You asked for it… AOCS is delivering!

☑ Expanded
☑ Accommodating
☑ Dynamic

See page 7 for the new schedule!

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

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- Anderson Expeller® Shafts
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- Manually Operated Choke
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Contact us today to learn more about how this unique oilseed processing machinery can benefit your current or future requirements.

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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

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.
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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
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- Trans Fatty Acid by GC
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TECH@STRATASFOODS.COM

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- Certified Edible Fat & Oil Pilot Plant

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**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.

**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

## Schedule of Events

<table>
<thead>
<tr>
<th>Sunday, April 29</th>
<th>Monday, April 30</th>
<th>Tuesday, May 1</th>
<th>Wednesday, May 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00–11:45 am</td>
<td>9:00–11:45 am</td>
<td>7:00–7:55 am</td>
<td>7:00–7:55 am</td>
</tr>
<tr>
<td>Division Leadership Meetings</td>
<td>7:00–8:55 am Committee Meetings</td>
<td>Committee Meetings</td>
<td>Committee Meetings</td>
</tr>
<tr>
<td>12:00–1:30 pm</td>
<td>12:00–1:55 pm</td>
<td>12:30–1:55 pm</td>
<td>12:00–1:55 pm</td>
</tr>
<tr>
<td>Business Meeting/Luncheon</td>
<td>Business Meeting/Luncheon with Keynote Address</td>
<td>Committee Meetings and Division/Section Luncheons</td>
<td>Committee Meetings and Division/Section Luncheons</td>
</tr>
<tr>
<td>5:30–7:00 pm • Opening Mixer</td>
<td>5:00–6:30 • Expo Networking Reception</td>
<td>6:00–7:30 • Expo Networking Reception</td>
<td>1:55–5:00 pm Division Programming</td>
</tr>
<tr>
<td>1:00–5:00 pm Division and Committee Meetings</td>
<td>1:55–5:00 pm Division Programming</td>
<td>3:20–4:00 pm • Beverage Break in Expo Hall</td>
<td>Division Programming</td>
</tr>
<tr>
<td>5:30–6:30 • Poster Session—Authors Present</td>
<td>6:30–7:30 • Poster Session—Authors Present</td>
<td>7:30–9:30 • Division Dinners</td>
<td>Division Programming</td>
</tr>
</tbody>
</table>
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.

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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! AOC Annual Business Meeting/Luncheon
Monday, April 30, 12:00–1:00 pm  |  Grand Ballroom
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.

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  |  Sponsored by
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.

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.

Media Partners

Biofuels International  |  F+L Asia  |  inform  |  Soyatech

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United Soybean Board

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**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.

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**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.
AOCS Pavilion

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
- 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: purifi necpl

The login and password are not case-sensitive.

Sponsored by:

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General Information

Name Badges

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
- 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

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email: sales@crowniron.com

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<th>Soya Proteins</th>
<th>CO2 Extraction</th>
<th>Pilot Plant</th>
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<tr>
<td>CROWN IRON WORKS COMPANY</td>
<td>2500 West County Road C</td>
<td>Roseville, MN 55113</td>
<td>USA</td>
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</tbody>
</table>
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.
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
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Long Beach, California, USA
Tel: +1 562-491-1234
Fax: +1 562-432-1972

Hilton Long Beach &
Executive Meeting Center
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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.
Long Beach, California, USA
(next to Rock Bottom Brewery)
Email: store2896@theupsstore.com
Tel: +1 562-491-0449
Fax: +1 562-624-1122
Monday-Friday 8:30 am–6:30 pm
Saturday 9:00 am–5:00 pm
Closed
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 admission 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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buhler.minneapolis@buhlergroup.com, www.buhlergroup.com

Innovations for a better world.
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.
European Journal of Lipid Science and Technology

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- Chemistry
- Physical Chemistry

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- Lipids in Science
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- Biotechnology
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Visit us at Booth 549!
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.

<table>
<thead>
<tr>
<th>Division</th>
<th>Roundtable</th>
<th>Networking Event(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>Monday, April 30 5:00–6:00 pm Room 202C</td>
<td>Luncheon: Tuesday, May 1 12:30–2:00 pm • Hyatt, Shoreline B Speaker: Glenn Kobata and Patricia Ramsey, California Food and Agriculture, USA The Importance of Rice to California Agriculture</td>
</tr>
<tr>
<td>ANA</td>
<td>Monday, April 30 5:00–6:00 pm Room 201A</td>
<td>Dinner: Tuesday, May 1 7:30–9:30 pm • Hyatt, Regency D Speaker: Wm. Craig Byrdwell, US Department of Agriculture, USA Lessons Learned from Mass Spectrometry of Lipids</td>
</tr>
<tr>
<td>BIO</td>
<td>Tuesday, May 1 12:30–1:30 pm Hyatt, Harbor C</td>
<td>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 Japanese Paradox, Longevity and Soybean</td>
</tr>
<tr>
<td>EAT</td>
<td>Tuesday, May 1 12:30–1:30 pm Hyatt, Seaview C</td>
<td>Dinner: Monday, April 30 7:30–9:30 pm • Hyatt, Regency EF Speaker: To be announced</td>
</tr>
<tr>
<td>FS&amp;FF</td>
<td>No events scheduled</td>
<td>No events scheduled</td>
</tr>
<tr>
<td>H&amp;N</td>
<td>Tuesday, May 1 12:45–1:45 pm, Room 103B</td>
<td>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 Japanese Paradox, Longevity and Soybean</td>
</tr>
<tr>
<td>IOP</td>
<td>Monday, April 30 5:00–6:00 pm Room 202AB</td>
<td>Luncheon: Tuesday, May 1 12:30–2:00 pm • Hyatt, Regency B Speaker: Dan Ellig, Principal Engineer, uop–a Honeywell Company, USA Renewable Jet Fuel</td>
</tr>
<tr>
<td>LOQ</td>
<td>Monday, April 30 5:15–5:45 pm Room 101B</td>
<td>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 The Efficacy of Compounds with Different Polarities as Antioxidants in Emulsions with Omega-3 Lipids</td>
</tr>
<tr>
<td>PHO</td>
<td>Tuesday, May 1 12:45–1:45 pm Room 103A</td>
<td>Dinner: Monday, April 30 7:30–9:30 pm • Hyatt, Regency EF Speaker: To be announced</td>
</tr>
<tr>
<td>PRO</td>
<td>Monday, April 30 7:30–8:30 am Hyatt, Shoreline A</td>
<td>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 Issues and Policies Affecting the Edible Fats and Oils Industry</td>
</tr>
<tr>
<td>PCP</td>
<td>Tuesday, May 1 12:30–1:30 pm Room 203C</td>
<td>Dinner: Tuesday, May 1 7:30–9:30 pm • Hyatt, Regency C Speaker: Elaine Krul, Science Fellow &amp; Lead, Nutrition Discovery, Solae, USA Soy: The Other High Quality Protein</td>
</tr>
<tr>
<td>S&amp;D</td>
<td>Monday, April 30 5:00–6:00 pm Room 104A</td>
<td>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 Reierson, Rhodia Inc., USA “Super Phos” Esters: The Key to Higher Performance Products</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Section</th>
<th>Leadership Team Meeting</th>
<th>Networking Event(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>Wednesday, May 2 • 8:30–9:30 am</td>
<td></td>
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<tr>
<td></td>
<td>Hyatt, Harbor C</td>
<td></td>
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<tr>
<td>Canadian</td>
<td>Monday, April 30 • 11:00 am–12:00 pm</td>
<td>Luncheon: Tuesday, May 1 • 12:30–2:00 pm • Hyatt, Regency C</td>
</tr>
<tr>
<td></td>
<td>Hyatt, Harbor AB</td>
<td></td>
</tr>
<tr>
<td>European</td>
<td>Monday, April 30 • 9:00–10:00 am</td>
<td>Breakfast: Monday, April 30 • 7:30–9:00 am • Hyatt, Regency C</td>
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<tr>
<td></td>
<td>Hyatt, Regency C</td>
<td></td>
</tr>
<tr>
<td>Latin American</td>
<td></td>
<td>Breakfast: Tuesday, May 1 • 7:00–8:30 am • Hyatt, Regency C</td>
</tr>
<tr>
<td>USA</td>
<td></td>
<td>Luncheon: Tuesday, May 1 • 12:30–2:00 pm • Hyatt, Seaview B</td>
</tr>
</tbody>
</table>

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

Thank you!

The consistent quality of the AOCS Annual Meeting program would not be possible without the dedicated efforts of our many volunteer session chairs and presenters.

We would like to recognize all of you for your selfless contributions to AOCS and the fats, oils and related industries that we serve.
TOLL DISTILLATION

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.

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Reclaim expensive production heat transfer fluids.
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No capital expenditures/don’t wait for expansion
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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.

Come in and visit our Booth #142
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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Pilot Development CMS-15’s

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.
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.

Support the AOCS Influencing Innovation Campaign today!
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 McClaugherthy—Maker’s Mark gift basket
- McEpro 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 shirt, boxed golf balls
- Tourism 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. 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.
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**
Casmir 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.

- AkzoNobel
- American Cleaning Institute (ACI)
- Archer Daniels Midland Company
- Archer Daniels Midland Foundation
- Bunge North America
- Cargill, Inc.
- Stephen S. and Lucy D. Chang
- Manuchehr (Manny) Eijadi International Food Science Centre
- A/S International Lecithin & 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.

**Stephan S. Chang**
Gary R. List, consultant, retired US Department of Agriculture, USA
- Awards Plenary, Tuesday, Grand Ballroom

**George Schroepfer Medal**
Michael H. Waterman, Vanderbilt University, USA
- S1ENK1, Tuesday, Room 101A

**AOCS Young Scientist Research**
Richard R. 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
- BUJ 3, Tuesday, Room 104B
Marya Aziz, McGill University, Canada
- BUJ 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
- PHO 4, Wednesday, Room 203AB

**Surfactants and Detergents**

**Samuel Rosen Memorial**
Robert L. Reierson, 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**
Marc Le Lieu, 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**
Binh Tran Chinh, University of Massachusetts-Amherst, USA
- LOQ 5, Wednesday, Room 101B

**Honored Students**
Kolibe Ahn, Kansas State University, USA [Manuchehr Eijadi Award]
- PRO 4, Wednesday, Room 203AB
Seong-Chae Chua, Aarhus University, Denmark
- BUJ 3, Wednesday, Room 104B
Anna Friisenfeldt Horn, Technical University of Denmark, Denmark
- EAT 5, Wednesday, Room 102BC
Ehsan Jenab, University of Alberta, Canada
- PHO 4, Wednesday, Room 203AB
Behnoush Maherani, Institut National Polytechnique de Lorraine-Nancy, France
- PHO 3, Tuesday, Room 103A
AOCs Award Winners

103rd AOCs Annual Meeting & Expo | AnnualMeeting.acoc.org

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
BAA 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 Kaufstien Award]
H&M 4, Wednesday, Room 103BC

Ralph Potts Memorial Fellowship
Chodcharoik Atta, 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 Lakes 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. Petruccelli, 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 C

Phospholipid Distinguished Paper
Gut Flora Metabolism of Phosphatidylcholine Promotes Cardiovascular Disease (Nature 472: 57-63)
PHO Dinner, Monday, Hyatt, Regency C

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’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.

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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 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 *NANOVATION: 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.

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).

**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.

**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, 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).

**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.

**Sponsored by:**

---

**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).

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).
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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., 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).
**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.

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.*

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**Gary R. List**

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 over 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.*

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**Michael R. Waterman**

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**

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-Fi 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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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
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 Filder, 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.

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.
**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 Feedstuffs (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. Orts2, S.H. Imam1, B.-S. Chiou1, G.M. Glenn2, T.G. Williams3, and D. Hoffmann4, 1USDA, ARS, WRRC, USA, 2USDA, ARS, SJVASC, USA.

3:40  Microstructure of Starch as a Biodegradable Polymer. D.F. Wood1, W.J. Orts2, S.H. Imam1, B.-S. Chiou1, G.M. Glenn2, T.G. Williams3, and D. Hoffmann4, 1USDA, ARS, WRRC, USA, 2USDA, ARS, SJVASC, USA.

4:00  Detection of Processed Animal By-products in Feedstuffs 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.

**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. Nam3, 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. Krisnangkura3, 1King Mongkut’s University of Technology Thonburi, Thailand, 2Mahidol University, Thailand.

2:40  The Production of Biodiesel from Yellow Mustard Emulsion. S. Tabatabaei 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. Laurens2, P. Pienkos1, J. Shekiro1, and J. McGowen1, 1National Renewable Energy Laboratory, USA, 2Arizona State University, 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
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.

\[ \text{Monday Afternoon} \mid \text{Oral Presentations} \]

\[ \text{April 29-May 2, 2012} \mid \text{Long Beach, California, USA} \]

\[ \text{4:40} \]

102BC

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

1:55

Introduction.

2:00

Microbial Oxygenases as Catalysts for Fine Chemical Synthesis. J. Ogawa¹, M. Hibi², K. Yokozeki³, and S. Shimizu⁴, ⁵, 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 Polyols from Soybean Oil. C. T. Hou and K. Ray, NCAUR, ARS, USDA, USA.

2:40


3:00

Biocatalystic Synthesis of Chiral Diuretics for APIs (active pharmaceutical ingredients) Synthesis. R. Patel¹ and S. Parekh¹, ¹SLRP Associates, USA, ²Unimark Remedies, Ltd., India.

3:20

Identification of a Novel Arabidopsis thaliana Phospholipid A. G. Chen¹, M.S. Greer¹, I. Lager², J.L. Yilmaz³, E. Mietkiewska¹, A.S. Carlsson¹, S. Stymne², 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, WRR, USA.

4:00

Production and Conversion of Functional Carotenoids by Bacteria. M. Hosokawa¹, K. Nishida², T. Savabe³, K. Miyashita⁴, and C.T. Hou⁵, ¹Hokkaido University, Japan, ²USDA, ARS, NCAUR, USA.

4:20

Optimization of Environmental Conditions for Production of a Novel Cold-active Lipase from Pichia lynderdii Y-7723. C.Y. Park¹, M.H. Kwon¹, C.T. Hou¹, and H.R. Kim⁴, 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. Sukrandini¹, Y. Fukuoka¹, S. Shimizu¹, ², and J. Ogawa¹, ²Kyoto University, Japan, ³Kyoto Gakuen University, Japan.

3:00

Specialty Canola Oil Containing 80% Oleic Acid and its Functionality in Food Formulation. D. Jassonova¹, L. DeBonte¹, and L. Liu², 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-Arellano³, and J.M. Block⁴, 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


4:20

Changing the Microstructure of a High Saturated Shortening using Power Ultrasound. Y. Ye and S. Martini, Utah State University, USA.

\[ \text{EAT 1.1/FS&FF 1: Confectionery Fats, Cocoa Butter, and Related Topics on Crystallization} \]

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. Sonwai², and D. Rousseaus³, 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 Crystalization and Microstructure in Oil-Continuous Systems. S. Ghosh¹ and D. Rousseau³, ¹University of Saskatchewan, Canada, ²Ryerson University, Canada.

3:00

Influence of Cocoa Butter Diacylglycerol on the Isothermal Crystallization of Cocoa Butter. N. De Clercq¹, S. Danthine², and K. Dewettinck³, ¹Ghent University, Belgium, ²Université Gembloux Liege, Belgium.

3:20

Influence of Monopalmitin on the Crystallization Behaviour of Palm Oil. S. Verstrege¹, S. Danthine², F. Depypere², V. De Graef³, and K. Dewettinck³, ¹Ghent University, Belgium, ²Université de Liege, Belgium.

3:40

Characterization by Rheo-NMR and Modeling of a Crystallizing Triglyceride Mixture. M. Li and G. Mazzant, Dalhousie University, Canada.

4:00

Rheo-NMR Study of the Structural Consequences of Shear Variation during the Crystallization of Milk Fat. G. Mazzanti¹, ²Dalhousie University Canada, ³Institute for Research in Materials, Canada.

\[ \text{FS&FF 1/EAT 1.1: Confectionery Fats, Cocoa Butter, and Related Topics on Crystallization} \]

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

102A

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

\[ \text{EXH 1: Technology Showcase} \]

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


2:30

Analytical Methods for Controlling and Optimizing Purifie PLC Degumming at Plant Scale. D. Walsh, Veenem Corporation, USA.
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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.


4.40 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. Knotts, 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 Glucose 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. Magliniao, and N. Soriano, Montana State University-Northern Bio-Energy Center, USA.

4.00 Esterification and Transesterification of Glycerides of Fatty Acid Methyl Esters with Highly Active Diphenylammonium Salts. H. Ngo, H. Vanselous, G. Strahan, and M. Haas, USDA, ARS, ERRC, USA.


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.
Linder, Nancy-Université, LiBio, France, Nancy-Université, France, Nancy-Université, LPPFA, France.


3:00 Synergy in the use of Phospholipases for the Degumming of Vegetable Oils. C. Dayton and F. Galhardo, Bunge Global Innovation, USA.


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.


PRO 1: New Technology
Chairs: D. Little, Süd-Chemie Inc., USA; and R. Hyachoto, California Oils Corp., USA

203AB
1:55 Introduction.
2:00 Innovation: An Instrumental Initiative in Palm Processing. R. Skhariya, Mespro Heavy Engineering Ltd., India.

2:20 Integrating Enzyme-assisted Aqueous Extraction Processing in the Dry-grind Ethanol Plants. J.M. L.N.de Moura, N.M. de Almeida, L. Yao, S. Jung, T. Wang, and L. Johnson, Iowa State University, USA, Universidade Federal da Paraíba, Brazil.

2:40 Emulsification-free Degumming of Oil. G. Chou, Sunho Biodiesel Corporation, Taiwan.


4:00 Mitigation of 3-MCPD and 6 Esters in Refined Palm Oils. F. Pudel, B. Matthäus, A. Freudentstein, and T. Rudolph, Pilot Pflanzenöltecnologie Magdeburg e.V., Germany, Max-Rubner-Institute, Germany.

4:20 In situ Destruction of MCDP and Glycidyl Esters During Triglyceride Production. J. Rongione and J. Heydinger Galante, Stepan Company, USA.

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. Arpornpong, D.A. Sabatinii, and S. Khadhiar, International Postgraduate Programs in Environmental Management, Chulalongkorn University, Thailand, Schools of Civil Engineering and Environmental Science, University of Oklahoma, USA, Dept. of Environmental Engineering, Chulalongkorn University, Thailand.

3:20 An Application of the Hydrophilic-Lipophilic Difference Concept in Surfactant Formulations for Enhanced Oil Recovery. P. Lohateerapar, B. Shiau, and J. Harwell, Chemical, Biological and Materials Engineering, University of Oklahoma, USA, Newbrough 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 BioCatalyticus Corporation, USA.

4:00 Optimizing the Formulation of Vegetable Oil Reverse-Micelle-Microemulsion Biofuel at Low Temperature Using Mixed Surfactant Systems. C. Attaghong, Ralph Potts Memorial Fellowship Award Winner, L. Do, and D. Sabatini, University of Oklahoma, USA.

4:20 Enhanced Oil Recovery in Oil-Wet Reservoirs with High Permeability Contrast. R. Feng, A. Raju Sagi, M. Puerto, G. J. Hirasaki, C. A. Miller, M. Salehi, C. Thomas, and J. Kwan, Rice University, USA, TIOBCO, USA, KinderMorgan, 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. Liu, W. Liu, K. Rausch, M. Tumbleson, and V. Singh, University of Illinois at Urbana-Champaign, 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 Microgalol Protein Isolation from Nannochloropsis spp. Defatted Biomass. J.A. Gerde, L. Yao, S. Jung, B. Lamsal, L.A. Johnson, and T. Wang, Dept. of Food Science and Human Nutrition Iowa State University, USA, Center for Crops Utilization Research Iowa State University, USA.


3:40 Sustainability of Lignocellulosic and Lipid Biofuel Technologies and Feedstocks. E. Mupondwa, X. Li, and J. Wanasundara, Bioprocess 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.


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.
How do you benefit from being an AOCS member?

The value of AOCS is a pretty simple equation for me: AOCS has given me an excellent conduit for keeping up with technologies and people throughout my career, and involvement in AOCS committees and activities has allowed me to grow as an individual, and to have a lot of fun in working with a lot of interesting and talented folks.

—MICHAEL F. COX
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”AOCS has provided me international exposure in lipid research, and without the Society, I would never have achieved my goals no matter how hard I worked. AOCS is like an extended family to me. I can connect up and rely on my fellow members, be they the young or the famous; together we move the boundary of lipid research further.”

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Helen Zmachinski
Tuesday Morning

AM 2: Agricultural Microscopy II
Chairs: K. Koch, Northern Crops Institute, USA; and P. Veyes, EURL Animal Proteins, Belgium

202C
7:55 Introduction.
8:00 Review of International Standards for Olive Oil. R.J. Maier, Australian Oils Research, Australia.
8:20 Evaluation of Chemical and Sensory Testing Methods for Commercial Olive Oils in California. S. Wang1, R. Maier2, J.D. Flynn2, J. Ayton2, S. Lee3, C. Shoemaker4, and J.X. Guinard3, 1UC Davis Olive Center, University of California, Davis, USA, 2Canadian Grains Council, Winnipeg, Canada, 3University of Saskatchewan, Canada, 4University of Florida, USA.
8:40 Identifying Authentic and Quality Olive Oils using Analytical Instrumentation Based on Sensory Attributes. J. Cappozzo, K. Bangasewski, F. Al-Taher, and R. Juskelis, Institute for Food Safety & Health, University of California, Davis, 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. Gertz2 and D. Behmer3, 2Official Institute of Chemical Analyses, Germany, 3Bruker Optik GmbH, Germany.
9:40 Characterization of Key Aroma Compounds in Styrian Pumpkin Seed Oil Using the Molecular Sensory Science Concept. M. Granvogl1, S. Poeltlmann1, and P. Schieberle1,2, 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. Tabatabae Amid, and F. Farivar, University Putra Malaysia, Malaysia.

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. Maier, Australian Oils Research, Australia.
8:20 Evaluation of Chemical and Sensory Testing Methods for Commercial Olive Oils in California. S. Wang1, R. Maier2, J.D. Flynn2, J. Ayton2, S. Lee3, C. Shoemaker4, and J.X. Guinard3, 1UC Davis Olive Center, University of California, Davis, USA, 2Canadian Grains Council, Winnipeg, Canada, 3University of Saskatchewan, Canada, 4University of Florida, USA.
8:40 Identifying Authentic and Quality Olive Oils using Analytical Instrumentation Based on Sensory Attributes. J. Cappozzo, K. Bangasewski, F. Al-Taher, and R. Juskelis, Institute for Food Safety & Health, University of California, Davis, 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. Gertz2 and D. Behmer3, 2Official Institute of Chemical Analyses, Germany, 3Bruker Optik GmbH, Germany.
9:40 Characterization of Key Aroma Compounds in Styrian Pumpkin Seed Oil Using the Molecular Sensory Science Concept. M. Granvogl1, S. Poeltlmann1, and P. Schieberle1,2, 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. Tabatabae 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.
8:40 Synthesis and Characterization of Acylated Amino Acids: Potential Bioactive Oleochemicals. I. Zainab1, S. Mohd Wahid1, and A. Hassan Hazimah1, 1Malaysian Palm Oil Board, Malaysia, 2Universiti Kebangsaan Malaysia, Malaysia.
9:00 Directed Reesterification of Palm Oil. N.L. Habi Mat Dian1, M. Mat Sahn1, T. Chin Ping1, and L. Oi Ming1, 1Malaysian Palm Oil Board, Malaysia, 2Universiti Putra Malaysia, UPM Serdang, Malaysia.
9:40 High Oxidative Stability of Functional Lipids during Fermentation of Marine Products. N. Hamako1,2, M. Hosokawa1, and K. Miyashita3, 1Faculty of Fisheries Sciences, Hokkaido University, Japan, 2Food Processing Research Center, 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. Akoh4, 1University of Georgia, USA.
10:40 Novel Enzyme in Lactic Acid Bacteria for Fatty Acid Conversion to Hydroxy Fatty Acids. S. Kishino1,2, S.-B. Park1, K. Yokozeki1, S. Shimizu1,2, and J. Ogawa1, 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 Bioenvironmental 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 Stereochimical 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. Ghosh1,2, and D. Rousseau3, 1Ryerson University, Toronto, Ontario, Canada, 2University of Saskatchewan, Canada, 3Dalhousie University, Canada.
8:40 Models for Tailoring Fat Products under the Nanocrystalline Paradigm. G. Mazzanti1,2, 1Dalhousie University, Canada, 2Institute for Research in Materials, Canada.
9:00 Polymorphic Behavior of Sunflower Oil Stearins. J.A. Rincon Cardona1, Y. Ye1, S. Martini1, R.J. Candal1,3, and M.L. Herrera4, 1University of San Martin, School of Science and Technology, Argentina, 2University of Utah, 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. Hondo1,2, G. Sazaki1, K. Sato1, Y. Furukawa1,2.
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and S. Ueno, 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. Marangoni3, K. McCarthy4, and M. McCarthy5, University of Guelph, Canada, 3University of California, Davis, USA.

10:00 Effect of High Intensity Ultrasound on Crystal Morphology, Melting Profile, and Viscoelastic Properties of a Low-saturated Shortening. T. 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, Dalhouse University, Canada.

10:40 Oils in Nanoscale Confinement. D.A. Pink1,2, E. Papp-Szabo1, M. S. Razul1, C.J. MacDougall1, F. Peyronel3, A.G. Marangoni1, and C.B. Hanna*, 4Physics Department, St. Francis Xavier University, Canada, 5Physics Department, University of Guelph, Canada, 4Guelph-Waterloo Center for Graduate Work in Physics, Dept. of Food Science, University of Guelph, Canada, 6Dept. of Physics, Boise State University, USA.

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

*This session is sponsored in part by Mead Johnson Nutrition.*

**Chairs:** S. Bhaile, 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. Judge1, C.T. Beck2, H. Durham3, and M.M. McKelvey4, 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.

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**IOP 2: Catalysis**

*This session is sponsored in part by Dow AgroSciences.*

**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. Zwijnenburg2, 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. Ng, Dept. of Chemical Engineering, University of Waterloo, Canada.

9:00 Alkene Metathesis of Camelina FAME with Supercritical Ethylene. R. Maglino, A. Naran, and N. Soriano, Montana State University-Northern Bio-Energy Center, USA.


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 Siccation of Unsaturated Fatty Acids. A. Godard1,2, S. Thiebaud-Roux1,2, P. de Caro2, E. Vedrenne2, and Z. Mouloungui1, 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. Zacheria1, P. Bondioli1, R. Psaro1, and N. Ravasio1, 1National Research Council ISTM, Italy, 2Stazione Sperimentale Oli e Grassi, Italy.

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**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, Ridget 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. McClements3, and E.A. Decker4, 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. Sorensen1, C. Bayrasy2, M. Laguerre2, J. Lecomte2, P. Villeaneuve2, and C. Jacobsen, 1Technical University of Denmark, National Food Institute, Denmark, 2UMR IATE, CIRAD, France.

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**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.


**PCP 2: Bioactive Food Proteins and Peptides I — Fundamentals**

*This session sponsored in part by Solae LLC.*

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

103C

- **7:55** Introduction.
- **8:00** D-Amino Acid as a Novel Biofactor. T. Yoshimura, S. Kato, T. Ito, and H. Hemmi, Nagoya University, Nagoya, Aich, 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.

10:40 Nutritional Aspect of β-glucopentin and its Physiological Function - Interaction with Body-fat Reducing Potential of CLA. K. Koba¹, D. Oikawa², S. Tamaru¹, K. Tanaka¹, and M. Sugano¹, 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. Connolly¹,¹, C.O. Piggott¹,¹, and R.J. FitzGerald¹,¹, ¹University College Cork, Ireland, ²University of Limerick, Ireland.

10:20 Bone Growth Promoting Bioactive Peptides (Bonepep) from Egg Yolk. M. Kim¹, K. Takeshima²,¹, 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.

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**PRO 2: Plant Operations and Safety**

**Chair:** 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 Crystallization and Processing Technology, Denmark.
- **10:00** Ammonia Refrigeration, Safe Design and Operation. D. Sweet, Synergy, USA.

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Stearidonic Acid Content in Modified Soybean Oil was Enhanced Using Molecular Genetic Strategies to Investigate the Triacylglycerol

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

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

104A


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


10:40 Biodegradable Fabric Softener Active with Improved Dispersibility. D. Parrish,3 M. Hisamoto,1 J. Hildebrand,3 and G. Schick,2 Evonik 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.


2:40 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. Granvog1 and P. Schieberle1,2,2, Technical 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.


BIO 3: Biotechnical Advances in Oilseed Improvement

Chairs: R. Wilson, Oilsseeds & Bioscience Consulting, USA; J. Dyer, USDA, ARS, USA; and T. McKeon, USDA, ARS, WRRC, 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. Hildebrand3, 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. Park1,2, S. Gidda1, N. Khud1, P. Horn1, C. James2, K. Chapman1, R. Mullen2, 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 Photosynthetic Energy from Starch to Oil in Arabidopsis and Rutabaga. S. Sanjaya1,2 and C. Benning1,2,1Dept. 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. Akoh3,1The 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. Zhou1,2, S. Okada1, C. Wood1, S. Belide1, V. Haritos1, S. Singh1, S. Styman1, 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
The following group of elite professionals ultimately supports the future of AOCS by growing its membership. The President’s Club embraces AOCS members who lead the Society in their membership recruitment efforts through the Member-Get-a-Member campaign. Since 1973, AOCS has annually recognized the outstanding recruitment abilities of its members.

**Brought in 4**
Robert Pierceall

**Brought in 2**
Casimir Akoh
Eddie Baldwin
Seyed Kazem
Hosseini
Behnam Keshavarz
Oi-Ming Lai
Rodney Mailer
Gianfranco Mazzanti
Karen Schach
Tong Wang

**Brought in 1**
Svajus Asadauskas
John E. Bauer
Fabio R Borges
David Brooks
Rachel Burton
Boyce Butler
Milan Certik
Brian Cooke
Eric Decker
Andrew Douglass
Erich Dumelin
James Dyck
Nancy Falk
Josh Flook
Allan Green
Mark Gulden
Michael Haas
Clifford Hall
Richard Hendricks
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David Hoffsten
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Stephanie Jung
James Kenar
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Thomas Miller
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**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. Raatz1,2 and D. Bibus1,2, USDA, 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. Michalski1,2, C. Vors1,2, G. Pineau1,2, L. Gabert1, M. Laville1,2, and H. Vidal1,2, INRA US1235, Lyon University, CarMeN Laboratory, France, 3INSEERM U1060, Lyon University, CarMeN Laboratory, France, 4CRNH-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, 2Department of Basic Sciences and Environment, Faculty of Life Sciences, University of Copenhagen, Denmark.

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. Metz1, 1Dow AgroSciences LLC, USA, 2DSM, USA.

4:40 | Tailored Triacylglyceride Oils for Food Industry Applications. W. Rakitsky, Solazyme, Inc., USA.

5:00 | Stearidonic Acid (SDA) Effects on EPA Levels in Red Blood Cells. E. Krul1, R. Mukherjea2, S. Lemke2, D. Goldstein2, and R. Wilkes2, 1Monosanto Company, USA, 2Solae, LLC, USA.


**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 Sao Paulo, Brazil.

2:20 | Effect of Ripening Time on Partial Coalescence and Butter Grain Aggregation in Cream. P. Buldo and L. Wikling, Aarhus University, Denmark.

2:40 | Effect of Storage Temperature and—On Crystal Inversion Mechanisms and Water Droplet Size Distribution in Table Spreads. S. Ranholt1, 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. Warren1, and P. Spicer1, 1Dept. of Food Science, University of Wisconsin, USA, 2Procter&Gamble, USA.


4:00 | Thixotropic Ethylcellulose Oolegels. T. Storzitz and A.G. Marangoni, University of Guelph, Canada.

4:20 | Stability of Wax/oil Self-assembled Materials as Affected by Oil and Waxes Composition. N. Chiew, C.Y. Tan, S. Padilla, and S. Martin*, Utah State University, USA.

4:40 | Development of a Response Surface to Tailor the Mechanical Properties of Edible Oil Oolegels 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. Madadnoee1,2, M.R. Modalal1,2, F. Karami1, H. Pour Rahman1, and M. Rashidian1, 1Agri-Industry & Veg. Oil of Mahidasht,(A.I.V.M.Co.), Iran, 2Shirin Vatan Cookies Company, Iran, 3Ariculture and Food Industry Faculty of Research and Science, Azad University, Iran.


**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. Woltson and D. Tavor, (ACI/NBB Glycerine Innovation Award Winners), Sami Shamoorn 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.


3:20 | Lactate Polyols based on Glycerol. M. Ionescu, X. Wan, J. 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. Coronella 1, C. Wagner1, and G. DeShazo2, 1University of Nevada, Reno, USA, 2Novata Technology, Inc., USA.

4:20 | Effect of Aerobic and Anaerobic Conditions on Bioculure Production by
**Activated Sludge via Sugar Fermentation.** A. Mondala, R. Hernandez, T. French, M. Green, and L. McFarland, Mississippi State University, USA.

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

**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**, G.A. Westphal2, N. Rosenkranz3, D. Schröder1, J. Schaak1, C. Pabst1, and J. Krahl1, 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.

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

**Comparative Calorimetric and Viscometric Study of Biodiesel from Various Feedstocks and Blends with Petro-diesel.** L.N. Okoro1, R. Eskop1, and C. Nwaeburu2, 1American University of Nigeria, Nigeria, 2University of Technology, Germany.

**LOQ 3: Frying Stability**

**Chair:** J. Moser, USDA, ARS, USA; and K. Hrnčířík, 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**


**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. Gertz and D. Behmer*, 1Official Institute of Chemical Analyses, Germany, 2Bruker Optik GmbH, Germany.

**LOQ 3.1: Lipid Oxidation and Packaging**

**Chair:** 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 B. Auras2, 1Centro de Investigacion en Alimentacion 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. Schleppe2, C.A. Hall, III1, and M.C. Tulbę1, 1Northern Crops Institute, USA, 2North Dakota State University, USA.

**5:40**


**PHO 3: General Phospholipids**

**Chair:** B. Sebree, Archer Daniels Midland Co., USA

**103A**

**1:55**

**Introduction.**

**2:20**

**Effect of Calcein on Model Lipid Membranes.** B. Maherani (Honored Student Award Winner), E. Arab-Tehrany, B. Korchowiec, E. Rogalska, and M. Linder, 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**

**Oilsese Preheating Heat Recovery Optimization.** F. Sköld and E. Le Cle1, 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, Verenium 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**

**Chair:** C.R. Hurburg, Jr., Iowa State University, USA; and C.W. Cruywagen, AACC

**102A**

**1:55**

**Introduction.**

**2:00**

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**3:20**

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**4:00**

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**5:00**

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**5:20**

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**5:40**

**Recent Developments in Phospholipase C Enzymatic Degumming.** T. Hitchman, Verenium Corporation, USA.

**6:00**

**Replacing Bleaching Earth with Enzymes—Report from 1st Industrial Trial.** K. Carlson, Danisco USA, USA.
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.
3:40 Antibiotic Function of Saccharicterpenin 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.
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.
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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.
8:40 Rapid Generation of Fatty Acid Methyl Ester Profiles using Direct Analysis in Real Time (DART) Mass Spectrometry. B. Musselman, E. Crawford, and J. Kechmer, 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. Ghorb, Bruker Corporation, USA.
10:20 Palm Oil Authentication by Fingerprinting Techniques. A. Tres, G. van der Veer, C. Ruiz-Samblas,1,2, and S.M. van Ruth,1, RIKILT, Wageningen University and Research Centre, The Netherlands, 2University of Granada, Spain.
11:00 Monitoring Volatile Products to Track Alternate Pathways in Lipid Oxidation. B. Bogusz and K. Schäich, Rutgers University, USA.
11:40 Studying Heterogeneous Microstructures of Sphingolipids of Lipid Mixtures by Synchrotron Radiation Microbeam X-ray Diffraction Measurements. L. Bayés-García,1 T. Calvet,1 M.A. Cuevas-Diarte,1 S. Ueno2, and K. Sato,1 University 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. Baig,1 M.D. Paszti2, and F.T.T. Ng3,1 Dept. 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. Watanabe3, and T. Ramos4,1 Frontier US, USA, Frontier Laboratories, Japan, 2Diablo Analytical, USA.
9:40 High Throughput Screening of Flax Peptides and Lignans. C. Olía1, P.-G. Burnett1, D. Okinoyo-Owiti2, M. Bagonluri3, and K. Düring2,1 Pilot PlantForschungszentrum Magdeburg e.V., Germany, 2Akra Consulting, Germany.
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. Tressel,1 and K. Düring2,1 Pilot Pflanzenöltechnologie Magdeburg e.V., Germany, 2Akra 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.

BIO 4/S&4 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.
9:00 Cyanophycin-based Lipo-dipeptides as Biosurfactants. J.A. Zerkowski and D.K.Y. Solaiman, ERRC, ARS, USA, USA.
9:40 Synergetic Interactions among Greener Surfactants and Their Synergistic Interactions with Enzymes. P. Somasundaran, J. Wu, S. Lu, and M. Chin, NSF/UCR Center for Particulates and Surfactants, Columbia University, USA.
10:00 Sophorolipids and Sophorolactone: Properties and Application Potential. D.W.G. Develder, Ecover Belgium NV, Belgium.
10:20 Formulating with Bio and Bio-based Surfactants. E. Acosta and M. Baxter, University of Toronto, Canada.
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.

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. Rousseau1. 1University of Saskatchewan, Canada; 2AgroSup, France.
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. Munk1,2, M.L. Andersen1, and A.G. Marangoni3. 1University of Guelph, Dept. of Food Science, Canada; 2University of Oklahoma, USA; 3ITERG, Institut des Polymères Organiques, IPB-ENSCBP, France.
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.

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. Michalski1,2, F. Laugerette1, M. Alligier3, C. Vors1,2, G. Pineau1,2, C.O. Soulage1, A. Gelen3, M. Laville1, and H. Vidal1,2. 1INRA USC1235, Lyon University, CarMeN Laboratory, France; 2INSEIM U1060, Lyon University, CarMeN Laboratory, France; 3CRH-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. Tsai1, 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. Geaghan3, A. Makiyannis4, and C.J. Lammi-Keefe5. 1AgCent, 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.
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. Gravier, Michigan State University, USA.
8:20 Novative Macromolecular Architectures from Vegetable Oils. L. Averyns, LIPHT-ECPM, University of Strasbourg, France.
8:40 Vegetable-based Building Blocks for the Synthesis of Renewable Polyurethanes. L. Maisonneuve1,2, H. Cramail*1,2, E. Cloutet2,1, B. Gadenne3,4, and C. Alfos1. 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 Sciences des Matériaux.
9:00 Polymers from Algae Oil. Z.S. Petrovic, X. Wan, A. Zlatanovic, H. Jorg, 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.
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. Lecker, Dept. of Food Science/Alma Mater Studiorum-Universitàdi 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. Sumant1, S. Joseph, C.M. Beach, R.A. Mancini, and R. Ramanathani, Dept. of Animal and Food Sciences, University of Kentucky, USA.
9:00 Use of Iron Chelators to Control Lipid Oxidation and Color Loss in Red Meats. K. Allen, Utah State University, 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. Awada1, and M.C. Michalski, 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 Mopiety. C. Bayrasy1,2, M. Lagueure1, J. Lecomte1, C. Wurti-Cabello1, G. Cabello2, E. Decker2, and P. Villeneuve1, 1CIRAD UMR IATE, France, 2INRA, UMR DMEM, France, 3Dept. of Food Science, University of Massachusetts, 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
S&D 4.2: General Surfactants II
Chairs: B. Lin, Henkel, USA; and J. Pytel, Stepan Co., USA
104A
7:55 Introduction.
8:40 Nonyl Surfactants in Household Product Cleaning Systems. P.T. Sharko and D.D. Li, Shell Global Solutions, USA.
9:00 Novel Amphiphilic Copolymers Derived from Soybean Oil. H. Kalita, S. Alam, A. Bezbahar, A. Voronov, and B. Chisholm, Rutgers University, USA.
9:20 Break.
9:40 Effect of Counterions on Green Surfactant Properties. L. Del Rosario, Church & Dwight Co. Inc., 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. Bhanderi, 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. Bhanderi and T. Gallegos, Silliker Laboratories, USA.
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 Glycan and Antioxidants as Potential Chelator for Iron(III) Intoxication Therapy. A.E. Angkawijaya, E. Hernowo, L.H. Huynh, A.E. Fazary, and V.H. Ju, Dept. of Chemical Engineering, National Taiwan University of Science and Technology, Taiwan.
3:40 Accelerated Solvent Extraction of Lipids from Extruded Dry Pet Food. L. Yao and K.M. Schach, Rutgers University, USA.

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, Clarco 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.
4:00 Direct Analysis of Surfactants using HPLC with Charged Aerosol Detection. M.A. Plante, B. Bailey, and I.N. Acworth, Thermo Scientific, USA.

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. Tsigie, C.Y. Wang, C.T. Truong, and Y.-H. Ju, National Taiwan University of Science and Technology, Dept. of Chemical Engineering, Taiwan.
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, Y.A. Tsigie, C.-Y. Wang, C.-T. Truong, and Y.-H. Ju, National Taiwan University of Science and Technology, Dept. of Chemical Engineering, Vietnam.
3:20 Generation of Renewable Fuels and Carotenoids from Rhodotorula glutinis using Sweet Sorghum Juice. M. Reveille, D. Sparks, R. Hernandez, W. Holmes, and A. Brown, Dept. of Biochemistry, Molecular Biology, Entomology, and Plant Pathology, Mississippi State University, USA.
3:40 Conversion of Glycerol to 1,3-Propanediol Using Ethanol Stillage. K. Ratnaparaniyuanuch, Y.Y. Shim, M. Haakensen, and M. Reaney, Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada.

End of Document
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.


4:40 Specific Production of Polyunsaturated Fatty Acids by Oleaginous Filamentous Fungus Mortierella alpina Breeding. A. Ando1, T. Okuda1, H. Kikukawa2, E. Sakuradani1, J. Shima1, J. Ogawa1, and S. Shimizu1,2,3,4, Kyoto University, Japan, 3Kyoto Gakuen University, Japan.

EAT 5: General Edible Applications Technology

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

**EAT 5: General Edible Applications Technology**

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 Man3, O.M. Lai3, K. Long4, and M. Nakajima3, 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 Bukuba, 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.


H&N 5: General Health and Nutrition

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

**H&N 5: General Health and Nutrition**

1:55 Introduction.

2:00 Oxidation of Dietary Polyunsaturated Fatty Acids: Intestinal Absorption of End-products and Metabolic Impact. M. Awada1, A. Meynier1, C. Soulage1, B. Benoit1, M. Guichardant1, C. Genot1, and M.C. Michalski1, 1INSERM U1060, INRA USC1235, Lyon University, CarMeN Laboratory, France, 2INRA U1268, BIA, France.


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. Angers2, and J. Arul1, 1Dept. of Food Sciences and Nutrition, Faculty of Agricultural Sciences & Food, Universite Laval, Canada, 2Institute of Nutraceuticals and Functional Foods (INAF), Universite Laval, Canada.

3:20 The Effect of Vegetables and Plant Oil on DNA Damage in Subjects with Type 2 Diabetes. E. Mülliner, S. Pleifer, C. Schiermeyer, H. Brath, and K.-H. Wagner, 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. Mozazami1, E. Muller1, H. Brath1, E. Forster1, 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. Erukainure1,2,3, J.A. Ajiboye4, F.O. Adeboyejo5, and O.C. Obode6, 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. Sambanthamurthi1, Y. Tan2, and K. Sundram3, 1CSIRO - Food & Nutritional Sciences, Australia, 2MPIC, Malaysia, 3Malaysian Palm Oil Board, Malaysia.

IOP 5: Oleochemicals

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

**IOP 5: Oleochemicals**

2:00 Oleochemicals: Challenges, Opportunities and Trends. B. Virajendran, Battelle Memorial Institute, USA.

2:40 Thermally Initiated Additions of Thiolis 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, Hydroxysterols and Polymers Made Thereof. T. Lebarbe1,2,3, L. Maisonneuve3,4, E. Cloutet5, B. Gadenne3, C. Alfos3,4, and H. Cramali1,2, 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. Sinivas1, 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. Shen1, Y. Wang1, and M. Reany1, 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 Silva1,2, L. Yao3, E. Hammond1, and T. Wang1, Petrobras - 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, 2RCFFN, Human Nutritional Sciences, Canada; 1University 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.


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. Miyashita2*, and M. Shiotai1, 1Faculty of Fisheries Sciences, Hokkaido University, Japan, 2Milk Science Research Institute, Megmilk Snow Brand Co., Ltd., Japan.


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.


2:40 A Robust Multi-enzyme Preparation for Industrial Production of Biodiesel. S. Basheer, TransBiodiesels 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.


3:40 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. J. Veitez, N. Callejas, B. Iriagary, Y. Pinchak, N. Merlinski, M. Pardo, M.A. Grompone, and I. Jachmaniani, Laboratorio de Grasas y Aceites, Departamento de Ciencia y Tecnologia de los Alimentos, Facultad de Quimica, Universidad de la Republica, 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.


2:40 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.


3:20 Isolation and Characterization of Starch from Defatted Cashew Nut Shell. M. Yuliana and Y.-H. Ju, National Taiwan University of Science and Technology, Taiwan.


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.
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**106th AOCS Annual Meeting & Expo**
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ANA-P: Analytical Posters
Chair: F. Eller, USDA, ARS, NCAUR, USA
Expo Hall A • Authors present during Monday reception
1. 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.
2. Tutorial on the Use of Radiochromatographic Measurements to Determine the Modern Carbon Content of Biobased Products. G.A. Norton, Iowa State University, USA.
9. Separation of Policosanol and Fatty Acid Ethyl Ester by a Phenol Column. S. Chumsanee1, K. Aryusuk1, N. Jeyashoke2*, S. Lilitchan3, and K. Krisnanjkura4, 1Biotechnical Science Division, School of Bioresources and Technology, King Mongkut’s University of Technology Thonburi, Thailand, 2Dept. of Nutrition, Faculty of Public Health, Mahidol University, Thailand.
12. Fatty Acid Profiles of Tilia spp. Seed Oils. M.K. Dowd and M.C. Farve, SRRC, ARS, USDA, USA.
14. Rapid (<5 min) FT-NIR Screening of Edible Oils for Total SFA, trans FA, MUFAs and PUFA and Comparisons to GC and Values Declared on Nutrition Labels. M. Mossoba1, C. Tyburczy2, F. Bueso1, H. Azizian1, J. Kramer1, P. Delmonte1, A.-R. Fardin-Kia1, and J. Rader1, 1Food and Drug Administration, USA, 2Escuela Agrícola Panamericana, Honduras, 3NIR Technologies Inc, Canada.
15. Analysis of Lipid Classes by HPTLC. J.A. Noriega Rodriguez1*, R.F. Bovey1, A. Onofre Sestiaga1, and H.S. García1, 1Universidad de Sonora Unidad Regional Norte, H. Caborca Sonora, Mexico, 2Universidad de Sonora, Mexico, 3Instituto Tecnológico de Veracruz, Mexico.
16. Comparative Study of Methodologies for Determination of Total Glycerin Content in Biodiesel by Different Analytical Techniques. F.R. Bürgel1, M.J.M. Vinhoza1, A.S. Vieira1, J. Feliciano1, and S.C. de Menezes2, 1Pontific Catholic University of Rio de Janeiro, Brazil, 2PETROBRAS/CENPES, Brazil.
17. Analysis of Retinal Gangliosides by HILIC/ESI-MS. O. Berdeaux1, E.A.Y. Masson4, A. Athias1, J.-P. Puis De Barros1, S. Cabaret2, and L. Brette1, 1ChemoSens Platform, UMR1324 CSGA, INRA, Dijon, France, 2Eye and Nutrition Research Group, UMR1324 CSGA, INRA, France.
18. Comparison of the Key Aroma Compounds in Raw and Roasted Styrain Pumpkin Seeds. S. Poehlmann1 and P. Schieberle2,1, 1Technical University of Munich, Chair of Food Chemistry, Germany, 2German Research Center for Food Chemistry, Germany.
19. Evaluation of Protein, Fat and Fatty Acids Content in Damghan, Iran Pistachio (Pistacia vera L.) Cultivars. A. Abdoshahi1,3, S. Ali Mortazavi1,2, A. Shabani1, M. Taheri1, and M. Heidarimajid1, 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.
20. Differential Hydrolysis of o xo-PtdChos by Group IIA, V and X Secretory PLA2s. A. Kuksis and W. Pruzanski, University of Toronto, Canada.
22. FTIR - A Rapid Method for Determination and Quantification of Polysorbate 60 in Fats and Oils. K. Reiher and G. Sekosan, Bunge North America, USA.
23. DSC and NMR Study of Crystallization Kinetics for Fats and Oils. G. Sekosan, K. Reiher, and T. West, Bunge North America, USA.
26. Discrimination of Sesame Oil Blended with Other Edible Oil by Means of TAG Profile Analysis. W.J. Lee1, M.H. Lee2, J.T. Lim1, and N.W. Su1, 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, 1Flavor 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 Phlomidoschisma Parviflorum by Response Surface Methodology. M. Heydari, D. Salar Bashir, and A. Abdosahadi, 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. Khandzadeh, Dept. of Food Science and Technology, Islamic Azad University, Iran.

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**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.


2. Cloning, Sequencing and Characterization of Lipase from a Polyhydroxalkanoate- (PHA-) Producing Pseudomonas resinovorans. J.H. Lee1, K.T. Lee2, and D. Solaiman14, USDA, ERRC, Chungnam National University, South Korea, 1Daegu University, South Korea.


4. Isolation of Giant Panda Intestinal Microbes to be used in an Oil-based Biofuel Platform. C. Williams1, C. Johnston1, A. Koubal2, S. Willard1, D. Sparks1, and A. Brown1, Mississippi State University, USA, 1Memphis Zoological Society, USA.

5. Using Extracted Fish Oil from By-products of Persian Sturgeon (Acipenser persicus) in the Formulation of the Hand Cream. S. Sabanakakroodi1, G. Sabanakakroodi2, A. Kheval1, and A. Rustaiyan1, Islamic Azad University, Iran, 1Mero Cosmetic Factory, Iran, 2M. Heydari, 3K. Amini, 4Shahid Beheshti University, Iran.

6. Rational Synthesis of 1,3-diolein by Enzymatic-Esterification. Z.-Q. Duan1, W. Du1, and D.-H. Liu2, Academia of State Administration of Grain, China, 1Dept. 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, Biotecnologia Division Student Paper Award, F. Husson1, 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. Turan1,2, N. Sahin Yesilcubuk3, and C.C. Akoh1, Istanbul Technical University, Dept. of Food Engineering, Turkey, 1University 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. Kerkaew1,2, S. Chavadej12, and P. Rangsunvirij12, The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, 1Center 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. Wongkee1, P. Rangsunvirij12, and S. Chavadej12, The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, 1Center of Excellence for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.


12. Production of Omega-3 LC-PUFAs in Oils seeds by Seed Expression of Multisubunit Microalgal PUFA Synthases. T. Walsh1, S. Bevan1, D. Gachotte1, C. Larsen1, W. Moskal1, A. Owens Miero1, and J. Metz2, Dow AgroSciences, USA, 1DMS, 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. Hai1, B.H. Kim1, S.W. Yoon1, S.J. Hong1, D.S. No1, M.Y. Kim3, and I.-H. Kim4, 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. Kim1, H.-D. Choi1, C. Lee1, and B.H. Kim4, 1Chung-Ang University, Korea, 2Korea University, Korea, 3Korea Food Research Institute, Korea.


16. Enzymatic Process for Preparing Linoleic Acid from Passiflora alata Oil Used as Skin Whitening Agent. K. Arroteija1, A. Jorge1, I. Santos1, C. Ferrari1, C. Lourenço1, P. Moreira1, R. Biaggio2, E. Andres1, and S. Medina1, 1Natura Inovação de Produtos Ltda, Brazil, 2Natura Innovation and Product Technology S.A.S, France.

17. Production of New Derivatives from Carioephyllene Oxide, Humulene Epoxide and Epoxidated Sesquiterpene Fraction of Copaiba Oleoresin. R. Biaggio1, P. Inamur1, and M. Beltrame1, 1Universidade Estadual de Campinas (UNICAMP), Brazil, 2Universidade do Vale do Paraíba (UNIVAP), Brazil.


21. Enzymatic Interesterification of a Blend of Palm Stearin: Cottonseed Oil for Low trans-margarine Formulation. Y. Wang1, L. Cheong1, C. Wei1, Z. Duan1, and X. Luan1, 1Academy of State Administration, China, 2Aarhus University, Denmark.


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**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.

3. Rheological Properties of Fats Formulated with Soybean Oil and Interesterified Soybean Fats. J.M. Block1, B. Mattioni1, K. Gandra2, D. Barrera-Arellano3, and A. Marangoni3, Santa Catarina Federal University, Florianopolis, Santa Catarina, Brazil, ‘Caminas State University, Brazil, 1University 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-Arellano3, and A. Marangoni3, Santa Catarina Federal University, Brazil, 1University 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. Toole and D.J. McClements, University of Massachusetts Amherst, USA.


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.


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.


14. Study on the Oil Absorption of Fried Instant Noodle in Several Replacer Produced by Palm-based Oil. M.S. Álvarez-Arellano1,2, A.P.B. Ribeiro, and T.G. Kieckbusch, School of Chemical Engineering, University of Campinas, Brazil.


16. Applications of Whey Powder in Sunflower Oil-emulsions Stability. C. Huck-Idribi11, R.J. Candal12, and M.L. Herrera11,12, University of Buenos Aires, Faculty of Exact and Natural Sciences, Buenos Aires, CABA, Argentina, 1University of San Martin, School of Food Science and Technology, Argentina, 2National Research Council of Argentina (CONICET), Argentina.

17. Microencapsulation of an or-3 oil in a Trehalose Matrix. M.S. Álvarez-Cermedo1,2, R.J. Candal12, and M.L. Herrera11,12, University of Buenos Aires, Faculty of Exact and Natural Sciences, Argentina, 2National Research Council of Argentina (CONICET), Argentina, 3National University of San Martin, School of Science and Technology, Argentina.


20. Control of Crystallization of Diacylglycerols. K. Saito1, R. Homma1, N. Kudo1, Y. Katsuragi1, and K. Sato3, University of Guelph, Canada, 2Department of Food Science and Technology, University of Guelph, Japan.


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. Hondo1 and K. Sato2, 3Kondo1, Y. Kuwano1, K. Nagashima1, and T. Koyano1, 1Hiroshima University, Japan, 3Meiji Co., Japan.

29. Effect of Power Ultrasound (US) Treated Lipid on Physicochemical Qualities of Baked Products. H. Zhong, K. Allen, and S. Martiní, Utah State University, Logan, UT, USA.

30. Chemical Characteristics and Emulsion Properties of Cold-pressed Rice Bran Oil. A. Thononkaew1, S. Wongyar2, E. Decker1, and D. McClements1, Research Unit of Local Southern Thai Foods, Dept. of Food Science and Technology, Faculty of Technology and Community Development, Thaksin University, Thailand.

31. Medicinal Products Department, Faculty of Oriental Medicine, Rangsit University, Thailand, 3Dept. of Food Science, University of Massachusetts, USA.


33. A Comparative Study of Waxes as Oil-Binding Materials. A. Blake and A. Marangoni, University of Guelph, Canada.

34. Isolation and Characterisation of Flaxseed Lignan. A. Blake and A. Marangoni, University of Guelph, Canada.

35. Isolation and Characterisation of Flaxseed Lignan. A. Blake and A. Marangoni, University of Guelph, Canada.


37. Crystalline Phase Compositions from a Triacylglycerol Blend: Data and Model. M. Li1, E. Anom1, S.H.J. Idziak2, and G. Mazzanti1, Dalhousie University, Canada, 2VN Instruments, Canada.

38. Time Resolved X-ray Diffraction Study of Trilaurin and Trimyristin 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. Alkhudair 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.erton-Barabin, 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. Haghighat Kharazi1, R. Esmaeilzadeh Kenari1*, Z.R. Amir1, and M. Azizkhani1, Agricultural Sciences and Natural Resources University of Sari, Iran, ‘Kharaz 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.


6. Effect of Different Extraction Processes on the Antioxidants Content in Pecan Nut [Carya illinoinensis (Wangen) [Coch]] Shell. A.C. Prado1, B. Manion1, K. Seetharaman2, and J.M. Block1, ‘Santa Catarina Federal University, Brazil, ‘University of Guelpah, Canada.

7. The Effects of Dietary Oxide 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. Litlihan1, P. Sammarphet1, N. Thiraphuth1, P. Somboonpanyakul2, K. Aryusuk3*, and K. Krisangsuk2, ‘Mahidol University, Thailand, ‘King Mongkut’s University of Technology Thonburi, Thailand.


12. Soybean β-conglycinin Improves Lipid Metabolism in Wistar Rats. N. Inou1, Y. Fujiiwara1, M. Kato1, A. Funayama1, N. Tachibana2, M. Kohno3, T. Tsukid2, and I. Ikeda1, ‘Tohoku University, Sendai, Miyagi, Japan, ‘Fuji 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.


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. Rodrigues1, J.R. Bortolon2, G.M. Murata1, M.I. Almeida Goncalves1, E. Hatanaka1, R. Curri1, and L.A. Giolieri1, ‘Faculty of Pharmaceutical Sciences, Brazil, ‘Institute of Biomedics Sciences, Brazil, ‘University Cruzeiro do Sul, Brazil.

18. Trans Content and Thermal Behavior of Fatty Materials from Different Bakery Products. I. Vietze1, B. Irigaray, C. Perez, and M.A. Grompone, Laboratorio de Grasas y Aceites, Departamento de Ciencia y Tecnología de los Alimentos, Facultad de Quimica, Universidad de la República, Uruguay.


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.


IOP-P: Industrial Oil Products Posters
Chair: N. Soriano, Montana State University, USA

Expo Hall A • Authors present during Tuesday reception

2. Biodiesel from Salt-tolerant Seashore Mallow (Kosteletzkya virginica). B.R. Moser1, B. Dienes1, and J.L. Gallagher1, ‘USDA ARS NCAUR, USA, ‘University of Delaware, USA.

4. Synthesis and Corrosion Inhibition Behavior of Imidazoline Derivatives Based on Vegetable Oils. Y.-W. Kim¹, K. Chung¹, S.-H. Yoo¹, and J.-S. Kim¹, ¹Korea Research Institute of Chemical Technology, S. Korea, ³Chosun University, S. Korea.

5. Hydrocracking and Hydroisomerization of Hydrogenated Biodiesel for Producing Bio-jet Fuel over Pt, Ir Supported H-Zeolite and ASA Catalysts. C. Srimingkwanchai¹, S. Jongpatiwut¹-², and S. Butnak¹, ²The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, ¹Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand, ²PTT 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. Yang¹, 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 Cracked Oil Modified Polyester and its Clay Nanocomposites. E. Ruzgus Pereira Pinto¹, D.T.B. De Salvi¹, M. Martinelli¹, 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. Cutrim¹, ²S.G. Dantas¹, and M.G.S. Valenzuela¹, ¹Escola Politecnica da Universidade de Sao Paulo, Brazil, ²Pegmatatch, Brazil.


11. Pre-treatment of Acidic Crude Palm Oil Using Strong and Weak Acids. A. Hayyan¹-², F.S. Mjallil³, M.E.S. Mirghani³, M.A. Hashim³, Y.M. Al-Wahaibi³, T. Al-Wahaibi³, and M. Hayyan¹, ¹Dept. of Chemical Engineering, Centre for Ionic Liquids (UMICIL), 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. Duttilleul¹, M. Paszti¹, and B. Simpson¹, ¹McGill University, Canada, ²Rothsay Biodiesel, Canada.

13. Preparation and Characterization of Biodiesel from Camel (hachi) Fat. H.M. Shihi¹, L.A. Nehdi¹, and C.P. Tan¹-², ²King Saud University, King Saud University, College of Science, Chemistry Department, Saudi Arabia, ³Universiti Putra Malaysia, Dept. of Food Technology, Malaysia.

14. Chemical Composition and Physicochemical Properties of Acacia senegal (L.) Willd. Seed Oil. L.A. Nehdi¹, H. Shihi¹, C.P. Tan¹-², and H. Zarrouk¹, ²King Saud University, King Saud University, College of Science, Dept. of Chemistry, Saudi Arabia, ³Universiti Putra Malaysia, Dept. of Food Technology, Faculty of Food Science and Technology, Universiti Putra Malaysia, Malaysia, ⁴Tunis El Manar University, Tunis 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. Öçimen, Yıldız Technical University, Turkey.


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. Singh¹, S. Padhi¹, and U. Bornscheuer¹, ²Eastern Regional Research Center, ARS, USDA, Wyndmoor, PA, USA, ³Dept. of Agricultural and Biological Engineering, University of Illinois, USA, ⁴Institute 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.


21. Biocrude Production by Activated Sludge via Fermentation of Bagasse Hydrolysate. A. Mondala¹, R. Hernandez¹, T. French¹, M. Green¹, L. McFarland¹, and L. Ingram¹, ²Mississippi State University, USA, ³University of Florida, USA.

22. Life Cycle Assessment of Safflower Originated First and Second Generation Engine Biofuels in Turkey. A. Isler and F. Karasmanoglou, Istanbul Technical University, Chemical Engineering Department, Turkey.


24. Effect of Beta Hydrogen on Thermal Stability of Bio lubricants Esters. J.A.C. da Silva¹-², L. Yoo¹, E. Hammond¹, and T. Wang¹, Petrobras - Research Center - CENPES, Rio de Janeiro, RJ, Brazil, ³Iowa State University, Dept. of Food Science and Human Nutrition, USA.

25. Citrus Seed Oil: A Novel Source for Biodiesel Production. U. Rashid¹-², M. Ibrahim¹-², S. Yasin¹, and R. Yunus¹, ²Institute of Advanced Technology, Universiti Putra Malaysia, Malaysia, ³Dept. of Industrial Chemistry, Government College University, Pakistan, ⁴Dept. of Environmental Sciences, Government College University, Pakistan, ⁵Dept. of Agricultural Environment, National Academy of Agricultural Science, Rural Development Administration (RODA), South Korea.


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


3. Fatty Acids and Tocopherols Profile and Oxidative Stability of Pecan Nut Oil [Carya illinoiensis (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 illinoiensis (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, ¹Santa Catarina Federal University, Brazil, ²Campinas State University, Brazil, ³Santa Catarina Agricultural Research and Extension Corporation, Brazil.


6. The Effect of the Simultaneous Interaction among Ascorbic Acid, Iron and pH on the Oxidative Stability of Oil-in-Water Emulsions. G.F. Branco¹, ²M.I. Rodrigues¹, ²L.A. Gioielli¹, and L.A. Castro⁴, ³Faculty of Pharmaceutical Sciences, University of São Paulo, Brazil, ⁴Faculty of Food Engineering, University of Campinas, Brazil.
7. Free Radical Scavenging Activities of Flax Cyclolinopeptides. O. Sharav, D.P. Okino-Owiti, R. Samynnaiken, and M.I.T. Reaney, 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. McNichinery, L. Doore, D. Skeene, and D. McNikiny, Prairie View A&M University, USA.

10. Antioxidant Interactions between Rosmarinast Ester and 2,2’-tocopheryl in Stripped Soybean Oil-in-Water Emulsions. A. Panya, K. Kittipongpittaya, M. Laguerre, J. Lecomte, P. Villeaneuve, D.J. McClements, and E.A. Decker, 1Dept. of Food Science, University of Massachusetts, USA, 2CIRAD, Dept. PERSYST, UMR IATE, France.

11. Optimization of Amylose-steinic Acid Complex Formation using Modified Potato Starch. E. Arijaie, Y. Wang, U. Shah, 3Dept. of Food Science, University of Copenhagen, Denmark, National Food Institute, Denmark.


15. Efficiency of Oryzanols in Stabilizing Different Vegetable Oils, as Compared with Common Synthetic Antioxidants. B. Bresson, L. Vitez, J. Jachmanian, and M.A. Grompone, Laboratoire de Grasas y Aceites, Departamento de Ciencia y Tecnología de los Alimentos, Facultad de Química, Universidad de la República, Uruguay.


17. Optimization of Phenolic Compounds Extraction from Beneckea Pennycress (Thlaspi arvense) based on Superheated Water using Neural Network. R. Shaddel, A. Maskooki, M.H. Haddad-Khodaparast, and D. Salar Bashi, 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.

18. Development of Antioxidant Activity of Methanolic Extract of Safflower Oil. M. Mahdi Karimkhani, E. Moharrami, and A. Daraei Garmakhany, 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.

19. Antioxidant Efficiency of Kiwi Peel Extract on Oxidative Stability of Sunflower Oil during Storage Condition. R. Esmailzadeh Kenari, E. Shokhoosh Sareemi, K. Ziaee, and H. Malekzadeh, 1Sari Agricultural and Natural Resources University, Dept. of Food Science and Technology, Iran, 2Ferdowsi University of Mashhad, Iran, 3Vasteryosh Consultant Group, Iran.


8. Antifungal Activity of Juniper Extracts. F.J. Eller, I. Tumen, C.A. Clausen, and J.A. Teel, 1FFR-NCIUA, 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. Augeare, 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.


13. Application of Red Pepper Seed (Capsicum frutescens) Flour and Protein in Mayonnaise. E. Firstigli-Durmus and O. Evranuz, Istanbul Technical University, Food Engineering Department, Turkey.

PRO-P: Processing Posters

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

Expo Hall A - Authors present during Tuesday reception


4. Influence of Water and Free Fatty Acids on Supercritical Methanol Treatment of Soybean Oil for Biodiesel Production. P. Olivesares-Carrillo, University of Murcia, Campus de Espinardo, Spain.

5. Effect of Photoirradiation Time on Soy Oil Conjugated Linoleic Acid Yields. Y.Y.R. Reddy, B. Henbest, and A. Proctor, University of Arkansas, USA.


9. Ultrasonic-based Treatment of Low Grade Palm Oil Using a Heterogeneous Catalyst. A. Hayyan, F.S. Mjallii, T. Al-Wahaibi, M.A. Hashim, and M. Hayyan, Petroleum and Chemical Engineering Department, Sultan Qaboos University, Oman, Dept. of Chemical Engineering, Centre for Ionic Liquids (UMGL), University of Malaya, Malaysia.

10. Development of a Laboratory Scale Electrostatic Coalescer Unit for Separation of Water-oil Emulsions for Biofuel Production. W. Holmes, E. Revellame, L. Lerma, A. Estevetez, and W.T. French, Dave C. Swalm School of Chemical Engineering, Mississippi, USA, University of Puerto Rico, USA.


12. Optimization of High Nutrients Content Oils. X. Pages, M. Gaud, B. Gadenne, P. Carré, and M. Mc Clements, Research Unit of Local Southern Thai Foods, Dept. of Food Science and Technology, Faculty of Technology and Community Development, Thaksin University, Thailand, Medical Products Department, Faculty of Oriental Medicine, Rangsit University, Thailand, Dept. of Food Science, University of Massachusetts, USA.


14. Toward the Development of a Continuous Crystallization Process for the Concentration of Omega-3 Fatty Acids from Mackerel Oil. P. Sinha, P. Angers, and J. Arul, Dept. of Chemical Engineering, Universite Laval, Canada, Dept. of Food Science and Nutrition, Universite Laval, Canada.

15. Two-part Process Optimization for Conversion of Macro Algae into Biofuels. S.C. Ndlela and N.O. Olson, Iowa State University-Iowa Energy Center-BECOIN facility, USA.

16. Improving Canola Oil Quality by Applying New Refining Method. F. Kalantari, M. Bahamaeia, M. Ameni, E. Shoaei, and E.S. Sabbaghian, Research and Development Laboratory, Savola Behshahr Company, Iran, Islamic Azad University, North Tehran Branch, Iran.

17. 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.

18. Production of Renewable Fuel from Activated Sludge through a Fluidized-Bed Catalytic Cracking (FCC) Process. E. Revellame, W. Holmes, R. Hernandez, V. French, and R. Callahan II, Dave C. Swalm School of Chemical Engineering, Mississippi State University, USA.


S&D-P: Surfactants and Detergents Posters

Chair: M. Wint, Amway Corporation, USA

Expo Hall A - Authors present during Tuesday reception

Pure and Applied Chemistry, Faculty of Science and Technology, Tokyo University of Science, Japan. 1Photonic Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan, 2Research Institute for Sustainable Society, National Institute of Advanced Science and Technology (AIST), Japan.

2. Obtaining and Characterization of Brazilian Rose Smeectite - Application in the Development of Soaps and Detergents. M. das Graças Silva-Valenzuela1, F.M.S. Carvalho2, J.L. Sayeg1, L. Gomes Sant’Anna1, 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.

3. Anionic Scavengers in Drying Agents for Hard Surfaces. A. Nagy1 and S. Mohammed2, 1E. Goldschmidt Corporation, USA, 2Evonik Degussa Corporation, USA.

4. A Specialty Polymer for Surface Modification. A. Nagy1 and J. Peggau2, 1E. Goldschmidt Corporation, USA, 2Evonik Industries AG, Germany.

5. Microemulsion-Based Semi-Solid Oil Detergency Using an Extended Surfactant: Effect of Washing Temperature. T. Choke-arpornchai1, S. Chavadej1,2, and J.F. Scamehorn3, 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.

6. Effect of NaCl on Dissolution of Magnesium Soap Scum in Different Surfactant Solutions. D. Ratanalert1, J.F. Scamehorn2, D.A. Sabatini2, and S. Chavadej1, 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.

7. Influence of Linker Molecules on Adsolubilization 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, 2Institute for Applied Surfactant Research, University of Oklahoma, USA, 3Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.

8. Removal of MgSiO3 Particles from the Surfaces of AITIC Like-Carbon. A. Pinpiti1 and S. Chavadej1, 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.


11. Counterion Effects in Microemulsion Formulation. S. Baradaran1, P. Lohateraparp1, B. Shiua1, and J. Harwell2, 1Chemical, Biological and Materials Engineering, University of Oklahoma, USA, 2Newbourne School of Petroleum and Geological Engineering, University of Oklahoma, USA.

12. Novel Polymer-surfactant System for Mitigating Interfacial Tension. P. Tongwa1, P. Tongwa2, (Surfactants and Detergents Division Student Award Winner) Missouri University of Science and Technology, USA.

13. 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.


15. Motor Oil Removal by Multistage Froth Flotation: The Effect of Operational Parameters. P. Kanokkarn1, J.H. O’Haver2, and S. Chavadej1, 1The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, 2Dept. of Chemical Engineering, University of Mississippi, USA, 3Center of Excellence on Petrochemicals and Materials Technology, Chulalongkorn University, Thailand.


17. 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.

PEICG-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


2. Human Nutrition Study of Blood Lipids Supports Experiential Learning in Undergraduate Class. A.J. Wright, University of Guelph, Canada.


5. 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.

6. How to Teach Biochemistry to Undergraduate Engineering Students. D.G. Hayes, University of Tennessee, USA.

7. From Light Harvesting and CO2 Fixation to the Accumulation of TAG. D. Hildebrand, University of Kentucky, USA.

8. Beyond the Classroom: Lipid and Lipid Quality Education. U. Thiyam-Holländer and J. Friel, University of Manitoba, Canada.

9. Teaching Rheology with Chocolate. M. Warren1, A. Lechter2, and R. Hartel1, 1University of Wisconsin, USA, 2ADM Cocoa, USA.

10. 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.

11. Teaching Lipid Processing Techniques to Undergraduate Students through Research Opportunities. S. Martini, Utah State University, USA.

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104th AOCS Annual Meeting & Expo

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**Schedule**

**Sunday, April 29**
- 5:30–7:30 pm: Expo Open
- 5:30–7:00 pm: Opening Mixer

**Monday, April 30**
- 7:30–9:00 am: Expo Open/Expo Express Breakfast
- 1:30–6:30 pm: Expo Open
- 5:00–6:30 pm: Networking Reception

**Tuesday, May 1**
- 11:00 am–7:30 pm: Expo Open
- 11:00 am–3:00 pm: Expo Café
- 3:20–4:00 pm: Networking Break
- 6:00–7:30 pm: Networking Reception

**Floor Plan**

Expo 2012 Map

- Food & Beverage Seating Area
- Food & Beverage Seating Area
- Food & Beverage Seating Area
- Posters
- AOCS Pavilion

April 29–May 2, 2012 | Long Beach, California, USA
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)
Solzyme, Inc. (734)
Stratas Foods LLC—RDI Center (239)
Wacker Chemical Corporation (547)

Instrumentation and Analytical Technology
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Agilent Technologies (234)
ANKOM Technology (232)
Bruker Corporation (241)
COSA Instrument Corp. (342)
FOSS North America (235)
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Infralabtec GmbH (540)
LCI Corporation (334)
Leica Microsystems (640)
Lovibond Tintometer/Orbeco-Hellige Inc. (447)
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MikroLab Aarhus A/S (441)
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Siemens Industry, Inc. (335)
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ASAGA—Argentine Association of Fats and Oils (140)
Battelle (343)
Bioactive World Forum and Smart Short Courses—Filteration and Membrane World (139)
Carlson Consulting Engineers, LLC (340)
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Industrial Design Group, LLC (546)
LUM (356)
Malaysian Palm Oil Board (552)
Metrohm (648)
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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 nonprofit 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.
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**Desmet Ballestra North America** (432)
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**FCF—Technologies/Division of SG-Engineering** (138)
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**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-
cultural 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-faced 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-presslipidtech.com
The product portfolio of HF Press+LipidTech (HF PLT) ranges from individual machines up to complete systems for oiled seed 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 60515, 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.dillinggroup.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 development of our products covers 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 Paunerio 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 Sao Paulo, Brazil. It builds vacuum systems for edible oils and fats industries; jet equipment: jet fans, aerators, desuperheaters, silencers; vacuum heat exchangers; 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

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.

Mikrofab Aarhus A/S (441)  
Axel Kiers Vej 34, Hojbjerg, 8270, Denmark  
www.mikrofab.dk

The ML OxiPrest 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.

Metrohm

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.

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.
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 influencing factors 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 OAS, 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.

Nu-Chek-Prep, Inc. (440)
PO Box 295, Elyria, 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.

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.

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, bins, 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 CFIAs Site License, cGMP, HACCP, and full traceability systems. The company offers in-house scientific, engineering, technical, operations, materials management, and maintenance staff functions.

Rudolph Research Analytical (333)
55 Newburgh Rd., Hackettstown, NJ 07840, USA
www.rudolphresearch.com
Rudolph Research Analytical manufactures two instruments relevant to 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 petro-diesel manufacturers. This instrument offers automatic measurement at the required temperature, VideoView™ system for bubble detection, and network data storage.

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.

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.

Surface Chemists of Florida, Inc. (747)
1303 Park Lane S., Jupiter, FL 33458, USA
www.surfacechemists.com
Surface Chemists of Florida, 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, cosmceuticals, flavors, fragrances, waxes and oils. 30,000 sq. ft. facility with pilot and production scale processing available. GMP, Kosher and Organic.

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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Ochi, M.   . . . . . . . . . . . . . . . . . . . . . . . . . . . . EAT 4/S&D 4.1  
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Ogura, H. . . . . . . . . . . S&D 2.1  
Ohtani, M . . . . . . . . . S&D 3  
Ozcelik, B.   . . . . . . . . . . . . . . . . . . . . . . . . H&N-P  
Ozcelik, B.   . . . . . . . . . . . . . . . . . . . . . . . . H&N-P  

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 in furtherance of this intention, the Antitrust Policy shall be readily available at all Society meetings and homepages and annually to each officer, director, member, representative, or employee of the Society, or any other party participating in the event, and shall report the matter to the Society at the earliest possible opportunity.

II. The 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 and conditions of sales;

iv. Quote decisions;

v. Discounts;

vi. Product or service offerings;

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 antitrust discussion be terminated immediately, and if such termination does not immediately occur, such person shall seek reformation of the situation 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.
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