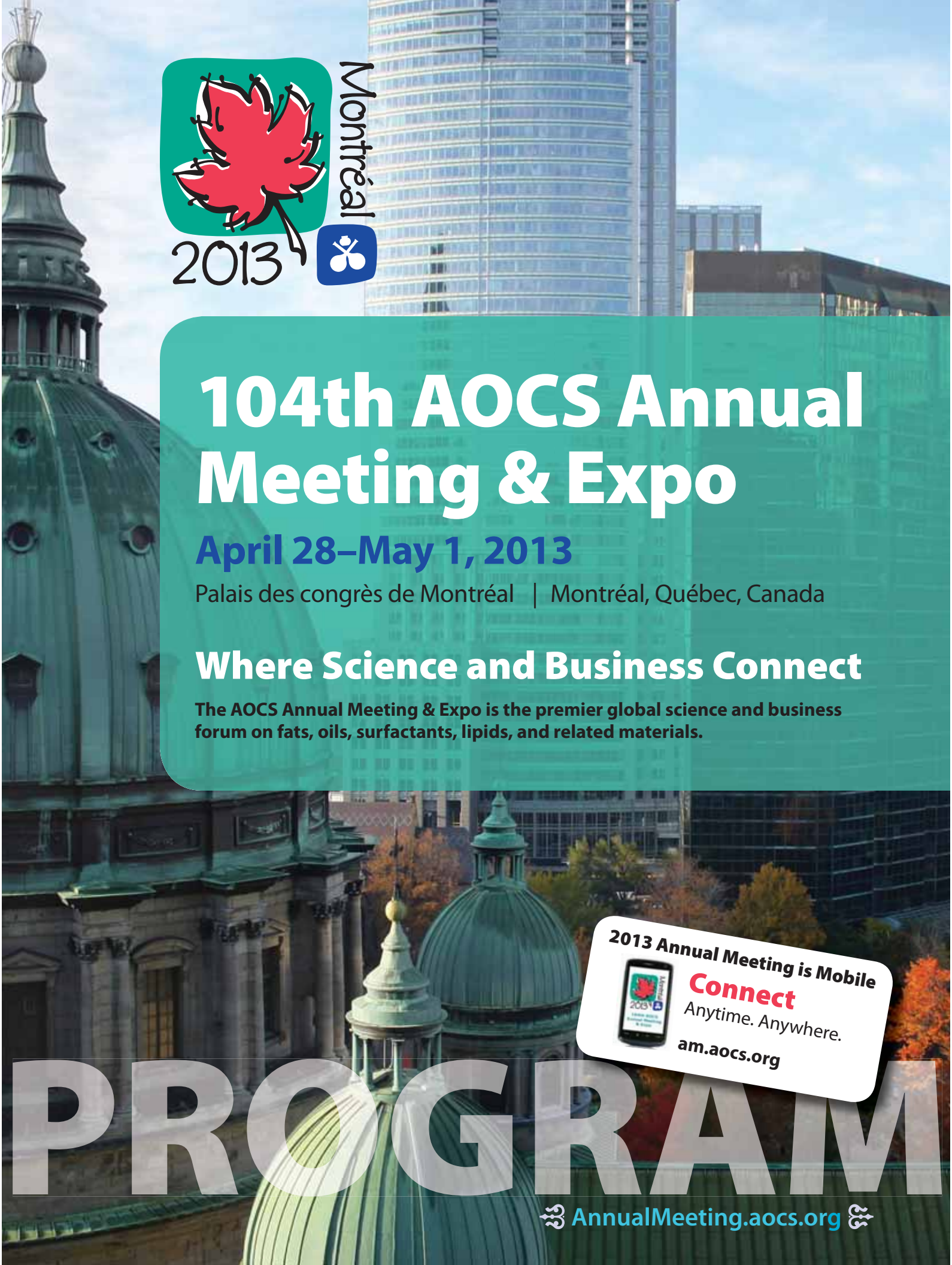

104th AOCS Annual Meeting & Expo

April 28–May 1, 2013

Palais des congrès de Montréal | Montréal, Québec, Canada

Where Science and Business Connect

The AOCS Annual Meeting & Expo is the premier global science and business forum on fats, oils, surfactants, lipids, and related materials.

2013 Annual Meeting is Mobile

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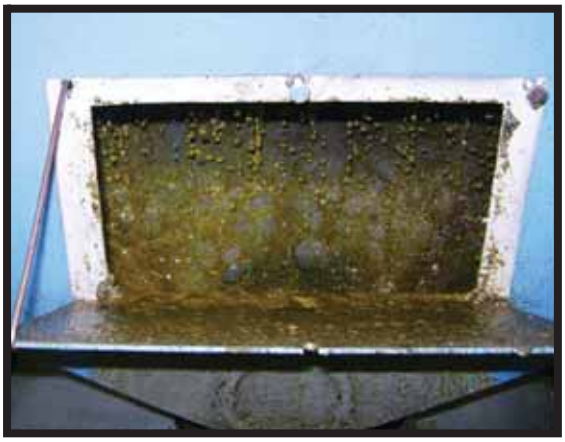
PROGRAM

AnnualMeeting.aocs.org

DURABILITY | **REPEATABLE RESULTS**

Introducing the Anderson 12" Hivex™ Series Expander

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



Features:

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

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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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- Multimix Neutralising
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- Silica Purification

Detoxification

- Combiclean Process
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- Sparbleach Bleaching
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- Silica Purification

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- Qualistock Deodorising
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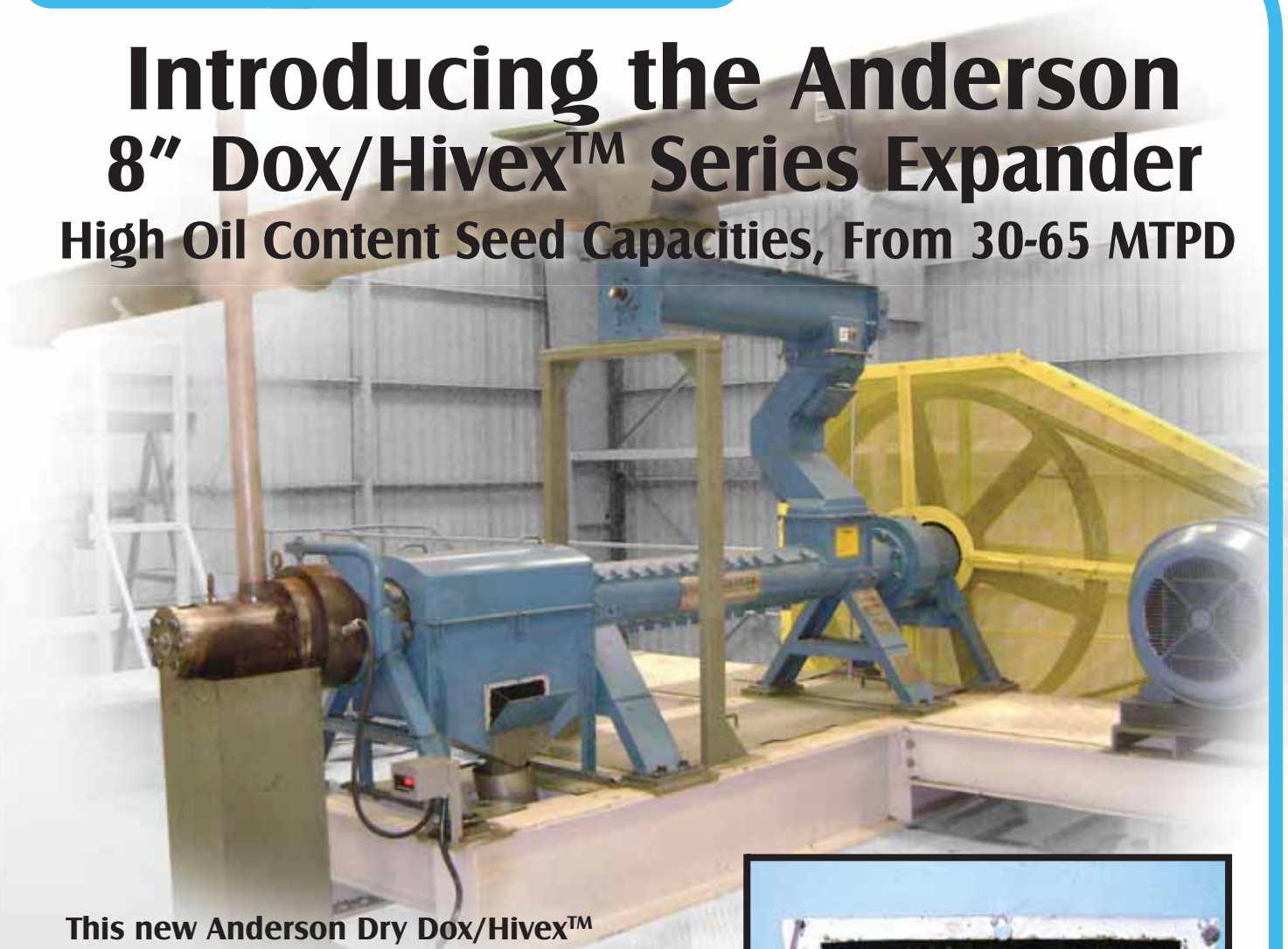
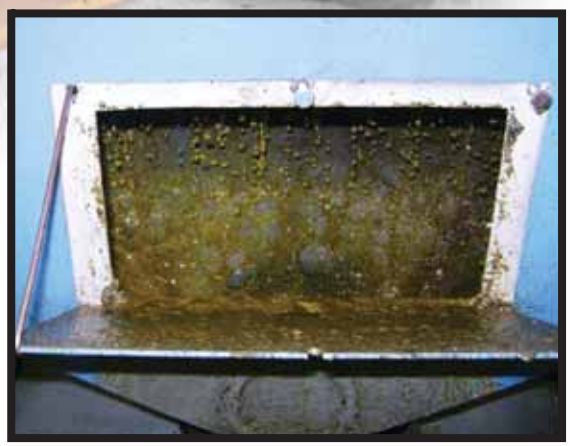
DURABILITY | **REPEATABLE RESULTS**

Introducing the Anderson 8" Dox/Hivex™ Series Expander

High Oil Content Seed Capacities, From 30-65 MTPD





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

Features:

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

ANDERSON INTERNATIONAL CORP®

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

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

Welcome to Montréal!

We have an exciting four days planned…

Sunday's Opening Mixer will start the meeting and is the perfect opportunity to network with your colleagues while visiting with the exhibitors to find out about the latest in technology and services.

Monday begins with The Forum on Emerging Technologies, where you will hear global discussions from some of the brightest and most innovative minds in the industry, with sessions focusing on the current critical issues impacting the business of fats and oils today. Directly following, the AOCS Business Meeting/Luncheon will provide an overview of the society's business and will feature a special entertainment performance. The afternoon is filled with 12 interest area sessions followed by the Expo Reception, Dedicated Poster Viewing, and Division Receptions and Dinners.

Tuesday continues with a full day of sessions to provide you with the most up-to-date information and developments in the fats and oils fields and their related applications. Late morning features the dedicated Awards Session recognizing excellence among members, and Division and Section lunches then provide another opportunity to socialize with your peers and hear presentations for your interest area. The day concludes with another Expo Reception and Dedicated Poster Viewing, followed by Division Receptions and Dinners. The final day on Wednesday provides yet another full day of important session programing for all interest areas that you won't want to miss.

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 you enjoy Montréal.

Best regards,

GREG HATFIELD
Annual Meeting General Chair
Bunge North America, Canada

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 into the Society's first century and is the launching point for the new initiatives and technologies to foster increased growth for the industry over the next century.

AOCS Mission

AOCS advances the science and technology of oils, fats, surfactants, and related materials, enriching the lives of people everywhere.

Contents

Montréal 2013

The Annual Meeting Experience

- 1,600+ Industry Professionals from 60+ Countries
- 11 Divisions/Interest Areas
- 7 Sections/Geographical Regions
- 62 Sessions
- 453 Oral Presentations
- 209 Poster Presentations
- 70+ Exhibiting Companies
- 100+ AOCS-Published Books, Scientific Methods, and Journals

The AOCS Governing Board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Thank You!

AOCS greatly appreciates the generous contributions from the following organizations. Without their support, the success of the 104th AOCS Annual Meeting & Expo would not be possible.

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Monday Expo Reception

2014 AOCS Annual Meeting & Expo

Tuesday Expo Reception

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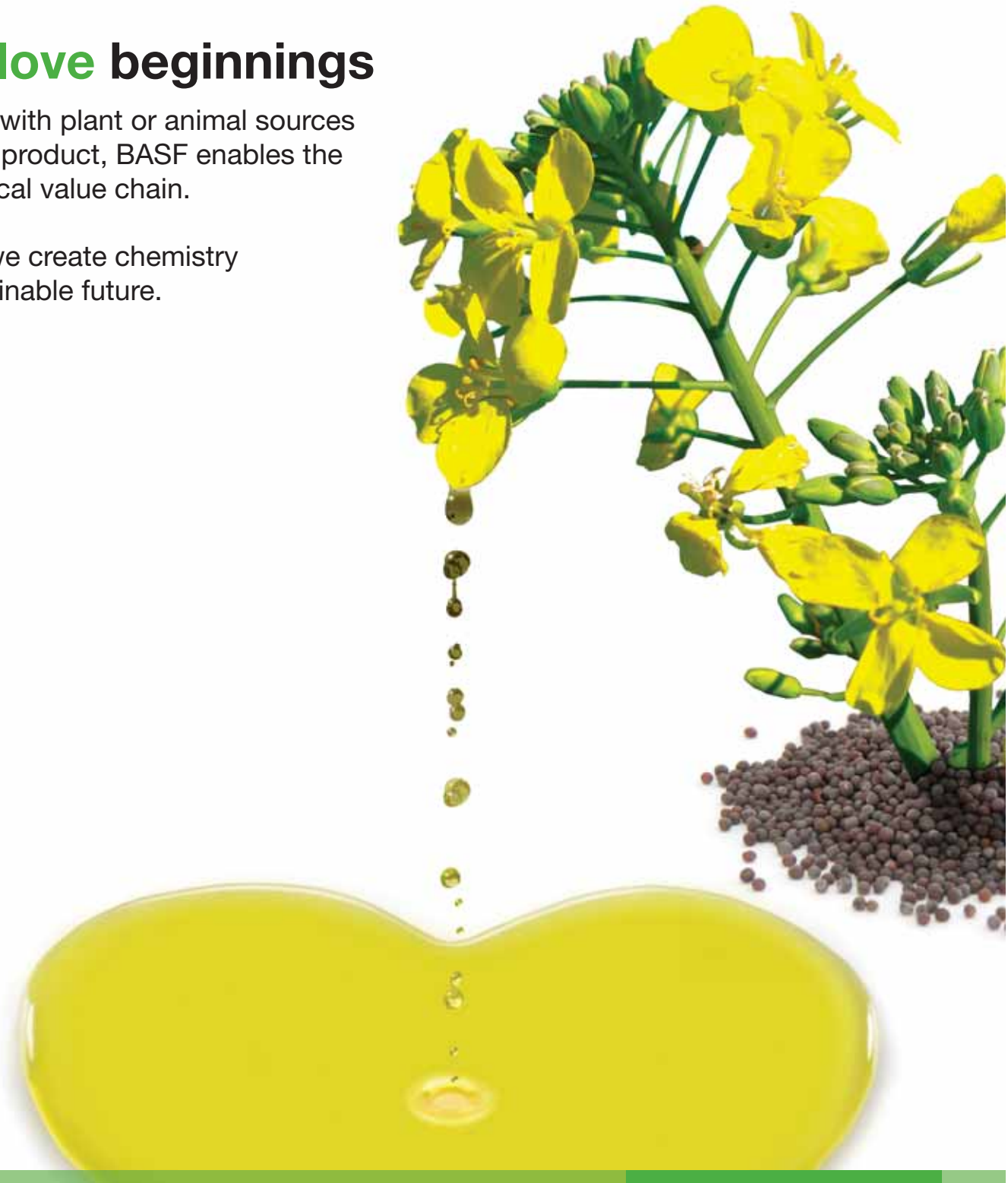
At BASF, we create chemistry for a sustainable future.



Please visit BASF at AOCS in Booth 610

www.catalysts.basf.com/chemicals

BASF

The Chemical Company

AOCS delivers!

☑ 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

Streamlined agenda with fewer scheduling conflicts; more opportunities for business and networking.

☑ Dynamic

We'll keep you engaged with a variety of networking events, the Expo, the AOCS Business Meeting/Luncheon, Division/Section events, and more!

Schedule of Events

	Sunday, April 28	Monday, April 29	Tuesday, April 30	Wednesday, May 1
Morning	9:00–11:45 am **Division Leadership Orientation**	8:30–11:00 am THE FORUM on Emerging Technologies	7:55–11:00 am **Morning Sessions** 11:00 am–12:15 pm **Awards Plenary Session**	7:55 am–12:00 pm **Morning Sessions**
Afternoon	1:00–5:00 pm **Division and Committee Meetings**	11:30 am–1:00 pm **Business Meeting/Luncheon** 1:00–1:45 pm **Sweet Retreat in the Expo Hall** 1:55–5:00 pm **Afternoon Sessions**	12:30–1:45 pm **Division/Section Luncheons** 1:55–5:00 pm **Afternoon Sessions**	12:00–1:55 pm **Luncheons** 1:55–5:00 pm **Afternoon Sessions**
Evening	5:30–7:30 pm **Expo/Opening Mixer**	5:00–6:30 pm **Networking Reception** 5:30–6:30 pm **Poster Session—Authors Present** 6:30–9:30 pm **Division Receptions/Dinners**	5:00–6:30 pm **Networking Reception** 5:30–6:30 pm **Poster Session—Authors Present** 6:30–10:00 pm **Division Receptions/Dinners**	

AOCS Corporate Members

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Huntsman Corporation Australia
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Iranian Vegetable Oil Industry Association
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Kuala Lumpur Kepong Bhd
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Wacker Chemie AG
WILD Flavors Inc.
Wilmar Biotech R&D Center Company Ltd.
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Social Events

Opening Mixer

Sunday, April 28, 5:30–7:00 pm | Hall 220

This event is included in the registration fee for full registrants, exhibit personnel, and short course registrants.

AOCS Annual Business Meeting/Luncheon

Monday, April 29, 11:30 am–1:00 pm ***Sponsored by***
517ABC
Tickets required.

QUALISOY

This event is included for all full and Monday only registrants that checked they would attend on their registration form.

If you don't have a ticket and want to attend, please see the Registration Desk. Limited on-site tickets are available.

Sweet Retreat

Monday, April 29, 1:00–1:45 pm | Hall 220
Fuel up! Enjoy desserts, coffees, and networking before heading back into the sessions for the afternoon.

Networking Receptions

Hall 220

Monday, April 29, 5:00–6:30 pm ***Sponsored by***
with Dedicated Poster Viewing
5:30–6:30 pm

oil:dri fluids purification

Included in the registration fee for full registrants, Monday single-day registrants, and exhibit personnel.

Tuesday, April 30, 5:00–6:30 pm ***Sponsored by***
with Dedicated Poster Viewing
5:30–6:30 pm

2014 AOCS Annual Meeting & Expo

Included in the registration fee for full registrants, Tuesday single-day registrants, and exhibit personnel.

2013 Annual Meeting is Mobile
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Pavilion Hours

Sunday, April 28	10:00 am–7:30 pm
Monday, April 29	7:00 am–6:30 pm
Tuesday, April 30	7:00 am–6:30 pm
Wednesday, May 1	7:30 am–3:00 pm

Registration Area

- **Registration Desk** registrars provide meeting materials and offer assistance for purchasing on-site tickets.
- **Lost and Found** items can be turned in at the Registration Desk. Please check with the registrars for lost items.

AOCS Career Center

Free of charge to all meeting attendees!

You are welcome to leave copies of résumés or job descriptions and 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!

Plinko returns!

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

18th Annual Student CIG Silent Auction—Presented by the AOCS Foundation

This popular event begins at 1:00 pm on Sunday and ends at 5:30 pm on Tuesday. Now in its 18th 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.

Expo 2013

Hall 220

The AOCS Expo—the gathering place for delegates from around the globe—showcases more than 70+ 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 68.

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Newcomer Opportunities

Newcomer Speed Networking

Sunday, April 28, 4:30–6:00 pm | Hall 220

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

New Professionals Networking

Monday, April 29, 1:00–1:45 pm | Hall 220

Get to know your colleagues during this informal reception. Open to those new to the profession and those who would like to network with this group.

AOCS Information Services—

For all things AOCS

Need information about AOCS Membership? Technical Services? Meetings? AOCS Foundation?

Come see us! We're here to help you get involved and make a difference.

Ask us how You Can:

- **Serve on a committee**
- **Present your research**
- **Author a book**
- **Propose a method**
- **Join as an AOCS member**
- **Recommend a meeting**
- **… and much more!**

While there, get your FREE —

- **Souvenir photo**
- **Luggage tag**
- ***Inform* SmartBrief subscription**
- **Assistance with social media**

General Information

Name Badges

Badge lanyards sponsored by Dow AgroSciences

Name badges are color-coded to indicate registration status:

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

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

Event Tickets

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

Meeting Registration List

A link to the registration list for this meeting was emailed to all pre-registered delegates the week before the meeting. It is available online at: http://annualmeeting.aocs.org/reglist/index.cfm; Password: 2013amlist.

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 take them to the Registration Desk, and we will donate the items to local organizations.

2013 Annual Meeting is Mobile

Connect

Anytime. Anywhere.

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CIG Networking Events

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

Student CIG Business Meeting and Mentoring Session

Wednesday, May 1, 12:00–1:55 pm | 515B

Sponsored by Kraft

Professional Educators' CIG Business Meeting

Monday, April 29, 4:00–5:00 pm | 516A

Professional Educators' CIG Poster Session

Monday, April 29
Tuesday, April 30
5:30–6:30 pm | Hall 220

18th Annual Student CIG Silent Auction

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

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Montréal Information

Palais des congrès de Montréal

1001 Place Jean-Paul-Riopelle
Montréal, Québec, Canada
(Note: there are also entrances on Viger, St. Urbain and St. Antoine streets.)
Tel.: +1 514 871-8122
Fax: +1 514 871-9389

Annual Meeting Hotels

Le Westin Montréal

Headquarters Hotel
270 Saint-Antoine West
Montreal, Québec, Canada
Tel: +1 514-380-3333
Fax: +1 514-380-3332

Hôtel Le Dauphin Montréal Downtown

1025 rue De Bleury
Montréal, Québec, Canada
Tel: +1 514-788-3888
Fax: +1 514-788-3889

Delta Centre-Ville

777 University Street
Montréal, Québec, Canada
Tel: +1 514-879-1370
Fax: +1 514-879-1761

Hotel Travelodge Montréal Centre

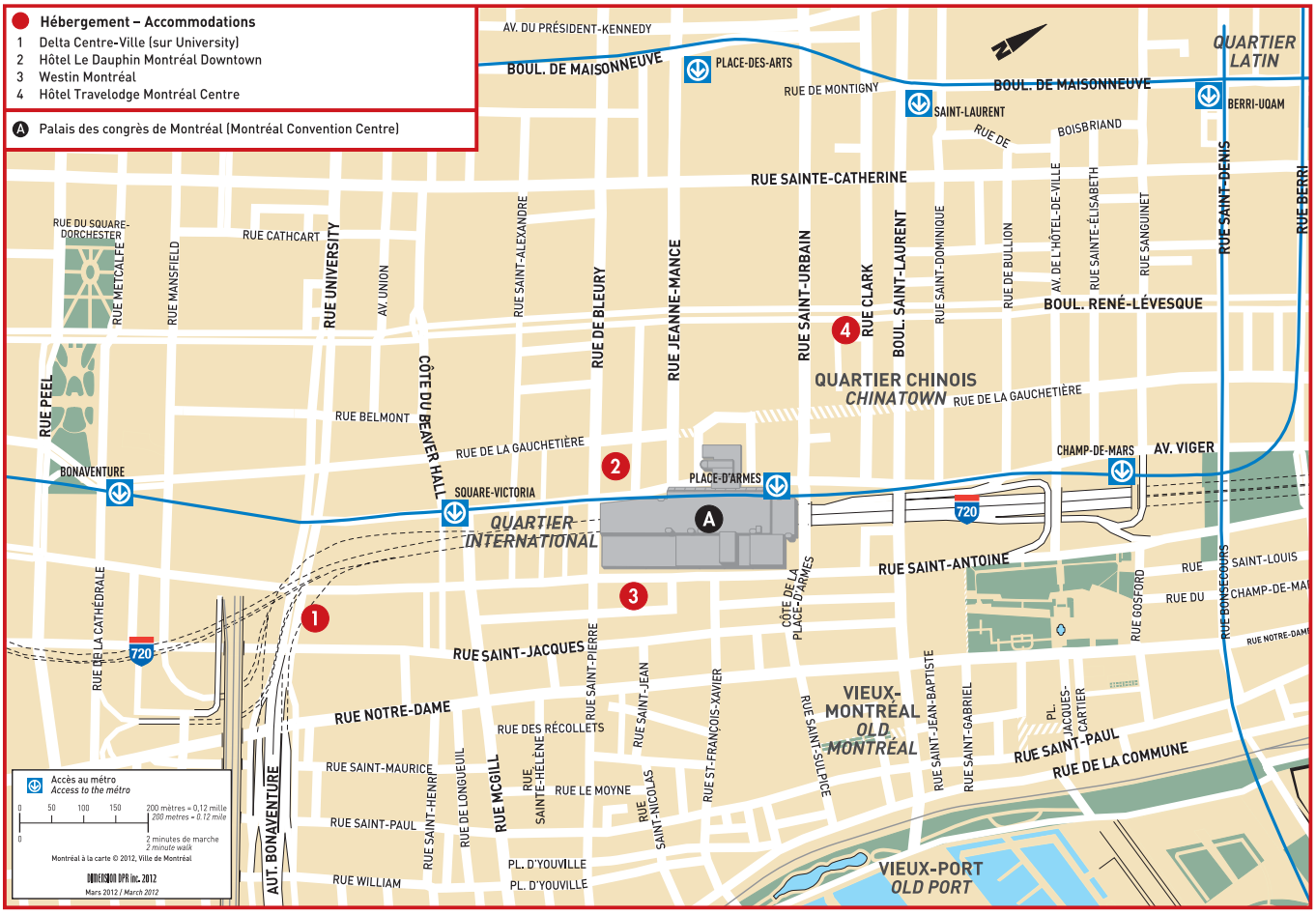
50 René-Lévesque St. West
Montréal, Québec, Canada
Tel: +1 514-874-9090
Fax: +1 514-874-0222

Palais des congrès de Montréal Business Center/Information Desk

Located in Viger Hall, this business center offers fax and photocopy services to convention delegates. Information agents will also help visitors with tourist and restaurant information. Maps and brochures are also available.

Hours:

Sunday ..... 10:00 am–5:30 pm
Monday ..... 7:30 am–5:30 pm
Tuesday ..... 7:30am–5:30 pm
Wednesday ..... 7:30 am–12:00 pm



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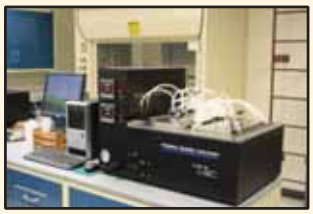
For over a century, Stratas Foods has pioneered the production and improvement of edible oils; it is what we do, and the focus of our energies. Our dedication to product excellence and consistency has led us to invest extensive time and resources in creating the most versatile and innovative facilities in the industry. These unmatched analytical and technical capabilities are available for your use.



By outsourcing your company's testing and development needs, you reap the benefits of our equipment and experiences; lower costs, faster turnaround, and the guaranteed highest standards in testing and production.

ANALYTICAL TESTING BY THE INDUSTRY LEADER

Stratas Foods produces edible oils for the foodservice, food processor and retail food industries. These products are scrutinized at every stage of production by our highly trained staff of chemists and technicians, utilizing the world's foremost technologies and methods. Our firm dedication to quality control demands analytical precision day after day.

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Since 1994, the Stratas Foods Pilot Plant has offered cutting edge food processing in oils. Skilled technicians in this 38,000 square foot facility formulate customized samples of oils and emulsifiers on a cost-effective outsource basis, and in bench-top, drum, box, or bag quantities.

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In addition to routine fats and oils analysis, Stratas Foods is qualified to handle:

- **Oil Stability Index (OSI)**
- **Mettler Drop Point**
- **SFC by NMR**
- **SFI**
- **DSC Analysis**
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For More Information Call 1.888.404.1004 *Ext 2237 for Analytical Services – *Ext 4784 for Pilot Plant Services
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Division Activities

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

All incoming Division leadership meet on Sunday, April 28, Palais des congrès de Montréal, 447:

- 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 28, 1:00–2:30 pm, 515

Division Council
Sunday, April 28, 2:30–3:30 pm, 515

Note: Events not indicated as "Westin" take place at the Palais des congrès de Montréal.

Division	Roundtable	Networking Event(s)
ANA	Monday, April 29 5:00–6:00 pm 512E	**Luncheon:** Tuesday, April 30 • 12:30–1:45 pm • 519B **Speaker:** Fred Eller, US Department of Agriculture, USA *The Entomologist: An Unexpected Journey*
BIO	Tuesday, April 30 12:30–1:30 pm 512G	**Reception:** Tuesday, April 30 • 6:30–7:30 pm • Westin, Fortifications Ballroom **Dinner:** Tuesday, April 30 • 7:30–10:00 pm • Westin, Fortifications Ballroom **Speaker:** Ahmed El-Sohemy, Associate Professor and Canada Research Chair in Nutrigenomics, Department of Nutritional Sciences, University of Toronto, Canada *Should Our Genes Determine What We Eat?*
EAT	Tuesday, April 30 5:15–6:15 pm 513D	**Reception:** Monday, April 29 • 6:30–7:45 pm • Westin, St-Antoine AB
FS&FF		**Luncheon:** Tuesday, April 30 • 12:30–1:45 pm • 515A
H&N	Tuesday, April 30 12:45–1:45 pm 513D	**Reception:** Monday, April 29 • 7:00–7:30 pm • Westin, Fortifications Ballroom **Dinner:** Monday, April 29 • 7:30–9:30 pm • Westin, Fortifications Ballroom **Speaker:** Michael Lewis, Founder and President, Brain Health Education and Research Institute, USA *Severe Head Injury: Is There a Role for Omega-3s?*
IOP	Tuesday, April 30 5:00–6:00 pm 516D	**Luncheon:** Tuesday, April 30 • 12:30–1:45 pm • 515B **Speaker:** Zoran Petrovic, Senior Research Advisor, Kansas Polymer Research Center, Pittsburg State University, USA *Magic with Oils*
LOQ	Tuesday, April 30 5:15–5:45 pm 511F	**Reception:** Monday, April 29 • 5:30–6:30 pm • 515A **Luncheon:** Tuesday, April 30 • 12:30–1:45 pm • 519A **Speaker:** Naomi Shibasaki-Kitakawa, Tohoku University, Japan *A Kinetic Model Describing Antioxidation and Prooxidation of β-Carotene in the Presence of α-Tocopherol and Ascorbic Acid*
PHO	Tuesday, April 30 12:45–1:45 pm 514C	**Reception:** Monday, April 29 • 6:30–7:45 pm • Westin, St-Antoine AB
PRO	Tuesday, April 30 5:00–6:00 pm 512F	**Hospitality:** Monday, April 29 • 6:00–10:00 pm • Westin, Reporters Lounge **Luncheon:** Tuesday, April 30 • 12:30–1:45 pm • 510A **Speaker:** Patti Miller, President, Canola Council of Canada
PCP	Tuesday, April 30 12:30–1:30 pm 516A	**Reception:** Tuesday, April 30 • 6:30–7:30 pm • Westin, Fortifications Ballroom **Dinner:** Tuesday, April 30 • 7:30–10:00 pm • Westin, Fortifications Ballroom **Speaker:** Ahmed El-Sohemy, Associate Professor and Canada Research Chair in Nutrigenomics, Department of Nutritional Sciences, University of Toronto, Canada *Should Our Genes Determine What We Eat?*
S&D	Monday, April 29 5:00–6:00 pm 513A	**Networking Reception:** Monday, April 29 • 6:30–8:00 pm • Westin, Ville Marie A **Sponsor Presentations:** Monday, April 29 • 7:00–8:00 pm • Westin, Ville Marie B **Luncheon:** Tuesday, April 30 • 12:30–1:45 pm • 516C **Speaker:** Kirk Raney, Shell International Exploration and Production, Inc., USA *Enhanced Oil Recovery and Household Laundry – More Alike Than You Might Think*

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 1, 10:00–11:30 am, 516E

Section	Leadership Team Meeting	Networking Event(s)
Asian	Wednesday, May 1 • 8:30–9:30 am 440	
Canadian		**Luncheon:** Tuesday, April 30 • 12:30–1:45 pm • 518B
European		**Breakfast:** Tuesday, April 30 • 7:00–9:00 am • 515B
Latin American		**Luncheon:** Tuesday, April 30 • 12:30–1:45 pm • 510B
USA	Wednesday, May 1 • 12:00–1:00 pm 441	**Luncheon:** Tuesday, April 30 • 12:30–1:45 pm • 510D **Speaker(s):** Michael Eskin, University of Manitoba, Canada *(Bailey Award winner)*; and Leann Barden, University of Massachusetts Amherst, USA *(Hans Kaunitz Award winner)*

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The AOCS Foundation gratefully acknowledges and thanks all the donors who have invested in the AOCS Foundation through pledges and donations. In addition to the many people and organizations that support the AOCS Foundation, the Foundation Century Club continues to grow each year and has more than 700 members. Visit www.aocsfoundation.org for more information.

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 5:30 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.

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(As of March 22, 2013)

AOCS Award Win

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

Award of Merit
Ragnar Ohlson, retired, Sweden
Business Luncheon, Monday, 517ABC

Fellows
Erich E. Dumelin, retired, Switzerland
Steven A. Howell, Marc-IV Consulting Inc. and National Biodiesel Board (NBB), USA
Magdi M. Mossoba, Food and Drug Administration, USA
Frank T. Orthoefer, Consultant, USA
Bernard F. Szuhaj, Consultant, USA
Business Luncheon, Monday, 517ABC

Corporate Achievement
Ladang Tai Tak (Malaysia) and partners: CSIRO (Australia) and IHMS Sdn Bhd (Malaysia)
Business Luncheon, Monday, 517ABC

Scientific Awards

Supelco/Nicholas Pelick–AOCS Research
Nissim Garti, Hebrew University of Jerusalem, Israel
Awards Plenary, Tuesday, 511B

Stephen S. Chang
Alejandro G. Marangoni, University of Guelph, Canada
Awards Plenary, Tuesday, 511B

AOCS Young Scientist Research
Michael A.R. Meier, Karlsruhe Institute of Technology (KIT), Germany
IOP 4, Wednesday, 516D

Division/Section Awards

Analytical

Herbert Dutton
Fred J. Eller, US Department of Agriculture, USA
ANA luncheon, Tuesday, 519B

Student Awards
Alessia Ermacora, Technische Universität, Germany
ANA 3, Tuesday, 512E
Chenxing Sun, University of Alberta, Canada
ANA 5, Wednesday, 512E

Biotechnology

Student Awards
Yuning Gao, University of Alberta, Canada
BIO5, Wednesday, 512G
Worawan Panpipat, Aarhus University, Denmark
BIO 1.1/PHO 1, Monday 514C
Ebenezer A. Ifeduba, University of Georgia, USA
BIO 5, Wednesday, 512G

Edible Applications Technology

Achievement Award
David G. Forster, retired, Canada
EAT reception, Monday, Westin, St-Antoine AB

Timothy Mounts
Tong Wang, Iowa State University, USA
EAT 5, Wednesday, 516B

Student Award
Eline Ryckebosch, KU Leuven University Kulak, Belgium
EAT 5, Wednesday, 516B

Health and Nutrition

Ralph Holman
Edward Emken, Consultant, USA
H&N4/ANA 4.1, Wednesday, 513D

Student Award
Alex P. Kitson, University of Waterloo, Canada
H&N 5, Wednesday, 513D

Industrial Oil Products

ACI/NBB Glycerine Innovation
Prabhavathi Devi, Indian Institute of Chemical Technology, India
IOP 3, Tuesday, 516D

Student Award
Solmaz Tabtabaei, University of Toronto, Canada
IOP 1, Monday, 516D

Processing

Distinguished Service
Theodore K. Mag, retired, Canada
PRO luncheon, Tuesday, 510A

Student Award
Meizhen Xie, Oklahoma State University, USA
PRO-P, Hall 220

Surfactants and Detergents

Samuel Rosen Memorial
Kirk Raney, Shell, USA
S&D luncheon, Tuesday, 516C

Student Awards
Americo Boza Troncoso, University of Toronto, Canada
S&D 3.1b, Tuesday, 513C
Zhibo Zheng, Dalian University of Technology, P.R. of China
S&D 2.1, Tuesday, 513C

USA Section

Alton E. Bailey
Michael Eskin, University of Manitoba, Canada
USA Section luncheon, Tuesday, 510D

Hans Kaunitz
Leann Barden, University of Massachusetts Amherst, USA
USA Section luncheon, Tuesday, 510D

Student Awards

AOCS Foundation

Thomas Smouse Fellowship
Michael Flock, The Pennsylvania State University, USA
Not presenting

Honored Students
Chodchanok Attaphong, The University of Oklahoma, USA [*Manuchehr Eijadi Award*]
S&D 2, Tuesday, 513D
Leann Barden, University of Massachusetts Amherst, USA
LOQ 2, Tuesday, 511F
Alex P. Kitson, University of Waterloo, Canada
H&N 5, Wednesday, 513D
Henna Lu Fung Sieng, Technical University of Denmark, Denmark
EAT 4/S&D 4.1, Wednesday, 516B
Worawan Panpipat, Aarhus University, Denmark
BIO 1.1/PHO 1, Monday, 514C
Madhuram Ravichandran, University of Arkansas, USA
PCP 5, Wednesday, 513F
Chenxing Sun, University of Alberta, Canada
ANA 5, Wednesday, 512E

AOCS congratulates each of the 2012-2013 award recipients.

For detailed information on award lecture schedules, please refer to the Technical Session section.
Note: Events not indicated as "Westin" take place at the Palais des congrès de Montréal.

Fang Tian, University of Massachusetts Amherst, USA [*Peter & Clare Kalustian Award*]
LOQ 5, Wednesday, 511F
Tu Tran, Ryerson University, Canada
FS&FF 2, Tuesday, 514B

Ralph Potts Memorial Fellowship
Paul Tongwa, Missouri University of Science and Technology, USA
IOP 4, Wednesday, 516D

Best Paper Awards

ADM/Protein & Co–Products Division Best Paper
Chemistry/Nutrition
A Dynamic Light Scattering Study on the Complex Assembly of Glycinin Soy Globulin in Aqueous Solutions (*Journal of the American Oil Chemists' Society* 89:1183-1191)
V.M. Pizones Ruiz-Hernestrosa, M.J. Martinez, J.M.R. Patino, and A.M.R. Pilosof
PCP Dinner, Tuesday, Westin, Fortifications Ballroom

Engineering/Technology
Ethanol Production from Soybean Fiber, a Co-product of Aqueous Oil Extraction, Using a Soaking in Aqueous Ammonia Pretreatment (*Journal of the American Oil Chemists' Society* 89:1345-1353)
B. Karki, D. Maurer, S. Box, T. Hyun Kim, and S. Jung
PCP Dinner, Tuesday, Westin, Fortifications Ballroom

Edwin Frankel Award in Lipid Oxidation & Quality
A Kinetic Model Describing Antioxidation and Prooxidation of β-Carotene in the Presence of α-Tocopherol and Ascorbic Acid (*Journal of the American Oil Chemists' Society* 89:815-824)
N. Shibasaki-Kitakawa, M. Murakami, M. Kubo, and T. Yonemoto
LOQ Luncheon, Tuesday, 519A

Phospholipids Distinguished Paper
Ultrafiltration of Whey Buttermilk to Obtain a Phospholipid Concentrate (*International Dairy Journal* 30:39-44)
G. Konrad, T. Kleinschmidt, and C. Lorenz
PHO Reception, Monday, Westin, St-Antoine AB

ACI Distinguished Paper
On the Characteristic Curvature of Alkyl-Polypropylene Oxide Sulfate Extended Surfactants (*Journal of Surfactants and Detergents* 15:157-165)
C.E. Hammond, and E.J. Acosta
S&D Luncheon, Tuesday, 516C

2013 Awards Sponsors

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

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National Biodiesel Board (NBB)
Nicholas Pelick
Milton Rosen
Vijai K.S. Shukla
Supelco, Inc.
Thomas Smouse and Family

AOCS Annual Business Meeting/Luncheon

Monday, April 29, 11:30 am–1:00 pm | 517ABC
Tickets Required.

Sponsored by QUALISOY

This event is included for those who reserved a ticket when registering.

If you don't have a ticket and are interested in attending, please see the Registration Desk. Limited on site tickets are available.

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

Special Performance!

Immediately following the business portion of the luncheon. You won't want to miss Duo Carpe Diem perform their aerial satin ribbon cirque routine using fabric in an artful manor to wrap, suspend, fall, swing, and spiral their bodies in and out of various positions.

Society Awards

Award of Merit

Recognizes: Leadership in technical, administrative, or special committees and activities; outstanding service that has advanced the Society's prestige, standing, or interests.

Jan Sven Ragnar Ohlson, retired, Sweden — *Award of Merit Winner*

Ragnar Ohlson has been a member of AOCS since 1964 and he has contributed much to the Society. Most notably, he was the General Secretary of the International Society for Fat Research (ISF) for over 10 years and was instrumental in AOCS being named the ISF Secretariat. In addition, he was involved in the formation of the AOCS European Section.

Ragnar served on the AOCS Governing Board (1994-1996), was co-chairman of the AOCS World Congress on Oil Technology (1995), and is a member of the *JAOCS* Editorial Advisory Board (1998-present). And he has been a leader in assisting AOCS in its European status and role among European lipid chemists by representing AOCS at many European meetings and conferences.

Ragnar is member of the Royal Swedish Academy of Agriculture and Forestry (KSLA, 1983) and of the Royal Swedish Academy for Engineering Sciences (IVA, 1975). He is an AOCS Fellow (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, and are eligible for Fellow membership status.

Erich E. Dumelin, retired (Vice President, Supply Chain Strategy and Technology Foods, Unilever), Switzerland has a very distinguished career with in the international oils, fats, and lipid business community. He is internationally recognized as an authority on sustainability of raw materials and renewable energy resources.

Erich has been an AOCS member for 25 years during which time he has been an important leader in the Society. He has been active in technical committees, education and meetings steering committee, financial steering committee, the AOCS European Section, as well as AOCS sponsored world conferences. These interests were expanded into involvement with AOCS governance. Erich served on the AOCS Governing Board (2006-2013) including AOCS Vice President (2010), and AOCS President (2011). He represents the highest ideals of leadership, knowledge, character and fellowship.

Erich received the International Lecture Award (Society of Chemical Industries, 2009).

Steven (Steve) A. Howell, President, Marc-IV Consulting Inc. and Technical Director, National Biodiesel Board (NBB), USA, has been a major force for moving biodiesel from the position of being a backyard curiosity to a nationally accepted fuel with widespread use and support. Serving as the NBB first (and still serving) Technical Director for the past 20 years he has helped lead the entire biodiesel industry to the forefront of alternative energy while helping to overcome technical, political, and regulatory hurdles. He is known and recognized as one of the main individuals who has grown and developed an entire industry.

Steve has been an AOCS member since 1994 and active within the Industrial Oils Products Division serving as Member-at-Large (1998), Membership Development coordinator (1999-2006), and National Biodiesel Board (NBB) representative to the Division (2006-2010).

Steve received the first Outstanding Service to Industry award (NBB, 2000), Outstanding Service and Dedication to the BQ-9000 Fuel Quality Program (NBAC, 2005), Award of Appreciation (ASTM, 2008), the Meritorious Service Award (ANSI, 2008),

Continues on page 24

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Exceptional Support and Contributions to Biodiesel Research (NREL, 2010), and B20 Vision Award for Tireless Efforts to Enable B20 by the OEM Community (NBB, Ford Motor Company, 2011).

Magdi M. Mossoba, Research Chemist, Food and Drug Administration, USA is a distinguished scientist known for his research accomplishments in Fourier Transform Infrared Spectroscopy. His accomplishments in applying FT-IR to critical problems involving lipid analysis are legendary and these technology developments have served to generate a number of critical official methods. He has been responsible for the advancement of IR within the FDA and demonstrated its wide-spread applicability.

Magdi has been an AOCS member since 1992 and served on a number of committees within AOCS, such as the Books and Special Publications Committee (currently chairperson), and the Analytical Division (chairperson, 2000-02). His participation in AOCS Uniform Methods Committee has contributed significantly to the advancement of analytical methodology on an international level.

Magdi received the Herbert Dutton Award (AOCS, 2008) and the Associate Referee of the Year Award (AOAC International, 2000)

Frank T. Orthoefer, Consultant, USA, is a distinguished lipid scientist with over 35 years of industrial experience in lipid and grains research and development. This includes 150 publications and 17 United States patents covering a wide range of topics including grains, proteins, phospholipids, and edible oils. He has specialty experience in the development of dietary fiber from rice bran for incorporation into cereals, pasta and bakery products and created a patented process for steam table rice.

Frank has been an AOCS member since 1979, was one of the founding members of the Edible Applications Technology Division, and served as its first Chairperson. He has organized and chaired many symposia and technical sessions, as well as serving in a wide range of functions including Associate Editor of *JAOCS* and technical program chair for the AOCS Annual Meeting & Expo.

Bernard (Bernie) F. Szuhaj, Consultant, USA, directed and lead a strong lecithin and protein research group focusing on the value and application of phospholipids and soy protein while director and Vice President at Central Soya. He is the inventor on eight United States patents based on work with lecithin. Bernie contributed two chapters for the 5th revision of *Baileys Industrial Oil and Fat Products.*

Bernie has been a member since 1969, is a founding member of the Phospholipid Division as well as serving as its first Chairperson, and served on the AOCS Governing Board as Member-at-Large (1989). He has been active in AOCS sponsored meetings and short courses, along with authoring several books on lecithin. He was instrumental in the Phospholipid Division partnering with the International Lecithin and Phospholipid Society (ILPS) to promote the science and technology of phospholipids–a partnership which has lasted for more than 15 years and is still in effect today.

Corporate Achievement

Recognizes: Industry achievements for an outstanding process, product, or contribution that has made the greatest impact on its industry segment.

The joint nomination of **Ladang Tai Tak**, Malaysia and partners **CSIRO**, Australia and **IHMS Sdn Bhd**, Malaysia is in recognition of the applied ultrasound technology to significantly reduce the oil loss and waste streams in the milling of palm oil leading to improved commercial returns for industry and environmental benefits.

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Awards Plenary Session

Tuesday, April 30, 11:00 am–12:15 pm | 511 ABDE

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.

Nissim Garti, Professor, The Hebrew University of Jerusalem, Israel

Nissim Garti is an internationally recognized lipid scientist with more than thirty years in the field of lipid science. His first work that gained attention was the discovery of a new synthetic process for sodium stearoyl lactylate (SSL) as a one step process. His work on "cloudy emulsions for beverages" is another significant innovation that is used today by some of the major producers of citrus-based products. And his contributions to self-assemblies of surfactants is another major achievement. He is one of the pioneers who understood the potential of nanotechnology and its broad applications. As you can see, his scientific contributions have impacted many areas.

Garti has a very long list of publications including more than 380 original peer reviewed articles, over 80 review chapters in books, edited 11 books, and over 100 patents or patent applications. Moreover he has mentored well over 130 graduate and postgraduate students. His contributions go well beyond publication of high quality papers in peer reviewed journals since a number of companies have been created from his research. He has a unique ability to interpret and apply his fundamental findings to industrial applications. As such, he serves as a consultant and scientific advisor to several international companies.

Stephen S. Chang Award

Recognizes: A scientist, technologist, or engineer who has conducted distinguished basic research that has been 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.

Alejandro G. Marangoni, Professor and Tier I Canada Research Chair Food, Health and Aging, University of Guelph, Canada

Alejandro Marangoni's work concentrates on the physical properties of foods, particularly fat crystallization and structure. His research has been successfully applied in the marketplace and has co-founded three high-technology companies. He is the co-recipient of the 2008 Guelph Partners of Innovation "Innovator of the Year" award for his discovery of a platform technology for the manufacture of structured oil-in-water emulsions, which can replace high-saturate and high-trans baking shortenings. His recent discovery of edible oleogels structured by a cellulose derivative has attracted enormous attention by multinationals world-wide. It is evident that Marangoni has very successfully bridged fundamental research and applications, by which many end products have been born through the technologies emanating from his scientific contributions.

Marangoni has published over 200 refereed research articles, nine books, and 14 patents. He is the recipient of many awards including a 1999 Premier's Research Excellence Award, the first Young Scientist Award from AOCS (2000), a Tier II Canada Research Chair in Food and Soft Materials Science (2001-2011), two Distinguished Researcher Awards from the Ontario Innovation Trust (2002), a Career Award from the Canadian Foundation for Innovation (2002), an E.W.R. Steacie Memorial Fellowship (2002) – given to the top 6 Canadian scientists from all disciplines - the T.L. Mounts Award from AOCS (2004), and was selected one of the 10 most influential Hispanic Canadians by Hispanic Business (2012). He has mentored and trained over 100 undergraduate and graduate students in his laboratory, along with research technicians, visiting scientists and 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.

Michael A.R. Meier, Professor, Karlsruhe Institute of Technology (KIT), Germany

Michael Meier studied chemistry at the University of Regensburg (Germany) and obtained his doctorate in 2006 from the Eindhoven University of Technology (The Netherlands), for which he was awarded with the Golden Thesis Award of the Dutch Polymer Institute. In 2006 he was appointed principal investigator of the junior research group Renewable Raw Materials at the University of Applied Sciences in Emden, Germany. In June 2009 he became Junior professor for Sustainable Organic Synthesis at the University of Potsdam, Germany. Since October 2010 he has been full professor at the Karlsruhe Institute for Technology (KIT) in Karlsruhe, Germany.

Meier's ability to think across different disciplines of chemistry, and his broad yet thorough understanding of chemistry help him to efficiently guide his international team, organize and develop his projects, and successfully execute them. Past research included original ideas with oleochemicals projects at the forefront of science in organic, catalytic, and macromolecular chemistry that were communicated to the scientific community. His current research focuses on a sustainable use of plant oils and other renewable resources for the synthesis of novel monomers, fine chemicals, and polymers. His scientific work has been published in more than 100 original publications and review articles. In 2010 he was awarded the European Young Lipid Scientist Award of European Federation for the Science and Technology of Lipids. In 2012 he received the Outstanding Young Scientists award of the BioEnvironmental Polymer Society (BEPS).

Annual Meeting Career Center

April 28–May 1, 2013

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Presentations

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Speaker Ready Room

514A

Laptop computers and an audio-visual technician are available.

	Room Open	Technician Present
Sunday, April 28	7:00 am–7:00 pm	1:00–5:00 pm
Monday, April 29	7:00 am–7:00 pm	9:00 am–5:00 pm
Tuesday, April 30	7:00 am–7:00 pm	9:00 am–5:00 pm
Wednesday, May 1	7:00 am–2:00 pm	9:00 am–1:00 pm

THE FORUM on Emerging Technologies

What's on the Horizon?

Monday, April 29

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.

8:30–11:00 am | 511B

Ensuring Global Food Security

Organizers: Jane Whittinghill and Phil Kerr, Dupont Nutrition & Health, USA

8:30–11:00 am | 512F

Microalgae Technologies and Products

Organizers: Tong Wang, Iowa State University, USA; and Lieve Laurens, National Renewable Energy Laboratory, USA

8:30–11:00 am | 513A

Omega-3 Fatty Acids and Heart Health: Up for Debate and a Lesson in Meta Analysis

Organizer: Eileen Bailey Hall, DSM, USA
Sponsored in part by DSM Nutritional Products.

9:30–11:00 am | 516D

The New Patent Frontier under the America Invents Act Has Arrived: File Early, File Often, or Just Stay Home?

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

Special Sessions

Professional Educators' Common Interest Group (CIG) Session

Effective Use of Statistics in Lipids Teaching and Research

Monday, April 29 | 8:30–11:00 am
511F

Applications for a range of areas will be discussed including: modern sensory analysis, clinical studies, engineering problems, and the role of experimental design in the correct use of statistics. Relevant for attendees from both industry and academia to provide a useful introduction to the correct use of statistics and state-of-the-art information for experienced professions.

Bruce McDonald Memorial Session: Advances in Canola Research

Tuesday, April 30 | 8:00–11:00 am
511C

Bruce McDonald was a scientist and a teacher, and for 30 years as a professor on the staff of the University of Manitoba his focus was on the nutritional properties of canola oil. He directed a clinical research program that was the first to identify the nutritional properties of the oil. He was also an active participant in the promotion of canola oil in North America and around the world.

The keynote speech of the Bruce McDonald Memorial Session, Advances in Canola Research, will be given by Bruce Holub. Holub is the Director of Scientific Affairs and Information for the DHA/EPA Omega-3 Institute and a University Professor Emeritus at the University of Guelph's Department of Human Health & Nutritional Sciences. In addition, new research findings in clinical nutrition, food uses and analytical techniques will be presented.

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Oral Presentations

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

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Monday Afternoon

ANA 1/LOQ 1.1: Marine Oils—Analytical and Stability

Chairs: J. Reuther, Eurofins Central Analytical Labs, USA; and V. Barthet, Canadian Grain Commission, Canada

Room: 512E

1:55 Introduction

2:00 **Quantitation of Fatty Acids in Marine Oils by Comprehensive GC-online Hydrogenation x GC.** P. Delmonte, A. Reza Fardin Kia, and J. Rader, US Food and Drug Administration, USA.

2:20 **Determination of *trans* Polyunsaturated Fatty Acid Content in Fish Oil Supplements Available in the U.S. Market.** C. Tyburczy and J. Rader, U.S. Food and Drug Administration, USA.

2:40 **Microalgae: A Potential Source to Enrich Eggs with Omega-3 Fatty Acids.** C. Lemahieu, C. Bruneel, R. Termote-Verhalle, K. Muylaert, J. Buyse, and I. Foubert, KU Leuven University Kulak, Belgium.

3:00 **Analysis of Poly Aromatic Hydrocarbons in Seafood and Fish Oil by GC-MS and GC-MS/MS.** A. Pradhan, Eurofins Central Analytical Laboratories, USA.

3:20 **Rapid Analysis of In-process Marine Oil by Quality Trait Analysis (QTA) Infrared Spectroscopy.** K. Ma, K. Kramer, and C.-H. Teng, Eurofins QTA, Inc., USA.

3:40 **Issues in Fortification and Analysis of Omega 3s in Foods.** E. Hernandez and M. Rusli, Omega Protein, USA.

4:00 **Bioimprinting and/or Immobilization of Lipases for Selective Ethanolysis of Fish Oil**. D. Kahveci[1] and X. Xu[2], [1]Yeditepe University, Food Engineering Department, Turkey; [2]Aarhus University, Denmark.

4:20 **Accelerated Solvent Extraction of Lipids: A Highly Efficient Method Preferred forLipid Oxidation Studies.** L. Yao and K.M. Schaich, Rutgers University, USA.

4:40 **Oxidative Stability of Krill (*Euphasia superba*) Oil**. I. Bruheim[1], A. Oterhals[2], B. Ole Haugsgjerd[2],G. Vogt[2], M. Griinari[3], B.R. Thomsen[4], H. Lu Fung Sieng[4], and C. Jacobsen[4],[1]Olympic Seafood AS, Norway; [2]Nofima, Norway; [3]Clanet, Finland; [4]Technical University of Denmark, Denmark.

BIO 1: Enzyme Processes Enable High Yield Biodiesel Production

Chairs: H.C. Holm, Novozymes A/S, Denmark; and R. Burton, Mark-IV, USA

Room: 512G

1:55 Introduction

2:00 **The Birth, Infancy and Extended Adolescence of Enzymatic Catalysis as a Technology for Industrial Biodiesel Production**. M.J. Haas, Eastern Regional Research Center, Agricultural Research Service, USDA, USA.

2:20 **Commercial Biodiesel Production Using Enzyme Catalysis.** R. Burton[1] and P. Eudy[2], [1]Marc-IV, USA; [2]Piedmont Biofuels, USA.

2:40 **A Flexible Modular Process Design for Enzymatic Biodiesel Production.** J.M. Woodley, C. Seiti, and M. Nordblad, Technical University of Denmark, Denmark.

3:00 **Low Cost Production of Biodiesel Using Liquid Enzyme Catalyst and Novel Plant Design.** G. Towerton, Viesel Fuel LLC, USA.

3:20 **Retrofitting a Chemical Biodiesel Plant to Enzymatic Catalyzed Biodiesel, and Operational Experience.** K.P. Staller, Patriarch Oleo, USA.

3:40 **Progress of Lipase-catalyzed Biodiesel Commercialization.** D. Liu, W. Du, and H. Liu, Tsinghua University, China.

4:00 **How Enzymes are Utilized for the Design of a Cost Efficient Biodiesel Process.** P. Munk Nielsen and A. Rancke-Madsen, Novozymes S/A, Denmark.

4:20 **Industrial Enzymatic Production of Biodiesel Fuel.** S.A. Basheer, TransBiodiesel Ltd., Israel.

BIO 1.1/PHO 1: Polar Lipids: Chemistry, Technology, and Applications

Chairs: X. Xu, Wilmar Global R&D Center, China/Aarhus University, Denmark; and M. Ahmad, Jina Pharmaceuticals Inc., USA

Room: 514C

1:55 Introduction

2:00 **Enzymatic "Green" Preparation of Sugar-fatty Acid Esters.** D.G. Hayes, University of Tennessee, USA.

2:20 **Rice Bran Lyso Lecithin: A Valuable Material for Poultry Feed and Surfactant Applications.** R.C. Reddy Jala[1], B.V.S.K. Rao[1], P.P. Chakrabarti[1], M.S.L. Karuna[1], D.B.L.A Prabhavathi[1], M.V.L.N. Raju[2], A.L. Panda[2], and R.B.N. Prasad[1], [1]Indian Institute of Chemical Technology, India; [2]Project Directorate on Poultry, India.

2:40 **Deep Eutectic Solvents: New Opportunities for Lipase-catalyzed Reactions.** E. Durand, J. Lecomte, B. Barea, and P. Villeneuve, CIRAD, UMR IATE, France.

3:00 **Highly Efficient Synthesis of Phosphatidylserine in a Novel Medium.** Z.-Q. Duan, F. Hu, Y.-Y. Wang, X. Luan, Academy of State Administration of Grain, China.

3:20 **Role of Phospholipid in Formation of Nanoemulsions of Bioactive Lipids.** M. Ghosh, University of Calcutta, India.

3:40 **Microencapsulation of Krill Oil Using Complex Coacervation.** S. Aziz[1], P. Dutilleul[1], R. Neufeld[2], and S. Kermasha[1], [1]McGill University, Canada; [2]Queen's University, Canada.

4:00 **Improved Acylation of Phytosterols Catalyzed by Candida Antarctica Lipase a with Superior Catalytic Activity.** W. Panpipat ***(Honored Student Award Winner, Biotechnology Division Student Award Winner)***, X. Xu, and Z. Guo, Aarhus University, Denmark.

EAT 1: Functional Lipids

Chairs: N. Garti, The Hebrew University of Jerusalem, Israel; B. Kickle, ADM Oils Research, USA; and H.-S. Hwang, USDA, ARS, NCAUR, USA

Room: 516B

1:55 Introduction

2:00 **Synergistic Solubilization of DHA and Curcumin in Nano-sized Delivery Liquid Vehicles.** N. Garti, The Hebrew University of Jerusalem, Israel.

2:20 **Microstructure of Gels Made With Monoglycerides and Canola Oil.** A.G. Marangoni[1], L. Araceli Lopez[2], F. Peyronel[1], and J. Toro Vazquez[2], [1]University of Guelph, Canada; [2]Universidad Autonoma de San Luis Potosi, Mexico.

2:40 **Thermodynamic Calculation of Multicomponent Phase Compositions.** R. Liu[1], A.G. Marangoni[2], and G. Mazzanti[1], [1]Dalhousie University, Canada; [2]University of Guelph, Canada.

3:00 **Crystallisation and Polymorphic Behaviour of Shea Stearin and Effect of Diacylglycerols.** J. Ray[1], K. Smith[2], K. Bhaggan[3], Z. Nagy[4], and A. Stapley[1], [1]Loughborough University, UK; [2]Fat Science Consulting Ltd, UK; [3]IOI Loders Croklaan Europe, Netherlands; [4]Purdue University, USA.

3:20 **Challenges in Delivering Saturated Fat Reduction and the Latest Technologies.** P. Kaur and M. Marazzato, Nestle Product Technology Center, Germany.

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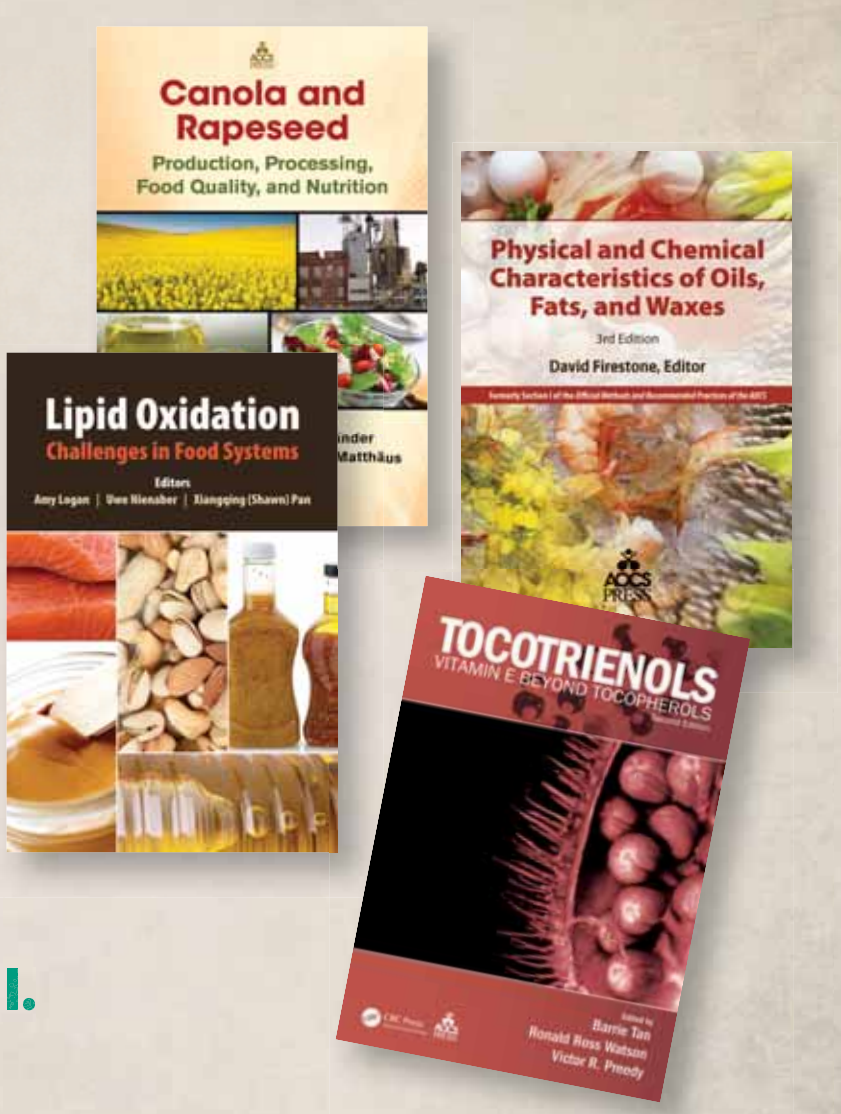

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3:40 **Rheological Behaviour of Suspensions of Lipid Nanoplatelets.** N.K. Toor, G. Mazzanti, and X. Deng, Dalhousie University, Canada.

4:00 **Pre-shearing of Candelilla Wax-Vegetable Oil Solutions does Determine the Rheology of the Organogels.** J.F. Toro-Vazquez, F. Alvarez-Mitre, J. Morales-Rueda, E. Dibildox Alvarado, and M. Charo-Alonso, Universidad Autonoma de San Luis Potosi, Mexico.

4:20 **Investigating the Eutectic Behavior of Certain Structured TAGs and FAMEs.** S. Narine and L. Bouzidi, Trent University, Canada.

4:40 **Acylglycerol Polymorphism: A Stereochemical Perspective.** R.J. Craven and R.W. Lencki, University of Guelph, Canada.

EXH 1: Technology Showcase

Chair: P. Voelker, Thermo Scientific Dionex, USA

Room: 511C

1:55 Introduction

2:00 **Analysis of Antioxidants in Edible Oils by HPLC.** P. Voelker, Thermo Scientific Dionex, USA.

2:15 **The Unbeatable Beet—Biorefining of High Value Chemicals.** R. Nolles, Cosun Biobased Products, Netherlands.

2:30 **Imaging Lipids in Native Specimen with Leica TCS SP8 Cars -the Cars Turn-key Solution with Full Functionality of a Multi-dimensional Confocal Platform.** S. Degenhartt and Vishnu Krishnamachari, Leica Microsystems CMS GmbH, Germany.

2:45 **Determination of Underivatized Omega Fatty Acids by HPLC and Charged Aerosol Detection on a Fused-Core C30 column.** M. Plante, Thermo Fisher Scientific, USA.

3:00 **From Lab to Market. How OLEOTEK Can Help you Developing New Sustainable Products.** C. Devauchelle, OLEOTEK, Canada.

3:15 **Instrumentation for Optimization of Oilseed Processing.** R. Hewitt, Perten Instruments Americas, USA.

3:30 **FT-NIR and FT-IR Solutions for Oil and Oil Seeds Analysis.** R.A. Cocciardi[1], H. Li[2], and P. Krygsman[3], [1]Bruker Limited, Canada; [2]Bruker Optics Inc., USA; [3]Bruker Limited, USA.

3:45 **A New Dropping Point Instrument for Fats and Oils.** T. Fossum, Mettler Toledo, USA.

4:00 **Adulteration Testing of Edible Oils by FT-NIR.** C. Heil and D. Drapcho, Thermo Fisher Scientific, USA.

4:15 **A Novel One-Step Method for Lipid Extractions from Food Samples and Animal Tissues.** A.H. Metherel[1], F. Ciobanu[1], and K.D. Stark[2], [1]Certo Labs Inc., Canada; [2]University of Waterloo, Canada.

FS&FF 1: Phase Transitions—Engineering and Stability

Chairs: M. Paques, Royal FrieslandCampina Research, Netherlands; and S. Ghosh, University of Saskatchewan, Canada

Room: 514B

1:55 Introduction

2:00 **Tocopherol and Lecithin for Edible Oleogels.** C. Nikiforidis and E. Scholten, Top Institute Food & Nutrition and Wageningen University, Netherlands.

2:20 **Heat-Induced Gel from Lysozyme and Ovomucoid Mixture.** N. Yuno-Ohta[1] and Y. Kimura[2], [1]Nihon University, Japan; [2]Junior College at Mishima, Nihon University, Japan.

2:40 **Unsaturated Emulsifier-mediated Modification of the Mechanical Strength and Oil Binding Capacity of a Model Edible Fat Crystallized Under Shear.** N. Acevedo[1], J.M. Block[2], and A.G. Marangoni[3], [1]Iowa State University, USA; [2]Santa Catarina Federal University, Brazil; [3]University of Guelph, Canada.

3:00 **Nature and Dynamics of the Phase Transition of Monoglyceride-water System: Re-investigate.** F. Wang and A.G. Marangoni, University of Guelph, Canada.

3:20 **Factors Governing Stability and Texture of Milk Fat Based Products Produced at Industrial Scale.** S. Rønholt[1], K. Hoeyer[2], J. Kirkensgaard[1], K. Mortensen[1], and J. Knudsen[1], [1]University of Copenhagen, Denmark; [2]SPX Flow Technology Copenhagen A/S, Denmark.

3:40 **The Level of Shear During Crystallization of Milk Fat/Rapeseed Oil is Important for Final Texture.** L. Wiking[1], N. Kaufmann[1], and U. Andersen[2], [1]Aarhus University, Denmark; [2]Arla Foods, Denmark.

4:00 **Granular Crystal Formation Mechanisms in Plastic Fats.** Z. Meng[1], Y. Liu[2], and X. Wang[2], [1]School of Food Science and Technology, Jiangnan University, China; [2]Jiangnan University, China.

4:20 **Cavity Formation in High Solids Fat Crystal Networks.** R.W. Lencki and R.J. Craven, University of Guelph, Canada.

4:40 **Effect of Sorbitan-based Surfactants on the Early-stage Crystallization Kinetics of Coconut Oil.** P. Podchong, S. Sonwai*[1], and D. Rousseau[2], [1]Silpakorn University, Thailand; [2]Ryerson University, Canada.

H&N 1: Global Perspectives on Fat Intakes and Dietary Recommendations

This session is sponsored in part by Dairy Research Institute and CNIEL.

Chairs: P. Huth, PJH Nuritional Science, USA; and M.C. Michalski, INRA, USA

Room: 513D

1:55 Introduction.

2:00 **Saturated Fat and Heart Disease: A Review of the Evidence.** D. Mozaffarian, Harvard School of Public Health, USA.

2:40 **Updated of French Nutritional Recommendations for Fatty Acids; New Approach for Saturates.** P. Legrand, Agrocampus-INRA, Université Européenne de Bretagne, France.

3:20 **Perspectives on Fat Intake, Health Claims, and Circulating Fatty Acids in Canadians.** D. Ma, University of Guelph, Canada.

4:00 **RBC Omega-3 Status of South Asian and Caucasian Canadians.** N. Ratnayake, R. Nagasaka, C. Gagnon, E. Swist, I. Rondeau, P. Laffey, I. Massarelli, and W. Cheung, Health Canada, Canada.

4:20 **Molecular and Supramolecular Structures of Lipids in Foods: Impact on Fatty Acid Bioavailability and Lipid Metabolism.** M.-C. Michalski, INRA USC1362, CarMeN laboratory, France, Metropolitan; on behalf of the Steering Committee, RMT LISTRAL, France.

4:40 **Panel Discussion**

IOP 1: Alternative Fuels

Chairs: G. Knothe, USDA, ARS, NCAUR, USA; and L. Yao, Iowa State University, USA

Room: 516D

1:55 Introduction

2:00 **Emissions and Health Effects of Biofuel Blends Used in Engines with SCR Catalyst.** J. Krahl[1], C. Pabst[2], A. Munack[2], B. Fey[2], O. Schröder[1], K. Schaper[2], and J. Bünger[3], [1]Coburg University of Applied Sciences and Arts, Germany; [2]Thuenen-Institute; German Federal Research Institute for Rural Areas, Germany; [3]Institute for Prevention and Occupational Medicine of the German Social, Germany.

2:20 **Thermochemical Properties of Lipids Used for Biofuels.** J.H. Van Gerpen, University of Idaho, USA.

2:40 **Cetane Numbers of Biodiesel and its Components.** G. Knothe, USDA, ARS, NCAUR, USA.

3:00 **Effects of Monoacylglycerols on Low-Temperature Viscosity and Cold Filter Plugging Point of Biodiesel.** R.O. Dunn, USDA, ARS, NCAUR, USA.

3:20 **Improvement of Shelf Life of Biodiesel from Poly Unsaturated Oils. New Technology to Industrially Marketable Quality.** A.J. Ingendoh and U. Boeger, Lanxess Deutschland GmbH, Germany.

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3:40 **Optimization of Conversion Efficiency of Algal Biomass to Soluble Sugars and Extractable Lipids.** L. Laurens, N. Nagle, and P. Pienkos, National Renewable Energy Laboratory, USA.

4:00 **Extraction of Algal Lipids with Surface Crosslinked Micellar Materials.** L. Yao, T. Wang, X. Li, and Y. Zhao, Iowa State University, USA.

4:20 **An Economic Model to Estimate the Cost of Biodiesel Production by *in situ* Transesterification.** M.J. Haas[1], A. McAloon[1], W. Yee[1], R. Stroup[2], and K. Wagner, [1]USDA, ARS, ERRC, USA; [2]R.L. Stroup Co., USA.

4:40 **Momordica Charantia Seed Oil Methyl Esters: Kinetic Study and Fuel Properties Momordica Charantia Seed Oil Methyl Esters: Kinetic Study and Fuel Properties.** U. Rashid[1], J. Ahmad[2], R. Yunus[1], H. Masood[1], A. Azhari[1], and A. Al-Muhtaseb[3], [1]Universiti Putra Malaysia, Malaysia; [2]Universiti Teknologi PETRONAS, Malaysia; [3]Sultan Qaboos University, Oman.

5:00 **Adsorptive Drying of Oil-solvent Miscella by 4a Molecular Sieves for the Preparation of High-purity Methyl Esters.** S. Tabtabaei ***(Industrial Oil Products Division Student Award Winner)***, D. Boocock, and L. Diosady, University of Toronto, Canada.

LOQ 1: Algal Oils

Chairs: S. Kassner, DSM Nutritional Products, USA; and K. Miyashita, Hokkaido University, Japan

Room: 511F

1:55 Introduction

2:00 **Evaluation of Sensory Stability of Algae Oils by GCxGC-ToF-MS.** A. Duesterloh[1], N. Macfarlane[2], S. Salisu[3], S. Kassner[3], and M. Stefanski[3], [1]DSM Nutritional Products, Switzerland; [2]DSM Nutritional Products, England; [3]DSM Nutritional Product, USA.

2:40 **The Use of Sensory Data for Shelf-Life Modeling of Algal Oil.** S.E. Lumor, Delaware State University, USA.

3:00 **Oxidative Characteristics of Algal Lipids.** K. Miyashita, Hokakido University, Japan.

3:20 **Oxidative Stability of Microalgal Oils Rich in Omega-3 LC-PUFA.** E. Ryckebosch, C. Bruneel, K. Muylaert, and I. Foubert, KU Leuven University Kulak, Belgium.

3:40 **Antioxidant Effect of Seaweed Extracts in Vitro and in Food Emulsion Systems Enriched with Fish Oil.** C. Jacobsen, D. Larsen, and S. Farvin, Technical University of Denmark, Denmark.

4:00 **Functionalities of Marine Algal Polyphenols, Phlorotannins from Brown Seaweeds.** Y.-J. Jeon, Jeju National University, Republic of Korea.

4:20 **Development of Preservation Systems for High Pufa-containing Algal Oils.** S. Tang, M. Stefanski, and K. Crawford, DSM Nutritonal Products, USA.

4:40 **Strategies in the Stabilization of Fish Oils and Algal Oils.** W.M. Indrasena, C. Luigart, and J. Kralovec, DSM Nutritional Products, Canada.

LOQ 1.1/ANA 1: Marine Oils - Analytical and Stability

Chairs: J. Reuther, Eurofins Central Analytical Labs, USA; and V. Barthet, Canadian Grain Commission, Canada

Room: 512E

Joint session: For details, see ANA 1/LOQ 1.1, on page 32.

PHO 1/BIO 1.1: Polar Lipids: Chemistry, Technology, and Applications

Chairs: X. Xu, Wilmar Global R&D Center, China/Aarhus University, Denmark; and M. Ahmad, Jina Pharmaceuticals Inc., USA

Room: 514C

Joint session: For details, see BIO 1.1/PHO 1, on page 32.

PRO 1: New Technology/Sustainability

Chairs: T. Hitchman, DSM Food Specialties, USA; and B. Gursky, Oil-Dri Corp. of America, USA

Room: 512F

1:55 Introduction

2:00 **The Biotechnology Revolution in Fats and Oils.** C.L.G. Dayton, Bunge, USA.

2:20 **Recent Developments in Enzymatic Degumming.** T. Hitchman, DSM Food Specialties, USA.

2:40 **Enzymatic Degumming for Food and Technical Applications.** L. Hua[1], D. Lima[2], F. Galina[2], A. Shevchenko[1], and B. Sarup[1], [1]Alfa Laval Copenhagen A/S, Denmark; [2]Alfa Laval Ltda, Brazil.

3:00 **Improving the Sustainability of Vegetable Oil Production by Applying Enzymatic Processing.** D.W. Cowan, Novozymes, UK.

3:20 **Ice Condensing in Edible Oil Processing; More than Only Reducing Effluent and Energy.** M. Kellens, Desmet Ballestra, Belgium.

3:40 **Micronutrient Recovery and Enrichment of Deodorizer Destillates.** B. Sarup[1], A. Hukkerikar[2], D. Lima[3], L. Cunico[2], R. Gani[2], and R. Ceriani[4], [1]Alfa Laval Copenhagen A/S, Denmark; [2]Technical University of Denmark, Denmark; [3]Alfa Laval Ldta, Brazil; [4]University of Campinas, Brazil.

4:00 **Hydrotreating Practices for Green Diesel Production.** D. Garg[1], S. Ivanova[1], T. Lebrecht[1], and W. Farr[2], [1]Air Products, USA; [2]Farr Technologies, USA.

4:20 **Nano Neutralization—A Technology Step-Change in Edible Oil Processing through Chemical Economy and Yield Improvement.** C. Mitchell, Desmet Ballestra, USA.

4:40 **Reducing Waste Water in a Solvent Extraction Plant.** M. Ducharme, Crown Iron Works, USA.

PCP 1: Role of Protein and Co-Products on Food and Feed Supply and Security

This session is sponsored in part by Solae LLC.

Chairs: J. Wanasundara, Agric & Agri-Food, Canada; and N. Shah, Solae LLC., USA

Room: 513F

1:55 Introduction

2:00 **Role of Protein and Co-Products in Food and Feed Supply and Security: An Overview.** E.S. Krul, Solae LLC, DuPont Nutrition and Health, USA.

2:40 **Overview of Pulse Proteins on Food and Feed Security.** M.C. Tulbek, Alliance Grain Traders, Canada.

3:00 **Feed Protein Ingredients—Conversion in to High Quality Safe Food.** T. Scott, University of Saskatchewan, Canada.

3:40 **Processing Effects on the Detection and Antigenicity of Priority Food Allergens.** J.I. Boye, Agriculture & Agri-Food Canada, Canada.

4:00 **Concentration and Characterization of Soy Whey Proteins from Isolated Soy Protein Waste Streams.** C. Schasteen and P. Paulsen, DuPont Nutrition & Health - Solae, USA.

4:20 **The Importance of Structure-Function Relationships to a Better Understanding of Food-Related Enzyme Functionality: Aspartic Proteases as a Model System.** R. Yada, University of Guelph, Canada.

4:40 **Manufacture of Low Cost Soy Protein Concentrate for Aquaculture and Other Feed Markets.** R.W. Ozer, Crown Iron Works, USA.

5:00 **Enriching Soy Proteins from Meal by an Enzymatic Approach.** L.-K. Ju, A. Al Loman, A. Coffman, Q. Li, and S. Koganti, The University of Akron, USA.

S&D 1: Industrial Applications of Surfactants

Chairs: M. Dahanayake, Rhodia, USA; and P. Sharko, Shell Global Solutions Inc., USA

Room: 513A

1:55 Introduction

2:00 **Single Phase Vegetable Oil Microemulsion: Particle Size and Zeta Potential Characterization.** S. Cumberland and G. Smith, The Huntsman Corporation, USA.

2:20 **Adsorption of Sodium Dodecyl Sulfate and Sodium Octanoate on Carbon Black and Paper Fiber in the Presence of Calcium Ions.** B. Grady[1], T. Sritapunya[2], S. Chavadej[2], B. Kitiyanan[2], and J. Scamehorn[1], [2]University of Oklahoma, USA; [2]Chulalongkorn University, Thailand.

2:40 **Low VOC, Biorenewable Solvents with Enhanced Degreasing Properties.** J. Shulman, Dow Chemical, USA.

3:00 **Powerful Tool for Developing Cost-Effective and Competitive Formulations.** L. Minevski and T.L. Phang, ITW Global Brands, USA.

3:20 **Use of Viscoelastic Surfactant Formulations for Improving Chemical Flooding Performance.** A. Raj, M. Rojas, T.-P. Hsu, P. Lohateeraparp, J. Harwell, and B.-J. Shiau, University of Oklahoma, USA.

3:40 **High Throughput Development of Formulation to Face New Constraints.** C. Masselon, M. Guirardel, and B. Roux, Solvay/Rhodia LOF, France.

4:00 **Proton-Induced Emulsion Rupture Leading to Multi-Lamellar Macro-Emulsion.** S. Han Park, Amorepacific, Republic of Korea.

Tuesday Morning

ANA 2: Review of Old Analytical Methods - Challenges, Solutions

Chairs: R. Della Porta, Frito-Lay Inc., USA; and T. Mason West, Bunge Oils Inc., USA

Room: 512E

7:55 Introduction

8:00 **A Flow-through Microreactor for the Direct Ethylation of Oils and Fats—A New Alternative for Lipid Derivitization Prior to Conventional GC Analysis.** J.M. Curtis[1], S. Tuan Anuar[1], and S. Mugo[2], University of Alberta, Canada; [2]Grant MacEwan University, Canada.

8:20 **Investigation of the Measurement of Palm Oils.** P. Clarke, Lovibond Tintometer, UK.

8:40 **Separation of Fatty Acids in Marine Oils With Highly Polar Ionic Liquid Gas Chromatographic Columns.** A. Reza Fardin-Kia, P. Delmonte, and J. Rader, U.S. FDA, USA.

9:00 **Determination of Slip Melting Point, Iodine Value and Moisture% in Refined Palm Oil Using FT-NIR.** P. Chabot, ABB Analytical Measurements, Canada.

9:20 **Dilute-and-Shoot GC/MS Analysis of Olive Oils for the Determination of Quality and Authenticity.** P. Wylie, Agilent Technologies, USA.

9:40 **Identification of Tocopherols and Tocotrienols, and Their Fatty Acid Esters in Residues and Distillates of Structured Lipids Purified by Short Path Distillation.** L. Zou and C. Akoh, University of Georgia, USA.

10:00 **The Effect of Different Extraction Solvents on the Polyphenol Content and Antioxidant Activity of Limnophila Aromatica Extracts.** Q. Diem Do and Y.i-H. Ju, National Taiwan Univesity of Science and Technology, Taiwan.

10:20 **Evaluation of Thiosulfate, Xylenol Orange, Ferric Thiocyanate, and Triphenyl Phosphine Assays for Quantitating Lipid Hydroperoxides.** K.M. Schaich and E.T. Steltzer, Rutgers University, USA.

10:40 **FAME Analyisis with Ionic Liquid Capilary Columns.** L.M. Sidisky, G. Baney, J. Desorcie, D. Shollenberger, and G. Serrano, Supelco, USA.

BIO 2: Biocatalysis I

This session is sponsored in part by Nisshin OilliO.

Chairs: C.T. Hou, USDA, ARS, NCAUR, USA and J. Ogawa, Kyoto University, Japan

Room: 512G

7:55 Introduction

8:00 **Cloning and Heterologous Expression of Glycosyltransferase for Glycolipid and Sterylglucoside Synthesis.** D.K.Y. Solaiman, R. Ashby, J. Zerkowski, and R. Moreau, USDA, ARS, ERRC, USA.

8:20 **Functional Lipids from Fermented Marine Products.** N. Hamaoka, M. Hosokawa, and K. Miyashita*, Hokakido University, Japan.

8:40 **Dual Production of Polyunsaturated Fatty Acids and Pigments by Fungi.** M. Certik[1], T. Klempova[1], L. Guothova[1], Z. Adamechova[1], and A. Kubatova[2], [1]Faculty of Chemical and Food Technology, Slovak Technical University, Slovakia; [2]Faculty of Science, Charles University, Czech Republic.

9:00 **Screening and Application of Microbial Oxidase and Oxygenase.** J. Ogawa[1], M. Hibi[1], K. Yokozaki[1], S. Takahashi[1], and S. Shimizu[2], [1]Kyoto University, Japan; [2]Kyoto Gakuen University, Japan.

9:20 **Function of Novel Enzymes Involved in Conjugated Linoleic Acid Production from Linoleic Acid in Lactic Acid Bacteria.** S. Kishino, S.-B. Park, M. Takeuchi, K. Yokozeki, S. Shimizu, and J. Ogawa, Kyoto University, Japan.

9:40 **Real-time Small-angle Neutron Scattering Analysis of Lipase-catalyzed Biodiesel Production in Microemulsion Systems.** D.G. Hayes[1], V. Urban[2], and S. Pingali[2], [1]University of Tennessee, USA; [2]Oak Ridge National Laboratory, USA.

10:00 **Antibacterial Activity of Rare Unsaturated Fatty Acids Produced by Microbial Conversion.** T. Nagao[1], K. Fujiwara[2], S. Tanaka[1], H. Nakano[1], A. Kurata[2], and N. Kishimoto[2], [1]Osaka Municipal Technical Research Institute, Japan; [2]Kinki University, Japan.

10:20 **Monocyclic Carotenoid Produced by Marine Bacteria.** M. Hosokawa, N. Takatani, K. Nishida, R. Suzuki, T. Sawabe, and K. Miyashita, Hokkaido University, Japan.

10:40 **Transformation of Cereals by Synthetic Gene Encoding for Delta-6-desaturase.** D. Mihalik[1], M. Gubisova[1], M. Certik[2], T. Klempova[2], K. Ondreickova[1], M. Hudcovicova[1], J. Gubis[1], L. Klcova[1], and J. Kraic[1], [1]Plant Production Research Center, Slovakia; [2]Slovak University of Technology, Slovakia.

CAOCS 1: The Bruce McDonald Memorial Session: Advances in Canola Research

Chairs: L. Campbell, Canola Council of Canada, Canada; and V. Barthet, Canadian Grain Commission, Canada

Room: 511C

7:55 Introduction

8:00 **Keynote Presentation.** B. Holub, University of Guelph, Canada.

8:40 **New Generation Oils—Solutions in the Pipeline.** D. Dzisiak, Dow AgroSciences Canada Inc., Canada.

9:00 **Effects of Canola Oils Varying in Fatty Acid Composition on Lipid Profiles and Cardiovascular Risk Scores in the Canola Oil Multicenter Randomized Controlled Trial (COMIT).** P.J. Jones[1], V. Senanayake[1], S. Pu[1], P. Connelly[2], P. M. Kris-Etherton[3], S.G. West[3,4], B. Lamarche[5], D.J.A. Jenkins[2], J.A. Fleming[3], X. Liu[3], C.E. McCrea[4], P. Couture[5], [1]Richardson Center for Functional Foods and Nutraceuticals, University of Manitoba, [2]Dept. of Nutritional Sciences, University of Toronto;[3]Departments of Nutritional Sciences and [4]Biobehavioral Health, The Pennsylvania State University; [5]Institute of Nutrition and Functional Foods, Laval University, Canada.

9:20 **Efficacy of Canola Oils and Vegetable Oil Blends on Abdominal Fat Mass in Men and Women at Risk For Metabolic Syndrome.** X. Liu[1], P. Kris-Etherton[1], S. West[1], B. Lamarche[2], D. Jenkins[3], J. Flaming[1], C. McCrea[1], P. Couture[2], and S. Pu[4], [1]The Pennsylvania State University, USA; [2]Laval University, Canada; [3]University of Toronto, Canada; Laval University, Canada; [4]University of Manitoba, Canada.

9:40 **Canola in Type 2 Diabetes.** D. Jenkins, University of Toronto / St. Michael's Hospital, Canada.

10:00 **A Diet High in ALA and MUFA Attenuates Hepatic Steatosis and Favorably Alters Hepatic Phospholipid Fatty Acid Profile in Diet-Induced Obese (DIO) Rats.** C. Taylor, D. Hanke, S. Mohankumar, and P. Zahradka, University of Manitoba, Canada.

10:20 **Canola Oil Uses in Today's Food Industry.** T. Tiffany, Archer Daniels Midland Company, USA.

10:40 **Development of Chemicals and Materials from Canola Oil and Solving the Analytical Challenges Along the Way.** J.M. Curtis, University of Alberta, Canada.

EAT 2: Novel Lipid Technologies

Chairs: G. Mazzanti, Dalhousie University, Canada; and M. Rogers, The State University of New Jersey, USA

Room: 516B

7:55 Introduction

8:00 **Formation of Vegetable Oil-based Ethylcellulose Oleogels at the Macro- and Micro-scale.** A.J. Gravelle, S. Barbut, and A.G. Marangoni, University of Guelph, Canada.

8:20 **Imaging the Polymer Network Structure of Ethylcellulose Oleogels Using Cryo-scanning Electron Microscopy.** A. Zetzl, A.G. Marangoni, and S. Barbut, University of Guelph, Canada.

8:40 **Mechanism of Heat Resistance in Ethylcellulose-stabilized Heat Resistant Chocolate.** T. Stortz and A.G. Marangoni, University of Guelph, Canada.

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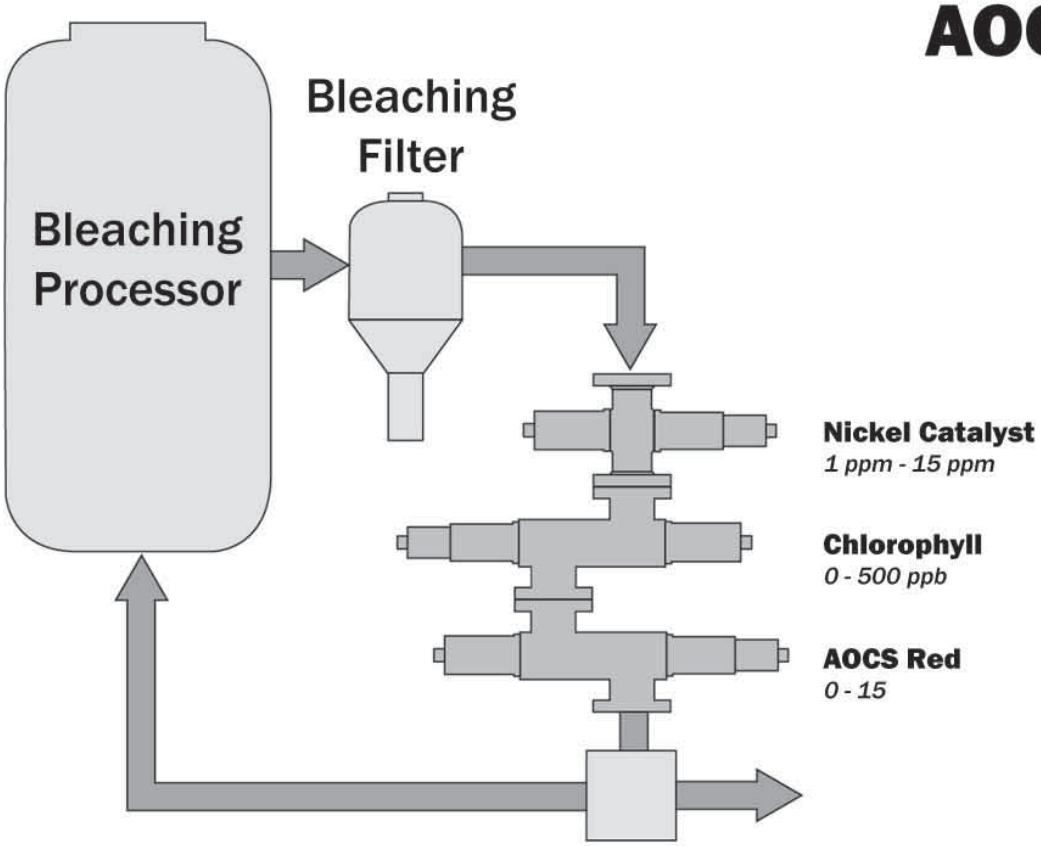

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9:00 **A New Group Contribution Method to Describe the Enthalpy of Fusion and Melting Temperature of Triglycerdies.** E. Floter, Technical University Berlin, Germany.

9:20 ***In situ* Observation of Transformation Pathways of Polymorphic Forms of 1,3-dipalmitoyl-2-oleoyl Glycerol (POP) Examined With Synchrotron Radiation X-ray Diffraction and DSC.** K. Sato[1], L. Bayes-Garcia[2], M. Angel Cuevas-Diarte[2], and S. Ueno[1], [1]Hiroshima University, Japan; [2]University of Barcelona, Spain.

9:40 **Effects of Fat Composition on Microscopic Observations of Arrested (Partial) Coalescence.** K. Hendrickson and R. Hartel, University of Wisconsin, USA.

10:00 **X-ray Scattering Study of Undercooled Liquid Saturated Monoacid Triglycerides.** M. Kalaria and G. Mazzanti, Dalhousie University, Canada.

10:20 **A Glimpse Into the Ternary Phase Diagram of Beta-sitosterol, Gamma Oryzanol and Canola Oil.** M. Rogers, Rutgers, USA.

10:40 **Impact of Sucrose Octa-esters of Fatty Acids on the Crystallization and Solidification Properties of Confectionery Fats.** N.R. Widlak[1], P. Lin[2], S. Ferguson[1], and C. Castrodale[1], [1]ADM Cocoa, USA; [2]Procter & Gamble, USA.

FS&FF 2: Novel Approaches to the Characterization of Food Structure

Chairs: D. Rousseau, Ryerson University, Canada; and Y. Wang, Kraft Foods Inc., USA

Room: 514B

7:55 Introduction

8:00 **Novel Crystal Structures: Crystallization of Triglycerides Under Shear in a Confined Gap.** Tu Tran[1], ***(Honored Student Award Winner)***, D. Rousseau[1], and S. Ghosh[2], [1]Ryerson University, Canada; [2]University of Saskatchewan, Canada.

8:20 **Microstructral Approach to Understand Oil Absorption during Vacuum and Atmospheric Frying.** V. Dueik[1] and P. Bouchon[2], [1]University of Toronto, Canada; [2]Pontificia Universidad Catolica de Chile, Chile.

8:40 **Application of Power Ultrasound to a Zero-trans Shortening During Temperature Cycling Under Different Cooling Rates.** Y. Ye[1], C. Yiap Tan[1], D. Kim[2], and S. Martini[1], [1]Utah State University, USA; [2]Mondelez International, USA.

9:00 **Ultrasonic Wave Propagation in Cocoa Butter during Crystallization.** A. Rigolle, J. Descheemaeker, K. Van Den Abeele, and I. Foubert, KU Leuven University Kulak, Belgium.

9:20 **Oil Migration through Cocoa Butters of Different Geographical Origins.** F. Maleky[1] and A.G. Marangoni[2], [1]The Ohio State University, USA; [2]University of Guelph, Canada.

9:40 **A Nanotechnology Approach to Develop Alternative Vegetable Oil Structuring Agents.** G. John and S.R. Jadhav, The City College of New York - CUNY, USA.

10:00 **A Novel Light Scattering Set Up to Follow Destabilization of Colloidal Particles during Gelation *in situ* using Simultaneously Diffusing Wave Spectroscopy and Rheology.** K. Kaur and M. Corredig, University of Guelph, Canada.

10:20 **Development of a Single Droplet Freezing Apparatus for Probing Polymorphic Transitions in Cocoa Butter.** A. Talhat[1], G. Moggridge[1], I. Wilson[1], and J. Rasburn[2], [1]University of Cambridge, UK; [2]Nestle Product Technology Centre York, UK.

10:40 **Unusual Crystallization Behavior of Confectionery Fat during Cryogenic Spraying as Compared to Conventional Cooling and Tempering.** P. Siong Chong, Nestec York, UK.

H&N 2: Nutritional Needs of the Military

This session is sponsored in part by Nordic Naturals.

Chairs: J. Rood, Pennington Biomedical Research Center, USA; and C. Lammi-Keefe, Louisiana State University, USA

Room: 513D

7:55 Introduction

8:00 **Omega-3s and Their Use for the Prevention, Treatment, and Rehabilitation of Traumatic Brain Injury (TBI) and Concussions.** M. Lewis, Brain Health Education and Research Institute, USA.

8:40 **Poultry Diets Low in Omega-6 and High in Omega-3 Fats on Chicken Eggs and Meat: Utility in U.S. Military Diets.** B.P. Marriott[1], J. Hibbeln[2], A. DiChiara[3], F. DeMeester[4], M. Hawes[4], and C. Champagne[5], [1]Medical University of South Carolina, USA; [2]NIAAA, NIH, USA; [3]U.S. Army Natick Soldier Systems Center Laboratories, USA; [4]DMF-U.S. Inc., USA; [5]Pennington Biomedical Research Center, USA.

9:20 **Vitamin D Status and Military Populations: Implications for Bone Health.** J.P. McClung, Military Nutrition Division, US Army Research Institute of Environmental Medicine, USA.

10:00 **Omega-3 Fatty Acids and Acute Stress in Military Personnel: Interpreting Fatty Acid Measures.** E. Farina, J.P. McClung, and H. Lieberman, US Army Research Institute of Environmental Medicine, USA.

10:40 Discussion

IOP 2: Catalysis

Chairs: D. Pioch, CIRAD, France; and A. Nickel, Materia, USA

Room: 516D

7:55 Introduction

8:00 **Achieving Commercial Viability: The Evolution of Natural Oil Processing via Olefin Metathesis.** D.P. Allen, Materia Inc., USA.

8:40 **Examining the Functionality of Self-Metathesized Vegetable Oil and Controlling the Products by Manipulating Reaction Conditions.** S. Li, L. Bouzidi, and S. Narine, Trent Centre for Biomaterials Research, Trent University, Canada.

9:00 **Biocatalytic Synthesis of Low-molecular Weight Oil-thickening Amphiphiles from Renewable Feedstocks.** J.R. Silverman and G. John, City University of New York, USA.

9:20 **Effects of Non-thermal Plasma in Glycerol Dehydration to Acrolein Catalyzed by Solid Acids.** X.P. Ye, L. Liu, and A. Wang, University of Tennessee, USA.

9:40 **Sn(IV) Complexes for Fatty Acid Methyl Esters Production.** S. Meneghetti, M. Meneghetti, and J. da Silva, Federal University of Alagoas - UFAL, Brazil.

10:00 **Biodiesel Production from Crude Palm Oil using CaO and CaO/Al2O3 as Heterogenous Catalyst**. S. Rakshit[1] and W. Chaiwong[2], [1]Lakehead University, Canada; [2]Asian Institute of Technology, Thailand.

10:20 **Soy Biodiesel Production Over Mg-zn Mixed Oxide Catalysts.** F. Ng, N. Pasupulety, and G.L. Rempel, University of Waterloo, Canada.

10:40 **Development of a Lewis-based Catalytic System for Biodiesel Production: From a Batch Laboratory Scale to a Continuous Pilot Plant.** P.A.Z. Suarez and F. Silva, University of Brasilia, Brazil.

LOQ 2: Managing Oxidation in Real Foods

This session is sponsored in part by Kellogg North America Co.

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

Room: 511F

7:55 Introduction

8:00 **Oxidative Stability of Margarines With Addition of Pecan Nut Shell Extracts [carya Illinoinensis (wangenh) c. Koch].** J.M. Block[1], P. Engler[1], A. Dal Bó[2], and R. Luchtenberg[1], [1]UFSC, Brazil; [2]Bunge, Brazil.

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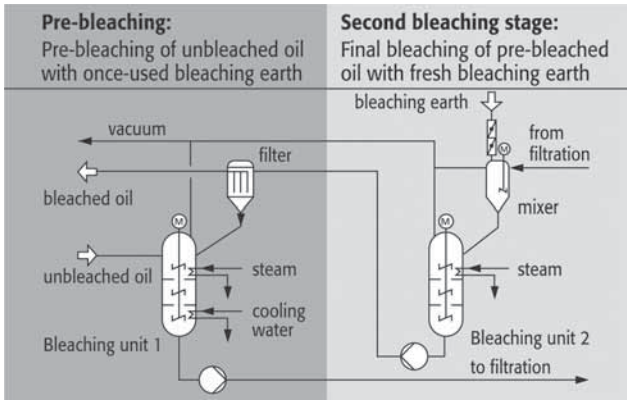

- Licenses
- Engineering
- Equipment
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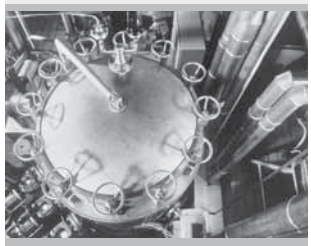
References
Ajinomoto/Japan • Palmaju/Malaysia • Bunge/Poland...

Impurity Reduction

Pre-bleaching ***secund bleaching***



8:20 **Protein Oxidation and Pet Food.** S.A. Cutler and B. Bowen, Kemin Industries, USA.

8:40 **Oxidation Rates of Triaclyglycerol and Ethyl Ester Fish Oil.** J.C. Sullivan Ritter[1] and S. Budge[2], [1]Ascenta Health, Canada; [2]Dalhousie University, Canada.

9:00 **Managing Oxidation in Fish and Fish Products.** I. Medina, Spanish National Council of Research CSIC, Spain.

9:20 **The Use of Delivery Emulsions for Fish Oil Addition to Dairy Products.** A.F. Horn[1], U. Andersen[2], N. Nielsen[1], and C. Jacobsen[1], [1]Technical University of Denmark, Denmark; [2]Arla Foods amba, Denmark.

9:40 **Understanding and Reducing Lipid Oxidation in Low-moisture Foods.** L. Barden ***(Honored Student Award Winner)*** and E. Decker, University of Massachusetts Amherst, USA.

10:00 **Phenolipids as Antioxidant in Omega-3 Enriched Food Products.** A.-D. M Sørensen[1], M. Alemán[2], E. Durand[3], P. Villeneuve[3], R. Bou[4], F. Guardiola[2], and C. Jacobsen[1], [1]Technical University of Denmark, National Food Institute, Denmark; [2]University of Barcelona, Spain; [3]CIRAD, UMR IATE, France; [4]CSIC, Spain.

10:20 **The Use of Multi-functional Lipid Oxidation Management Strategies to Successfully Replace Synthetic Antioxidants With Natural Alternatives in Several Complex Food Matrices.** J. McKeague, L. Burroughs, and M. Wolf, Kalsec, USA.

10:40 **Common Industrial Practices to Prevent Lipid Oxidation from Food Formulation to Distribution.** L. Liu, Cargill, Inc., USA.

PHO 2: Krill Lipids Analysis, Algal Oil

Chair: B. Diehl, Spectral Service AG, Germany

Room: 514C

7:55 Introduction

8:00 **NMR of Krill Oil, The USP Accepted Method for Identity and Quality Control.** B. Diehl, Spectral Service AG, Germany.

8:40 **Lipids and Lipolytic Enzymes of Microalgae.** F. Ergan, University of Maine, Laval, France.

9:20 **Isolation and Analysis of Ether Lipids from Krill Oil.** G. Randel, Spectral Service AG, Germany.

10:00 **From Algae Farm to Human Nutrition Products-Sustainable and Dosage-Controlled EPA Omega-3 with Polar Lipids.** B. Waibel, Qualitas Health Inc., USA

PRO 2/PCP 2.1: Hexane-Free Oil Extraction (Green Extraction)

This session is sponsored in part by Solae LLC.

Chairs: F. Temelli, University of Alberta, Canada; and D. Balke, BioExx Specialty Proteins Ltd., Canada

Room: 512F

7:55 Introduction

8:00 **Recent Advances in Enzyme-assisted Aqueous Extraction of Soybeans.** L. Johnson, J. Nobrega de Moura, T. Wang, and S. Jung, Iowa State University, USA.

8:40 **The Development of a "Green" Aqueous Enzymatic Process to Extract Corn Oil from Corn Germ.** R. Moreau, D. Johnston, and K. Hicks, USDA ARS, USA.

9:00 **Review of the Current Status of Enzymatic Aqueous Extraction Processing in China.** L. Jiang, X. Sui, and Y. Li, Northeast Agricultural University, China.

9:20 **Recovery of Oil and Saponin from *Camellia oleifera* Seeds by Aqueous Enzymatic Extraction.** Y. Wang, and X. Luan, Acedemy of State Administration of Grain, China.

9:40 **Developing Sustainable Oilseed Extraction Using Extended-Surfactants.** L.D. Do and D. Sabatini, University of Oklahoma, USA.

10:00 **Isopropyl Alcohol Extraction of De-hulled Yellow Mustard Flour.** S. Sinichi and L.L. Diosady, University of Toronto, Canada.

10:20 **Ultrahigh Pressure Supercritical Fluid Extraction–Déjà Vu.** J.W. King[1] and G.R. List[2], [1]Genesis-Engineering Research Center, USA; [2]Retired, Consultant, USA.

10:40 **Supercritical Carbon Dioxide Technology as Part of a Biorefinery: A Case for the Processing of Distillers Grains.** O.N. Ciftci and F. Temelli, University of Alberta, Canada.

PCP 2: Protein and Co-Products of Algae

This session is sponsored in part by Solae LLC.

Chairs: R. Green, POS Bio-Sciences, USA; and S. Chen, University of Washington, USA

Room: 513F

7:55 Introduction

8:00 **Polysaccharide as Co-product from Algal Biomass.** S. Chen and M. Chakraborty, Dept. of Biological Systems Engineering, Washington State University, USA.

8:20 **Potential Co-Products to the Algae Oil Process.** N. Lindeboom, POS Bio-Sciences, Canada.

8:40 **A Research Summary: Post-extraction Algal Residue as a Protein Supplement to Cattle Consuming Low-Quality Forage.** T.A. Wickersham, and M. Drewery, Texas A&M University, USA.

9:20 Discussion

PCP 2.1/PRO 2: Hexane-Free Oil Extraction (Green Extraction)

This session is sponsored in part by Solae LLC.

Chairs: F. Temelli, University of Alberta, Canada; and D. Balke, BioExx Specialty Proteins Ltd., Canada

Room: 512F

Joint session: For details, see PRO 2/PCP 2.1, on this page.

S&D 2: Surfactants in Energy

Chairs: U. Weerasooriya, University of Texas, USA; and B. Shiau, University of Oklahoma, USA

Room: 513A

7:55 Introduction

8:00 **Synthesis and Surface Activity of a Class of Novel Triazine Carboxyl Betaine Surfactants Derived from S-triazine.** W. Qiao, Dalian University of Technology, China.

8:20 **Performance Improvement Trends to Attain Ultralow Interfacial Tension with Surfactant Formulation in Enhanced Oil Recovery.** J.-L. Salager and A.M. Forgiarini, Universidad de Los Andes, Venezuela.

8:40 **Synthesis and Application of High Molecular Weight Sulfonates.** P.D. Berger and C. Lee, Oil Chem Technologies, Inc., USA.

9:00 **New Developments in Chemical EOR.** U. Weerasooriya, The University of Texas at Austin, USA.

9:20 **Surfactant Enhanced Oil Recovery from Naturally Fractured Reservoirs.** J. Lu, A. Goudarzi, P. Chen, D. Hoon Kim, C. Britton, M. Delshad, K.K. Mohanty, U.P. Weerasooriya, and G.A. Pope, The University of Texas at Austin, USA.

9:40 **Designing Surfactant Formulations for Enhanced Oil Recovery by Using the Hydrophilic-lipophilic Difference Concept.** P. Lohateeraparp, J. Harwell, B.-J. Shiau, T.-P. Hsu, and A. Wallace, University of Oklahoma, USA.

10:00 **Solubilization Capacity and Emission Characteristics of Vegetable Oil-based Microemulsion Biofuel.** C. Attaphong ***(Honored Student Award Winner and the Manuchehr Eijadi Award Winner),*** and D. Sabatini, The University of Oklahoma, USA.

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10:20 **Palm Oil Microemulsion-based Biofuel: Environmental Impact Assessment.** N. Arpornpong[1], A. Charoensaeng[2], D.A. Sabatini[3], and S. Khaodhiar[4], [1]International Postgraduate Programs in Environmental Management, Graduate School, Chulalongkorn University, Thailand; [2]Chulalongkorn University, Thailand; [3]Schools of Civil Engineering and Environmental Science, University of Oklahoma, USA; [4]Dept. of Environmental Engineering, Chulalongkorn University, Thailand.

10:40 **Designing Surfactant-only Formulations for a High Salinity and Tight Reservoirs.** W. Wan, A.Raj, T.-P. Hsu, L. Prapas, J. Harwell, and B.-J. Shiau, University of Oklahoma, USA.

S&D 2.1: General Surfactants

Chairs: R. Panandiker, Procter & Gamble Co., USA; and D. Murphy, Stepan Co., USA

Room: 513C

7:55 Introduction

8:00 **Novel Surface Modifying Technology for Enhanced Hard Surface Cleaning Experience.** S. Brijmohan, G. Hsu, F. Shuster, and D. Malaba, Lubrizol Advanced Materials, USA.

8:20 **Encouraging the Adoption of Green Cleaning by Preserving the Performance of Peroxygen Cleaners Over the Long Term.** D. Bonislawski and L. Schneidewind, AkzoNobel Pulp & Paper Chemicals, USA.

8:40 **Next Generation Hybrid Polymers—A More Sustainable Solution.** K. Rodrigues, AkzoNobel Surface Chemistry, LLC, USA.

9:00 **Sulfonation Reaction Analysis of Converting Fatty Acid Methyl Ester to Fatty Acid Methyl Ester Sulfonate (MES).** F. Niikura, Lion Corporation, Japan.

9:20 **Organomodified Silicones in Household Care.** A. Nagy[1] and J. Peggau[2], [1]Evonik Industries, USA; [2]Evonik Industries, AG, Germany.

9:40 **Alternative Chemistry for Polyacrylate Replacement in Sustainable Liquid Laundry Detergents.** G. Bonnechère, S. Verrett, and J. Kolpa, Thermphos - Dequest, USA.

10:00 **Novel New Surfactant Molecules with Sulfoxide Headgroups.** G. Yu[1], B. Grady[1], J. Harwell[1], S. Long[2], and G. Arhancet[2], [1]University of Oklahoma, USA; [2]Novus International, USA.

10:20 **Synergies of Long-chain Alkyl Amidinium Bicarbonates With Anionic Surfactants.** Z. Zheng ***(Surfactants and Detergents Division Student Award Winner)***, Dalian University of Technology, China.

Awards Plenary Lectures

Moderator: T. Kemper, Desmet Ballestra, USA.

Room: 511B

11:00 **Welcome and Introduction.**

11:05 **Stephen S. Chang Award Lecture**
Structure is the Ultimate Expression of the Complexity of Lipids. A.G. Marangoni, University of Guelph, Canada.

11:35 **Awards Recognition**

11:40 **The Supelco/Nicholas Pelick–AOCS Research Award Lecture**
Two Decades of Research on Lipid-Based Novel Fluid Nano Delivery Vehicles for Enhanced and Targeted Release. N. Garti, The Hebrew University of Jerusalem, Israel.

12:10 Closing remarks

Tuesday Afternoon

ANA 3: Analysis of Trace Contaminants in Vegetable Oil and By-Products

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

Room: 512E

1:55 Introduction

2:00 **Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS) Detection of Glycidyl Esters and MCPD Esters in Edible Oils.** S. MacMahon, T. Begley, and G. Diachenko, U.S. Food and Drug Administration, USA.

2:20 **Analysis of Intact Fatty Acid Esters of Glycidol in Vegetable Oils Using Gas Chromatography - Mass Spectrometry.** K. Hrncirik, H. Steenbergen, and H. Gerd Janssen, Unilever, Netherlands.

2:40 **Progress in the Analysis of 2-/3-MCPD Esters and Glycidyl Esters: From Refined Oils to Oil-based Foodstuffs.** A. Ermacora[1] ***(Analytical Division Student Award Winner)***, and K. Hrncirik[2], [1]Technical University of Berlin, Germany; [2]Unilever R&D Vlaardingen, Netherlands.

3:00 **Interconversion Between Monochloropropanediols and Glycidol in the Course of DGF Standard Method C-VI 18 (10).** H. Sato[1], N. Kaze[2], H. Yamamoto[2], D. Ono[3], M. Shizuma[1], and Y. Watanabe[1], [1]Osaka Municipal Technical Research Institute, Japan; [2]Ueda Oils and Fats Mfg Co., Ltd., Japan; [3]Osaka Municipal Technical Research Institute, Japan.

3:20 **Formation of the Toxicologically Relevant 2-alkenals Acrolein and Crotonaldehyde in Comparison to Aroma-active Compounds during Deep-frying of Food.** M. Granvogl and P. Shieberle, German Research Center for Food Chemistry, Germany,

3:40 **Development and Validation of Hexaconzole Residue in Crude Palm Oil by Gas Chromatograph with Electron Capture Detector and Confirmed with Mass Spectrometer.** H.B. Muhamad, Malaysian Palm Oil Board, Malaysia.

4:00 **Stability and Reactivity of MCPD Esters as well as Glycidyl Esters in Model Systems.** M. Granvogl, A. Ewert, and P. Shieberle, German Research Center for Food Chemistry, Germany.

4:20 **Do Results Gained by Direct and Indirect Analysis Methods for Glycidyl Esters and MCPD Esters Contents in Edible Oils Agree?** T. Wenzl, European Commission, Joint Research Centre, Belgium.

BIO 3: Biocatalysis II

This session is sponsored in part by Nisshin OilliO.

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

Room: 512G

1:55 Introduction

2:00 **Structured Lipid Synthesis by Enzymatic Transesterification.** S.H. Yoon and J.S. Rhee, [1]Korea Food Research Institute, Republic of Korea; [2]KAIST, Republic of Korea.

2:20 **Production of Punicic Acid in Arabidopsis Seed Oil.** R.J. Weselake, E. Mietkiewska, and R. Miles, University of Alberta, Canada.

2:40 **Fractionation of Conjugated Linoleic Acid Isomers by Lipase Reactions.** Y. Nakamura, The Nisshin OilliO Group, Ltd., Japan.

3:00 **Fatty Acid Hydratases and Isomerases: Can We Understand their Catalytic Promiscuity?** U.T. Bornscheuer[1], M. Fibinger[2], M. Otter[2], F. Brodhun[3], and I. Feussner[3], [1]University of Greifswald, Institute of Biochemistry, Germany; [2]Greifswald University, Germany; [3]Göttingen University, Germany; Göttingen University, Germany.

3:20 **Enzymatic Preparation of Chiral Intermediates for Development of Drugs by Lipases.** R. Patel, SLRP Associates, USA.

3:40 **Formulation and Characterization of *trans*-free Margarine Containing Stearidonic Acid.** G. Pande, C. Akoh, and R. Shewfelt, University of Georgia, USA.

4:00 **Characterization of Acyl-CoA Synthetase Genes from Oleaginous Fungus *mortierella Alpina* 1s-4.** E. Sakuradani[1], T. Asaoka[1], H. Kikukawa[1], T. Okuda[1], A. Ando[1], M. Ochiai[2], and J. Ogawa[1], [1]Graduate School of Agriculture, Kyoto University, Japan; [2]Suntory Business Expert Limited, Japan.

4:20 **Useful Polyunsaturated Fatty Acid Production by Oleaginous Filamentous Fungus *mortierella Alpina* Breeding.** A. Ando, Kyoto University, Japan.

EAT 3/H&N 3: Algal Oil—Food Applications and Nutritional Aspects

Chairs: W. Rakitsky, Solazyme, Inc., USA; and E. Bailey-Hall, DSM Nutritional Products, USA

Room: 513D

1:55 Introduction

2:00 **Microalgal Triglyceride Oils: A New Source of Oil for Mainstream Food Industry Applications.** W. Rakitsky and R. Bond, Solazyme, USA.

2:20 **Functionality Matching of Two Algal Oils with Vastly Different Molecular Compositions.** A.G. Marangoni[1], E. Co[1], and W. Rakitsky[2], [1]University of Guelph, Canada; Solazyme Inc., USA.

3:00 **Evaluation of the Performance of a Range of Algal Oils in Food Frying Applications.** M. Matlock[1], T. Tiffany[1], M. Pietz[1], and R. Bond[2], [1]ADM, USA; [2]Solazyme, USA.

3:20 **Challenges of PUFA Fortifications in Food and Beverages.** W. Wang-Nolan, X. Tang, M. Stefanski, O. Pena, and G. Su, DSM Nutritional Products, USA.

3:40 **Algal DHA, Nutrition and Cognitive Activity.** E.B. Nelson, DSM Nutritional Lipids, USA.

4:20 **Long-Chain Polyunsaturated Fatty Acid (LCPUFA) Nutrition for Athletes.** E. Barrett, DSM Nutritional Products, USA.

4:40 **The Effect of Phytosterols and Omega 3 Fatty Acids on Fatty Streak in LDLr-knockout Mice.** I.A. Castro, P. Botelho, K. Mariano, and J. Guimaraes, Faculty of Pharmaceutical Sciences of University of São Paulo, Brazil.

FS&FF 3: Colloid and Interfacial Property of Foods

Chairs: S. Martini, Utah State University, USA; and K. Dewettinck, University of Gent, Belgium

Room: 514B

1:55 Introduction

2:00 **Shellac as a Natural Structurant for Edible Soft Matter System.** A. Patel, D. Schatteman, and K. Dewettinck, University of Gent, Belgium.

2:20 **Characterization of Milk Components and Control of Milk Fat Globule Size for Improved Functionality.** A. Logan[1], L. Day[1], S. Moore[2], T. Singh[2], and M.A. Augustin[2], [1]CSIRO Animal, Food and Health Sciences, Australia; [2]CSIRO, Australia.

2:40 **Nanoscale Structures and Fat Crystal Networks: Crystalline Nanoparticles, Tagwoods and X-ray Scattering.** D.A. Pink and B. Quinn, St. Francis Xavier University, Canada.

3:00 ***In situ* 3D Fractality of Tristearin in Triolein.** F. Peyronel[1], J. Ilavsky[2], B. Quinn[3], G. Mazzanti[4], N. Acevedo[4], A.G. Marangoni[1], and D.A. Pink[3], [1]University of Guelph, Canada; [2]Argonne National Laboratory, USA; [3]St. Francis Xavier University, Canada; [4]Dalhousie University, Canada; [4]Iowa State University, USA.

3:20 **W/O Emulsions Stabilized by Candelilla Wax Organogels.** J.D. Pérez-Martínez[1], R. Mauricio-Pérez[1], J.F.Toro-Vazquez[1], M. Martín González Chávez[1], and J. de Jesús Ornelas-Paz[2],[1]Autonomous University of San Luis Potosi, Mexico; [2]Centro de Investigación en Alimentación y Desarrollo, Mexico.

3:40 **Encapsulation through the Use of Emulsified Microemulsions.** D. Rousseau and R.R. Rafanan, Ryerson University, Canada.

4:00 **Homogenization with Solid Lipid Nanoparticles under Cold Conditions: A Novel Approach to Bioactive Delivery In Oil-in-Water Emulsions.** D. Rousseau and R. Gupta, Ryerson University, Canada.

4:20 **Modelling Edible Oils: Computer Simulation of Nanophase Separation and Binding Energies in Multi-Component Oils.** E.D. Co[1], E. Pappne Szabo[2], A.G. Marangoni[1], and D.A. Pink[3], [1]Department of Food Science, University of Guelph, Canada; [2]Department of Physics, University of Guelph, Canada; [3]Faculty of Science, Physics, St. Francis Xavier University, USA.

4:40 **Molecular Level Observation of Growing Steps on Fat Crystal.** H. Hondoh[1], G. Sazaki[2], K. Sato[1], Y. Furukawa[2], and S. Ueno[1], [1]Hiroshima University, Japan; [2]Hokkaido University, Japan.

H&N 3/EAT 3: Algal Oil - Food Applications and Nutritional Aspects

Chairs: W. Rakitsky, Solazyme, Inc., USA; and E. Bailey-Hall, DSM Nutritional Products, USA

Room: 513D

Joint session: For details, see EAT 3/H&N 3, on this page.

IOP 3: New Uses of Glycerine

Chairs: R. Burton, Mark-IV, USA; and P. Ye, University of Tennessee, USA

Room: 516D

1:55 Introduction

2:00 **Glycerol-based Acid and Base Carbon Catalysts for Green Processes.** P. Devi, ***(ACI/NBB Glycerine Innovation Award Winner)*** Indian Institute of Technology, India.

2:20 **Glycerol Valorization for Sustainable Chemical Production.** A. Martin, Leibniz-Institute for Catalysis, Germany.

3:00 **Production of Racemic Lactic Acid from Glycerol Using Solid Base Catalyst.** X.P. Ye, L. Chen, and L. Liu, University of Tennessee, USA.

3:20 **New Catalyst and New Reactor for Glycerol Conversion to Acrolein.** F.Y.M. Dumeignil[1], B. Katryniok[1], R. Melendez[1], M. Capron[1], S. Paul[1], N. Fatah[1], P. Rey[2], S. Pariente[3], V. Bellière-Baca[3], [1]UCCS, France; [2]Adisseo, France; [3]Rhodia, France.

3:40 **Advanced Bioprocessing to Upgrade Crude Glycerol into High Value Oils.** L. Dyson, Kiverdi, Inc., USA.

4:00 **Thermal, Mechanical and Absorbent Properties of Glycerol-based Polymer Films Infused with Plant Cell Wall Polysaccharides.** V. Wyatt, M. Yadav, N. Latona, C.-K. Liu, and M.J. Haas, USDA, Agricultural Research Service, USA.

4:20 **Bio-plastics (mcl-PHAs) Production from Commercial Biodiesel-Based Glycerine (Glycerol) by Two Newly Isolated pseudomonas putida Species.** N. Cicek, F. Jilagamazhi, U. Sharma, P. Sharma, D. Levin, and R. Sparling, University of Manitoba, Canada.

4:40 **Preparation of Propylene Glycol from Glycerol through Hydro-Thermochemical Process.** R.L. Maglinao, Montana State University-Northern, USA.

LOQ 3: Novel Antioxidants

Chairs: A. Bedford, Bunge Oils Inc., USA; and E. Decker, University of Massachusetts, USA

Room: 511F

1:55 Introduction

2:00 **The Functions of Vitamin E Tocotrienol.** B. Tan, American River Nutrition, USA.

2:20 **Investigating the Antioxidant Effects of Phosphatidylserine.** A.-J. Reid and S. Budge, Dalhousie University, Canada.

2:40 **The Impact of the Hydrophilic Antioxidants and Tocopherols Combinations on the Oxidative Stability of Algae Oil.** B. Chen[1], D. McClements[2], and E. Decker[2], [1]Southwest University, China; [2]University of Massachusetts Amherst, USA.

3:00 **Interactions Between alpha-tocopherol and Rosmarinic Acid and its Alkyl Esters in Emulsions.** A. Panya[1], K. Kittipongpittaya[2], M. Laguerre[3], C. Bayrasy[3], J. Lecomte[3], P. Villeneuve[3], D.J. McClements[2], E.A. Decker[2], [1]National Center for Genetic Engineering and Biotechnology (BIOTEC), Thailand; [2]University of Massachusetts Amherst, USA; [3]CIRAD, France.

3:20 **Antioxidant Activity of Extracts Obtained from Different Herbs by Supercritical Carbon Dioxide Extraction.** I. Vieitez, I. Mailhe, M. Braun, and I. Jachmanián, Facultad de Química (UDELAR), Uruguay.

3:40 **Use of Hydrolysable Tannins from Sweet Chestnut (castanea Sativa Mill.) to Reduce Tobacco Specific Nitrosamines (TSNA) and Improve Antioxidant Content in Plants.** E. Bargiacchi, Consortium INSTM, Italy.

PHO 3: Phospholipids for Industrial and Feed Applications

Chairs: B.R. Sebree, Daniels Midland Co., USA; and M. Rebmann, Perimondo LLC, USA

Room: 514C

1:55 Introduction

2:00 **Functionality and Applications for Phospholipids in Feed and Industrial Products.** B.R. Sebree, Archer Daniels Midland Co., USA.

2:40 **Phosphatidylcholine Liposomes as Boundary Lubricants with Extremely Low Friction Coefficients.** R. Goldberg and J. Klein, Dept. of Materials and Interfaces, Weizmann Institute of Science, Israel.

3:20 **Novel Bio-based Dispersants for Coating Applications.** S. Baseeth, ADM, USA.

4:00 **The Effects of Soybean Phospholipids and N-3 and N-6 Fatty Acids on Growth, Body Composition, Lipid Metabolism, and Delta-6-Desaturase Gene Expression in Channel Catfish and Largemouth Bass.** R. Lochmann[1] and T. Sink[2], [1]University of Arkansas at Pine Bluff, USA; [2]UAPB, USA.

4:40 **Enhancement of Reproductive Performance of Gangetic Leaffish (*Nandus nandus*) and Gourami (*Colisa fasciatus*) with Dietary Phospholipids.** Z. Hossain, Manitoba University, Canada.

PRO 3: Plant Operations/Safety/Food Safety

Chairs: V.P. Jain, Bunge, USA; and R. Sidoo, Richardson Oilseed Ltd., Canada

Room: 512F

1:55 Introduction

2:00 **The Influence of Oil Composition, Acidity and NHP Content on the Efficiency of Enzymatic Degumming.** D.W. Cowan, Novozymes, UK.

2:20 **Energy Optimization in Fatty Acid Distillation.** D.G. Gaige, Process Plus, USA.

2:40 **Cost Reductions and Schedule Improvments Through Project Pre-Planning.** D.B. Smith, Industrial Design Group, USA.

3:00 **Odour Reduction in Canola Processing using Biofilter Technology.** M. Hunter, Riverland Oilseeds, Australia.

3:20 **Improvement in Oilseed Extraction: Evaluation of Several Bio-solvents**. F. Fine[1], X. Pages[2], P. Carre[3], A.-S. Fabiano-Tixier[4], M. Vian[4], and F. Chemat[4], [1]CETIOM, France; [2]ITERG, France; [3]CREOL, France; [4]Université d'Avignon et des Pays de Vaucluse, INRA-UMR408, France.

3:40 **Advanced Reactor Designs for Continuous Oil Crystallization and Enzymatic Interesterification.** G.H. Calliauw, Desmet Ballestra, Belgium.

4:00 **Plant Safety.** C. Coffey, Ag Processing Inc., USA.

4:20 **Food Safety–A New Dimension in Plant Safety**. D. Strayer, Bunge North America, Canada.

4:40 **NFPA36–Update on the 2013 Edition.** R. Barton, N Hunt Moore & Associates, Inc., USA.

PCP 3: Protein and Co-Products of Hexane-Free Oil Extraction

This session is sponsored in part by BIO-CAT Inc.

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

Room: 513F

1:55 Introduction

2:00 **Recovery and Functionality of Soy Protein Produced by Countercurrent Two-stage Enzyme-assisted Extraction.** J.M. Leite Nobrega de Moura Bell[1], N. de Almeida[2], and L. Johnson[3], [1]University of California Davis, USA; [2]Federal University of Paraiba, Brazil; [3]Iowa State University, USA.

2:20 **Use of Protein from Enzyme Assisted Aqueous Extraction of Soybeans for use as Fermentation Aid.** C. Penet and S. Lamb, BIO-CAT Microbials, USA.

2:40 **Increase Feed Quality through Fermentation of Corn and Soy Processing Co-product.** T. Wang, Iowa State Univ, FSHN, USA.

3:00 **Characterization of the Functional Attributes of Pea Protein Isolates Prepared Using Different Extraction Methods and Cultivars.** A. Stone, A. Karalash, B. Tyler, T. Warkentin, and M. Nickerson, University of Saskatchewan, Canada.

3:20 **Phenolic Compounds and Antioxidant Activity of the Solid Residue of Cold-pressed Brazil nut (bertholletia Excelsa) Oil.** S. Gomes Botelho, V. Rezende, and A. Torres, Federal University of Rio de Janeiro, Brazil.

3:40 **Protein in Wet-milled Corn Germ Recovered by Ultrafiltration-Diafiltration.** M.P. Hojilla-Evangelista, USDA ARS NCAUR, USA.

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S&D 3: Consumer and Cleaning Applications

Chairs: B. Lin, Henkel, USA; and T. Graham, Sun Products Corp., USA

Room: 513A

1:55 Introduction

2:00 **Synergistic Combination of Extended-surfactants and Biorenewable Surfactants for Cold Temperature Detergency of Vegetable Oils and Fats.** L.D. Do, D. Sabatini, and J. Scamehorn, University of Oklahoma, USA.

2:20 **Visualizing Cleaning Process Real Time—Novel Hard-surface Cleaning Surfactant System that Clean Quickly.** D. Li, Shell, USA.

2:40 **The Realisation of the Impossible: the Stabilisation of Reactive Benefit Agents in Laundry Liquid Formulation and Their Efficient Release in Wash.** D. Duncalf, Revolymer Ltd., United States Virgin Islands.

3:00 **The Foaming Control Technology for the Rinsing Improvement in Laundry Detergent.** Y. Hoshida, Lion Corporation, Japan.

3:20 **Real Time Study of Detergent Ingredient Action: Stain Removal and Adsorption of Benefit Agents.** M. Dreja, N. Plath, and P. Schmiedel, Henkel AG & Co. KGaA, Germany.

3:40 **Novel Anti-microbial Benefits for Lactic Acid.** R. Wietting[1] and P. Stuut[2], [1]Purac, USA; [2] Purac, Netherlands.

4:00 **Monoglyceride Removal from Fabrics under Microemulsion-base Formulation.** J. Chanwattanakit[1], S. Chavadej[1], J. Scamehorn[2], and D. Sabatini[2], [1]The Petroleum and Petrochemical College, Chulalongkorn University, Thailand; [2]University of Oklahoma, USA.

4:20 **Enhancing Whiteness Through Enzymes.** N.E. Prieto[1], A. Lee[1] and N. Schack[2], [1]Novozymes NA, USA; [2]Novozymes AS, USA.

4:40 **Hydrogen Peroxide for Green Cleaning Applications.** S.P. Zhu, N. Juhasz, X. Wang, and K. Genco, Arkema Inc., USA.

S&D 3.1a: Rheology and Characterization in Structured Surfactant Solutions, Including Solutions with Ionic and/or Organic Liquids

Chairs: B. Grady, University of Oklahoma, USA; and N. Komesvarakul, Sun Products Corp., USA

Room: 513C

1:55 Introduction

2:00 **Surfactant-activated Microgels.** K. Chari, R. Hsu, P. Bhargava, B. Figura, Y. Wayne, J. Park, T. Clifford, M. Kadir, and G. Benedikt, Lubrizol Advanced Materials, Inc., USA.

2:20 **Development of Nano-Structured Products by Self-Assembly of Surfactants.** D. Bajpai[1] and V. Tyagi[2], [1]India; [2]Harcourt Butler Technological Institute, India.

2:40 **Formulation and Rheological Properties of Structured Surfactant Systems.** G. Smith, Huntsman Corporation, USA.

3:00 **Polymer - Surfactant Interactions.** D.W. Verstrat, AkzoNobel Surface Chemistry, USA.

3:20 **The Effect of Surfactants on the Rheology of Organogels and Hydrogels.** S.E. Zarate Munoz, O. Chung, Y.-L. Cheng, and E. Acosta, University of Toronto, Canada.

S&D 3.1b: Advances in Surfactant-Based Complex Fluids

Chairs: E. Szekeres, Clorox Services Co., USA; A. Teneja, BASF, USA; and P. Varanasi, BASF, USA

Room: 513C

3:55 Introduction

4:00 **Predicting Microemulsion Thermodynamics Using Unifac and Curvature Models.** A. Boza and E. Acosta, University of Toronto, Canada.

4:20 **Van der Waals Free Energy Model for the Solubilisation of Oil in Micelles.** A. Boza ***(Surfactants and Detergents Division Student Award Winner)***, and E. Acosta, University of Toronto, Canada.

4:40 **Prediction of Emulsion Formation and Stability with the HLD-NAC Model.** E. Acosta and S. Kiran, University of Toronto, Canada.

Wednesday Morning

ANA 4: Rapid and Real Time Analysis

Chairs: M.M. Mossoba, FDA, USA; and H. Zhao, Missouri University of Science & Technology, USA

Room: 512E

7:55 Introduction

8:00 **In-vivo and Rapid Monitoring of Obesity Using FT-NIR Spectroscopy.** H. Azizian[1], J. Kramer[2], and S. Winsborough[1], [1]NIR Technologies Inc., Canada; [2]Retired, Canada.

8:20 **Choice of Calibration Standard for the Quantitation of *trans* fat in Edible Oils by Attenuated Total Reflection-fourier Transform Infrared Spectroscopy.** C. Tyburczy, M.M. Mossoba, A. Reza Fardin-Kia, and J. Rader, U.S. Food and Drug Administration, USA.

8:40 **Rapid (<5 Min) FT-NIR Screening of Edible Oils for the Determination of the Total SFA, *trans* FA, MUFA and PUFA Contents and Comparison to GC and Declared Values on Nutrition Facts Panels.** M.M. Mossoba[1], H. Azizian[2], C. Tyburczy[1], J. Kramer[3], P. Delmonte[1], A. Reza Fardin Kia[1], J. Rader[1], [1]FDA, USA; [2]NIR Technologies, Inc., Canada; [3]Guelph Food Research Center, Agri-food Canada, Canada.

9:00 **Quality Assessment of Olive Paste, Pomace and Oil by NIR.** H. Li and C. Larkin, Bruker Optics, Inc., USA.

9:20 **Application of Portable FT-IR Spectrometers to Authenticate Raw Materials.** L.E. Rodriguez-Saona, The Ohio State University, USA.

9:40 **Strategies for Rapid Characterization of Supplements Using Simple Extraction Protocol Followed by DART MS of Intact Triglycerides and Fatty Acids.** B. Musselman and J. LaPointe, IonSense, Inc., USA.

10:00 **A Simple Analytical Method for Detailing the Composition and Oxidation Levels of Marine Omega-3 Supplements.** R. Freeman[1], I. Iwai[1], D. Randle[1], Chu Watanabe[2], [1]Frontier Laboratory, USA; [2]Frontier Laboratories, Japan.

10:20 **Minispec Time-Domain NMR Applications in the Oil / Food Industry: Applications Overview and Updates as well as newly added Efficiency Improvement Capabilities.** H.W. Todt, Bruker BioSpin GmbH, Germany.

ANA 4.1/H&N 4: Advances in Analytical Aspects of Lipid Nutrition

This session is sponsored in part by Avanti Polar Lipids, Inc., Johnson and Johnson Consumer, and Shimadzu Scientific Instruments.

Chairs: S.D. Bhandari, Silliker Inc., USA; and R.E. Ward, Utah State University, USA

Room: 513D

7:55 Introduction

8:00 **Assessing Stability of Fingertip Prick and Venous Whole Blood during Long-term Storage and Associated Mechanisms of Degradation.** A.H. Metherel and K.D. Stark, University of Waterloo, Canada.

8:20 **Improved Lipid Profile in Hyperbilirubinemic Subjects Contributes to Cardiovascular Protection.** K.-H. Wagner, University of Vienna, Austria.

8:40 **Plasma, Erythrocytes and Whole Blood Fatty Acids: Translating Compositional Data.** K.D. Stark[1], J. Aristizabal Henao[1], A.H. Metherel[1], and L. Pilote[2], [1]University of Waterloo, Canada; [2]McGill University Health Centre, Canada; for the GENESIS PRAXY investigators, McGill University Health Centre, Canada.

9:00 **Relative Role of Dietary Fat Amount and Structure in the Meal on the Secretion of Chylomicrons and Associated Endotoxin Transport in Lean and Obese Humans.** C. Vors[1], F. Laugerette[1], G. Pineau[1], H. Vidal[2], M. Laville[3], M.-C. Michalski[1], [1]INRA USC1362, CarMeN Laboratory, France; [2]INSERM U1060, CarMeN laboratory, France; [3]CENS, France; INRA USC1362, CarMeN Laboratory, France.

9:20 **LCMS Analysis of Vitamins D2, D3, 25(OH)D2 and 25(OH)D3 in Food Samples.** S.D. Bhandari, H. Wu, and T. Gallegos-Peretz, Silliker Laboratories, USA.

9:40 **Effect of Dairy Product Consumption on Cognitive Performance among Elderly Participants of the Cache County Study on Memory, Health, and Aging.** R.E. Ward, Utah State University, USA.

10:00 **Generating Meaningful Results with Lipidomics.** S. Watkins, Metabolon, USA.

10:20 **Targeted Lipidomics of Signaling Sphingolipids in Health and Disease.** E. Berdyshev, University of Illinois at Chicago, USA.

11:00 **Lipidomic Analysis of Essential Fatty Acids and their Metabolites in the Fat-1 Transgenic Mouse.** J.H. McKenzie[1], G. Astarita [2,3], and J.X. Kang[1], [1]Laboratory for Lipid Medicine and Technology, Dept. of Medicine, Massachusetts General Hospital and Harvard Medical School, USA; [2]Dept. of Biochemistry and Molecular & Cellular Biology, Georgetown University, USA, [3]Discovery and Life Science, Waters Corporation, USA.

11:40 **Dietary Fat Metabolism in Humans Using Deuterated Fatty Acids: Perceptions, Realities, Questions.** E. Emken ***(Ralph Holman Lifetime Achievement Award Winner)***, Midwest Research Consultants, USA.

BIO 4/S&D 4: Biobased Surfactants, Detergents and Oleochemicals

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

Room: 513A

7:55 Introduction

8:00 **Vegetable Oil Based Surfactants: Physical Chemistry and Performance Properties.** G. Smith, Huntsman Corporation, USA.

8:20 **Biobased Surfactants: Overview and New Directions.** D.G. Hayes, University of Tennessee, USA.

8:40 **Sophorolipids as Antimicrobials and as Composite Additives for Phenotypic Alteration of Polyhydroxyalkanoate Film Surfaces.** R. Ashby, J. Zerkowski, D.K.Y. Solaiman, and L. Shu Liu, USDA, ARS, ERRC, USA.

9:00 **Biological Activities of Rhamnolipids and their Incorporation and Release from Hydrogel Formulations.** L.-K. Ju, S. Soltani Dashtbozorg, S. Miao, and M. Sodagari, The University of Akron, USA.

9:20 **Enzymatic Synthesis, Surface and Lipid Interaction Properties of Novel Rhamnolipids.** M. Deleu, K. Nott, and G. Richard, Gembloux Agro-Bio Tech, University of Liege, Belgium.

9:40 **Drug Delivery Systems Based on Diacyl Arginine Surfactants: Preparation, Characterization and Evaluation of their Biological Activity.** L. Perez[1], L. Tavano[2], R. Infante[1], A. Pinazo[1], A. Manresa[3], M. Pilar Vinardell[3], and M. Mitjans[3], [1]CSIC, Spain; [2]University of Calabria, Italy; [3]University of Barcelona, Spain.

10:00 **Soy Protein Fragments as Hydrophilic Components in Surfactants.** T.W. Theyson, TensTech Inc., USA.

10:20 **Eastman GEMTM Technology for Cosmetic Ingredients.** M. Natale, Eastman Chemical Company, USA.

10:40 **Surfactants Extracted from Waste Biomass and their Use to Remove Oil from Oil-coated Sands.** E. Acosta[1], M. Baxter[2], and E. Montoneri[3], [1]University of Toronto, Dept. of Chemical Eng. and Appl. Chemistry, Canada; [2]University of Toronto, Canada; [3]University of Torino, Dept. of Chemistry, Canada.

11:00 **Renewable Glucarate-based Complexes as Auto-dish Builders**. T. Smith, Rivertop Renewables, USA.

11:20 **Synthesis of Succinyl Amide Gemini Surfactant from Adenopus Breviflorus Seed Oil: A Prospective Corrosion Inhibitor of Mild Steel in Acidic Medium for the African Populace.** A. Adewuyi, Redeemer's University, Nigeria.

11:40 **Production of Pure Pinolenic Acid from Pine Nut Oil via Enzymatic Esterification Combined with Urea Complexation.** D. Som No, T.T. Zhao, and I.-H. Kim, Korea University, Republic of Korea.

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

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

Room: 516B

7:55 Introduction

8:00 **Capillary Video Microscopy as a Tool for Developing Double-Emulsion Creams.** K. Papadopoulos, Tulane University, USA.

8:40 **The HLB System—A Time-saving Guide to Emulsifier Selection.** A. Kaziska, Croda Inc., USA.

9:00 **Nutraceutical Nanoemulsions: Influence of Carrier Lipid Composition and Location on β-carotene Bioaccessibility.** J. Rao and D. McClements, University of Massachusetts Amherst, USA.

9:20 **Physico-chemical Properties, Oxidative Stability and Non-enzymatic Browning Reactions in Marine Phospholipids Emulsions and Their Applications for Food Enrichment.** L. Fung Sieng, ***(Honored Student Award Winner)***, C. Jacobsen, N. Skall Nielsen, and C.P. Baron, Technical University of Denmark, Denmark.

9:40 **Location and Reactivity of Model Ingredients in Emulsions: Effect of Interface Properties and Ingredient Lipophilicity.** C.C. Berton-Carabin, R. Elias, and J. Coupland, The Pennsylvania State University, USA.

10:00 **Structural Impact of Partial Coalescence on ice Cream.** M. Warren, N. Gaudino, and R. Hartel, University of Wisconsin, USA.

10:20 **Localization and Stability of α-tocopherols in Emulsion-based Delivery Systems.** L. Zhi Cheong[1], C. Berton[2], Z. Guo[3], X. Xu[3], R. Elias[2], and J. Coupland[2], [1]Aarhus University, Denmark; [2]Pennsylvania State University, USA; [3]Aarhus University, Denmark.

10:40 **Impact of Water Cut and Continuous Phase Wax Crystals on Water-in-Oil Emulsion Rheology.** D. Rousseau[1], S. Ghosh[2], and S. Haj-shaifiei[1], [1]Ryerson University, Canada; [2]University of Saskatchewan, Canada.

11:00 **Food Grade Water-in-oil Nanoemulsions from a High-pressure Valve Homogenizer and a Microfluidizer.** L. Lee[1], R. Hancocks[1], I. Noble[2], and I. Norton[1], [1]The University of Birmingham, UK; [2]PepsiCo Intl, UK.

11:20 **Microencapsulated Self-emulsifying Delivery Systems.** E. Acosta, M. Nouraei*, and L. Diosady, University of Toronto, Canada.

H&N 4/ANA 4.1: Advances in Analytical Aspects of Lipid Nutrition

This session is sponsored in part by Avanti Polar Lipids, Inc., and Shimadzu Scientific Instruments.

Chairs: S.D. Bhandari, Silliker Inc., USA; and R.E. Ward, Utah State University, USA

Room: 513D

Joint session: For details, see ANA 4.1/H&N 4, on page 49.

IOP 4: Biobased Polymers and Lubricants

Chairs: S. Narine, Trent University, Canada; and H. Ngo, USDA, ARS, ERRC, USA

Room: 516D

7:55 Introduction

8:00 **Plant Oils: The Perfect Renewable Resource for Polymer Science?!** M. Meier, ***(Young Scientist Research Award Winner)***, Karlsruhe Institute of Technology (KIT), Germany.

8:20 **Biopolyester from Ricinoleic Acid: Synthesis, Characterization and Its Use as Biopolymeric Matrix for Magnetic Nanocomposites.** P.A.Z. Suarez[1], E. Péres[1], F. Machado[1], J. Chaker[1], and F. de Souza Jr.[2], [1]University of Brasilia, Brazil; [2]Federal University of Rio de Janeiro, Brazil.

8:40 **Thermoplastic Polyurethane Elastomers with Fatty Acid Soft Segments.** Z. Petrovic, I. Javni, and J. Milic, Pittsburg State University, USA.

9:00 **Glyco-lipids as a Source of Polyols for the Design of Original Linear and Cross-linked Polyurethanes.** H. Cramail, Université de Bordeaux, France.

9:20 **Novel High Molecular Weight Plant Oil Copolymers.** B. Chisholm, S. Alam, H. Kalita, S.i Fernando, A. Jayasooriyamu, S. Samanta, A. Popadyuk, J. Bahr, A. Voronov, and A. Bezbaruah, North Dakota State University, USA.

9:40 **Synthesis of Biobased Poly(amide-urethane)s by Isocyanate-free Chemistry.** D. Graiver, E. Hablot, and R. Narayan, Michigan State University, USA.

10:00 Break

10:20 **Investigating Structure-Property Relationships in Lipid Derived Thermoplastic Polymers.** J. Jose and S. Narine, Trent University, Canada.

10:40 **Use of Vegetable Oil Derived Branched Linear Monoesters and Diesters as Superior Lubricants.** L. Bouzidi, L. Singh, S. Li, and S.S. Narine, Trent University, Canada.

11:00 **Amine Modified Vegetable Oil Derivatives.** R.E. Harry-Okuru, and G. Biresaw NCAUR, USDA, ARS, USA.

11:20 **Branched-chain Fatty Acid Isomers as Potential Biolubricants.** H. Ngo[1], R.O. Dunn[1], and E. Hoh[2], [1]USDA-ARS, NCAUR, USA; [2]San Diego State University, USA.

11:40 **Novel Polymer-surfactant System for Mitigating Interfacial Tension.** P. Tongwa ***(Ralph Potts Memorial Fellowship Award Winner)***, Missouri University of Science and Technology, USA.

LOQ 4: Rancidity and Antioxidant Assessment

Chairs: S. Zhou, Kelloggs North America Co., USA; H.-S. Hwang, USDA, ARS, NCAUR, USA; and M. Pietz, Archer Daniels Midland Co., USA

Room: 511F

7:55 Introduction

8:00 **Lipid Oxidation in Dry Pet Food.** M. Hu and J. Erdmann, DuPont Nutrition & Health, USA.

8:20 **Redirecting Antioxidant Assays to Predict Natural Antioxidant Effectiveness in Food Stabilization.** K.C. Chang and K.M. Schaich, Rutgers University, USA.

8:40 **Methods to Assess Secondary Volatile Lipid Oxidation Products in Complex Food Matrices.** C. Jacobsen and B. Yesiltas, Technical University of Denmark, Denmark.

9:00 **Development of a Method Using DPPH for Determining the Contents of Antioxidants and of Oxidized Lipids in Oils During Lipid Oxidation.** J.H. Lee, Sungkyunkwan University, Republic of Korea.

9:20 **Evaluation of Antioxidants in Fish Oil for Food and Dietary Supplements.** W.M. Indrasena and J. Kralovec, DSM Nutritional Products, Canada.

9:40 **Lipid Modification Effects on Stability and Bioactivity.** F. Shahidi, Memorial University, Canada.

10:00 **A Unique Oil Filter that Increases Fry-Life of Oil in Restaurant and Industrial Frying.** M.K. Gupta, MG Edible Oil Consulting Int'l., USA.

10:20 **Comparison of the Autoxidative Stability Between High Oleic-linolenic DAG Oil and TAG Oil Affected by Extraneous Antioxidants.** E. Choe and L. Jung, Inha University, Republic of Korea.

10:40 **Interpreting Sensory Quality of Virgin Olive Oil by Volatile Markers.** D.L. García González[1], M.T. Morales[2], I. Romero del Río[1], and R. Aparicio[1], [1]Instituto de la Grasa (CSIC), Spain; [2]University of Seville, Spain.

PHO 4: General Phospholipids

Chairs: S. Jadhav, Archer Daniels Midland Co., USA; and M.C. Tomás, CIDCA-UNLP, Argentina

Room: 514C

7:00 Introduction

8:00 **Impact of an Addition of Phospholipids as Emulsifiers on Structural and Rheological Properties of a Cream Cheese Model.** A. Coutouly, A. Riaublanc, and M. Axelos, INRA, France.

8:20 **Biological Properties of Deoil Sunflower Lecithin.** S. Shulga[1], I. Glukh[1], and O. Drozdov[2], [1]Institute for Food Biotechnology and Genetics, Ukraine; SRI of Medical and Biological Problems of SE «DMA» Ministry of Health, Ukraine.

8:40 **Multiscale Molecular Simulation and Experimental Investigation of Sunflower Phospholipids Liposomes Using for Scavenging Free Radicals.** S. Shulga[1], I. Glukh[1], and V. Danilov[2], [1]Institute for Food Biotechnology and Genetics, Ukraine; Institute for Food Biotechnology and genrtics, Ukraine; [2]Institute for Molecular Biology and Genetics, Ukraine.

9:00 **Hazelnut Oil as a Source of Lecithin.** S. Bekiroglu, E. Ertas, and I. Ozdemir*, TUBITAK-MRC, Food Institute, Turkey.

9:20 **Functional Properties of By-products Obtained by Enzymatic Degumming of Crude Soybean Oil.** M. Tomás[1], D. Cabezas[1], and B. Diehl[2], [1]CIDCA, Argentina; [2]Spectral Service, Germany.

9:40 **Self-Assembled Structures of Phospholipids: A Key to Multifunctional Orgaongel.** S. Jadhav, S. Baseeth, and B.R. Sebree, Archer Daniels Midland Company, USA.

PRO 4/EXH 2: Exhibitor Session

Chairs: F. Skold, Solex Thermal Science Inc., Canada; and T. Neuman, GEA Mechanical Equipment US Inc., USA

Room: 512F

7:55 Introduction

8:00 **Thermal Efficiency Optimisation for Preheater and Conditioner in Oilseed Crush Plants.** F. Skold, Solex Thermal Science, Canada.

8:20 **Generating True 3D Process Facility Representation by Adopting Advanced Laser Scanning Technology.** M.T. Williamson, ADF Engineering, Inc., USA.

8:40 **New Innovations in Oil Seed Prepartion.** C.W. Brockmeyer, Buhler Inc., USA.

9:00 **Latest Approach for Recovery of Tocopherols during Deodorization.** C. Mitchell, Desmet Ballestra, USA.

9:20 **Harnessing Filtered Light Waves to Identify Measured Change for In-line Process Control.** T.J. Schwalbach, Optek Inc., USA.

9:40 **A Field Perspective on Best Practices around Enzymatic Degumming in Today's Crushing and Refining operations.** S. Gregory, DSM, USA.

10:00 **BASF Catalysts for Biorenewables.** A.R. Thornton, BASF Corporation, USA.

10:20 **The Reflex Extractor, Benefits and Recent Innovations.** A. Subieta, Desmet Ballestra North America, Inc., USA.

10:40 **New Challenges in Seed Processing and Crude Oil Refining.** H.C. Boeck, Harburg-Freudenberger Maschinenbau GmbH, Germany.

11:00 **Applied Technology for Edible and Inedible Biodiesel Feedstocks.** U.M.J. Johansson, Alfa Laval, Sweden.

11:20 **Added Value in Edible Oil Processing–Processing of By-products**. R. Zeldenrust, GEA Westfalia Separator Division, Germany.

PCP 4: Nutritional and Safety Aspects of Plant and Animal Proteins and Co-Products

This session is sponsored in part by Solae LLC.

Chairs: H. Ibrahim, Kagoshima University, Japan; H. Kumagai, Nihon University, Japan; and Y. Mine, University of Guelph, Canada.

Room: 513F

7:55 Introduction

8:00 **Effects of Glycoconjugates of Ovalbumin on Alleviation of Orally Induced Egg Allergy in Mice.** Y. Mine, University of Guelph, Canada.

8:20 **Blood Pressure Lowering Effect of GABA Enriched Salt-free Soybean Paste in Human Volunteer Test.** H. Hatta[1], S. Shou[1], and Y. Ueno[2], [1]Kyoto Women's University, Japan; [2]Kyoto Prefectural Technology Center, Japan.

8:40 **Simultaneous Enzymatic Hydrolysis and Fractionation of Bioactive Peptides from Beta -lactoglobulin by Electrodialysis With Filtration Membrane.** L. Bazinet, Université Laval, Canada.

9:00 **Production of Hypoallergenic Rice by Enzymatic Treatment and Analysis of Rice-Allergen Epitopes.** K. Yasuda[1], T. Kamikawa[1], S. Nakamura[2], M. Fukaishi[2], M. Akao[1], and H. Kumagai[1], [1]Nihon University, Japan; [2]Ohtsuka Chemical Industrial Co., Ltd., Japan.

9:20 **Brewers' Spent Grain (BSG) Protein Hydrolysates and Phenolic Co-products: Potential use as Ingredients in Functional Foods.** N.M. O'Brien[1], A. McCarthy[1], Y. O'Callaghan[1], A. Connolly[2], C. Piggott[2], and R. FitzGerald[2], [1]University College Cork, Ireland; [2]University of Limerick, Ireland.

9:40 **Novel Therapeutic Potential of Egg Ovotransferrin.** H. Ibrahim, Kagoshima University, Faculty of Agriculture, Japan.

10:00 **Eggshell Bioactive Molecules.** M.T. Hincke, C. Cordeiro, and M. Rose-Martel, University of Ottawa, Canada.

10:20 **Therapeutic Function of Deamidated Gliadin in Wheat Allergy.** H. Kumagai, Nihon University, Japan.

10:40 **Production and Nutritional Properties of a Branched-chain Amino Acid-enriched Flaxseed Protein Hydrolysate.** R. Aluko and C.C. Udenigwe, University of Manitoba, Canada.

11:00 **Effects of Dietary Egg White Peptide on Body Fat Mass and Lipid Metabolism in Rats.** K. Koba[1], H. Hatta[2], S. Tamaru[1], M. Sakashita[3], and M. Kim[3], [1]University of Nagasaki, Siebold, Japan; [2]Kyoto Women's University, Japan; [3]Pharma Foods International Co. Ltd., Japan.

11:20 **New Advances on Egg Proteins and Their Potential for Food and Non Food Uses.** J. Gautron, S. Réhault Godbert, A. Brionne, C. Cabau, N. Guyot, and Y. Nys, INRA (National Institue of Agricultural Research), France.

11:40 **Absorption of Glutathione and its Derivatives into Human Blood after Oral Intake.** K. Sato[1], N. Shimura[1], T. Konishi[2], Y. Sauchi[2], E. Young Park[1], S. Wada[1], and W. Aoi[1], [1]Kyoto Prefectural University, Japan; [2]KOHJIN Co. Ltd., Japan.

S&D 4/BIO 4: Biobased Surfactants, Detergents and Oleochemicals

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

Room: 513A

Joint session: For details, see BIO 4/S&D 4, on page 49.

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

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

Room: 516B

Joint session: For details, see EAT 4/S&D 4.1, on page 50.

Wednesday Afternoon

ANA 5: General Analytical

Chairs: V.P. Jain, Bunge, USA; and A. Tang, University of California-Davis, USA

Room: 512E

1:55 Introduction

2:00 **The Direct Determination of Double Bond Positions in Lipid Mixtures by Liquid Chromatography/In-line Ozonolysis/ Mass Spectrometry (LC/o3-MS).** C. Sun ***(Honored Student Award Winner and Analytical Division Student Award Winner)***, Y.-Y. Zhao, and J.M. Curtis, University of Alberta, Canada.

2:20 **Odorant Synergy Effects as the Cause of Fishy Malodors in Algal Marine Oils.** R.T. Marsili and C. Laskonis, Marsili Consulting Group, USA.

2:40 **A Rapid Method to Determine Sterol, Erythrodiol, and Uvaol Concentrations in Olive Oil.** B. Mathison[1], D. Holstege[2], [1]United States Military Academy, USA; [2]University of California, Davis, USA.

3:00 **Regiospecific Determination of Conjugated Linoleic Acids (CLA) and Trans-vaccenic Acid (VA) in Triacylglycerol of Regular and High CLA Milk-fat.** D.D. Zope, P. Angers, and J. Arul, Laval University, Canada.

3:20 **Microtitration of Free Fatty Acids in Oil and Biodiesel Samples using Absorbance and/or Fluorescence of Pyranine.** S.N. Fedosov[1], J. Brask[2], and X. Xu[1], [1]Dept. of Engineering Science, Aarhus University, Denmark; [2]Novozymes A/S, Denmark.

3:40 **Regiospecific Analysis of Solid Fats by a Novel Enzymatic Method.** Y. Watanabe[1], T. Nagai[2], S. Sato[3], C. Sato[4], S. Sera[4], R. Sato[5], and T. Aki[5], [1]Osaka Municipal Technical Research Institute, Japan; [2]Tsukishima Foods Industry Co., Ltd, Japan; [3]Japan Food Research Laboratories, Japan; [4]The Nisshin OilliO Group, Japan; [5]Hiroshima University, Japan.

ANA 5.1/S&D 5: Emerging Test Methods for Surfactants and Detergents

Chairs: M. Tsumadori, Kao Corp., Japan; and H. Li, Bruker Optics Inc., USA

Room 513A

1:55 Introduction

2:00 **Characterization of Surfactant Iron Oxide Nanoparticle Interactions Using Isothermal Titration Calorimetry (ITC).** Z. Wang, S. Xu, and E. Acosta, University of Toronto, Canada.

2:20 **Using Inflection Points in Surfactant Blend Properties as a Guide to System Synergies.** R. Theiner and R. Bennett, Air Products and Chemicals, Inc., USA.

2:40 **Quantification of Oil Extraction from Microalgae using Conventional Solvents and Microemulsions.** E. Acosta, J. Chan, R. Xu, and L. Diosady, University of Toronto, Canada.

3:00 **Use of Acoustic Spectrometry to Determine Drop Size Distribution of Water-in-Bitumen Emulsions.** E. Acosta[1], W. Ren[1] and S. Ng[2], [1]University of Toronto, Dept. of Chemical Engineering and Applied Chemistry, Canada; [2]Syncrude Canada Ltd., Edmonton Research and Development Center, Canada.

BIO 5: Biotechnological Advances for Oilseed Improvements

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

Room: 512G

1:55 Introduction

2:00 **A Rapid Nile Red Fluorescence-based Method for Quantification of Triacylglycerol in Cell Suspension Cultures of Brassica Napus.** Y. Gao ***(Biotechnology Division Student Award Winner)***, R.M.P. Siloto, and R.J. Weselake, University of Alberta, Canada.

2:20 **The Renewed Database Seed Oil Fatty Acids (SOFA).** B. Matthäus, Max Rubner-Institut, Germany.

2:40 **Chemoenzymatic Method for Producing Stearidonic Acid Concentrates from Stearidonic Acid Soybean Oil.** E.A. Ifeduba ***(Biotechnology Division Student Award Winner)*** and C. Akoh, University of Georgia, USA.

3:00 **Enrichment of Stearidonic Acid from Echium Oil via Two Step Lipase-Catalyzed Esterification.** J. Baik, D. Som No, and I.-H. Kim, Korea University, Republic of Korea.

3:20 **Development of Plant-derived Omega-3 Fatty Acids through Biodiversity.** S. Howatt, Technology Crops International, Canada.

3:40 **Physical and Chemical Properties of Salvia Hispanica Seeds in Comparison with Very High Fiber and ω3 Sources.** D. Hildebrand, J. Kirk, M. Al-Amery, K. Gyeong-Ok, C. Petti, W. Serson, R. Geneve, S. DeBolt, and T. Phillips, University of Kentucky, USA.

4:00 **Addressing Issues in Bringing Back the Castor Plant as a Domestic Crop.** T. McKeon and X. He, USDA-ARS Western Regional Research Center, USA.

EAT 5: General Edible Applications Technology

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

Room: 516B

1:55 Introduction

2:00 **Microalgae Lipid and Protein Fractionation.** T. Wang ***(Timothy L. Mounts Award Winner)***, Iowa State University, FSHN, USA.

2:40 **Microalgal Oils Rich in Omega-3 Lc-pufa: Effect of Extraction Solvent on Oil Composition.** E. Ryckebosch ***(Edible Applications Technology Division Student Award of Excellence Winner)***, C. Bruneel, K. Muylaert, and I. Foubert, KU Leuven University Kulak, Belgium.

3:00 **Differentiation in Triacylglicerol Composition and Thermal Profiles of the Fat from Cow, Goat and Sheep Milk Cheeses.** I. Vieitez, N. Callejas, M. Saibene, L. Cabrera, B. Irigaray, and M. Grompone, Facultad de Química (UDELAR), Uruguay.

3:20 **Structuring Food with Sodium Caseinate/Sunflower Oil Gels.** M.L. Herrera[1], C. Huck Iriart[1], and R. Candal[2], [1]University of Buenos Aires, Argentina; [2]University of San Martin, Argentina.

3:40 **Formulation of Two Different Types of *trans* Free (tf) and low Saturated Fatty Acid (SFA) Butter Oil Substitutes Using Modified Palm Oil, Canola and Beef Tallow, Canola. Application: in Cookies and Muffin.** F. Madadnoee[1] and J. Karami, [1]Independant Researcher-Industry Consultant, Canada; [1]Karami Trading Company, Iran.

4:00 **Using the Baking Process to Solubilize Ethylcellulose into Unsaturated Oil to Replace Hard Fat.** J. Derhammer, Ashland, USA.

4:20 **Effect of Extraction Methods on Quality and Healthy Minor Components of Canola Oil.** S. Mirzaee Ghazani[1], G. García-Llatas[2], and A.G. Marangoni[1], [1]University of Guelph, Canada; [2]University of Valencia, Spain.

EAT 5.1: Lipid Foods Imaging

Chair: D. Kalnin, PHILOLAO, Sweden

Room: 514C

1:55 Introduction

2:00 **Effect of Sorbitan-Based Surfactants on the Early-Stage Crystallization Kinetics of Coconut Oil.** D. Rousseau[1], P. Podchong[2], and S. Sonwai[2], [1]Ryerson University, Canada; [2]Silpakornn University, Thailand.

2:20 **Fat Crystals in Puff Pastry.** S. Breau[1], P. Saguez[2], F. Sobolewski[2], and D. Kalnin[2], [1]ENILIA-ENSMIC/PHILOLAO, France; [2]PHILOLAO, France.

2:40 **Microstructure Variations of Milk Fat Globule Membrane Related to Chemical Composition.** X. Zou[1], J. Huang[1], Q. Jin[1], Z. Guo[2], Y. Liu[1], L. Cheong[2], X. Xu[2], and X. Wang[1], [1]Jiangnan University, China; [2]Aarhus University, Denmark.

3:00 **Monitoring the Translational Diffusion of Emulsion Droplets in Dairy Gels with Particle Tracking Microrheology.** I. Gülseren, and M. Corredig, University of Guelph, Canada.

H&N 5: General Health and Nutrition

Chairs: H. Durham, Louisiana State University, USA; and A.H. Metherel, University of Waterloo, Canada

Room: 513D

1:55 Introduction

2:00 **Food Matrix Effects on *in vitro* Digestion of Microencapsulated Tuna Oil Powder.** Z. Shen, C. Apriani, R. Weerakkody, L. Sanguansri, and M.A. Augustin, CSIRO Animal, Food and Health Sciences, Australia.

2:20 **The Relation of Alpha-linolenic Acid Consumption via Flaxseed Oil Supplementation to Insulin Resistance in Type 2 Diabetics- the Delivery Throws a Curve Ball and So Now What?** D.E. Barre, Cape Breton University, Canada.

2:40 **Hepatic Δ6-desaturase and Docosahexaenoic Acid are Increased by Supplementation of Ovariectomized Rats With 17ß-estradiol, but not Progesterone.** A.P. Kitson ***(Honored Student Award Winner and Health and Nutrition Division Student Excellence Award Winner)***, K. Marks, B. Shaw, D. Mutch, and K.D. Stark, University of Waterloo, Canada.

3:00 **Functional Lipids and Risk of Metabolic Syndrome.** T. Yanagita[1] and K. Nagao[2], [1]Nishikyushu University, Japan; [2]Saga University, Japan.

3:20 **Trans Fatty Acid Content of Selected Foods in Chinese Market.** Y. Jiang, S. Xia, Y. Zhang, J. Yu, P. Hu, and X. Xu, Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., Denmark.

IOP 5: Oleochemicals

Chairs: J.O. Metzger, University of Oldenburg and abiosus e.V., Germany; and P. Amora, Stepan, USA

Room: 516D

1:55 Introduction

2:00 **Synthesis of Fatty Ethers: Catalytic Reduction of Fatty Acid Esters.** U. Biermann[1] and J.O. Metzger[1,2], [1]University of Oldenburg, Germany; [2]abiosus e.V., Germany.

2:20 **New Polyols for Polyurethanes Based on Cashewnut Shell Liquid.** M. Ionescu, D.P. Hong, X. Wan, I. Javni, N. Bilic, and Z. Petrovic, Pittsburg State University, Kansas Polymer Research Center, USA.

2:40 **Process Route for Singlet Oxygen Insertion in Unsaturated Fatty Acids for the Production of Oleochemical Monoalcohols.** H. Nsa Moto and Z. Mouloungui, Université de Toulouse, INP-ENSIACET, France.

3:00 **Functionalizing Fatty Acids through an Alpha-methylene Group.** J. Zerkowski and D.K.Y. Solaiman, USDA, Agricultural Research Service, USA.

3:20 **The Complexity of Interfacial Processes Between Metallic Surface and Free Fatty Acids / Esters.** I. Liascukiene[1], J. Landoulsi[2], N. Aissaoui[2], J-F Lambert[2], and S. Asadauskas[1], [1]State Research institute Center for Physical Sciences and Technology, Lithuania; [2]Université Pierre et Marie Curie-Paris VI, France.

3:40 **Density and Viscosity of Lipids Under Pressure.** G.B. Bantchev and G. Biresaw, USDA, ARS, NCAUR, USA.

4:00 **The Effects of Plastics on Rendered Fat Quality.** M. Paszti, Rothsay, a Division of Maple Leaf Foods, Canada.

4:20 **Novel Soybean Oil-derived Acrylates for UV-curable Coatings.** B. Chisholm, H. Kalita, S. Alam, S. Fernando, and J. Bahr, North Dakota State University, USA.

LOQ 5: General Lipid and Oxidation Quality

Chairs: S. Pan, Solae LLC., USA; and C. Hall, III, North Dakota State University, USA

Room: 511F

1:55 Introduction

2:00 **Effect of pH on the Activity of Non-migratory Metal-chelating Packaging Film in Preventing Lipid Oxidation in an Oil-in-water Emulsion System.** F. Tian ***(Honored Student Award Winner and The Peter and Clare Kalustian Award Winner)***, E. Decker, and J. Goddard, University of Massachusetts Amherst, USA.

2:20 **Impact of Free Fatty Acids and Phospholipids on Reverse Micelles Formation and Lipid Oxidation in Bulk Oil.** K. Kittipongpittaya[1], A. Panya[2], D. McClements[2], and E. Decker[1], [1]University of Massachusetts, Amherst, USA; [2]National Center for Genetic Engineering and Biotechnology, Thailand.

2:40 **Role of Diacylglycerols in Lipid Oxidantion in Bulk Oil: Surfactant Properties of Diacylglycerols.** H. Zhu and C. Shoemaker, UC Davis, USA.

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3:00 **Oxidative Stability of Pasteurized and Raw Flaxseed Milled Under Room and Cold Temperatures.** C. Hall III, and C. Turner, North Dakota State University, USA.

3:20 **Sensory Quality of Soybean and Canola Oils Packaged in Pet Bottles During Storage.** J.M. Block[1], P. Aguilera-Fuentes[1], A. Pinheiro do Prado[1], D. Barrera-Arellano[2], M. Bolini[2], [1]UFSC, Brazil; [2]UNICAMP, Brazil.

3:40 **Electron Paramagnetic Resonance Study of Radical Production during Olive Oil Oxidation.** K. Ranguelova, Bruker BioSpin Corporation, USA.

4:00 **Oxidative Stability of Sunflower-Chia Oil Blends with the Addition of Antioxidants.** M. Tomás[1], E. Guiotto[2], V. Ixtaina, and S. Nolasco, [1]CIDCA, Argentina; [2]CIDCA/ Fac. de Ingeniería, Dto. de Ingeniería Química (TECSE), UNCPBA, Argentina.

4:20 **Stability of Chia Oil-in-water Emulsions.** M.C. Tomás[1], L. Julio[1], V. Ixtaina[2], J. Wagner[3], and S. Nolasco[4], [1]CIDCA, Argentina; [2]CIDCA/Fac de Ingeniería, Dto. de Ingeniería Química (TECSE), UNCPBA, Argentina; [3]Área Ingeniería en Alimentos - Dto.de Ciencia y Tecnologia – UNQ, Argentina; [4]Fac de Ingeniería, Dto. de Ingeniería Química (TECSE), UNCPBA, Argentina.

PRO 5: General Processing

Chairs: P. Scott, GEA Mechanical Equipment Canada Inc., Canada; and J. Mulholland, N. Hunt Moore & Associates Inc., USA

Room: 512F

1:55 Introduction

2:00 **Comparison of Rapeseed Protein Extraction Technologies.** F. Pudel, H. Adem, J. Palomino Oviedo, and R.-P. Tressel, PPM Pilot Pflanzenöltechnologie Magdeburg e.V., Germany.

2:20 **Production of Canolol by Fluidized Bed Roasting and CO_2 Extraction of Rapeseed Meal.** F. Pudel[1], V. Habicht[1], B. Matthäus[2], K.-W. Quirin[3], and Anja Cawelius[3], [1]PPM Pilot Pflanzenöltechnologie Magdeburg e.V., Germany; [2]Max-Rubner-Institut, Germany; [3]Flavex Naturextrakte GmbH, Germany.

2:40 **Performance Evaluation of Zero Waste Technology for Palm Oil Mill in Malaysia.** Z. Ab Rahman and N. Abdul Hadi, Malaysian Palm Oil Board, Malaysia.

3:00 **Fatty Acids in Emulsion and Free Fatty Acids through Integrated Processing of Flaxseeds.** E. Lacroux, J. François Fabre, and Z. Mouloungui, Laboratoire de Chimie Agro-Industrielle, France.

3:20 **Transformational Technology for Processing Vegetable Oil, Fats, and Biodiesel. Part 1. Neutralization of High Acid Corn Oil.** J.L. Massingill[1], P. Patel[2], M. Dasari[3], and S. Davis[4], [1]Advanced Materials and Processes, USA; [2]Texas State University-San Marcos, USA; [3]Riverhead Resources, USA; [4]KPS Partners, LLC, USA.

3:40 **Ultrasound-assisted Separation and Recovery of Palm Oil.** M.A. Augustin[1], K.H. Lee[2], P. Juliano[1], P. Swiergon[1], K. Knoerzer[1], R. Mawsoon[1], and P. Clarke[1], [1]CSIRO Animal, Food and Health Sciences, Australia; [2]IHMS, Malaysia.

4:00 **3-MCPD and Glycidyl Esters: Latest Results from the German FEI-Project on Mitigation.** B. Matthäus[1], F. Pudel[2], A. Freudenstein[1], and T. Rudolph[2], [1]Max Rubner-Institut, Germany; [2]PPM Magdeburg, Germany.

4:20 **Enzymatic Fish Oil Refining—Three Steps Towards Maximizing Yields and Minimizing Environmental Impact.** T. Balle[1], H.C. Holm[1], D.W. Cowan[2], J. Hemann[1], and Y. Hon Seng[3], [1]Novozymes A/S, Denmark; [2]Novozymes A/S, UK, [3]Novozymes A/S, Malaysia.

4:40 **Adsorbent Purification of Biodiesel Feedstock using Synthetic Magnesium Silicate.** B. Cooke and G.E. Hicks, Dallas Group of America, USA.

PCP 5: General Protein and Co-Products

Chairs: R. Aluko, University of Manitoba, Canada; and M. Dowd, USA

Room: 513F

1:55 Introduction

2:00 **Novel Approaches to Improve the Dough Structure by Changing Wheat Flour Proteins Complex.** O. Shanina[1] and A. Teymurova[2], [1]Petro Vasilenko Kharkiv National Technical University of Agriculture, Ukraine; [2]University of Saskatchewan, Canada.

2:20 **Canola Protein-based Thermoplastic Polymers.** P. Mitra and J. Wanasundara, Agriculture and Agri-Food Canada, Canada.

2:40 **White Flake Desolventization of Soybeans and Other Oilseeds.** R.W. Ozer, Crown Iron Works, USA.

3:00 **Antihypertensive Activity of Laying Hen Eggs.** J. Wu, K. Majumder, S. Panahi, and S. Kaufman, University of Alberta, Canada.

3:20 **Optimization of Preparation of Soy Protein Hydrolysates with Anti-ß-amyloid (aß 1-42) Peptide Aggregation Activity Using Response Surface Methodology.** M. Ravichandran ***(Honored Student Award Winner)***, University of Arkansas, USA.

3:40 **Molecular Structure, Physicochemical Characterization and *in vitro* Degradation of Barley Protein Films.** L. Chen, University of Alberta, Canada.

4:00 **Comparison Between Interfacial Proteins Coming from Native or Transformed Flaxseed Lipids Emulsions.** J.-F. Fabre[1], E. Lacroux[2], and Z. Mouloungui, [1]INRA-INPT/ENSIACET, France; [2]LCA-INRA/INPT-ENSIACET, France.

4:20 **Enzymatic Hydrolysis of Spent Hen Proteins with Gastrointestinal Proteases Released Peptides with Blood Pressure-Lowering Activity.** C.C. Udenigwe[1], A.T. Girgih[2], S.A. Malomo[2], and R. Aluko[2], [1]Dalhousie University, Canada; [2]University of Manitoba, Canada;

4:40 **Effects of Fermented Rapeseed Meal on Antioxidant Functions, Serum Biochemical Parameters and Intestinal Morphology in Broilers.** A. Li, Academy of Science and Technology of State Administration of Grain, China.

S&D 5/ANA 5.1: Emerging Test Methods for Surfactants and Detergents

Chairs: M. Tsumadori, Kao Corp., Japan; and H. Li, Bruker Optics Inc., USA

Room: 513A

Joint session: For details, see ANA 5.1/S&D 5, on page 52.

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Wednesday, May 1 . . . . . 7:30 am–3:00 pm

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ANA-P: Analytical Poster Session

Chair: K. Ma, Eurofins QTA, Inc., USA

1. **Secretory Phospholipases A2(sPLA2s)release Free F2-isoprostanes from Lipoprotein Phospholipids.** A. Kuksis and W. Pruzanski, University of Toronto, Canada.
2. **Acid Number Determination of Vegetable Oils by Different Titration Methods.** F. Ribeiro Bürgel[1], A. dos Santos Vieira[1], C.M. de Mello Alves Portella[1], M.M. Jorge Vinhoza[1] and S. Cabral de Menezes[2], [1]PUC-Rio, Brazil; [2]Petrobras, Brazil.
3. **Quantitative Comparison of Direct *in situ* Transesterification of Plasma, Red Blood Cells and Brain Tissues With and Without Prior Lipid Isolations.** K. Ramirez and K.M. Wynalda Camozzi, DSM Nutritional Products, USA.
4. **Authentication and Quality Control and of Vegetable Oil by the Heracles E-nose System.** L. Britton, Alpha MOS America, USA.
5. **Edible Oil Adulteration Testing by FT-NIR.** C. Heil, D. Drapcho, and H. He, Thermo Fisher Scientific, USA.
6. **Determination of Cooking Oil Adulteration by Principal Component Analysis With HPLC - Charged Aerosol Detector Data.** M. Plante, D. Thomas, B. Bailey, and I. Acworth, Thermo Fisher Scientific, USA.
7. **Characterization of Used Cooking Oils by HPLC-MS and Corona Charged Aerosol Detection.** M. Plante, D. Thomas, B. Bailey, and I. Acworth, Thermo Fisher Scientific, USA.
8. **Mathematical Relationship Between IV and RI for Vegetable Oil.** S. Mukhopadhyay, Emami Biotech Limited, India.
9. **PTAD (4-phenyl-1,2,4-triazoline-3,5-dione) as a Novel Reagent in the GC-MS Identification of Conjugated Fatty Acid Positional Isomerism.** U. Shah, A. Proctor, and J.O. Lay, University of Arkansas, USA.
10. **Rapid Lipid Extraction from Egg Yolks.** S. Shinn and A. Proctor, University of Arkansas, USA.
11. **Fatty Acid Profile and Minor Lipid Components in the Oil of Some Selected Germplasms of *Lepidium campestre*.** S.R.P. Madawala, M.D. Geleta, L.-H. Zhu, and P.C. Dutta, Swedish University of Agricultural Sciences (SLU), Sweden.
12. **Effect of Temperature and Usage of Frying Process on the Fatty Acids Profile of Partially Hydrogenated Vegetable Oil (Vanaspati).** K. Anwar, V. Kardam, and K.K. Pant, Indian Institute of Technology (IIT), India.
13. **Quantification of Triacylglycerols in Vegetable Oils by Easy Ambient Sonic-Spray Ionization Mass Spectrometry Technique.** G.D. Fernandes, A.M. Ap. Fernandes, R.C. Simas, M.N. Eberlin, R.M. Alberici, and D. Barrera-Arellano, UNICAMP, Brazil.
14. **The Effect of Different Cold Storage Conditions on Extra Virgin Olive Oil.** X. Li, S. Wang, C.F. Shoemaker, and H. Zhu, University of California, Davis, USA.
15. **Chlorinated Acyloxonium Ions Originating Prior to or Subsequent to McLafferty Rearrangement as Characteristic Markers of Chloropropanol Esters under Electron Impact Conditions.** A.K.K. Rahn and V. Yaylayan, McGill University, USA.
16. **Discrimination of Geographic Origin of Asian Sesame Oils by Carbon, Hydrogen, and Oxygen Stable Isotope Analyses.** H. Jeon[1], S.-C. Lee[2], Y.-J. Cho[3], J.-H. Oh[4], K. Kwon[5], B. Hee Kim[6], [1]Chung-Ang University, Republic of Korea; [2]Korea Apicultural Association, Republic of Korea; [3]Korea Food and Drug Administration, Republic of Korea; [4]Korea Food and Drug Administration, Republic of Korea; [5]Busan Regional Korea Food and Drug Administration, Republic of Korea; [6]Chung-Ang University, Republic of Korea.
17. **Discrimination of Origin of Sesame Oils Using Fatty Acid and Lignan Profiles in Combination With Canonical Discriminant Analysis.** H. Jeon[1], I.-H. Kim[2], H.-D. Choi[3], C. Lee[1], C.C. Akoh[4], B. Hee Kim[1], [1]Chung-Ang University, Republic of Korea; [2]Korea University, Republic of Korea; [3]Korea Food Research Institute, Republic of Korea; [4]The University of Georgia, USA.
18. **On GC Behaviour of 18:4n-6.** M. Vyssotski[1], K. Lagutin[2], and Y. Itabashi[3], [1]Industrial Research Limited, New Zealand; [2]Industrial Research Limited, New Zealand; [3]Hokkaido University, Japan.
19. **HPLC Analysis with Fluorescence Detection of Pheophytins and Pyropheophytin in Extra Virgin Olive Oil by a Modified Version of Annex C of the ISO 29841 Method for Chlorophyll Degradation Products.** M. Woodman, Agilent Technologies, USA.
20. **An Automated Sample Preparation System for the Analysis of Fatty Acid Methyl Esters (FAME) in Edible Oils.** R.O. Juskelis[1], J. Cappozzo[1], P.L. Wylie[2], and P. Mrozinski[2], [1]IFSH, USA; [2]Agilent Technologies, USA.
21. **Geographical Origin Characterization of Olive Oil using ICPMS and Mass Profiler Professional Software.** J. Nelson[1], R.O. Juskelis[2], and J. Cappozzo[3], [1]Agilent, USA; [2]IFSH, USA.; [3]IFSH/IIT, USA.
22. **Chromatographic Study of Sinigrin and AITC.** D. Yuan, D. Owiti, and M. Reaney, University of Saskatchewan, Canada.
23. **Determination of Vitamin K1 Isomers in Oil Seeds by High Performance Liquid Chromatography-Tandem Mass Spectrometry.** F.A. Claussen, EPL Bio Analytical Services, USA.
24. **An Automated Method for Accurate Determination of EPA and DHA in Marine Oils Found in Today's Supplement Market.** S.L. Kanable[1] and B. Mitchell[2], [1]Covance Laboratories, USA; [2]Covance Laboratories, USA.
25. **On-line Column-Switching HPLC-MS/MS Analysis of Enantiomeric 3-MCPD Fatty Acid Diesters in Refined Edible Oils.** Y. Itabashi[1], S. Yoshioka[1], M. Suzui[2], H. Tsuda[2], and A. Kuksis[3], [1]Hokkaido University, Japan; [2]Nagoya City University, Japan; [3]University of Toronto, Canada.
26. **GC-MS Quantitative Determination of Short-Chain Free Fatty Acids in Milk Based on Ethyl Chloroformate (ECF) In-Solution Derivatization.** B. Amer, C. Nebel, H. Bertram, G. Mortensen, and T. Dalsgaard, Aarhus University, Denmark.

27. **An Isotope Dilution-Gas Chromatography-Negative Chemical Ionization-Mass Spectrometry Method for the Analysis of Trans-Fatty Acids in Human Plasma.** H.C. Kuiper, T. Frame, A. Ribera, and H. Vesper, Centers for Disease Control and Prevention, USA.
28. **MALDI-TOF MS Characterization of Reaction Products and Degradants Related to Biodiesel and Associated Materials.** T.P. McGinnis and A. Leigh, Nalco Ecolab, USA.
29. **Shielding Effects of Porous Glass Beads Technology in Preventing the Association of Additives in Foods.** N. Navarro, Nueva Ecija University of Science and Technology, Philippines.
30. **Pulp Oil of Acrocomia Aculeata: the Variability in Fruits from Pantanal and Cerrados Biomes (Brazil).** S.P. Favaro[1], G. Ciconini[2], C. Miranda[1], C. Souza[2], and L. Martins[2], [1]Brazilian Agricultural Research Corporation (EMBRAPA), Brazil; [2]Catholic University Dom Bosco, Brazil.
31. **Trans Fat Screening by IR for a Processing Environment.** R.J. Packer[1] and J. Sellors[2], [2]PerkinElmer, USA; PerkinElmer, UK.
32. **Chemistry and Utilisation of Madhuca Insignis (radlk.) H.j. lam (sapotaceae), Lesser Known New Tree Borne Oilseeds of Western Ghats, India.** M. Srinivasa, Institute of Wood Science & Technology, Malleshwaram, India.
33. **Identification of Steryl Esters in Margarine and Corn Kernels using ESI-MS/MS and ESI-MS/MS/MS Ion Trap-Mass Spectrometry.** I. Hailat, R. Helleur, and C. Parrish, Memorial University of Newfoundland, Canada.

BIO-P: Biotechnology Poster Session

Chairs: R. Ashby, USDA, ARS, ERRC, USA; and J. Ogawa, Kyoto University, Japan

1. **Rapeseed and Sunflower Meals: Efficient Substrates for Lignocellulolytic Enzyme Production by Filamentous Fungi.** F. Fine[1], E. Uzan-Boukhris[2], J.-C. Sigoillot[2], and A. Lomascolo[2], [1]CETIOM, France; [2]INRA, Aix-Marseille Université, UMR1163, France.
2. **Kinetic Study and Modeling of Biosynthesis of the Flavor Precursors, Linoleic Acid Hydroperoxides, Using Commercial Soybean Lipoxygenase.** M. Aziz[1], N. Ben Akacha[2], F. Husson[2], and S. Kermasha[1], [1]McGill University, Canada; [2]Institut National de Recherche et d'Analyse Physico-Chimique, Tunisia; [3]LGPMA, Dijon AgroSup, Université de Bourgogne, France.
3. **The Giant Panda and Biofuels: Metagenomics and Anaerobic Bacteriology.** C. Williams[1], I. Johnston[1], A. Kouba[2], S. Willard[1], D. Sparks[1], and A. Brown[1], [1]Mississippi State University, USA; [2]Memphis Zoological Society, USA.
4. **Effects of Enzymatic Interesterification on Physicochemical Properties of Blends of Palm Stearin, Palm Kernel Oil and Olive Oil to Produced trans-Free Margarine Analags.** F.A. Schafer De Martini Soares[1], R. da Silva[1], Natalia Osório[2], S. Hares Junior[1], J. Maruyama[1], M. Ines Gonçalves[1], S. Ferreira-Dias[2], and L. Gioielli[1], [1]University of São Paulo, Brazil; [2]Instituto Superior de Alimentos, Portugal.
5. **Enzymatic Modification of Phosphatidylcholine with n-3 Polyusaturated Fatty Acid using Immobilized Phospholipase A1.** T.T. Zhao[1], M. Young Kim[1], D. Som No[1], B. Hee Kim[2], M. Won Lee[3], I.-H. Kim[1], [1]Korea University, Republic of Korea; [2]Chung-Ang University, Republic of Korea; [3]ILSHINWELLS, Republic of Korea.
6. **Synthesis of Structured Triacylglycerols rich in n-3 PUFA by Acidolysis of Soybean Oil Using Native Lipases.** P.O. Carvalho[1], M.E. de Araújo[1], Y. Franco[1], D. Pazinatto[1], I. Cunha[2], and I. Tescarollo[1], [1]USF São Francisco University, Brazil; [2]UNICAMP, Brazil.
7. **Preparation of Oligo(Ricinoleic Acid Derivatives via Lipase-Catalyzed Esterification as Lubricant Additives and Star Polymers for Drug Delivery.** D.G. Hayes[1], V. Mannam[1], R. Ye[1], H. Zhao[2], S.e Ortega[3], and M.C. Montiel[3], [1]University of Tennessee, USA; [2]Nanjing Agricultural University, China; [3]University of Murcia, Spain.
8. **High Level Production of Docosahexaenoic acid (DHA)-rich Triacylglycerol by a Novel Strain of Thraustochytrid.** T. Ujihara, M. Nagano, and K. Tabata, Kyowa Hakko Bio Co., Ltd., Japan.
9. **Metabolic Engineering Approaches to Increase the Oil Content of Seeds.** R. Booth, DuPont Pioneer, USA.
10. **An One-Step Enzymatic Process for High-Maltose Syrup and Trehalose Production using Corn as Substrate.** S.-W. Chang[1], M.-L. Chang[2], and J.-F. Shaw[3], [1]Dayeh University, Taiwan; [2]Dept. of Life Sciences, National Chung Hsing University, Taichung, Taiwan; [3]Dept. of Biological Science and Technology, I-Shou University, Taiwan.
11. **Alternations in Biosynthesis and Production of Fungal Polyunsaturated Fatty Acids by Metals.** T. Klempova, K. Holbova, and M. Certik, Faculty of Chemical and Food Technology, Slovak Technical University, Slovakia.
12. **Production and Microencapsulation of Structured Lipids Enriched With Sn-2 Palmitic Acid and Long-chain Polyunsaturated Fatty Acids for use in Infant Formula.** S. Nagachinta and C.C. Akoh, University of Georgia, USA.
13. **Subcritical Water and Dilute Acid Pretreatments for Bio-ethanol Production from Melaleuca Leucadendron Shedding Bark.** I.N. Ahmed and Y.-H. Ju, National Taiwan University of Science and Technology, Taiwan.
14. **Maximizing Biodiesel Production from Yarrowia Lipolytica Po1g Biomass Using Subcritical Water Pretreatment.** I.N. Ahmed, Y.A. Tsigie, and Y.-H. Ju, National Taiwan University of Science and Technology, Taiwan.
15. **Lipase-catalysed Enrichment of GLA from Evening Primrose Oil in a Solvent-Free System.** R. Baeza Jiménez[1], D. Som No[2], C. Otero[3], H.S. García[4], and I.-H. Kim[5], [1]Instituto de Catálisis y Petroleoquímica, Spain; [2]Korea University, Republic of Korea; [3]Instituto de Catálisis y Petroleoquímica; Spain; [4]Instituto Tecnológico de Veracruz, Mexico; [5]Korea University, Republice of Korea.

EAT-P: Edible Applications Technology Poster Session

Chairs: G. List, Retired, Consultant, USA; and G. Cherian, Kelloggs North America Co., USA

1. **Papaya Seed Oil from Two Malaysian Varieties: Comparison of Solvent Extraction and Ultrasound Technique.** H. Mirhosseini, University Putra Malaysia, Malaysia.
2. **Oxidative Stability of Wax Ester Containing n-3 PUFA Synthesized by Lipase-Catalyzed Esterification.** M. Young Kim, T.T. Zhao, S. Won Yoon, and I.-H. Kim, Korea University, Republic of Korea.
3. **Selective Enrichment of *trans*-10,*Cis*-12 Isomers from Commercial Conjugated Linoleic Acid Mixtures in a Recirculating Packed Bed Reactor via Lipase-catalyzed Esterification.** I. Kang[1], I.-H. Kim[2], H.-D. Choi[3], and B. Hee Kim[1]; [1]Chung-Ang University, Republic of Korea, [2]Korea University, Republic of Korea, [3]Korea Food Research Institute, Republic of Korea.
4. **Do Biopolymer-based Multilayered Emulsions Protect Encapsulated Lipophilic Ingredients Against Chemical Degradation Through Electrostatic Interactions?** C.C. Berton-Carabin[1], J. Chaprenet[2], R. Elias[1], P. Relkin[2], and J. Coupland[1], [1]The Pennsylvania State University, USA; [2]AgroParisTech, UMR1145 (INRA, AgroParisTech, CNAM), France.
5. **Superchilling Treatment Alter the Melting Point of Fat in Pork.** R. Hosomi[1], Y. Fukuma[2], K. Fukunaga[3], M. Takasugi[4], H. Arai[5], and M. Yoshida[3], [1]Tottori College, Japan; [2]Hyo-On Laboratories Inc., Japan; [3]Kansai University, Japan; [4]Kyushu Sangyo University, Japan; [5]Kitami Institute of Technology, Japan.
6. **Physicochemical Properties of the Principal Ingredients in Dark Chocolate and Their Effects in the Final Product Quality.** E. Dibildox-Alvarado, N.I. Murillo-Hernandez, and J.F. Toro-Vazquez, Facultad de Ciencias Químicas. UASLP, Mexico.
7. **Retardation of Crystallization of Diacylglycerol Oils using Polyglycerol Fatty Acid Esters.** R. Homma[1], K. Saito[1], N. Kudo[1], Y. Katsuragi[1], and K. Sato[2], [1]Kao Corporation, Japan; [2]Hiroshima University, Japan.
8. **Effects of Addition of Emulsifiers in the Crystalline Properties of Palm Olein and Coconut Oil.** R. Silva, J. Maruyama, N. Roque, Y. Silva, and L. Gioielli, São Paulo University, Brazil.
9. **Microemulsions Containing Riboflavin as Potential Delivery Systems.** N. Lidich, A. Aserin, and N. Garti*, The Hebrew University of Jerusalem, Israel.
10. **Influence of Guar Gum on Emulsion Lipid Digestion and Carotenoid Bioaccessibility.** J.T. Amyoony and A. Wright, University of Guelph, Canada.

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11. **Tocopherol Composition of Brazil Nut Oil Varies According to Extraction Method.** V.N. Castelo Branco, V. Rezende, S. Botelho, and A. Torres, Federal University of Rio de Janeiro, Brazil.
12. **Crystallization and Polymorphism Behavior of Pure Triacylglycerol's Added with Monoacylglycerols.** R. Silva, N. Agostinho, J. Maruyama, Y. Silva, and L. Gioielli, São Paulo University, Brazil.
13. **Modeling and Analysis of Segmented Data from Lipid Studies: Straight Line Analysis Tool (SLAT) Software.** S. Joseph, L. Bouzidi, and S. Narine, Trent Centre for Biomaterials Research, Trent University, Canada.
14. **Determination of *trans* Fatty Acid Levels by Gas Chromatography in Processed Foods in India.** N. Lakra[1], K. Anwar[2], and K.K. Pant[2], [1]Jawaharlal Nehru University, India; [2]Indian Institute of Technology, India.
15. **Liquid Oil Margarine with Ultramicro-Starch-Filaments and Oil Leakage Prevention from Oily-fruits for Beverage- and- Food Manufacture.** Y. Yamada and K. Yamada, Nagoya Naikaseikeisanfujinka Hospital, Japan.
16. **Morphology and Physical Properties of High Melting Fractions of Milk Fat.** S. Ueno, S. Itatani, and H. Hondoh, Hiroshima University, Japan.
17. **Puff Pastry Margarines Performances Related to Their Physicochemical Properties.** S. Danthine[1], E. Lefebure[2], V. Cavillot[3], and C. Blecker[2], [1]Ulg GxABT, Belgium; [2]GxABT, Belgium; [3]Wagralim, Belgium.
18. **Thermal and Structural Behaviour of Four Industrial Lauric Fats.** S. Danthine[1], P. Anihouvi[1], C. Blecker[1], A. Dombrée[2], and V. Van Hoed[2], [1]Ulg GxABT, Belgium; [2]Puratos Group, Belgium.
19. **Promising Cultivar of Soybean for the Yield of Oil and Protein in Khyber Pakhtunkhwa-Pakistan.** M. Usman and N. Ullah, Foundation for Rural Development, Pakistan.
20. **Quantification of Energy Parameters during Crystallization of Tag Binary Mixtures.** O. Al-Qatami and G. Mazzanti, Dalhousie University, Process Engineering and Applied Sciences, Canada.

FS&FF-P: Food Structure & Functionality Posters

1. **Evaluation of Fatty Acids Compositions in Daily Distributed Cream and Yogurt in Tehran/Iran.** S. Sabounchi, Standard Organization, Iran.
2. **Hardfats Added to Palm Oil: Changes in Microstructure And Consistency.** G. Oliveira, T. Kieckbusch, and A.P. Ribeiro, UNICAMP - University of Campinas, Brazil.
3. **Preparation, Characterization and Optimization of Liposomes Containing Eicosapentaenoic and Docosahexaenoic Acids: A Methothodology Approach?** Z. Hadian[1], M. Ali Sahari[2], H.R. Moghimi[1], M. Barzegar[3], and S. Abbasi[3], [1]Shahid Beheshti University of Medical Sciences, Iran; [2]Tarbiat Modares, Iran; [3]School of Agriculture, Tarbiat Modares University, Iran.
4. **Production of an Extended Shelf Life Water-soluble Derivative of Conjugated Linoleic Acid (CLA).** S. Koohikamali, Universiti Putra Malaysia (UPM), Malaysia.
5. **The Relationship Between Physical Properties and Functionality for Margarine Products.** Z. Zhi-ming[1], H. Zhang[2], Y.-l. Bi[1], X.-Y. Sun[2], and X. Xu[2], [1]Henan University of Technology, China; [2]Wilmar Biotechnology Research and Development Center Co., Ltd., China.
6. **The Crystallization Behavior of Palm Oil with HIU Irradiation.** F. Chen[1], H. Zhang[2], X. Wang[1], and X. Sun[3], [1]Jiangnan University, China; [2]Wilmar Biotechnology Research and Development Center (Shanghai) Co., Denmark; [3]Wilmar Biotechnology Research and Development Center (Shanghai) Co., China.
7. **Effect of Tempering and Cocoa Butter Content on the Texture and Bloom of Lauric Compound Chocolate.** H. Shen[1], H. Zhang[2], S. Xie[2], and X. Wang[1], [1]Jiangnan University, China; [2]Wilmar (Shanghai) Biotechnology R&D Center Co., Ltd., Denmark.
8. **Effect of Salt and Liver / Fat Ratio on Microstructure, Stability and Texture of Liver Paste.** I. Foubert[1], L. Steen[2], I. Fraeye[2], O. Goemaere[2], and H. Paelinck[2], [1]KU Leuven University Kulak, Belgium; [2]KAHO Sint-Lieven, Belgium.
9. **Functionalization of Non-interesterified Mixtures of Fully Hydrogenated Fats Using Shear Processing.** N. Acevedo[1], J.M. Block[2], and A.G. Marangoni[3], [1]Iowa State University, USA; [2]Santa Catarina Federal University, Brazil; [3]University of Guelph, Canada.
10. **Crystallization Behavior of High-oleic High-stearic Sunflower Oil Stearins Under Dynamic and Static Conditions.** S. Martini[1], J. Rincon Cardona[2], Y. Ye[1], C. Y. Tan[1], R. Candal[2], and M.L. Herrera[3], [1]Utah State University, USA; [2]National University of San Martin, Argentina; [3]University of Buenos Aires, Argentina.
11. **Viscoelastic and Melting Behavior of Waxes in Vegetable Oils.** C.Y. Tan, Y.Y. Heng, and S. Martini, Utah State University, USA.
12. **Feeding Hens Flaxseed Oil and Dried Whitebait Affects Fatty Acid Composition and Sensory Characteristics of Eggs.** H. Yi[1], K.T. Hwang[1], and B.S. Shin[2], [1]Seoul National University, Republic of Korea; [2]Haitnimnara Co., Korea.
13. **Evaluation of Thin-Layer Drying Models for Describing Drying Kinetics of Apple(var.Golab).** E. Meisami-Asl, Tehran University, Islamic Republic of Iran.

H&N-P: Health and Nutrition Poster Session

Chair: K.D. Stark, University of Waterloo, Canada

1. **Dietary Effects of *trans*, *trans* Rich Conjugated Linoleic Acid Soy Oil on Egg Yolk Lipids and Egg Quality.** S. Shinn and A. Proctor, University of Arkansas, USA.
2. **Dietary Hemoglobin Reduce Serum and Liver Cholesterol Contents and Increase Fecal Fatty Acids, Cholesterol, and Bile Acids in Rats.** K. Fukunaga[1], R. Hosomi[2], H. Arai[3], S. Kanda[4], Toshimasa Nishiyama[4], and Munehiro Yoshida[1], [1]Kansai University, Japan; [2]Tottori College, Japan; [3]Kitami Institute of Technology, Japan; [4]Kansai Medical University, Japan.
3. **Tissue-specific Differences in Fatty Acid Desaturation and Fat Accumulation by Pioglitazone-administrated Rats.** M. Ochiai, and T. Matsuo, Faculty of Agriculture, Kagawa University, Japan.
4. **Digestibility and Nutritional Quality of Enzyme-treated Pulse Flours.** A.N.A. Aryee and J.I. Boye, Agriculture & Agri-Food Canada, Canada.
5. **Fatty Acid Composition of Plasma Phospholipid Fractions of Women During Pregnancy and Postpartum: a Pilot Study.** A. Chalil and K.D. Stark, University of Waterloo, Canada.
6. **Hypolipemiant and Antioxidant Effect of Clna Rich Nanocapsules Tested on Rat Model.** A. Sengupta[1] and M. Ghosh[2], [1]Bengal Engineering and Science University, India; [2]University of Calcutta, India.
7. **Fucoxanthin Suppresses Macrophage Infiltration into White Adipose Tissue through Regulation of Chemokine Production in Obese/Diabetic Mice.** M. Hosokawa, A. Koide, M.-J. Yim, M. Oyama, and K. Miyashita, Hokkaido University, Japan.
8. **Protein Digestibility of Yogurt, Pasta and Muffin Formulated with Raw and Pre-Treated Pea and Lentil Ingredients.** F. Zare and J.I. Boye, Agriculture and Agri-Food Canada, Canada.
9. **Oxygenated Fatty Acids Fermented by Lactobacillus plantarum Decrease LXRα-induced Cellular Triacylglycerol in HepG2 cells.** T. Nanthirudjanar, Y.-I. Kim, T. Goto, N. Takahashi, T. Kawada, S.-B. Park, S. Kishino, J. Ogawa, T. Sugawara, and T. Hirata, Graduate School of Agriculture, Kyoto University, Japan.
10. **Effects of Stage of Maturity and Post-Harvest Storage Condition on the Ergothioneine and Phenolic Contents, and Antioxidative Properties of Select Mushroom Varieties.** H.T. Nguyen, R. Nagasaka, and T. Ohshima, Tokyo University of Marine Science and Technology, Japan.
11. **Effect of 4-hydroxy-2-nonenal on Chemical Mediators Release from Mast Cells.** M. Takasugi[1], T. Hirata[2], S. Matsumoto[2], S. Sekimoto[2], R.Hosomi[3], K. Fukunaga[4], and H. Arai[2], [1]Kyushu Sangyo University, Japan; [2]Kitami Institute of Technology, Japan; [3]Tottori College, Japan; [4]Kansai University, Japan.

12. **Soybean β-conglycinin Improves Carbohydrate Metabolism in Type 2 Diabetes Mellitus Models, GK Rats.** N. Inoue[1], A. Funayama[1], M. Kato[1], N. Tachibana[2], M. Kohno[2], and I. Ikeda[1], [1]Tohoku University, Japan; [2]FUJI OIL CO., LTD., Japan.
13. **Effect of Carnosic Acid on Tumor Necrosis Factor-α-mediated Inflammation and Insulin Resistance in 3T3-L1 Adipocytes.** C.-W. Tsai and Y.-R. Lin, China Medical University, Taiwan.
14. **The Novel iFat1 Transgenic Mouse is Capable of Inducible Endogenous Tissue Enrichment of n-3 PUFA.** S.E. Clarke[1], J. Kang[2], and D. Ma[1], [2]University of Guelph, Canada; [2]Massachusetts General Hospital/Harvard Medical School, USA.
15. **Anti-inflammatory Activity of Black Raspberry Seed Oil.** H.J. Lee, H. Jung, and K. Taek Hwang, Seoul National University, Republic of Korea
16. **Antioxidative and Antihypertensive Hemp seed (*Canabis sativa* L.) Protein-Derived Peptides.** A. Girgih, University of Manitoba, Canada;
17. **Immunomodulatory and Cytotoxic Properties of Oils and Fatty Acids from Leaves, Flowers, and Stems of Clerodendrum volubile.** O.L. Erukainure[1], O. Ebuehi[2], M. Choudhary[3], A. Mesaik[3], A. Shukralla[3], M. Aliyu[3], and G. Elemo[1], [1]Federal Institute of Industrial Research, Oshodi, Lagos, Nigeria, Nigeria; [2]University of Lagos, Nigeria; [3]University of Karachi, Pakistan.
18. **Dietary Sunflower Fiber is Effective in Decreasing Body Weight.** N. Watanabe[1], A. Okano[1], Y. Takamura[2], M. Takumi[3], and K. Fujimoto[4], [1]Showa Women's University, Japan; [2]Mottainai Biomass Co. Ltd., Japan; [3]Koyo Sangyo Co. Ltd., Japan; [4]Koriyma Women's University, Japan.
19. **Relationship between Ruminant *trans* Fatty Acids Intake Levels and Blood Lipids in Healthy Subjects: Results from a Systematic Review and Meta-Regression of Randomized Clinical Trials.** C. Gayet-Boyer[1], F. Tenenhaus-Aziza[1], J.M. Chardigny[2], B. Lamarche[3], and C. Marmonier[4]*, [1]CNIEL/ French Dairy Council, France; [2]INRA and Clermont University, France; [3]Institute of Nutraceuticals and Functional Foods, Laval University, Canada; [4]CNIEL, Nutrition and Health Department, France.
20. **Inhibitory Effect of tellimagrandin I in Rosa rugosa Petals on Allergic Reaction.** H. Arai[1], Y. Takaya[1], S. Sasayama[1], K. Toda[1], R. Takahashi[1], T. Yamagishi[1], A. Utsunomiya[2], R. Hosomi[3], K. Fukunaga[4], and M. Takasugi[2], [1]Kitami Institute of Technology, Japan; [2]Kyushu Sangyo University, Japan; [3]Tottori College, Japan; [4]Kansai University, Japan.
21. **Studies on Comparative Efficacy of alpha-linolenic Acid and alpha- Eleostearic Acid on Prevention of Methyl Mercury-induced Hyperlipidimia in Kidney and Liver of Rat.** M. Pal and M. Ghosh, University of Calcutta, India.
22. **Comparison of the Effect of Consuming Olive Oil and Sunflower Oil on the Lipid Profile in Menopause Women With Type 2 Diabetes Mellitus.** S. Armin[1], F. Azam Taleban[2], F. Tahbaz[2], Y. Mehrabi[2], and Z. Kamali[3], [1]Guelph General Hospital, Canada; [2]Shahid Beheshti University of Medical Sciences, Iran; [3]National Nutrition and Food Technology Research Institute, Iran.
23. **Phytochemical Protection against Carbofuran Toxicity.** S. Datta, M. Sinha, D. Das, and S. Ghosh, University of Calcutta, India.

IOP-P: Industrial Oil Products Poster Session

Chair: R.O. Dunn, USDA, ARS, NCAUR, USA

1. **Limitation of Zeolite Type Catalyst in the Alcoholysis of Fats and Oils.** P.A.Z. Suarez, A. Filho, K. Di Ferreira, G. Martins, G. Martins, and P. Lima, University of Brasilia, Brazil.
2. **Does the "Rancimat Method" Really Measure the Oxidative Stability of Biodiesel?** R.O. Dunn, USDA-ARS-NCAUR, USA.
3. **Highlights on a By-product of Specialty Seed oil of Annona Squamosa as Promising Safe Termite Control Agents.** T.S. Djenontin[1], N. Amusant[2], T. Ruiz[3], P.Ducrot[4], D. Sohounhloué[5], and D. Pioch[2]*, [1]University of Abomey-Calavi, Benin; [2]CIRAD, Guyana; [3]University Montpellier II France, France; [4]Institut Jean-Pierre Bourgin - INRA, France; [5]University of Abomey-Calavi, Benin.
4. **Biofuels: the Promising Substitute Fuel Over Conventional Fossil Fuel.** K. Bera, Institute of Genetic Engineering, India.
5. **Rigid Polyurethane Foams and Cast Resins from glycerin-based Polyether Polyols.** I. Javni, O. Bilic, N. Bilic, and Z. Petrovic, Pittsburg State University, USA.
6. **Bio-based Non-isocyanate Thermoplastic Polyurethanes.** I. Javni, O. Bilic, and Z. Petrovic, Pittsburg State University, USA.
7. **Determination of Silicone Oils by HPLC and Corona Charged Aerosol Detector.** M. Plante, D. Thomas, B. Bailey, and I. Acworth, Thermo Fisher Scientific, USA.
8. **Synthesis and Characterization of Acetylated and Stearylyzed Soy Wax.** L. Yao and T. Wang, Iowa State University, USA.
9. **Optimization of Biodiesel Production via Hydro-esterification Using Heterogeneous Catalysis.** P.A.Z. Suarez, C. Rodriguez, and H. Lira, University of Brasilia, Brazil.
10. **Papaya Seed Oil from Two Malaysian Varieties: Comparison of Solvent Extraction and Ultrasound Technique.** H. Mirhosseini[1], S. Samaram[1], T. Chin Ping, and H. Ghazali, University Putra Malaysia, Malaysia.
11. **Cedarwood Oil: Cross-Over Pressure Research.** F.J. Eller and J. Teel, USDA, ARS, USA.
12. **Petroleum-Free Structured Emulsion for Cosmetic Applications.** F. Wang, and A.G. Marangoni, University of Guelph, Canada.
13. **Ultrasonic Transesterification of Microalgae Oil (Chlorella prototheocoides) to Biodiesel.** D. Özçimen[1] and M. Ömer Gülyurt[2], [1]Yildiz Technical University, Turkey; [2]Uskudar University, Turkey.
14. **Effect of Self-Anticorrosion Performance of Dimer Acid-Based Polyol Microcapsule Containing isosorbide-oleic (SAIO) Corrosion Inhibitor.** E. Koh, Korea Research Institute of Chemical Technology, Republic of Korea.
15. **Polyamides Based on the Renewable Monomer, 1,13-tridecane Diamine: Nylon 13,t and Nylon 13,6.** B. Chisholm, S. Samanta, J. He, S. Sermadurai, J. Lattimer, C. Ulven, M. Sibi, and J. Bahr, North Dakota State University, USA.
16. **Synthesis and Molecular Weight Control of Entirely Lipid Derived Aliphatic Polyester Diols.** S. Merchant and S. Narine, Trent Center for Biomaterials Research, Trent University, Canada.
17. **Investigating the Thermal Stability of Linear Diesters Derived from Vegetable Oils: Dependence of Thermal Stability on the β-Hydrogen and its Environment.** L.C. Raghunanan and S. Narine, Trent University, Canada.
18. **Using CLICK Chemistry to Produce Green Monomers and Polymers from Vegetable Oils.** M. Floros, Trent University, Canada.
19. **Assessment of Flocculation as an Efficient and Low Cost Concentration Method for Harvesting Microalgae for Bulk Biomass Production.** I. Foubert, D. Vandamme, and K. Muylaert, KU Leuven University Kulak, Belgium.
20. **Phytochemical Screening and Physicochemical Analysis of Gingerbread Plum (*parinari Macrophylla*) Seed Oil.** A. Ahmad Warra, Kebbi State University of Science and Technology, Nigeria.
21. **Harnessing Hansen Solubility Parameters to Predict Organogel Formation.** S. Wu, J. Gao, and M.Rogers, Rutgers, The State University of New Jersey, USA.

22. **Evaluation of Macauba oil (acrocomia Aculeata) as raw Material for the Supercritical Methanolysis and Ethanolysis.** I. Vieitez[1], H. Navarro-Díaz[2], S. Gonzalez[2], N. Callejas[1], M. Saibene[1], B. Irigaray[1], I. Jachmanián[1], and J.V. de Oliveira[2], [1]Facultad de Química (UDELAR), Uruguay; [2]Universidade Federal de Santa Catarina, Brazil.
23. **Synthesis and Stabilization of Gold Nanoparticles in Castor Oil.** M. Meneghetti, Federal University of Alagoas - UFAL, Brazil.
24. **Application of Castor oil Derived Polyol for Elastomer Synthesis.** T.A. da Silva, R. Barbosa, L. Ramos, and S. Zawadzki, Federal University of Parana, Brazil.
25. **Synthesis of Trimethylolpropane Fatty Acid Triester by Transesterification of Waste Cooking Oil-Based Methyl Esters with Trimethylolpropane.** Y. Wang[1], E. Wang[1], and M. Reaney[2], [1]Jinan University, China; [2]University of Saskatchewan, Canada.

LOQ-P: Lipid Oxidation and Quality Poster Session

Chair: G. List, Retired, Consultant, USA

1. **Antioxidant Activity and Free Radical Scavenging Potential of Rosemary and Green tea Extract in Ghee (Butter Oil) During Accelerated Tests.** N.R. Pawar[1], S. Arora[2], and S. Chopde[1], [1]CDT, Udgir, India [2]NDRI, Karnal, India.
2. **Stability of Polyunsaturated Omega-3 Fatty Acids in Salmon by Different Culinary Treating.** J. Liang, Y. Jiang, Y. Zhang, and F. Niu, Wilmar (Shanghai) Biology R&D Center Ltd. Co., China.
3. **The Transformation of tBHQ during High Temperature Frying (>200?) and its Effects on the Frying Oil.** T. Zhang and Y. Jiang, Wilmar (Shanghai) Biology R&D center Ltd. Co., China.
4. **Influence of Thermal Treatment on Physicochemical Properties of Maize Germ Oil Bodies.** R. Sukhotu, and S.-T. Guo, East Campus of China Agricultural University, China.
5. **Lipid Co-oxidation of Proteins in Peanut Butter.** W. Wanibadullah and K.M. Schaich, Rutgers University, USA.
6. **Evaluation of HBr, Nitrobenzyl Pyridine, Diethyl Dithiocarbamate, and Hydrogen NMR Methods for Quantitating Lipid Epoxides.** K.M. Schaich and Chen-Hsiang Liao, Rutgers University, USA.
7. **Headspace Liquid-Phase Microextraction (HS-LPME) as a Green Analytical Technique for Assessment Autoxidation State in Soybean Oil During Shelf-Life.** M. Enteshari, K. Nayebzadeh, and A. Mohammadi, Shahid Beheshti University of Medical Sciences, Dept. of Food Science and Technology, Iran.
8. **Optimization of Headspace-Liquid Phase Microextraction Followed by Gas Chromatography-Mass Spectrometry for Determining Some of Volatile Oxidation Compounds (VOCs) in Mayonnaise by Response Surface Methodology.** M. Enteshari, K. Nayebzadeh, and A. Mohammadi, Shahid Beheshti University of Medical Sciences, Dept. of Food Science and Technology, Iran.
9. **Antioxidant Properties of Dogfish Skin Protein Hydrolysates.** S. Rajendran, S.P. Faucher and B.K. Simpson, Food Science & Agricultural Chemistry Department, McGill University (Macdonald Campus), Canada.
10. **Canolol from Canola Seeds, Meal and Canola Oil Deodistillates: Extraction, Evaluation of its Antioxidant Activity and Protective Effects on Oxidation of Canola Oil.** A. Appukuttan[1], K. Schwarz[2], G. Hatfield[3], M. Eskin[4], and U. Thiyam-Hollander[1], [1]University of Manitoba, Canada; [2]University of Kiel, Germany; [3]Bunge Limited, Canada; [4]University of Manitoba, Canada.
11. **Evaluation of the Oxidative Stability of Cold Pressed Hass Avocado Oils.** I. Santana[1], L. Martins Ferreira dos Reis[1], A. Guedes Torres[1], L. M. Corrêa Cabral[2], and S. Pereira Freitas[1], [1]Universidade Federal do Rio de Janeiro (UFRJ), Brazil; [2]Embrapa Agroindústria de Alimentos, Brazil.
12. **A New and Green Method to SysthesisEpoxidized Soybean Oil.** G. Liu, South China University of Technology, China.
13. **Influence of Extraction Solvent on Content of Vitamin E in Soybean Germ Oil.** X. Wang, Henan University of Technology, China.
14. **Development of Antioxidants for Frying Oil.** V. Perreault and P. Angers, Université Laval, Canada.
15. **Antioxidant Activity of the Essential Oil and Methanol Extract of Seeds of Rumexpatientia L.** S.O. Yücel[1], P. Terzioglu[2], Y. Cetintas[2], D. Çolak[1], M. Öztürk[2], and M. Duru[2], [1]Yildiz Technical University, Turkey; [2]Mugla Sitki Koçman University, Turkey.
16. **Trolox Equivalent Antioxidant Capacity (TEAC) Assay Might Predict Oxidative Stability of Refined Vegetable Oils**. V. Castelo Branco, V. Di Sarli, and A. Torres, Federal University of Rio de Janeio, USA.

PHO-P: Phospholipid Poster Session

1. **Optimization of Phospholipase A1-Catalyzed Hydrolysis of Phosphatidylcholine for Producing Lysophosphatidylcholine by Response Surface Methodology.** C. Wan Lim[1], I.-H. Kim[2], M.-W. Lee[3], and B.H. Kim[1], [1]Chung-Ang University, Republic of Korea; [2]Korea University, Republic of Korea; [3]Ilshinwells Co., Ltd., Republic of Korea.
2. **Release of Fatty Acid Hydroperoxides and Hydroxides from Lipoprotein Phospholipids by Group Iia, v and x of Human Secretory Phospholipases (spla2s).** A. Kuksis and W. Pruzanski, University of Toronto, Canada.
3. **Modeling Simple Lipid Phase Separation and Effects of Amphiphilic Molecules on Lipid Domains.** L. Lins, ULg GBX ABT, Belgium.

PRO-P: Processing Posters

Chair: P. Adu-Peasah, Dow AgroSciences, USA

1. **Retrograde Vaporization of Rice Bran Oil and Wax Using Supercritical Carbon Dioxide.** M. Matsubara[1], Y. Nakato[2] and E. Kondoh[1], [1]Mechanical System Engineering, University of Yamanashi, Japan; [2]KOA Electronics Co.,Ltd., Japan.
2. **Extraction of Castor Bean Oil Using Ethanol in a Semi-continuous Extractor.** P.A.Z. Suarez, F. Silva, and D. Pinho, University of Brasilia, Brazil.
3. **The Thermo-mechano-chemical Fractionation of Sunflower Whole Plant in Twin-screw Extruder, an Opportunity for its Biorefinery.** P. Evon, V. Vandenbossche, P.-Y. Pontalier, and L. Rigal, LCA-ENSIACET (Université de Toulouse, France), France.
4. **Influence of Processing Parameters on Acyl Migration During Enzymatic Synthesis of Palm Stearin-canola Oil Blends Based Structured Lipids.** J.N.R. Ract, L. Abdala, G. Nicolau, and L.A. Gioielli, University of Sao Paulo, Brazil.
5. **Development of Structured Lipids by Enzymatic Acidolysis of Single Cell oil Rich in Ara/dha with Medium Chain Fatty Acids.** J.N.R. Ract, C. Calvo, D. Mathias, and L. Antonio Gioielli, University of Sao Paulo, Brazil.
6. **Enrichment of Polyunsaturated Free Fatty Acids by Crystallization.** S. Tang, DSM Nutritional Products, USA.
7. **Effect of Enzyme-assisted Degumming on Composition and Emulsification Properties of Canola Lecithin.** M. Xie ***(Processing Division Student Excellence Award Winner)*** and N. Dunford, Oklahoma State University, USA.
8. **Optimization of Microwave Assisted Extraction of High Value Industrial Lipid from Grain Amaranth.** S.P. Joshi, V. Orsat, Y. Gariépy, and G.S. Vijaya Raghavan, McGill University, Canada.
9. ***Trans*,*trans* Conjugated Linoleic Acid Production from *cis*-9,*trans*-11 and *trans*-10,*cis*-12 CLA Isomers by Photo-irradiation.** U. Shah, A. Proctor, and R. Reddy, University of Arkansas, USA.
10. **Potential of Low Phorbol Ester Jatropha curcas for Biodiesel and Animal Feed.** F.J. Bueso, I. Sosa, A. Espinal, and E. Gonzalez, Zamorano University, Honduras.
11. **Generation of 3-MCPD and Glycidyl Esters from Diolein with Various Levels of Glycidyl Ester and Chloride.** M. Shimizu[1], P. Weitkamp[2], K. Vosmann[2], and B. Matthäus[2], [1]Kao Corporation Global R&D - Health Care Food, Japan; [2]Max Rubner-Institut, Germany.

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12. **Effects of Tempering and Temperature Fluctuation on Bloom Formation and Appearance of Dark Chocolate.** G. Sekeroglu and A. Kaya, University of Gaziantep, Turkey.
13. **Rheological Behavior of Anhydrous Milk Fat Fractions Produced by Supercritical Carbon Dioxide Fractionation.** D. Buyukbese, E. Emre, and A. Kaya, Gaziantep University, Turkey.
14. **Comparison of Molecular Distillation and Liquid CO_2 Extraction for Monoolein Purification.** L. Vazquez, O. Fernandez, D. Martin, G. Reglero, and C. Torres, Universidad Autonoma de Madrid, Spain.
15. **Enzymatic synthesis of 1-stearoyl-3-oleoyl-glycerol as a Fat Replacer.** C. Torres, L. Vázquez, O. Fernández, and G. Reglero, Universidad Autónoma de Madrid, Spain.
16. **3-MCPD 1-mono- and di-palmitate: Acute Oral Toxicity in Swiss Mice and Cytotoxicity in NRK-52E Rat Kidney Cells.** M. Liu[1], H. Shi[1], B. Gao[1], X. Zhang[1], and L. Yu[2,1], [1]Shanghai Jiao Tong University, China; [2]University of Maryland, USA.
17. **3-MCPD 1-palmitate-2-linoleate and 3-MCPD 1-linoleate-2-palmitate: Acute Oral Toxicity in Swiss Mice and Cytotoxicity in NRK-52E Rat Kidney Cells.** X. Zhang[1], M. Liu[1], H. Shi[1], B. Gao[1], and L. Yu[2,1], [1]Shanghai Jiao Tong University, China; [2]University of Maryland College Park, USA.
18. **Characterization of Oleins from Enzymatically Interesterified Palm Oil.** V. Gibon[1], J. Maes[1], and S. Danthine[2], [1]Desmet Ballestra Group SA, Belgium; [2]Ulg GxABT, Belgium.
19. **Enzymatic Remediation of Crude Palm Oil.** V. Gibon[1], S. Kodali[2], J. Maes[1], and S. Danthine[3], [1]Desmet Ballestra Group SA, Belgium; [2]School of Engineering, University of Borås, Sweden; [3]Gembloux Agro Bio Tech, Université de Liège, Belgium.
20. **Kinetic Study of the Acidolysis of High Oleic Sunflower oil With Stearic-palmitic Acid Mixtures Catalysed by Immobilised Rhizopus Oryzae Lipase.** J. Ray[1], K. Smith[2], K. Bhaggan[3], Z. Nagy[4], and A. Stapley[1], [1]Loughborough University, UK; [2]Fat Science Consulting Ltd., UK; [3]IOI Loders Croklaan Europe, Netherlands; [4]Purdue University, USA.
21. **Secondary Currents in the Flow of Concentrated Suspensions through Non-Axisymmetric Conduits.** A. Ramchandran and A. Zrehen, University of Toronto, Canada.
22. **Isopropyl Alcohol Extraction of De-hulled Yellow Mustard Flour.** S. Sinichi and L.L. Diosady, University of Toronto, Canada.

PCP-P: Protein and Co-Products Poster Session

Chair: J. Wu, University of Alberta, Canada

1. **Effect of Protein and Glycerol Concentrations on the Mechanical and Water Vapor Barrier Properties of Canola Protein-based Edible Films.** C. Chang and M. Nickerson, University of Saskatchewan, Canada.
2. **Effect of Plasticizer-type on the Mechanical and Water Vapor Barrier Properties of Canola Protein-based Edible Films Crosslinked With and Without Genipin.** C. Chang and M. Nickerson, University of Saskatchewan, Canada.
3. **Processing Proteins from Canola.** P. Mitra, T. McIntosh, and J. Wanasundara, Agriculture and Agri-Food Canada, Canada.
4. **Formation and Functionality of Napin Protein Isolate-gum Arabic Electrostatic Complexes.** A. Stone, Q. Dang, and M.I Nickerson, University of Saskatchewan, Canada.
5. **Effect of pH and Salts on the Physicochemical and Emulsifying Properties of Cruciferin- and Napin-rich Protein Isolates.** L. Cheung[1], J. Wanasundara[2], and M. Nickerson[3], [1]University of Saskatchewan, Canada; [2]Saskatoon Research Centre, Agriculture and Agri-food Canada, Canada; [3]Dept. of Food and Bioproduct Sciences, University of Saskatchewa, Canada.
6. **Changes in Protein-Related Functional Properties of Lentil due to Micronization.** S.M. Pathiratne[1], J. Wanasundara[2], and P. Shand[1], [1]University of Saskatchewan, Canada; [2]Agriculture and Agri-Food Canada, Canada.
7. **Functional Properties of Hemp Seed Albumin and Globulin Protein Fractions.** S. Malomo and R. Aluko, University of Manitoba, Canada.
8. **Animal Proteins and Enzymes - Effective Dough and Bread Improvers.** O. Shanina[1], T. Gavrish[1], M. Domahina[1], N. Lobacheva[1], and I. Shanina[2], [1]Petro Vasilenko Kharkiv National Technical University of Agriculture, Ukraine; [2]V.N. Karazin Kharkiv National University, Ukraine.
9. **Usage of Protein Enrichers to Improve the Rheological Characteristics of Unleavened Dough.** O. Shanina[1], K. Dugina[1], A. Teymurova[2], and V. Zverev[1], [1]Petro Vasilenko Kharkiv National Technical University of Agriculture, Ukraine; [2]University of Saskatchewan, Canada.
10. **Effect of Germination and Fermentation on Physico-chemical and Nutritional Properties of Yellow Pea (*Pisum sativum* L.).** J.I. Boye and Z. Ma, Agriculture and Agri-Food Canada, Canada.
11. **Effect of Processing on Anti-nutrients and in vitro Protein Digestibility of Red Kidney and Navy Bean.** J.I. Boye and E. Azarpazhooh, Agriculture and Agri-Food Canada, Canada.
12. **Bile Acid-Binding Properties of Spent Hen Protein Hydrolysates.** C.C. Udenigwe, A. Mohan, and S. Wu, Dalhousie University, Canada.

S&D-P: Surfactants and Detergents Poster Session

Chair: M. Wint, Amway Corp., USA

1. **Monoglyceride Oily Soil Detergency : Effect of Added Salt.** N. Trisinsomboon[1] and S. Chavadej, [1]The Petroleum and Petrochemical College Chulalornkorn University, Thailand; [2]Chulalongkorn University, Thailand.
2. **Phytotoxic Effects of Three Surfactants: DBSNa, SDS and Gemini Surfactant (16-2-16) on Allium Cepa I. Plantlets.** F. Dane, S. Leventer, H. Akbas, F. Öztürk, and G. Yilmaz, Trakya Univetsity, Turkey.
3. **Spectroscopic Study of the Interaction Between C.I. Reactive Red180 With Cationic Gemini Surfactant in Aqueous Solution.** H. Akbas, A. Elemenli, and M. Boz, Trakya University, Turkey.
4. **Next Generation Hybrid Polymers—A More Sustainable Solution.** M. Vanderhoof, AkzoNobel Surface Chemistry, LLC, USA.
5. **Particle Based Rheology—Adjust for Structured and Isotropic Liquids.** S. Mohammed, Evonik Degussa Corporation, USA.
6. **Designing Controlled Release Systems Based on Silicon Dioxide.** S. Mohammed, Evonik Degussa Corporation, USA.
7. **Aminosiloxanes in Laundry Applications.** D. Parrish[1], D. Kuppert[2], M. Hisamoto[1], J. Hildebrand[1], P. Le[1], and A. Nagy[1], [1]Evonik Goldschmidt Corporation, USA; [2]Evonik Industries AG, Germany.
8. **Fatty Acid Diethanolamide Replacement by a High Active Betaine.** A. Nagy and P. Le, Evonik Industries, USA.
9. **Determination of Phytotoxic Effects of Some Cationic Surfactants on Epicuticular Structure of L. minor L. Observing by SEM.** G. Yilmaz, Trakya University, Turkey.
10. **Synthesis and Study Biological Activity of Some Schiff Base Nanoparticles and Their Applications in Egyptian Petroleum Fields.** N.R. AbdelRahman, Pharma Swede Egypt, Egypt.
11. **Rhamnolipid Characterization and its Influence on DPPC Bilayer Organization.** A. Pinazo[1], E. Haba[2], R. Pons[3], L. Pérez[3], and A. Manresa[2], [1]Institute of Advanced Chemistry of Catalonia, CSIC, Spain; [2]University of Barcelona, Spain.
12. **Lysine Based Cationic Surfactants at the Air-Water Interface. Mixed Monolayers with DPPC: An Investigation into the Antimicrobial Activity.** A. Pinazo[1], A. Colomer[2], L. Pérez[2], M. Rosa Infante[2], R. Pons[2], A. Manresa[3], and M. Jose Espuny[3], [1]Institute of Advanced Chemistry of Catalonia, Spain; [2]CSIC, Spain; [3]University of Barcelona, Spain.
13. **Formulation Design for Targeting Delivery of Surfactant-coated Iron Oxide Nanoparticles to tce Zone.** Z. Wang and E. Acosta, University of Toronto, Canada.

14. **Jatropha and Pongamia Oil Derived Sophorolipids: Characterization and Application in Laundry Detergents.** K. Joshi-Navare, P. Khanwilkar, and A. Prabhune, National Chemical Laboratory, India.
15. **Emulsification Properties of Surfactin, and Other Food-based Biosurfactants.** B. Lamsal and J. Morris, Iowa State University, USA.
16. **Synthesis and Evaluation of Surface Active Properties of Ester Based Cationic Imidazolium Monomeric Surfactants.** C.K. Mangat, S. Kaur, and S. Mangat, Guru Nanak Dev University, India.
17. **Synthesis and Properties of Novel Chemocleavable Surfactants Bearing a Sucrose Derived from Diethyl Tartrate.** D. Ono[1], Y. Nishida[2], H.i Sato[1], M. Shizuma[1], and A. Masuyama[2], [1]Osaka Municipal Technical Research Institute, Japan; [2]Osaka Institute of Technology, Japan.
18. **Optimization of Builders in Automatic Dishwashing Detergent.** C. Caires, E. Satchell, and R. Miller, BASF Corporation, USA.
19. **The Science and Formulation Aspects of ADW Rinse Aids.** K. Gutowski, BASF Corporation, USA.

PECIG-P: Poster Session. Case Studies

Chairs: A. Wright, University of Guelph, Canada; and D.G. Hayes, University of Tennessee, USA

1. **Use of NutriBiochem Mobile Application in Lipid Education.** S.A. Teri, D. Ma, D. Griffith, Q. Mahmoud, and G. Newton, University of Guelph, Canada.
2. **Fatty Acids: The Good, the Bad and the Ugly.** M.N.A. Eskin, University of Manitoba, Canada.
3. **Educating Undergraduate Students How to Make and Use Enzyme Kinetics Plots.** D.G. Hayes, University of Tennessee, USA.
4. **Understanding the Chemistry of Lipid Oxidation in Food.** S.P.J. Namal Senanayake, DuPont Nutrition & Health, USA.
5. **Teaching Physicochemical Properties of Food Macromolecules through Lectures, Hands-on-Learning and Class Discussions.** S. Ghosh, University of Saskatchewan, Canada.
6. **The Recombinant Yeast System as Teaching Tool in Plant Lipid Biotechnology.** R.J. Weselake, G. Chen, M. Scott Greer, and Xue Pan, Dept. of Agricultural, Food and Nutritional Science, University of Alberta, Canada.

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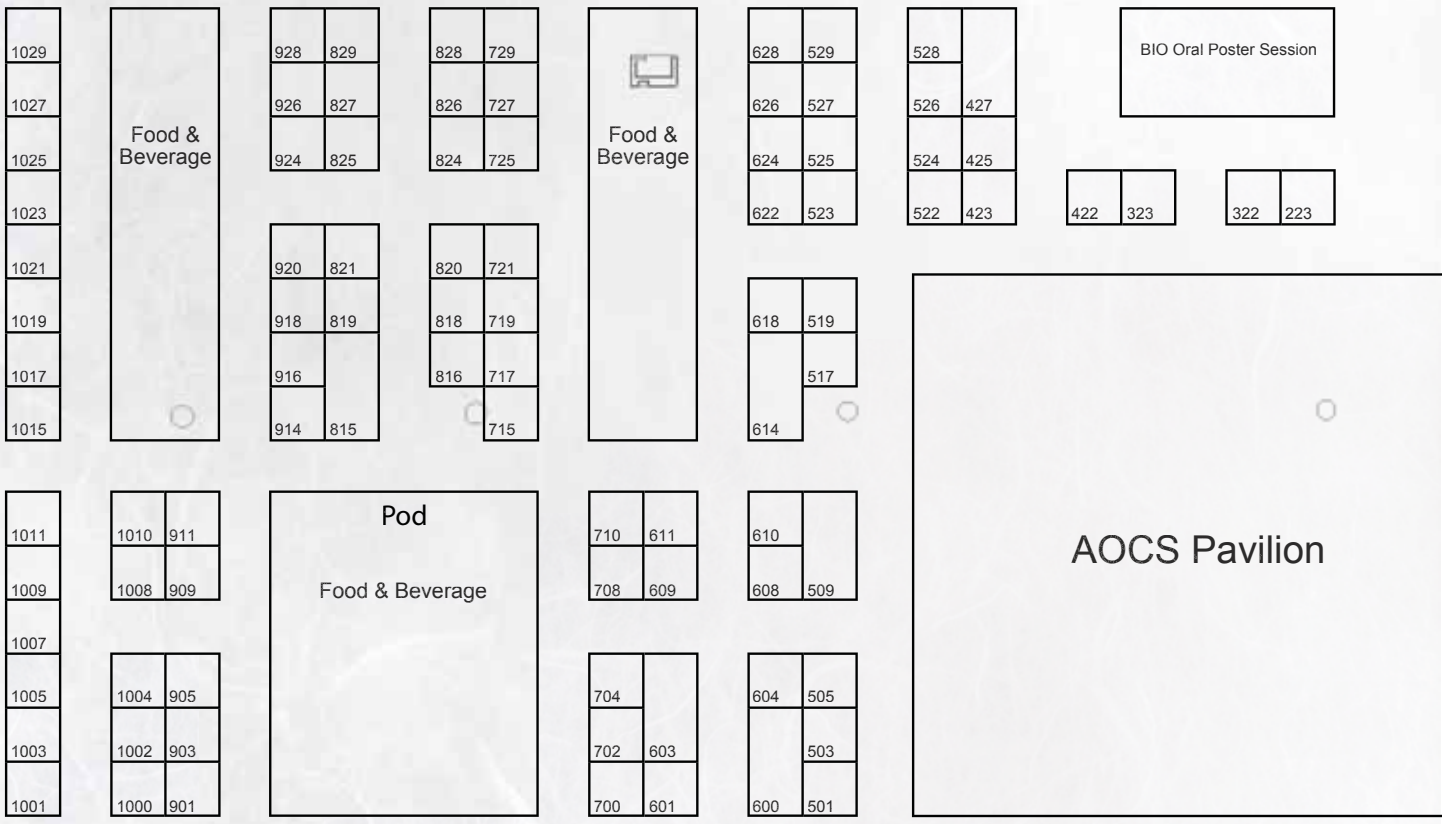

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ASAGA—Argentine Association of Fats and Oils (524)

Hipólito Yrigoyen 1284 Piso 3˚ Of. 5,
(1086), Cuidad Autonóma de Buenos Aires, Argentina
www.asaga.org.ar

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

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www.desmetballestra.com

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www.equirepsa.com

Euro Fed Lipid (1017)

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www.eurofedlipid.org

Euro Fed Lipid is a federation of 13 scientific associations concerned with lipids, fats, and oils. The federation represents 2,000 individuals and companies. Its mission is the furthering of lipid science and technology and the cooperation and exchange of ideas between scientists and technologists at a European level. The activities of Euro Fed Lipid include the organization of international congresses at varying venues, the co-organization of the annual fair "oils+fats", and the publishing of the "European Journal of Lipid Science and Technology".

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Foss North America (924)

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French Oil Mill Machinery Co. (323)

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

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GEA Mechanical Equipment US Inc., a GEA Westfalia Separator Division, designs and manufactures centrifuges and decanters 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. GEA also supplies Atlas Condensing Systems, heat exchangers, dryers, and valves to the fats and oil market.

GEA Process Engineering Inc. (717)

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Harburg Freudenberger Maschinenbau GmbH (719)

Seevestrasse 1
Hamburg 21079, Germany
www.hf-group.com and
www.hf-presslipidtech.com

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

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www.lovibondcolor.com

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www.mahle-industrialfiltration.com

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Malaysian Palm Oil Board (909)

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.

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www.mt.com/lab

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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.

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Nonlinear Dynamics (903)

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Durham, NC 27713, USA
www.nonlinear.com

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

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Oils & Fats International (624)

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Red Hill, Surrey, RH1 1QX, UK
www.oilsandfatsinternational.com

The OFI portfolio comprises conferences, exhibitions, OFI publication, and websites which together offer unparalleled connections. The portfolio targets decision-makers, buyers, and buying influencers in the highly diversified and globalised edible oils and fats marketplace. This year we introduce a new venue for OFI Asia; Bangkok, Thailand in November. The OFI magazine includes two biofuels issues, worldwide events diary, informative articles, and the latest market news.

Oleotek (920)

835 Rue Mooney Ouest
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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.

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Oxford Instruments Magnetic Resonance (422)

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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.

Parker/Twin Filter (1011)

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www.twinfilter.com

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Pattyn Packing Lines (322)

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www.pattyn.com

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Perten Instruments, Inc. (911)

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Springfield, IL 62712,USA
www.perten.com/applications/

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

Rudolph Research Analytical (526)

55 Newburgh Road
Hackettstown, NJ 07840
www.rudolphresearch.com

Rudolph Research Analytical manufactures two instruments relevant to the edible oil industry. (1) J Series Automatic Refractometer—This instrument has been purchased by edible oil refiners and crushers to replace older manual (Abbe) instruments because the J Series measures at the high temperatures required without a water bath; is an automatic operation, no operator judgment needed; and can read directly in iodine value. (2) DDM 2911 Density Meter—This instrument is designed to meet ASTM D4052, the main density standard used by both bio- and petrodiesel manufacturers. This instrument offers automatic measurement at the required temperature, VideoView™ system for bubble detection, and network data storage.

Sharplex Filters (India) Pvt. Ltd. (824)

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NaviMumbai, Maharashtra 400701,
India
www.sharplex.com

We are a process engineering company specializing in design, manufacture, and supply of process filtration equipment like vertical and horizontal pressure leaf filters, pulsejet candle filters, polishing filters, tubular centrifuges for edible oil, as well as chemicals and pharmaceuticals, fertilizers, and paint industries for many applications. Sharplex exports these filters to more than 25 countries.

Siemens Industry, Inc. (816)

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Solex Thermal Science Inc. (600)

100 3595-114 Ave. SE
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www.solexthermal.com

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

SPX Flow Technology (523)

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www.spxft.com

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

Stratas Foods—RDI Center (522)

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

In addition to supporting the core research, development, and innovation areas of concentration for Stratas Foods LLC, the Stratas Foods - RDI Center offers pilot plant and analytical services to external customers. The Stratas Foods – RDI Center's edible oils pilot plant and analytical laboratories represents state-of-the-art product development and testing. In the 38,000 square-foot facility, our highly-trained technologist and scientists work to meet customer needs

by developing customized samples on a cost-efficient outsource basis, and in quantities ranging from bench-top sizes to drum quantities. By outsourcing your company's testing and development needs, you reap the benefits of our equipment and experiences; lower costs, faster turnaround, and the guaranteed highest standards in testing and production methodology.

Surface Chemists of Florida, Inc. (821)

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www.surfacechemists.com

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

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Testfabrics, Inc. / Center for Testmaterials BV (729)

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www.testfabrics.com / www.cftbv.nl

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Thermo Scientific (704)

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www.thermofisher.com

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Thermphos USA (425)

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www.dequest.com

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www.tmcindustries.com

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Waters Corporation (601)

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Milford, MA 01757, USA
www.waters.com

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Antitrust Policy

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

I. The Society shall not be used in a manner which violates the Antitrust Laws, and members of the Society, in their capacity as representatives of the Society, shall not tolerate, encourage or participate in any activity which could reasonably be expected to result in a violation of the Antitrust Laws.

II. This policy shall apply to all membership, board, committee and other meetings of the Society, and all events attended by individual members of the Society in their capacity as representatives of the Society.

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

A. Non-competition, territorial division, or operationally restrictive agreements;

B. Boycotting, blacklisting, or unfavorable reporting; or

C. Discussion of these and other prohibited matters, including the following:

i. Price, price fixing, price calculation, or price changes;
ii. Costs;
iii. Terms or conditions of sales;
iv. Quote decisions;
v. Discounts;
vi. Product or service offerings; or
vii. Production or sales volume, capacity or plans.

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

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

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