, France.
19. **Alkylglycerol Discrimination in Lipase-catalyzed Ethanolysis of Shark Liver Oil.** L. Vazquez, O. Fernandez, G. Reglero, and C. Torres, Instituto de Investigación en Ciencias de la Alimentación (CIAL), Spain.
20. **Validation and Detection of QTL for Soybean Isoflavones.** C.J. Smallwood, D.R. West, C.E. Sams, D.A. Kopsell, and V.R. Pantalone, Dept. of Plant Sciences, University of Tennessee, USA.
21. **Enzymatic Interesterification of a Blend of Palm Stearin: Cottonseed Oil for Low *trans*-margarine Formulation.** Y. Wang^{1,2}, L. Cheong², C. Wei¹, Z. Duan¹, and X. Luan¹, ¹Academy of State Administration, China, ²Aarhus University, Denmark.
22. **Methylester Fractionation-Distillation.** J. Monfre¹ and F. Pomrehn², ¹Lurgi, USA; ²Lurgi GmbH, Frankfurt, Germany.

EAT-P: Edible Applications Technology Posters

Chairs: G.R. List, USDA (Retired), USA; and G. Cherian, Kellogg North America, USA

Expo Hall A - Authors present during Tuesday reception

1. **Light Stability of Two Types of Lycopene in a Five Component Microemulsion.** Y. Shufan (*Edible Applications Technology Division Student Award of Excellence Winner*), A. Aserin, and N. Garti, Casali Institute of Applied Chemistry, Hebrew University, Givat Ram Campus, Israel.

2. **Crystallization and Polymorphism Behavior of Lipid Systems Containing Triacylglycerols Added Monoglycerides and Diglycerides.** R.C. Silva, F.A.S.D.M. Soares, J. Maruyama, and L.A. Gioielli, São Paulo University, Brazil.
3. **Rheological Properties of Fats Formulated with Soybean Oil and Interesterified Soybean Fats.** J.M. Block¹, B. Mattioni¹, K. Gandra², D. Barrera-Arellano², and A. Marangoni³, ¹Santa Catarina Federal University, Florianopolis, Santa Catarina, Brazil, ²Campinas State University, Brazil, ³University of Guelph, Canada.
4. **Polymorphism and Microstructure of Fats Formulated with Soybean Oil and Interesterified Soybean Fats.** J.M. Block¹, B. Mattioni¹, K. Gandra², D. Barrera-Arellano², and A. Marangoni³, ¹Santa Catarina Federal University, Brazil, ²Campinas State University, Brazil, ³University of Guelph, Canada.
5. **Effects of Oxidation on the Mechanical Properties of Canola Oil-based Ethyl Cellulose Oleogels.** A.J. Gravelle, S. Barbut, and A.G. Marangoni, University of Guelph, Canada.
6. **Controlling Fate of Emulsion-based Delivery Systems in the Gastrointestinal Tract by Nano-lamination of Lipid Droplets with Protein Layers.** T. Tokle and D.J. McClements, University of Massachusetts Amherst, USA.
7. **Crystallization Behavior of Blends Formulated by Neural Networks with Interesterified Fats from the Melt Point and SFC of Commercial Fats for Use in Hard Margarines.** R. de Kássia de Almeida Garcia*, K.M. Gandra, D. Barrera-Arellano, and R. Grimaldi, UNICAMP, Brazil.
8. **Influence of the Incorporation of Hardfats on the Microstructure and Consistency of Cocoa Butter.** A.P.B. Ribeiro and T.G. Kieckbusch, School of Chemical Engineering, University of Campinas, Brazil.
9. **Physicochemical Properties and Compatibility of Cocoa Butter-hardfats Blends.** A.P.B. Ribeiro and T.G. Kieckbusch, School of Chemical Engineering, University of Campinas, Brazil.
10. **Phase Behavior and Consistency of Soybean Oil Organogels Structured with Waxes and Vegetable Fat.** J.D. Lopes and D. Barrera-Arellano, University of Campinas, Brazil.
11. **Melting and Rheological Properties of Conjugated Linoleic Acid Rich Soy Oil.** Y.V. R. Reddy and A. Proctor, University of Arkansas, USA.
12. **Crystallization and Application Behavior of trans-free Cocoa Butter Replacer Produced by Palm-based Oil.** S.Xie, H. Zhang, and J. Wan*, Wilmar Shanghai Biotechnology Research and Development Center, China.
13. **Study on the Oil Absorption of Fried Instant Noodle in Several Vegetable Oils.** C. Ya-qiong, Z. Tie-ying, and J. Yuan-rong*, Wilmar (Shanghai) Biotechnology Research & Development Center Co. Ltd., China.
14. **Extraction of Trans Fatty Acid Free Rice Bran Oil Using Supercritical Carbon Dioxide.** M. Matsubara¹, Y. Nakato², E. Kondoh¹, ¹University of Yamanashi, Japan, ²KOA Electronics Co., Ltd., Japan.
15. **Nutraceutical Lipid Substances in Various Korean Rice Cultivars.** S.W. Yoon, Y.-G. Pyo, T.T. Zhao, S.I. Hong, and I.-H. Kim, Dept. of Food & Nutrition, Korea University, Republic of Korea.
16. **Applications of Whey Powder in Sunflower Oil-emulsions Stability.** C. Huck-Iriart^{1,3}, R.J. Candal^{2,3}, and M.L. Herrera^{*1,3}, ¹University of Buenos Aires, Faculty of Exact and Natural Sciences, Buenos Aires, CABA, Argentina, ²University of San Martín, School of Food Science and Technology, Argentina, ³National Research Council of Argentina (CONICET), Argentina.
17. **Microencapsulation of an ω -3 oil in a Trehalose Matrix.** M.S. Álvarez-Cerimedo^{1,2}, R.J. Candal^{2,3}, and M.L. Herrera^{*1,2}, ¹University of Buenos Aires, Faculty of Exact and Natural Sciences, Argentina, ²National Research Council of Argentina (CONICET), Argentina, ³National University of San Martín, School of Science and Technology, Argentina.
18. **Functionality of Fats in the Formulation of Peanut Butter.** S.J. Hares Junior, F.A.S.D.M. Soares*, R.C. da Silva, E.V. Raduan, J.M. Maruyama, and L.A. Gioielli, University of São Paulo, Brazil.
19. **Melting and Solidification Properties of Palm-based Diacylglycerol, Palm Kernel Olein and Sunflower Oil in the Preparation of Palm-based Diacylglycerol-enriched Soft Tub Margarine.** O.M. Lai and A.H. Saberi, Universiti Putra Malaysia, Malaysia.
20. **Control of Crystallization of Diacylglycerols.** K. Saito¹, R. Homma^{*1}, N. Kudo¹, Y.Katsuragi¹, and K. Sato², ¹Kao Corporation, Japan, ²Hiroshima University, Japan.
21. **Shearing Does Determine Crystal size, Crystal Network Organization, and Rheology of Candelilla Wax Organogels.** J.F. Toro-Vazquez, F. Alvarez-Mitre, J.A. Morales-Rueda, and M.A. Charo-Alonso, Universidad Autonoma de San Luis Potosi, Facultad de Ciencias Quimicas-CIEP, Mexico.
22. **Composition-Structural-Textural Relationships in n-Alkane Mixtures used by the Food and Pharmaceutical Industry.** J.F. Toro-Vazquez, A. de la Peña-Gil, M.A. Charo-Alonso, and J.A. Morales-Rueda, Universidad Autonoma de San Luis Potosi, Facultad de Ciencias Quimicas-CIEP, Mexico.
23. **W/O Organogelled Emulsions Stabilized with Candelilla Wax.** J. D. Perez-Martinez, R. Mauricio-Perez, M. Sanchez-Becerril, M.M. Gonzalez-Chavez, and J.F. Toro-Vazquez, Universidad Autonoma de San Luis Potosi, Mexico.
24. **Effect of Sun-drying and Pickling Process on Carotenoids and Tocopherols of Chilli Pepper (*Capsicum annum* L. var. *glabriusculum*).** C.S. Rochín Wong, N. Gamez-Meza, and L.A. Medina-Juárez, Departamento de Investigaciones Científicas y Tecnológicas de la Universidad de Sonora, Mexico.
25. **Effect of Pickled Process on Antioxidant Activity of Bioactive Compounds of Jalapeño Pepper (*Capsicum annum* L.).** A.K. Blanco-Ríos, L.A. Medina-Juárez, and N. Gámez-Meza*, Departamento de Investigaciones Científicas y Tecnológicas de la Universidad de Sonora, México.
26. **Phenols, Melanoidins, and Antioxidant Activity in Green and Processed Coffee Beans from *Coffea arabica* and *Coffea canephora*.** L.A. Medina-Juárez¹, L.M. Pérez-Hernández^{*1}, K.D. Chávez-Quiroz², and N. Gámez-Meza¹, ¹Departamento de Investigaciones Científicas y Tecnológicas de la Universidad de Sonora, México, ²Café del Pacífico S.A. de C.V., México.
27. **β -carotene Stabilization and Bioaccessibility from Non-surfactant Stabilized Lipid Particles.** A. Wright, A. Malaki Nik, and S. Langmaid, University of Guelph, Canada.
28. **In-situ Observation Crystallization Process of Cocoa Butter under Shear and Tempering.** S. Ueno¹, K. Moriyuki¹, H. Hondoh¹ and K. Sato¹, T. Kondoh², Y. Kuwano², K. Nagashima², and T. Koyano², ¹Hiroshima University, Japan, ²Meiji Co., Japan.
29. **Effect of Power Ultrasound (US) Treated Lipid on Physicochemical Qualities of Baked Products.** H. Zhong, K. Allen, and S. Martini, Utah State University, Logan, UT, USA.
30. **Chemical Characteristics and Emulsion Properties of Cold-pressed Rice Bran Oil.** A. Thanonkaew¹, S. Wongyai², E. Decker³, and D. McClements³, ¹Research Unit of Local Southern Thai Foods, Dept. of Food Science and Technology, Faculty of Technology and Community Development, Thaksin University, Thailand, ²Medicinal Products Department, Faculty of Oriental Medicine, Rangsit University, Thailand, ³Dept. of Food Science, University of Massachusetts, USA.
31. **Viscous Heating in a Mini-Couette Cell Used in Rheo-XRD and Rheo-NMR Research with a Non-Newtonian Standard Fluid.** F.C. Wang and G. Mazzanti, Dept. of Process Engineering and Applied Science, Institute for Research in Materials (IRM), Dalhousie University, Canada.
32. **A Comparative Study of Waxes as Oil-Binding Materials.** A. Blake and A. Marangoni, University of Guelph, Canada.
33. **Isolation and Characterisation of Flaxseed Lignan.** S. Sen Gupta and M. Ghosh, University of Calcutta, India.
34. **Edible Oils and their Relative Static Dielectric Values: What is There to Learn?** F. Peyrone^{1,4}, I. Neeson², D. Pink^{3,4}, and A. Marangoni^{1,4}, ¹University of Guelph, Canada, ²VN Instruments, Canada, ³St. Francis Xavier University, Canada, ⁴Advanced Foods and Materials Network of Centres of Excellence, Canada.
35. **Crystalline Phase Compositions from a Triacylglycerol Blend: Data and Model.** M. Li¹, E. Anom¹, S.H.J. Idziak², and G. Mazzanti¹, ¹Dalhousie University, Canada, ²University of Waterloo, Canada.
36. **Time Resolved X-ray Diffraction Study of Trilaurin and Trimyrustin Binary Mixtures under Different Cooling Rates.** P.K. Batchu and G. Mazzanti, Dalhousie University, Canada.

37. **The Use of Immobilized Enzymes in Ionic Liquid Media for the Intent of Inter/Transesterification of Triglycerides.** A. Alkhdair and G. Mazzanti, Dept. of Food Science, Dalhousie University, Canada.
38. **Effect of Surface Properties of Solid or Liquid Oil Droplets on the Distribution and Reactivity of a Model Lipophilic Ingredient in Nanoemulsions.** C. Berton-Carabin, U. Yucel, R. Elias, and J. Coupland, Dept. of Food Science, Pennsylvania State University, USA.
39. **Characterization of Virgin Olive Oil of Iranian Cultivars: A Study on Zard, Mari and Phishomi.** S. Haghghat Kharazi¹, R. Esmaeilzadeh Kenari^{*1}, Z.R. Amiri¹, and M. Azizkhani², ¹Agricultural Sciences and Natural Resources University of Sari, Iran, ²Khazar University, Iran.

H&N-P: Health and Nutrition Posters

Chair: R. Ward, Utah State University, USA

Expo Hall A - Authors present during Monday reception

1. **Effect of Red Clover Isoflavones over Skin, Appendages and Mucosal Status in Postmenopausal Women.** M. Imhof, General Public Hospital Korneuburg, Austria.
2. **Novel Mechanism of Intestinal Absorption of Dietary Sphingolipids.** T. Sugawara¹, S. Sakai¹, A. Fujii¹, J. Duan¹, M. Ishida¹, K. Aida², T. Tsuduki³, I. Ikeda³, and T. Hirata¹, ¹Kyoto University, Kyoto, Japan, ²Nippon Flour Mills Co. Ltd., Japan, ³Tohoku University, Japan.
3. **Effect of Protamine on Serum Lipid Concentrations and Lipid Absorptions in Rats.** R. Hosomi¹, D. Yamamoto², H. Arai³, S. Kanda⁴, T. Nishiyama⁴, M. Yoshida², and K. Fukunaga², ¹Tottori College, Japan, ²Kansai University, Japan, ³Kitami Institute of Technology, Japan, ⁴Kansai Medical University, Japan.
4. **Anti-obesity Effect of Vegetable Allenic-carotenoid, Neoxanthin.** H. Kamogawa, M. Hosokawa, M. Abe, and K. Miyashita, Hokkaido Graduate University, Japan.
5. **Antioxidant Compounds Content in Pecan Nut [*Carya illinoensis* (Wangenh) C. Koch] Shell Infusion.** A.C.P. Prado, P.C. Engler, V.M. Hissanaga^{*}, P.B. Policarpi, and J.M. Block, Santa Catarina Federal University, Brazil.
6. **Effect of Different Extraction Processes on the Antioxidants Content in Pecan Nut [*Carya illinoensis* (Wangenh) C. Koch] Shell.** A.C.P. Prado¹, B. Manion², K. Seetharaman², and J.M. Block¹, ¹Santa Catarina Federal University, Brazil, ²University of Guelph, Canada.
7. **The Effects of Dietary Oxidize and Unoxidized Sunflower Oil on the Quality and Fatty Acid Content of Meat Cuts of Finishing Pigs.** T. Blackmon, V. McWhinney, D. Hicks, and D. Skeene, Prairie View A&M University, USA.
8. **Investigation of the Papaya Seed Oil Properties for Development into Edible Oil.** S. Lilitchan¹, P. Sammarphet¹, N. Theppratom¹, P. Somboonpanyakul¹, K. Aryasuk^{*2}, and K. Krisnangkura², ¹Mahidol University, Thailand, ²King Mongkut's University of Technology Thonburi, Thailand.
9. **Precipitation and Encapsulation of Rosemary Antioxidants by Supercritical Antisolvent Process.** A. Visentin¹, S. Rodriguez², D. Maestri¹, and M. Cocero², ¹Universidad Nacional de Río Cuarto, Argentina, ²Universidad de Valladolid, Spain.
10. **Monitoring Tea Catechins Transport and Release Processes from Alginate Beads by Continuous System.** B. Ozcelik¹, G. Engudar¹, H. Giz², T. Coruhli¹, and N. Demir¹, ¹Istanbul Technical University, Dept. of Food Engineering, Turkey, ²Istanbul Technical University, Dept. of Chemistry, Turkey.
11. **Effect of a Diet Rich in Olive Oil Phenolics on Glutathione, Uric Acid and Ascorbic Acid Status in the Liver of Senescence Accelerated Mouse Prone 8 (SAMP8) Mice.** B. Ozcelik¹ and B. Bayram^{*1,2}, ¹Istanbul Technical University, Dept. of Food Engineering, Turkey, ²Christian Albrechts University of Kiel, Institute of Human Nutrition and Food Science, Germany.
12. **Soybean β -conglycinin Improves Lipid Metabolism in Wistar Rats.** N. Inoue¹, Y. Fujiwara¹, M. Kato¹, A. Funayama¹, N. Tachibana², M. Kohno², T. Tsuduki¹, and I. Ikeda¹, ¹Tohoku University, Sendai, Miyagi, Japan, ²Fuji Oil Co., Ltd., Japan.
13. **LC-MS/MS determination of phosphatidylcholine hydroperoxide in human plasma.** S. Kato, K. Nakagawa, and T. Miyazawa, Food and Biodynamic Chemistry Laboratory, Graduate School of Agricultural Science, Japan.
14. **Phosphatidylcholine Hydroperoxide Promotes VEGF-induced Angiogenesis *in vitro* and *ex vivo* Models.** K. Nakagawa, S. Kato, and T. Miyazawa, Food and Biodynamic Chemistry Laboratory, Graduate School of Agricultural Science, Japan.
15. **Preventive Effect of Astaxanthin from *Haematococcus pluvialis* on Inflammatory Bowel Disease.** M. Hosokawa¹, Y. Kizawa¹, Y. Yasui², T. Tanaka³, K. Miyashita¹, and E. Yamashita⁴, ¹Hokkaido University, Japan, ²Rakuno Gakuen University, Japan, ³The Tokai Cytopathology Institute, Japan, ⁴Fuji Chemical Industry Co., Ltd, Japan.
16. **Fucoanthin Extraction and Fatty Acid Profiles of Malaysian Brown Seaweeds and Cytotoxicity Effect of Fucoanthin on Human Lung Cancer (H1299) Cell Lines.** I. Jaswir¹, D. Novindri¹, H.M. Salleh¹, M. Taher², and K. Miyashita³, ¹Dept. of Biotechnology Engineering, International Islamic University Malaysia, Malaysia, ²Faculty of Pharmacy, International Islamic University Malaysia, Malaysia, ³Graduate School of Fisheries Sciences, Hokkaido University, Japan.
17. **Effects of Topical Application of Vegetable Oil Blends and Structured Lipids on Wound Healing.** J.N. Rodrigues Ract¹, F.A. Schafer De Martini Soares¹, H.G. Rodrigues², J.R. Bortolon³, G.M. Murata³, M.I. Almeida Gonçalves¹, E. Hatanaka³, R. Curi², and L.A. Gioielli¹, ¹Faculty of Pharmaceutical Sciences, Brazil, ²Institute of Biomedics Sciences, Brazil, ³University Cruzeiro do Sul, Brazil.
18. **Trans Content and Thermal Behavior of Fatty Materials from Different Bakery Products.** I. Vieitez, B. Irigaray, C. Perez, and M.A. Grompone, Laboratorio de Grasas y Aceites, Departamento de Ciencia y Tecnología de los Alimentos, Facultad de Química, Universidad de la República, Uruguay.
19. **Dietary Sorghum Wax Decreases Systolic Blood Pressure in KKAY Mice.** N. Watanabe¹, M. Fujimoto¹, M. Takumi², Y. Takamura³, and K. Fujimoto⁴, ¹Showa Women's University, Tokyo, Japan, ²Koyo Sangyo Co. Ltd., Tokyo, Japan, ³Okinawa Sugar Canes Research Corporation, Japan, ⁴Koriyama Women's University, Japan.
20. **Enrichment of Eggs with Omega 3 Fatty Acids by Dietary Supplementation with Algal Biomass.** C. Bruneel¹, I. Fraeye¹, C. Lemahieu¹, K. Muylaert¹, J. Buyse², and I. Foubert¹, ¹K.U. Leuven Kulak, Belgium, ²K.U. Leuven, Belgium.
21. **Effect of α -eleostearic Acid on Methylmercury induced Oxidative Stress, DNA Damage and Structural Changes in Rat Model.** M. Pal and M. Ghosh, Dept. of Chemical Technology, University of Calcutta, India.
22. **Biological Activity of Hydrolyzable Tannis from Sweet Chestnut (*Castanea sativa* Mill.).** A. Romani¹, S. Miele², M. Campo¹, and E. Bargiacchi^{*3}, ¹Dept. of Pharmaceutical Sciences, University of Firenze, Italy, ²Dept. of Agronomy & Agroecosystem Management, University of Pisa, Italy, ³Consortium I.N.S.T.M., Italy.
23. **Physiological Functions of Dietary Ozonated-Olive Oil in Obese Rats.** K. Nagao¹, M. Sakoh¹, S. Kai², and T. Yanagita¹, ¹Saga University, Japan, ²Tsukushima Foods Industry Co., Japan.

IOP-P: Industrial Oil Products Posters

Chair: N. Soriano, Montana State University, USA

Expo Hall A - Authors present during Tuesday reception

1. **Synthesis and Characterization of Polyurethane Coatings with Low Volatile Organic Compounds.** E. Ruzgus Pereira Pinto¹, D.T.B. De Salvi¹, M. Martinelli², Y. Messaddeq¹, and S.J.L. Ribeiro¹, ¹Instituto de Química - UNESP, Brazil, ²Instituto de Química - UFRGS, Brazil.
2. **Biodiesel from Salt-tolerant Seashore Mallow (*Kosteletzkya virginica*).** B.R. Moser¹, B. Dien¹, and J.L. Gallagher², ¹USDA ARS NCAUR, USA, ²University of Delaware, USA.
3. **Evaluation of Authenticity of Edible Cold Pressed Oils by Means of *trans* Fatty Acids and Styrene Contents.** Z. Piravi Vanak¹ and H. Safafar², ¹Institute of Standard and Industrial Research of Iran- Standard Research Institute, Iran, ²Tekno Azma Lab, Iran.

4. **Synthesis and Corrosion Inhibition Behavior of Imidazoline Derivatives Based on Vegetable Oil.** Y.-W. Kim¹, K. Chung¹, S.-H. Yoo¹, and J.-S. Kim², ¹Korea Research Institute of Chemical Technology, S. Korea, ²Chosun University, S. Korea.
5. **Hydrocracking and Hydroisomerization of Hydrogenated Biodiesel for Producing Bio-jet Fuel over Pt, Ir Supported H-Y Zeolite and ASA Catalysts.** C. Srimingkwanchai¹, S. Jongpatiwut^{1,2}, and S. Butnark³, ¹The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, ²Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand, ³PTT Research and Technology Institute, PTT Public Company Limited, Thailand.
6. **Synthesis of Dimer Acid and Esters from Fatty Acid and Fatty Acid Methyl Ester Based on Used Vegetable Oil.** Y.-W. Kim¹, K. Chung¹, B.-T. Yoon¹, H.-C. Kang¹, J.-S. Yook¹, T.-S. Chang¹, and Y.-D. Yang², ¹Korea Research Institute of Chemical Technology, S. Korea, ²EMAX Solutions Co. Ltd., S. Korea.
7. **Methods for Extraction, Isolation, and Quantification of Insoluble Constituents in Canola Biodiesel.** J. Perleberg, D. Wiesenborn, and D. Haagenson, North Dakota State University, USA.
8. **Polyurethane Containing Crambe Oil Modified Polyester and its Clay Nanocomposites.** E. Ruzgus Pereira Pinto¹, D.T.B. De Salvi¹, M. Martinelli², Y. Messaddeq¹, and S.J.L. Ribeiro¹, ¹Instituto de Química - UNESP, Brazil, ²Instituto de Química - UFRGS, Brazil.
9. **Vegetable Oils Incorporation in Kaolin and Bentonites.** F.R. Valenzuela-Díaz¹, A.A. Cutrim², S.G. Dantas², and M.G.S. Valenzuela¹, ¹Escola Politécnica da Universidade de Sao Paulo, Brazil, ²Pegmatash, Brazil.
10. **Mesoporous Basic Catalysts for Etherification of Glycerol.** S. Klomkow and B. Kitiyanan, The Petroleum and Petrochemical College, Chulalongkorn University, Thailand.
11. **Pre-treatment of Acidic Crude Palm Oil Using Strong and Weak Acids.** A. Hayyan^{1,2}, F.S. Mjalli², M.E.S. Mirghani³, M.A. Hashim¹, Y.M. Al-Wahaibi², T. Al-Wahaibi², and M. Hayyan¹, ¹Dept. of Chemical Engineering, Centre for Ionic Liquids (UMCIL), University of Malaya, Malaysia, ²Petroleum and Chemical Engineering Department, Sultan Qaboos University, Oman, ³Dept. of Biotechnology Engineering, Faculty of Engineering, International Islamic University Malaysia, Malaysia.
12. **Optimization of Transesterification by CCRD.** A. Aryee¹, P. Dutilleul¹, M. Paszti², and B. Simpson¹, ¹McGill University, Canada, ²Rothsay Biodiesel, Canada.
13. **Preparation and Characterization of Biodiesel from Camel (hachi) Fat.** H.M. Sbihi¹, I.A. Nehdi¹, and C.P. Tan^{2,1}, ¹King Saud University, King Saud University, College of Science, Chemistry Department, Saudi Arabia, ²Universiti Putra Malaysia, Dept. of Food Technology, Malaysia.
14. **Chemical Composition and Physicochemical Properties of *Acacia senegal* (L.) Willd. Seed Oil.** I.A. Nehdi¹, H. Sbihi¹, C.P. Tan^{2,1}, and H. Zarrouk³, ¹King Saud University, King Saud University, College of Science, Dept. of Chemistry, Saudi Arabia, ²Universiti Putra Malaysia, Dept. of Food Technology, Faculty of Food Science and Technology, Universiti Putra Malaysia, Malaysia, ³Tunis El Manar University, Tunis El Manar University, College of Science, Chemistry Department, Tunisia.
15. **Methyl Ester Production from Hazelnut Oil with Microwave Assisted Method.** D. Özçimen, Yildiz Technical University, Turkey.
16. **Antioxidant Activity of Phenolic Extracts from *Jatropha cordata* and *Jatropha cardiophylla* Seed Cakes in Soybean Biodiesel.** L.A. Medina-Juárez, P.P. Alday-Lara, and N. Gámez-Meza, Departamento de Investigaciones Científicas y Tecnológicas de la Universidad de Sonora, Mexico.
17. **Synthesis and Study of Bioplasticizers Derived from Vegetable Oils used with Different Polymers (PVC and PLA).** J. Garcia, OLEOTEK Inc., Canada.
18. **Advances in Biodiesel Production and Quality Improvement: The In Situ Transesterification of Corn Germ, and the Removal of Saturated Monoglycerides via Enzyme-Catalyzed Transesterification.** M.J. Haas¹, V. Singh², S. Padhi³, and U. Bornscheuer³, ¹Eastern Regional Research Center, ARS, USDA, Wyndmoor, PA, USA, ²Dept. of Agricultural and Biological Engineering, University of Illinois, USA, ³Institute of Biochemistry, Greifswald University, Germany.
19. **Status of the USDA Federal Procurement and Labeling Programs for Biobased Products.** G.A. Norton, Iowa State University, USA.
20. **Production, Recovery and Valorisation of Exotic Butters.** X. Pages, ITERG, French Institute for Fats and Oils, France.
21. **Biocrude Production by Activated Sludge via Fermentation of Bagasse Hydrolyzate.** A. Mondala¹, R. Hernandez¹, T. French¹, M. Green¹, L. McFarland¹, and L. Ingram², ¹Mississippi State University, USA, ²University of Florida, USA.
22. **Life Cycle Assessment of Safflower Originated First and Second Generation Engine Biofuels in Turkey.** A. Isler and F. Karaosmanoglu, Istanbul Technical University, Chemical Engineering Department, Turkey.
23. **Characterization of Biodiesel and Bio-oil from *Sterculia striata* Oil.** P.A. Z. Suarez, M.B.P. Mangas, and F.N. Rocha, Laboratorio de Materiais e Combustíveis, Universidade de Brasília, Brazil.
24. **Effect of Beta Hydrogen on Thermal Stability of Biolubricants Esters.** J.A.C. da Silva^{1,2}, L. Yao², E. Hammond², and T. Wang², ¹Petrobras - Research Center - CENPES, Rio de Janeiro, RJ, Brazil, ²Iowa State University, Dept. of Food Science and Human Nutrition, USA.
25. **Citrus Seed Oil: A Novel Source for Biodiesel Production.** U. Rashid^{1,2}, M. Ibrahim^{3,4}, S. Yasin², and R. Yunus^{5*}, ¹Institute of Advanced Technology, Universiti Putra Malaysia, Malaysia, ²Dept. of Industrial Chemistry, Government College University, Pakistan, ³Dept. of Environmental Sciences, Government College University, Pakistan, ⁴Dept. of Agricultural Environment, National Academy of Agricultural Science, Rural Development Administration (RDA), South Korea.
26. **A Single Method for the Direct Determination of Total Glycerols in All Biodiesels Using Liquid Chromatography and Charged Aerosol Detection.** M.A. Plante, B. Bailey, and I.N. Acworth, Thermo Scientific, USA.
27. **High Quality Biodiesel Production from Waste Acid Oil Using Ion-exchange Resins as Catalysts and Adsorbents.** N. Shibasaki-Kitakawa, T. Ihara, K. Nakashima, and T. Yonemoto, Tohoku University, Japan.

LOQ-P: Lipid Oxidation and Quality Posters

This session sponsored in part by Bunge, North America.

Chair: A. Logan, CSIRO, Australia

Expo Hall A • Authors present during Monday reception

1. **Characterization and Antioxidant Properties of Red and Green *Capsicum annum* L. Kulai and Red *Capsicum frutescens* Seed Oils.** S.P. Chee and W.F. Leong*, Monash University Sunway Campus, Malaysia.
2. **Kinetic Analysis for Water-soluble Free Radical Induced Oxidation of Biomembrane Lipids.** Y. Sukegawa, Y. Kimura, K. Nakashima, N. Shibasaki-Kitakawa, and T. Yonemoto, Tohoku University, Japan.
3. **Fatty Acids and Tocopherols Profile and Oxidative Stability of Pecan Nut Oil [*Carya illinoensis* (Wangenh) C. Koch].** A.C.P. Prado¹, R. Luchtenberg¹, D. Barrera-Arellano², F.C. Deschamps³, and J.M. Block¹, ¹Santa Catarina Federal University, Brazil, ²Campinas State University, Brazil, ³Santa Catarina Agricultural Research and Extension Corporation, Brazil.
4. **Antioxidant Activity of Pecan Nut [*Carya illinoensis* (Wangenh) C. Koch] Shell Extracts Obtained by Different Extraction Methods.** A.C.P. Prado, P.C. Engler, V.M. Hissanaga, P.S. Oliveira, and J.M. Block, Santa Catarina Federal University, Brazil.
5. **Effect of Natural Antioxidant Addition on the Oxidative Stability of the Pecan Nut [*Carya illinoensis* (Wangenh) C. Koch] Oil.** A.C.P. Prado, P.C. Engler*, V.M. Hissanaga, P.B. Policarpi, and J.M. Block, Santa Catarina Federal University, Brazil.
6. **Effect of the Simultaneous Interaction among Ascorbic Acid, Iron and pH on the Oxidative Stability of Oil-in-Water Emulsions.** G.F. Branco¹, M.I. Rodrigues², L.A. Gioielli¹, and I.A. Castro^{3*}, ¹Faculty of Pharmaceutical Sciences, University of São Paulo, Brazil, ²Faculty of Food Engineering, University of Campinas, Brazil.

7. **Free Radical Scavenging Activities of Flax Cyclolinopeptides.** O. Sharav¹, D.P. Okinyo-Owiti², R. Sammyaiken³, and M.J.T. Reaney², ¹Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada, ²Dept. of Plant Sciences, University of Saskatchewan, Canada, ³Dept. of Chemistry, SSSC, University of Saskatchewan, Canada.
8. **Evaluation of the Frying Quality Characteristics of French Fries Prepared in Grape Seed Oil and Palm Olein.** E. Tabee, Food and Drug Department, Ministry of Health and Medical Education, Iran.
9. **Oxidative Potential of Dietary Oils Available for Purchase by Stores in Communities Neighboring Prairie View A&M University.** V. McWhinney, L. Doore, D. Skeene, and D. McKinney, Prairie View A&M University, USA.
10. **Antioxidant Interactions between Rosmarinate Esters and α -tocopherol in Stripped Soybean Oil-in-Water Emulsions.** A. Panya¹, K. Kittipongpittaya¹, M. Laguerre², J. Lecomte², P. Villeaneuve², D.J. McClements¹, and E.A. Decker¹, ¹Dept. of Food Science, University of Massachusetts, USA, ²CIRAD, Dept. PERSYST, UMR IATE, France.
11. **Optimization of Amylose-stearic Acid Complex Formation using Modified Potato Starch.** E. Arijaje, Y. Wang, U. Shah*, and A. Proctor, University of Arkansas, USA.
12. **Oxidation Status of Fish Oil Capsules in the Netherlands.** A. Tres, X. Chen, and S.M. van Ruth, RIKILT, Wageningen University and Research Centre, The Netherlands.
13. **¹³C-NMR structural Assessment of Omega-3 oils Produced by Selective Enzymatic Hydrolysis and Reconstitution.** E. Reyes-Suarez, P.G. Mugford, A.J. Rolle, and J.A. Kralovec, Ocean Nutrition Canada Ltd., Canada.
14. **Prooxidant Activity of Polar Lipid Oxidation Products in Bulk Oil and Oil-in-Water Emulsion.** K. Kittipongpittaya, B. Chen, A. Panya, D.J. McClements, and E.A. Decker, University of Massachusetts, USA.
15. **Efficiency of Oryzanols in Stabilizing Different Vegetable Oils, as Compared with Common Synthetic Antioxidants.** B. Irigaray, I. Vieitez*, I. Jachmanian, and M.A. Grompone, Laboratorio de Grasas y Aceites, Departamento de Ciencia y Tecnología de los Alimentos, Facultad de Química, Universidad de la República, Uruguay.
16. **Antioxidant Activity and Oxidative Stability of Edible Oils and Their Esterified Phenolic Lipids.** S. Aziz and S. Kermasha, McGill University, Dept. of Food Science and Agricultural Chemistry, Canada.
17. **Optimization of Phenolic Compounds Extraction from Aromatics Herbs by Response Surface Methodology.** M.Y.H. Shimano¹, T.M.F.S. Vieira¹, A.F.M. Bresson², and M.A.B. Regitano-d'Arce¹, ¹University of São Paulo, College of Agriculture "Luiz de Queiroz", Brazil, ²Institut Polytechnique LaSalle Beauvais, France.
18. **Effect of Lipid Physical State on Beta-carotene Bleaching Kinetics.** S. Calligaris, S. Da Pieve, and M.C. Nicoli, Dipartimento di Scienze degli Alimenti, Università di Udine, Italy.
19. **Effect of Natural Antioxidants on Soy Oil Conjugated Linoleic Acid Production.** C. Schaffner, Y.V.R. Reddy*, and A. Proctor, University of Arkansas, USA.
20. **Antioxidant Properties of Novel Fatty Acid Esters of Flavonoids.** S.N. Warnakulasuriya, Ziaullah, and H.P.V. Rupasinghe, Nova Scotia Agricultural College, Canada.
21. **Oxidation in Mayonnaise Made by Mixing Different Mayonnaises.** P. Raudsepp¹, D.A. Brüggemann¹, A.T.M. Lenferink², C. Otto², and M.L. Andersen¹, ¹Dept. of Food Science, University of Copenhagen, Denmark, ²Faculty of Science and Technology, Medical Cell Biophysics, University of Twente, The Netherlands.
22. **Simultaneous Identification of 4-hydroxy-2-hexenal and 4-hydroxy-2-nonenal in Foods by Fluorometric RP-HPLC and TLC.** R. Tanaka, Y. Sugiura, and T. Matsushita, National University of Fisheries, Japan.
23. **Thermal Behavior of *Sterculia Striata* Oil.** M.B. Mangas, V.M. Mello, and P.A.Z. Suarez, Laboratório de Materiais e Combustíveis, Universidade de Brasília, Brazil.
24. **Effect of Thiol-Quinone Reactions on Polyphenol and Lipid Instability in Foods.** N.R. Unnadkat and R.J. Elias, Pennsylvania State University, USA.
24. **Production of Hydrophilic Conjugated Linoleic Acid as a Liquid or Semi-liquid Food Fortifier.** S. Koohikamali^{1,2}, C.P. Tan³, and T.C. Ling⁴, ¹Dept. of Food Science & Technology, Islamic Azad University, Shahr e Qods Branch, Iran, ²Dept. of Process and Food Engineering, Faculty of Engineering, Universiti Putra Malaysia, Malaysia, ³Dept. of Food Technology, Universiti Putra Malaysia, Malaysia, ⁴Institute of Biological Sciences, Faculty of Science, University of Malaya, Malaysia.
25. **Application of EPR Spectroscopy in Algal PUFA Oil Research.** A.-N.Chang, DSM Nutritional Products, USA.
26. **Subcritical Water Extraction as a New Environmental Friendly Method for Bioactive Compounds Extraction Process from Bene Hull.** R. Shaddel¹, A. Maskooki², M.H. Haddad-Khodaparast¹, and D. Salar Bashi³, ¹Dept. of Food Science and Technology, Ferdowsi University of Mashhad, Iran, ²Food Science and Technology Research Center, Khorasan Razavi, Iran., ³Dept. of Food Science and Technology, Sabzevar Branch, Islamic Azad University, Iran.
27. **A DSC Study of the Autoxidation of Chia - Sunflower Oil Blends.** E.N. Guiotto^{1,2}, V.Y. Ixtaina^{1,2}, S.M. Nolasco², and M.C. Tomás*¹, ¹Centro de Investigación y Desarrollo en Criotecología de Alimentos (CIDCA), (Facultad de Ciencias Exactas (FCE) UNLP, CONICET), Argentina, ²Facultad de Ingeniería, Universidad Nacional del Centro (UNCPBA), Argentina.
28. **Controlling the Structure of the Interfacial Layer: A Key Factor to Protect Food Emulsions Against Lipid Oxidation.** C. Berton, M.H. Ropers, and C. Genot, INRA, UR1268 Biopolymères Interactions et Assemblages, France.
29. **Benchtop EPR for Measuring Oxidative Stability of Olive Oil.** K. Rangelova and D. Barr, Bruker BioSpin Corp., EPR Division, USA.
30. **Individual Whey Protein Components Influence Lipid Oxidation Dependent on pH.** A.F. Horn, N.S. Nielsen, and C. Jacobsen, Technical University of Denmark, National Food Institute, Denmark.
31. **Optimization of Polyphenolic Compounds Extraction Process from Bene Hull (*Pistacia atlantica* var *mutica*) based on Superheated Water using Neural Network.** R. Shaddel¹, A. Maskooki², M.H. Haddad-Khodaparast¹, and D. Salar Bashi³, ¹Dept. of Food Science and Technology, Ferdowsi University of Mashhad, Iran, ²Food Science and Technology Research Center, Khorasan Razavi, Iran, ³Dept. of Food Science and Technology, Sabzevar Branch, Islamic Azad University, Iran.
32. **Evaluation of Antioxidant Activity of Methanolic Extract of Safflower Seed.** M. Mahdi Karimkhani¹, E. Moharrami*², and A. Daraei Garmakhany³, ¹Former Graduate Student of Sabzevar Branch of Islamic Azad University, Iran, ²Qom University of Medical Sciences, Iran, ³Dept. of Food Science & Technology, Azadshahr Branch, Islamic Azad University, Iran.
33. **Antioxidant Effect of Kiwi Peel Extract on Oxidative Stability of Sunflower Oil during Storage Condition.** R. Esmailzadeh Kenari¹, E. Shokoo Saremi², K. Ziaee³, and H. Malekzadeh³, ¹Sari Agricultural and Natural Resources University, Dept. of Food Science and Technology, Iran, ²Ferdowsi University of Mashhad, Iran, ³Vasteryoosh Consultant Group, Iran.

PCP-P: Protein and Co-Products Posters

Chair: J. Wu, University of Alberta, Canada

Expo Hall A • Authors present during Monday reception

1. **Acetone/water and Ethanol/water Extraction of Gossypol from Cottonseed Meal.** S.M. Pelitire and M.K. Dowd*, SRRC, ARS, USDA, USA.
2. **Effects of Oil Extraction on Functional Properties of Protein in Pennycress (*Thlaspi arvense*) Seed and Press Cake.** M.P. Hojilla-Evangelista and R.L. Evangelista, USDA ARS NCAUR, USA.
3. **Emulsifying Properties of Canola and Flaxseed Protein Isolates Produced by Isoelectric Precipitation and Salt Extraction.** A. Can Karaca, A.K. Stone*, N.H. Low, and M.T. Nickerson, University of Saskatchewan, Canada.
4. **Functional Attributes of Canola Protein-polysaccharide Electrostatic Complexes.** A.K. Stone, L. Cheung, C. Chang, and M.T. Nickerson, University of Saskatchewan, Canada.
5. **Formation of Electrostatic Complexes within Canola Protein Isolate – (kappa-, iota-, and lambda-type) Carrageenan Mixtures.** A.K. Stone, L. Cheung, and M.T. Nickerson, University of Saskatchewan, Canada.

6. **A Multi-year Survey on Chemical Composition of Rapeseed and Sunflower Meal Produced in France.** S. Dauguet¹, M. Krouti², J.P. Loison¹, C. Peyronnet³, A. Quinsac¹, and F. Fine^{*1}, ¹CETIOM, France, ²CETIOM, France, ³ONIDOL, France.
7. **Effect of Sunflower Seeds Quality on Dehulling Process in Order to Produce Protein Content Guaranteed Meal.** S. Dauguet¹, C. Guillemain¹, P. Carre², and F. Fine^{*1}, ¹CETIOM, France, ²CREOL, France.
8. **Antifungal Activity of Juniper Extracts.** F.J. Eller¹, I. Tumen², C.A. Clausen³, and J.A. Teel¹, ¹FFR-NCAUR, USDA, ARS, USA, ²FPC, Bartin University, Turkey, ³DWP-FPL, USDA-FS, USA.
9. **Impact of Rheological Properties of Soybean Cellulosic Biomass on Ethanol Production.** A. Meyers, C. Augereau, and S. Jung^{*}, Iowa State University, USA.
10. **Optimization of Saccharification/fermentation and Scale-up of Cellulosic Biomass Conversion to Ethanol.** D. Maurer, S. Box, J. de Moura, L.A. Johnson, and S. Jung^{*}, Iowa State University, USA.
11. **Comparison of Flocculation Properties of Hemoglobin and Bovine Blood to Properties of Synthetic Flocculants.** G.J. Piazza and R.A. Garcia, USDA, ARS, ERRC, USA.
12. **Optimization of Inhibition of Alzheimer's β -amyloid (A β 1-42) Peptide Aggregation by Soy Protein Hydrolysates using Response Surface Methodology.** M. Ravichandran and N. Hettiarachchy, University of Arkansas, USA.
13. **Application of Red Pepper Seed (*Capsicum frutescens*) Flour and Protein in Mayonnaise.** E. Firatligil-Durmus and O. Evranuz, Istanbul Technical University, Food Engineering Department, Turkey.
- Al-Wahaibi¹, M.A. Hashim², and M. Hayyan², ¹Petroleum and Chemical Engineering Department, Sultan Qaboos University, Oman, ²Dept. of Chemical Engineering, Centre for Ionic Liquids (UMCIL), University of Malaya, Malaysia.
10. **Development of a Laboratory Scale Electrostatic Coalescer Unit for Separation of Water-oil Emulsions for Biofuel Production.** W. Holmes¹, E. Revellame¹, L. Lerma^{1,2}, L. Antonio Estevez², R. Hernandez², and W.T. French¹, ¹Dave C. Swalm School of Chemical Engineering, Mississippi, USA, ²University of Puerto Rico, USA.
11. **Proximate Composition of Harvested Nigerian Shea Fruits and the Physico-Chemical Properties Extracted Shea Butter (*Vitellera paradoxa*).** J.U. Obibuzor, R.D. Abigor, V.O. Omoriyekemwen, and I.B. Omamor, Nigerian Institute for Oil Palm Research (NIFOR), Nigeria.
12. **Obtention of High Micro-nutrients Content Oils.** X. Pages^{1,2}, M. Gaud^{1,2}, B. Gadenne^{1,2}, and P. Carre^{2,1}, ¹ITERG, French Institute for Fats and Oils, France, ²CREOL, France.
13. **Synthesis of Fatty Acid Methyl Ester from Hazelnut Oil under Ultrasonic Conditions.** S. Yucel, D. Ozcimen, and C. Kesgin, Yildiz Technical University, Chemical and Metallurgical Faculty, Dept. of Bioengineering, Turkey.
14. **Influence of Environmental Stress on Physicochemical Properties of Cold-pressed Rice Bran Oil Nanoemulsion Stabilized by Glyceryl Monostearate (GMS).** A. Thanonkaew¹, S. Wongyai², E. Decker³, and D. McClements³, ¹Research Unit of Local Southern Thai Foods, Dept. of Food Science and Technology, Faculty of Technology and Community Development, Thaksin University, Thailand, ²Medicinal Products Department, Faculty of Oriental Medicine, Rangsit University, Thailand, ³Dept. of Food Science, University of Massachusetts, USA.
15. **Flocculation Induced by High pH to Harvest Microalgae for Low Value Products.** D. Vandamme, I. Fraeye, K. Muylaert, and I. Foubert^{*}, K.U. Leuven Kulak: Molecular and Microbial Systems, Lab Aquatic Biology, Belgium.
16. **Toward the Development of a Continuous Crystallization Process for the Concentration of Omega-3 Fatty Acids from Mackerel Oil.** P. Sinha¹, P. Angers², and J. Arul², ¹Dept. of Chemical Engineering, Universite Laval, Canada, ²Dept. of Food Science and Nutrition, Universite Laval, Canada.
17. **Two-part Process Optimization for Conversion of Macro Algae into Biofuels.** S.C. Ndlela and N.O. Olson, Iowa State University-Iowa Energy Center-BECON Facility, USA.
18. **Improving Canola Oil Quality by Applying New Refining Method.** F. Kalantari¹, M. Bahmaeia², M. Ameri¹, E. Shoaie¹, and E.S. Sabbaghian¹, ¹Research and Development Laboratory, Savola Behshahr Company, Iran, ²Islamic Azad University, North Tehran Branch, Iran.
19. **Microalgae Flocculation: Impact of the Flocculant Type, Algae Species, and Cell Concentration.** J.A. Gerde, J.Y. Lio, L. Yao, Z. Wen, and T. Wang, Dept. of Food Science and Human Nutrition Iowa State University, USA.
20. **Production of Renewable Fuel from Activated Sludge through a Fluidized-Bed Catalytic Cracking (FCC) Process.** E. Revellame, W. Holmes, R. Hernandez, W. French, and R. Callahan II, Dave C. Swalm School of Chemical Engineering, Mississippi State University, USA.
21. **Influence of the Process Parameters on the Efficiency of Steam Deacidification of Palm Oil.** R. Verhe¹, V. Van Hoed¹, W. De Greyt², K. Sampaio^{1,3}, and A. Meirelles³, ¹Ghent University, Belgium, ²DeSmet Ballestra, Zaventem, Belgium, ³University of Campinas, Brazil.
22. **Enzymatic Production of High Quality Fish Oil PUFA Concentrates.** T. Balle¹, H. C. Holm¹, D. Cowan², J. Henman¹, and M.L. Damstrup¹, ¹Novozymes A/S, Denmark, ²Novozymes A/S, UK.

PRO-P: Processing Posters

Chairs: F. Eller, USDA, ARS, NCAUR, USA; and F. Karaosmanoglu, Istanbul Technical University, Turkey

Expo Hall A • Authors present during Tuesday reception

1. **Study the Oxidative Stability of PLA1 Enzymatic Degumming Oil.** W. Jianchun, C. Yanxia, J. Bo, H. Peng, and Y. Jianguo, Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd, China.
2. **A New Technique for the Concentration of Gallic Acid Extracts from Defatted Mango Kernel Meal by Membrane Separation.** N. Amarnath¹, S.A. Rao², and P.P. Chakrabarti^{*1}, ¹Indian Institute of Chemical Technology, India, ²Birla Institute of Technology & Science, Goa Campus, India.
3. **Assessment of Extrusion-Pressing and Cooking-Pressing Processes for Production of Partly Defatted Soybean Meal with Low Residual Antitryptic Activity.** A. Quinsac¹, P. Carré², F. Fine^{*1}, F. Labalette³, and M. Janowski⁴, ¹CETIOM, France, ²CREOL, France, ³ONIDOL, France, ⁴La Mécanique Moderne, France.
4. **Influence of Water and Free Fatty Acids on Supercritical Methanol Treatment of Soybean Oil for Biodiesel Production.** P. Olivares-Carrillo, University of Murcia, Campus de Espinardo, Spain.
5. **Effect of Photoirradiation Time on Soy Oil Conjugated Linoleic Acid Yields.** Y.V.R. Reddy, B. Henbest, and A. Proctor, University of Arkansas, USA.
6. **Fatty Acid Composition and Oil Yield from Different Genotypes of Macauba (*Acrocomia aculeate*).** R. Antoniassi¹, A.F. Faria-Machado^{*1}, H.R. Bizzo¹, and N.T.V. Junqueira², ¹Embrapa Food Technology, Brazil, ²Embrapa Cerrados, Brazil.
7. **Fatty Acid Profile and Chemical Composition of Seeds from *Jatropha curcas* During Fruit Ripening.** A.F. Faria-Machado¹, R. Antoniassi¹, H.R. Bizzo¹, P.C. Damasceno-Jr², S.C. Freitas¹, and G.K. Donnagema³, ¹Embrapa Food Technology, Brazil, ²Institute of Agronomy/UFRRJ, Brazil, ³Embrapa Soils, Brazil.
8. **Effect of Packing Material for Enhanced Resolution and Loading Capacity when Purifying EPA.** E.-K. Lee and B.-S. Lee, AK Biotech Co., Ltd., Korea.
9. **Ultrasonic-based Treatment of Low Grade Palm Oil Using a Heterogeneous Catalyst.** A. Hayyan^{1,2}, F.S. Mjalli¹, T. Al-Wahaibi¹, Y.M.

S&D-P: Surfactants and Detergents Posters

Chair: M. Wint, Amway Corporation, USA

Expo Hall A • Authors present during Tuesday reception

1. **Supramolecular Gel Formation from Glycolipid Biosurfactants, Cellobiose Lipids by *Cryptococcus humicola*.** D. Kawamura¹, Y. Kikkawa², T. Imura³, T. Morita³, T. Fukuoka³, H. Sakai¹, M. Abe¹, and D. Kitamoto³, ¹Dept. of

- Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Japan, ²Photonics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan, ³Research Institute for Innovation in Sustainable Chemistry, National Institute of Advanced Science and Technology (AIST), Japan.
- Obtaining and Characterization of Brazilian Rose Smectite - Application in the Development of Soaps and Detergents.** M. das Graças Silva-Valenzuela¹, F.M.S. Carvalho², I.J. Sayeg², L. Gomes Sant'Anna³, and F.R. Valenzuela-Díaz¹, ¹Polytechnic School, University of São Paulo, Brazil, ²School of Geosciences, University of São Paulo, Brazil, ³School of Arts, Sciences and Humanities, University of São Paulo, Brazil.
 - Anionic Scavengers in Drying Agents for Hard Surfaces.** A. Nagy¹ and S. Mohammed², ¹E. Goldschmidt Corporation, USA, ²Evonik Degussa Corporation, USA.
 - A Specialty Polymer for Surface Modification.** A. Nagy¹ and J. Peggau², ¹Evonik Goldschmidt Corporation, USA, ²Evonik Industries AG, Germany.
 - Microemulsion-Based Semi-Solid Oil Detergency Using an Extended Surfactant: Effect of Washing Temperature.** T. Choke-arpornchai¹, S. Chavadej^{1,3}, and J.F. Scamehorn², ¹The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, ²University of Oklahoma, USA, ³Center for Petroleum, Petrochemicals and Advanced Materials, Chulalongkorn University, Thailand.
 - Effect of NaCl on Dissolution of Magnesium Soap Scum in Different Surfactant Solutions.** D. Ratanalert¹, J.F. Scamehorn², D.A. Sabatini², and S. Chavadej^{1,3}, ¹The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, ²Institute for Applied Surfactant Research, University of Oklahoma, USA, ³Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.
 - Influence of Linker Molecules on Adsorbilization of Organic Compounds Using Hydrophobic Silica Modified with EO/PO Triblock Copolymers.** P. Banjai¹, P. Malakul¹, M. Nithitanakul¹, and J.O'Haver², ¹The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, ²The University of Mississippi, USA.
 - Removal of MgSiO₃ Particles from the Surfaces of AlTiC Coated with Diamond-Like-Carbon.** A. Pinpiti¹ and S. Chavadej^{1,2}, ¹The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, ²Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.
 - Analysis of Underivatized Surfactants using High Performance Liquid Chromatography.** M.A. Plante, B. Bailey, and I.N. Acworth, Thermo Scientific, USA.
 - The Use of Nicotinamide as an Anti-crystallizing Agent of Caffeine in Cosmetic Products.** D.H. Jang, H.Y. Shin, and C. Park, R&D Center, Amorepacific Corporation, South Korea.
 - Counterion Effects in Microemulsion Formulation.** S. Baradaran¹, P. Lohateeraparp¹, B. Shiao², and J. Harwell¹, ¹Chemical, Biological and Materials Engineering, University of Oklahoma, USA, ²Mewbourne School of Petroleum and Geological Engineering, University of Oklahoma, USA.
 - Novel Polymer-surfactant System for Mitigating Interfacial Tension.** P. Tongwa (*Surfactants and Detergents Division Student Award Winner*), Missouri University of Science and Technology, USA.
 - Use of Lactose Monolaurate as an Emulsifier and its Effect on Crystallization of Anhydrous Milk Fat.** A. Wagh, S. Martini, and M. Walsh, Utah State University, USA.
 - Silicone-free Tire Dressings.** D. McCall, Vaughan Industries, USA.
 - Motor Oil Removal by Multistage Froth Flotation: The Effect of Operational Parameters.** P. Kanokkarn¹, J.H. O'Haver², and S. Chavadej^{1,3}, ¹The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, ²Dept. of Chemical Engineering, University of Mississippi, USA, ³Center of Excellence on Petrochemical and Materials Technology, Chulalongkorn University, Thailand.
 - Tridecyl Alcohol (TDA) Ethoxylates: Optimal Broad Spectrum Vertical and Horizontal Axis Commercial Laundry Surfactants.** T. Crutcher, J. Dailey, V. Lazarowitz, and N. Almasarweh, BASF Corporation, USA.
 - Adjustment Method of Removal Percentage in Washing Test of Iron (III) Oxide Soiled Cloth Using Probability Density Function.** M. Oya¹ and E. Shigyo², ¹Institute of Environment and Information Sciences, Yokohama National University, Japan, ²Graduate School of Environment and Information Sciences, Yokohama National University, Japan.

PECIG-P: Professional Educators' Common Interest Group Posters

Approaches to Enhance Communication of Technologically Challenging Lipid Scientific Areas to Students and Lay Audiences

Chairs: D. Hayes, University of Tennessee, USA; and R.J. Weselake, University of Alberta, Canada

Expo Hall A

- Beyond Good Grammar: Essential Scientific Communication Skills Every Student Should Learn.** C.L. Snyder and R.J. Weselake, Dept. of Agricultural, Food & Nutritional Science, University of Alberta, Canada.
- Human Nutrition Study of Blood Lipids Supports Experiential Learning in Undergraduate Class.** A.J. Wright, University of Guelph, Canada.
- Plasma Lipid Profiling by LC/ESI-MS Using a Single Quadrupole Mass Spectrometer: A Student Exercise.** A. Kuksis, University of Toronto, Canada.
- Who Likes Eating a Lump of Fat?** J.L. Harwood, Cardiff School of Biosciences, UK.
- Lipid Science Confusion: How to Simplify the Message and Regain the Confidence of the Public.** N.A.M. Eskin and M. Aliani, University of Manitoba, Canada.
- How to Teach Biochemistry to Undergraduate Engineering Students.** D.G. Hayes, University of Tennessee, USA.
- From Light Harvesting and CO₂ Fixation to the Accumulation of TAG.** D. Hildebrand, University of Kentucky, USA.
- Beyond the Classroom: Lipid and Lipid Quality Education.** U. Thiyam-Holländer and J. Friel, University of Manitoba, Canada.
- Teaching Rheology with Chocolate.** M. Warren¹, A. Lechter², and R. Hartel¹, ¹University of Wisconsin, USA, ²ADM Cocoa, USA.
- Teaching Genetic Control of Soybean Fatty Acid Synthesis through Hands-On Experience with Applied Plant Breeding, DNA Selections, and Near Infra-Red and Gas Chromatography Analyses.** V. Pantalone, E. Meyer, and D. Landau-Ellis, University of Tennessee, USA.
- Teaching Lipid Processing Techniques to Undergraduate Students through Research Opportunities.** S. Martini, Utah State University, USA.
- Biofuels Instruction Strategies: Pilot Plant and the Role of Accessible Recorded Materials.** Y.Y. Shim and M. Reaney, Dept. of Plant Sciences, University of Saskatchewan, Canada.



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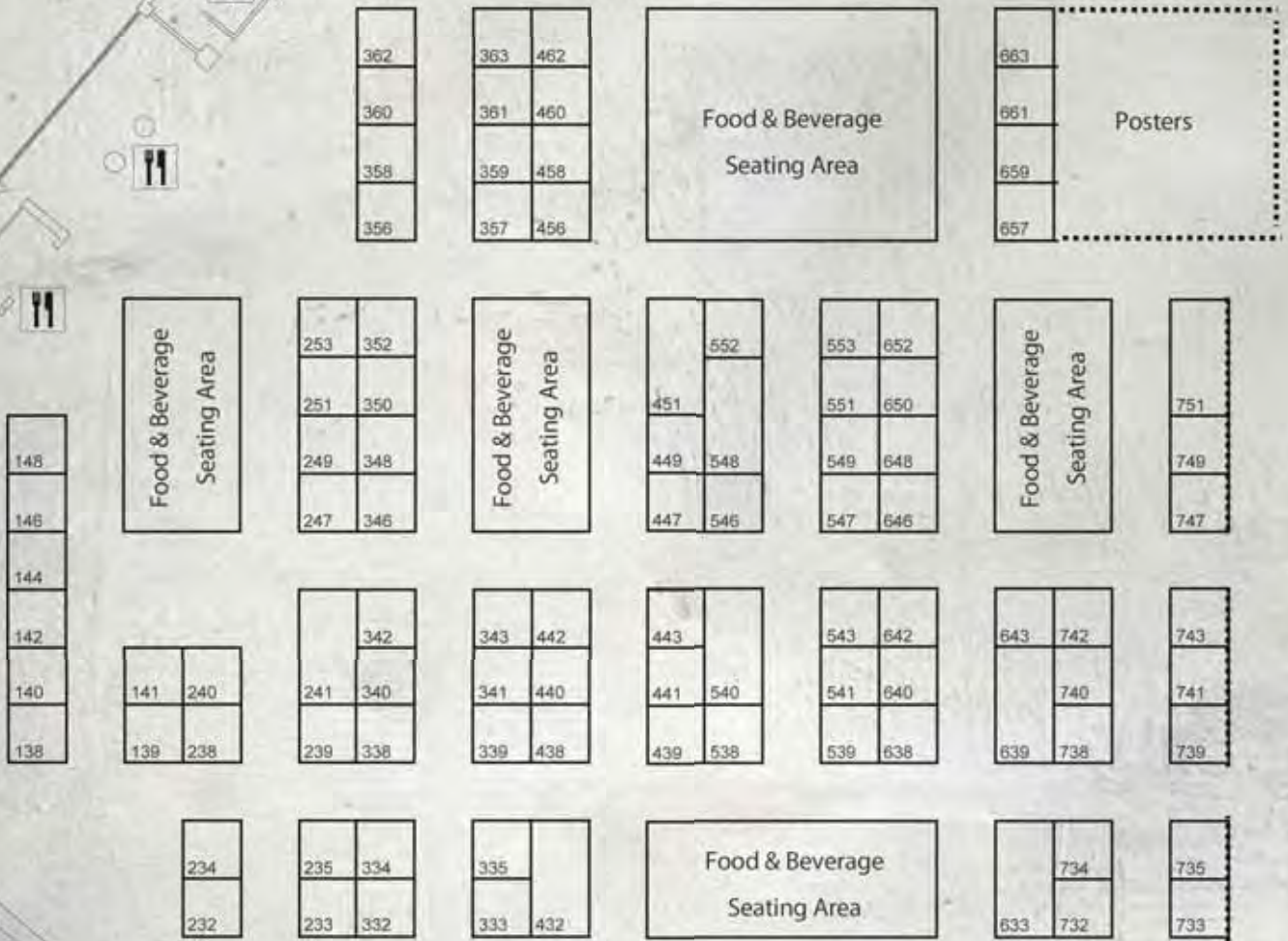
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FLOOR PLAN

AOCS Pavilion

SCHEDULE

Sunday, April 29

5:30–7:30 pm
5:30–7:00 pm

Expo Open
Opening Mixer

Monday, April 30

7:30–9:00 am
1:30–6:30 pm
5:00–6:30 pm

Expo Open/Expo Express Breakfast **NEW**
Expo Open
Networking Reception

Tuesday, May 1

11:00 am–7:30 pm
11:00 am–3:00 pm
3:20–4:00 pm
6:00–7:30 pm

Expo Open
Expo Café
Networking Break **NEW**
Networking Reception

AOCS Pavilion

Something for everyone!

professionals in the fats and oils industries.

Here's your guide to the latest products, services, and solutions to cater to your specific needs:

Food Technology and Ingredients

Company (Booth No.)

AK BioTech Co., Ltd. (740)
 ANKOM Technology (232)
 Artisan Industries, Inc. (646)
 DuPont Nutrition and Health (formerly Danisco) (650)
 Food Protein R&D Center, Texas A&M University (247)
 Industrial Design Group, LLC (546)
 Kalsec (350)
 Novozymes (633)
 POS Bio-Sciences (439)
 Purac (249)
 Solazyme, Inc. (734)
 Stratas Foods LLC—RDI Center (239)
 Wacker Chemical Corporation (547)

Instrumentation and Analytical Technology

Company (Booth No.)

Agilent Technologies (234)
 ANKOM Technology (232)
 Bruker Corporation (241)
 COSA Instrument Corp. (342)
 FOSS North America (235)
 Glas-Col, LLC (741)
 Industrial Design Group, LLC (546)
 Innolabtec GmbH (540)
 LCI Corporation (334)
 Leica Microsystems (640)
 Lovibond Tintometer/Orbeco-Hellige Inc. (447)
 LUM (356)
 Mikrolab Aarhus A/S (441)
 Nonlinear Dynamics (659)
 Nu-Chek-Prep, Inc. (440)
 Optek-Danulat, Inc. (738)
 Oxford Instruments America (541)
 Perten Instruments, Inc. (643)
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 Waters Corporation (732)
 YMC America (742)

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 Battelle (343)
 Chemithon Corporation, The (240)
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 Battelle (343)
 Bioactives World Forum and Smart Short Courses— Filtration and Membrane World (139)
 Carlson Consulting Engineers, LLC (340)
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72 EXHIBITOR DESCRIPTIONS

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2805 Centerville Rd., Wilmington DE
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Agilent manufactures and distributes a complete line of instrumentation serving the clinical, analytical, biotech, environmental, pharmaceutical, forensic science, food and flavor, academia, and all other laboratory markets that require the best in quality, performance, and serviceability in the instruments they purchase.

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Agmet is a leader in recycling metal bearing materials which include nickel, cobalt, copper, and tin. As a processor, we are available to recycle our customers' materials in every economic marketing condition with a continuing commitment to manage our customers' environmental liability responsibly every step of the way.

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7201 Hamilton Blvd., Allentown, PA
18195-1501, USA
www.airproducts.com/chemprocessing

Air Products supplies hydrogen, nitrogen, and other industrial gases as well as application technologies like hydrogenation and nitrogen blanketing that can help increase product quality and process efficiency, improve safety, and lower overall operating costs. As a world leader in merchant hydrogen supply, we feature our PRISM® On-site Hydrogen Generators, which provide cost-effective and reliable on-site generation, as well as our load-following Cryogenic Hydrogen Compressors, which can improve on-stream time.

AK BioTech Co., Ltd. (740)

724 Sanggae-Dong, Nam-gu, Ulsan City
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www.akb.co.kr



Alfa Laval (443)

5400 International Trade Dr., Richmond,
VA 23231, USA
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Alfa Laval is a global supplier and an innovative partner to industries that handle all types of vegetable fats and oils. Our scope of supplies includes engineering services and equipment for complete processing lines such as degumming, neutralization, bleaching, deodorization, interesterification, fractionation, hydrogenation, and biofuels production. Our components include the standard-setting PX range of disk stack centrifuges, decanters, the market-leading range of heat exchange products including condensers and evaporators, the groundbreaking SoftColumn continuous deodorizer, and the new SoftFlex semi-continuous deodorizer.

Anderson International Corp (332)

4545 Boyce Pkwy., Stow, OH 44224, USA
www.andersonintl.net

Anderson International Corporation is a world leader in manufacturing and installing modern vegetable oil processing machinery and systems beginning in 1888. Anderson not only leads in continuous mechanical extraction for "green" oils, through our invented Expeller® presses, but also manufactures the most energy-efficient and productive expander machinery for the preparation of low-and high-oil-content seeds for solvent extraction.



ANKOM Technology (232)

2052 O'Neil Rd., Macedon, NY 14502,
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www.ankom.com

ANKOM Technology manufactures and markets analytical instrumentation for the food, feed, and biomass-to-energy industries. ANKOM is best known for the development of Filter Bag Technology (FBT) for determining acid detergent, neutral detergent and crude fiber. Automated closed-system Soxhlet extractors support high-volume crude and total-fat determinations in feeds, foods, and other samples while reducing solvent usage by 97%.

In 2010, ANKOM officially introduced the ANKOMTDF Dietary Fiber Analyzer, automating insoluble, soluble and total dietary fiber analysis. All ANKOM instruments are designed to provide easy operation, easy maintenance, and years of service. ANKOM instruments increase sample throughput, decrease labor costs, and eliminate technician variability. The ANKOMRF Gas Production System supports research and production in the biomass/biofuels industry by monitoring anaerobic digestion and fermentation processes in a low-cost, expandable system. The RF System also supports yeast-activity measurements, dough-rising power, and more.

Artisan Industries, Inc. (646)

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Artisan Industries has helped the world's leading food processors improve and create products through our innovative separation solutions. Our 70 years of separation expertise with thin-film evaporation and stripping technologies can be applied to concentrating, drying, desolventizing, and deodorizing heat-sensitive and viscous foods, nutraceuticals, and edible oils. Don't forget to stop at our booth and learn about our experience in the biodiesel industry, specifically our glycerin-refining and fatty-acid stripping processes.



ASAGA—Argentine Association of Fats and Oils (140)

Hipólito Yrigoyen 1284 Piso 3° Of. 5
(1086), Ciudad Autónoma de Buenos
Aires, Argentina
www.asaga.org.ar

ASAGA, the Argentine Association of Fats and Oils, was founded in Buenos Aires in 1989. A reference for Latin America, it brings together experts, professionals, specialists, researchers, institutions, and companies in the trade from all around the country. The Argentine Association of Fats and Oils vision is to be a non-profit organization with a solid reputation in the technical and scientific fields. Our mission is to promote research and development in the fields of fats, oils, and related products; to train personnel

in the industry in order to improve processing and production practices; and to encourage cooperation with private and public organizations and disseminate important information on fats and oils.

■ BASF

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www.battelle.org

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Bioactives World Forum and Smart Short Courses—Filtration and Membrane World (139)

309-C Manuel Dr., College Station, TX 77840, USA

www.bioactivesworld.com

www.membraneworld.com

www.smartshortcourses.com

Bioactives World Forum and Smart Short Courses are specialized to organize short courses, technical workshops, international conferences, and technical meetings in the nutraceuticals and functional foods area. Additional services provided include software development, electronic publishing/cataloging, and publication of newsletters. Filtration and Membrane World is dedicated to solving complex separation problems through innovative and cost-effective solutions. Please visit our websites for better understanding of our businesses.

Bruker Corporation (241)

19 Fortune Dr., Billerica, MA 01821, USA
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Carlson Consulting Engineers, LLC (340)

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Chemithon Corporation, The (240)

5430 W. Marginal Way SW, Seattle, WA
98106-1598, USA
www.chemithon.com

Chemithon developed the first continuous sulfonation process and today has "Green" MES systems that are the most productive and profitable worldwide. Chemithon holds hundreds of chemical process and equipment patents related to detergent, specialty chemical, EOR, and power industries. Core areas of expertise include sulfonation, solids drying systems, Dioxane reduction systems, detergent solids handling, liquid blending, and technical services. Partners: Chemithon International Pte. Ltd., Singapore; IIT Srl, Italy; Binacchi & Co., Italy; Mitsui Plant Systems, Tokyo.

COSA Instrument Corp. (342)

846 Horseblock Rd., Yaphank, NY 11980, USA
www.cosaxentaur.com

Cosun Biobased Products

(543)
PO Box 3411, Breda 4800 MG, The Netherlands
www.cosunbiobased.com

Cosun Biobased Products is the world's main manufacturer of carboxy methyl inulin (brandname: Carboxyline® CMI), a green scale inhibitor used in various detergents and water-treatment products. CMI offers a unique combination of sequestration and dispersing properties. It is a threshold scale inhibitor for CaCO₃, CaSO₄, BaSO₄ and SrSO₄ scaling with excellent calcium tolerance and high water solubility. The business scope of CBP is the development, manufacturing, and marketing of renewable products for non-food applications.

Croll Reynolds (359)

Six Campus Dr., Parsippany, NJ 07054, USA
www.croll.com

CrollReynolds is a leader in the design and supply of high-performance vacuum systems for the vegetable- and palm-oil refining industries. Established in 1917, Croll Reynolds has delivered hundreds of custom vacuum systems designed for different types of deodorizers. With research and test facilities in Teterboro, New Jersey, and India, Croll Reynolds is prepared to deliver the highest quality vacuum systems at a competitive price.

Crown Iron Works (451)

PO Box 1364, Minneapolis, MN 55440, USA
www.crowniron.com

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DuPont Nutrition and Health

(Formerly Danisco USA, Inc. (650))
Four New Century Pkwy., New Century, KS 66031, USA
www.danisco.com/ingredients

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Desmet Ballestra North America (432)

450 Franklin Rd., Suite 170, Marietta, GA 30067, USA
www.desmetballestra.com

Desmet Ballestra is the global solution provider for the edible oils and fats, surfactants, detergents, oleochemicals, biodiesel, glycerin, and soap industries. In the oils and fats sector, it has a full range of process equipment and services, including seed preparation equipment, mechanical and solvent extraction, oil processing, and fat modification. Recent innovations are in screw pressing, desolventizing, distillation deodorization, fractionation, interesterification, dry-ice condensing, MES, and biodiesel.

Euro Fed Lipid (549)

PO Box 900440, Frankfurt 60444, Germany
www.eurofedlipid.org

Euro Fed Lipid is comprised of major European fats and oils societies, encompassing 2,000 lipid professionals. Euro Fed Lipid promotes the science and technology of lipids on a European level, as well as the cooperation and exchange between scientists, and organizes congresses and workshops. Euro Fed Lipid also publishes the "European Journal of Lipid Science and Technology." "OILS + FATS"—International Trade Fair for the Technology and Trade of Oils and Fats—is organized by Trade Fair Munich in cooperation with Euro Fed Lipid.

FCF—Technologies/Division of SG-Engineering (138)

Itegembaan 372, Berlaar 2590, Belgium
www.fcftechnologies.com

Food Protein R&D Center, Texas A&M University (247)

Cater Mattil Hall, 373-Olsen Blvd., College Station, TX 77843, USA
http://foodprotein.tamu.edu

FOSS North America (235)

8091 Wallace Rd., Eden Prairie, MN 55344, USA
www.foss.us

FOSS solutions offer easy-to-use analyti-

cal solutions for analysis and segregation. Both NIR solution and automated wet chemistry are offered to quickly measure key parameters, including free fatty acid (FFA); phosphorus, moisture, and a number of other parameters. Having reliable information allows you to react quickly to variations in content and quality, specifically helping you to avoid oil losses and to make optimal use of your raw materials.

French Oil Mill Machinery Co., The (539)

PO Box 920, Piqua, OH 45356, USA
www.frenchoil.com/oilseed-equipment.shtml

French® custom designs, manufactures, and supports processing equipment, full-press extraction and preparation systems for the extraction of vegetable oil from oil-bearing seeds and nuts for food and industrial uses, including biodiesel and other fuels. Our durable equipment has an average life span of over 50 years, and operates with maximum productivity and lower processing costs per ton. French's process solutions meet and exceed industry standards of high-quality crude oil, meal, and oil-extraction efficiencies.



GEA Process Engineering (341)

9165 Rumsey Rd., Columbia, MD 21045, USA
www.niroinc.com

GEA Processing Inc. features the advanced Atlas Dry Condensing Systems for low-pressure vapor removal. Advantages include: low energy consumption where energy usage is only 10–20%, compared to steam ejectors; reduced pollution because the carried-over products are contained in the condensed water, enabling an easy separation; and very low water consumption.

GEA Westfalia Separator (339)

100 Fairway Ct., Northvale, NJ 07647, USA
www.wsus.com

GEA Westfalia Separator designs and manufactures centrifuges for the fats and oils industry, including edible oil, biodiesel, oleochemical, and soap processing. Separators and decanters are used in edible oils for clarification, degumming, caustic refining, and

winterization; in biodiesel for glycerine separation and water washing; in oleochemicals for glycerine, monoglyceride, sweet water, and other separation and clarification applications; and for soap production.

Genencor, a Danisco Division (652)

3490 Winton Pl., Rochester, NY 14623, USA
www.genencor.com

Genencor is a world leader in industrial biotechnology and a pioneer in enzyme innovation. In collaboration with customers, technology leaders and other stakeholders, Genencor supplies competitive, biobased solutions that create value throughout the supply chain, from raw material to finished product. DuPont acquired a majority stake in Danisco A/S, which includes its Genencor division, in May 2011. Genencor enzymes and enzyme production now operate within DuPont Industrial Biosciences.

GKD-USA, Inc. (743)

825 Chesapeake Dr., Cambridge, MD 21613, USA
www.gkdusa.com

Since 1925, GKD has enjoyed a reputation for precision weaving and extensive knowledge of industrial filtration processes. Our filter media, woven on our innovative, state-of-the-art looms, allows us to produce the highest quality and most robust filter cloth available. The same quality standards apply to the design and fabrication of our NeverLeak™ Industrial series of filter leaves for pre-coat pressure filtration. Our newest NeverLeak is designed to eliminate tubular-framed riveted leaves.

Glas-Col, LLC (741)

711 Hulman St., Terre Haute, IN 47802, USA
www.glascol.com

Glas-Col, LLC, excels with concentrators and evaporators for quick, efficient removal of solvents. We offer one of the largest selections of heating mantles, and custom heating jackets in the world, plus a full line of temperature controls and monitors. Our back and forth shaking equipment is unmatched and our multi-pulse vortexers are being used in numerous research protocol. Also see our pepsin digestibility shaker, glove-bags, and rotators.

Graham Corporation (553)

20 Florence Ave., Batavia, NY 14020, USA
www.graham-mfg.com

Graham Corporation, as a global designer and manufacturer with world-renowned engineering expertise in vacuum and heat transfer technology, supplies custom engineered steam ejectors, liquid ring vacuum pumps, vacuum systems, condensers, plate heat exchangers, and freeze condensation systems, as well as other products, to many industries worldwide. Graham has built a reputation for top-quality, reliable products and high standards of customer service.

Harburg-Freudenberger Maschinenbau GmbH (456)

Seevestrasse 1, Hamburg 21079, Germany
www.h-fgroup.com and www.hf-press-lipidtech.com

The product portfolio of HF Press+LipidTech (HF PLT) ranges from individual machines up to complete systems for oilseed preparation, oilseed pressing and crude oil refining. HF PLT presses are also used in rendering plants and for various other applications like dewatering. Head office and manufacturing facility of HF PLT is located in Hamburg, Germany.

InCon Processing, LLC (538)

970 Douglas Rd., Batavia, IL 60565, USA
www.incontech.com

InCon Processing is the leading provider of high-vacuum distillation operating in our own toll processing plant. We have developed technology kernels around high-vacuum distillation, molecular distillation, wiped-film evaporation, and short-path evaporation. InCon has developed a proprietary process to concentrate omega-3 fish oil up to 70% and is the largest contract manufacturer of omega-3 fish oil in the USA. InCon expanded capacity by 75% in the past year.

Industrial Design Group, LLC (546)

PO Box 47, Logansport, IN 46947, USA
www.dillingroup.com

Industrial Design Group delivers high-value solutions to all your oilseed and co-product processing projects. Our civil, structural, chemical, process,

mechanical, electrical and controls engineers, working with our capable staff of CAD and support personnel, bring many decades of experience specific to oilseed processing. From concept development, through feasibility analysis, budgeting, design engineering, detail engineering, scheduling, risk analysis, construction management, commissioning/start-up, and on-going consulting services, Industrial Design Group is your single source provider.

Innolabtec GmbH (540)

Cockerillstr. 100, Stolberg, 52222, Germany
www.innolabtec.de

Innolabtec GmbH is a manufacturer of laboratory automation products. Our products are located in the areas of food industry, biotechnology, and chemistry. As we keep development and production in-house, we are able to fulfill the special requirements of our clients. The developments of our products cover sample preparation, XYZ-Robotics, Peltier Temperature baths, and temperature management. The fully automated SFC-Automation Workstation is the smallest automated workstation for SFC-determination by Pulse-NMR. It is a joint-venture product between Comicon and Innolabtec. Our partner, Comicon, provides special software solutions for GC-Peak-Picking (Peak-O-Mat) and simulation and optimization for oils and fats industries (OilExpert).

J.M. Pedroni y Asociados SA (357)

Gral Paunero 1428, Martinez, BA 1640, Argentina
www.jmpedroni.com

J.M. Pedroni y Asociados SA is a vacuum engineering company, founded in 1965 with central offices in Buenos Aires, Argentina, and São Paulo, Brazil. It builds vacuum systems for edible oils and fats industries; jet equipment: jet fans, educators, aerators, desuperheaters, silencers; vacuum heat exchangers; heaters; heat recovery; lecithin dryers; and high-vacuum molecular distillers. We have 500 vacuum systems and agitated thin-film evaporators located in 50 countries of the world.

J. Rettenmaier USA LP (548)

16369 USA 131 Hwy., Schoolcraft, MI 49087, USA
www.jrsusa.com

J. Rettenmaier USA supplies a broad range of fiber products for nutritional, industrial, filtration, and technical applications. J. Rettenmaier USA manufactures a variety of filtration media from natural, renewable raw materials for the edible oil and biofuel industry with a number of proprietary and unique JRS products for the global market.

Kalsec (350)

PO Box 50511, Kalamazoo, MI 49005-0511, USA
www.kalsec.com

Kalsec®, the leader in natural oxidation management, provides a wide range of natural antioxidants including Herbalox® XT, a low-flavor, low-aroma antioxidant ideal for oil and other flavor-sensitive applications. This formulation provides you with flexibility to increase the amount of natural antioxidant you use, thus increasing your shelf-life capabilities. Contact Kalsec® at +1 800-323-9320 or www.kalsec.com.

Körting Hannover AG (438)

Badenstedter Str. 56, Hannover 30433, Germany
www.koerting.de

Körting steam jet ejectors operate in virtually every process stage of edible oil production (deodorizing, physical refining, bleaching, drying, extraction, esterification, hydrogenation), as well as in the biodiesel industries, where they play a decisive part in securing high-quality end products. Besides the conventional barometric vacuum systems, Körting supplies alternative systems with minimized water and air pollution and lowest energy consumption, such as ice condensation or systems operating in a closed alkaline circle (ACL).

LCI Corporation (334)

4433 Chesapeake Dr., Charlotte, NC 28216, USA
www.lcicorp.com

LCI Corporation pioneered thin-film evaporation's (TFE's) application for lecithin drying (soy and sunflower seed) with many installations worldwide

including the growing South American market. TFE's short residence time and turbulent film provide low-moisture levels while preserving good color. LCI technologies are also used in glycerin recovery and biodiesel applications.

Leem Filtration (352)

25 Arrow Rd., Ramsey, NJ 07446, USA
www.leemfiltration.com

Leica Microsystems (640)

1600 Leider Ln., Buffalo Grove, IL 60089, USA
www.leica-microsystems.com

Perform live molecular profiling, without sample staining or labeling, using CARS technology only, on the Leica TCS SP5 II Confocal. CARS microscopy provides an imaging modality with molecular specificity for the analysis of compound migration, lipid distribution, or the influence of microstructures on the quality and mouth-feel of food products. In addition to CARS microscopy, the Leica TCS SP5 II can perform traditional confocal fluorescence imaging using UV, visible, and IR laser sources to provide a wide range of complimentary methods for analyzing live cells, tissues, and even small whole animals.

Lipotech Project Engineering Pte. Ltd. (749)

21 Bukit Batok Crescent, #27-75 WCEGA, Towers 658065, Singapore
www.lipotechprojects.com

Lovibond Tintometer/Orbeco-Hellige, Inc. (447)

6456 Parkland Dr., Sarasota, FL 34243, USA
www.orbeco.com

Lovibond Tintometer/Orbeco-Hellige, Inc. supplies innovative color measurement systems for industries where accurate color measurement is important for the quality control of products. The instruments and certified reference materials comply with international test methods and standards such as AOCS, DIN, ASTM, and ISO. Our latest developments include the PFXi spectrophotometer for liquid-color analysis with the ability for Remote Calibration and Maintenance Service via internet (RCMSi).



LUM (356)

3052 Sterling Circle, Boulder, CO 80301, USA
www.lumamericas.com

LUM makes instruments for people who want to directly analyze, characterize, and understand their emulsions/suspensions in their entirety. Whether you want to measure emulsion/suspension stability; calculate shelf life; measure particle-size distributions, creaming and settling rates; differentiate between flocculation, coagulation, coalescence, aggregation, phase separation, sediment packing; and many other dispersion properties; or just want to optimize your current formulations and mixing/homogenization procedure; then please contact us to see for yourself how we can help. LUM—Your Next Step in Dispersion Analysis®.

MAHLE

Industrial Filtration

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MAHLE Industrial Filtration (657)

428 N. Elm, Nowata, OK 64048, USA
www.mahle-industrialfiltration.com

MAHLE Industrial Filtration is known internationally for its superior quality, high efficiency, and value. MAHLE products provide solutions for industrial liquid and gas filtration applications, including food, biofuels, chemicals, petrochemicals, and water. MAHLE Industrial Filtration, with Amafilter, Nowata, and ProGuard brand products, provides a wide range of expertise in highly engineered and custom-designed pressure filter vessels in a variety of materials, which gives us the edge in designing the filter system that meets your exacting demands.

Malaysian Palm Oil Board (552)

3516 International Ct. NW, Washington, DC 20008, USA
www.mpob.gov.my

The Technical Advisory Services office of the Malaysian Palm Oil Board in Washington, D.C., offers customer support and technical advisory services to users and potential users of Malaysian palm and palm-kernel oil products in

the U.S., Canada, and Latin America. The office also acts as a one-stop information center for Malaysian palm and palm-kernel oil products.

Metrohm (648)

6555 Pelican Creek Circle, Riverview, FL 33626, USA
www.metrohmusa.com

Metrohm USA meets all of your ASTM-testing requirements with time- and cost-saving titration and ion chromatography systems, customizable process analyzers, pH/ion meters and electrodes, instruments for voltammetry measurements, oxidative stability testing, and liquid dosing/dispensing. We quickly and easily analyze acid number, water content, sulfate, chloride, and more. Our extensive local sales and service teams as well as four fully functional application labs provide you with the best application support and services.

Mikrolab Aarhus A/S (441)

Axel Kiers Vej 34, Højbjerg, 8270, Denmark
www.mikrolab.dk

The ML Oxipres and Oxigraph compare the resistance to auto-oxidation for oil, fat, food, and flavor. The latest Version 3 of the Paralog software for collecting and handling data will also be introduced and updates will be given at the booth.

Myers Vacuum (458)

1155 Myers Lane, Kittanning, PA 16201, USA
www.myers-vacuum.com

Myers Vacuum is the manufacturer of molecular short-path vacuum distillation equipment for processing heat-sensitive high-molecular-weight materials. These units are sized from laboratory use for process development to pilot production to full production. The use of centrifugal force to produce the film and precise temperature control allows for processing materials not capable with other similar technologies. Other products include vacuum measurement equipment and Celvaseal® vacuum leak sealant.

N. Hunt Moore & Associates (238)

436 E. South St., Suite 101, Collierville, TN 38017-2762, USA
www.nhmoore.com

Our 60+ year old company offers custom-designed preparation, press and solvent extraction plants for all oilseeds. Specialty services include solvent/energy efficiency studies, PSM program design, PHA facilitation, PSM audit, plant layout, and training. Representatives for: Tecnal, B+B Engineering, Steamgard, Laidig and other fine suppliers.

Nonlinear Dynamics (659)

2530 Meridian Pkwy., Durham, NC 27713, USA
www.nonlinear.com

Nonlinear Dynamics develops the Progenesis analysis software for small-molecule discovery research, as well as metabolomics and proteomics, which is designed to generate reliable conclusions that are reproducible across-labs. Our approach has been applied to label-free LC-MS and 2D gel data analysis. The unique analysis approach developed for Progenesis produces results with no missing values, so valid statistical analysis can be performed using the built-in tools. The Progenesis range is platform-independent, and supports all major hardware vendors.

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Novozymes (633)

77 Perry Chapel Church Rd., Franklinton, NC 27525, USA
www.novozymes.com

Novozymes is the world leader in bioinnovation. Together with customers across a broad array of industries, we create tomorrow's industrial biosolutions, improving our customers' businesses and the use of our planet's resources. Read more at www.novozymes.com.



Nu-Chek-Prep, Inc. (440)

PO Box 295, Elysian, MN 56028-0295,
USA
www.nu-chekprep.com

Nu-Chek-Prep prepares highly purified lipids for your research needs. This includes free fatty acids, esters, glycerides, alcohols, acetates, cholesteryl esters, alkylmethane sulfonates, soaps, wax esters, and GC and TLC standards. Purity is >99% via GC FID and TLC analysis.

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Oil-Dri Corporation of America (338)

410 N. Michigan Ave., Suite 400,
Chicago, IL 60611, USA
www.oildri.com

Oil-Dri Corporation of America offers a full spectrum of specialty adsorbents, including Pure-Flo®, Pure-Flo® Supreme, and Perform® bleaching clays for the purification of fats, oils, and oleochemicals. Oil-Dri's Select® products filter out impurities in conjunction with or in place of water-wash treatment. With a full line of innovative and highly effective bleaching products, Oil-Dri delivers product quality, cost effectiveness, and technical support to edible oil and biodiesel producers around the world.

**Oils & Fats International** (348)

Quartz House 20 Clarendon Rd., Red Hill, Surrey, RH1 1QX, UK
www.oilsandfatsinternational.com

The Oils & Fats International (OFI) portfolio is comprised of publications, exhibitions, and websites which together offer unparalleled communications, coverage, and connections. The portfolio is targeted for decision-makers, specifiers, buyers, and buying influencers in the highly diversified and globalized edible oils and fats marketplace. The OFI exhibitions—currently OFI Asia and OFI Middle East—offer face-to-face interaction, education, communication, and business opportunity. *Oils & Fats International* is the flagship publication, generally recognized as the only market-leading publication dedicated to edible oils and fats. It boasts news, biographies,

trading and shipping information, storage and technology round-ups, as well as regular features. Our database is constantly maintained to ensure high-quality circulation data. Other publications include special themed issues such as biofuels. The OFI portfolio offers an unrivaled wealth of expertise and experience, breadth of coverage, and international audience.

Oleotek (551)

835 Rue Mooney Ouest, Thetford Mines, QC G6G 0A5, Canada
www.oleotek.org

Oleotek is an R&D lab whose mission is to offer quality services to businesses in applied research and technical assistance, to elaborate and complete technological projects. Oleotek offers services of the scaling up of processes developed at lab-scale, toll processing, and adaptation of existing technologies in its explosion-proof pilot plant.

Optek-Danulat, Inc. (738)

N118 W18748 Bunsen Dr., Germantown, WI 53022, USA
www.optek.com

Optimize process performance while improving oil yields and quality by continuous inline monitoring with Optek photometric analyzers. Common applications include filtration control, chlorophyll concentration, AOCS color measurements, nickel catalyst monitoring, raw incoming oil, and more. Drastically reduce operating costs by reducing losses and rework. In-line, real-time measurements minimize QA/QC sampling and time-consuming lab analysis. Also, reduce utility usage, water usage, waste-treatment costs, and municipal BOD levels. For more info, visit www.optek.com.

Oxford Instruments America (541)

300 Baker Ave., Suite 150, Concord, MA 01742, USA
www.oxford-instruments.com

Oxford Instruments Magnetic Resonance develops and manufactures cost-effective benchtop analyzers based on nuclear magnetic resonance (NMR) for fast, easy, solvent-free measurement of oil, fat, and moisture. The MQC analyzers are used for determining the oil content of olives,



oilseeds, snack foods, animal feed, and for measuring SFC in chocolate, margarine, and other foods. They are also used to measure spin-finish coatings on fibers, and for various petrochemical and polymer applications.

Pattyn Packing Lines (442)

4-6-8 Hoge Hul, 8000 Brugge, Belgium
www.pattyn.com

Pattyn Packing Lines has more than 30 years of extensive experience in complete bulk semi-liquid packaging lines. We guarantee the very best handling, weigh filling, and packing of your oils and fats into lined boxes, tins, drums, or pails. Our subsidiary office, Pattyn North America, LLC in Wisconsin, offers you local support and services from the project design and project management to the installation and after-sales service.

**Perten Instruments, Inc.** (643)

6444 S. Sixth St., Springfield, IL 62712, USA

www.perten.com/applications/

Perten offers fast, accurate NIR analysis of oilseeds, oils, and co-products for moisture, oil, fatty acids, protein, fiber, and more. On-line instruments integrate into plant control systems. Analysis results are used to automatically or manually adjust binning, milling, extraction, and drying processes 24/7/365. Our at-line systems are simple and versatile. We provide project management, on-site installation, training, and the industry's best after-sales support. Please stop and see our many products, and discuss your needs with our experts.

**Pittcon 2013** (141)

300 Penn Center Blvd., Suite 332, Pittsburgh, PA 15235, USA
www.pittcon.org

Pittcon 2013, the world's largest annual conference and exposition for laboratory science, March 17-21, 2013, Philadelphia, Pennsylvania. Pittcon offers the latest technology and instrumentation from nearly 950 exhibitors from more than 40 countries, a diverse Technical Program of over 2,000 sessions, unique networking opportunities and over 100 Short Courses to enhance your educational experience at Pittcon.

POS Bio-Sciences (439)

118 Veterinary Rd., Saskatoon, SK S7L 3V8, Canada
www.pos.ca



POS Bio-Sciences is an applied research organization with over three decades of experience in process development, analytical services, and toll processing. The company offers eleven laboratories and five large pilot plant processing areas for grams to tons extraction, fractionation, modification, and purification of bio-based materials including algae and yeast-based biomass. Regulatory compliance and quality-assurance measures are: ISO 9001:2008 certification, Health Canada NHP Site License, Health Canada CFIA Site License, cGMP, HACCP, and full traceability systems. The company offers in-house scientific, engineering, technical, operations, materials management, and maintenance staff functions.

Purac (249)

111 Barclay Blvd, Suite 100,
Lincolnshire, IL 60069, USA
www.purac.com

Rotex Global (642)

1230 Knowlton St., Cincinnati, OH
45223, USA
www.rotex.com

For more than 100 years, Rotex has been a pioneer and global leader in the development of screening equipment and technology for the process industries. Rotex engineers and manufactures a full line of leading-edge screening equipment, feeders, conveyors, and automated analyzers serving a global market in such industries as chemical processing, food processing, mineral processing, plastic compounding, and agribusiness.

Rudolph Research Analytical (333)

55 Newburgh Rd., Hackettstown, NJ
07840, USA
www.rudolphresearch.com

Rudolph Research Analytical manufactures two instruments relevant to the edible oil industry. (1) J Series Automatic Refractometer—This instrument has been purchased by edible oil refiners and crushers to replace older manual (Abbe) instruments because the

J Series measures at the high temperatures required without a water bath; is an automatic operation, no operator judgment needed; and can read directly in iodine value. (2) DDM 2911 Density Meter—This instrument is designed to meet ASTM D4052, the main density standard used by both bio- and petrodiesel manufacturers. This instrument offers automatic measurement at the required temperature, VideoView™ system for bubble detection, and network data storage.

Siemens Industry, Inc. (335)

1402 Amber Dr., Johnson City, TN
37601, USA
www.siemens.com

Solazyme, Inc. (734)

225 Gateway Blvd., South San Francisco,
CA 94080, USA
www.solazyme.com

Solazyme is a renewable oil and bio-products company that transforms low-cost plant-based sugars into renewable triglyceride oils. The company's technology allows them to tailor oil profiles, addressing specific customer requirements while offering superior performance characteristics. Solazyme's renewable products can replace or enhance oils derived from the world's three existing sources: petroleum, plants, and animal fats. Initially, Solazyme is focused on commercializing its products into three markets: fuels and chemicals, nutrition, and skin and personal care.

Solex Thermal Science, Inc. (639)

100 3595-114 Ave. SE, Calgary, AB T2Z 3X2, Canada
www.solexthermal.com

Solex Thermal Science specializes in the science of heating, cooling, and drying bulk solids. Solex technology is engineered specifically for drying free flowing bulk solid materials such as oilseeds and grains. This ultra-efficient technology operates with efficiencies of greater than 90%, and can also utilize waste heat as the heat source for pre-heating and conditioning oilseeds and grains, making it one of the most efficient technologies available for oilseed drying. Visit www.solexthermal.com

**SPX Flow Technology** (233)

611 Sugar Creek Rd., Delavan, WI 53115,
USA
www.spxft.com



SPX has gained strong brands and market leadership positions by investing in technology, talent and support services. For decades, food and beverage processors have benefited from our innovations in systems technology, valves, pumps, mixers, homogenizers, emulsification equipment, and heat exchangers from our world-renowned brands, as well as complete processing lines for the margarine, edible fats, dairy, and related food industries. Our portfolio serving the food and beverage market includes APV, Gerstenberg Schröder, and Waukesha Cherry-Burrell.

Stratas Foods LLC—RDI Center (239)

7970 Stage Hills Blvd.,
Bartlett, TN 38133, USA
www.stratasfoods.com

**Surface Chemists of Florida, Inc.** (747)

1303 Park Lane S., Jupiter, FL 33458,
USA
www.surfacechemists.com

SCF, Inc. is a research and development laboratory with over 40 years of experience in product development and problem solving in technologies where surface and polymer chemistry are the basic sciences. In addition to its research and development activity, SCF sells specialty chemicals for a range of applications under the SURTECH trade name. Many of the products are developed or formulated in cooperation with its customers and address their needs specifically and effectively.

Thermo Scientific (751)

5225 Verona Rd., Madison, WI 53711,
USA
www.thermo.com

Thermo Scientific products provide solutions used by producers, suppliers, terminal operators and regulators to comply with ASTM and EPA regulations. Our FT-IR technology is used to provide fast and accurate analyses of biodiesels and biodiesel content in blends with petrodiesels. We also have solutions for the analysis of biodiesel components using NIR, GC and ICP.

Thermphos USA (733)

21 East Front St., Red Bank, NJ 09701, USA
www.thermphos.com

Thermphos is one of the world's largest producer of phosphorus, phosphoric acid, phosphates, phosphonates, and phosphorus derivatives. Customers around the world rely on our high quality products for applications in a variety of markets such as pharmaceuticals, hygiene, industrial and household cleaning, water treatment, and food. Thermphos also produces green polymers for applications such as laundry, autodish, hard surface, oilfield, pulp paper, and other industries. Thermphos is the producer of Dequest products worldwide.

TMC Industries Inc. (142)

1423 Mill Lane, Waconia, MN 55387, USA
www.tmcindustries.com

With over 30 years of distillation experience, TMC Industries is an industry leader in toll distillation using thin film molecular distillation and multi-plate fractionation as an intermediate or final step in the processing of vitamin E, fatty acids, dimer acids, citrus oils, omega 3s, and specialty chemicals. We concentrate, purify, deodorize, separate, decolorization and fractionate nutraceuticals, cosmeceuticals, flavors, fragrances, waxes and oils. 30,000 sq. ft. facility with pilot and production scale processing available. GMP, Kosher and Organic.

**SPONSOR****Verenium—Purifine is now DSM—Purifine PLC** (346)

P.O. Box 1, 2600 MA Delft
The Netherlands
www.dsm.com

Royal DSM N.V. is a global science-based company active in health, nutrition and materials. By connecting its unique competences in Life Sciences and Materials Sciences DSM is driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders. DSM delivers innovative solutions that nourish, protect and improve performance in global markets. DSM's Purifine® PLC a high performance enzyme for oilseed processing. Purifine enzyme increases oil yields and improves efficiency of degumming and refining for oil.

Wacker Chemical Corporation (547)

3301 Sutton Rd., Adrian, MI 49921, USA
www.wacker.com

Wacker is a technology leader in the chemical and semiconductor industries and a worldwide innovation partner to customers in many key global sectors, including defoaming additives for detergents, fabric care, softening and



anti-wrinkling laundry additives, carpet care, hard surface care, food-grade defoamers, and many other medical, industrial and high-tech applications.

Waters Corporation (732)

34 Maple St., Milford, MA 01757, USA
www.waters.com

Waters Corporation, the premium brand in the analytical instruments industry, creates business advantages for laboratory-dependent organizations by delivering practical and sustainable scientific innovation to enable significant advancements in healthcare delivery, environmental management, food safety, and water quality worldwide. Bringing keen understanding and deep experience to those responsible for laboratory infrastructure and performance, Waters helps customers make profound discoveries, optimize laboratory operations, deliver product performance, and ensure regulatory compliance. Pioneering a connected portfolio of separations and analytical science, laboratory informatics, mass spectrometry, as well as thermal analysis, Waters' technology breakthroughs and laboratory solutions provide an enduring platform for customer success.

YMC America (742)

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week's top oils and
fats news stories.



Author/Presenter	Session(s)
------------------	------------

Session Chair Index

Adamy, S.	S&D 3
Ahmad, M.	PHO 2
Alleman, T.	ANA 1
Ashby, R.	BIO-P
Bantchev, G.	IOP 4
Benson, T.	IOP 3
Berg, B.	H&N 2
Bhale, S.	H&N 2
Bhandari, S.	ANA 5
Burton, R.	PRO 5
Byrdwell, C.	ANA 4
Campos, R.	EAT 1.1/FS&FF 1
Chen, B.	LOQ 3.1
Cherian, G.	EAT-P
Chupka, G.	IOP 1, IOP 3.1
Collison, M.	ANA 3
Cooke, B.	EXH 1, PRO 4
Cruywagen, C.	AM 3/PRO 3.1
Dahanayake, M.	S&D 1
Deak, N.	PCP 5
Decker, E.	LOQ 2
Della Porta, R.	ANA 5
Depa, P.	S&D 2, S&D 2.1
Dewettinck, K.	PECIG 1
Durham, H.	H&N 4
Dyer, J.	BIO 3
Eller, F.	ANA-P, PRO-P
Farhang, B.	EAT 5
Garti, N.	EAT 2
Gerde, J.	LOQ 4
Goddard, J.	LOQ 3.1
Hayes, D.	BIO 4/S&D 4
Hettiarachchy, N.	PCP 3
Hicks, G.	EXH 1
Hildebrand, D.	BIO 3.1/H&N 3
Holm, H.C.	PRO 5
Hou, C.	BIO 1, BIO 2
Howell, S.	ANA 1
Hrncirik, K.	LOQ 3
Hurburgh, C.	AM 3/PRO 3.1
Huth, P.	H&N 1
Ibrahim, H.	PCP 2
Jacobsen, C.	LOQ 4.1
Jain, V.	ANA 2
Jeradechachai, T.	LOQ 3.1
Jones, P.	STEROL 1
Ju, L.-K.	BIO 5
Jung, S.	PCP 5
Karaosmanoglu, F.	PRO-P
Kerr, P.	PCP 3
Kickle, B.	EAT 2
Kim, D.	EAT 3
Kobata, G.	AM 1
Koch, K.	AM 2
Kodali, D.	IOP 5
Kumagai, H.	PCP 2
Lay, J.	ANA 4
Li, H.	ANA 5.1/S&D 5
Lin, B.	S&D 4.2
List, G.	EAT 5, EAT-P

Author/Presenter	Session(s)
------------------	------------

Little, D.	PRO 1
Liu, K.	PCP 1
Logan, A.	LOQ-P
MacMahon, S.	ANA 3
McKeon, T.	BIO 3
Metzger, J.O.	IOP 5
Michalski, M.-C.	H&N 3/BIO 3
Moreau, R.	STEROL 1
Moser, J.	LOQ 3
Mulholland, J.	PRO 4
Musselman, B.	ANA 4.1/PCP 4
Nahas, R.	LOQ 4, LOQ 4.1
Nakhasi, D.	EAT 1
Neuman, T.	PRO 3/EXH 2
Nienaber, U.	LOQ 1
Nyachoto, R.	PRO 1
Ogawa, J.	BIO 1
Orthofer, F.	EAT 1
Pan, S.	LOQ 5
Panandiker, R.	S&D 3
Park, K.	H&N 5
Peitz, M.	LOQ 2, LOQ 2.1
Pham, P.	IOP 4
Pioch, D.	IOP 2
Proctor, A.	ANA 2
Pytel, J.	S&D 4.2
Ramsey, P.	AM 1
Reimann, L.	PCP 4/ANA 4.1
Rojas, C.	S&D 4.1/EAT 4
Rousseau, D.	EAT 1.1/FS&FF 1
Rousset, P.	EAT 3
Scheuing, D.	S&D 5/ANA 5.1
Sebree, B.	PHO 1, PHO 3
Shah, N.	PCP 3.1
Smith, G.	S&D 4/BIO 4
Snow, M.	PRO 2
Solaiman, D.	BIO 4/S&D 4, BIO 5
Soriano, N.	IOP-P
Sparks, D.	IOP 2
Stefanski, M.	LOQ 1
Syed, A.	LOQ 2.1
Szekeres, E.	S&D 2, S&D 2.1
Thiyam-Holländer, U.	LOQ 5
Tomas, M.	PHO 1
Van Gerpen, J.	IOP 1, IOP 3.1
Verhé, R.	PECIG 1
Veys, P.	AM 2
Wanasundara, J.	PCP 1
Wang, G.	PHO 2
Wang, H.	PCP 1
Ward, R.	H&N 4, H&N-P
Weerasooriya, U.	S&D 1
Whittinghill, J.	H&N 1
Widlak, N.	EAT 1.1/FS&FF 1
Willits, J.	PRO 2
Wilson, R.	BIO 3
Wint, M.	S&D-P
Wright, A.	EAT 4/S&D 4.1
Wu, J.	PCP 3.1, PCP-P
Wyatt, V.	IOP 3
Xu, X.	PHO 2
Yoon, S.H.	BIO 2

Author/Presenter	Session(s)
------------------	------------

Zhou, S.	LOQ 2
----------	-------

Author/Presenter Index

Abdoshahi, A.	ANA-P
Abe, M.	H&N-P, S&D-P
Abeywardena, M.Y.	H&N 5
Abigor, R.D.	PRO-P
Aboyeji, C.O.	IOP 1
Abu Hassan, H.	IOP 4
AbuMweis, S.	STEROL 1
Acevedo, N.C.	EAT 5
Acosta, E.	ANA 5.1/S&D 5, BIO 4/S&D 4, S&D 2
Acworth, I.N.	ANA 5.1/S&D 5, EXH 1, S&D-P
Adachi, H.	BIO 2
Adamy, S.T.	EAT 4/S&D 4.1, S&D 3
Adeboyejo, F.O.	H&N 5
Agiomyrgianaki, A.	ANA 4
Ahn, K.	PRO 4
Aida, K.	H&N-P
Ajiboye, J.A.	H&N 5
Akao, M.	PCP 2
Aki, T.	BIO 2
Akoh, C.C.	Award, BIO 2, BIO 3, BIO 3.1/H&N 3, BIO 5, EAT 5, ANA-P, BIO-P
Alam, S.	IOP 4, S&D 4.2
Alasti, P.	PRO 3/EXH 2
Alavian, R.	ANA 5
Alday-Lara, P.P.	IOP-P
Aldini, G.	LOQ 4.1
Alfos, C.	IOP 4, IOP 5
Ali, A.	S&D 3
Aliani, M.	PECIG-P
Alkhudair, A.	EAT-P
Allen, K.	EAT-P, LOQ 4
Alligier, M.	H&N 4
Almasarweh, N.	S&D-P
Almeida Gonçalves, M.I.	H&N-P
Al-Qatami, O.	EAT 2
Al-Taher, F.	ANA 2
Aluko, R.	PCP 3
Álvarez-Cerimedo, M.S.	EAT-P
Alvarez-Mitre, F.	EAT-P
Al-Wahaibi, T.	IOP-P, PRO-P
Al-Wahaibi, Y.M.	IOP-P, PRO-P
Amarnath, N.	PRO-P
Ameri, M.	PRO-P
Anantharamaiah, G.M.	H&N 4
Anders, R.M.	PRO 5
Andersen, M.L.	EAT 4/S&D 4.1, LOQ-P
Andersen, M.D.	EAT 5
Ando, A.	BIO 5
Andres, E.	BIO-P
Anese, M.	LOQ 1
Angers, P.	H&N 5, PRO-P
Angkawijaya, A.E.	ANA 5
Anglade, R.	S&D 2
Anjum, A.A.	PCP 5

Author/Presenter	Session(s)
------------------	------------

Anom, E.	EAT-P
Ansari, N.H.	S&D 3
Antoniassi, R.	PRO-P
Applyby, D.	EAT 3
Arab, J.	ANA 5
Arab Tehrani, E.	ANA 4, ANA 4.1/PCP 4, BIO 3.1/H&N 3, LOQ 3.1, PHO 1, PHO 3
Arai, H.	H&N-P
Arijaje, E.	LOQ-P
Armenta, R.E.	AM 2
Arpornpong, N.	S&D 1
Arroteia, K.	BIO-P
Arul, Jo.	H&N 5, PRO-P
Aryee, A.	IOP-P
Aryusuk, K.	ANA 1, ANA-P, H&N-P
Aserin, A.	EAT-P
Ashby, R.D.	BIO 1, IOP 3
Asomaning, J.	PCP 1
Athias, A.	ANA-P
Attaphong, C.	S&D 1
Aubin, A.J.	ANA-P
Augereau, C.	PCP-P
Auras, R.	LOQ 3.1
Austic, G.	PRO 5
Averous, L.	IOP 4
Awada, M.	H&N 5, LOQ 4.1
Awasthi, N.P.	S&D 3
Ayouni, F.	ANA-P
Ayton, J.	ANA 2
Aziz, M.	BIO-P
Aziz, S.	LOQ-P
Azizian, H.	ANA 4, ANA-P
Azizkhani, M.	EAT-P
Börner, M.	PRO 4
Bünger, J.M.	IOP 3.1
Bacha, U.	PCP 5
Back, D.	EAT 3
Baele, P.	PCP 3.1
Baeten, V.	AM 1, AM 2
Bagonluri, M.	ANA 4.1/PCP 4
Bahmaeia, M.	PRO-P
Bahr, J.	IOP 4
Baig, A.	ANA 4.1/PCP 4, IOP 1, IOP 2, PRO 5
Bailey, B.	ANA 5.1/S&D 5, EXH 1, S&D-P
Bakota, E.	LOQ 3
Bal, R.	IOP 2
Baldacci, E.	LOQ 4
Banaszewski, K.	ANA 2
Baney, G.	ANA 4.1/PCP 4
Bangwal, D.	IOP 2
Banjai, P.	S&D-P
Bantchev, G.B.	IOP 5
Baradaran, S.	S&D-P
Baravian, C.	PHO 1
Barbut, S.	ANA 5.1/S&D 5, EAT 3, EAT-P
Barea, B.	BIO-P
Bargiacchi, E.	H&N-P
Baron, C.P.	LOQ 4, PHO 1

Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Barr, D.	LOQ-P	Branco, G.F.	LOQ-P	Charo-Alonso, M.A.	EAT-P	Damascono, Jr., P.C.	PRO-P
Barrera-Arellano, D.	EAT 1, EAT-P, LOQ-P	Brath, H.	H&N 5	Chatterjee, A.	STEROL 1	Damcevski, K.	BIO-P
Barrows, F.	PCP 1	Breeze, M.	ANA-P	Chavadej, S.	S&D-P, BIO-P, S&D 4.2, BIO-P, S&D-P	Dantas, S.G.	IOP-P
Barthel, V.J.	AM 2	Brenna, J.T.	ANA 4	Chávez-Quiroz, K.D.	EAT-P	Danthine, S.	EAT 1.1/FS&FF 1
Bascoul-Colombo, C.	BIO 3.1/H&N 3	Bressler, D.C.	PCP 1	Che Man, Y.	EAT 5	Daraei Garmakhany, A.	LOQ-P
Basheer, S.	PRO 5	Bresson, A.F.M.	LOQ-P	Chen, B.C.	LOQ 5, LOQ-P	Dashtbozorg, S.S.	BIO 4/S&D 4
Batchu, P.K.	EAT-P	Bretillon, L.	ANA-P	Chen, G.	BIO 1	Datta, G.	H&N 4
Baxter, M.	BIO 4/S&D 4	Britton, C.	S&D 1	Chen, L.	IOP 2	Dauguet, S.	PCP-P, PCP-P
Bayés-García, L.	ANA 4	Brockmeyer, C.	PRO 3/EXH 2	Chen, P.	PCP 3	Dayton, C.	PHO 1
Bayrasy, C.	LOQ 2, LOQ 4.1	Brown, A.	BIO 5, BIO-P	Chen, X.	LOQ-P	de Almeida, N.M.	PRO 1
Bazan, N.	H&N 2	Brown, A.	STEROL 1	Chen, Y.	BIO 4/S&D 4	De Baerdemaeker, J.	PRO 4
Bazinet, R.	H&N 2	Brüggemann, DA	LOQ-P	Cheng, M.T.	ANA 4.1/PCP 4	de Caro, P.	IOP 2
Beach, C.M.	LOQ 4	Brundiek, H.B.	BIO 5	Cheong, L.-Z.	PHO 2, BIO-P	De Clercq, N.	EAT 1.1/FS&FF 1
Beardslee, T.A.	BIO 5	Bruneel, C.	H&N-P	Cheung, L.	PCP-P	De Coninck, M.	PRO 4
Beck, C.T.	H&N 2	Budge, S.M.	LOQ 1	Chiew, N.	EAT 3	De Graef, V.	EAT 1.1/FS&FF 1
Begley, T.	ANA 3	Buoso, F.	ANA-P	Chin, M.	BIO 4/S&D 4	De Greyt, W.	PRO 3/EXH 2, PRO 4, PRO-P
Behmer, D.	LOQ 3, ANA 2	Buldo, P.	EAT 3, EAT 5	Chin Ping, T.	BIO 2	de la Peña-Gil, A.	EAT-P
Behr, A.	S&D 2	Bulmer, A.	LOQ 5	Chiou, B.-S.	AM 1	De Martini Soares, F.A.S.	H&N-P
Belhaj, N.	ANA 4.1/PCP 4, PHO 1	Burnett, P.-G.	ANA 4.1/PCP 4, PCP 5	Chisholm, B.	IOP 4, S&D 4.2	de Moura, J.M.L.N.	PCP 5, PCP-P
Belide, S.	BIO 3	Burns, N.A.	BIO 4/S&D 4	Choi, H.-D.	BIO-P	de Roos, A.	PHO 1
Beltrame, M.	BIO-P	Burns, T.J.	S&D 2.1	Choke-arpornchai, T.	S&D-P	De Salvi, D.T.B.	IOP-P
Benning, C.	BIO 3	Burroughs, L.	LOQ 4	Chou, G.	IOP 3.1, PRO 1	DeBonte, L.	EAT 1
Benoit, B.	H&N 5	Burton, R.	PRO 5	Chua, S.-C.	BIO 5	Decker, E.A.	LOQ 5, LOQ 2, LOQ 3.1, LOQ 4.1, EAT-P, LOQ-P, PRO-P
Berdeaux, O.	ANA-P	Burzio, L.	ANA-P	Chuang, L.-T.	H&N 4	Del Rosario, L.	S&D 4.2
Berger, R.	EAT 3	Busby, M.I.	BIO 4/S&D 4	Chumsantea, S.	ANA 1, ANA-P	Delmonte, P.	ANA 4
Berhow, M.A.	LOQ 3	Butnark, S.a	IOP-P	Chung, K.	IOP-P	Delmonte, Pierluigi	ANA 5, ANA-P
Berner, L.	LOQ 5	Buyse, J.	H&N-P	Ciemnolowski, L.	S&D 3	Demir, Nalan	H&N-P
Berton, C.	LOQ-P	Byrd, K.M.	STEROL 1	Ciftci, O.N.	PRO 4	Dempster, T.A.	ANA 4.1/PCP 4
Berton-Carabin, C.	EAT-P	Byrdwell, W.C.	ANA 4	Claro da Silva, R.	EAT 3	Dennis, E.A.	H&N 4
Bevan, S.	BIO-P	C. de Menezes, S.	ANA-P	Clausen, C.A.	PCP-P	Deprez, K.	PRO 4
Bezbaruah, A.	S&D 4.2	Cabaret, S.	ANA-P	Clegg, M.	ANA 4.1/PCP 4	Depypere, F.	EAT 1.1/FS&FF 1
Bhandari, S.D.	ANA 5	Cabello, G.	LOQ 4.1	Cleymand, F.	ANA 4	Deschamps, F.C.	LOQ-P
Bhattacharya, M.	IOP 5	Cabezas, D.M.	PHO 1	Cloutet, E.	IOP 4, IOP 5	DeShazo, G.	IOP 3.1
Biaggio, R.	BIO-P	Cai, S.-S.	ANA-P, ANA 4.1/PCP 4	Cocero, M.	H&N-P	Desobry, S.	LOQ 3.1
Bibus, D.	BIO 3.1/H&N 3	Calderon, J.	PRO 4	Cockerline, K.B.	PCP 3.1	Desorcie, J.	ANA 4.1/PCP 4
Bieber, K.	PHO 3	Calitz, T.	AM 1	Coker, A.	IOP 2	Develter, D.W.G.	BIO 4/S&D 4
Biermann, U.	IOP 5	Callahan II, R.	PRO-P	Cole, G.M.	H&N 2	Devries, A.	S&D 4.2
Bilic, N.	IOP 3	Callejas, N.	PRO 5	Connolly, A.	PCP 2	Dewettinck, K.	EAT 1.1/FS&FF 1, PECIG 1
Bilic, O.	IOP 4	Calligaris, S.	LOQ 1, LOQ-P	Cooke, B.S.	PRO 4	Dhantine, S.	EAT 1.1/FS&FF 1
Biresaw, G.	IOP 5	Callow, N.	BIO 4/S&D 4	Coronella, C.J.	IOP 3.1	Diachenko, G.	ANA 3
Bisht, R.P.S.	IOP 4	Calvet, T.	ANA 4	Coruhli, T.	H&N-P	Diehl, B.W.K.	PHO 1, PHO 2
Bizzo, H.R.	PRO-P	Campo, M.	H&N-P	Coupland, J.N.	EAT 4/S&D 4.1, PECIG 1, LOQ 2.1, EAT-P	Dien, B.	IOP-P
Blackmon, T.	H&N-P	Can Karaca, A.	PCP-P	Coutois, F.	EAT 3	Do, L.D.	S&D 1, EAT 4/S&D 4.1
Blake, A.	EAT-P	Candal, R.J.	EAT 2, EAT-P	Cowan, W.D.	PRO 5, PRO 1	do Rosario Matos, J.	EAT 3
Blanco-Ríos, A.K.	EAT-P	Cappozzo, J.	ANA 2	Cramail, H.	IOP 4, IOP 5	Donnagema, G.K.	PRO-P
Bleibaum, R.N.	LOQ 1	Cardenia, V.	LOQ 4	Craven, R.J.	EAT 1.1/FS&FF 1, EAT 2	Doore, L.	LOQ-P
Block, J.M.	EAT 1, EAT-P, H&N-P, LOQ-P	Carlson, K.	PRO 2	Crawford, E.	ANA 4	Dowd, M.K.	PCP-P, ANA-P
Bo, J.	PRO-P	Carlsson, A.S.	BIO 1	Crutcher, T.	S&D-P	Drapcho, D.	ANA 5
Boeck, H.C.	PRO 3/EXH 2	Carré, P.	PCP-P, PRO-P	Cruywagen, C.W.	AM 1, AM 2	Duan, Wei	BIO-P, PRO 5
Bogusz, B.	ANA 4	Carvalho, F.M.S.	S&D-P	Cuevas-Diarte, M.A.	ANA 4	Duan, J.	H&N-P
Boix, A.	AM 1	Castro, I.A.	LOQ-P	Curi, R.	H&N-P	Duan, Z.	PCP 5, BIO-P
Bondioli, P.	IOP 2	Cerroti, J.P.	EXH 1	Curtis, J.	PRO 4	Duff, K.	IOP 1
Bonnefille, M.	ANA-P	Chai, M.	PRO 5	Cutrim, A.A.	IOP-P	Dunn, R.	IOP 1
Bontemps, D.	LOQ 2	Chakrabarti, P.P.	PRO-P	Düring, K.	ANA 4.1/PCP 4	Durand, E.	BIO-P
Bornscheuer, U.T.	BIO 5, IOP-P	Champagne, A.	ANA 5	Da Pieve, S.	LOQ-P	Durant, Y.	S&D 4.2
Bortolon, J.R.	H&N-P	Chang, A.-N.	LOQ-P	da Silva, J.A.C.	IOP-P, IOP 5	Durham, H.	H&N 2
Botts, J.	EAT 1	Chang, C.	PCP-P	da Silva, R.C.	EAT-P	Durham, H.A.	H&N 4
Box, S.	PCP-P	Chang, T.-S.	IOP-P	Dailey, J.	S&D-P		
Boza, A.	S&D 2	Chanwattanakit, J.	S&D 4.2	Dais, P.	ANA 4		
		Chapman, K.	BIO 3				

Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Dutilleul, P	IOP-P	Furukawa, Y	EAT 2		LOQ-P	Hicks, D	H&N-P
Dyer, J	BIO 3	Furumoto, H	H&N 5	Gronert, K	H&N 2	Hicks, G.E	PRO 4
Ekop, R	IOP 3.1	Marangoni, A.G	PRO 4	Guichardant, M	H&N 5	Hicks, K.B	PCP 1
Elias, R.J	EAT 4/S&D 4.1, LOQ 5, EAT-P, LOQ-P	Gabert, L	BIO 3.1/H&N 3	Guillaume, C	ANA 2	Higgins, K	ANA-P
Eller, F.J	PCP-P	Gachotte, D	BIO-P	Guillemain, C	PCP-P	Higgins, N	EAT 1
Emmel, K	ANA 5	Gadenne, B	IOP 4, IOP 5, PRO-P	Guinard, J.X	ANA 2	Hildebrand, D	PECIG-P, BIO 3
Engler, P.C	H&N-P, LOQ-P	Gagnon, R.E	PCP 3.1	Guiotto, E.N	LOQ-P, PHO 1	Hildebrand, J	S&D 2.1
Engudar, G	H&N-P	Galhardo, F	PHO 1	Guo, Z	BIO-P, BIO-P	Hintze, K	BIO 3.1/H&N 3
Ermacora, A	ANA 3, PRO 4	Gallagher, J.L	IOP-P	Gupta, M	LOQ 3	Hirasaki, G.J	S&D 1
Ersen, E	PCP 3	Gallegos, T	ANA 5	Guschina, I.A	BIO 3.1/H&N 3	Hirata, T	H&N 4, H&N 5, H&N-P
Erukainure, O.L	H&N 5	Gámez-Meza, N	IOP-P, EAT-P	Ha, T.-Y	BIO-P	Hisamoto, M	S&D 2.1
Eskin, N.A.M	PECIG-P	Gandra, K	EAT 1, EAT-P	Haagenson, D	IOP-P	Hissanaga, V.M	H&N-P, LOQ-P
Esmaeilzadeh Kenari, R	EAT-P, LOQ-P	Garber, D.W	H&N 4	Haakensen, M	BIO 5	Hitchman, T	PRO 3/EXH 2
Estevez, L.A	PRO 4, PRO-P	Garcia, J	IOP-P	Haas, M.J	IOP 1, STEROL 1, IOP-P,	Hoeyer, K.F	PRO 2
Eudy, P	PRO 5	Garcia, P	PRO 3/EXH 2	Habe, H	IOP 3	Hoffmann, D	AM 1
Evangelista, R.L	PCP-P	Garcia, R.A	EAT-P, PCP-P	Habi Mat Dian, N.L	BIO 2	Hojilla-Evangelista, M.P	PCP-P
Evitt, A.S	BIO 5	García, H.S	ANA-P	Haddad-khodaparast, M.H	LOQ-P	Holm, H.C	PRO 5, PRO 1
Evranuz, O	PCP-P	García-Llatas, G	PRO 4	Haghighat Kharazi, S	EAT-P	Holmes, W	BIO 4/S&D 4, BIO 5, PRO 4, PRO-P
Fabre, J.F	PCP 5	Garg, M	IOP 2	Hall III, C.A	LOQ 2, LOQ 3.1	Homma, R	EAT-P
Fan, X	PRO 5	Garti, N	EAT-P	Haller, K.J	S&D 4.2	Hondoh, H	EAT 2, EAT 4/S&D 4.1
Fang, F	ANA 4	Gaud, M	PRO-P	Hamaoka, N	BIO 2	Hong, D.P	IOP 4
Fardin-Kia, A.R	ANA 4, ANA 5, ANA-P	Geaghan, J	H&N 4	Hammond, E	IOP-P, IOP 5	Hong, J	IOP 4
Faria-Machado, A.F	PRO-P	Geloen, A	H&N 4	Han, F	PCP 3	Hong, S.I	BIO-P, EAT-P
Farivar, F	ANA 2	Genot, C	LOQ-P, H&N 5, LOQ 2, LOQ 4.1	Hanna, C.B	EAT 2	Hoong, S.S	IOP 4
Farooq, A	AM 2	Gerde, J.A	ANA 4.1/PCP 4, IOP 1, PCP 1, PRO 4, PRO-P	Hanumansetty, S	S&D 3	Horie, K	PCP 2
Farve, M.C	ANA-P	Gertz, C	LOQ 3, ANA 2	Hares Junior, S.J	EAT-P	Horn, A.F	EAT 5, LOQ 5, PCP 5,
Fazary, A.E	ANA 5	Ghazanfar, A	AM 2	Haritos, V	BIO 3, BIO-P	Horn, P	BIO 3
Felcman, J	ANA-P	Ghosh, M	EAT-P, H&N-P	Harris, K	S&D 2	Hosokawa, M	BIO 1, BIO 2, LOQ 5, H&N-P
Fernandez, O	BIO-P	Ghosh, P	PCP 3.1	Hartel, R.W	EAT 3, PECIG-P	Hosomi, R	H&N-P
Fernández Pierna, J.A	AM 2	Ghosh, S	EAT 1.1/FS&FF 1, EAT 2, EAT 4/S&D 4.1	Harwell, J	S&D 1, S&D 4.2	Hou, C.T	BIO 1
Ferrari, C	BIO-P	Gibb, N	BIO-P	Harwood, J.L	PECIG-P, BIO 3.1/H&N 3	Hou, Y	PCP 3
Fine, F	PCP-P, PCP-P, PRO-P	Gidda, S	BIO 3	Hashim, M.A	IOP-P, PRO-P	Hrcirik, K	ANA 3, PRO 4
Firatligil-Durmus, E	PCP-P	Gillett, D	EXH 1	Hatanaka, E	H&N-P	Hsu, T.-P	S&D 1
FitzGerald, R.J	PCP 2	Gioielli, L.A	EAT 3, EAT-P, H&N-P, LOQ-P	Hatanaka, T	BIO 3	Hu, P	LOQ 5
Flood, A.E	S&D 4.2	Giz, H	H&N-P	Hatta, H	PCP 2	Huang, W.-C	H&N 4
Flynn, J.D	ANA 2	Glenn, G.M	AM 1	Hay, W.C	EXH 1	Huck-Iriart, C	EAT-P
Forster, E	H&N 5	Glukh, I.S	PHO 1	Hayes, D.G	BIO 4/S&D 4, PECIG-P	Huidrom, D	LOQ 2.1
Foubert, I	H&N-P, EAT 5, PRO-P	Godard, A	IOP 2	Hayyan, A	IOP-P, PRO-P	Husson, F	BIO-P
Fraeye, I	H&N-P, PRO-P	Goddard, J.M	LOQ 3.1	Hayyan, M	IOP-P, PRO-P	Huynh, L.H	ANA 5
Franco, P.I.B.M	ANA-P	Golfeld, M	S&D 1	Hazimah, A.H	BIO 2	Huynh, T	IOP 5
Frankel, E.N	ANA 2	Goldstein, D	BIO 3.1/H&N 3	He, H	ANA 5	Hwang, H.-S	EAT 3, LOQ 3
Freeman, R	ANA 4.1/PCP 4	Gómez-Pinilla, F	H&N 2	He, J	IOP 4	Iannelli, D.P	ANA 3
Freitas, S.C	PRO-P	Gonzalez-Chavez, M.M	EAT-P	Hegedus, D.D	PCP 3.1	lassonova, D	EAT 1
French, W.T	BIO 4/S&D 4, BIO 5, IOP 2, IOP 3.1, IOP-P, PRO 4, PRO-P	Goossens, S	PRO 1	Heidarimajd, M	ANA-P	Ibiyemi, S.A	IOP 1
Freudenstein, A	PRO 1	Gosh, S	ANA 4	Heil, C	ANA 5	Ibrahim, H.R	PCP 2
Friel, J	LOQ 2.1, PECIG-P	Grady, B.P	ANA 5.1/S&D 5, S&D 2, S&D 4.2	Helquist, P	STEROL 1	Ibrahim, M	IOP-P
Fuchs, B	PHO 2	Graiver, D	IOP 4	Hemmi, H	PCP 2	Idris, Z	IOP 4
Fujii, A	H&N-P	Granvogel, M	ANA 2, ANA 3	Henbest, B	PRO-P	Idziak, S.H.J	EAT-P
Fujimoto, K	H&N-P	Gravelle, A.J	EAT 3, EAT-P	Herman, E	BIO 3	Ihlow, M	PRO 4
Fujimoto, M	H&N-P	Green, A	BIO 3	Hernandez, E	EAT 1	Ikeda, I	H&N-P, H&N-P
Fujiwara, Y	H&N-P	Green, M	IOP-P, IOP 3.1	Hernandez, R	BIO 4/S&D 4, BIO 5, IOP 2, IOP 3.1, PRO 4, IOP-P, PRO-P	Imam, S.H	AM 1
Fukunaga, K	H&N-P	Green, R	PCP 1	Hernowo, E	ANA 5	Imamura, P	BIO-P
Fukuoka, T	BIO 4/S&D 4, IOP 3, S&D-P	Greer, M.S	BIO 1	Herrera, M.L	EAT 2, EAT-P	Imhof, M	H&N-P
Fukuoka, Y	BIO 1	Grewell, D	PCP 1	Hettiarachchy, N	PCP 3, PCP-P	Imura, T	BIO 4/S&D 4, S&D-P
Funayama, A	H&N-P	Grimaldi, R	EAT-P	Heydari, M	ANA-P	Ina, S	PCP 2
Fuqua, M	IOP 4	Grompone, M.A	PRO 5, H&N-P,	Heydinger Galante, J	PRO 1	Ingram, L	IOP-P
				Hibi, M	BIO 1	Inoue, N	H&N-P
				Hickey, C	AM 3/PRO 3.1	Ionescu, M	IOP 3, IOP 4
						Iretski, A	IOP 2

Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Irigaray, B.	PRO 5, H&N-P, LOQ-P	Kang, K.K.	BIO-P	Koch, R.	IOP 5	Lazarowitz, V.	S&D-P
Irwin, A.	PCP 3.1	Kannan, A.	PCP 3	Kodali, D.R.	IOP 5	Le Clef, E.	PRO 3/EXH 2
Ishida, M.	H&N-P	Kanokkarna, P.	S&D-P	Kohno, M.	H&N-P	Lebarbe, T.	IOP 5
Isler, A.	IOP-P	Karami, F.	EAT 3	Kolpa, J.	S&D 4.2	Lebedev, O.I.	PRO 1
Ito, T.	PCP 2	Karaosmanoglu, F.	IOP-P	Kondoh, E.	EAT-P	Lechat, H.	ANA-P
Itsadanont, S.	S&D 4.2	Karimkhani, M.M.	LOQ-P	Konduru, R.	PCP 3	Lechter, A.	PECIG-P
Ivanova, S.	EXH 1	Kasaikina, O.T.	PHO 2	Koohikamali, S.	LOQ-P	Lecomte, J.	LOQ 2, LOQ 4.1, BIO-P, LOQ-P
Iwasaka, H.	BIO 2	Kassner, S.	LOQ 1	Koontz, J.	LOQ 3.1	Lee, B.-S.	PRO-P
Ixtaina, V.Y.	LOQ-P	Kato, M.	H&N-P	Kopsell, D.A.	BIO-P	Lee, C.	BIO-P
Jachmanián, I.	PRO 5, LOQ-P	Kato, S.	PCP 2	Korchowiec, B.	PHO 3	Lee, E.-K.	PRO-P
Jackson, L.	S&D 2	Kato, S.	H&N-P	Kothary, P.	S&D 3	Lee, J.H.	BIO-P
Jacobs, P.	PRO 1	Katsuragi, Y.	EAT-P	Kouba, A.	BIO-P	Lee, K.	ANA 1
Jacobsen, C.	EAT 5, LOQ 2, LOQ 5, PHO 1, PCP 5,	Kaul, S.	IOP 2, IOP 4	Kourist, R.	BIO 5	Lee, KiTeak	BIO-P
Jadhav, P.D.	PCP 5	Kawai, S.	ANA 3	Krahl, J.	IOP 1, IOP 3.1	Lee, M.H.	ANA-P
James, C.	BIO 3	Kawamoto, S.	BIO 2	Kralovec, J.A.	LOQ-P	Lee, S.	ANA 2
Jamshidian, M.	LOQ 3.1	Kawamura, D.	S&D-P	Kramer, J.K.G.	ANA 4, ANA 5, ANA-P	Lee, S.-L.	PCP 5, PRO 4, IOP 1
Jang, D.H.	S&D-P	Keivan, A.	BIO-P	Krauss, R.M.	H&N 1	Lee, W.J.	ANA-P
Janowski, M.	PRO-P	Kellens, M.	PRO 4	Krechmer, J.	ANA 4	Leles, M.I.G.	ANA-P
Jaswir, I.	H&N-P	Keller, K.	PCP 3	Krishnamachari, V.V.	EXH 1	Lemahieu, C.	H&N-P
Javni, I.	IOP 3, IOP 4	Kellersberger, K.A.	ANA 4	Krisnangkura, K.	ANA 1, ANA-P, H&N-P	Lemke, S.	BIO 3.1/H&N 3
Jayasooriya, A.	IOP 4	Kenar, J.A.	IOP 5	Krogh Larsen, M.	EAT 5	Lencki, R.W.	EAT 1.1/FS&FF 1, EAT 2
Jenab, E.	PRO 4	Kerdkaew, P.	BIO-P	Krouti, M.	PCP-P	Lenferink, A.T.M.	LOQ-P
Jeon, H.	BIO-P	Kermasha, S.	BIO-P, LOQ-P	Krugovov, D.A.	PHO 2	Leonard, I.	S&D 4.2
Jeradechachai, T.	LOQ 3.1	Kerr, P.	PCP 3.1	Krull, E.	BIO 3.1/H&N 3	Leonard, W.F.	EAT 5
Jeyashoke, N.	ANA 1, ANA-P	Kesgin, C.	PRO-P	Kubozono, T.	S&D 3	Lercker, G.	LOQ 4
Jianchun, W.	PRO-P	Khalique, A.	PCP 5	Kudo, N.	EAT-P	Lerma, L.	PRO 4, PRO-P
Jiang, Y.R.	LOQ 5	Khanzadeh, F.	ANA-P	Kugel, A.	IOP 4	Li, A.	PCP 3
Jianguo, Y.	PRO-P	Khaothiar, S.	S&D 1, S&D 3	Kuhlmann, J.	ANA 3	Li, D.	ANA 5.1/S&D 5, S&D 4.2
Jimenez, R.J.	BIO 3.1/H&N 3	Khare, A.S.	S&D 3	Kuksis, A.	PECIG-P, ANA-P	Li, H.	EXH 1
Johnson, L.A.	PRO 1, PCP 1, PCP 5, PCP-P,	Khuu, N.	BIO 3	Kumagai, H.	PCP 2	Li, M.	EAT-P, EAT 1.1/FS&FF 1
Johnston, C.	BIO-P	Kieckbusch, T.G.	EAT-P	Kurokawa, T.	S&D 2.1	Li, R.	BIO 3
Johnston, D.B.	PCP 1	Kikkawa, Y.	S&D-P	Kwan, J.	S&D 1	Li, R.F.	S&D 1
Jonas, R.	LOQ 4.1	Kikukawa, H.	BIO 5	Kwon, M.H.	BIO 1	Li, S.	PCP 1
Jones, H.D.T.	ANA 4.1/PCP 4	Kim, B.H.	BIO-P, BIO-P	L.N.de Moura, J.M.	PRO 1	Li, X.	PCP 1
Jones, P.	STEROL 1	Kim, D.H.	S&D 1	Labalette, F.	PRO-P	Liang, J.M.	LOQ 5
Jones, T.	LOQ 4	Kim, H.R.	BIO 1	Lacroux, E.	PCP 5	Lilitchan, S.	ANA 1, ANA-P, H&N-P
Jongpatiwut, S.	IOP-P	Kim, I.-H.	BIO-P, BIO-P, EAT-P	Lager, I.	BIO 1	Lin, J.-T.	ANA 5, ANA-P
Jorge, A.	BIO-P	Kim, J.-S.	IOP-P	Laguette, M.	LOQ 2	Lin, P.	EAT 3
Jorgensen, T.	PRO 2	Kim, M.Y.	BIO-P	Laguette, Mickael	LOQ 4.1, LOQ 2, LOQ-P	Linder, M.	ANA 4, ANA 4.1/PCP 4, BIO 3.1/H&N 3, PHO 1, PHO 3
Joseph, P.	LOQ 4	Kim, M.	PCP 2	Lai, O.M.	EAT-P	Ling, T.C.	LOQ-P
Ju, L.-K.	BIO 4/S&D 4	Kim, S.	EAT 3	Lai, Oi Ming	EAT 5	Link, M.	ANA 4
Ju, Y.-H.	ANA 5, PCP 5, BIO 5	Kim, S.	BIO-P	Lambert, J.D.	EAT 4/S&D 4.1	Lio, J.Y.	PRO-P
Judge, M.P.	H&N 2	Kim, S.	BIO-P	Lamboy, M.	ANA-P, LOQ 1	Liu, D.-H.	PRO 5, BIO-P
Jung, S.	PCP-P, PCP 1, PRO 1	Kim, Y.-W.	IOP-P	Lammi-Keefe, C.J.	H&N 2, H&N 4	Liu, K.	PCP 1
Junqueira, N.T.V.	PRO-P	Kimura, Y.	LOQ-P	Lamsal, B.	PCP 1	Liu, L.	IOP 2
Jurado, L.	EAT 1	Kincaid, P.	S&D 3	Lamsal, B.P.	PCP 1	Liu, L.	EAT 1
Juskelis, R.	ANA 2	King, J.W.	IOP 5, PECIG 1	Landau-Ellis, D.	PECIG-P	Liu, S.	LOQ 3
Juul, B.	EAT 5	Kiran, S.	S&D 2	Landwehr, S.	EXH 1	Liu, S.X.	EAT 3
Kabri, T.H.	LOQ 2	Kirkensgaard, J.J.K.	S&D 3, EAT 3	Langmaid, S.	EAT-P	Liu, W.	PCP 1
Kahn, C.	PHO 1	Kishino, S.	BIO 2	Larsen, C.	BIO-P	Liu, Z.	IOP 4
Kai, S.	H&N-P	Kitamoto, D.	BIO 4/S&D 4, IOP 3, S&D-P	Lassen, S.	PRO 3/EXH 2	Lohateeraparp, P.	S&D-P, S&D 1, S&D 4.2
Kalantari, F.	PRO-P	Kitiyanan, B.	IOP-P	Lattimer, J.	IOP 4	Loison, J.P.	PCP-P
Kalita, H.	S&D 4.2	Kittipongpittaya, K.	LOQ-P	Laurette, F.	H&N 4	Lok, C.	LOQ 1
Kalivas, J.H.	ANA-P	Kiyono, T.	PCP 3	Laurens, L.	ANA 1	Long, K.	EAT 5
Kamara, V.	EAT 2	Kizawa, Y.	H&N-P	Laurens, L.M.L.	ANA 4.1/PCP 4	Long, S.A.	S&D 4.2
Kamogawa, H.	H&N-P	Kleiner, L.	BIO 3	Lauridsen, L.	PRO 2	Lopes, J.D.	EAT-P
Kanda, S.	H&N-P	Klomkow, S.	IOP-P	Laville, M.	H&N 4, BIO 3.1/H&N 3	Lay, J.	ANA 4.1/PCP 4
Kane, P.C.	PHO 3	Knothe, G.	IOP 1				
Kang, H.-C.	IOP-P	Knowlton, S.	BIO 3				
		Knudsen, J.C.	S&D 3, EAT 3				
		Koba, K.	PCP 2				

Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Low, N.H.	PCP-P	McCarthy, A.L.	PCP 2	Moreau, R.A.	PCP 1, STEROL 1	Nie, J.	IOP 5
Lu, F.S.H.	LOQ 5	McCarthy, K.	EAT 2	Moreira, P.	BIO-P	Nielsen, N.S.	PCP 5, EAT 5
Lu, H.F.S.	PHO 1	McCarthy, M.	EAT 2	Moreland, C.	ANA 5	Nielsen, P.M.	PRO 5
Lu, H.	PCP 3	McClements, D.J.	EAT 4/S&D 4.1, ... LOQ 2, LOQ 5, EAT-P, LOQ-P, PRO-P	Morita, T.	BIO 4/S&D 4, S&D-P	Nigg, J.	ANA 5
Lu, S.	BIO 4/S&D 4	McFarland, L.	IOP-P, IOP 3.1	Morita, Y.	S&D 3	Ninomiyama, K.	PCP 2
Luan, X.	BIO-P, PCP 3, PCP 5	McGowen, J.	ANA 1	Mortazavi, S.A.	ANA-P	Nishida, K.	BIO 1
Luchtenberg, R.	LOQ-P	McKelvey, M.M.	H&N 2	Mortensen, K.	S&D 3, EAT 3	Nishiyama, T.	H&N-P
Lv, L.	PRO 5	McKeon, T.A.	BIO 1	Moser, B.R.	IOP-P	Nithitanakul, M.	S&D-P
Ma, C.A.	AM 2	McKinney, D.	LOQ-P	Moskal, W.	BIO-P	Niu, FH	LOQ 5
Ma, J.	S&D 3	McLaren-Howard, J.	PHO 3	Mossoba, M.M.	ANA 4, ANA 5, ... ANA-P	No, Da Som	BIO-P
Ma, R.	PCP 5	McNally, K.K.	BIO 4/S&D 4	Mouloungui, Z.	IOP 2, PCP 5	Nolasco, S.M.	LOQ-P
MacDougall, C.J.	EAT 2	McNamara, R.K.	H&N 2	Mueller, B.	ANA-P	Nolles, R.	EXH 1
MacLean, D.D.	ANA-P	McWhinney, V.	H&N-P, LOQ-P	Muellner, E.	H&N 5	Nordblad, M.	PRO 5
MacMahon, S.	ANA 3	Medina, S.	BIO-P	Mugford, P.G.	LOQ-P	Noriega Rodríguez, J.A.	ANA-P
Madadnooe, F.	EAT 3	Medina-Juárez, L.A.	EAT-P, IOP-P	Mukherjea, R.	BIO 3.1/H&N 3	Norton, G.A.	ANA 1, ANA-P, IOP-P
Madoery, R.	PHO 1	Mehta, Somil	EAT 4/S&D 4.1	Mullen, R.	BIO 3	Nott, K.P.	EXH 1
Maestri, D.	H&N-P	Mekel, M.	PCP 3.1	Müllner, E.	H&N 5	Noviendri, D.	H&N-P
Maglinao, R.	ANA 1, IOP 1, IOP 2	Mello, V.M.	LOQ-P	Munack, A.	IOP 1, IOP 3.1	Nwaeburu, C.	IOP 3.1
Maherani, B.	ANA 4, ANA 4.1/PCP 4, ... BIO 3.1/H&N 3, PHO 1, PHO 3	Mengele, E.A.	PHO 2	Munk, M.B.	EAT 4/S&D 4.1	Nyström, L.	STEROL 1
Mailer, R.J.	ANA 2	Menzel, A.	EAT 3	Mupondwa, E.	PCP 1	O'Haver, J.	S&D-P
Maisonneuve, L.	IOP 4, IOP 5	Merlinski, N.	PRO 5	Murata, G.M.	H&N-P	Obibuzor, J.U.	PRO-P
Maity, J.	S&D 3	Mertens, T.R.	ANA 3	Muriuki, M.	ANA 5	Obode, O.C.	H&N 5
Majima, T.	S&D 3	Messaddeq, Y.	IOP-P	Musselman, B.	ANA 4	O'Brien, N.M.	PCP 2
Maki, K.C.	H&N 1	Metz, J.	BIO 3.1/H&N 3, BIO-P	Mussone, P.	PCP 1	O'Callaghan, Y.C.	PCP 2
Makriyannis, A.	H&N 4	Metzger, J.O.	IOP 5	Muylaert, K.	H&N-P, EAT 5, PRO-P	Ochi, M.	EAT 4/S&D 4.1
Malaki Nik, A.	EAT-P	Meyer, E.	PECIG-P	Myrie, S.B.	STEROL 1	Ogawa, J.	BIO 1, BIO 2, BIO 5
Malakul, P.	S&D-P	Meyers, A.	PCP-P	Nadine, M.	EAT 4/S&D 4.1	Ogura, H.	S&D 2.1
Maleky, F.	EAT 2	Meyland, L.H.	PRO 5	Nagachinta, S.	BIO 5	Oh, D.Y.	H&N 4
Malekzadeh, H.	LOQ-P	Meynier, A.	H&N 5, LOQ 2, LOQ 4.1	Nagao, K.	H&N-P	O'Haver, J.H.	S&D-P
Malik, N.A.	S&D 3	Michalski, M.C.	BIO 3.1/H&N 3, ... H&N 5, LOQ 4.1, H&N 4	Nagendra, P.	IOP 4	Ohinata, K.	PCP 2
Mallo, E.	ANA 4.1/PCP 4	Miele, S.	H&N-P	Nagle, N.	ANA 1	Ohtani, M.	S&D 3
Mallon, C.	ANA 1	Mietkiewska, E.	BIO 1	Nagy, A.	S&D-P	Oi Ming, L.	BIO 2
Manabe, Y.	H&N 4	Mifsud, J.C.	LOQ 1	Nahas, R.	LOQ 2.1	Oikawa, D.	PCP 2
Mancini, R.A.	LOQ 4	Mikkelsen, R.	PRO 2	Nakagawa, K.	H&N-P	Okada, S.	BIO 3, BIO-P
Maneedaeng, A.	S&D 4.2	Milic, J.	IOP 4	Nakajima, M.	EAT 5	Okamoto, T.	S&D 2.1
Mangas, M.B.P.	IOP-P, LOQ-P	Miller, C.A.	S&D 1, EAT 4/S&D 4.1	Nakamura, Y.	PCP 3	Okano, T.	S&D 3
Manion, B.	H&N-P	Mirghani, M.E.S.	IOP-P	Nakashima, K.	IOP-P, LOQ-P	Okinyo-Owiti, D.	ANA 4.1/PCP 4, ... PCP 5, LOQ-P
Manzocco, L.	LOQ 1	Mirhosseini, H.	ANA 2	Nakato, Y.	EAT-P	Okonek, D.	PRO 3/EXH 2
Marangoni, A.G.	ANA 5.1/S&D 5, ... EAT 2, EAT 3, EAT 4/S&D 4.1, ... EAT 5, PECIG 1, EAT-P	Mirzaee Ghazani, S.	PRO 4	Nakhasi, D.	EAT 1	Okoro, L.N.	IOP 3.1
Martinelli, M.	IOP-P	Mishra, V.K.	H&N 4	Nam, P.	ANA 1	Okuda, T.	BIO 5
Martini, S.	EAT 2, EAT 3, EAT-P, ... PRO-P, S&D-P	Mittelbach, M.	IOP 3.1	Nanthirudjanar, T.	H&N 5	Olefsky, J.M.	H&N 4
Martino, K.G.	ANA-P	Miyashita, J.S.	LOQ 5	Narani, A.	ANA 1, IOP 1, IOP 2	Olivares-Carrillo, P.	PRO-P
Maruyama, J.M.	EAT-P	Miyashita, K.	LOQ 5, BIO 1, BIO 2, ... H&N-P	Narayan, R.	IOP 4	Oliveira, E.M.S.	ANA-P
Maskooki, A.	LOQ-P	Miyazawa, T.	H&N-P	Nasir, M.	PCP 5	Oliveira, P.S.	LOQ-P
Masson, E.A.Y.	ANA-P	Mjalli, F.S.	IOP-P, PRO-P	Nayar, G.	H&N 4	Oliveira Filho, W.P.	ANA-P
Masukawa, Y.	ANA 3	Moazzami, A.A.	H&N 5	Ndlela, S.C.	PRO-P	Olivia, C.	ANA 4.1/PCP 4
Mat Sahri, M.	BIO 2	Modalal, M.R.	EAT 3	Neeson, I.	EAT-P	Olson, N.O.	PRO-P
Matsubara, M.	EAT-P	Mohammadi, M.	ANA-P	Negishi, S.	BIO 2	Omamor, I.B.	PRO-P
Matsushita, T.	LOQ-P	Mohammed, S.	S&D 2.1, S&D-P	Nehdi, I.A.	IOP-P	Omoriyekemwen, V.O.	PRO-P
Matthäus, B.	PHO 2, PRO 1	Moharrami, E.	LOQ-P	Nel, Magdel	AM 1	Ono, K.	BIO 2
Mattioni, B.	EAT 1, EAT-P	Mohd Wahid, S.	BIO 2	Neller, C.F.	EAT 4/S&D 4.1	Onofre Sestiaga, A.	ANA-P
Maurer, D.	PCP-P	Mohd Zan, A.	IOP 4	Neuman, T.	PRO 3/EXH 2	O'Rear, E.	S&D 3
Mauricio-Perez, R.	EAT-P	Mohler, C.	S&D 2	Newson, A.	LOQ 1	Orts, W.J.	AM 1
Mayummi, J.	EAT 3	Mölzer, Ch.	LOQ 5	Ng, F.T.T.	PRO 5, ANA 4.1/PCP 4, ... IOP 1, IOP 2	Osawa, K.	ANA 3
Mazzanti, G.	ANA 5.1/S&D 5, ... EAT 1.1/FS&FF 1, EAT 2, EAT-P	Mondala, A.	IOP-P, IOP 3.1	Ngo, H.	IOP 1	Otto, C.	LOQ-P
McCall, D.	S&D-P	Monfre, J.	BIO-P	Nguyen, D.	S&D 1	Otvos, J.	H&N 1
		Moon, K.	ANA 4.1/PCP 4	Nichols, P.D.	H&N 5	Ouyang, X.	PHO 2
		Morales-Rueda, J.A.	EAT-P	Nickerson, M.T.	PCP-P	Owens Merlo, A.	BIO-P
				Nicolii, M.C.	LOQ 1, LOQ-P	Oya, M.	S&D-P
						Ozcelik, B.	H&N-P

Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Özçimen, D.	IOP-P, PRO-P	Pisarenko, L.M.	PHO 2	Rayaprolu, S.	PCP 3	Sakuradani, E.	BIO 1, BIO 5
Pabst, C.	IOP 1, IOP 3.1	Plante, M.A.	S&D-P, ANA 5.1/S&D 5, EXH 1	Razafindralambo, H.	S&D 2	Salar Bashi, D.	LOQ-P, ANA-P
Padhi, S.	IOP-P	Pleifer, S.	H&N 5	Razul, M. S.	EAT 2	Salaria, Fa.	PRO 3/EXH 2
Padilla, S.	EAT 2, EAT 3	Podchong, P.	EAT 1.1/FS&FF 1	Reaney, M.J.T.	ANA 4.1/PCP 4, BIO 5, IOP 5, PCP 5, ANA-P, LOQ-P	Salehi, M.	S&D 1
Pages, X.	IOP-P, PRO-P	Podella, C.	S&D 1	Reddy, N.	LOQ 2.1	Salem, Jr., N.	H&N 2
Pais De Barros, J-P.	ANA-P	Poehlmann, S.	ANA 2, ANA-P	Reddy, Y.V.R.	EAT-P	Salisu, S.	LOQ 1
Pal, M.	H&N-P	Polcarpi, P.B.	H&N-P, LOQ-P	Redick, T.P.	BIO 3	Salleh, H.M.	H&N-P
Palgunachari, M.N.	H&N 4	Pope, G.A.	S&D 1	Refunjol, G.A.	S&D 4.2	Samaniego, W.	ANA 4
Pan, X.	BIO 3	Porwal, J.	IOP 2	Regitano-d'Arce, M.A.B.	LOQ-P	Samanta, S.	IOP 4
Pande, G.	EAT 5	Pour Rahman, H.	EAT 3	Reglero, G.	BIO-P	Sambanthamurthi, R.	H&N 5
Panpipat, W.	BIO-P	Pouria, S.	PHO 3	Reihel, K.	ANA-P	Sammaphet, P.	H&N-P
Panswad, D.	S&D 3	Prado, A.C.P.	H&N-P, LOQ-P	Reilly, L.	ANA 5	Sammynaiken, R.	LOQ-P
Pantalone, V.	BIO-P, PECIG-P	Prasad, A.	LOQ 2	Rennick, K.A.	LOQ 3	Sampaio, K.	PRO-P
Panya, A.	LOQ 2, LOQ-P	Pressler, M.	ANA 5	Revellame, E.	PRO 4, PRO-P	Sams, C.E.	BIO-P
Papp-Szabo, E.	EAT 2	Pretty, B.	PRO 2	Revellame, M.	BIO 5	Sanchez-Becerril, M.	EAT-P
Pardo, M.	PRO 5	Prieto, N.E.	S&D 2.1	Reyes-Suarez, E.	LOQ-P	Sanjaya, S.	BIO 3
Parekh, S.	BIO 1	Prime, D.	LOQ 1	Reznik, G.	LOQ 4	Sant'Anna, L.G.	S&D-P, S&D-P
Park, C.	S&D-P	Proctor, A.	ANA 4.1/PCP 4, EAT-P, LOQ-P, PRO-P	Ribeiro, A.P.B.	EAT-P	Santos, Í.	BIO-P
Park, E.Y.	PCP 3	Pruzanski, W.	ANA-P	Ribeiro, S.J.L.	IOP-P	Sato, K.	ANA 4, EAT 2, EAT 4/ S&D 4.1, PCP 3, PECIG-1, EAT-P
Park, S.	BIO 3	Przybylski, R.	STEROL 1, EAT 5	Ribourg, L.	LOQ 2	Sato, S.	IOP 3
Park, S.Y.	BIO 1	Psaro, R.	IOP 2	Rincon Cardona, J.A.	EAT 2	Sawabe, T.	BIO 1
Park, S.-B.	BIO 2	Pudel, F.	ANA 4.1/PCP 4, PRO 1	Roberts, B. L.	S&D 1	Sayeg, I.J.	S&D-P, S&D-P
Parrish, D.	S&D 2.1	Puerto, M.	S&D 1	Robertson, J.	EAT 1	Sazaki, G.	EAT 2
Parry, W.	S&D 3	Purdie, N.	ANA 5	Rocha, F.N.	IOP-P	Sbihi, H.	IOP-P
Pasztzi, M.D.	ANA 4.1/PCP 4, IOP-P	Purohit, P.	EAT 4/S&D 4.1	Rochín Wong, C.S.	EAT-P	Scaife, M.A.	AM 2
Patel, R.	BIO 1	Pyo, Y.-G.	EAT-P	Rodrigues, H. G.	H&N-P	Scamehorn, J.F.	S&D 4.2, S&D-P
Patsioura, A.	EAT 3	Qiao, W.	S&D 3	Rodrigues, M.I.	LOQ-P	Scanlon, M.	LOQ 2.1
Paulussen, S.	PRO 1	Qiu, L.	PCP 3	Rodrigues Ract, J.N.	H&N-P	Scarafia, L.	ANA-P
Pedersen, A.K.	PRO 5	Qu, W.	S&D 3	Rodriguez, S.	H&N-P	Schaak, J.	IOP 3.1
Peggau, J.	S&D-P	Qui, X.	PCP 3.1	Rodriguez-Estrada, M.T.	LOQ 4	Schaefer, H.	ANA 4
Peglow, M.	PRO 4	Quinsac, A.	PCP-P, PRO-P	Rogalska, E.	PHO 3	Schafer De Martini Soares, F.A.	EAT 3
Peleg, M.	LOQ 1	Quintino, M.S.M.	ANA-P	Rolle, A.J.	LOQ-P	Schaffner, C.	LOQ-P
Pelittle, S.M.	PCP-P	Rønholt, S.	S&D 3, EAT 3	Romani, A.	H&N-P	Schaich, K.	LOQ 5, ANA 4, ANA 5
Peltz, M.	LOQ 4	R. Bürgel, F.	ANA-P	Rongione, J.	PRO 1	Schaper, K.	IOP 1
Peng, Hu	PRO-P	Raatz, S.	BIO 3.1/H&N 3	Ropers, M.H.	LOQ-P	Schasteen, C.	PCP 3.1
Peralta, E.	LOQ 3.1	Rader, J.I.	ANA 4, ANA 5, ANA-P	Rosenkranz, N.	IOP 3.1	Schick, G.	S&D 2.1
Perez, C.	H&N-P	Raduan, E.V.	EAT-P	Rosentrater, K.	AM 1, PCP 3.1	Schieberle, P.	ANA 2, ANA 3, ANA-P
Pérez-Hernández, L.M.	EAT-P	Raftani Amiri, Z.	EAT-P	Rousseau, D.	EAT 1.1/FS&FF 1, EAT 2, EAT 4/S&D 4.1, S&D 3,	Schiermayer, C.	H&N 5
Perez-Martinez, J. D.	EAT-P	Rajasekar, D.	ANA-P	Rudolph, T.	PRO 1	Schiller, J.	PHO 2
Perleberg, J.	IOP-P	Rakitsky, W.	BIO 3.1/H&N 3	Ruiz-Sambblas, C.	ANA 4	Schlepp, E.B.	LOQ 3.1
Petrovic, Z.	IOP 3, IOP 4	Ramadan, M.F.	PHO 2	Rupasinghe, H.P.V.	LOQ-P	Schmidt, L.	IOP 1
Peyronel, F.	EAT-P, EAT 2	Ramanathan, R.	LOQ 4	Rustaiyan, A.	BIO-P	Schneider, C.	ANA-P, LOQ 1
Peyronnet, C.	PCP-P	Ramli, U.	BIO 2	Ryckebosch, E.	EAT 5	Schneider, M.	S&D 2
Pham, P.J.	BIO 4/S&D 4	Ramus, T.	ANA 4.1/PCP 4	Sørensen, A.-D. M.	LOQ 2	Schnyder, A.	S&D 2
Philippaerts, A.	PRO 1	Rangsunvijit, P.	BIO-P	S. Vieira, A.	ANA-P	Schober, C.	PHO 2
Piazza, G. J.	PCP-P	Rangelova, K.	LOQ-P	Sabatini, D.A.	S&D 1, S&D 3, EAT 4/S&D 4.1, S&D 4.2, S&D-P	Schober, S.	IOP 3.1
Picataggio, S.	BIO 5	Rao, J.J.	EAT 4/S&D 4.1	Sabbaghian, E.S.	PRO-P	Schols, B.	PRO 4
Pienkos, P.	ANA 1	Rao, S.A.	PRO-P	Saber, A.H.	EAT-P	Schröder, O.	IOP 1, IOP 3.1
Pierce, B.	PCP 3, PCP 3.1	Rashid, U.	IOP-P	Sadeghi, N.	S&D 1	Schuetz, B.	ANA 4
Meirelles, A.	PRO-P	Rashidian, M.	EAT 3	Safafar, H.	ANA 5, IOP-P	Schuman, T.	IOP 4
Piggott, C.O.	PCP 2	Rasmussen, O.	EXH 1	Sagi, A. R.	S&D 1	Schumann, B.	EXH 1
Pinchak, Y.	PRO 5	Ratanaalert, D.	S&D-P	Sagidullin, A.I.	EXH 1	Schwalbach, T.	PRO 3/EXH 2
Pineau, G.	H&N 4, BIO 3.1/H&N 3	Ratanapariyanuch, K.	BIO 5	Sahin Yesilcubuk, N.	BIO-P	Schweiger, E.	ANA-P
Pink, D.A.	EAT 2, EAT-P	Raudsepp, P.	LOQ-P	Sakai, H.	S&D-P	Seaman, R.D.	IOP 2
Pinkston, J.D.	ANA 3	Rausch, K.	PCP 1	Sakai, S.	H&N 4, H&N-P	Sedman, J.	ANA 4
Pino Bovey, F.J.	ANA-P	Ravasio, N.	IOP 2	Sakaki, K.	IOP 3	Seetharaman, K.	H&N-P
Pinpiti, A.	S&D-P	Ravetti, L.	ANA 2	Sakai, S.	H&N 4, H&N-P	Sein, A.	PHO 1
Pinto, E.R.P.	IOP-P	Ravichandran, M.	PCP-P	Sakoh, M.	H&N-P	Sekosan, G.	ANA-P
Piofczyk, T.	PRO 4	Ray, K.	BIO 1			Sels, B.	PRO 1, PRO 1
Piombo, G.	BIO-P					Sen Gupta, S.	EAT-P
Piravi Vanak, Z.	ANA 5, IOP-P						

Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Senanayake, S.P.J.N.	LOQ 1	Skeene, D.	H&N-P, LOQ-P	Subieta, A.	PRO 3/EXH 2	Tie-ying, Z.	EAT-P
Sewald, M.	LOQ 1	Skhariya, R.	PRO 1	Suekuni, To.	S&D 3	Tokle, T.	EAT-P
Shabani, A.	ANA-P	Smallwood, C.J.	BIO-P	Sugano, M.	PCP 2	Tomás, M.C.	LOQ-P, PHO 1
Shabanikakroodi, G.	BIO-P	Smith, G.	BIO 4/S&D 4	Sugawara, T.	H&N 4, H&N 5, H&N-P	Tongwa, P.	S&D-P
Shabanikakroodi, S.	BIO-P	Smith, P.	EAT 3	Sugiura, Y.	LOQ-P	Toro-Vazquez, J.F.	EAT-P
Shaddel, R.	LOQ-P, ANA-P	Smits, W.	PHO 1	Suhail Warsi, Z.	AM 2	Torres, C.	BIO-P
Shah, N.	PCP 3.1	Snyder, C.L.	PECIG-P	Sukegawa, Y.	LOQ-P	Townsend, C.	S&D 2
Shah, U.	ANA 4, LOQ-P	Soares, F.A.S.D.M.	EAT-P	Sullivan, J.C.	LOQ 1	Tres, A.	ANA 4, LOQ-P
Sharav, O.	LOQ-P	Sobering, D.	AM 2	Suman, S.P.	LOQ 4	Tressel, R.-P.	ANA 4.1/PCP 4
Sharko, P.T.	ANA 5.1/S&D 5, S&D 4.2	Sodagari, M.	BIO 4/S&D 4	Sun, S.	PRO 4	Tromp, M.	PRO 1
Shekuro, J.	ANA 1	Soe, J.B.	PRO 2	Sundram, K.	H&N 5	Trumbo, P.R.	H&N 1
Shen, J.	PCP 5, IOP 5	Solaiman, D.K.Y.	BIO 1, BIO 4/S&D 4, IOP 3, BIO-P	Suzuki, N.	ANA 3	Truong, C.-T.	BIO 5
Shiau, B.	S&D-P, S&D 1	Solairaj, S.	S&D 1	Sweet, D.	PRO 2	Tsai, P.-J.	H&N 4
Shibasaki-Kitakawa, N.	IOP-P, LOQ-P	Somasundaran, P.	BIO 4/S&D 4, EAT 4/S&D 4.1	Syed, A.	LOQ 2.1	Tsigie, Y.A.	BIO 5
Shigyo, E.	S&D-P	Somboonpanyakul, P.	H&N-P	Tabatabaee Amid, B.	ANA 2	Tsudoku, T.	H&N-P, H&N-P
Shim, Y.Y.	BIO 5, ANA-P	Song, Y.	LOQ 3.1	Tabee, E.	LOQ-P	Tuan Ismail, T.N.M.	IOP 4
Shima, J.	BIO 5	Sonwai, S.	EAT 1.1/FS&FF 1	Tachibana, N.	H&N-P	Tucker, C.J.	S&D 2
Shimano, M.Y.H.	LOQ-P	Sorenson, A.-D.	LOQ 2.1	Tague, T.	ANA 5.1/S&D 5	Tulbek, M.C.	LOQ 3.1
Shimizu, S.	BIO 1, BIO 2, BIO 5	Soriano, N.	IOP 1, IOP 2	Taher, M.	H&N-P	Tulk, B.	PCP 3.1
Shin, H.Y.	S&D-P	Soriano, Jr., N.U.	ANA 1	Taheri, M.	ANA-P	Tumbleson, M.	PCP 1
Shindo, H.	S&D 2.1	Sosinska, E.	STEROL 1	Takamura, Y.	H&N-P	Tumen, I.	PCP-P
Shiota, M.	LOQ 5	Soto-Valdez, H.	LOQ 3.1	Takaoka, H.	S&D 2.1	Turan, D.	BIO-P
Shiro, H.	ANA 3	Soulage, C.O.	H&N 4, H&N 5	Takeshima, K.	PCP 2	Turner, S.	PRO 1
Shoaei, E.	PRO-P	Sparks, D.	BIO 5, BIO-P	Takumi, M.	H&N-P	Turon, F.	IOP 4
Shoemaker, C.	ANA 2, ANA 4.1/PCP 4, ANA-P	Speight, M.O.	PHO 3	Tamaru, S.	PCP 2	Tyagi, M.R.	IOP 4
Shokoo Saremi, E.	LOQ-P	Spicer, P.	EAT 3	Tan, C.P.	IOP-P, LOQ-P, EAT 5	Tyburczy, C.	ANA 4, ANA 5, ANA-P
Shollenberger, D.	ANA 4.1/PCP 4	Spraul, M.	ANA 4	Tan, C.Y.	EAT 3	Uehara, H.	BIO 2
Shou, S.	PCP 2	Srimingkwanchai, C.	IOP-P	Tan, Y.	H&N 5	Ueno, S.	ANA 4, EAT 2, EAT 4/S&D 4.1
Shufan, Y.	EAT-P	Srinivas, K.	IOP 5	Tanaka, K.	PCP 2	Ueno, Y.	PCP 2
Shulga, S.M.	PHO 1	Srinivasan, G.	PCP 1	Tanaka, R.	LOQ-P	Uhlir, A.	LOQ 4
Shurer, A.	ANA 1	Stahl, S.	PCP 3	Tanaka, T.	H&N-P	Uijen, H.M.W.J.C.	PHO 1
Sidisky, L.	ANA 4.1/PCP 4	Stenerson, K.	ANA 4.1/PCP 4	Tang, S.	ANA-P	Ullah, A.	PCP 3.1
Siloto, R.M.P.	BIO 3	Stier, R.	LOQ 3	Tao, C.	LOQ 1	Ulven, C.	IOP 4
Silva, R.C.	EAT-P	Stolp, L.	IOP 5	Teel, J.A.	PCP-P	Umair, R.	AM 2
Silva-Valenzuela, M.G.	S&D-P	Stone, A.K.	PCP-P	Teichert, S.	BIO 2	Unnadkat, N.	LOQ 5, LOQ-P
Simpson, B.	IOP-P	Stortz, T.	EAT 3	Temelli, F.	PRO 4	Vaca-Medina, G.	PCP 5
Singh, H.	BIO 3.1/H&N 3, LOQ 2	Strahan, G.	IOP 1, IOP 3	Thakurm, M.	AM 3/PRO 3.1	Valenzuela, M.G.S.	IOP-P
Singh, M.	EAT 3	Strayer, D.	PRO 2	Thanonkaew, A.	EAT-P, PRO-P	Valenzuela-Díaz, F.R.	IOP-P, S&D-P, S&D-P
Singh, R.P.	S&D 3	Strohmeier, K.	IOP 3.1	Theiner, E.	S&D 4.2	Van Aelst, J.	PRO 1
Singh, S.	BIO 3	Stuut, P.	BIO 4/S&D 4	Thepratrom, N.	H&N-P	van de Voort, F.R.	ANA 4
Singh, V.	IOP-P, PCP 1	Stymne, S.	BIO 1, BIO 3	Thiebaud-Roux, S.	IOP 2	van de Vyver, Fr.	AM 2
Sinha, P.	PRO-P	Su, N.W.	ANA-P	Thiyam-Holländer, U.	LOQ 2.1, LOQ 5, PECIG-P	van der Veer, G.	ANA 4
Skall Nielsen, N.	PHO 1	Suarez, P.A.Z.	IOP-P, LOQ-P	Thomas, C.	S&D 1	Van Gerpen, J.	IOP 1
				Tian, F.	LOQ 3.1		

Antitrust Policy

The American Oil Chemists' Society (the "Society") intends to strictly comply with the antitrust laws of the United States, all state governments, and any other relevant governing authority (the "Antitrust Laws"), and in furtherance of this intention, proclaims the following Antitrust Policy:

- I. The Society shall not be used in a manner which violates the Antitrust Laws, and members of the Society, in their capacity as representatives of the Society, shall not tolerate, encourage or participate in any activity which could reasonably be expected to result in a violation of the Antitrust Laws.
- II. This policy shall apply to all membership, board, committee and other meetings of the Society, and all events attended by individual members of the Society in their capacity as representatives of the Society.
- III. The Society recognizes that the Antitrust Laws make

certain activities between industry participants unlawful, and the Society expressly prohibits participation in such activities at any event which the Society holds or sponsors, or by any member of the Society at any event in which such member participates as a representative of the Society. Such prohibited activities include the following:

- A. Non-competition, territorial division, or operationally restrictive agreements;
- B. Boycotting, blacklisting, or unfavorable reporting; or
- C. Discussion of these and other prohibited matters, including the following:
 - i. Price, price fixing, price calculation, or price changes;
 - ii. Costs;
 - iii. Terms or conditions of sales;
 - iv. Quote decisions;
 - v. Discounts;

- vi. Product or service offerings; or
- vii. Production or sales volume, capacity or plans.

IV. In the course of any event in which activities or discussion threatens to border on a prohibited matter, any member, officer, director, employee or representative of the Society present at such event in such capacity shall request that the activity or discussion be terminated immediately, and if such termination does not immediately occur, such person shall seek recordation of the problem if appropriate, shall cease all participation in the event, and shall report the matter to the Society at the earliest possible opportunity.

V. A copy of this Antitrust Policy shall be given at least annually to each officer, director, member, representative, or employee of the Society, or any other party participating in the Society, and the Antitrust Policy shall be readily available at all membership meetings.



Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Van Hecke, R.	PRO 4	Wang, T.	PCP 5, ANA 4.1, PCP 4, IOP 1, IOP 5, PCP 1, PRO 1, PRO 4, IOP-P, PRO-P	Wongkeo, P.	BIO-P	Yonemoto, T.	IOP-P, LOQ-P
van Ruth, S.M.	ANA 4, LOQ-P	Wang, X.	PHO 1	Wongyai, S.	EAT-P, PRO-P	Yoo, S.-H.	IOP-P
Van Tendeloo, G.	PRO 1, PRO 1	Wang, Y.	IOP 5, LOQ-P	Wood, C.	BIO 3	Yook, J.-S.	IOP-P
Vandamme, D.	PRO-P	Wang, Y.	PCP 3, PCP 5, BIO-P	Wood, D.F.	AM 1	Yoon, B.-T.	IOP-P
Vanselous, H.	IOP 1	Wang, Z.	ANA 5.1/S&D 5	Wood, J.T.	H&N 4	Yoon, S.H.	BIO 2
Vaughn, S.F.	LOQ 3	Ward, R.	BIO 3.1/H&N 3, H&N 4	Woodley, J.M.	PRO 5	Yoon, S.W.	BIO-P, EAT-P
Vazquez, L.	BIO-P, BIO 3	Warnakulasuriya, S.N.	LOQ-P	Wright, A.J.	BIO 3.1/H&N 3, EAT-P, PECIG-P	Yoshida, M.	H&N-P
Vedrenne, E.	IOP 2	Warren, M.	PECIG-P	Wright, J.	ANA-P	Yoshimura, T.	PCP 2
Verbeek, C.J.R.	PCP 3.1	Warren, M.M.	EAT 3	Wrutniak-Cabello, C.	LOQ 4.1	Yuan-rong, J.	EAT-P
Verbeek, J.	AM 1	Watanabe, C.	ANA 4.1/PCP 4	Wu, J.	BIO 4/S&D 4, PCP 3.1, PCP 5	Yucel, S.	PRO-P
Verstringe, S.	EAT 1.1/FS&FF 1	Watanabe, N.	H&N-P	Wyatt, V.T.	IOP 3	Yucel, U.	EAT-P
Vestergaard, H.	PRO 2	Watterman, M.R.	Sterol 1	Xie, J.	LOQ 5	Yuliana, M.	PCP 5
Veys, P.	AM 1, AM 2	Van Hoed, V.	PRO-P	Xie, S.	EAT-P	Yun, T.	PCP 3
Vicini, J.	ANA-P	Verhe, R.	PRO-P	Xu, J.	PCP 3	Yunus, R.	IOP-P
Vidal, H.	H&N 4, BIO 3.1/H&N 3	Waterman, M.R.	STEROL 1	Xu, X.	PHO 2, BIO-P	Yuzawa, T.	ANA 4.1/PCP 4
Vieira, T.M.F.S.	LOQ-P	Weerasooriya, U.	S&D 1	Xu, Y.	PRO 5	Zaccheria, F.	IOP 2
Vieitez, I.	PRO 5, H&N-P, LOQ-P	Wei, C.	BIO-P, PCP 5	Yacoub, K.	S&D 4.2	Zainab, I.	BIO 2
Vijayendran, B.	IOP 5	Welch, J.	ANA 5	Yamamoto, D.	H&N-P	Zapata, W.	EXH 1
Villeneuve, P.	LOQ 2, LOQ 4.1, BIO-P, LOQ-P	Wen, L.	EAT 3	Yamane, T.	PCP 2	Zarrouk, H.	IOP-P
Vinhoza, M.	ANA-P	Wen, Z.	IOP 1, PRO-P	Yamashita, E.	H&N-P	Zerkowski, J.A.	BIO 1, BIO 4/S&D 4
Visentin, A.	H&N-P	Weselake, R.J.	BIO 1, BIO 3, PECIG-P	Yamauchi-Sato, Y.	BIO 2	Zetzl, A.K.	ANA 5.1/S&D 5
Vitrac, O.	EAT 3	West, D.R.	BIO-P	Yang, G.	BIO 5	Zhang, G.	BIO 5
Volek, J.S.	H&N 1	West, T.	ANA-P	Zhang, G.	PRO 5	Zhang, H.	EAT-P
von Fehren, T.	PRO 3/EXH 2	Westphal, G.A.	IOP 3.1	Zhang, H.	EAT-P	Zhang, X.	PCP 3
Voronov, A.	S&D 4.2	White, M.	IOP 2	Zhang, X.	PCP 3	Zhang, Y.Q.	LOQ 5
Vors, C.	H&N 4, BIO 3.1/H&N 3	Wiesenborn, D.	IOP-P	Zhao, H.	ANA 1	Zhao, H.	ANA 1
Vortmeier, G.	PHO 2	Wiest, O.	STEROL 1	Zhao, T.T.	BIO-P, EAT-P	Zhao, T.T.	BIO-P, EAT-P
Wagh, A.	S&D-P	Wijesundera, C.	H&N 5	Zhao, Y.Y.	PRO 4	Zhao, Y.Y.	PRO 4
Wagner, C.	IOP 3.1	Wiking, L.	EAT 3, EAT 5	Zhao, Y.X.	PCP 3	Zheng, Z.	S&D 3
Wagner, K.-H.	H&N 5, LOQ 5	Wilkes, R.	BIO 3.1/H&N 3, EAT 1	Zhong, H.	EAT-P	Zhong, H.	EAT-P
Walbridge, M.	BIO 5	Willard, S.	BIO-P	Zhou, A.	BIO 3.1/H&N 3, H&N 4	Zhou, A.	BIO 3.1/H&N 3, H&N 4
Wallner, M.	LOQ 5	Williams, C.	BIO-P	Zhou, L.	ANA-P	Zhou, L.	ANA-P
Walsh, D.	EXH 1	Williams, M.	AM 3/PRO 3.1	Zhou, X.-R.	BIO 3, BIO-P	Zhou, X.-R.	BIO 3, BIO-P
Walsh, M.	S&D-P	Williams, R.	EXH 1	Zhou, Y.	ANA-P	Zhou, Y.	ANA-P
Walsh, T.	BIO 3.1/H&N 3, BIO-P	Williams, T.G.	AM 1	Zhu, H.	ANA 4.1/PCP 4, ANA-P	Zhu, H.	ANA 4.1/PCP 4, ANA-P
Wan, X.	IOP 3, IOP 4	Williamson, D.	EXH 1	Ziaee, K.	LOQ-P	Ziaee, K.	LOQ-P
Wanasundara, J.	PCP 1, PCP 3.1	Willits, J.	PRO 4	Ziaullah, .	LOQ-P	Ziaullah, .	LOQ-P
Wang, C.	PCP 5	Winkler-Moser, J.K.	EAT 3, LOQ 3	Zlatanovic, A.	IOP 4	Zlatanovic, A.	IOP 4
Wang, C.-Y.	BIO 5	Withana-Gamage, T.S.	PCP 3.1	Zope, D.	H&N 5	Zope, D.	H&N 5
Wang, F.C.	ANA 5.1/S&D 5, EAT-P	Wong, B.C.	EAT 4/S&D 4.1	Zwijnenburg, A.	IOP 2	Zwijnenburg, A.	IOP 2
Wang, R.	IOP 4						
Wang, S.	ANA 2, ANA 4.1/PCP 4, ANA-P						

INDEX TO ADVERTISERS

	Ad Page	Booth Number	Booth Description on Page		Ad Page	Booth Number	Booth Description on Page
Anderson International Corp.	Cover 2, 2	332	72	Crown Iron Works Company	13	451	74
AOCS Foundation	23, 33			DSM Purifine	Insert	346	80
AOCS <i>inform</i>		80		French Oil Mill Machinery Company	8	539	75
AOCS Meetings	59, 69, Cover 3			John Wiley & Sons		17	
AOCS Membership	31, 37, 40–41, 47, 61			Körting Hannover AG	4	438	76
AOCS Press	27, 51			Oil-Dri Corporation of America	25	338	78
AOCS Technical	16, 43, 53			Sharplex Filters (India) Pvt., Ltd.		73	
BASF Corporation	Cover 4	638	73	Stratas Foods LLC–RDI Center	6	239	79
Battelle	1	343	73	Surface Chemists of Florida	45	747	79
Bühler, Inc.	15	735	73	Thermphos USA	29	733	80
Carlson Consulting Engineers, LLC	35	340	73	TMC Industries	20–21	142	80



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