

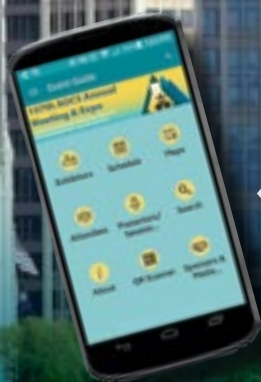
PROGRAM



107th AOCs Annual Meeting & Expo

May 1-4, 2016

Salt Palace Convention Center
Salt Lake City, Utah, USA



Get The App

See page 6 for details.

Connecting Science and Business

The AOCs Annual Meeting is a premier international science and business forum on fats, oils, surfactants, lipids, and related materials.

AnnualMeeting.aocs.org



Enhanced Loop Reactor for Ethoxylation

Leading technologies for detergent, surfactant and chemical industries



SURFACTANTS

Anionics

- Sulphonation/ Sulphation
- Vacuum Neutralization
- Drying

Non Ionics

- Ethoxylation/ Propoxylation
- Alkanolamides

Amphoteric & Cationics

- Betaines
- Esterquats
- Aminoxides

DETERGENTS

Powder

- Spray Drying Tower process
- NTD (non tower/ agglomeration) process

Liquids

- Batch / Continuous

ORGANIC CHEMICALS

- Linear Alkyl Benzene
- Ethyl Alcohol
- Starch & Yeast
- Fatty Amines

INORGANIC CHEMICALS

- Sodium Silicate
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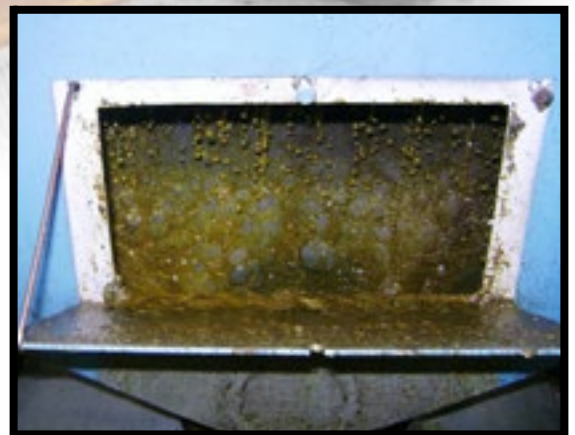
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Welcome to Salt Lake City!

I've been an active AOCS member for over thirty years and during that time I've had the pleasure of interacting with many of you!

This year's Annual Meeting takes us back to the traditional format of the Expo, where all interest areas will gather together and enjoy the daily social events and face-to-face interaction that make this meeting so valuable. The technical programming for all 12 interest areas is an incomparable opportunity for learning that exceeds expectations each year, and presenters in the new, non-technical workshop, *Challenges and Opportunities Across the Global Food and Agricultural Supply Chain*, will shed light on key issues affecting all aspects of the food industry, including market trends, production, consumer expectations, and regulations. In addition, the Hot Topics Symposia, Special Sessions, and a track of presentations organized by members of the Society of Cosmetic Chemists, will be prominent components of the overall program.

You will want to take advantage of all the opportunities AOCS and the Annual Meeting have to offer to help you expand your knowledge, enhance your professional growth, and enrich your networking connections.

I look forward to seeing you and hope you enjoy the meeting and Salt Lake City.

Best regards,

W. BLAKE HENDRIX
Annual Meeting General Chair
President and CEO
Desmet Ballestra North America, USA



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Connect with AOCS!



@AOCS #AOCS2016

Society of Cosmetic Chemists



AOCS is pleased to again welcome the Society of Cosmetic Chemists (SCC) to the AOCS Annual Meeting. AOCS and SCC members have developed multiple educational sessions to address specific topics of interest to the cosmetics industry, including: *Lipids in Cosmetics and Skin Care Products*, *Biorenewable Polymers*, *Surfactants in Cosmetics*, and *The Skin Microbiome—Untold Stories Workshop*. In addition, SCC's Intermountain West Chapter session will take place on Wednesday, May 4. Session information begins on page 20.

The 2015–2016 AOCS Governing Board



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

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

AOCS Mission

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



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Corporate Member Lounge

Hall A/B | Monday–Tuesday, 8:00 am–5:00 pm | Wednesday, 8:00 am–3:00 pm

Relax, meet with colleagues, and be productive in the quiet confines of the Corporate Member Lounge. The professional environment lends itself to checking emails, placing phone calls, refueling, and recharging. All staff members of an AOCS Corporate Member will enjoy complimentary Wi-Fi, light snacks, beverages, work areas with computers and printer access, power outlets to help you stay connected, and personal meeting assistance. The Corporate Member Lounge is about you getting everything you need to make your time at the Annual Meeting as productive and comfortable as possible.

NETWORKING EVENTS

Hall A/B

Make the most of your meeting experience! These are your opportunities for face-to-face interactions with colleagues and to develop important connections with other industry professionals from around the world. These are also ideal times to visit with the 65+ exhibitors, view poster presentations, and see what AOCS offers in the Pavilion.

Sunday, May 1

President's Welcome Reception

5:30-7:00 pm

Light hors d'oeuvres and beverages will be served. *Open to all Annual Meeting full-registration attendees, booth personnel, and Short Course registrants.*

Sponsored by



Monday, May 2

Expo Networking Break

10:00-10:30 am

Complimentary beverages will be available.

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Expo Networking Lunch

12:15-1:45 pm

Enjoy a delicious lunch! *Open to all Annual Meeting full-registration attendees, booth personnel, and Monday-only registrants. Ticket required.*

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Tuesday, May 3

Expo Networking Break

9:40-10:20 am

Complimentary beverages will be available.



Expo Networking Reception

5:00-6:30 pm

Light hors d'oeuvres and beverages will be served. *Open to all Annual Meeting full-registration attendees, booth personnel, and Tuesday-only registrants.*

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Dedicated Poster Viewing

5:30-6:30 pm

Visit with the authors who will be present at their posters during this time.

Wednesday, May 4

Networking Break

9:40-10:20 am

Complimentary beverages will be available.

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With *The App*, you can:

- ▶ Build your meeting itinerary
- ▶ Search presentations and abstracts
- ▶ View attendee, exhibitor, and sponsor profiles
- ▶ Receive customized meeting alerts
- ▶ Contribute instant session feedback
- ▶ Connect with other attendees

How to Access:

- Step 1:** In your device's app store, download the free *CrowdCompass Directory* app.
- Step 2:** In the *CrowdCompass Directory*, search for **AOCS**.
- Step 3:** Select the listing for the **107th AOCS Annual Meeting & Expo** to open *The App*.



The App is sponsored by



Need assistance? Stop by *The App* Help Desk in Hall A/B near the Registration Desk.

Thank You!

AOCS greatly appreciates the generous contributions from the following organizations. Without their support, the success of the 107th AOCS Annual Meeting & Expo would not be possible.

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Wednesday
Networking Break

KEMIN

President's Welcome Reception
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Tuesday Expo Networking Break

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DIVISION EVENTS

All events take place at the Salt Palace Convention Center, unless otherwise noted.

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

Add these events to your meeting itinerary on **The App!** See page 6 for download instructions.

Leadership Meetings

Newly Elected Leadership Orientation

Sunday, May 1, 9:30–11:00 am | Ballroom F

Executive Steering Committees

Sunday, May 1, 1:30–3:00 pm | Ballroom F

Division Council

Sunday, May 1, 3:00–4:00 pm | Ballroom F

Session Chair Briefing

Sunday, May 1, 4:00–4:30 pm | Ballroom F

Meet with your fellow Session Chairs and Division Vice Chairs to receive information about onsite Session Chair responsibilities, including instructions for obtaining attendee feedback, a tutorial on session room equipment, and a review of **The App**. AOCS staff and an audio visual technician will be available to answer questions.

2017 Session Planning Roundtables

All meeting attendees are invited to attend Roundtable discussions and assist with developing the technical program for the 2017 AOCS Annual Meeting. AOCS and the Annual Meeting Program Committee greatly value your input! Division membership is not required to participate.

Agricultural Microscopy

Monday, May 2, 12:45–1:45 pm | Hall A/B at AOCS Pavilion

Analytical

Tuesday, May 3, 5:00–6:00 pm | Ballroom J

Biotechnology

Tuesday, May 3, 12:45–1:45 pm | Ballroom G

Edible Applications Technology

Monday, May 2, 12:20–1:30 pm | 150F

Health and Nutrition

Tuesday, May 3, 12:45–1:45 pm | Ballroom I

Industrial Oil Products

Monday, May 2, 5:00–6:00 pm | Ballroom E

Lipid Oxidation and Quality

Monday, May 2, 5:00–6:00 pm | Ballroom H

Phospholipid

Tuesday, May 3, 12:45–1:45 pm | 150D

Processing

Monday, May 2, 12:30–1:30 pm | Ballroom F

Protein and Co-Products

Tuesday, May 3, 12:15–1:15 pm | 150A

Surfactants and Detergents

Monday, May 2, 5:00–6:00 pm | Ballroom D

Networking Events

Attending Division events is the best way to meet colleagues in your interest area(s). These events are open to all attendees, but some may require a ticket.

Analytical

Luncheon

Wednesday, May 4, 12:00–1:45 pm | 253A

Speaker: Pierluigi Delmonte, US Food and Drug Administration, USA

The Never Ending Journey of Developing Methods for Fatty Acid Analysis, from Conjugated Linoleic Acid to Trans Fatty Acids

Biotechnology

Dinner

Tuesday, May 3, 7:30–9:30 pm | Hilton Salt Lake City Center, Alpine East

Speaker: Kenneth L. White, Utah State University, USA

Agricultural Research in the 21st Century—A Very Different Beast

Connect with AOCS!



@AOCS #AOCS2016

Edible Applications Technology

Reception and Dinner

Monday, May 2, 6:30–8:30 pm | Hilton Salt Lake City Center, Alpine East

Speaker: Alejandro G. Marangoni, University of Guelph, Canada

Perspectives on Oil Structuring

Health and Nutrition

Dinner

Tuesday, May 3, 7:30–9:00 pm | Hilton Salt Lake City Center, Granite Conference Room

Speaker: Carol J. Lammi-Keefe, Louisiana State University, USA

Industrial Oil Products

Luncheon

Tuesday, May 3, 12:00–1:45 pm | 251B

Speaker: Daniel Pioch, CIRAD, France

My 35 Years in Oleoland: From Heterogenous Catalysis to Multiple-products Biorefinery

Lipid Oxidation and Quality

Luncheon

Tuesday, May 3, 12:00–1:45 pm | 255E

Speaker: To be announced

Phospholipid

Reception and Dinner

Monday, May 2, 7:00–9:00 pm | Hilton Salt Lake City Center, Salon 3

Speaker: To be announced

Processing

Hospitality

Monday, May 2 and Tuesday, May 3, 7:00–9:00 pm | Hilton Salt Lake City Center, Trofi Restaurant and Patio

Luncheon

Tuesday, May 3, 12:00–1:45 pm | 255F

Speaker: Robert L. Collette, Institute of Shortening and Edible Oils, USA

Protein and Co-Products

Dinner

Tuesday, May 3, 7:00–9:00 pm | Hilton Salt Lake City Center, Alpine West

Surfactants and Detergents

Networking Reception

Monday, May 2, 6:00–7:30 pm | 251A

Luncheon

Tuesday, May 3, 12:00–1:45 pm | 255B

Speaker: Dennis S. Murphy, Stepan Company, USA
Fabric Softener Technology: Past, Present, Future

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COMMON INTEREST GROUP (CIG) EVENTS

These events offer professional and mentoring activities, and allow for discussions and the exchange of ideas.

Add these events to your meeting itinerary on **The App!** See page 6 for download instructions.

Students

Speed Networking

Sunday, May 1, 4:15–5:30 pm | Hall A/B at AOCS Pavilion

Engage with fellow students, build relationships, and learn how to enhance your conference experience!

Business Meeting and Mentoring Luncheon

Wednesday, May 4, 12:00–1:45 pm | 251A

Meet fellow students, the leadership team, your mentors, and AOCS members to develop your professional network. The leadership team will discuss a variety of programs and projects designed to enrich student participation in AOCS. *Open to students and mentors only. If you do not have a ticket, and wish to attend, please see the Registration Desk for availability.*

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Young Professionals

Reception

Sunday, May 1, 7:00–8:00 pm | 251A

Make the most of your Annual Meeting experience, invest in your career, and start developing important professional connections!

Business Meeting

Tuesday, May 3, 5:00–6:00 pm | 250D

This is your chance to help lead and direct future programs the group will organize. The meeting will set priorities for the next year's activities, discuss technical sessions, and other education and meeting opportunities.

Professional Educators

Business Meeting

Tuesday, May 3, 4:00–5:00 pm | 250D

This meeting will set priorities for the next year's activities, discuss technical sessions, and other education and teaching opportunities.

SECTION EVENTS

Sections provide a mechanism for AOCS members and others residing in specific geographic regions to meet together regularly to discuss common interests. Activities include short courses, conferences, and meetings. These events are open to all attendees, but some may require a ticket.

Add these events to your meeting itinerary on **The App!** See page 6 for download instructions.

Leadership Meetings

Section Council

Tuesday, May 3, 7:30–8:30 am | 250B

Asian

Monday, May 2, 12:10–1:45 pm | 250C

Networking Events

Canadian

Luncheon

Tuesday, May 3, 12:00–1:30 pm | 255D

European

Reception

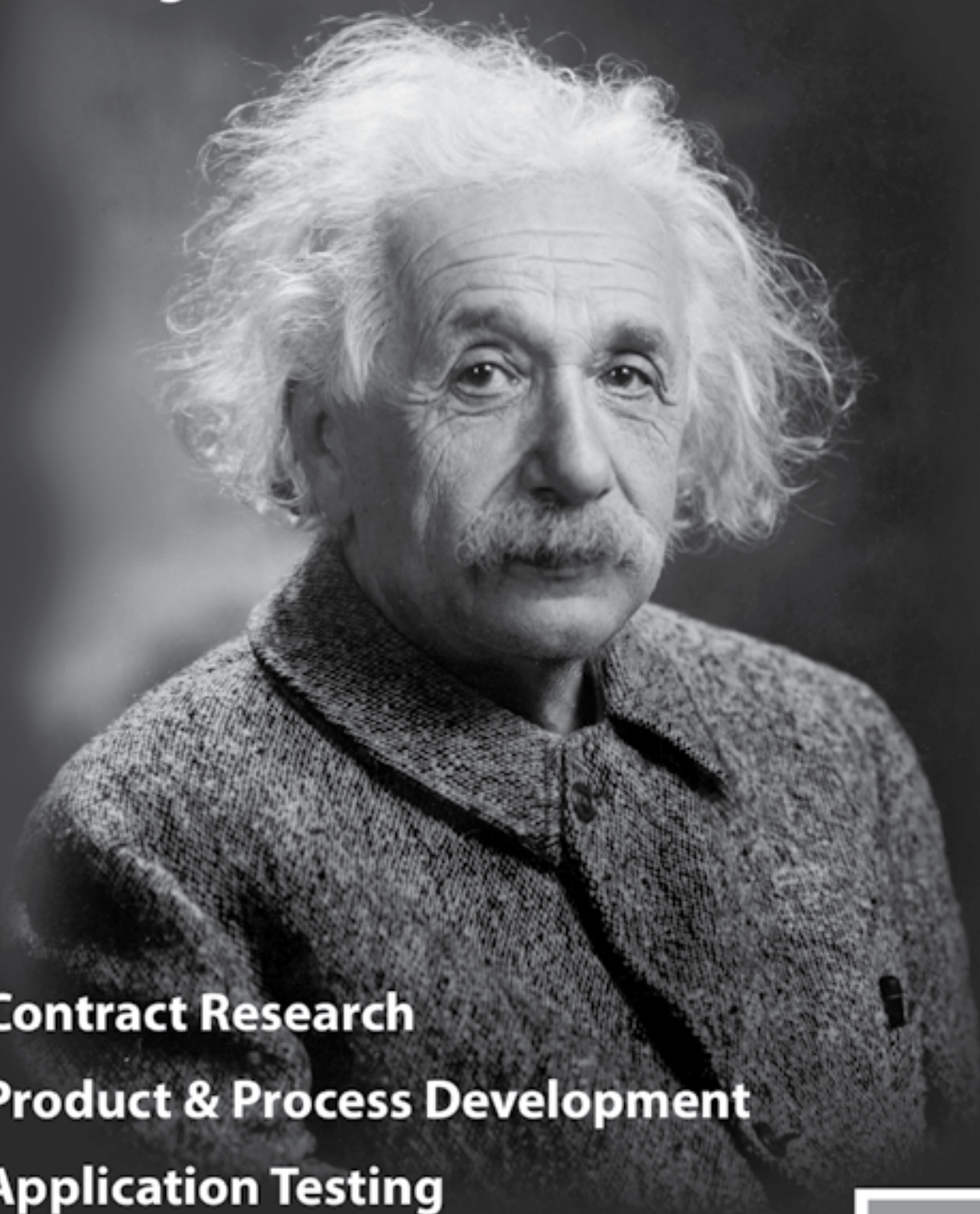
Monday, May 2, 5:00–6:00 pm | 252A

Latin American

Luncheon

Tuesday, May 3, 12:00–1:45 pm | 251A

"We cannot solve our problems with the same thinking we used when we created them."



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EXPO 2016

Hall A/B

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Schedule

Sunday, May 1	5:30–7:30 pm	Expo Open	
	5:30–7:00 pm	President's Welcome Reception	Sponsored by 
Monday, May 2	9:30 am–5:00 pm	Expo Open	
	10:00–10:30 am	Expo Networking Break	Sponsored by 
	12:15–1:45 pm	Expo Networking Lunch	Sponsored by 
Tuesday, May 3	9:30 am–6:30 pm	Expo Open	
	9:40–10:20 am	Expo Networking Break	Sponsored by 
	5:00–6:30 pm	Expo Networking Reception	Sponsored by 

Exhibitors

(as of March 24, 2016)

Connect with exhibitors on **The App!** See page 6 for download instructions.

Company (Booth No.)

AB Enzymes (806)

ADF Engineering Inc. (512)

Agilent Technologies (713)

Alfa Laval Inc. (502)

Anderson International Corp. (412)

Artisan Industries Inc. (508)

BASF Corporation (228)

Biolin Scientific Inc. (301)

Bruker Corporation (607)

Bühler Inc. (304)

Buss ChemTech AG (507)

Carlson Consulting Engineers, LLC (602)

C.M. Bernardini International SpA (700)

Cosa Xentaur (321)

Croll Reynolds Co., Inc. (615)

Crown Iron Works Company (406)

Desmet Ballestra North America (313)

DSM (515)

DuPont Nutrition & Health (307)

Eastman Chemical Company (300)

Euro Fed Lipid (610)

FlackTek, Inc. (701)

Formulaction Inc. (327)

French Oil Mill Machinery Company (500)

GEA Group (309)

GIG Karasek LLC / InCon Process Systems LLC (226)

Graham Corporation (214)

HF Press+LipidTech (402)

Italmatch USA Corporation (329)

Kalsec (613)

Kemin Food Technologies (603)

LCI Corporation (218)

LEEM Filtration (414)

Louisville Dryer Company (323)

Lovibond® Tintometer® (319)

Lubrizol Advanced Materials, Inc. (600)

MAHLE Industrial Filtration (212)

Malaysian Palm Oil Board (215)

Metrohm USA (720)

MilliporeSigma (612)

Myande Group (503)

Myer's Vacuum (302)

Oil-Dri Corporation of America (506)

Oils & Fats International / Quartz

Business Media (401)

optek-Danulat, Inc. (718)

Organic Technologies (808)

Pattyn North America, Inc. (608)

PerkinElmer (810)

PMI-Technology Sdn Bhd (400)

PQ Corporation (702)

Renuvix LLC (705)

Revolymmer (UK) Ltd. (220)

Rotex Global LLC (405)

SIWACO GmbH—Member of IRLE Group (213)

Solex Thermal Science Inc. (722)

Solutions 4 Manufacturing (513)

Spectral Service (604)

Stratas Foods—RDI Center (514)

Surface Chemists of Florida (SCF) (501)

Technochem International, Inc. (703)

Thermo Fisher Scientific (403)

VACUUBRAND Inc. (803)

VELP Scientific, Inc. (814)

Versum Materials (The Materials Technologies Business of Air Products) (303)

VTA GmbH & Co., KG (709)

VUV Analytics, Inc. (802)

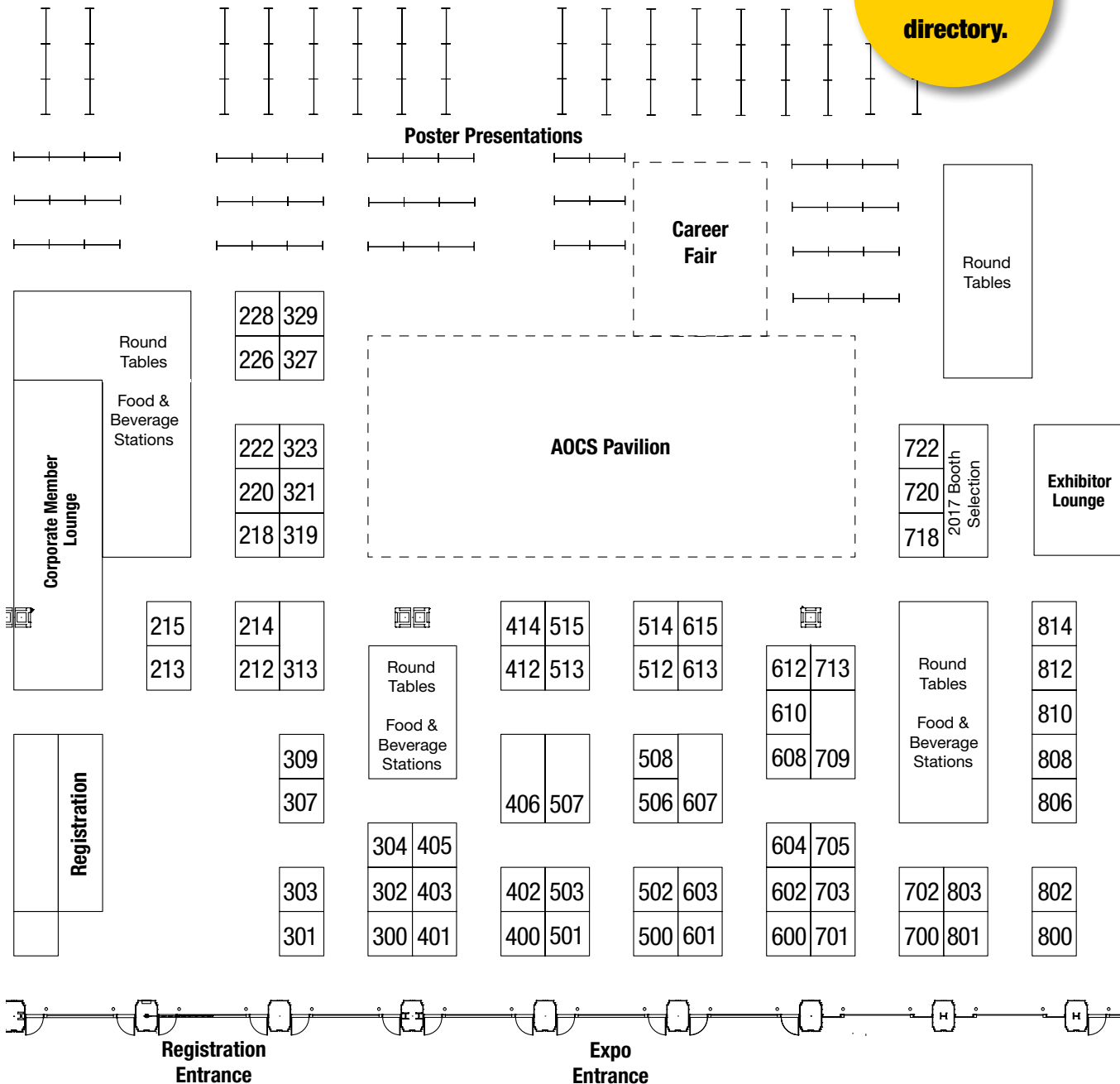
Waters Corporation (601)

Yenar AS (222)

in the fats and oils industries.

See page 64 for exhibitor directory.

Floor Plan



Free Wi-Fi

Complimentary wireless internet is available in the Expo Hall, Hall A/B. To access, select the network name noted below, then enter the password. The password is case sensitive.

Network Name: Purifine-3G **Password:** highest-yield



EXPERIENCE AOCS AT THE AOCS PAVILION

Hall A/B

Pavilion Hours

Sunday, May 1	5:30–7:30 pm
Monday, May 2	9:30 am–5:00 pm
Tuesday, May 3	9:30 am–6:30 pm
Wednesday, May 4	7:30 am–3:00 pm

AOCS Information Services

Want to learn more about the Society? Or find out how you can be more involved? Visit us at the Information Services booth for all things AOCS! President's Club Members, pick up your mugs here!

inform|connect

Everyone has loved our inform|connect souvenir photos, so we've brought them back again this year! All you need to do is give us a question or comment to post on the site, and you will receive a FREE photo!



AOCS Press Bookstore

We are excited to unveil our new partnership with Elsevier this year! Stop by to browse our AOCS Press and Academic Press co-branded products, including five brand new titles released this year. Find out how easy it is to order products, and receive a **40% discount and FREE shipping** if you order onsite!



AOCS Career Center

This service is free of charge to all meeting attendees. You are welcome to leave copies of résumés or job descriptions in the holders on the bulletin boards and take copies of items of interest.

AOCS Career Fair

Monday, May 2	12:30–1:45 pm
Tuesday, May 3	5:30–6:30 pm

Searching for a new job? An extension of our Career Center, the Career Fair connects employers with job applicants in person at the meeting. Stop by and explore your career options!

21st Annual Student CIG Silent Auction

This popular event begins at 5:30 pm on Sunday and ends at 5:30 pm on Tuesday. The Silent Auction raises money for the outstanding AOCS Foundation student initiatives, and generates friendly competition for the variety of creative items that are donated. Support AOCS' student programs—stop by and make a bid.

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GENERAL INFORMATION

Registration | Hall A/B

Sunday, May 1	10:00 am–7:30 pm
Monday, May 2	7:00 am–5:00 pm
Tuesday, May 3	7:00 am–6:30 pm
Wednesday, May 4	7:30 am–3:00 pm

Meeting Registration List is available:

- online at AnnualMeeting.aocs.org/2016Resources
- on **The App**. See page 6 for download instructions.

Lost and Found items may be turned in or recovered at the Registration Desk.

Be Green! Donate your meeting materials if you don't want to take them home. Materials returned to the Registration Desk will be donated to local organizations.

Name Badges

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Name badges are color-coded to indicate registration status:

Full Registrations	Blue
Monday Only	Yellow
Tuesday Only	Green
Wednesday Only	Purple
Session Only	Red
Booth Personnel	White
Guest	White

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

Emergency Contacts

- Please provide emergency contact information to AOCs by completing the reverse side of your name badge.
- Attendees may also log into the AOCs website, select "Emergency Contacts" in the communication section, and add the information to your AOCs record. (If you do not recall your login details, please visit the Registration Desk.)
- This information will only be used by AOCs staff or medical personnel in the event of an emergency.

Event Tickets

- If you pre-registered, your tickets are in your registration envelope along with your name badge. If you registered onsite, you received your tickets with your other meeting materials.
- Keep your tickets with you, as many AOCs events require tickets to be admitted.
- Tickets fit inside your name badge holder for easy access.

Mobile Phones

Please turn off your mobile phone (or set it to vibrate) during sessions.

Photography and Recording Policy

No video recording, audio recording, or still photography is allowed in the session rooms, except by registered media. Video or still photography of exhibitors and posters is prohibited, unless permission is granted by the exhibitor or poster author.

Smoking Policy

Smoking is prohibited at all AOCs functions.

Fire-safety Precautions/Protection of Valuables

Please familiarize yourself with fire-safety precautions that are posted in your 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.

Presentation Information

Abstracts

Search and print abstracts for presentations at the stations located in the Expo Hall, Hall A/B. Abstracts are also available online at AnnualMeeting.aocs.org/2016Resources or on **The App**. See page 6 for download instructions.

Copies of Papers

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

Presentation Ownership

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

Publication of Papers

AOCs encourages speakers to submit their work to AOCs for publication in *Inform*, *JAOCs*, *Lipids*, or the *Journal of Surfactants and Detergents (JSD)*. Speakers who wish to publish their paper in *JAOCs*, *Lipids*, or *JSD* should visit the AOCs Press website at <http://bit.ly/publishwithaocs> for more details. To submit a magazine article based on your paper to *Inform*, contact Kathy Heine, Managing Editor, at kathy.heine@aocs.org.

Speaker Ready Room | 151D

Sunday, May 1	10:00 am–5:00 pm
Monday, May 2	7:00 am–5:00 pm
Tuesday, May 3	7:00 am–5:00 pm
Wednesday, May 4	7:00 am–2:00 pm

Don't forget to bid at the Silent Auction!



Visit the Auction Zone!
Located in the Expo Hall.

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 5:30 pm**
- Bidding ends on **Tuesday at 5:30 pm**

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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Cas Akoh
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University of Tennessee Institute of
Agriculture
(As of March 24, 2016)

SALT LAKE CITY

18

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Interactive floorplans are available on **The App!** See page 6 for download instructions.

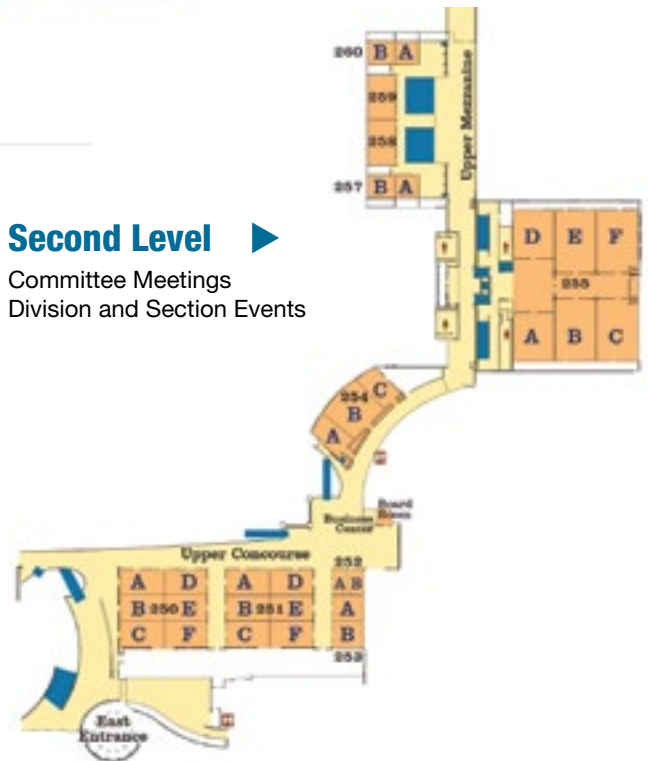


First Level ▲

- Expo 2016 and AOCS Pavilion
- Registration
- Technical Sessions
- Hot Topics Symposia
- Special Sessions

Second Level ▶

- Committee Meetings
- Division and Section Events



Annual Meeting Hotels

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Salt Lake Plaza Hotel at Temple Square

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Salt Lake Visitors Center

Staffed Sunday–Wednesday from 9:00 am–5:00 pm, the Center has free maps, brochures, Wi-Fi, iPad stations, wireless printing, and more. You may also check here for assistance with outdoor activities, concert and attraction tickets, or regional travel.

Annual Meeting Career Center

May 1–4, 2016

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*This applies throughout the year.



Don't miss the Career Fair!

Monday, May 2, 12:30–1:45pm
Tuesday, May 3, 5:30–6:30 pm



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HOT TOPICS SYMPOSIA

Monday, May 2

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Hot Topics Symposia

These sessions will feature global discussions on matters that affect the future of our industries, and expand beyond the science to address how current, critical issues impact the business of fats and oils.

Add these sessions to your meeting itinerary and connect with presenters on **The App!** See page 6 for download instructions.

HT 1: Lipids in Cosmetics and Skin Care Products

7:55–10:00 am | Ballroom C

Organizers: R.R. Wickett, James L. Winkle College of Pharmacy, University of Cincinnati, USA; and M.U. Ahmad, Jina Pharmaceuticals, Inc., USA

Four experienced skin care and pharmaceutical scientists will review and discuss significant developments in the field of cosmetics and cosmeceuticals, including the design of mild cleansers and use of lipids in both leave on and washing products. They will present the recent developments in this emerging field including clinical studies wherever applicable. New research will be discussed for specific lipids and their applications in the cosmetics industry.

7:55 **Opening Remarks.**

8:00 **The Roles of Structural and Sebaceous Lipids in Skin Health.** R.R. Wickett, James L. Winkle College of Pharmacy, University of Cincinnati, USA.

8:30 **Stratum Corneum Lipids: Their Critical Role in Preserving Barrier Integrity During Cleansing.** K.P. Ananthapadmanabhan, Unilever Research Laboratory, USA.

9:00 **MorrF—A New Cornerstone in Cosmeceuticals.** I. Ahmad, Jina Pharmaceuticals, Inc., USA.

9:30 **Improving Stratum Corneum Barrier Function Through High Lipid Deposition from Rinse-off Cleansers: Skin Biomarker Measures.** K.S. Wei, Personal Care Product Development R&D, Procter & Gamble, USA.

HT 2: Gut Microbiome Effects on Human Health

7:55–10:00 am | Ballroom F

Organizers: J. Ogawa, Kyoto University, Japan; K. Mahmood, Johnson & Johnson Consumer, Inc., USA; and A. Gosiewska, Johnson & Johnson Consumer, Inc., USA

Microbiome is a study of microorganisms in a particular space, e.g. skin, oral cavity, gut, etc. The diversity and distribution varies from one person to another, as well as the function of part of the body and the state of health. We are specifically interested in reviewing research data for gut microbiome in maintaining human health and wellness of the individual. Additionally, the nutrition needs to maintain a healthy gut microbiome will be part of the discussion.

7:55 **Opening Remarks.**

8:00 **Introduction to Microbiome.** A.S. Bhatt, Department of Medicine (Hematology/BMT) & Genetics, Stanford University, USA.

8:20 **Understanding Interactions Between Gut Microbiome and Human Health.** J.J. Faith, Mount Sinai Hospital, USA.

8:40 **Host Beneficial Metabolic Effects by Gut Microbial Metabolites, Short-chain Fatty Acids.** I. Kimura, Tokyo University of Agriculture and Technology, Japan.

9:00 **Gut Microbial Polyunsaturated Fatty Acid Saturation Metabolism Affecting Host Health by Generating Bio-active Fatty Acids.** J. Ogawa, Kyoto University, Japan.

9:20 **Open the Next Probiotics Door.** Y. Yonejima, Research and Development Department, Nitto Pharmaceutical Industries, Ltd., Japan.

9:40 **Beyond the Common Use of Probiotics.** M.R. Götz, Symrise AG, Germany.

HT 3: Monounsaturated Fats in the Diet: Benefits and Ingredient Solutions

7:55–10:00 am | Ballroom G

Organizers: E. Blum, Solazyme, Inc., USA; and K. Lee, Solazyme, Inc., USA

Speakers will address dietary advice emphasizing optimizing types of dietary fat; the unique health benefits associated with MUFA, ranging from cardiovascular health to metabolic health; the positive impact of dietary interventions where MUFA replaces saturated fat in the diet; and innovations in nutritional ingredients that are tailored to provide MUFA for the diet. Commercial solutions will be highlighted that also address food manufacturers' need for alternatives to partially hydrogenated oils and meeting consumer demand for plant-based ingredients.

7:55 **Opening Remarks.**

8:00 **Evidence to Support Current Dietary Recommendations for Fatty Acids.** P.M. Kris-Etherton, Pennsylvania State University, USA.

8:25 **Health Benefits of High MUFA Oil in Place of Conventional Oils in the American Diet.** P.J.H. Jones, Richardson Centre for Functional Foods and Nutraceuticals, University of Manitoba, Canada.

8:50 **Monounsaturated Rich Food Oils from Microalgae.** W.G. Rakitsky, Solazyme, Inc., USA.

9:10 **Functionality and Stability of Monounsaturated vs. Polyunsaturated Oils in Baking, Frying, and Confectionery.** A.G. Marangoni, Department of Food Science, University of Guelph, Canada.

9:40 **Nutritional Improvements of Lipids in Food Products: Possibilities and Challenges.** F. Dionisi, Nestlé Research Centre, Nestec Ltd., Switzerland.

HT 4: Impact of New Dietary Guidelines on Fats & Oils

7:55–10:00 am | Ballroom H

Organizer: P.M. Kearney, PMK Associates, Inc., USA

The new US Dietary Guidelines have been launched from a broader based platform than ever before. It is critical to understand the scientific rationale behind the recommendations made on fats and oils and where nutritional science may go in the future. This is driving the creation of new methods that continuously improve applications to meet health and functional requirements for better ingredients. In addition, innovation in the oils pipeline is driving solutions for natural stability that ultimately provides the cleaner labels that consumers demand.

- 7:55 **Opening Remarks.**
- 8:00 **2015 US Dietary Guidelines: A New Perspective on Developing Science-based Guidance.** A.H. Lichtenstein, Tufts University, USA.
- 8:25 **New Guidelines: How They Will Influence Federal Policy.** E.C. Lonardo, Lonardo StatReg Associates, LLC, USA.
- 8:50 **New Oil Applications Can Create Healthier Ingredients and Products.** S. Robbins, Richardson Oilseed Limited, Canada.
- 9:15 **Innovative Solutions for Health and Cleaner Labels.** M.K. LaGuardia, Dow AgroSciences, USA.
- 9:40 **Panel Discussion Q & A.**

HT 5: Innovative Alternatives for Hard Fats and High Stability Oils in the Food Industry

7:55–10:00 am | Ballroom I

Organizer: V. Nesper, QUALISOY, USA

Discover what the industry is doing to replace partially hydrogenated oils, and what opportunities are on the horizon. Hear from the industry's technological leaders on advancements like interesterification and blending components to eliminate

trans fats while retaining the structural functionality needed for applications like doughnut frying and baking, along with the latest results from high stability oil functionality tests. Learn about recent foodservice case studies that evaluated new oils to improve functionality and the nutritional profile of menu items.

- 7:55 **Opening Remarks.**
- 8:00 **Current Landscape of PHO Replacements.** R. Collette, Institute of Shortening and Edible Oils, USA.
- 8:30 **Innovations in Shortenings and Hard Fats.** T. Tiffany, ADM Oils, USA.
- 9:00 **High Stability Oils Functionality and Testing Results.** J. Tuinstra, Stratas Foods LLC, USA.
- 9:30 **Case Studies—Performance in Real World Applications.** R. Galloway, QUALISOY, USA.

HT 6: The Food Safety Act: Focused Mitigation Strategies to Protect Food Against Intentional Adulteration

7:55–9:00 am | Ballroom J

Organizer: D.M. McCullough, Process Plus, LLC, USA

The FDA Food Safety Modernization Act (FSMA) is the most sweeping reform of our food safety laws in more than 70 years, and aims to ensure the US food supply is safe by shifting the focus from responding to contamination to prevention. We will concentrate on FSMA Part L, which addresses equipment and building design. Once in place, this proposed rule would establish measures that a food facility would be required to implement to protect against the intentional adulteration of food.

- 7:55 **Opening Remarks.**
- 8:00 **The Food Safety Act: Focused Mitigation Strategies to Protect Food Against Intentional Adulteration.** D.M. McCullough, Process Plus, LLC, USA.
- 8:30 **Cleaning and Sanitization Requirements to Protect Food Against Intentional Adulteration.** N.J. Lewis, Procter & Gamble, USA.

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- Attend a meeting
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SPECIAL SESSIONS

Monday, May 2

Add these sessions to your meeting itinerary and connect with presenters on **The App!** See page 6 for download instructions.

Students' and Professional Educators' Common Interest Groups (CIG) Session

SS 1: International Exchange Programs: Preparing Graduate Students for a Bright Future in a Global Society

7:55–10:00 am | Ballroom E

Organizers: T. Wang, Iowa State University, USA; S.E. Shinn, University of Arkansas, USA; D.G. Hayes, University of Tennessee, USA; and R.J. Weselake, University of Alberta, Canada

This session will explore the benefits and challenges of participating in exchange programs, from the perspectives of both students and faculty. Attendees will hear presentations from students who have benefited from an exchange program, and learn from educators how one can develop their own exchange program.

7:55 **Opening Remarks.**

8:00 **Progress in Quality Standards for International Education Programmes.** R. Verhé, Ghent University, Belgium.

8:20 **A Comparison of Student Interchange Opportunities in Academia, Government, and Industry.** J.W. King, University of Arkansas, USA.

8:40 **Driving Forces and Challenges for Student Academic Movable Study—Implementation of Student Global Exchange Program in Jinan University.** S.Z. Tang, International School, Jinan University, China; W.W. Riley, International School, Jinan University, China; Y. Wang, Department of Food Science & Engineering, Jinan University, China; and M.J.T. Reaney, University of Saskatchewan, Canada.

9:10 **A Semester Research Experience at the University of Gent: A Personal Perspective.** S.E. Mayfield, University of Arkansas, USA.

9:30 **Student Exchange Program: A Field Experience in Guatemala.** A.V. Gaitán, Louisiana State University, USA.

9:50 **Panel Discussion and Closing Remarks.**

SS 2: Challenges and Opportunities Across the Global Food and Agricultural Supply Chain

9:00 am–4:30 pm | Ballroom A

Organizers: M. Borel, The Context Network, LLC, USA; M. Matlock, J.R. Randall Research Center, Archer Daniels Midland Co., USA; and P.J. Donnelly, AOCS, USA

This special one-day briefing explores key issues affecting all aspects of the food industry, including market trends, production, consumer expectations, and regulations. The non-technical program is designed for senior executives, suppliers, producers, and processors from the food and agricultural sectors.

9:00 **Trends and Issues in World Agriculture.** What are the major trends in world agricultural markets over the past 25 years? What current factors suggest changes in the coming decades?

P. Dixon, Archer Daniels Midland Co., USA

9:30 **Global Food Ingredient Trends.** What are the top consumer food trends affecting the oilseed and grains sectors today? How do these trends impact the value chain? What are the sourcing challenges related to biotechnology and organic ingredients?

B. Layden, FoodMinds, USA

S. Knowlton, DuPont, USA

N. Fereday, Food & Agribusiness Research and Advisory, Rabobank International, USA

1:30 **Addressing Challenges Throughout the Food and Agricultural Supply Chain.** What are the key challenges now and in the near future for the food supply chain? How are these being addressed?

J.J. Welser, IBM Research Almaden, USA

L.H. Bruner, Grocery Manufacturers Association, USA

A. Thomson, Field to Market, USA

3:30 **Innovation in Agriculture.** What are the cutting-edge technologies likely to be adopted across the agricultural value chain within the next three to five years? How will this change the way business is conducted?

J. Borel, DuPont, USA



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SS 3: Awards Plenary and Business Meeting

10:30 am–12:15 pm | Ballroom D

Join us as we recognize the achievements of our members and learn what Society leaders are planning for the year ahead. AOCS President Manfred Trautmann and AOCS President-elect W. Blake Hendrix will each deliver a brief address, Society and Scientific awards will be presented, and routine AOCS business will be conducted. Lectures for the Supelco/Nicholas Pelick-AOCS Research Award and the Stephen S. Chang Award are also presented as part of the session. Biographies of Society and Scientific award winners begin on page 74.

ORAL PRESENTATIONS

☉ = Corporate Members (As of March 18, 2016)

- ▶ The presenter is the first author or otherwise indicated with an asterisk (*).
- ▶ Abstracts are available online at AnnualMeeting.aocs.org/2016Resources or on *The App*. See page 6 for download instructions.
- ▶ Access and print abstracts at the computer stations located in Hall A/B.
- ▶ Award presentations are highlighted by a gray box.

Monday Morning

SS 3: Awards Plenary and Business Meeting

10:30 am–12:15 pm

Ballroom D

Playing with Nanoemulsions: Building Blocks for Delivery Systems and Excipients. D.J. McClements (*The Supelco/Nicholas Pelick–AOCs Research Award Winner*), Dept. of Food Science, University of Massachusetts Amherst, USA.

Research With A Purpose. J.L. Harwood (*Stephen S. Chang Award Winner*), School of Biosciences, Cardiff University, UK.

Monday Afternoon

Analytical Division

ANA 1: Trace Contaminants

Chairs: K. Hrnčirik, Unilever Research & Development Vlaardingen, The Netherlands; and J. Leigh, US Food & Drug Administration, USA

Ballroom J

1:55 Introduction.

2:00 **LC-MS/MS Detection of MCPD and Glycidyl Esters in Infant Formula: Extraction Procedures and Occurrence Studies of Market Infant Formulas.** J. Leigh, S. MacMahon, L.S. DeJager, and T.H. Begley, US Food & Drug Administration, USA.

2:20 **Simultaneous Determination of MCPD and Glycidol in Foodstuffs by QuEChERS Extraction and GC-MS.** H. Xu, T. Li, L. Liu, and R. Zhang, ☉Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China.

2:40 **Towards Standardization of the Analysis of MCPD- and Glycidyl Esters in Food Products—Results of the AOCs Collaborative Study.** K. Hrnčirik¹, Z. Zelinková¹, B. Helbling², and R.C. Cantrill², ¹Unilever Research & Development Vlaardingen, The Netherlands, ²AOCs, USA.

3:00 **3-MCPD and Glycidyl Ester as Process Contaminants in Vegetable Oil Industry—A Practical Approach.** A. Creanga¹, A. Radnóti², G. Hellner², M. Szeliga³, S. Golinski², Z. Kemény², and K. Recseg^{*2}, ¹Bunge, Belgium, ²Bunge, Hungary, ³Bunge, Poland.

3:20 **Comparison of Analytical Methods for the Analysis of MCPD- and Glycidolesters in Respect of Their Feasibility of Automation.** F. Campos, H. Fritz, and N. Hinrichsen*, ☉ADM Research GmbH, Germany.

3:40 **The Frying Process as a Source of Food Contamination by 3-MCPD Esters.** A.P. Ariseto¹, P.F.C. Marcolino², A.C. Augusti¹, G.R. Scaranelo¹, S.A.G. Berbari², A.M.R.O. Miguel², M.A. Morgano², and E. Vicente², ¹State University of Campinas (UNICAMP), Brazil, ²Food Technology Inst. (ITAL), Brazil.

4:00 **Evaluation of 3-MCPDE Formation Under Frying Condition Using Model System.** M. Ouchi, A. Sasaki, and M. Shimizu, Global R&D, Health Care Food, ☉Kao Corp., Japan.

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Monday | Oral Presentations

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Biotechnology Division

BIO 1: Biocatalysis I

This session is sponsored in part by Malaysian Palm Oil Board and Nisshin Oillio Group, Ltd.

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

Ballroom G

- 1:55 **Introduction.**
- 2:00 **Production of Polyol Oils from Soybean Oil by *Pseudomonas aeruginosa* E03-12.** C.T. Hou¹, J.T. Lin², and K.J. Ray¹, ¹USDA, ARS, NCAUR, USA, ²USDA, ARS, WRRRC, USA.
- 2:20 **Novel Microbial Steroid 11-beta Hydroxylase Useful for Glucocorticoid Synthesis.** T. Kimura¹, N. Yoda², Y. Yamamoto², Y. Fujita², T. Sakamoto², M. Hibi³, and J. Ogawa^{*1}, ¹Div. Applied Life Sciences, Graduate School of Agriculture, Kyoto University, Japan, ²Mitsubishi Chemical Group Science & Technology Research Center, Inc., Japan, ³Lab. of Industrial Microbiology, Graduate School of Agriculture, Kyoto University, Japan.
- 2:40 **Modification of the Number of Ester Groups in the Marketed Sucrose Fatty Acid Esters by Lipase Reactions.** Y. Nishiyama, T. Aibara, H. Uehara, and Y. Ueda, Nisshin Oillio Group, Ltd., Japan.
- 3:00 **Research Advancements in Palm Oil Nutrition.** Y.M. Choo, Malaysian Palm Oil Board, Malaysia.
- 3:20 **Using Lipidomics to Aid Understanding of How Metabolic Control Constrains Yields in Oilseed Rape.** H.K. Woodfield¹, A. Cazenave-Gassiot², I.A. Guschina¹, M.R. Wenk², and J.L. Harwood^{*1}, ¹Cardiff University, UK, ²National University of Singapore, Singapore.
- 3:40 **Substrate Preferences of Recombinant Flax Long Chain Acyl-CoA Synthetases.** Y. Xu¹, D. Li¹, X. Pan¹, K.M.P. Caldo¹, G. Chen¹, R. Holic², and R.J. Weselake^{*1}, ¹Dept. of Agricultural, Food, & Nutritional Science, University of Alberta, Canada, ²Inst. of Animal Biochemistry & Genetics, Slovak Academy of Sciences, Slovakia.
- 4:00 **Co-production of Hydroxy Fatty Acid and Mono-rhamnolipid from Olive Oil by *Pseudomonas aeruginosa* KACC 10186.** H.M. Park, S.R. Kim, I.H. Choi, J.H. Jung, and H.R. Kim^{*}, School of Food Science & Biotechnology, Kyungpook National University, Republic of Korea.
- 4:20 **Production of Biodiesel from Palm Fatty Acid Distillate in a Packed Bed Reactor via Enzymatic Transesterification.** J. Ryu^{1,2}, N.K. Choi^{1,2}, and I.H. Kim^{*1,2}, ¹Dept. of Food & Nutrition, Korea University, Republic of Korea, ²Dept. of Public Health Sciences, Graduate School, Korea University, Republic of Korea.
- 4:40 **Oligoglycerol Fatty Acid Esters Preparation Catalyzed by Lipase and Its Effect on the Crystallization Behavior on Diacylglycerol Oil.** Y. Wang^{1,2}, F.L. Wan^{1,2}, Y.L. Ten^{1,2}, and A.J. Li^{1,2}, ¹Dept. of Food Science & Engineering, Guangdong Saskatchewan Oilseed Joint Lab., Jinan University, China, ²Guangdong Engineering Technology Research Center for Oils & Fats Biorefinery, China.

Biotechnology Division

BIO 1.1/IOP 1/SCC 1: Biorenewable Polymers

This session developed in conjunction with the Industrial Oil Products Division and the Society of Cosmetic Chemists.

This session is sponsored in part by Soy 20/20.

Chairs: R.D. Ashby, USDA, ARS, ERRRC, USA; R. Wang, CVC Thermoset Specialties-Emerald Performance Materials, USA; and T. O'Lenick, Society of Cosmetic Chemists/Surfatech Corp., USA

Ballroom E

- 1:55 **Introduction.**
- 2:00 **Novel Plant Oil-based Polymers: An Overview.** D. Kalita¹, I.

Tarnavchyk¹, S. Samanta¹, O. Shafranska¹, J. Bahr², A. Popadyuk¹, A. Voronov¹, D. Bajwa³, A. Bezbaruah⁴, M. Sibi⁵, and B.J. Chisholm^{*1,6}, ¹Dept. of Coatings & Polymeric Materials, North Dakota State University, USA, ²Research & Creative Activities, North Dakota State University, USA, ³Dept. of Mechanical Engineering, North Dakota State University, USA, ⁴Dept. of Civil Engineering, North Dakota State University, USA, ⁵Dept. of Chemistry & Biochemistry, North Dakota State University, USA, ⁶Materials & Nanotechnology Program, North Dakota State University, USA.

- 2:20 **Sucrose Octaesters as Reactive Diluents for Alkyd Coatings.** A. Popadyuk¹, A. Breuer¹, J. Bahr², I. Tarnavchyk³, A. Voronov³, and B.J. Chisholm^{*1,3}, ¹Renuvix LLC, USA, ²Research & Creative Activities, North Dakota State University, USA, ³Dept. of Coatings & Polymeric Materials, North Dakota State University, USA.
- 2:40 **Agricultural Waste and Non-traditional Oil in Polyol Synthesis.** C.M. Patel, A. Barot, and V. Sinha, V.P. & R.P.T.P. Science College, India.
- 3:00 **Shape Memory Polyurethane Elastomers from Vegetable Oils.** Z.S. Petrovic and J. Milic, Pittsburg State University, USA.
- 3:20 **Catalytic Copolymerization of Methyl 9,10-epoxystearate and Cyclic Anhydrides.** U. Biermann¹, A. Sehlinger³, M.A.R. Meier³, and J.O. Metzger^{1,2}, ¹University of Oldenburg, Germany, ²abiosus e.V., Germany, ³Karlsruhe Inst. of Technology, Germany.
- 3:40 **The Development of Polyols and Polyurethane Spray Foam from Canola and Other Prairie Oilseed Crops.** J.M. Curtis¹, E. Kharraz¹, X. Kong¹, T.S. Omonov¹, Y.Y. Zhao¹, D. Treleaven², M. Kennedy³, and D. Kennedy⁴, ¹Lipid Chemistry Group, Dept. AFNS, University of Alberta, Canada, ²Meadow Polymers & Consolidated Coatings, Canada, ³Green Analytics Corp., Canada, ⁴Mod Panel Inc., Canada.
- 4:00 **Recent Applications of Biobased Polymer Chemistry Platforms for the Development of Novel Personal Care Ingredients.** M.J. Fevola¹, F.C. Sun¹, and S.E. York², ¹Johnson & Johnson Consumer Inc., USA, ²University of Oregon, USA.
- 4:20 **Composite Feed Stocks and Imaging with Fluorescence Lifetime Microcopy.** J.W. Woodcock¹, D.M. Fox^{1,3}, I.A. Sacui^{1,2}, C.S. Davis¹, and J.W. Gilman¹, ¹National Inst. of Standards & Technology, USA, ²Georgetown University, USA ³American University, USA.
- 4:40 **Moisture Resistant Coating for Packaging Paper from Silylated Soybean Oil.** C. Tambe, D. Graiver, and R. Narayan, Michigan State University, USA.

Cannabis Extraction and Analytics Interest Area

CEA 1: Advances in Extraction of Cannabis and Similar Plant Materials

Chair: C.L. Ludwig, AOCs, USA

Ballroom C

- 1:55 **Introduction.**
- 2:00 **Extraction of Cannabis and Hemp Using Sub- and Supercritical Fluids.** J.W. King, CFS, University of Arkansas, USA.
- 2:40 **New Tools and Processes for Extraction and Isolation Workflow of Key Botanical Active Components and Essential Oils of Cannabis Necessary for Scientific Studies.** J.A. MacKay, Waters Corp., USA.
- 3:20 **Break**
- 3:40 **Novel Green Chemistry Techniques for the Efficient Extraction of High Quality Cannabis Oils.** T.R. Towle, BT ingenuity, USA.
- 4:20 **Immersion and Percolation Extraction for Fines and Specialty Products.** R.W. Ozer, ©Crown Iron Works Co., USA.

EAT 1: Lipid Gels

Chairs: A.R. Patel, Ghent University, Belgium; and C.C. Udenigwe, Dalhousie University, Canada

150F

- 1:55 **Introduction.**
- 2:00 **Importance of p-p Stacking in Urea and Sorbitol-based Gelators.** M.A. Rogers and A. Singh, University of Guelph, Canada.
- 2:20 **Revisiting Mixtures of Stearyl Alcohol/Stearic Acid as an Oleogelator System.** C. Blach¹, A.J. Gravelle², F. Peyronel², J. Weiss¹, S. Barbut², and A.G. Marangoni², ¹Food Physics & Meat Science, University of Hohenheim, Germany, ²Dept. of Food Science, University of Guelph, Canada.
- 2:40 **Stearyl Alcohol/Stearic Acid Mixtures in the Presence of Ethylcellulose: Creating New Oleogelator Systems to Diversify Functionality.** A.J. Gravelle¹, M. Davidovich-Pinhas², S. Barbut¹, and A.G. Marangoni¹, ¹Dept. of Food Science, University of Guelph, Canada, ²Technion—Israel Inst. of Technology, Israel.
- 3:00 **Comparative Study on the Crystallization Behavior and Application of Beeswax, Carnuba Wax, Rice Bran Wax, and Oryzanol/Sitosterol Oleogels.** Z. Meng, X. Zhu, and Y. Liu, Jiangnan University, China.
- 3:20 **Mixed Component Oleogels Prepared Using Synergistic Combinations of Monoglyceride and Phytosterols.** M.D. Bin Sintang^{1,3}, A.R. Patel^{1,3}, A. Lesaffer², and K. Dewettinck³, ¹Vandemoortele Centre of Lipid Science & Technology, Lab. of Food Technology & Engineering, Ghent University, Belgium, ²Vandemoortele R&D Centre, Belgium, ³Lab. of Food Technology & Engineering, Ghent University, Belgium.
- 3:40 **Understanding the Oil Gelling Properties of Natural Waxes.** A.R. Patel, Ghent University, Belgium.

- 4:00 **Edible Liquid Oil Structuring via Protein-Stabilized Emulsions. I.** Tavernier, J. Goemaere, K. Dewettinck, and A.R. Patel, Lab. of Food Technology & Engineering, Ghent University, Belgium.

Edible Applications Technology Division

EAT 1.1/IMG 1: Structure Effects on Oil Binding

This session developed in conjunction with the Agricultural Microscopy Division (Imaging Techniques Interest Area).

Chairs: G. Cherian, Kellogg North America Co., USA; and M. Willson, LipoLogic Consultancy LLC, USA

151G

- 1:55 **Introduction.**
- 2:00 **Palm Based Structured Oils for Trans-free and Reduced Sat Solution.** G. Wang, L. Liu, and G.P. McNeill, IOI Loders Croklaan LLC, USA.
- 2:20 **Effect of High Intensity Ultrasound, Agitation, and Crystallization Temperature on the Crystallization Behavior of Interesterified Soybean Oil.** J.V. Kadamne and S. Martini, Utah State University, USA.
- 2:40 **Effect of Sugars on the Crystallization Behavior of Confectionery Fat-hydrogenated Palm Kernel Oil.** H. Zhang^{1,2}, R.F. He^{2,1}, Q. Shen¹, Y.L. Bi², and X.B. Xu^{1,2}, ¹Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China, ²Henan University of Technology, China.
- 3:00 **Arrested Coalescence of Droplets Containing Crystalline Fat Networks.** A. Thiel, University of Wisconsin-Madison, USA.
- 3:20 **Surfactant-mediated Interfacial Crystallization of Solid Fat-encapsulated Water-in-Oil Emulsions.** N.L. Green, T. Tran, and D. Rousseau, Ryerson University, Canada.
- 3:40 **Effect of Hydrocolloids and Crystal Promoter on the SFC of a Palm Oil Based Fat Reduced W/O Solid Emulsion.** M. Cordova-Barragan and E. Dibildox-Alvarado*, Universidad of Autónoma de San Luis Potosí, Mexico.
- 4:00 **Algae Butter, a Novel Structuring Lipid, Its Similarities and Differences in Composition, and Observed Functionality When Compared to a Conventional Stearin Butter.** A.G. Marangoni¹, W.G.

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Rakitsky², E. Blum², and L. Zou³, ¹ Dept. of Food Science, University of Guelph, Canada, ²Solazyme Inc., USA, ³Innovation Dept., Bunge North America, Inc., USA.

- 4:20 **A Materials Science Approach to Understanding the Functionality of Low Saturated Emulsion Systems.** P. Smith¹, F. Davoli², S. Metin², and D. Karleskind³, ¹Cargill R&D Centre Europe, Belgium, ²Cargill Minneapolis R&D Center, Cargill Inc., USA, ³Cargill Malt, Belgium.
- 4:40 **Oil Structuring Using Particle Stabilized Systems.** S. Metin¹, P. Smith², F. Davoli¹, D. Karleskind³, and B. Wainwright⁴, ¹Cargill Minneapolis R&D Center, Cargill Inc., USA, ²Cargill R&D Centre Europe, Belgium, ³Cargill Malt, Belgium, ⁴Cargill Dressing, Sauces, & Oils, USA.

Health and Nutrition Division

H&N 1: Vitamin D and Human Health

This session sponsored in part by Nu Skin and Nutrilite.

Chairs: H.A. Durham Zanetti, Nutrilite, Amway, USA; and R.E. Ward, Nutrition, Dietetics, & Food Sciences, Utah State University, USA

Ballroom I

- 1:55 **Introduction.**
- 2:00 **The D-lightful Vitamin D for Good Health.** M.F. Holick^{1,2}, ¹Boston Medical Center, USA, ²Boston University School of Medicine, USA.
- 2:40 **What Are Vitamin D Tests Actually Measuring?** J.A. Straseski^{1,2}, ¹University of Utah, USA, ²ARUP Lab., USA.
- 3:20 **Vitamin D: How to Define Deficiency.** R.I. Thadhani, Div. of Nephrology, Massachusetts General Hospital, USA.
- 4:00 **Round Table Discussion.**

Imaging Techniques Interest Area/Agricultural Microscopy Division

Agricultural Microscopy 2017 Session Planning Roundtable will begin at 12:45 pm in Hall A/B at the AOCS Pavilion. All meeting attendees are welcome.

IMG 1/EAT 1.1: Structure Effects on Oil Binding

This session developed in conjunction with the Edible Applications Technology Division.

Chairs: G. Cherian, Kellogg North America Co., USA; and M. Willson, LipoLogic Consultancy LLC, USA

151G

Joint session: For details, see EAT 1.1/IMG 1, on page 25.

Industrial Oil Products Division

IOP 1/BIO 1.1/SCC 1: Biorenewable Polymers

This session developed in conjunction with the Biotechnology Division and the Society of Cosmetic Chemists.

This session is sponsored in part by Soy 20/20.

Chairs: R.D. Ashby, USDA, ARS, ERRC, USA; R. Wang, CVC Thermostat Specialties-Emerald Performance Materials, USA; and T. O'Lenick, Society of Cosmetic Chemists/Surfatech Corp., USA

Ballroom E

Joint session: For details see BIO 1.1/IOP 1/SCC 1, on page 24.

Industrial Oil Products 2017 Session Planning Roundtable will begin at 5:00 pm in Ballroom E. All meeting attendees are welcome.

Lipid Oxidation and Quality Division

LOQ 1a: Lipid Oxidation Evaluation by Sensory

Chairs: M. Peitz, Archer Daniels Midland Co., USA; and S. Ramnarain, DSM, USA

Ballroom H

- 1:55 **Introduction.**
- 2:00 **Odorant Synergy Effects as the Cause of Fishy Malodors in Algal Marine Oils.** R. Marsili, Marsili Consulting Group, USA.
- 2:20 **The Value of Good Sensory Lab Practices: Is It Really as Costly as You Think?** S. Kassner, DSM Nutritional Products, USA.
- 2:40 **Triangle Difference Sensory Testing to Determine Photooxidative Changes in Soy milk Shows Differences Before Chemical Analysis.** L.M. Bianchi¹, S.E. Duncan², S.F. O'Keefe², D. Johnson³, and J.R. Webster², ¹Radford University, USA, ²Virginia Tech, USA, ³Kraft Heinz Co., USA.
- 3:00 **Sensometrics and Chemometrics: Past, Present, Future.** E.P.P.A. Derks, DSM Resolve, The Netherlands.

Lipid Oxidation and Quality Division

LOQ 1b: Lipid Oxidation in Processed Foods, Industrial Applications, and Complex Matrices

Chairs: M. Hu, DuPont Nutrition & Health, USA; E. Craft, DSM, USA; and X. Tian, Kalsec Inc., USA

Ballroom H

- 3:35 **Introduction.**
- 3:40 **Investigation of the Higher Oxidation Rates of Conjugated Fatty Acids Relative to Their Unconjugated Isomers.** P.G. Boakye¹, H.K. Abaidoo-Ayin¹, G.D. Strahan², W.M. Indrasena³, V.T. Wyatt², S.A. Besong¹, and S.E. Lumor¹, ¹Delaware State University, USA, ²USDA, ARS, ERRC, USA, ³DSM Nutritional Products Canada Inc., Canada.
- 4:00 **Shelf-life Extension of Commercial Cooking Oils Through Natural Approaches.** T.K. Yang, Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China.
- 4:20 **Impact of Reducing and Non-reducing Sugars on Lipid Oxidation in Low Moisture Baked Goods.** S.A. Vieira and E.A. Decker, University of Massachusetts Amherst, USA.
- 4:40 **Storage Stability of Roasted Nuts and Stabilization Strategy Using Natural Antioxidants.** X. Tian, L. Burroughs, and N. Yang, Kalsec Inc., USA.

Lipid Oxidation and Quality 2017 Session Planning Roundtable will begin at 5:00 pm in Ballroom H. All meeting attendees are welcome.

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Phospholipid Division

PHO 1: General Phospholipids

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

150D

- 1:55 **Introduction.**
- 2:00 **Physicochemical Stability of Chia Seed Oil Bi-layer Emulsions.** L.M. Julio¹, V.Y. Ixtaina¹, S.M. Nolasco², and M.C. Tomás*¹, ¹Centro de Investigación y Desarrollo en Criotecología de Alimentos (UNLP, CONICET), Argentina, ²TECSE (UNCPBA), Argentina.
- 2:20 **The Impact of Crude Soybean Oil Quality on Enzymatic Degumming Efficiency.** F. Cong¹, L. Yu², Y.R. Jiang¹, and X.G. Wang², ¹ Wilmar (Shanghai) R&D Center, China, ²Jiangnan University, China.
- 2:40 **Selective and Accurate LC-MS/MS Method for Determination of Choline and Ethanolamine Plasmalogen Molecular Species in Human Plasma.** Y. Otoki^{1,3}, S. Kato², F. Kimura¹, K. Furukawa¹, H. Arai¹, A.Y. Taha³, W. Swardfager⁴, K. Nakagawa¹, and T. Miyazawa¹, ¹Tohoku University, Japan, ²Nippon Medical School, Japan, ³University of California, Davis, USA, ⁴University of Toronto, Canada.
- 3:00 **Validated Analysis of Phospholipid in Infant Nutrition Using Univariate and Multivariate Modelling of ¹H and ³¹P NMR Spectra.** Y.B. Monakhova, M. Betzgen, and B.W.K. Diehl*, Spectral Service AG, Germany.

Processing Division

Processing 2017 Session Planning Roundtable will begin at 12:30 pm in Ballroom F.

All meeting attendees are welcome.

PRO 1: Processing

Chairs: F. Skold,  Solex Thermal Science Inc., Canada; and N. Suarez,  Richardson Oilseed, Ltd., Canada

Ballroom F

- 1:55 **Introduction.**
- 2:00 **Enzyme Degumming is More Than More Oil.** T.S. Hitchman¹, A. Sein², and W. Smits², ¹DSM, USA, ²DSM, The Netherlands.
- 2:20 **White Flake Desolventization: Reports from the Field.** R.W. Ozer,  Crown Iron Works Co., USA.
- 2:40 **New Developments on Refining Processing Technologies.** M. Salazar Peña, P.M. Nielsen, H.M. Lilbaek, E.M. Menegueti, M. Bollinger, and H.C. Holm,  Novozymes A/S, Denmark.
- 3:00 **New Concept in Shallow Bed Extractor.** A.A. Demarco, Desmet Ballestra Group, Argentina.
- 3:20 **Waste Heat Optimization in Soybean Processing.** M. Abid,  Solex Thermal Inc., Canada.
- 3:40 **Improving the Bottom Line of Oils and Fats Refining.** K.F. Carlson, RBD Technologies, Inc., USA.
- 4:00 **Modern Soft Seed Pressing Plant Design.** H.C. Boeck, HF Press+LipidTech, Germany.
- 4:20 **Increased Efficiency in Enzymatic Degumming with a New Phospholipase.** P.M. Nielsen,  Novozymes A/S, Denmark.

Protein and Co-Products Division

PCP 1: Protein Co-Products: New Sources, New Technology, and New Applications

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

150A

- 1:55 **Introduction.**
- 2:00 **The ICM Vision for Value-added Co-products in Fuel Ethanol Plants.** D.B. Rivers, ICM, Inc., USA.
- 2:20 **Sorghum Kafirin Proteins: An Overview of Their Properties and Potential Uses in Bio-based Products.** S.R. Bean, USDA, ARS, USA.
- 2:40 **Effects of Steam Distillation on Extraction, Composition, and Functional Properties of Coriander (*Coriandrum sativum* L.) Proteins.** M.P. Højilla-Evangelista and R.L. Evangelista, USDA, ARS, NCAUR, USA.
- 3:00 **Value Addition to Canola Meal—Progresses on Developing Canola Protein Based Wood Adhesives.** N.P. Bandara and J. Wu, Dept. of Agricultural, Food, & Nutritional Science, University of Alberta, Canada.
- 3:20 **Composition, Mineral Profiles, and Characterization of the Ash Component for 12 Algae Samples.** K. Liu, R. Barrows, and M. Woolman, USDA, ARS, USA.
- 3:40 **Camelina Protein-knowledge for Co-product Development from a New Industrial Crucifer Oilseed.** S.P. Perera^{1,2}, T.C. McIntosh¹, R.T. Tyler², D. Hegedus^{1,2}, and J.P.D. Wanasundara^{1,2}, ¹Saskatoon Research Centre, Agriculture & Agri-Food Canada, Canada, ²Dept. of Food & Bioproduct Sciences, University of Saskatchewan, Canada.
- 4:00 **Edible Insects as Sources of Proteins for Nutrition and Health.** C.C. Udenigwe, H. Fisher, and C. Cutler, Dalhousie University, Canada.
- 4:20 **Isolation and Functionality Evaluation of Egg Yolk Granule.** Z. Zhang¹, G. Cavender¹, C. Xu¹, R. Flores¹, and Y. Zhang², ¹Food Processing Center, University of Nebraska-Lincoln, USA, ²Dept. of Food Science & Technology, University of Nebraska-Lincoln, USA.

Society of Cosmetic Chemists

SCC 1/BIO 1.1/IOP 1: Biorenewable Polymers

This session developed in conjunction with the Biotechnology and Industrial Oil Products Divisions.

This session is sponsored in part by Soy 20/20.

Chairs: R.D. Ashby, USDA, ARS, ERRC, USA; R. Wang, CVC Thermoset Specialties-Emerald Performance Materials, USA; and T. O'Lenick, Society of Cosmetic Chemists/Surfatech Corp., USA

Ballroom E

Joint session: For details, see BIO 1.1/IOP 1/SCC 1, on page 24.

Surfactants and Detergents Division

S&D 1: Chemical and Surfactant Enhanced Oil Recovery (EOR)

Chairs: U.P. Weerasooriya, University of Texas, USA; and S.K. Kiran, CESI Chemical, Canada

Ballroom D

- 1:55 **Introduction.**
- 2:00 **Propoxylated Anionic Gemini Surfactants as Model Compounds for Enhanced Oil Recovery.** J. Cai, K.A.N. Upamali, S. Rajapaksha, D.S.P. Lansakara-P, U.P. Weerasooriya, and G.A. Pope, Center for Petroleum & Geosystems Engineering, University of Texas at Austin, USA.

- 2:20 **Latest Developments in Chemical Enhanced Oil Recovery.** U.P. Weerasooriya, G.A. Pope, and K.A.N. Upamali, Center for Petroleum & Geosystems Engineering, University of Texas at Austin, USA.
- 2:40 **Improved Handleability of High Active Internal Olefin Sulfonates for Enhanced Oil Recovery Through the Use of Viscosity Modifiers.** T.E. King¹, H. Huh¹, L.E. Pretzer¹, M.J. Doll¹, and J. Barnes², ¹Shell Global Solutions (US) Inc., USA, ²Shell Global Solutions International B.V., The Netherlands.
- 3:00 **Evaluating Surfactants Using Potentiometric Titration.** L.B. Carey, Metrohm, USA Inc., USA.
- 3:20 **Multi-walled Carbon Nanotubes in Enhanced Oil Recovery: Part I. Surfactant Carriers.** C. Chen, M.J. Kadhum, B.J. Shiau, and J.H. Harwell, University of Oklahoma, USA.
- 3:40 **Characterization of Guerbet-based Alkoxyate Sulfates for EOR Application.** T. Nguyen, C. Stoute, G. Russell, L. Matheson, and G. Trahan, Sasol Performance Chemicals, USA.
- 4:00 **Single-well Surfactant Flooding in Extreme Total Dissolved Solids Conditions.** M. Budhathoki, S. Bang, S. Wang, L. Jin, B. Roberts, A. Jamili, J.H. Harwell, and B.J. Shiau*, University of Oklahoma, USA.
- 4:20 **Developments in Flowback and Hydrocarbon Production Enhancement in High Temperature and TDS Environments in Hydraulic Fracturing.** L. Do, A. LaBlanc, K. Harkness, and B. Mueller, Nalco Champion—An Ecolab Co., USA.
- 4:40 **Some Key Features to Consider When Studying Acrylamide-based Polymers for Chemical Enhanced Oil Recovery.** A. Thomas¹, N. Gaillard¹, C. Favéro¹, and S. Dufour², ¹SNF Floerger, France, ²SNF HC, USA.

Surfactants and Detergents Division

S&D 1.1: Hard Surface Cleaning

Chairs: T. Zander, Henkel, USA; and E. Theiner, Air Products & Chemicals Inc., USA

Ballroom B

- 1:55 **Introduction.**
- 2:00 **How a New Builder in Automatic Dishwashing Detergent Became Ready Biodegradable in the US: Widespread Microbial Adaptation in the Field.** J.N. LePage¹, E. Bisinger¹, C. van Ginkel¹, T. Federle², N. Itrich², K. McDonough², J. Menzies², K. Casteel², and E. Schaefer³, ¹AkzoNobel, USA, ²Procter & Gamble, USA, ³Wildlife International, USA.
- 2:20 **Dishwashing Products: Ensuring High Performance in the Post-phosphate Era.** T.J. Burns¹, A.C. Lee¹, and T.R. Graham², ¹Novozymes North America, Inc., USA, ²Rivertop Renewables, Inc., USA.
- 2:40 **Innovation in Hard Surface Cleaning Products—An Upstream Perspective Combining Science and Sustainability for a New Generation of Ingredients.** C.J. Wilson, Eastman Chemical, USA.
- 3:00 **Improving the Performance and Reducing the Cost of Autodish Washer Formulations with Novel Copolymers of Itaconate Acid.** Y.G. Durant and B. Jiang, Itaconix Corp., USA.
- 3:20 **New-to-the-world Metathesis-based Amide Surfactant Provides Solvent-like Function for Substantially Aqueous Cleaners, and a New Cleaning Mechanism in Aqueous Formulation with Terpenes.** R.A. Masters, M.J. Nepras, and M. Wiester, Stepan Co., USA.

Surfactants and Detergents 2017 Session Planning Roundtable will begin at 5:00 pm in Ballroom D. All meeting attendees are welcome.

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Tuesday Morning

Analytical Division

ANA 2: Green Analytical Techniques

Chairs: K. Ma, Eurofins QTA Inc., USA; and Y. Lu, DSM Nutritional Products, USA

Ballroom J

- 7:55 **Introduction.**
- 8:00 **Application of Mid-infrared Portable Spectrometry in Determination of Trans-fatty Acid Content in Bakery Products.** M. Shotts, M. Plans-Pujolres, and L.E. Rodriguez-Saona, Ohio State University, USA.
- 8:20 **Utilization of Differential Scanning Calorimetry for Determining the Rise or Depression of Phase Transition Temperatures in Palm Oil and Interesterified Soybean Oil via Lipid-based Additives at Varying Concentrations.** A. Milligan, J.J. Tuinstra, and R. Daniels, Stratatas Foods, USA.
- 8:40 **Rapid NMR Determination of Inorganic Cations in Lipid Matrices.** Y.B. Monakhova and B.W.K. Diehl*, Spectral Service AG, Germany.
- 9:00 **A Unified Preparatory Method for FAMES and Sterols in Oilseed Oil and *in situ* Tissue for Subsequent GLC Analyses.** T.P. Mawhinney^{1,2}, R.S. Gitan², C.E. Cheadle², D.L. Chance³, J.K. Waters², V.V. Mossine^{1,2}, and Y. Li², ¹Biochemistry & Child Health, University of Missouri, USA, ²Agricultural Experiment Station Chemical Lab., University of Missouri, USA, ³Molecular Microbiology & Immunology, University of Missouri, USA.
- 9:20 **Rapid Determination of Fat Content in Microbial Fermentation by Time Domain NMR.** A.N. Chang, DSM Nutritional Products, USA.
- 9:40 **FT-IR and FT-NIR Quality Analysis of Edible Oils and Oilseeds: A Study of Palm Oil and Soybeans.** R.J. Packer, PerkinElmer, USA.
- 10:00 **Expo Networking Break.**

Analytical Division

ANA 2.1/LOQ 2b: Prediction of Oxidative Stability, Shelf-life, and Antioxidants Effects

This session developed in conjunction with the Lipid Oxidation and Quality Division.

Chairs: H.S. Hwang, USDA, ARS, NCAUR, USA; S.L. Hansen, Cargill Inc., USA; and S. Seegers, Bunge Oils Inc., USA

Ballroom H

- 10:15 **Introduction.**
- 10:20 **Quantitative Determination of Antioxidant Distributions in Emulsions: A Partial Solution to the Polar Paradox Problem.** L.S. Romsted¹ and C. Bravo-Díaz², ¹Rutgers University, USA, ²University of Vigo, Spain.
- 10:40 **Modified Ferrous Oxidation-xylene Orange Method to Determine Peroxide Value of Highly Pigmented Oils.** R.S. Abuzaytoun¹, S.L. Mackinnon², and S.M. Budge¹, ¹Dalhousie University, Canada, ²National Research Council of Canada (NRC), Canada.
- 11:00 **Comparison of Shelf-life Assessment with Hydroperoxides and Volatile Compounds.** J. Liang, F. Niu, D. Lv, Y. Zhang, and Y.R. Jiang, Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China.
- 11:20 **Rapid Determination of Fryer Oil Quality.** M.K. Gupta, MG Edible Oil Consulting, USA.
- 11:40 **Method Development to Predict Frying Oil Stability by Treatment with Various Ingredients.** L. Ban, J. Randall, N. Patel, and W.D. Schroeder, Kemin Food Technologies, USA.

Biotechnology Division

BIO 2: Biocatalysis II

This session is sponsored in part by Malaysian Palm Oil Board and Nisshin Oillio Group, Ltd.

Chairs: L.K. Ju, University of Akron, USA; and M. Hosokawa, Hokkaido University, Japan

Ballroom G

- 7:55 **Introduction.**
- 8:00 **Unsaturated and Epoxy Fatty Acid Estolides Derived from Sophorolipids as Plasticizers for Poly(3-hydroxybutyrate).** R.D. Ashby, D.K.Y. Solaiman, C.K. Liu, G.D. Strahan, and N.P. Latona, USDA, ARS, USA.
- 8:20 **Waste Grease Conversion by Phagotrophic Algae.** S. Xiao, N. Vongpanish, J. Kohl, and L.K. Ju, Dept. of Chemical & Biomolecular Engineering, University of Akron, USA.
- 8:40 **Molecular Species Analysis of Tuna Oil and DHA-enriched Oils.** T. Nagao¹, T. Yamada², S. Tanaka¹, E. Fukusaki², and K. Banba^{2,3}, ¹Osaka Municipal Technical Research Inst., Japan, ²Osaka University, Japan, ³Kyusyu University, Japan.
- 9:00 **Chemical Structure and Beneficial Functions of n-3 PUFA-lipids.** M. Hosokawa, K. Hashimoto, and K. Miyashita, Hokkaido University, Japan.
- 9:20 **Improved Growth Property of Genetically Modified Pseudomonas on Crude Glycerol.** D.K.Y. Solaiman and R.D. Ashby, USDA, ARS, ERRC, USA.
- 9:40 **Expo Networking Break.**
- 10:20 **Enzymatic Modification of Anhydrous Milkfat with n-3 and n-6 Fatty Acids for Potential Use in Infant Formula: A Comparison of Methods.** M.J. Sproston and C.C. Akoh, University of Georgia, USA.
- 10:40 **EPA Production by an Oleaginous Fungus *Mortierella alpina* Breeding at Moderate Temperature.** A. Ando¹, T. Okuda², H. Kikukawa², E. Sakuradani³, and J. Ogawa^{1,2}, ¹Research Unit for Physiological Chemistry, Kyoto University, Japan, ²Div. of Applied Life Sciences, Graduate School of Agriculture, Kyoto University, Japan, ³Inst. of Technology & Science, University of Tokushima, Japan.
- 11:00 **Enzymatic Characterization of Hydroxy Fatty Acid Dehydrogenas from *Lactobacillus plantarum* AKU 1009a Useful for Oxo Fatty Acid Production.** S. Kishino, M. Takeuchi, and J. Ogawa, Kyoto University, Japan.
- 11:20 **Lipase Catalyzed Synthesis of ABA-type Structured Lipids Rich in Long Chain Fatty Acids.** X. Dong¹, S. Liu¹, F. Wei¹, X. Wang¹, X. Lv¹, S.Y. Quek², and H. Chen¹, ¹Inst. of Oil Crops Research, Chinese Academy of Agricultural Sciences, China, ²School of Chemical Sciences, University of Auckland, New Zealand.
- 11:40 **Characterization and Heterologous Expression of a Novel Galactolipase from *Chlorella kessleri*.** D. Sugimori¹, K. Fujiuchi¹, S. Hashiro², and H. Yasueda², ¹Fukushima University, Japan, ²AJINOMOTO Co. Inc., Japan.

Biotechnology 2017 Session Planning Roundtable will begin at 12:45 pm in Ballroom G.
All meeting attendees are welcome.

Cannabis Extraction and Analytics Interest Area

CEA 2: Challenges and Recent Advances in Cannabinoid Analytics

Chair: C.L. Ludwig, AOCS, USA

Ballroom C

- 7:55 **Introduction.**
- 8:00 **No Longer Just for Hippies: What's the Buzz About Cannabis?** S.A. Audino, SA Audino & Associates, LLC, USA.
- 8:20 **A Broad-based Analytical Perspective on West Coast Medical Cannabis.** J.C. Raber, The Werc Shop, LLC, USA.

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Tuesday | Oral Presentations

107th AOCS Annual Meeting & Expo | AnnualMeeting.aocs.org/2016Resources

- 8:40 **Levels of the Sesquiterpenes Beta-caryophyllene and Alpha-humulene Are Highly Correlated in Cannabis Varietals.** E.P. Miller and J.S. Abrams*, Abrams BioConsulting, USA.
- 9:00 **Accurate Gas Chromatographic (GC) Quantification of Acidic and Neutral Cannabinoids.** A. Rigdon, C. Hilliard, and J.W. Cochran, Restek Corp., USA.
- 9:20 **Cannabinoids Analysis: How Short an HPLC Method Can Be.** R. Kachadourian, CMT Lab., USA.
- 9:40 **Expo Networking Break.**
- 10:20 **Sample Preparation in On-site Cannabis Potency Analysis.** D. Wilks and S. McArdle, Orange Photonics, Inc., USA.
- 10:40 **Quality Assessments for Organically-complex Botanical Extracts.** B.G. Rohrback¹ and P. Gibson², ¹Infometrix, Inc., USA, ²GW Pharmaceuticals Ltd., UK.
- 11:00 **Mass Spectrometry Applications to Cannabis Testing.** S.A. Kuzdzal¹, D. Wang¹, J.H. Dahl¹, J. Edwardsen¹, W. Bankert¹, J. Kowalski², J. Zitzer³, and K. Kovash⁴, ¹Shimadzu Scientific Instruments, USA, ²Restek Corp., USA, ³Trace Analytics, USA, ⁴G.I. Grow, USA.
- 11:20 **Analyzing Cannabis: What is "Good"?** S.A. Audino, SA Audino & Associates, LLC, USA.

Edible Applications Technology Division

EAT 2: Dairy Lipids

This session sponsored in part by Land O'Lakes.

Chairs: F. Maleky, Ohio State University, USA; F. Peyronel, University of Guelph, Canada; and R. Gnanasambandam, Land O'Lakes, USA

150F

- 8:35 **Introduction.**
- 8:40 **The Effect of Emulsification and Emulsion Droplet Distance on the Nanoscale Structure of Milk Fat.** P.R.R. Ramel, Jr., F. Peyronel, and A.G. Marangoni, University of Guelph, Canada.
- 9:00 **The Miracle of Milk Fat.** T. Landon, Land O'Lakes, USA.
- 9:40 **Expo Networking Break.**
- 10:20 **Optimization of Physicochemical and Sensory Properties of Reduced-cholesterol Milk.** P. Jadhav¹, P.M. Tomasula², and S.E. Lumor¹, ¹Delaware State University, USA, ²USDA, ARS, ERRC, USA.
- 10:40 **Role of Dairy Ingredients in Nutritional Products.** K. Vasist and N. Rangavajla, Abbott Nutrition, USA.
- 11:00 **Microstructure Engineering of Milk Fat by Recombination of Its Fractions.** A.G. Marangoni and P.R.R. Ramel, Jr., University of Guelph, Canada.

Edible Applications Technology Division

EAT 2.1/IMG 2: Nano-, Micro-, Macrostructure

This session developed in conjunction with the Agricultural Microscopy Division (Imaging Techniques Interest Area).

Chairs: A.G. Marangoni, University of Guelph, Canada; and P.R.R. Ramel, Jr., University of Guelph, Canada

151G

- 7:55 **Introduction.**
- 8:00 **Formation and Microstructures of Whipped Oils Composed of Vegetable Oils and High-melting Fat Crystals.** K. Sato, S. Mishima, and S. Ueno, Hiroshima University, Japan.
- 8:40 **Acoustic Cavitation and Bubble Dynamics in Edible Oils.** P.R. Birkin¹, T. Foley¹, S. Martini², and T. Truscott², ¹University of Southampton, UK, ²Utah State University, USA.
- 9:00 **Effect of Interfacial Crystallization on the Rheological Behavior and Droplet Localization of a Fat Crystal Network-stabilized Emulsion.** R.R. Rafanan and D. Rousseau, Ryerson University, Canada.
- 9:20 **Freeze-thaw Stability of O/W Emulsions: Influence of Crystallization Behavior of Fats.** C. Ishibashi, H. Hondoh, and S.

Ueno, Graduate School of Biosphere Science, Hiroshima University, Japan.

9:40 **Expo Networking Break.**

- 10:20 **Effect of Oil Type on Fat Crystallization Thermodynamics.** N.L. Green¹, G. Marinoni², and D. Rousseau¹, ¹Ryerson University, Canada, ²University of Udine, Italy.
- 10:40 **Structural and Physical Characteristics of Fats Crystallized Under High Pressure.** M. Zulkurnain¹, V.M. Balasubramaniam^{1,2}, and F. Maleky¹, ¹Dept. of Food Science & Technology, Ohio State University, USA, ²Dept. of Food, Agricultural, & Biological Engineering, Ohio State University, USA.
- 11:00 **Microviscosity of Liquid Oils in Confined Colloidal Fat Crystal Networks.** M.A. Rogers¹ and M.G. Corradini², ¹University of Guelph, Canada, ²Rutgers University, USA.
- 11:20 **Mechanisms of Retardation Effects of Polyglycerine Fatty Acid Esters on Crystallization of Diacylglycerols Examined with Small-angle X-ray Diffraction.** K. Saitou¹, R. Homma¹, M. Shimizu¹, K. Yasunaga¹, K. Taguchi², S. Ueno², and K. Sato², ¹Kao Corp., Japan, ²Hiroshima University, Japan.
- 11:40 **Structure-function Relationship of Puff-pastry Shortenings.** B.A. Macias-Rodriguez, F. Peyronel, and A.G. Marangoni, University of Guelph, Canada.

Edible Applications Technology Division

EAT 2.2/IOP 2b: Waxes and Phase Change Materials

This session developed in conjunction with the Industrial Oil Products Division.

Chairs: J.F. Toro-Vazquez, Universidad de Autónoma de San Luis Potosí, Mexico; and S.S. Narine, Trent University, Canada

Ballroom E

- 10:15 **Introduction.**
- 10:20 **Designing Superior Phase Change Materials from Lipids.** M.C. Floros, Trent University, Canada.
- 10:40 **Controlling the Crystallization and Melting Behavior of Self-metathesized Vegetable Oil Waxes.** L. Bouzidi and S.S. Narine, Trent Centre for Biomaterials Research, Dept. of Physics & Astronomy/Dept. of Chemistry, Trent University, Canada.
- 11:00 **Biorefinery Technology: New, High-performance Renewable Approaches in Performance Waxes.** J.A. Brekan, G. Zopp, and R. Littich, Elevance Renewable Sciences, USA.
- 11:20 **Ethylcellulose Oleogels in Cream Cheese.** R. Nicholson, A.G. Marangoni, and S. Barbut, University of Guelph, Canada.
- 11:40 **Low Saturated Functional Fat Systems Structured by MAGs and Waxes.** F. Davoli¹, S. Metin¹, D. Karleskind², and P. Smith³, ¹Cargill Minneapolis R&D Center, ²Cargill Inc., USA, ³Cargill Malt, Belgium, ³Cargill R&D Centre Europe, Belgium.

Exhibitor Presentations

EXH 1: Technology Showcase I

Ballroom A

- 7:55 **Introduction.**
- 8:00 **Immersion and Percolation Extraction for Specialty Applications.** R.W. Ozer, ¹Crown Iron Works Co., USA.
- 8:20 **Can Better Processes Reduce Your CIP Downtime?** M.T. Williamson, ADF Engineering, USA.
- 8:40 **Multiple Light Scattering for the Analysis of Physical Stability of Concentrated Dispersions.** C. Tissernad¹, M. Fleury¹, Y. Lefevre¹, P. Bru¹, M. Vanden Eynden², and G. Meunier¹, ¹Formulation, France, ²Formulation, Inc., USA.
- 9:00 **A Proposed 1-step Process for Enzyme Assisted Acid Degumming.** S. Konradt, AB Enzymes, Germany.
- 9:20 **Demands and Improvements of Process Efficiency Due to**



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Proper Cracking and Flaking Maintenance. T. Muenker, SIWACO GmbH, Member of IRLE Group, Germany.

9:40 **Expo Networking Break.**

10:20 **Start-to-finish GC and GC-MS Edible Oil Workflows That Deliver Quality Results with Unstoppable Productivity.** L.A. Dolata, Thermo Fisher Scientific, USA.

10:40 **Move Your Product Innovation Forward with Versum Materials' Tomadol® 902 Surfactant.** A. Fonseca, Versum Materials/Air Products and Chemicals, Inc., USA.

11:00 **Changing the Chemistry of Clean—Combining Science and Sustainability for a New Generation of Solvents.** C. Perkins, Eastman Chemical, USA.

11:20 **Optimized Technology for Integrated Heat Recovery in Seed Conditioning.** T.G. Kemper, Desmet Ballestra North America, USA.

11:40 **ACQUITY QDa Detector—A New Orthogonal Detection System for Chromatographic Applications.** J. Van Antwerp, Waters Corp., USA.

Health and Nutrition Division

H&N 2: The Role of Endocannabinoids and Fatty Acids in Shaping Human Health

This session sponsored in part by DSM and Nestlé.

Chairs: C.J. Lammi-Keefe, Louisiana State University, USA; and M.A. Belury, Ohio State University, USA

Ballroom I

7:55 **Introduction.**

8:00 **Modulators of the Endocannabinoid System as Nutritional and Therapeutic Medications.** A. Makriyannis, Center for Drug Discovery, Northeastern University, USA.

9:00 **Peripheral Endocannabinoid Signaling in Diet-induced Obesity.** N.V. DiPatrizio, Div. of Biomedical Sciences, School of Medicine, University of California, Riverside, USA.

9:20 **Lipidomics Unveils the Healthy Biosignature of “Omega-3” Transgenic Mice.** G. Astarita¹ and J. Kang², ¹Georgetown University, USA, ²Harvard Medical School, USA.

9:40 **Expo Networking Break.**

10:20 **Changes in Tissue Omega-3 Content Modulate Endocannabinoid Biosynthesis.** G. Carta, E. Murru, C. Manca, S. Lisai, L. Muredda, A. Sirigu, D. Demurtas and S. Banni*, Dip. di Scienze Biomediche, Università di Cagliari, Italy.

11:00 **The Putative Role of the Endocannabinoid System on Sleep Modulation.** E. Murillo-Rodríguez, Lab. of Molecular & Integrative Neuroscience, School of Medicine Health Sciences Div., Anahuac Mayab University, Mexico.

11:40 **Farmed Atlantic Salmon (*Salmo salar*) Influences Lipoprotein Concentration and Particle Size in Healthy Men and Women.** S.K. Raatz^{1,2}, L.K. Johnson¹, and M.J. Picklo¹, ¹USDA, ARS, Grand Forks Human Nutrition Research Center, USA, ²University of Minnesota, USA.

Health and Nutrition 2017 Session Planning Roundtable will begin at 12:45 pm in Ballroom I. All meeting attendees are welcome.

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Imaging Techniques Interest Area/Agricultural Microscopy Division

IMG 2/EAT 2.1: Nano-, Micro-, Macrostructure

This session developed in conjunction with the Edible Applications Technology Division.

Chairs: A.G. Marangoni, University of Guelph, Canada; and P.R.R. Ramel, Jr., University of Guelph, Canada

151G

Joint session: For details, see EAT 2.1/IMG 2, on page 32.

Industrial Oil Products Division

IOP 2a: New Uses of Glycerin

Chairs: F. Dumeignil, University of Lille, France; and X.R. Ye, University of Tennessee, USA

Ballroom E

7:55 **Introduction.**

8:00 **Synthesis of α -Linolenic Acid-enriched Triacylglycerol Using a Newly Prepared Immobilized Lipase Under Vacuum.** H. Kim^{1,2}, T. Kim^{1,2}, and I.H. Kim^{1,2}, ¹Dept. of Food & Nutrition, Korea University, Republic of Korea, ²Dept. of Health Science, Graduate School, Korea University, Republic of Korea.

8:20 **Glycerol: A Solvent and Building Block of Choice for Alternative Technologies.** C. Len, Université de Technologie de Compiègne, Sorbonne Universités, France.

8:40 **Novel Reaction of Glycerol Direct Amination Over Heteropolyacid-based Catalysts.** F. Dumeignil^{1,2}, M. Safariamin^{1,3}, S. Paul^{1,3}, K. Moonen⁴, D. Ulrichs⁴, and B. Katryniok^{1,3}, ¹Unité de Catalyse et Chimie du Solide (UCCS), Université de Lille, France, ²Inst. Universitaire de France, France, ³Cité Scientifique (CS), Ecole Centrale de Lille, France, ⁴TAMINCO bvba, a Subsidiary of Eastman Chemical Co., Belgium.

9:00 **Catalytic Synthesis of Amphiphilic Long Chain Alkylglyceryl Ethers.** F. Jérôme¹, K. De Oliveira Vigier¹, N. Sayoud¹, A. Karam¹, J. Lai^{*2}, and A. Liebens², ¹CNRS/IC2MP, France, ²CNRS/SOLVAY, France.

9:20 **Converting Glycerol to Soap from Biodiesel Production.** J. Zhang and M. Lu, University of Cincinnati, USA.

Industrial Oil Products Division

IOP 2b/EAT 2.2: Waxes and Phase Change Materials

This session developed in conjunction with the Edible Applications Technology Division.

Chairs: J.F. Toro-Vazquez, Universidad de Autónoma de San Luis Potosí, Mexico; and S.S. Narine, Trent University, Canada

Ballroom E

Joint session: For details, see EAT 2.2/IOP 2b, on page 32.

Lipid Oxidation and Quality Division

LOQ 2a: Metabolic Fate of Lipid Oxidation Products and Antioxidants in Foods or Biological Systems

Chairs: K. Miyashita, Hokkaido University, Japan; and S. Witeof, Cargill Inc., USA

Ballroom H

7:55 **Introduction.**

8:00 **Antioxidant Potential of an Olive Leaf Extract Component, Oleuropein, and Its Preventive Effect on Type 2 Diabetes.** A. Umeno, K. Murotomi, Y. Nakajima, and Y. Yoshida, Advanced Industrial Science & Technology, Japan.

8:20 **In Search of Natural Phenolics or Derivatives with Potential Mitochondria Targeting Activity.** C. Bayrasy¹, J. Lecomte¹, R. Upasani², B. Chabi³, B. Baréa¹, E. Durand¹, C. Bourlieu¹, M. Clarke²,



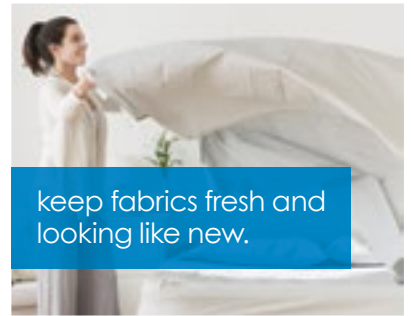
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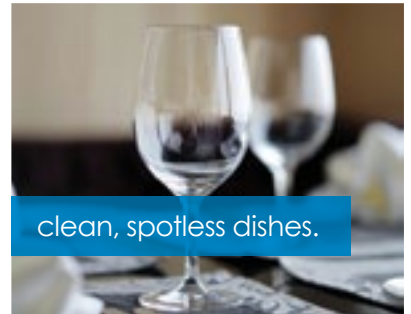
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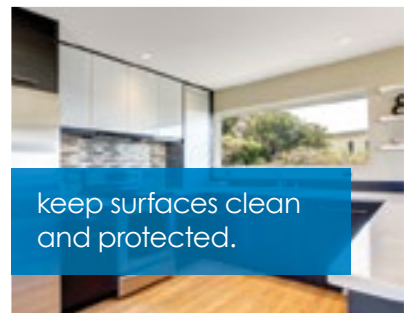
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D. Moore², C. Wrutniak-Cabello³, and P. Villeneuve*¹, ¹CIRAD, UMR IATE, France, ²GlaxoSmithKline, USA, ³INRA, UMR DMEM, France.

- 8:40 **Oxidative Deterioration of Fish Oils and Its Prevention.** M. Uemura, A. Shibata, and K. Miyashita*, Hokkaido University, Japan.
- 9:00 **The Presence and Type of Flavor Present in Fish Oil Supplements Interferes with *p*-anisidine Testing.** J.C. Sullivan Ritter¹, S.M. Budge², and M. Reid¹, ¹Nature's Way Canada, Canada, ²Dalhousie University, Canada.
- 9:20 **Combination of Oil Soluble and Water Soluble Green Tea Extracts and Rosemary Extract in Delaying Oxidation in Mayonnaise.** J. Randall, L. Ban, N. Patel, and W.D. Schroeder,  Kemin Food Technologies, USA.

Lipid Oxidation and Quality Division

LOQ 2b/ANA 2.1: Prediction of Oxidative Stability, Shelf-life, and Antioxidants Effects

This session developed in conjunction with the Analytical Division.

Chairs: H.S. Hwang, USDA, ARS, NCAUR, USA; S.L. Hansen,  Cargill Inc., USA; and S. Seegers,  Bunge Oils Inc., USA

Ballroom H

Joint session: For details, see ANA 2.1/LOQ 2b, on page 31.

Phospholipid Division

PHO 2: Bioactive Phospholipids

Chairs: E.M. Hernandez, Advanced Lipid Consultants, USA; and M. Torres-Gonzalez, Dairy Research Inst., USA

150D

- 7:55 **Introduction.**
- 8:00 **Daily Stress Management with Nutritional Bio-active Phospholipids.** D. Rutenberg, Lipogen Ltd., Israel.
- 8:40 **Dairy Bioactive Phospholipids: Composition, Properties, Nutritional Aspects, and Application for Delivery Systems.** B. Farhang and M. Corredig, Gay Lea Foods Co-operative Ltd., Canada.
- 9:20 **Bioactive Structured Phospholipids: Roles in Pharma, Health, and Nutrition.** E.M. Hernandez, Advanced Lipid Consultants, USA.
- 10:00 **Expo Networking Break.**
- 10:20 **Properties of Omega-3 Phosphatidylcholine.** N. Hoem, Aker BioMarine, Norway.
- 11:00 **Bioactive Properties of Egg-derived Lecithin.** D. Aguilar-Alvarez, Dept. of Athletic Training & Nutrition, Weber State University, USA.

Phospholipid 2017 Session Planning Roundtable will begin at 12:45 pm in 150D.

All meeting attendees are welcome.

Processing Division

PRO 2: Maintenance/Safety/Automation/Plant Training

Chairs: M. Vander Velde, Interstates Construction Services Inc., USA; and J. Glenski,  Process Plus, LLC, USA

Ballroom F

- 7:55 **Introduction.**
- 8:00 **Power Quality and Energy Management for the Process Industries.** J.J. Boschuetz, Rockwell Automation, USA, Eaton Corp./Cutler Hammer, USA, University of Wisconsin, USA, Milwaukee School of Engineering, USA, Assn. of Energy Engineers, USA.
- 8:40 **Desolventizer/Toaster Temperature Control Optimization Using Model Predictive Control.** J. Vortherms, Interstates Control Systems, USA.
- 9:40 **Expo Networking Break.**
- 10:20 **Online Training Tools Through the Use of SharePoint: Microbial/Clean Design Standards Training.** D.M. McCullough,  Process Plus, LLC, USA.

- 11:20 **Get Insight to Numerous Site Concerns with Pervasive Sensing.** G.J. Hall, Emerson Process Management–Rosemount Measurement, USA.

Protein and Co-Products Division

PCP 2a: Protein Allergenicity

Chairs: B.P. Lamsal, Iowa State University, USA; and L. L'Hocine, Agriculture & Agri-Food Canada, Canada

150A

- 7:55 **Introduction.**
- 8:00 **Effects of Food Processing on Tree Nut Allergen Immunoreactivity.** S.K. Sathe, C. Liu, and V.D. Zaffran, Florida State University, USA.
- 8:20 **Food Allergen Detection and Complex Foodstuffs.** P.E. Johnson, University of Nebraska, Lincoln, USA.
- 8:40 **Tree Nut Detection and Quantification Using Monoclonal Antibody (mAb)-based Enzyme-linked Immunosorbent Assays (ELISA).** C. Liu, V.D. Zaffran, S. Gupta, and S.K. Sathe, Florida State University, USA.
- 9:00 **Role of Food Processing and Food Matrix in Defining Protein Allergenic Potential.** L. L'Hocine, Agriculture & Agri-Food Canada, Canada.
- 9:20 **Immunoreactivity of Select Rosaceae Seed Proteins.** V.D. Zaffran, C. Liu, S. Gupta, and S.K. Sathe, Florida State University, USA.

Protein and Co-Products Division

PCP 2b: General Protein and Co-Products

Chairs: B.P. Lamsal, Iowa State University, USA; and L. L'Hocine, Agriculture & Agri-Food Canada, Canada

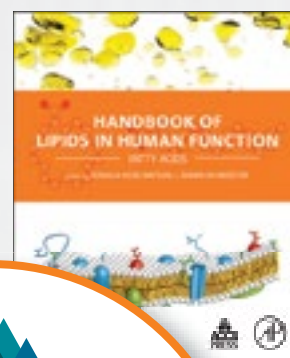
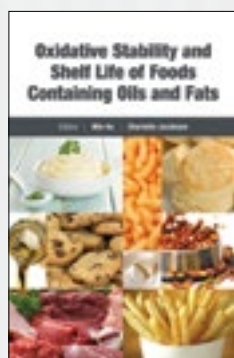
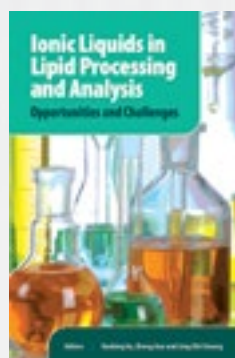
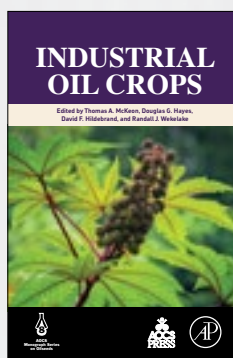
150A

- 10:15 **Introduction.**
- 10:20 **A Comparative Study of the Structural and Functional Properties of Flaxseed (*Linum usitatissimum*) Albumin and Globulin Fractions.** I.D. Nwachukwu^{1,2} (*Honored Student Award Winner*) and R.E. Aluko^{1,2}, ¹Dept. of Human Nutritional Sciences, University of Manitoba, Canada, ²Richardson Centre for Functional Foods & Nutraceuticals, University of Manitoba, Canada.
- 10:40 **Effect of Composition and Packaging Conditions Over Soymilk Powder Oxidation Development.** S. Hernalsteens, X. Li, X. Yang, Z. Zhe, and G. Chang,  Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China.
- 11:00 **In vitro Antioxidant Properties of African Giant Land Snail (*Archachatina marginata*) Protein Hydrolysates and Membrane Ultrafiltration Peptide Fractions.** A.T. Girgih^{1,2}, I.D. Nwachukwu¹, M.I. Iwar^{1,2}, T.N. Fagbemi^{1,3}, and R.E. Aluko¹, ¹University of Manitoba, Canada, ²University of Agriculture, Nigeria, ³Federal University of Technology, Nigeria.
- 11:20 **Flaxseed Orbitides as FRET Sensor.** P.D. Jadhav¹, J. Shen¹, R. Sammynaiken², and M.J.T. Reaney^{1,3}, ¹Dept. of Plant Sciences, University of Saskatchewan, Canada, ²Saskatchewan Structural Sciences Centre, University of Saskatchewan, Canada, ³Prairie Tide Chemicals Inc., Canada.
- 11:40 **Production of Microbial Protein Concentrate and 1,3-Propanediol by Wheat Thin Stillage Fermentation.** K. Ratanapariyanuch¹, Y.Y. Shim², S. Emami², and M.J.T. Reaney^{2,3}, ¹Dept. of Food & Bioproduct Sciences, University of Saskatchewan, Canada, ²Dept. of Plant Sciences, University of Saskatchewan, Canada, ³Guangdong Saskatchewan Oilseed (GUSTO) Joint Lab., Dept. of Food Science & Engineering, Jinan University, China.

Protein and Co-Products 2017 Session Planning Roundtable will begin at 12:15 pm in 150A.

All meeting attendees are welcome.

NEW RELEASES



Industrial Oil Crops

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Ionic Liquids in Lipid Processing and Analysis Opportunities and Challenges

Edited by Xuebing Xu, Zheng Guo, and Ling-Zhi Cheong

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SCC 2/S&D 2: Surfactants in Cosmetics

This session developed in conjunction with the Surfactants and Detergents Division.

Chairs: M.S. Vethamuthu, Ashland Specialty Ingredients, USA; and D. Abbeduto, Society of Cosmetic Chemists/Colonial Chemical, Inc., USA

Ballroom D

- 7:55 **Introduction.**
- 8:00 **Interaction Between Skin and Surfactants: A Review.** P. Giacomoni, Elan Rose International, USA.
- 8:40 **Various Oil Micro-emulsions and Their Possible Benefit for Beauty and Personal Care Products.** G.A. Smith,  Huntsman Performance Products, USA.
- 9:00 **Reassessing the Foam-boosting Properties of Alkanol Amides.** R. Galleguillos and L. Lipp, Lubrizol Co., USA.
- 9:20 **Surfactants in Personal Care Applications: Advances in Role and Selection of Multifunctional Rheology Modifiers.** M.S. Vethamuthu, E. Di Antonio, S. Ozkan, V. Johnson, and H. Fares, Ashland Specialty Ingredients, USA.
- 9:40 **Expo Networking Break.**
- 10:20 **Quantifying Technical Changes in Hair Properties After Treatment.** T.A. Evans, TRI Princeton, USA.
- 11:00 **Multi Domain Silicone Quaternary Polymers.** T. O'Lenick, Siltech LLC, USA.
- 11:20 **Dealing with Rheological Realities—A Guide to a Clean and Satisfying Life.** J.M. Chandler, ACT Solutions Corp., USA.
- 11:40 **Natural Fragrance Solubilizers.** D. Abbeduto, Colonial Chemical, Inc., USA

Surfactants and Detergents Division

S&D 2/SCC 2: Surfactants in Cosmetics

This session developed in conjunction with the Society of Cosmetic Chemists.

Chairs: M.S. Vethamuthu, Ashland Specialty Ingredients, USA; and D. Abbeduto, Society of Cosmetic Chemists/Colonial Chemical, Inc., USA

Ballroom D

Joint session: For details, see SCC 2/S&D 2, above.

Surfactants and Detergents Division

S&D 2.1: New Forms: Applied and Theoretical Aspects

Chairs: K. Genco, Arkema Inc., USA; and S.M. Raders, Lubrizol Corp., USA

Ballroom B

- 7:55 **Introduction.**
- 8:00 **Synergistic Effect of Surfactant and Enzymes During Dry-grind Ethanol Fermentation on Distillers Corn Oil Distribution and Recovery.** L. Fang, T. Wang, and B.P. Lamsal, Iowa State University, USA.
- 8:20 **Insights into the Mechanism of Textile Greying During the Consumer Laundry Process.** M. Job and M. Dreja, Henkel AG & Co. KGaA, International Research Laundry & Home Care, Germany.
- 8:40 **Foaming Properties of Methyl Ester Sulfonate (MES) for Laundry Detergents.** H. Watanabe, Y. Ito, C. Endo, and Y. Kaneko, Lion Corp., Japan.
- 9:00 **Performance and Properties of a New Generation of a Readily Biodegradable Chelating Agent: GLDA.** J.N. LePage, P.D. Kincaid, K. Chatterjee, and J. McVeigh, AkzoNobel, USA.
- 9:20 **Dendritic Methods for Surfactants and Carrier Applications: Design, Synthesis, and Characterization.** C.N. Moorefield, University of Akron, USA.
- 9:40 **Expo Networking Break.**

Tuesday Afternoon

Analytical Division

ANA 3: General Analytical

Chair: H. Adams,  Archer Daniels Midland Co., USA

Ballroom J

- 1:55 **Introduction.**
- 2:00 **What is a Simulacrum and What Does It Tell You About Triacylglycerol Structures?** W.C. Byrdwell, USDA, ARS, BHNRC, Food Composition & Methods Development Lab., USA.
- 2:20 **What Analysis of Triacylglycerol Structures Taught Me About Pi, Space, Mass, and the Periodic Table.** W.C. Byrdwell, USDA, ARS, BHNRC, Food Composition & Methods Development Lab., USA.
- 2:40 **Advanced Sample Prep Techniques for Total Moisture in Difficult Samples.** L.B. Carey, Metrohm, USA Inc., USA.
- 3:00 **Separation of Trans-fatty Acids in Human Plasma via Silver Ion Solid Phase Extraction and GC-MS.** H.C. Kuiper, N. Wei, L. Zhang, S.L. McGunigale, and H.W. Vesper, Div. of Lab. Sciences, CDC, USA.
- 3:20 **Improve Accuracy of Difficult Titrations Using Thermometric Techniques.** L.B. Carey, Metrohm, USA Inc., USA.
- 3:40 **Development and Validation of a LC-MS/MS Method for Analysis of Vitamin K1 (phyloquinone) and K2-7 (Menaquinone) in Food Samples.** S.D. Bhandari and T. Gallegos-Peretz, Merieux NutriSciences, Silliker Food Science Center, USA.
- 4:00 **Thermally Activated Microrheology (DWS) for Fat Crystal Analysis.** M. Bazin², G. Brambilla¹, R. Ramsch¹, M. Fleury¹, M. Vanden Eynden^{*2}, and M. Meunier¹, ¹Formulaction, France, ²Formulaction, Inc., USA.
- 4:20 **HPLC Determination of Bioactive Compounds in Canola Oil: An Investigation to Enhance Canola Oil Quality.** C. Flakelar^{1,2}, D. Lockett^{2,3}, J. Howitt^{1,4}, G. Doran^{1,2}, and P. Prenzler^{1,2}, ¹School of Agricultural & Wine Sciences, Charles Sturt University, Australia, ²Graham Centre for Agricultural Innovation, Australia, ³NSW Dept. of Primary Industries, Australia, ⁴Inst. for Land, Water, & Society, Charles Sturt University, Australia.
- 4:40 **Distribution of Glucosinolates in Camelina Seed Fractions.** Y.Y. Shim^{1,2}, D. Yuan³, P.D. Jadhav¹, J. Shen¹, V. Meda³, and M.J.T. Reaney^{1,2}, ¹Dept. of Plant Sciences, University of Saskatchewan, Canada, ²Prairie Tide Chemicals Inc., Canada, ³Dept. of Chemical & Biological Engineering, University of Saskatchewan, Canada, ⁴Guangdong Saskatchewan Oilseed (GUSTO) Joint Lab., Dept. of Food Science & Engineering, Jinan University, China.

Analytical 2017 Session Planning Roundtable
will begin at 5:00 pm in Ballroom J.
All meeting attendees are welcome.

Biotechnology Division

BIO 3: Biomodifications, Biomechanisms, Biosafety

Chairs: S.H. Yoon, Woosuk University, Republic of Korea; and T. Sugawara, Kyoto University, Japan

Ballroom G

- 1:55 **Introduction.**
- 2:00 **Production of Hydroxy Fatty Acids with Health Promoting Activity Using Linoleic Acid Hydratase Involved in Polyunsaturated Fatty Acid Saturation Metabolism in Lactic Acid Bacteria.** M. Takeuchi, S. Kishino, S.B. Park, N. Kitamura, and J. Ogawa, Kyoto University, Japan.
- 2:20 **Hypolipidemic Effect of Gut Microbial Fatty Acid Metabolites in Hepatocytes.** T. Nanthirudjanar¹, H. Furumoto¹, J. Zheng¹, Y.I. Kim¹, T. Goto¹, N. Takahashi¹, T. Kawada¹, S.B. Park¹, A. Hirata¹, N. Kitamura¹, S. Kishino¹, J. Ogawa¹, T. Hirata^{1,2}, and T. Sugawara^{*1}, ¹Kyoto University, Japan, ²Shionawategakuen University, Japan.

- 2:40 **A Gut Microbial Fatty Acid Metabolite, 10-oxo-*trans*-11-oc-tadecenoic Acid, is Cytoprotective Against Oxidative Stress.** H. Furumoto¹, T. Nanthirudjanar¹, T. Kume¹, Y. Izumi¹, S.B. Park¹, N. Kitamura¹, S. Kishino¹, J. Ogawa¹, T. Hirata^{1,2}, and T. Sugawara*¹, ¹Kyoto University, Japan, ²Shijonawategakuen University, Japan.
- 3:00 **Molecular Functions of a Linoleic Acid Metabolite Produced by Gut Lactic Acid Bacteria for Obesity-related Metabolic Diseases.** T. Goto^{1,2}, Y.I. Kim¹, T. Furuzono¹, K. Yamakuni¹, N. Takahashi^{1,2}, T. Sugawara¹, N. Kitamura¹, S.B. Park¹, S. Kishino¹, J. Ogawa^{1,2}, and T. Kawada^{1,2}, ¹Graduate School of Agriculture, Kyoto University, Japan, ²Center for the Promotion of Interdisciplinary Education & Research, Kyoto University, Japan.
- 3:20 **The Intestinal Barrier Recovering-function of a Gut Microbial Metabolite of Linoleic Acid.** J. Miyamoto^{1,2}, S. Kishino³, T. Suzuki¹, J. Ogawa³, I. Kimura², and S. Tanabe¹, ¹Graduate School of Biosphere Science, Hiroshima University, Japan, ²Graduate School of Agriculture, Tokyo University of Agriculture & Technology, Japan, ³Graduate School of Agriculture, Kyoto University, Japan.
- 3:40 **Lymphatic Absorption and Body Fat Reduction of Structured Conjugated Linoleic Triacylglycerols in Murine Models.** M.Y. Chung¹, H.D. Choi¹, S.K. Noh², and B.H. Kim³, ¹Korea Food Research Inst., Republic of Korea, ²Changwon National University, Republic of Korea, ³Sookmyung Women's University, Republic of Korea.
- 4:00 **Production of Monoacylglycerol via Enzymatic Glycerolysis Using Novel Esterase in Reversed Micellar Solvent System.** S.H. Yoon¹ and P.S. Chang², ¹Woosuk University, Republic of Korea, ²Seoul National University, Republic of Korea.
- 4:20 **Pancreatic Lipase-related Protein 2 as Efficient Tool for *in situ* Bioconversion of Spinach Galactolipids into Fatty Acid Alkyl Esters.** J. Lecomte¹, S. Amara², N. Barouh¹, D. Lafont³, J.D. Rodier⁴,

M. Arnaud⁴, F. Demarne⁴, P. Villeneuve¹, and F. Carrière², ¹CIRAD, UMR IATE, France, ²CNRS, Aix-Marseille Université, France, ³Inst. de Chimie et Biochimie Moléculaires et Supramoléculaires, France, ⁴Gattefossé SA, France.

- 4:40 **Enzymatic Deacidification and Simultaneous Preparation of Phytosterol Esters Enriched Functional Oil by Enzymatic Transesterification.** M.M. Zheng, C. Xu, F.H. Huang, J. Shi, and P.M. Guo, Oil Crops Research Inst., Chinese Academy of Agricultural Sciences, China.

Biotechnology Division

BIO 3.1/IOP 3: Biofuels I

This session developed in conjunction with the Industrial Oil Products Division.

Chairs: H.C. Holm, ©Novozymes A/S, Denmark; and G. Knothe, USDA, ARS, NCAUR, USA

Ballroom E

- 1:55 **Introduction.**
- 2:00 **Diesel R33.** J. Krahl^{1,2}, K. Götz¹, B. Fey³, and J. Bünger^{4,2}, ¹Technology Transfer Center Automotive of Coburg University (TAC), Germany, ²Fuels Joint Research Group, Germany, ³Thünen-Inst., Germany, ⁴Research Inst. for Prevention & Occupational Medicine of the German Social Accident Insurance, Ruhr University Bochum (IPA), Germany.
- 2:20 **Unique Lipids from a Common Algae: Investigating the Biofuel Potential of Commercial *Isochrysis*.** G.W. O'Neil¹, G. Knothe², and C.R. Reddy³, ¹Western Washington University, USA, ²USDA, ARS, USA, ³Woods Hole Oceanographic Institution, USA.
- 2:40 **Low-temperature Phase Behavior of Fatty Acid Methyl Esters**

39

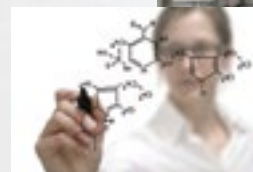
Tuesday | Oral Presentations



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- by **Differential Scanning Calorimetry (DSC)**. R.O. Dunn, USDA, ARS, NCAUR, USA.
- 3:00 **An Overview of the Properties of Fatty Acid Alkyl Esters**. G. Knothe, USDA, ARS, NCAUR, USA.
- 3:20 **Bias and Imprecision in the Determination of Free Glycerine (FG) in B100 Biodiesel: Unexpected Formation of Glycerine Heterophases with Limited Solubility at 23°C**. R.W. Heiden¹ and M. Mittelbach², ¹R.W. Heiden Associates LLC, USA, ²University of Graz, Austria.
- 3:40 **Enzymatic Conversion of Brown Grease to Biodiesel Fuel**. S. Basheer, TransBiodiesel Ltd., Israel.
- 4:00 **New Enzymatic Concept in Crude Oil Transesterification**. P.M. Nielsen,  Novozymes, Denmark.
- 4:20 **Enzymatic Biodiesel—Single Time Use of Enzyme and One Pot Polishing Solution**. A.R. Madsen, P.M. Nielsen, H.C. Holm, T. Balle, and M.K. Bollinger,  Novozymes, Denmark.


Edible Applications Technology Division

EAT 3: Effect of Structure on Lipid Functionality

Chairs: P. Smith,  Cargill R&D Centre Europe, Belgium; and G. Yang, Kellogg, USA

150F

- 1:55 **Introduction**.
- 2:00 **Effects of Oil Load and Homogenization Process on the Palm Olein Oil-in-Water Emulsion Stabilized by β -lactoglobulin Nanofibrils-alginate Complex**. S.K. Ng¹ (*Edible Applications Technology Student Award of Excellence Winner*), K.L. Nyam², O.M. Lai³, I.A. Nehdi⁴, G.H. Chong¹, and C.P. Tan¹, ¹Dept. of Food Technology, Universiti Putra Malaysia, Malaysia, ²Dept. of Food Science & Nutrition, UCSI University, Malaysia, ³Inst. of Bioscience, Universiti Putra Malaysia, Malaysia, ⁴Chemistry Dept., College of Science, King Saud University, Saudi Arabia.
- 2:20 **Raman Analysis of the Liquid–solid Phase Transition of Stearic Acid-based Lipids**. D. Rousseau, E. Serre, O. Dubova, E. Da Silva, and N.L. Green, Ryerson University, Canada.
- 2:40 **Effect of Cooling and Shear Rates on Physicochemical Properties of Binary Fat Blends Based on Shea Stearin**. S. Danthine¹, S. Delatte¹, K.W. Smith², K. Bhaggan³, and C. Blecker¹, ¹University of Liège (GxABT), Belgium, ²Fat Science Consulting Ltd., UK, ³Loders Crocklaan B.V., The Netherlands.
- 3:00 **Preparation of Cocoa Butter Equivalent via Lipase-catalyzed Esterification of 2–monoolein and a Mixture of Fatty Acid Ethyl Esters**. H.R. Park^{1,2}, N.K. Choi^{1,2}, and I.H. Kim^{1,2}, ¹Dept. of Food & Nutrition, Korea University, Republic of Korea, ²Dept. of Public Health Science, Graduate School, Korea University, Republic of Korea.
- 3:20 **Structured Lipids and Specialty Fats: A Novel Class of Products**. V. Gibon, Desmet Ballestra Group, Belgium.

- 3:40 **Physical and Chemical Characterization of Interesterified Brazilian Pequi Oil**. A.M.M. Guedes¹, R. Antoniassi¹, M.C. Galdeano¹, R. Grimaldi², M.G. de Carvalho³, and A.E. Wilhelm¹, ¹Embrapa Food Technology, Brazil, ²School of Food Engineering, University of Campinas (UNICAMP), Brazil, ³Federal Rural University of Rio de Janeiro (UFRRJ), Brazil.
- 4:00 **Reduction of Oil Migration Using High Intensity Ultrasound**. Z. Cooper, M. Kimball, and S. Martini, Utah State University, USA.
- 4:20 **Saturated Specialty Diglycerides as Oil Structuring Agents for the Replacement of Partially Hydrogenated Oils with Reduced Total Saturated Fat Content**. J.B. Botts, J. Robertson, and M.E. Walsh,  Corbion, USA.

Edible Applications Technology Division

EAT 3.1: Confectionary Fats

Chairs: D.A. Kim, Mondelēz, USA; and J. Komaiko, University of Massachusetts Amherst, USA

151G

- 1:55 **Introduction**.
- 2:00 **Keynote Presentation: Chocolate Microstructure: From Bean to Bar**. K. Dewettinck, Lab. of Food Technology & Engineering, Ghent University, Belgium.
- 2:40 **Study the Mechanism of Diffusion in Different Cocoa Butter System Using Magnetic Resonance Imaging**. H. Wang and F. Maleky, Ohio State University, USA.
- 3:00 **Physical Properties of Dark Chocolate Made of Cocoa Butter/SSO-fat/OSO-fat Mixtures Forming Molecular Compound Crystals**. S. Watanabe¹, F. Yokomizo¹, and K. Sato², ¹Oil & Fat Development Dept., Fuji Oil Co. Ltd., Japan, ²Hiroshima University, Japan.
- 3:20 **Phase Behavior of Cocoa Butter-alternative Fats Mixtures**. N.I. Murillo-Hernández and E. Dibildox-Alvarado, Universidad de Autónoma de San Luis Potosí, Mexico.
- 3:40 **Enzymatic Interesterification and Dractionation of Palm Mid Fraction and Algal Shea Stearin to Synthesize Cocoa Butter Equivalent**. S. Mirzaee Ghazani¹, W.G. Rakitsky², and A.G. Marangoni¹, ¹University of Guelph, Canada, ²Solazyme, Inc., USA.
- 4:00 **Processing and Compositional Effects on the Physical Chemistry of Palm-based Confectionary Models**. R. West and D. Rousseau, Ryerson University, Canada.

Exhibitor Presentations

EXH 2: Technology Showcase II

Ballroom D

- 1:55 **Introduction**.
- 2:00 **PQ SORBSIL® Silica Gels for Oil Purification**. H. Hogel and N. Miller,  PQ Corp., USA.
- 2:20 **Shelf Life Study of Chia Seeds (*Salvia hispanica* L.) Grown in Southern Italy**. M.C. Caruso¹, T. Scarpa¹, M. Amato¹, S. Corti², N. Condelli¹, R. Boichichio¹, F. Galgano¹, and S. Corno^{2*}, ¹School of Agriculture, Forestry, Food, & Environmental Science, University of Basilicata, Italy, ²Velp Scientifica srl, Italy.
- 2:40 **Practical Application of In-line Photometry for Improved Refining of Fats, Oils, and Related Products**. J. Lukas, Optek-Danulat, Inc., USA.
- 3:00 **Encapsulation—Revolymers' Novel Approach Opens Up New Possibilities for Home Care and Personal Care Products**. R. Hay and D.A. Pears, Revolymers, UK.

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H&N 3: The Role of Lipid Mediators in Essential Pro- and Anti-inflammatory Responses

This session sponsored in part by Johnson & Johnson Consumer Inc. and Waters Corp.

Chairs: A.P. Kitson, University of Toronto, Canada; and K.D. Stark, University of Waterloo, Canada

Ballroom I

- 1:55 **Introduction.**
- 2:00 **The Role of Bioactive Lipid Mediators in the Regulation of Cutaneous Inflammation.** A.C. Kendall and A. Nicolaou, Manchester Pharmacy School, University of Manchester, UK.
- 2:40 **Regulation of Brain Oxidized Linoleic Acid Metabolite Concentrations by Diet and Hypoxia.** A.Y. Taha, Dept. of Food Science & Technology, University of California, Davis, USA.
- 3:20 **Effect of Dietary Fat Composition on the Development and Severity of Metabolic Inflammation.** T. Xu, K.H. Hintze, M. Lefevre, and R.E. Ward, Nutrition, Dietetics, & Food Sciences, Utah State University, USA.
- 3:40 **Oxygenated Bioactive Lipids Derived from Fatty Acids: Composition Data Reveals Novel Effects of Dietary Fatty Acids.** H. Aukema, University of Manitoba, Canada.
- 4:20 **Specialized Pro-resolving Mediator Biosynthesis from Omega-3 Fatty Acids Brings Resolution of Inflammation.** R.E. Abdulnour^{1,2}, ¹Brigham & Women's Hospital, USA, ²Harvard Medical School, USA.

H&N 3.1/PHO 3: Delivery Systems

This session developed in conjunction with the Phospholipid Division.

This session sponsored in part by Johnson & Johnson Consumer Inc.

Chairs: M. Rebmann, Perimondo, USA; and K. Mahmood, Johnson & Johnson Consumer Inc., USA

150D

- 1:55 **Introduction.**
- 2:00 **Topical Delivery Enhancement of Actives into Skin by Lipid Based Vesicular Systems.** J. Paturi, Johnson & Johnson Consumer Inc., USA.
- 2:20 **In vitro Digestibility and Bioaccessibility of Lipid-based Delivery Systems Obtained via Enzymatic Glycerolysis: A Case Study of Rosemary Extract Bioactivity.** M. Corzo-Martínez¹, T. Vargas¹, L. Vázquez², G. Reglero^{1,2}, A. Ramírez de Molina¹, and C.F. Torres², ¹Inst. of Food Science Research, CIAL (CSIC-UAM), Spain, ²IMDEA-Food Inst., CEI (UAM-CSIC), Spain.
- 2:40 **Increasing Bioavailability of Lipophilic Nutraceuticals: The Effects of Mixed Micelles.** J. Chen^{1,2}, F. Li¹, D.J. McClements¹, and H. Xiao¹, ¹University of Massachusetts Amherst, USA, ²State Key Lab. of Food Science & Technology, Jiangnan University, China.
- 3:00 **Nanoscale Dendritic Macromolecules as a Potent Drug Carrier and Solubilization of Non-steroidal Anti-inflammatory Drugs.** P.M. Patel, V.P. & R.P.T.P. Science College, India.
- 3:20 **Synthesis and Characterization of Polymeric Hydrogels for Drug Preparation and Its Release Study.** N. Prajapati¹, N. Patel², and V. Sinha¹, ¹Industrial Chemistry Dept., V.P. & R.P.T.P. Science College, India, ²Inst. of Science & Technology for Advanced Studies & Research Vallabh Vidyanagar, India.
- 3:40 **Improved Stabilisation of Concentrated Oil-in-Water Emulsions by Complexing Soy Protein with k-carrageenan.** I. Tavernier¹, P. Van der Meer², K. Dewettinck¹, and A.R. Patel¹, ¹Lab of Food Technology & Engineering, Ghent University, Belgium, ²Particle &



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Interfacial Technology Group, Dept. of Applied Analytical & Physical Chemistry, Belgium.

- 4:00 **Interfacial Behavior of Milk Polar Lipids and Their Influence on Gastric Lipase Adsorption: A Natural Effective Delivery System.** C. Bourlieu^{1,4}, W. Mahdoueni¹, G. Paboeuf², S. De Oliveira¹, S. Pezenec¹, J.F. Cavalier³, S. Bouhallab¹, D. Dupont¹, P. Villeneuve⁴, F. Carrière³, and V. Vié², ¹INRA-AGROCAMPUS, France, ²IPR Inst. of Physics, Rennes University, France, ³CNRS, Aix-Marseille Université, France, ⁴CIRAD, UMR IATE, France.
- 4:20 **Characterization of Intestinal Digestion of Ceramide 2-aminoethylphosphonate, a Marine Sphingolipid.** N. Tomonaga, D. Qi, Y. Manabe, and T. Sugawara, Div. of Applied Biosciences, Graduate School of Agriculture, Kyoto University, Japan.

Health and Nutrition Division

H&N 3.2: Sterols

Chairs: L. Nyström, ETH Zurich, Switzerland; and J.K. Winkler-Moser, USDA, ARS, NCAUR, USA

Ballroom A

- 1:55 **Introduction.**
- 2:00 **George Schroepfer Medal Award Lecture.** S.L. Kelly (*George Schroepfer Medal Award Winner*), Inst. of Life Science & College of Medicine, Swansea University, UK.
- 2:40 **Translational Opportunities in Metabolic Engineering Plant Sterol Metabolomes.** W. Zhou^{1,2}, J. Li², D. Zhang², J. Batley², M. Anderson⁴, K. Wu⁵, S.M. Smith^{1,3}, and W.D. Nes¹, ¹Texas Tech University, USA, ²University of Western Australia, Australia, ³University of Tasmania, Australia, ⁴Hexima, Australia, ⁵Chinese Academy of Agricultural Sciences, China.
- 3:00 **Susceptibility of Plant Sterols for Oxidation, Formation of Plant Sterol Oxidation Products in Foods, and Their Estimation of Daily Intake.** E.A. Trauwtein, Y. Lin, and D. Knol, Unilever Research & Development Vlaardingen, The Netherlands.
- 3:20 **Distinct Functions of Cycloartenol-derived Sterols in Plants.** H. Schaller, CNRS, IBMP, Université de Strasbourg, France.
- 3:40 **Radical Entrapping for Studying the Oxidation of Phytosteryl Phenolates.** M.J. Lehtonen, D. Zhu, S. Boulos, and L. Nyström, Inst. of Food, Nutrition, & Health, ETH Zürich, Switzerland.
- 4:00 **Plant Sterols—Market Perspective and Emerging Research.** J. Moritz, BASF Corp., USA.
- 4:20 **Inhibition of the Growth and Development of Insects Feeding on Leaves of Arabidopsis by Modifying Plant Sterol Composition.** W. Zhou¹, J. Li², W. Li³, J. Fox⁴, Z. Chu⁵, J. Guo^{2,3}, H. Guo⁶, H. Cheng⁶, J. Batley², D. Zhang¹, M. Anderson⁴, K. Wu³, S.M. Smith^{7,8}, ¹Centre for Energy, University of Western Australia, Australia, ²School of Plant Biology, University of Western Australia, Australia, ³Inst. of Plant Protection, Chinese Academy of Agricultural Sciences, China, ⁴Hexima Ltd., Australia, ⁵College of Sciences, South China Agricultural University, China, ⁶Inst. of Biotechnology Research, Chinese Academy of Agricultural Sciences, China, ⁷School of Biological Sciences, University of Tasmania, Australia, ⁸Inst. of Genetics & Developmental Biology, Chinese Academy of Sciences, China.

Industrial Oil Products Division

IOP 3/BIO 3.1: Biofuels I

This session developed in conjunction with the Biotechnology Division.

Chairs: H.C. Holm, Novozymes A/S, Denmark; and G. Knothe, USDA, ARS, NCAUR, USA

Ballroom E

Joint session: For details, see BIO 3.1/IOP 3, on page 39.

Lipid Oxidation and Quality Division

LOQ 3a: Advances in Lipid Oxidation and Antioxidants—Fundamentals and Applications

Chairs: S. Bis, Kemin Industries Inc., USA; and F. Shahidi, Memorial University of Newfoundland, Canada

Ballroom H

- 1:55 **Introduction.**
- 2:00 **Antioxidants, Oxidation Control, and Impact on Food Quality.** F. Shahidi, Dept. of Biochemistry, Memorial University of Newfoundland, Canada.
- 2:20 **Antioxidant Preservation of Meat Slurry for Pet Food.** S. Cutler, Kemin Industries, Inc., USA.
- 2:40 **Controlling Lipid Oxidation in Oil-in-Water Emulsions with Polyphenol Coated Active Packaging Films.** M.J. Roman¹ (*Honored Student Award Winner, The Manuehr Eijadi Award Winner, and Ralph H. Potts Memorial Fellowship Award Winner*), E.A. Decker^{1,2}, and J.M. Goddard¹, ¹Dept. of Food Science, University of Massachusetts Amherst, USA, ²Bioactive Natural Products Research Group, Dept. of Biochemistry, King Abdulaziz University, Saudi Arabia.
- 3:00 **Effects of Ferrous Iron, Blends of Tocopherol and Rosemary Extract, as well as Fruit Extracts on Oxidative Stability of Extruded Low Moisture Foods.** M. Hu, DuPont Nutrition & Health, USA.

Lipid Oxidation and Quality Division

LOQ 3b: Frying Oils—Applications, Quality, and Chemistry

Chairs: R.A. Della Porta, Frito-Lay, Inc., USA; J.K. Winkler-Moser, USDA, ARS, NCAUR, USA; and D.R. Johnson, University of Massachusetts Amherst, USA

Ballroom H

- 3:35 **Introduction.**
- 3:40 **Stabilizing Frying Oils—What Are We Missing?** X. Tian and J.G. Redwine, Kalsec Inc., USA.
- 4:00 **Amino Acids as Antioxidants for Frying Oil.** H.S. Hwang and J.K. Winkler-Moser, USDA, ARS, NCAUR, USA.
- 4:20 **The Role of Hydrophilic Antioxidants on the Chemical Stability of Algae Oil Organogel.** B.C. Chen¹ and E.A. Decker², ¹North Dakota State University, USA, ²University of Massachusetts Amherst, USA.
- 4:40 **Influence of Charged Surface-active Compounds on Lipid Oxidation in Oils Containing Association Colloids.** R. Homma^{1,2}, E.A. Decker², and D.J. McClements², ¹Kao Corp., Japan, ²University of Massachusetts Amherst, USA.

Phospholipid Division

PHO 3/H&N 3.1: Delivery Systems

This session developed in conjunction with the Health and Nutrition Division.

This session sponsored in part by Johnson & Johnson Consumer Inc.

Chairs: M. Rebmann, Perimondo, USA; and K. Mahmood, Johnson & Johnson Consumer Inc., USA

150D

Joint session: For details, see H&N 3.1/PHO 3, on page 41.

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Product Scientist, Blue Diamond Growers, Sacramento, California, USA

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Processing Division

PRO 3: By-products*Chairs: A.A. Demarco, Desmet Ballestra Group, Argentina; and S.R. Lewis, Solenis, USA***Ballroom F**

- 1:55 **Introduction.**
- 2:00 **Extraction, Properties, and Applications of Cruciferin and Napin from Canola Meal.** F. Pudel¹, R.P. Tressel¹, and K. Düring², ¹Pilot Pflanzenöltechnologie Magdeburg e.V., Germany, ²Axara Consulting, Germany.
- 2:20 **Biological Salmonellicide.** L. Palacios, Molinos Rio de la Plata SA, Argentina.
- 2:40 **Enzymatic Gums Deoiling: A Flexible Process for Increasing Oil Yield.** W. De Greyt¹ and A.A. Demarco², ¹Desmet Ballestra Group, Belgium, ²Desmet Ballestra, Group, Argentina.
- 3:00 **Deep Extraction and Enzymatic Degumming.** L. Palacios, Molinos Rio de la Plata, Argentina.
- 3:20 **Dynamic Composition of the Alga *Nannochloropsis* sp. at Five Geographical Location Sites, with an Emphasis on High-value Omega-3 Fatty Acids as Co-products in a Biofuels Production Process.** L.M.L. Laurens¹, E.P. Knoshaug¹, T.A. Dempster², P.T. Pienkos¹, and J. McGowen², ¹National Renewable Energy Lab., USA, ²Arizona State University, USA.
- 3:40 **Antioxidant Activity and Chemical Composition of Extracts from Different Processed Rapeseed Waste Gums.** J. Li and Z. Guo, Aarhus University, Denmark.

Protein and Co-Products Division

PCP 3: Protein Interactions in Food Systems*Chairs: N.S. Hettiarachchy, University of Arkansas, USA; R.E. Aluko, University of Manitoba, Canada; and J.P.D. Wanasundara, Agriculture & Agri-Food Canada, Canada***150A**


- 1:55 **Introduction.**
- 2:00 **Lipid Co-oxidation of Proteins: One Mechanism Does Not Fit All Foods.** K.M. Schaich, Rutgers University, USA.
- 2:40 **Plant Protein-polysaccharide Complexes for Improved Functionality in Food Systems.** L. Chen, M. Japar, C. Yang, and Z. Tian, University of Alberta, Canada.
- 3:00 **Maillard-induced Glycation of Whey Protein: Effect on Molecular Configuration, Solubility, and Thermal Stability.** B.M. Ismail, University of Minnesota, USA.
- 3:40 **Formation, Stability, and Application of Pulse Protein-stabilized Nanoemulsions.** S. Ghosh, M. Yerramilli, A. Duchek, M. Primozic, and M. Nickerson, University of Saskatchewan, Canada.
- 4:20 **Effects of Isoelectric Point (pI) and Hydrophobicity of Peptides in Emulsion System.** E.Y. Park^{1,2}, H. Miya², Y. Nakamura², K. Matsumiya³, Y. Matsumura³, and K. Sato⁴, ¹Dept. of Food Science & Technology, Korea Christian University, Republic of Korea, ²Dept. of Food Sciences & Nutritional Health, Kyoto Prefectural University, Japan, ³Div. of Agronomy & Horticultural Science, Kyoto University, Japan, ⁴Div. of Applied Biosciences, Kyoto University, Japan.
- 4:40 **Metal-binding to Linusorb Orbitides.** Y. Zuo^{1,2}, Y.Y. Shim^{2,3}, P.D. Jadhav², J. Shen², N. Zhang¹, Y. Wang¹, and M.J.T. Reaney^{2,3}, ¹Guangdong Saskatchewan Oilseed (GUSTO) Joint Lab., Dept. of Food Science & Engineering, Jinan University, China, ²Dept. of Plant Sciences, University of Saskatchewan, Canada, ³Prairie Tide Chemicals Inc., Canada.

Society of Cosmetic Chemists

SCC 3: The Skin Microbiome—Untold Stories Workshop*Organizer: N. Dayan, Dr. Nava Dayan LLC, USA***Ballroom C**

- 2:00 **Introduction to the Skin's Microbiome.** R.J. Gadberry, Cosmetic Sciences, UCLA Extension, USA.
- 2:30 **The Scalp Microbiome and Associated Disorders.** N. Dayan, Dr. Nava Dayan LLC, USA.
- 3:10 **Innate Defenses of Human Skin and Potential Use of Lipids as Antimicrobial Agents.** C.L. Fischer, University of Iowa, USA.
- 3:40 **Metabolic Activity of the Skin Microbiome: Is Our First Line of Defense Sleeping on the Job? Investigating the Relative Activity and Viability of the Skin Microbiome.** S.A. Cummins, University of Indiana, USA.
- 4:10 **Changes in Hands' Skin Microbiota Associated with Skin Damage in Health Care Workers.** S. Farahmand, Living Proof, USA.
- 4:40 **Q&A and Panel Discussion.**

Surfactants and Detergents Division

S&D 3: Journal of Surfactants and Detergents (JSD) Selected Papers*Chairs: G.A. Smith,  Huntsman Performance Products, USA; C. Rodriguez-Abreu, International Iberian Nanotechnology Lab. (INL), Portugal; and N.A. Falk, Clorox Services Co., USA***Ballroom B**

- 1:55 **Introduction.**
- 2:00 **HLD Optimum Formulation as the Main Principle for Breaking Emulsions: Recent Advances on the Demulsifier Performance in Crude Oil Dewatering.** J.L. Salager, A.M. Forgiarini, and J.G. Delgado, Lab FIRP, University of the Andes, Venezuela.
- 2:40 **Capillary Curves for the Design of Cleaning Processes.** S. Quraishi, M. Bussmann, and E.J. Acosta, University of Toronto, Canada.
- 3:00 **Surfactants Based on Bis-galactobenzimidazolones: Synthesis, Self-assembly, and Ion Sensing Properties.** L. Lakhri^{1,3}, N. Hassan², B. Lakhri¹, M. Massoui³, E.M. Essasi³, J.M. Ruso², C. Solans⁴, and C. Rodriguez-Abreu⁵, ¹Universite Ibn Tofail, Morocco, ²University of Santiago de Compostela, Spain, ³Universite Mohamed V, Morocco, ⁴Consejo Superior de Investigaciones Cientificas (CSIC), Spain, ⁵International Iberian Nanotechnology Lab. (INL), Portugal.
- 3:20 **Viscoelastic Behavior of Alkyl Ether Sulfate Systems Containing Sodium Carbonate.** S.T. Adamy,  Church & Dwight Co., Inc., USA.
- 3:40 **Cold-water Detergency of Vegetable Oils and Semi-solid Fats Using Surfactant Mixtures: HLD Concept and Initial Probing of Mechanisms.** L.D. Do¹, C. Attaphong², J.F. Scamehorn³, and D.A. Sabatini³, ¹Corsitech, USA, ²King Mongkut's Inst. of Technology, Thailand, ³University of Oklahoma, USA.
- 4:00 **Elucidation of the Mechanism of Softening Effect of Fabric Softener.** T. Igarashi, N. Morita, Y. Okamoto, and K. Nakamura,  Kao Corp., Japan.
- 4:20 **Properties of Surfactants Based on Sulfoxide Esters.** B.P. Grady, University of Oklahoma, USA.
- 4:40 **Performance of New Biodegradable Di-sulfonate Surfactants as Hydrotropes in High temperature and Salinity Environments.** C.J. Tucker, A.M. Behhe, and E.D. Daus, The Dow Chemical Co., USA.



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Wednesday Morning

Analytical Division

ANA 4: Analysis of Olive and Other Value-added Oils

This session is sponsored in part by  Eurofins Central Analytical Labs.

Chairs: R.J. Mailer, Australian Oils Research, Australia; and B. Musselman, IonSense, USA

Ballroom J

7:55 Introduction.

8:00 **A Novel Analytical and Chemometric Approach to Survey Quality and Origin of Olive Oil.** C. Gertz, Maxfry GmbH, Germany.

8:20 **A Survey of Extra Virgin Olive Oils to Test for Adulteration: Application of a Newly Developed FT-NIR Spectroscopic Methodology.** M.M. Mossoba¹, H. Azizian², A.R. Fardin Kia¹, S.R. Karunathilaka¹, J.K. Chung¹, and J.K.G. Kramer³, ¹US Food & Drug Administration, USA, ²NIR Technologies, Canada, ³Guelph Food Research Center, Agriculture & Agri-Food Canada, Canada.

8:40 **Elucidation of Off-flavors in Native Cold-pressed Rapeseed Oils Using the Molecular Sensory Science Concept.** M. Granvogl and K. Matheis, Technical University of Munich, Germany.


9:20 **Fatty Acid and Sterol Profiles of US-produced Olive Oils.** S.C. Wang, Olive Center, University of California, Davis, USA.

9:40 Networking Break.

10:20 **Identification of Olive Oil Cultivars Using LC-MS and Statistical Analysis.** B. Seward, C. Stacey, S. Palmer, and R.J. Packer*, PerkinElmer, USA.

10:40 **GCMS for QC of Plant Essential Oils: Speciation, Authentication, and Stereochemical Determination without Derivatization or Chiral Column.** M.W. Bernart and J.J. Plant, Pharmatech Inc., USA.

11:00 **Rice Bran Oil: Challenge of Quality Assessment.** T.H. Tran¹, D.P. Nguyen¹, T.M.T. Nguyen², and T. Dao³, ¹Cai Lan Oils & Fats Industries Co., Ltd., Vietnam, ²Hanoi University of Science & Technology, Vietnam, ³HCMC University of Food Industry, Vietnam.

11:20 **Quality Assessment of Extra Virgin Olive Oil with FT-NIR Spectroscopy.** D. Behmer¹, C. Gertz², and D.E. Roberts*³, ¹Bruker Optik GmbH, Germany, ²Maxfry GmbH, Germany, ³ Bruker Optics Inc., USA.

Biotechnology Division

BIO 4: Plant Lipid Biotechnology and Genomics

This session sponsored in part by Alberta Innovates Phytola Centre.

Chairs: R.J. Weselake, University of Alberta, Canada; and J.L. Harwood, School of Biosciences, Cardiff University, UK

Ballroom G

7:55 Introduction.

8:00 **Improved Chia Production and Development of NIRS Calibrations.** D.F. Hildebrand, University of Kentucky, USA.

8:20 **Evaluation of Agronomic and Seed Quality Traits in Conventional High Oleic Soybeans.** L.K. Richardson, H. Bhandari, F. Chen, T. Hewezi, and V. Pantalone, University of Tennessee, USA.

8:40 **Non-GMO Tilling for Oil Traits.** D. Facciotti, I. Dickey, D. Loeffler, C. McGuire, and J. Goodstal, Arcadia Biosciences, USA.

9:00 **Spatial Distribution of Lipid Molecular Species During Oil Accumulation in Developing Oilseed Rape Embryos.** H.K. Woodfield¹, D. Sturtevant², I.A. Guschina¹, K.D. Chapman², and J.L. Harwood*¹, ¹Cardiff University, UK, ²University of North Texas, USA.

9:20 **The Challenge of Making Hydroxy Fatty Acids in Transgenic Plants.** T.A. McKeon, USDA, ARS, WRRR, USA.

9:40 **Characteristics of Arabidopsis GPAT9.** G. Chen^{1,2}, S.D. Singer¹, E. Mietkiewska¹, P. Tomasi³, K. Jayawardhane¹, J.M. Dyer³, and

R.J. Weselake¹, ¹Dept. of Agricultural, Food, & Nutritional Science, University of Alberta, Canada, ²Dept. of Biological Sciences, University of Manitoba, Canada, ³USDA, ARS, Arid-Land Agricultural Research Center, USA.

10:00 Networking Break.

10:20 **Metabolic Engineering and Field Production of Camelina that Accumulate Acetyl-TAG Oils with Reduced Crystallization Temperature, Viscosity, and Calories.** J.B. Ohlrogge^{1,2}, J. Liu^{1,2}, R.L. Evangelista³, T.A. Isbell³, M.J. Pollard^{1,2}, and T.P. Durrett⁴, ¹Dept. of Plant Biology, Michigan State University, USA, ²Great Lakes Bioenergy Research Center, USA, ³USDA, ARS, NCAUR, Bio-Oils Research Unit, USA, ⁴Dept. of Biochemistry & Molecular Biophysics, Kansas State University, USA.

11:00 **Metabolic Engineering of Arabidopsis and Temperate Oilseed Crops to Produce Punicic Acid.** E. Mietkiewska¹, R. Miles¹, A. Wickramaratna¹, A. Scheick², S. Shah¹, Z. Song¹, A.F. Sahibollah¹, M.S. Greer¹, C.J. Field¹, and R.J. Weselake*¹, ¹Dept. of Agricultural, Food, & Nutritional Science, University of Alberta, Canada, ²Bioresources Technologies, Alberta Innovates Technology Futures, Canada.


11:20 **Maximizing TAG Accumulation in Plant Biomass by Combinatorial Metabolic Engineering.** J.R. Petrie, T. Vanhercke, A.G. Green, and S.P. Singh, CSIRO, Australia.

11:40 **Sustainable Improvement of Oil Palm Through Biotechnology.** G.K.A. Parveez, R. Singh, M.O. Abdullah, E.T.L. Low, O.A. Rasiid, M.A.A. Manaf, and R. Sambanthamurthi, Malaysian Palm Oil Board, Malaysia.

Biotechnology Division

BIO 4.1/S&D 4: Biosurfactants and Biodetergents

This session developed in conjunction with the Surfactants and Detergents Division.

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

Ballroom D

7:55 Introduction.

8:00 **A Survey of Biosurfactant Rhamnolipid Production and Applications.** D.K.Y. Solaiman and R.D. Ashby, USDA, ARS, ERRC, USA.

8:20 **Rhamnolipid Composition, Modification, and Soil Adsorption.** S. Miao^{1,3}, S. Soltani Dashtbozorg^{1,2}, A. Sancheti¹, K. Invally¹, and L.K. Ju*¹, ¹University of Akron, USA, ²Chromatan Corp., USA, ³George Washington University, USA.

8:40 **A New Synthetic Platform to Create Known and Novel Bioinspired Glycolipids.** C.J. Boxley¹, J.E. Pemberton², and R.M. Maier², ¹GlycoSurf, LLC, USA, ²University of Arizona, USA.

9:00 **Novel Sophorolipid-based Biosurfactants by Metabolic Engineering: Production and Application.** I.N.A. Van Bogaert¹, S.L.K.W. Roelants², and W. Soetaert^{1,2}, ¹Ghent University, Belgium, ²Bio Base Europe Pilot Plant, Belgium.

9:20 **Sophorolipid Modifications: Advantages of a New Pathway.** D.W.G. Develter, Ecover Coordination Centre, Belgium.

9:40 Networking Break.

10:20 **Surfactants Based on Algae Oil.** G.A. Smith,  Huntsman Performance Products, USA.

11:00 **Next Generation Castor Oil Ethoxylates.** H.E. Byrne, G.A. Smith, M.T. Meredith, and C. Cleary,  Huntsman Performance Products, USA.

11:20 **New and Emerging Biobased Surfactants: A Review.** D.G. Hayes, University of Tennessee, USA.

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Wednesday | Oral Presentations

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BIO 4.2/IOP 4: Biofuels II

This session developed in conjunction with the Industrial Oil Products Division.

Chairs: T. Aki, Hiroshima University, Japan; and R.M. Burton, Novozymes North America, USA

Ballroom E

7:55 **Introduction.**

8:00 **Influence of Corn Oil Recovery on Life-cycle Greenhouse Gas Emissions of Corn Ethanol and Corn Oil Biodiesel.** Z. Wang¹, J.B. Dunn², J. Han², and M.Q. Wang², ¹EcoEngineers LLC, USA, ²Systems Assessment Group, Energy System Div., Argonne National Lab., USA.

8:20 **Novel Alpha-amylase Technology for Enhanced Fermentation Efficiency and Corn Oil Recovery in Industrial Biofuel Production.** P. Mandulak, R.M. Burton*, J. Matthews, and K. Bertz,  Novozymes North America, USA.

8:40 **Maximizing Oil Recovery from Corn-soy Slurry after Fermentation with *Saccharomyces cerevisiae*.** J.K. Sekhon^{1,2}, K.A. Rosentrater^{1,2,3}, and S. Jung⁴, ¹Dept. of Food Science & Human Nutrition, Iowa State University, USA, ²Center for Crops Utilization Research, USA, ³Dept. of Agricultural & Biosystems Engineering, Iowa State University, USA, ⁴Dept. of Food Science & Nutrition, California Polytechnic State University, San Luis Obispo, USA.

9:00 **Keynote Presentation: Fuels from Oils and Fats: Recent Developments and Perspectives.** M. Mittelbach, University of Graz, Austria.

9:40 **Networking Break.**

10:20 **Production of Biomethane and Functional Lipids from Marine Macroalgae.** T. Aki^{1,2}, K.H.V. Arafiles^{1,2}, K. Watanabe^{1,2}, Y. Okamura^{1,2}, T. Tajima^{1,2}, Y. Nakashimada^{1,2}, and Y. Matsumura^{1,2}, ¹Hiroshima University, Japan, ²JST-CREST, Japan.

10:40 **Impact of Biochemical Composition on Susceptibility of Algal Biomass to Acid-catalyzed Pretreatment for Sugar and Lipid Recovery.** T. Dong, N.J. Nagle, P.T. Pienkos, and L.M.L. Laurens*, National Renewable Energy Lab., USA.

11:00 **Confocal Raman Microscopy for Quantitative Analysis of Microalgal Lipid Contents: An Integrative Workflow for Rapid *in situ* Analysis.** S.K. Sharma¹, D.R. Nelson², R. Abdrabu², B. Khraiwesh², K. Jijakli², M.J. O'Connor³, T. Bahmani², H. Cai², S. Khapli^{1*}, R. Jagannathan¹, and K. Salehi-Ashtiani², ¹Div. of Engineering, New York University Abu Dhabi, United Arab Emirates, ²Lab. of Algal, Systems, & Synthetic Biology, Div. of Science & Math, Center for Genomics & Systems Biology (CGSB), New York University Abu Dhabi, United Arab Emirates, ³Core Technology Platform, New York University Abu Dhabi, United Arab Emirates.

11:20 **Integration of Experimental Systems with Engineering Process Modeling for Sustainability Assessment of Microalgal Biofuel Systems.** J.C. Quinn, Mechanical & Aerospace Engineering, Utah State University, USA.

11:40 **Closing Remarks.**

Edible Applications Technology Division

EAT 4/S&D 4.2: Delivery and Dispersed Systems

This session developed in conjunction with the Surfactants and Detergents Division.

Chairs: S. Ghosh, University of Saskatchewan, Canada; and E. Szekeres, Method Products, Inc., USA

150F

7:55 **Introduction.**

8:00 **Engineering Interface of Encapsulation Systems to Limit Oxidation and Controlling Release of Bioactives.** N. Nitin¹, Y. Pan¹, and R.V. Tikekar², ¹University of California, Davis, USA, ²Dept. of Nutrition & Food Science, University of Maryland, USA.

8:40 **Forming Essential Oil-loaded Hollow Solid Lipid Micro- and Nanospheres with Antimicrobial Properties Using Supercritical Fluid Technology.** J. Yang, C.R. Kok, R. Hutkins, and O.N. Ciftci*, Dept. of Food Science & Technology, University of Nebraska-Lincoln, USA.

9:00 **Multilayered Interfaces to Delay *in vitro* Lipolysis in O/W Emulsions.** M. Corstens¹, C.C. Berton-Carabin¹, A. Kester¹, R. Fokkink², H. van den Broek², R. de Vries², F. Troost³, A. Masclee³, and C.G.P.H. Schroën¹, ¹Food Process Engineering, Dept. of Agrotechnology & Food Sciences, Wageningen University, The Netherlands, ²Physical Chemistry & Colloid Science Group, Dept. of Agrotechnology & Food Sciences, Wageningen University, The Netherlands, ³Div. of Gastroenterology-Hepatology, Dept. of Internal Medicine, Maastricht University Medical Centre, The Netherlands.

9:20 **Studies on Preparation of Margarine from Di-acyl Glycerol Rich Oleogel.** M. Ghosh¹, D.K. Bhattacharyya¹, N.R. Bandyopadhyay¹, and M. Ghosh², ¹Indian Inst. of Engineering Science & Technology, IIST, India, ²University of Calcutta, India.

9:40 **Networking Break.**

10:20 **An In-depth Look at the Stabilization Factors Behind Low to Very Low Fat Spreads.** K. Bhattacharya and P.G. Kirkeby, DuPont Nutrition Biosciences Aps, Denmark.

10:40 **Fully Water-dilutable Microemulsions for Delivery of Riboflavin.** N. Garti, N. Lidich, and A. Aserin, Hebrew University, Israel.

11:00 **Microfluidics to Study Emulsifier Adsorption and Emulsion Stability.** K. Muijlwijk, C.C. Berton-Carabin, and C.G.P.H. Schroën, Wageningen University, The Netherlands.

11:20 **Construction and Properties of Curcumin-encapsulated Cubic Liquid Crystals.** Z. Wang, X. Liu, L. Zhang, F. Guo, X. Zhao, and L. Fu, College of Chemistry, Chemical Engineering, & Materials Science, Collaborative Innovation Center of Functionalized Probes for Chemical Imaging in Universities of Shandong, Shandong Normal University, China.

11:40 **The Effect of Contact Force on Coalescence of Water Droplets Suspended in Bitumen.** S. Goel¹, S. Ng², and A. Ramachandran¹, ¹University of Toronto, Canada, ²Syncrude Canada Ltd., Canada.

Edible Applications Technology Division

EAT 4.1/IMG 3: Length Scales and Lipids

This session developed in conjunction with the Agricultural Microscopy Division (Imaging Techniques Interest Area).

Chairs: K.B. Koch, North Dakota State University, USA; and C. Rogers-Kelly, Mississippi State Chemical Lab, USA

151G

7:55 **Introduction.**

8:00 **Influence of Maillard Conjugation on the Stability of Emulsion-based Delivery Systems: Lutein-enriched Corn Oil Emulsions at Different pH and Temperature Conditions.** C.E. Gumus¹ (*Hans Kaunitz Award Winner*), G. Davidov-Pardo^{1,2}, and D.J. McClements^{1,3}, ¹Dept. of Food Science, University of Massachusetts Amherst, USA, ²Dept. of Human Nutrition & Food Science, California State Polytechnic University, USA, ³Dept. of Biochemistry, King Abdulaziz University, Saudi Arabia.

8:20 **Surfactant-free Solid Lipid Nanoparticles Prepared with Novel Synthetic Ultra-long Chain Fatty Acyl Based Amphiphilic Lipids.** W. Wei^{1,2} (*Honored Student Award Winner*), F. Feng², B.C. Pérez¹, M. Dong¹, H. Mu³, X. Xu¹, and Z. Guo¹, ¹Aarhus University, Denmark, ²Zhejiang University, China, ³University of Copenhagen, Denmark.

8:40 **Shear-induced Aggregate Creation or Destruction in Edible Oils: Models and Computer Simulation.** B. Townsend¹, N. Callaghan-Patrarachar², F. Peyronel¹, K. Ramadurai³, A.G. Marangoni¹, and D.A. Pink^{2,1}, ¹Dept. of Food Science, University of Guelph, Canada, ²Physics Dept., St. Francis Xavier University, Canada, ³Dept. of Mathematics, College of the North Atlantic, Canada.

- 9:00 **Organogels of Comprised of a Cyclic Peptide from Flaxseed Oil.** M.A. Rogers¹ and M.J.T. Reaney², ¹University of Guelph, Canada, ²University of Saskatchewan, Canada.
- 9:20 **Which Length Scales are Affected in Sheared Edible Fat Systems?** F. Peyronel¹, D.A. Pink^{2,1}, and A.G. Marangoni¹, ¹University of Guelph, Canada, ²St. Francis Xavier University, Canada.
- 9:40 **Networking Break.**
- 10:20 **CLA-rich Chocolate Bar and Chocolate Paste Production and Characterization.** S.E. Mayfield¹, D. Van de Walle², C. Delbaere², S.E. Shinn¹, A. Proctor¹, K. Dewettinck², and A.R. Patel², ¹University of Arkansas, USA, ²Ghent University, Belgium.
- 10:40 **Physical Properties of Shea Butter and Its Blends with Cocoa Butter.** M.L. Herrera¹ and R.J. Candal², ¹Inst. de Tecnologia en Polimeros y Nanotecnologia, University of Buenos Aires, National Research Council of Argentina, Argentina, ²Inst. de Investigacion e Ingenieria Ambiental, University of San Martín, Argentina.
- 11:00 **Holistic Control of Fish Oils Based on NMR Spectroscopy.** B.W.K. Diehl, E. Zailer*, and Y.B. Monakhova, Spectral Service AG, Germany.
- 11:20 **Extraction and Characterization of Montmorency Sour Cherry (*Prunus cerasus* L.) Pit Oil.** N. Korlesky¹, L.J. Stolp*¹, D.R. Kodali¹, W.C. Byrdwell², and R.J. Goldschmidt², ¹University of Minnesota, USA, ²USDA, ARS, USA.

Health and Nutrition Division

H&N 4: Health and Nutrition Needs of Children and Young Adults

This session is sponsored in part by Johnson & Johnson Consumer Inc.

Chairs: M.J. Picklo, USDA, ARS, Grand Forks Human Nutrition Research Center, USA; and M.L. Drewery, Louisiana State University, USA

Ballroom I

- 7:55 **Introduction.**
- 8:00 **The Role of Omega-3 Fats in Neurodevelopment: Implications for ADHD and Comorbid Behavioral Disorders.** R.V. Gow, Section of Nutritional Neuroscience, National Inst. of Health, USA.
- 8:40 **Maternal n-3 LCPUFA Status and Infant Heart Rate Variability.** M.L. Drewery¹, A.V. Gaitán¹, R.I. Pinkston¹, S. Spedale², and C.J. Lammi-Keefe^{3,4}, ¹Louisiana State University, USA, ²Infamedics, USA, ³LSU AgCenter, USA, ⁴Pennington Biomedical Research Center, USA.
- 9:00 **Adequacy of n-3 and n-6 PUFA Intakes in European Children and Adolescents in Light of the Current Recommendations.** M. Fleith⁴, L. van Lieshout⁹, C. Campoy¹, R. Mensink², A. Eilander*³, S. Eussen⁵, C. Petisca⁶, S. Forsyth⁷, G. Hornstra², P.C. Calder⁸, I. Sioen¹⁰, and S. Lohner¹¹, ¹University of Granada, Spain, ²Maastricht University, The Netherlands, ³Unilever Research & Development Vlaardingen, The Netherlands, ⁴Nestlé Research Center, Switzerland, ⁵Danone Research Centre, The Netherlands, ⁶Bunge Europe, Belgium, ⁷DSM Nutritional Products Ltd., Switzerland, ⁸University of Southampton, UK, ⁹ILSI Europe, Belgium, ¹⁰Ghent University, Belgium, ¹¹Pecs University, Hungary.
- 9:20 **Docosahexaenoic Acid Status in Pregnancy is Lower in African-Americans Compared to Caucasians and Hispanics: Differences in Fatty Acid Metabolism.** A.V. Gaitán¹, M.L. Drewery¹, R.I. Pinkston¹, C.A. Thaxton¹, E. Seidemann², K. Elkind-Hirsch², and C.J. Lammi-Keefe^{1,3}, ¹Louisiana State University, USA, ²Woman's Hospital, USA, ³LSU AgCenter, USA, ⁴Pennington Biomedical Research Center, USA.
- 9:40 **Networking Break.**
- 10:20 **High Linoleic Acid Ready-to-use Therapeutic Foods (RUTF) Suppress Long Chain Omega-3 Status in Malnourished Toddler.** J.T. Brenna, Cornell University, USA.
- 11:00 **Cerebral and Hepatic Effects of Energy Restriction and Dietary n-3 Reduction in Growing Rats.** M.J. Picklo, USDA, ARS, Grand Forks Human Nutrition Research Center, USA.
- 11:20 **Examining Changes in Fatty Acid Concentrations of Maternal**

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Tissues Throughout Pregnancy and Postpartum in Rats Fed Diets with Different Levels of Fat and Docosahexaenoic Acid.

D.M.E. Lamontagne-Kam, A. Chalil, J.J. Aristizabal Henao, and K.D. Stark*, Dept. of Kinesiology, University of Waterloo, Canada.

- 11:40 **Maternal Docosahexaenoic Acid (DHA) Synthesis is Sufficient to Maintain Maternal Whole-body DHA Status During Pregnancy in Rats.** A.P. Kitson, A.H. Metherel, A.F. Domenichiello, and R.P. Bazinet, University of Toronto, Canada.

Imaging Techniques Interest Area/Agricultural Microscopy Division

IMG 3/EAT 4.1: Length Scales and Lipids

This session developed in conjunction with the Edible Applications Technology Division.

Chairs: K.B. Koch, North Dakota State University, USA; and C. Rogers-Kelly, Mississippi State Chemical Lab, USA

151G

Joint session: For details, see EAT 4.1/IMG 3, on page 48.

Industrial Oil Products Division

IOP 4/BIO 4.2: Biofuels II

This session developed in conjunction with the Biotechnology Division.

Chairs: T. Aki, Hiroshima University, Japan; and R.M. Burton,

Novozymes North America, USA

Ballroom E

Joint session: For details, see BIO 4.2/IOP 4, on page 48.

Lipid Oxidation and Quality Division

LQ 4a: Stabilization of Omega-3, Bioactive Lipids, and Antioxidants Strategies

Chairs: S.P.J.N. Senanayake, CFS North America, LLC, USA; and G. Yang, Kellogg, USA

Ballroom H

7:55 **Introduction.**

8:00 **Stabilization of Omega-3 Lipids with Antioxidants.** S.P.J.N. Senanayake, CFS North America, LLC, USA.

8:20 **Oxidation Studies Using Natural Antioxidants in Highly Polyunsaturated Oils Using PetroOXY.** P. Adhikari, Cargill Asia Pacific Food Systems (Beijing) Co., Ltd., China.

8:40 **Optimizing the Stabilization of Fish Oil with Various Polar and Non-polar Extracts.** P.C. VanAlstyne, Kalsec, Inc., USA.

9:00 **The Impact of Oxygen Concentration on Lipid Oxidation in Fish Oil-in-Water Emulsions.** D.R. Johnson¹ (*Thomas H. Smouse Fellowship Award Winner*), J. Gisder¹, and E.A. Decker^{1,2}, ¹University of Massachusetts Amherst, USA, ²King Abdulaziz University, Saudi Arabia.

9:20 **Physical Stability, Autoxidation, and Photosensitized Oxidation of Omega-3 Oils in Nanoemulsion Prepared with Natural and Synthetic Surfactants.** S. Uluata^{1,2}, D.J. McClements^{2,3}, and E.A. Decker^{2,3}, ¹Inonu University, Turkey, ²University of Massachusetts Amherst, USA, ³King Abdulaziz University, Saudi Arabia.

Lipid Oxidation and Quality Division

LQ 4b: Trans Fat Replacement: Chemistry and Oxidative Stability, Applications

Chairs: P. Smith, Cargill R&D Centre Europe, Belgium; and W.M. Indrasena, DSM Nutritional Products, Canada

Ballroom H

10:15 **Introduction.**

10:20 **Redesigning Antioxidants for Frying Applications to Tackle**

Multiple Challenges. F.A. Aladedunye, Feal Stability Consultants, Canada.

10:40 **Measuring the Activity of Natural and Synthetic Antioxidants During Frying.** C. Gertz, Maxfry GmbH, Germany.

11:00 **Production of Toxic α,β -unsaturated Aldehydes During Simulated Frying Episodes: Comparisons of Common Frying Oils with Novel High-stability Algal Oil Products.** M. Grootveld¹, S. Moutmaz¹, P. Jansson¹, V. Ruiz-Rodado¹, and M. Edgar², ¹Leicester School of Pharmacy, De Montfort University, UK, ²Dept. of Chemistry, University of Loughborough, UK.

11:20 **Effects of Colloids on Physicochemical Properties of Trans-free Non-dairy Pre-whipped Topping.** Z. Meng, M. Qiu, and Y. Liu, Jiangnan University, China.

11:40 **The Application of Modelling to Develop High Quality Trans-free Oil Blends with Good Oxidative Performance.** P. Smith¹, S.A. Smith², A. Patsioura³, and O. Vitrac⁴, ¹Cargill R&D Centre Europe, Belgium, ²Cargill Inc., USA, ³AgroParisTech, France, ⁴INRA, France.

Phospholipid Division

PHO 4: Synthetic Phospholipids and Fatty Acids

Chairs: M.U. Ahmad, Jina Pharmaceuticals Inc., USA; and S.R. Jadhav,

ADM Research, USA

150D

7:55 **Introduction.**

8:00 **Enzymatic Synthesis of Sugar and Polyol-fatty Acid Esters: Surfactants, Polymers, and Other Value-added Products.** D.G. Hayes, University of Tennessee, USA.

8:40 **Towards the Generation of Highly Occlusive Materials: Synthesis and Evaluation of Ultra-long Chain Omega Acylated Fatty Acids.** B.C. Pérez¹, S. Emil¹, P. Bulsara², A.V. Rawlings³, M.M. Jensen⁴, M. Glasius⁴, M. Dong⁵, M. Clarke², and Z. Guo^{*1}, ¹Dept. of Engineering, Aarhus University, Denmark, ²New Product Research, GlaxoSmithKline Consumer Healthcare, USA, ³AVR Consulting Ltd., UK, ⁴Dept. of Chemistry, Aarhus University, Denmark, ⁵Interdisciplinary Nanoscience Center, Aarhus University, Denmark.

9:00 **Amino Acyl Glycerols: Preparation and Evaluation of Surface Activity and Antimicrobial Properties.** M. Ghosh and S. Chakraborty, University of Calcutta, India.

9:20 **Synthesis of Erythritol Fatty Acids by Lipase and Their Properties Evaluation.** Y. Zheng, X. Xu, and T.K. Yang*, Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China.

9:40 **Trihydroxy Fatty Acids as Novel Biological Fungicides in the Crop and Food Industries.** F. Schultz^{1,2}, Z. Sadykova², J. Caesar², M.F. Müller², M. Mengdehl¹, and L.A. Garbe^{1,2}, ¹Technical University of Berlin, Germany, ²Neubrandenburg University of Applied Sciences, Germany.

10:00 **Networking Break.**

Processing Division

PRO 4: New Products Technology

Chairs: S.R. Gregory, DSM Food Specialties, USA; and W. Younggreen,

Alfa Laval Inc., USA

Ballroom F

7:55 **Introduction.**

8:00 **Future Directions in Oilseed Processing.** C.L.G. Dayton, Bunge COE, USA.

8:20 **A Process Roadmap to Implement Enzyme Degumming.** S.R. Gregory¹, T.S. Hitchman¹, and W. Smits², ¹DSM, USA, ²DSM, The Netherlands.

8:40 **Enzyme Degumming Startup Experiences—A Plant Perspective.** F. Pifer, Perdue Agribusiness, USA.

- 9:00 **New Developments in Centrifugation.** R.S. Zeldenrust, GEA Westfalia Separator Group GmbH, Germany.
- 9:20 **Centrifuge Settings and Operation for New Technologies.** W. Younggreen, Alfa Laval Inc., USA.
- 9:40 **Cavitation Technology in Oilseed Processing.** J.E. Willits, Desmet Ballestra North America, USA.
- 10:00 **Networking Break.**

Protein and Co-Products Division

PCP 4: Bioactive Proteins and Peptides: Advanced Functionalities

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

150A

- 7:55 **Introduction.**
- 8:00 **Bioactivities of Gelatin Hydrolysates Derived from Skin of Two Fish Species.** S. Karnjanapratum², T. Sae-leaw², Y.C. O'Callaghan¹, S. Benjakul², and N.M. O'Brien^{*1}, ¹School of Food & Nutritional Sciences, University College Cork, Ireland, ²Dept. of Food Technology, Prince of Songkla University, Thailand.
- 8:20 **Effects of β -conglycinin on Blood Pressure and Lipid Metabolism in the Spontaneously Hypertensive Rat (SHR).** K. Koba¹, K. Kawabeta¹, T. Noda¹, N. Tateiwa¹, S. Tamaru^{1,2}, and M. Sugano³, ¹University of Nagasaki, Siebold, Japan, ²Fukuoka Inst. of Technology, Japan, ³Kyushu University, Japan.
- 8:40 **Design of Oligo-peptides for Intestinal Absorption Model.** T. Matsui, Kyushu University, Japan.
- 9:00 **Insight into Therapeutic Applications of Eggshell Membranes.** T. Ahmed, C. Cordeiro, and M.T. Hincke^{*}, University of Ottawa, Canada.
- 9:20 **Exhaustive Analysis of a Novel Bile Acid Binding Peptide Derived from Soybean Protein and Efficient Modification of Soystatin by Peptide Array.** S. Nagaoka, Gifu University, Japan.

- 9:40 **Networking Break.**
- 10:20 **Peptides Derived from Rice Proteins Stimulate GLP-1 Secretion and Suppress Blood Glucose Elevation.** H. Hara¹, Y. Ishikawa¹, M. Kadowaki², and T. Hira¹, ¹Hokkaido University, Japan, ²Niigata University, Japan.
- 10:40 **Hen Egg Ovotransferrin-capped Gold Nanoparticles: A Novel Drug-targeting Strategy Against Infections Disease.** H.R. Ibrahim, Kagoshima University, Japan.
- 11:00 **Structure and Content of Food-derived Soy Peptides in Rat and Human Bloods.** K. Sato^{1,2} and E.Y. Park², ¹Kyoto University, Japan, ²Kyoto Prefectural University, Japan.
- 11:20 **Suppression of Blood-ethanol Elevation by Compounds Produced from Dipeptide and Amino Acid in Shiitake Mushrooms.** H. Kumagai, S. Hironaka, and M. Akao, Dept. of Chemistry & Life Science, Nihon University, Japan.
- 11:40 **Deamidated Gliadin Induces Oral Tolerance and Prevents Cutaneous Sensitization to HCl-treated Wheat Protein.** N. Matsukaze¹, R. Abe¹, M. Akao¹, H. Kumagai², and H. Kumagai¹, ¹Dept. of Chemistry of Life Science, Nihon University, Japan, ²Dept. of Food Science & Nutrition, Kyoritsu Women's University, Japan.

Society of Cosmetic Chemists

SCC 4: Intermountain West Chapter Session

Chair: J.D. Kaufusi, Nu Skin Enterprises, USA

Ballroom C

- 9:00 **Welcome and Introduction.**
- 9:15 **What's Hot From Asia.** F. Bernardin, Information et Inspiration, France.
- 10:15 **Networking Break.**
- 10:45 **Hair Graying (Canities): Its Cause(s) and Potential for Intervention.** D.J. Tobin, Centre for Skin Sciences, School of Medical Sciences, University of Bradford, UK.

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Wednesday | Oral Presentations

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Surfactants and Detergents Division

S&D 4/BIO 4.1: Biosurfactants and Biodetergents

This session developed in conjunction with the Biotechnology Division.

*Chairs: D.K.Y. Solaiman, USDA, ARS, ERRC, USA; D.G. Hayes, University of Tennessee, USA; and H.E. Byrne, Huntsman Performance Products, USA***Ballroom D****Joint session:** For details, see BIO 4.1/S&D 4, on page 47.

Surfactants and Detergents Division

S&D 4.1: New Technologies in Industry*Chairs: J. Coope-Epstein, Sun Products Corp., USA; and W.W. Schmidt, Consultant, USA***Ballroom B**

- 8:15 **Introduction.**
- 8:20 **Cellulosic Polymer Technologies for Fabric, Hard Surface, and Personal Care Applications.** J.E. Shulman, J. Todd, and J. Hayes, Dow Chemical, USA.
- 8:40 **Sokalan® HP20 as a Foam Stabilizer and Performance Booster in Manual Dishwashing Detergents.** S. Gross and K. Salmon, BASF Corp., USA.
- 9:00 **Foam Longevity for Manual Dish Detergents.** J.J. Sabelko, C.C. Cypcar, and K. Wilzer, Lubrizol Corp., USA.
- 9:20 **DuPont Delivers on Consumer Trend ‘Convenience is King’: Innovative Bioscience Solutions for Liquid Laundry.** F.U. Ahmed, K. Harris*, and A. Van Heeswijk, DuPont Industrial Biosciences, USA.
- 9:40 **Networking Break.**
- 10:20 **Study for Enhancing Detergency on Lipid Stains by Hydrophilic Treatment of Cotton Fibers.** M. Fukui, T. Hayashi, T. Kurokawa, H. Shindou, and T. Okamoto, Lion Corp., Japan.
- 10:40 **Formulating Liquid Detergents with Enzymes and Strong Chelators.** H. Lund, Novozymes A/S, Denmark.
- 11:00 **Invisible Stain Removal Intervention Using Enzymes—Protecting Fabrics from Residual Soiling Effects.** V.M. Casella, D. Rhine, and M. Bullock, Novozymes North America, Inc., USA.
- 11:20 **Zap the Oil Away with Lipase.** T.B. Green, A.C. Lee, P. Haasis, and D. Showmaker, Novozymes, N/A., USA.
- 11:40 **Alkylphenol Ethoxylate Elimination as an Opportunity for Performance Enhancement.** E. Theiner, A. Fonseca, and K. Yacoub, Air Products & Chemicals, Inc., USA.

Surfactants and Detergents Division

S&D 4.2/EAT 4: Delivery and Dispersed Systems

This session developed in conjunction with the Edible Applications Technology Division.

*Chairs: S. Ghosh, University of Saskatchewan, Canada; and E. Szekeres, Method Products, Inc., USA***150F****Joint session:** For details, see EAT 4/S&D 4.2, on page 48.**Connect with AOCS!**

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Wednesday Afternoon

Analytical Division

ANA 5: Advanced Separation Techniques*Chairs: P. Delmonte, US Food & Drug Administration, USA; and G. Purcaro, Chromaleont s.r.l., Italy***Ballroom J**

- 1:55 **Introduction.**
- 2:00 **Ionic Liquid Capillary Columns for Analysis of FAME Isomers.** L.M. Sidisky, G.A. Baney, J.L. Desorcie, and G. Serrano, MilliporeSigma, USA.
- 2:20 **Multidimensional Techniques for Lipid Analysis.** G. Purcaro, Chromaleont s.r.l., Italy.
- 2:40 **FAMEs Analysis by Gas Chromatography Vacuum Ultraviolet (GC-VUV) Detection.** J.P. Smuts¹, H. Fan², L. Bai², P. Walsh¹, D.W. Armstrong², and K.A. Schug², ¹VUV Analytics, Inc., USA, ²University of Texas in Arlington, USA.
- 3:00 **Comprehensive Determination of Saturated Wax Esters in Sunflower Oil Using Ag-ion SPE/GC/FID.** L.M. Clement, S.L. Hansen, M. Dao, and R. Fraser, Cargill Inc., USA.
- 3:20 **Characterization of Alkyl Lipids in Oil Extracted from Sea Cucumber Viscera.** J.C. Sullivan Ritter¹, S.M. Budge², and R.S. Abuzaytoon², ¹Nature's Way, Canada, ²Dalhousie University, Canada.
- 3:40 **Quantification of Hydroxy Fatty Acids in Fermenting Yeasts with Negative Chemical Ionization Mass Spectrometry: Outcomes, Tips, and Tricks.** G. Potter, W. Xia, and S.M. Budge, Dalhousie University, Canada.
- 4:00 **Efficient Profiling of Triacylglycerols Containing Long-chain Polyunsaturated Fatty Acids in Seal Oil by HPLC-APCI Mass Spectrometry.** F. Wei, L. Wu, X. Lv, X. Dong, and H. Chen, Oil Crops Research Inst., Chinese Academy of Agricultural Sciences, China.
- 4:20 **Quantification of Fatty Acids without Calibration Standards Using GC/FID.** A.J. Jones¹ and C. Krumm^{*2}, ¹Activated Research Co., USA, ²Dept. of Chemical Engineering & Material Sciences, University of Minnesota, USA.
- 4:40 **Application of Two Dimensional Gas Chromatography to the Resolution of Fatty Acid Methyl Esters from Complex Animal and Marine Samples.** P. Delmonte¹, X. Belaunzarán², J.K.G. Kramer³, and N. Aldai², ¹US Food & Drug Administration, USA, ²University of the Basque Country, Spain, ³Retired, Agriculture & Agri-Food Canada, Canada.

Biotechnology Division

BIO 5: General Biotechnology*Chairs: J. Ogawa, Kyoto University, Japan; and T.A. McKeon, USDA, ARS, WRRRC, USA***Ballroom G**

- 1:55 **Introduction.**
- 2:00 **Lipases/Acyltransferases, Promising Biocatalysis for Simple and Efficient Valorization of Biomass Lipids in Biorefinery Processes.** M. Subileau^{1,2}, A.H. Jan², V. Perrier^{1,2}, and É. Dubreucq^{1,2}, ¹Montpellier SupAgro, France, ²UMR IATE, France.
- 2:20 **New Tale from an Old Story: Why and How Can Candida Antarctica Lipase A Produce Omega-3 PUFAs Concentrates in High Selectivity for Industrial Interest?** Y. He^{1,2}, B. Chen², S. Kodali^{1,3}, J. Li¹, and Z. Guo^{*1}, ¹Aarhus University, Denmark, ²Fujian Normal University, China, ³University of Borås, Sweden.
- 2:40 **Improving Lipases/Acyltransferases to Face the Requirements of Biorefinery Processes by Rational Design.** A.H. Jan², M. Subileau^{1,2}, C. Deyrieux¹, V. Perrier^{1,2}, and É. Dubreucq^{1,2}, ¹Montpellier SupAgro, France, ²UMR IATE, France.

- 3:00 **Palm Stearin/Shea Stearin-based Cocoa Butter Equivalents.** B.H. Kim¹ and I.H. Kim², ¹Sookmyung Women's University, Republic of Korea, ²Korea University, Republic of Korea.
- 3:20 **Effect of Bio-enhancers on Growth of Biosurfactant Producing Bacteria with Media Containing Biomass Pretreated Hydrolyzates.** R. Sharma and B.P. Lamsal, Iowa State University, USA.
- 3:40 **Production of a Bioactive Lipid-based Delivery System from Ratfish Liver Oil by Enzymatic Glycerolysis.** P. Arranz-Martínez¹, M. Corzo-Martínez¹, L. Vázquez¹, N. Menéndez¹, G. Reglero^{1,2}, and C.F. Torres¹, ¹Inst. of Food Science Research, CIAL (CSIC-UAM), Spain, ²Imdea-Food Inst., CEI (CSIC-UAM), Spain.
- 4:00 **Cell Factory Engineering of Oleaginous Yeast *Yarrowia lipolytica* for Production of Renewable Oleochemicals and Isoprenoids.** X.C. Xiong and S.L. Chen, Biological Systems Engineering, Washington State University, USA.
- 4:20 **Effect of Supercritical CO₂ and Type of Co-solvent for Extraction of Lipids and Terpenics from Guayule Biomass (*Parthenium argentatum*).** T. Punvichai^{1,2}, E. Tardan¹, S. Palu¹, and D. Pioch¹, ¹UR BioWooEB - Biorefinery Team, CIRAD, France, ²Prince of Songkla University, Surat Thani Campus, Thailand.
- 4:40 **Production of Pinolenic Acid Rich Triacylglycerol via Direct Esterification Using Mixed Lipase.** T. Kim^{1,2}, H. Kim^{1,2}, G. Chijioko^{1,3}, and I.H. Kim^{1,2}, ¹Dept. of Food & Nutrition, Korea University, Republic of Korea, ²Dept. of Health Science, Graduate School, Korea University, Republic of Korea, ³Dept. of Integrated Biomedical & Life Science, Korea University, Republic of Korea.

Edible Applications Technology Division

EAT 5/H&N 5.1: Satiety and Sensory

This session developed in conjunction with the Health and Nutrition Division.

This session sponsored in part by Nestlé and Young Living Essential Oils.

Chairs: S. Martini, Utah State University, USA; and F. Dionisi, Nestlé, Switzerland

150F

- 1:55 **Introduction.**
- 2:00 **The Taste of Fat and Its Role in Dietary Fat Intake.** T.A. Gilbertson, Utah State University, USA.
- 2:40 **Gut-brain Endocannabinoid Signaling: Fatty Acid Sensing and Beyond.** N.V. DiPatrizio, School of Medicine, University of California, Riverside, USA.
- 3:20 **Small Intestinal Sensing of Lipid in Humans—Relationship with Appetite and Energy Intake.** C. Feinle-Bisset, Discipline of Medicine & NHMRC Centre of Clinical Research Excellence in Nutritional Physiology, Interventions & Outcomes, University of Adelaide, Australia.
- 3:40 **The Taste of Non-esterified Fatty Acids in Humans.** R. Mattes, Purdue University, USA.
- 4:20 **Sensory Determinants of Fat (and Oil) Intake—The Consumer Perspective.** J.X. Guinard, University of California, Davis, USA.
- 4:40 **Complexity of Structure-sensory Relations: Science and Application.** G.A. van Aken^{1,2}, ¹NIZO Food Research, The Netherlands, ²Insight FOOD Inside, The Netherlands.

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Wednesday | Oral Presentations



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Health and Nutrition Division

H&N 5: General Health and Nutrition*Chairs: I. Vieitez, Universidad de la República (UDELAR), Uruguay; and A. Gugliucci, Touro University-California, USA***Ballroom I**

- 1:55 **Introduction.**
- 2:00 **Dietary Saturated Fat Promotes Omega-3 Polyunsaturated Fatty Acid Incorporation into Human Plasma and Erythrocytes.** C.B. Dias^{1,2}, L.G. Wood^{1,2}, and M.L. Garg^{1,2}, ¹University of Newcastle, Australia, ²Hunter Medical Research Inst., Australia.
- 2:20 **Effect of Dietary Carboxymethyllysine on Cecal Short Chain Fatty Acid Composition in Mice.** S. Xiao¹, M.C. Michalski², A. Geloën², K.H. Hintze², and R.E. Ward¹, ¹Nutrition, Dietetics, & Food Sciences, Utah State University, USA, ²Lab. CarMeN (CARDiology, Metabolism, & Nutrition), INSA-Lyon, France.
- 2:40 **Tuscany Naturben: Quality and Wellness with Traced Tuscan Food for Patients Under Chemotherapy.** E. Bargiacchi¹, M. Campo¹, A. Romani², P. Pinelli^{3,2}, and S. Miele¹, ¹Consortium INSTM, Italy, ²Phytolab-DiSIA, University of Firenze, Italy, ³Lab QuMAP-PIN Prato, Italy.
- 3:00 **Antioxidants Clinical Trials Failed to Reduce Cardiovascular Outcomes: The End of the Oxidative Stress Hypothesis?** A. Gugliucci, Touro University-California, USA.
- 3:20 **Mary Enig Memorial Lecture: Risk and Revelation of Trans Fat's Long-term Effects on Health.** E.N. Enig, Enig Associates, Inc., USA.
- 3:40 **Lipase-catalyzed Synthesis of Beta-sitosteryl Esters of Omega-3 Fatty Acids for Incorporation into Milk.** D. Louis¹, P.M. Tomasula², M. Diao¹, N. Boyle¹, and S.E. Lumor¹, ¹Delaware State University, USA, ²USDA, ARS, ERRC, USA.
- 4:00 **Formation and Functionality of Cyclic Linolenic Acid C-18 Monomeric Derivatives.** J. Yi¹, H. Jacques², N. Leblanc², S.J.J. Mboma², and P. Angers¹, ¹Dept. of Food Science, Université Laval, Canada, ²School of Nutrition, Université Laval, Canada.
- 4:20 **Rapeseed Oils Produced from Different Methods Had Significant Effect on High-fat-induced Hepatosteatosis in Sprague Dawley Rats.** P.R. Cao, L. Zhang, J. Jiang, and Y.F. Liu, School of Food Science & Technology, Jiangnan University, China.
- 4:40 **Anti-aging Effect of Fish Oil and Polyunsaturated Fatty Acid Based on Redox State Regulation and Telomere Protection Mechanisms.** J.N. Chen, Y. Wei, J. Wang, J.H. Chen, and Y. Zhang, Zhejiang University, China.

Health and Nutrition Division

H&N 5.1/EAT 5: Satiety and Sensory

This session developed in conjunction with the Edible Applications Technology Division.

This session sponsored in part by Nestlé and Young Living Essential Oils.*Chairs: S. Martini, Utah State University, USA; and F. Dionisi, Nestlé, Switzerland***150F****Joint session:** For details, see EAT 5/H&N 5.1, on page 53.

Industrial Oil Products Division

IOP 5: Oleochemicals*Chairs: D. Graiver, Michigan State University, USA; and G. Liu, South China University of Technology, China***Ballroom E**

- 1:55 **Introduction.**
- 2:00 **Bio-lubricants from Chemical Modification of Vegetable Oils.** D.D. Chauhan, T.M. Panchal, A.V. Patel, M. Thomas, and J.V. Patel, Inst. of Science & Technology for Advanced Studies & Research, India.

- 2:20 **Grease Formulation Using Post-consumed Clothes: A Sustainable Approach.** A. Barot¹, C.M. Patel¹, T.M. Panchal², J.V. Patel², and V. Sinha¹, ¹V.P. & R.P.T.P. Science College, India, ²Inst. of Science & Technology for Advanced Studies & Research, India.
- 2:40 **Synthesis of Renewable 1,4-Cyclohexadiene from *Camelina sativa* Through Olefin Metathesis.** R.L. Maglinao, C. Hulett, and E.P. Resurreccion, Montana State University-Northern, USA.
- 3:00 **Synthesis and Characterization of Palm Oil Based Polyols and Polyurethanes.** S.S. Hoong, T.N.M.T. Ismail, M.N. Sattar, K.D.P. Palam, N.A. Hanzah, N.M. Noor, S. Adnan, A.M. Zan, Z.A. Bakar, S.K. Yeong, and H.A. Hassan, Malaysian Palm Oil Board, Malaysia.
- 3:20 **New Process and Products for Glycerine in Biodiesel Production?** S.S. Awbrey¹, T. Alexander¹, and E.M. Hernandez^{2*}, ¹Envirosource, Inc., USA, ²Advanced Lipid Consultants, USA.
- 3:40 **Conversion of Lipids into Various Chemicals/Monomers.** A. Ullah and M. Arshad, University of Alberta, Canada.
- 4:00 **Superior Flexible and Rigid Polyurethane Foams from Metathesized Palm Oil.** P.S. Pillai and S.S. Narine, Trent University, Canada.
- 4:20 **Effect of Roasting on Antioxidant Capacity and Physico-chemical Properties of Wheat Germ Oil.** Y. Zou, Y. Gao, and T.K. Yang, Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China.
- 4:40 **Self-condensed Polyols.** M. Ionescu, X. Wan, V. Jaso, and Z.S. Petrovic, Kansas Polymer Research Center, Pittsburg State University, USA.

Lipid Oxidation and Quality Division

LOQ 5a: Lipid Oxidation and Antioxidants: System Modeling and Data Interpretations*Chairs: L.M. Barden, The Kraft Heinz Co., USA; and N. Yang, Kalsec Inc., USA***Ballroom H**

- 1:55 **Introduction.**
- 2:00 **Modeling Physical Interactions in Oxidized Lipid Systems.** D.A. Pink^{1,2} and E. Papp-Szabo¹, ¹St. Francis Xavier University, Canada, ²University of Guelph, Canada.
- 2:40 **Modeling the Product Quality Impact of Oil Stability in Grain-based Snacks.** M. Sewald^{1,2}, ¹Medallion Labs, USA, ²General Mills, USA.
- 3:00 **Methods for Optimizing Oxidative Shelf-life in Edible Oils.** D.P. Barr, Bruker BioSpin, USA.

Lipid Oxidation and Quality Division

LOQ 5b: General Lipid Oxidation and Quality*Chairs: C. Hall, North Dakota State University, USA; and S. Nathan, Wilmar International Ltd., USA***Ballroom H**

- 3:35 **Introduction.**
- 3:40 **Lipid Oxidation in Powder Matrices: A Critical Assessment of Peroxide Value.** L. Smith, DSM Nutritional Products, USA.
- 4:00 **The Nonlinear Effect of Alkyl Chain Length of Phenolipids in the Membrane Interactions and Oxidation: Evidence by X-ray Diffraction Analysis.** E. Durand¹, R.F. Jacob², S. Sherratt², J. Lecomte¹, B. Baréa¹, P. Villeneuve¹, and R.P. Mason^{2,3}, ¹CIRAD, UMR IATE, France, ²Elucida Research, USA, ³Dept. of Medicine, Cardiovascular Div., Brigham & Women's Hospital, Harvard Medical School, USA.
- 4:20 **Oxidative Stability of Oleogels Produced by Ethylcellulose and Monoglycerides.** R. Homma¹, Z. Haizhen¹, S.M. Ghazani², A.G. Marangoni², D.J. McClements¹, and E.A. Decker¹, ¹University of Massachusetts Amherst, USA, ²University of Guelph, Canada.

4:40 **GC-MS Characterization of Hydroxy Fatty Acids Derived from Oxidation of Edible Oils.** W. Xia and S.M. Budge, Dalhousie University, Canada.

Processing Division

PRO 5: General Processing

Chairs: M.S. Alam, Texas A&M University, USA; and R.C. Clough, Texas A&M University, USA

Ballroom F

- 1:55 **Introduction.**
- 2:00 **Extraction of Omega-3-rich Oil from *Camelina sativa* Seed Using Ethanol-modified Supercritical Carbon Dioxide.** H.D. Belayneh¹, R.L. Wehling¹, E. Cahoon², and O.N. Ciftci¹, ¹Dept. of Food Science & Technology, University of Nebraska-Lincoln, USA, ²Center for Plant Science Innovation & Dept. of Biochemistry, University of Nebraska-Lincoln, USA.
- 2:20 **Processing of New Oil and Protein Sources: Zooplankton, Black Soldier Flies, and Grasshoppers.** F. Pudiel, G. Fleck, T. Piofczyk, and C. Spangenberg, Pilot Pflanzenöltechnologie Magdeburg e.V., Germany.
- 2:40 **Formation of Hollow Solid Lipid Micro- and Nanospheres to Develop Bioactive Carriers Using a Simple and Green Method.** J. Yang and O.N. Ciftci, University of Nebraska-Lincoln, USA.
- 3:00 **Processing of Defatted Sal (*Shorea robusta*) Meal for Isolation of Antioxidants.** S. Sirisetti, E. Anjaneyulu, B. Dole, and P.P. Chakrabarti*, Indian Inst. of Chemical Technology, CSIR, India.
- 3:20 **Oilseeds Continuous Pressing: Theoretical and Experimental Analyses.** L. Bogaert^{1,2}, H. Mhemdi¹, P. Carre², F. Fine³, A. Quinsac³, and E. Vorobieff¹, ¹UTC/ESCOM, France, ²CREOL, France, ³TERRES INOVIA, France.

- 3:40 **Soy and Other Protein Concentrates.** R.W. Ozer, © Crown Iron Works Co., USA.
- 4:00 **Drying Oilseed Meals: Which is the Best Approach?** A.A. Demarco, Desmet Ballestra Group, Argentina.
- 4:20 **High Quality Lard with Low Cholesterol Content Produced by Aqueous Enzymatic Extraction and b-cyclodextrin Treatment.** Y.F. Liu, J. Jiang, Q.L. Wang, and P.R. Cao, School of Food Science & Technology, Jiangnan University, China.
- 4:40 **Concentration of Stearidonic Acid from *Echium* Oil by Urea Complexation.** L. Vázquez¹, E. Ortego¹, M. Corzo-Martínez¹, G. Reglero^{1,2}, and C.F. Torres¹, ¹Dept. de Producción y Caracterización de Nuevos Alimentos, Inst. de Investigación en Ciencias de la Alimentación (CSIC-UAM), Universidad Autónoma de Madrid, Spain, ²IMDEA-Food Inst., CEI (UAM-CSIC), Spain.

Protein and Co-Products Division

PCP 5: Protein Processing and Involved Technologies

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Chairs: C.C. Udenigwe, Dalhousie University, Canada; and N.P. Bandara, University of Alberta, Canada

150A

- 1:55 **Introduction.**
- 2:00 **Superior Functionality of Hemp Seed Protein Isolate Achieved Through Defatted Meal Carbohydrate Digestion Coupled with Membrane Ultrafiltration Processing.** R.E. Aluko, University of Manitoba, Canada.
- 2:20 **Influence of Peptide Molecular Weight Distribution on Their Encapsulation in Liposomes.** A. Mohan and C.C. Udenigwe, Dalhousie University, Canada.
- 2:40 **Isolation and Identification of Protein Associated with**

55

Wednesday | Oral Presentations



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Flaxseed Gum (*Linum usitatissimum* L.) and Its Contribution to Emulsification Properties. J. Liu¹, Y.Y. Shim², A.G. Poth³, and M.J.T. Reaney^{2,4}, ¹Dept. of Food & Bioproduct Sciences, University of Saskatchewan, Canada, ²Dept. of Plant Sciences, University of Saskatchewan, Canada, ³Div. of Chemistry & Structural Biology, Inst. for Molecular Bioscience, University of Queensland, Australia, ⁴Guangdong Saskatchewan Oilseed Joint Lab., Dept. of Food Science & Engineering, Jinan University, China.

- 3:00 **Development of a Flocculant from Thermally Hydrolyzed Specified Risk Materials.** P. Appadu, V.Y. Kislitsin, B.B. Adhikari, L.G. Mercier, M. Chae, and D.C. Bressler, University of Alberta, Canada.
- 3:20 **Break.**
- 3:40 **Amino Acid Profiles of 44 Soybean Lines and ACE-I Inhibitory Activities of Peptide Fractions from Selected Lines.** N.S. Hettiarachchy, S. Rayaprolu, R. Horax, E. Satchithanandam, P. Chen, and A. Mauromoustakos, University of Arkansas, USA.
- 4:00 **Efficiency of Viscozyme and Cellulase in the Extraction of Proteins from Oat Brans.** A. Tsopmo, O. Shituu, and R. Esfandi, Food Science & Nutrition, Carleton University, Canada.

Surfactants and Detergents Division

S&D 5: Rheology in Colloidal and/or Surfactant Systems

Chairs: B.P. Grady, University of Oklahoma, USA; and S. Natali, Halliburton, USA

Ballroom D

- 1:55 **Introduction.**
- 2:00 **A Comparative Study of the Rheological and Sensory Properties of a Petroleum-free and a Petroleum-based Cosmetic Cream.** F.C. Wang and A.G. Marangoni, University of Guelph, Canada.
- 2:20 **The Effect of a Yield Stress on the Drainage of the Thin Film Between Two Colliding Newtonian Drops.** S. Goel and A. Ramachandran, University of Toronto, Canada.
- 2:40 **Alcohol Ethoxylate Blends for Viscosity Improvement of Laundry Detergent Formulation.** T. Nguyen, T. Weemes, C. Stoute, and S. Lyons, Sasol Performance Chemicals, USA.

- 3:00 **Controlling the Lubrication Properties Between Silica Surfaces Induced by Mixed Anionic-amphoteric Surfactant Micellar Solutions.** K. Ichihashi¹, C. Akabane¹, M. Kasuya², and K. Kurihara², ¹Lion Corp., Japan, ²Tohoku University, Japan.
- 3:20 **Marangoni Flow at the Interface Between Oil and a Flowing Aqueous Solution of Surfactants or Polyelectrolyte/Surfactant Complexes.** G. Dunér, T.M. Przybycien, S.G. Garoff, and R.D. Tilton*, Carnegie Mellon University, USA.

Surfactants and Detergents Division

S&D 5.1: General Surfactants

Chairs: P.T. Sharko, Shell Global Solutions (US) Inc., USA; and R.T. Zehr, Church & Dwight Co. Inc., USA

Ballroom B

- 1:55 **Introduction.**
- 2:00 **New Cosmetic Applications of Castor Oil.** S.S. Awbrey¹, T. Alexander¹, and E.M. Hernandez^{2*}, ¹Envirosource, Inc., USA, ²Advanced Lipid Consultants, USA.
- 2:20 **More Accurate HLD Parameters for Anionic Surfactants.** C.Y. Su, M. Budhathoki, B.J. Shiau, and J.H. Harwell, Inst. of Applied Surfactant Research, University of Oklahoma, USA.
- 2:40 **Microwave Synthesis of Biodegradable Gemini Surfactants Based on Used Frying Oils and Fats.** D. Tripathy and A. Mishra, Gautam Buddha University, India.
- 3:00 **Heat of Wetting as a Substitute for Contact Angle Measurements.** B.P. Grady, J.S. Weston, J.H. Harwell, and R.E. Jentoft, University of Oklahoma, USA.
- 3:20 **The USDA BioPreferred Program: An Opportunity in the Bio-based Products Niche.** M. Wheat, USDA, BioPreferred® Program, USA.
- 3:40 **Bio-based Ethylene Oxide—The Road to 100% Sustainable Nonionic Surfactants.** B.S. Jaynes, Croda, Inc., USA.
- 4:00 **The Development of a High Performance, yet Economic and Mild, P-free Automatic Dishwasher Detergent.** R. Nolles, Cosun Biobased Products, USA.

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POSTER PRESENTATIONS

Hall A/B

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- ▶ The presenter is the first author or otherwise indicated with an asterisk (*).
- ▶ Abstracts are available online at AnnualMeeting.aocs.org/2016Resources or on *The App*. See page 6 for download instructions.
- ▶ Access and print abstracts at the computer stations located in Hall A/B.
- ▶ Award presentations are highlighted by a gray box.

Dedicated Poster Viewing

Tuesday, May 3, 5:30–6:30 pm

Authors will be present at their posters during this time.

ANA-P: Analytical Poster Session

Chair: R.A. Della Porta, Frito-Lay, Inc., USA

1. **Different Vitamin-E Composition and Antioxidant Capacity of *Moringa oleifera* Seed Oil When Extracted by Screw Press versus n-hexane Maceration.** P. Thamakorn and P. Chatthai, King Mongkut's Inst. of Technology, Thailand.
2. **Fatty Acid Composition and Some Physicochemical Properties of Phoenix Tree Seed Oil.** S. Sun¹, X. Li¹, and Z. Guo², ¹Henan University of Technology, China, ²Aarhus University, Denmark.
3. **Separation of Fatty Acids by SFC.** J. Yang, K.J. Rosnack, and J.P. Romano, Waters Corp., USA.
4. **Biochemical Characterization and Comparison of Turkish Extra Virgin Olive Oils from Different Olive Varieties of Two Identical Growing Conditions.** C. Dag^{1,2}, S. Bekiroglu¹, I. Ozdemir¹, O. Sucsoran Karaoglu¹, I. Demirtas¹, M.T. Ozkaya³, C. Turkay⁴, and E. Ertaş¹, ¹Food Inst., TUBITAK Marmara Research Center, Turkey, ²Dept. of Chemistry, Mugla Sitki Kocman University, Turkey, ³Dept. of Horticulture, Ankara University, Turkey, ⁴Alta Horticultural Research Inst. Erdemli, Turkey.
5. **Discrimination of Major Cooking Oils in Korea Using Fatty Acid Composition Data in Combination with Canonical Discriminant Analysis.** J. Kim¹, J. Kim¹, H.S. Chun¹, and B.H. Kim², ¹Chung-Ang University, Republic of Korea, ²Sookmyung Women's University, Republic of Korea.
6. **Characterization and Quantitation of Policosanols in Green Tea (*Camellia sinensis*) Leaves by Gas Chromatography-tandem Mass Spectrometry.** M.Y. Jung¹, S.J. Choi¹, S.Y. Park¹, J.S. Park³, and S.K. Park², ¹Woosuk University, Republic of Korea, ²Nambu University, Republic of Korea, ³Korea Food Research Inst., Republic of Korea.
7. **A Novel Validated Method for Quantifying Omega-3 Polyunsaturated Fatty Acids (PUFA) in Chewable Gummy Dietary Supplements.** Z. Li¹, E.A. Haile¹, C.J. Oles², and C.T. Srigley^{*2}, ¹Joint Inst. for Food Safety & Applied Nutrition, University of Maryland, USA, ²Center for Food Safety & Applied Nutrition, US Food & Drug Administration, USA.
8. **Optimization of Methylation Conditions for the Quantification of a-Eleostearic Acid in *Njangsa (Ricinodendron heudelotii)* Seed Oil.** H.K. Abaidoo-Ayin¹, P.G. Boakye¹, K.C. Jones², V.T. Wyatt², and S.E. Lumor¹, ¹Delaware State University, USA, ²USDA, ARS, ERRC, USA.
9. **Characterization of Chicken Yolk Vitelline Membrane Proteins Using Eggs Enriched with Conjugated Linoleic Acid.** S.E. Shinn (*Honored Student and The Peter and Clare Kalustian Award Winner*), R. Liyanage, A. Proctor, and J.O. Lay, University of Arkansas, USA.
10. **Comparative Fatty Acid Profiles of Seed Oil from Different Date (*Phoenix dactylifera* L.) Fruit Varieties.** F.Y. Al Juhaimi, King Saud University, Saudi Arabia.
11. **Double Bond Distribution Structure of Triacylglycerols in Vegetable Oils.** B. Xue and W. Cao, ☉Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China.
12. **Asarinin as a Specific Indicator for Identification of Roasted Sesame Seed Oil Adulterated with Refined Unroasted Sesame Seed Oil.** W. Cao¹, C. Yuan², B. Xue¹, and F. Chen², ☉Wilmar

Poster Viewing

Sunday, May 1 5:30–7:30 pm
Monday, May 2 9:30 am–5:00 pm
Tuesday, May 3 9:30 am–6:30 pm
Wednesday, May 4 7:30 am–2:00 pm

(Shanghai) Biotechnology Research & Development Center Co., Ltd., China, ²Shanghai Grain Science Research Inst., China.

13. **Green Method for Authentication of Lipid Saturation/Unsaturation Using Natural Frankincense Resin.** A. Hayyan^{1,2}, M.E.S. Mirghani³, S.N. Rashid^{1,2}, M. Hayyan^{2,4}, and M.A. Hashim^{1,2}, ¹Dept. of Chemical Engineering, University of Malaya, Malaysia, ²University of Malaya Centre for Ionic Liquids (UMCIL), Malaysia, ³Dept. of Biotechnology Engineering, International Islamic University Malaysia, Malaysia, ⁴Dept. of Civil Engineering, University of Malaya, Malaysia.
14. **Qualification of Gangliosides in Milk Products by NMR Spectroscopy.** B.W.K. Diehl and S. Lützenkirchen, Spectral Service AG, Germany.
15. **Characterization and Quantification of Glycolipids from Vegetable Lecithin by NMR Spectroscopy.** B.W.K. Diehl and S. Jensch, Spectral Service AG, Germany.
16. **¹H NMR Inter-laboratory Test for Edible Oil Characterization.** B.W.K. Diehl, E. Zailer, and Y.B. Monakhova, Spectral Service AG, Germany.
17. **Development of an ICP-OES Method for Quantitation of Phosphorus and Metals in Distillers Corn Oil.** B. Pierson and J.Y. Lee, ☉POET Research, USA.
18. **Application of Gas Chromatography—Vacuum Ultraviolet Absorption Detection for the Analysis of Fatty Acid Methyl Esters.** C.A. Simpson¹, H. Fan², J.P. Smuts², L. Bai¹, P. Walsh¹, D.W. Armstrong², and K.A. Schug², ¹VUV Analytics, Inc., USA, ²Dept. of Chemistry & Biochemistry, University of Texas at Arlington, USA.
19. **Essential Oil Yield and Characterization of 14 *Ocimum tenuiflorum* Varieties.** N.J. Fuller, R.B. Pegg, D.C. Berle, University of Georgia, USA.
20. **Modern State of GC-MS/MS Pesticide Analysis and Workflows for Unstoppable Productivity.** L.A. Dolata, Thermo Fisher Scientific, USA.

BIO-P: Biotechnology Poster Session

Chairs: B.H. Kim, Sookmyung Women's University, Republic of Korea; and S. Kishino, Kyoto University, Japan

1. **Lipase-catalyzed Interesterification of Pili (*Canarium ovatum* Engl.) Pulp and Nut Oils for the Synthesis of Cocoa Butter Alternatives.** N.G. Dumandan and L.J. Pham, Oils & Fats Lab., National Inst. of Molecular Biology & Biotechnology (BIOTECH), University of the Philippines Los Baños, Philippines.
2. **Anitobesity and Hypolipidemic Effects of Dietary Structured Pinolenic Triacylglycerols in Diet-induced Obese Mice.** M.Y. Chung¹, H. Woo², H.D. Choi¹, I.W. Choi¹, and B.H. Kim³, ¹Korea Food Research Inst., Republic of Korea, ²Chung-Ang University, Republic of Korea, ³Sookmyung Women's University, Republic of Korea.
3. **Lipase-catalyzed Synthesis of a Novel Xylitol Ester of 7,10-dihydroxy-8(E)-octadecenoic Acid.** H.G. Lee¹, Q. Long¹, C.T. Hou², and H.R. Kim¹, ¹School of Food Science & Biotechnology, Kyungpook National University, Republic of Korea, ²USDA, ARS, NCAUR, Renewable Product Technology Research Unit, USA.
4. **Synthesis of a Novel Biologically Active Amide Ester of 7,10-dihydroxy-8(E)-octadecanoic Acid (DOD) Using Lipase.** I.H. Choi¹, J.H.

- Jung¹, C.T. Hou², and H.R. Kim¹, ¹School of Food Science & Biotechnology, Kyungpook National University, Republic of Korea, ²USDA, ARS, NCAUR, Renewable Product Technology Research Unit, USA.
- Nanoparticles Usage as an Innovative Approach for Inducing Lipid Production of Microalgal Cells.** D. Öztay, D. Özçimen, A.T. Koçer, B. Inan*, and N.E. Balkanlı, Yıldız Technical University, Turkey.
 - Usage of Microalgal Fatty Acids for Biopharmaceutical Drugs.** D. Özçimen, B. Inan*, A.T. Koçer, and N.E. Balkanlı, Yıldız Technical University, Turkey.
 - Selective Enrichment of Conjugated Linoleic Acid Isomers from Their Mixtures Using a Combination of Urea Crystallization and Lipase-catalyzed Esterification.** J. Kim¹, I.H. Kim², H.D. Choi³, I.W. Choi³, and B.H. Kim⁴, ¹Chung-Ang University, Republic of Korea, ²Korea University, Republic of Korea, ³Korea Food Research Inst., Republic of Korea, ⁴Sookmyung Women's University, Republic of Korea.
 - SC-CO₂ Extraction of Biodiesel in Rice Bran Synthesized by *in-situ* Transesterification.** N.K. Choi^{1,2} and I.H. Kim^{1,2}, ¹Dept. of Food & Nutrition, Korea University, Republic of Korea, ²Dept. of Public Health Science, Graduate School, Korea University, Republic of Korea.
 - Characterization of Oleins and Stearins of Various Palm Oils from Interspecific Hybrids *Elaeis oleifera* x *Elaeis guineensis*.** N. Quezada¹, F. Orellana², C. Ulloa¹, O. Leon², and I. Zambrano¹, ¹La Fabril, Ecuador, ²Energy Palma, Ecuador.
 - Environmental Impact and Scalability of Microalgal Biofuel Production Integrating Coal Fired Power Plant Flue Gas.** D. Hess, K. Napan, B. McNeil, and J.C. Quinn, Utah State University, USA.
 - Effects of Heavy Metals and Produced Water on Microalgae Productivity.** E. Torres, B. McNeil, D. Hess, and J.C. Quinn, Utah State University, USA.
 - Soy-oil-based Waterborne Polyurethane Improved Wet Strength of Soy Protein Adhesives on Wood.** H. Liu, C. Li, and X.S. Sun*, Bio-Materials & Technology Lab., Dept. of Gran Science & Industry, Kansas State University, USA.

Biotechnology Division Poster Oral Presentations

Tuesday, May 3, 5:10–6:10 pm | Hall A/B

Presentation details are located in the Program Addendum.

CEA-P: Cannabis Extraction and Analytics Poster Session

Chair: C.L. Ludwig, AOCS, USA

- Cannabis, Hemp, and Hops: Sample Comparative Results with Qualitative Strip Test Analysis for the Determination of Total Aflatoxin.** C. Borbone, J. Yu, and N. Zabe, Vicam, a Waters Business, USA.
- The Fate of Cannabinoids and Contaminants Upon Consumption of Cannabis Flowers and Oils by Inhalation.** S. Elzinga, N. Sullivan, and J.C. Raber, The Werc Shop, LLC, USA.

EAT-P: Edible Applications Technology Poster Session

Chair: M.A. Rogers, University of Guelph, Canada

- Addition of Pure Monoacylglycerols to Pure Triacylglycerols in Different Proportions: Effects on Crystallization Properties.** R.C. Silva, J.M. Maruyama, F.A.S.M. Soares, N.R. Dagostinho, Y.A. Silva, J.N.R. Ract, and L.A. Giolielli, São Paulo University, Brazil.
- Synthesis and Characterization of Non-hydrogenated, Trans Free Cocoa Butter Substitutes by Chemical Interesterification of Palm Oil Fractions.** V.R.R. Yettella and B. Eapen, ©AAK USA, Inc., USA.
- Conjugated Linoleic Acid (CLA) Rich Eggs: Dried for Convenience and Evaluated for Use in Breakfast Sandwiches.** S.E. Shinn, A. Proctor, N.B. Anthony, J.I. Baum, and J.O. Lay, University of Arkansas, USA.
- Functional Elaidic Containing Triglycerides: Synthesis, Physical**

Properties, and Solution Behavior. G.R. List¹, R.O. Adlof¹, and A.G. Marangoni², ¹USDA/Retired, USA, ²University of Guelph, Canada.

- Crystallization Behavior of Neutralized and Bleached Shea Butter Under Dynamic Conditions.** V. Gibon¹, J. Maes¹, P. Dijkmans¹, C. Blecker², and S. Danthine², ¹Desmet Ballestra Group, Belgium, ²Gembloux Agro-Bio Tech, Belgium.
- Microstructure and Polymorphism of Enzyme-catalyzed Interesterified Blends of Rice Bran Oil and Fully Hydrogenated Rice Bran Oil.** N. Callejas¹, N. Estefan², L. Suescun², and I. Jachmanián¹, ¹Grupo de Derivados de la Industria Alimentaria (CYTAL), Uruguay, ²Cryssmat/Lab (DETEMA), Universidad de la República, Uruguay.
- Non Hydrogenated Structuring Fat for Confectionery Fillings and Chocolate Spreads.** K. Bhaggan and H. Manson, IOI Loders Croklaan BV, The Netherlands.
- Binary Phase Behavior of Tripalmitin and 1,3-dipalmitoyl-2-stearoyl-sn-glycerol.** K. Bhaggan¹, K.W. Smith³, C. Blecker², and S. Danthine², ¹IOI Loders Croklaan BV, The Netherlands, ²ULg, GxABT, Belgium, ³Fat Science Consulting Ltd., UK.
- Effect of Cream Ripening and Churning Conditions on Physical Properties of Butter.** J. Lee and S. Martini, Utah State University, USA.
- Analysis of Solubility Behavior of High Melting Wax in Low Melting Oil Using Hildebrand Equation.** S. Jana, N. Chiew, and S. Martini, Dept. of Nutrition, Dietetics, & Food Sciences, Utah State University, USA.
- A Prediction Tool for Accelerated and Non-accelerated Fat Bloom in Compound Chocolate Bars Using Image Analysis, Triglyceride Profile, and FAME Content.** N. Quezada, E. Marcillo, L. Macias, and J. Cajape, La Fabril, Ecuador.
- Encapsulation of Lipid Soluble Food Components with Organogelation.** K. Sisioglu¹, I. Karabulut¹, and D.J. McClements², ¹Inonu University, Turkey, ²Dept. of Food Science, University of Massachusetts Amherst, USA.
- Holistic Control of Edible Oils Based on NMR Spectroscopy.** E. Zailer, B.W.K. Diehl, and Y.B. Monakhova, Spectral Service AG, Germany.
- Oil Content and Fatty Acid Composition of French Fries of Brazil.** A.M.M. Guedes¹, A.F. Faria-Machado¹, A.E. Wilhelm¹, B.C.M.T. Pinheiro², A.C. Oliveira², J.P. Menezes³, and R. Antoniassi¹, ¹Embrapa Food Technology, Brazil, ²Federal University of Rio de Janeiro, Brazil, ³Federal Rural University of Rio de Janeiro, Brazil.
- Cocoa Butter Equivalent Prepared from Enzymatic Interesterification of Fractionated Palm Oils.** N. Biswas¹, Y.L. Cheow¹, C.P. Tan², L.F. Siow¹, ¹School of Science, Monash University Malaysia, Malaysia, ²Dept. of Food Technology, Universiti Putra Malaysia, Malaysia.
- Composition and Physicochemical Properties of Single-stage Solvent-fractionated Palm Stearin.** P. Podchong¹, S. Sonwai¹, and D. Rousseau², ¹Silpakorn University, Thailand, ²Ryerson University, Canada.

H&N-P: Health and Nutrition Poster Session

Chair: M. Fleith, Nestlé Research Center, Switzerland

- The Effect of Blood Glucose Levels Increase Controlling of Brown Rice Defatted with Supercritical Carbon Dioxide.** M. Matsubara¹, Y. Nakato², and E. Kondoh¹, ¹University of Yamanashi, Japan, ²KOA Electronics Co., Ltd., Japan.
- Evaluation of Soybean-navy Bean Emulsions.** S. Liu, M. Singh, A. Wayman, and J.A. Kenar, USDA, ARS, NCAUR, Functional Foods Research Unit, USA.
- Effects of Lysophosphatidylcholine Derived from Squid and Starfish on Leukotrienes Release from Mast Cells.** M. Takasugi^{1,2}, S. Kakoi¹, S. Yasutake¹, T. Tsumishima³, K. Takahashi³, and H. Arai⁴, ¹Kyushu Sangyo University, Japan, ²University of California, Davis, USA, ³Hokkaido University, Japan, ⁴Kitami Inst. of Technology, Japan.
- Effect of Dietary Lysophosphatidylcholine Containing n-3 PUFAs on Lipid Contents and Fatty Acid Compositions in the Serum and Brain of Rats.** R. Hosomi¹, K. Miyauchi¹, K. Fukunaga¹, T. Nagao², K. Sugimoto³, M. Yoshida¹, and K. Takahashi⁴, ¹Kansai University, Japan,

- ²Osaka Municipal Technical Research Inst., Japan, ³Phytopharma, Inc., Japan, ⁴Hokkaido University, Japan.
- In vitro and in vivo Insights into the Digestion of a Unique Natural Emulsion: Human Milk.** S. De Oliveira¹, A. Deglaire¹, C. Moustiés¹, O. Ménard¹, A. Bellanger², F. Carrière³, P. Villeneuve⁴, E. Dirson⁵, Y. Legouar¹, F. Rousseau¹, D. Dupont¹, and C. Bourlieu^{*1}, ¹INRA-AGROCAMPUS, France, ²Dept. of Pediatrics, CHU Rennes, France, ³CNRS, Aix Marseille Université, France, ⁴CIRAD, UMR IATE, France, ⁵Lactarium-Infant Nutrition & Dietetics, CHU Rennes, France.
 - Physicochemical Properties of Goat Milk Fat as Influenced by Feeding Fish Oil Entrapped in Chemically Treated Protein Matrices.** J.H. Lee, B. Lemma, and C. Alfred, Fort Valley State University, USA.
 - Nascent VLDL as a Major Carrier of Oxo-phospholipids in Rat Plasma.** A. Kuksis, J.J. Agren, and W. Pruzanski, University of Toronto, Canada.
 - Regulation of Metabolic Control Factors via PGC-1 Up-regulation by Fucoxanthin.** M. Hosokawa, R. Tateyama, Y. Ohuchi, A. Katsuki, and K. Miyashita, Hokkaido University, Japan.
 - The Effect of Oils Rich in Linoleic Acid on Body Composition in Postmenopausal Women with Metabolic Syndrome.** R.M. Cole, S. Puchala, J.Y. Ke, R.R. Andridge, B. O'Donnell, D. Bradley, and M.A. Belury, Ohio State University, USA.
 - Evidence for Change in Cardiolipin Remodeling, Induced by the Chemotherapeutic Drug Doxorubicin.** D. Snoke¹, B. Cotten¹, T. Banh¹, R.M. Cole¹, T. Orchard¹, M.M. Gaudier-Diaz², A. DeVries², and M.A. Belury¹, ¹Dept. of Human Sciences, Ohio State University, USA, ²Dept. of Nutrition, Ohio State University, USA.
 - Study on Proportionately Nutritional Edible Blend Oil.** J. An, G. Chen, L. Wang, Y. Chen, and S. Zhou, COFCO Food Sales & Distribution Co., Ltd., China.
 - Effect of Black Raspberry Seed Oil on Lipid Metabolism in db/db Mice.** H.J. Lee¹, H. Jung^{1,2}, H. Cho¹, and K.T. Hwang^{*1}, ¹Dept. of Food & Nutrition, Seoul National University, Republic of Korea, ²Research Inst. of Human Ecology, Seoul National University, Republic of Korea, ³Dept. of Home Economics, Korea National Open University, Republic of Korea.
 - Effect of Dietary Minor Monounsaturated Fatty Acid (MUFA) on Cardiovascular Disease Risk.** Z.H. Yang¹, H. Miyahara², J. Takeo², B. Vaisman¹, M. Pryor¹, and A. Remaley¹, ¹Cardio-Pulmonary Branch, National Heart, Lung, & Blood Inst., National Inst. of Health, USA, ²Central Research Lab., Tokyo Innovation Center, Nippon Suisan Kaisha, Japan.
 - A Comparison of Anti-inflammatory Effects of Rumenic Acid to Celecoxib in the Collagen Induced Arthritis Model.** J.M. Olson, A.W. Haas, J. Lor, H.S. McKee, and M.E. Cook, University of Wisconsin-Madison, USA.
 - Awareness and Knowledge of Individual Omega-3 Fatty Acids in Young Adults.** K. Roke, J.I. Rattner, P. Brauer, and D.M. Mutch, University of Guelph, Canada.
 - Fatty Acids Composition in Feeds and Plasma of Canadian Premature Infants.** Z. Hossain^{1,2}, D.S. MacKay² and J.K. Friel², ¹Dept. of Fisheries Biology & Genetics, Bangladesh Agricultural University, Bangladesh, ²Richardson Centre for Functional Foods & Nutraceuticals, Dept. of Human Nutritional Sciences, University of Manitoba, Canada.
 - Enhancing Shelf Life of Sunflower Oil Using Bamboo Leafy Biomass as Antioxidant Material.** V. Kardam, S. Satya, K.K. Pant, and S.N. Naik, Indian Inst. of Technology Delhi, India.
 - A Sulfated Flaxseed Polysaccharide and Its Macrophage Immunomodulatory and Anti-hepatitis B Virus Activities.** X. Li¹, W. Liao^{1,2}, S. Liang¹, Y.Y. Shim^{*2}, M.J.T. Reaney^{1,2}, and Y. Wang¹, ¹Guangdong Saskatchewan Oilseed (GUSTO) Joint Lab., Dept. of Food Science & Engineering, Jinan University, China, ²Dept. of Plant Sciences, University of Saskatchewan, Canada.
 - Interfacial Studies on Four Lp(a) Isoforms: Relationship Between Stability and Isoforms?** A. Santonastaso¹, V. Vié^{*2}, G. Paboeuf², V. Bolanos-Garcia³, C. Scotti¹, L. Salvaneschi⁴, and S. Beaufils², ¹Dept. of Molecular Medicine, Unit of Immunology & General Pathology, University of Pavia, Italy, ²IPR Inst. of Physics, Rennes University, France, ³Dept. of Biological & Medical Sciences, Oxford Brookes University, UK, ⁴Immunohaematology & Transfusion Medicine Dept., IRCCS Policlinico San Matteo Foundation, Italy.

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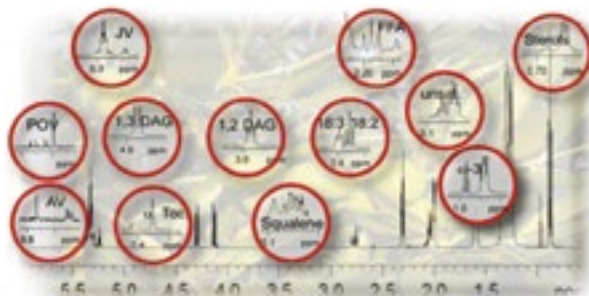
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IOP-P: Industrial Oil Products Poster Session

Chairs: B.R. Moser, USDA, ARS, USA; and D. Pioch, CIRAD, France

- Bifunctional Fatty Acid Esters as High Performance Bioplasticizers.** D.R. Kodali and L.J. Stolp, University of Minnesota, USA.
- Development of Food-grade Filled Hydrogels for Oral Delivery of Lipophilic Active Ingredients: PH-triggered Release.** Z.P. Zhang¹, R.J. Zhang¹, and D.J. McClements^{1,2}, ¹Dept. of Food Science, University of Massachusetts Amherst, USA, ²Dept. of Biochemistry, King Abdulaziz University, Saudi Arabia.
- Enhancing Nutraceutical Bioavailability from Raw and Cooked Using Excipient Emulsions: Influence of Lipid Type on Carotenoid Bioaccessibility from Carrots.** R.J. Zhang¹, Z.P. Zhang¹, L.Q. Zou¹, H. Xiao¹, G.D. Zhang¹, E.A. Decker^{1,2}, and D.J. McClements^{1,2}, ¹Dept. of Food Science, University of Massachusetts Amherst, USA, ²Dept. of Biochemistry, King Abdulaziz University, Saudi Arabia.
- Solubility of Empty Palm Bunch Ash (EPBA) in Lower Aliphatic Alcohols and Catalytic Ability of the Alcohol Solution.** J.U. Obibuzor¹, E.A. Okogbenin¹, T. Okunwaye¹, and N.B. Onwubolu², ¹Biochemistry Div., Nigeria Inst. for Oil Palm Research (NIFOR), Nigeria, ²Biochemistry Dept., University of Benin, Nigeria.
- Biocatalysed Glycerolysis of Low Grade Shea Butter.** J.U. Obibuzor¹, E.A. Okogbenin¹, T. Okunwaye¹, and N.B. Onwubolu², ¹Biochemistry Div., Nigeria Inst. for Oil Palm Research (NIFOR), Nigeria, ²Biochemistry Dept., University of Benin, Nigeria.
- Transesterification of Coconut Oil and *albescens* Palm Oil Using Alcohol Extract of Empty Palm Bunch Ash.** J.U. Obibuzor¹, E.A. Okogbenin¹, T. Okunwaye¹, and N.B. Onwubolu², ¹Biochemistry Div., Nigeria Inst. for Oil Palm Research (NIFOR), Nigeria, ²Biochemistry Dept., University of Benin, Nigeria.
- Fatty Acid Profile of 25 Plant Oils and Implications for Industrial Applications.** B.R. Moser, USDA, ARS, NCAUR, Bio-Oils Research Unit, USA.
- Conversion of Crude Glycerol to Value-added Chemicals in Alcohol.** S. Ren and X.R. Ye*, University of Tennessee, USA.
- A Novel Cardanol-based Antioxidant and Its Application in Vegetable Oils and Biodiesel.** Z. Liu¹, J. Chen², G. Knothe¹, X. Nie², and J. Jiang², ¹USDA, ARS, NCAUR, USA, ²ICFP, CAF, China.
- Synthesis and Characterization of Estolides Containing Epoxy and Cyclic Carbonate Groups.** J.A. Kenar, S.C. Cermak, K.M. Doll, and T.A. Isbell, USDA, ARS, NCAUR, USA.
- Synthesis of Phenolic Branched-chain Fatty Acids.** Z. Yan^{1,2}, K. Wagner¹, X. Fan¹, A. Nuñez¹, R.A. Moreau¹, and H. Ngo¹, ¹USDA, ERRC, USA, ²School of Chemistry & Chemical Engineering, South China University of Technology, China.
- Study of the Effects of Structurants on Structure of Supramolecular Oleogel and Its Curcumin Loading Capacity.** G. Liu and W. Wan, South China University of Technology, China.
- The Industrial Application of Modified Fatty Acid Oligomer in Lubricating Oil.** J.W. Chu, W.C. Jeong*, and Y.G. Choi, Ohsung Chemistry Co., Republic of Korea.
- Biodiesel Production from Oil Extracted from Roselle (*Hibiscus sabdariffa*) Seeds Using Alkaline Trasestrification Reaction.** A. Hayyan^{1,2}, ¹Dept. of Chemical Engineering, University of Malaya, Malaysia, ²University of Malaya Centre for Ionic Liquids (UMCIL), Malaysia.
- Production of Biodiesel from Acidic Crude Palm Oil Using 1-butyl-3-methylimidazolium Hydrogensulfate Ionic Liquid as a Catalyst.** A. Hayyan^{1,2}, B.E.A. Alweish^{1,2}, M. Hayyan^{2,3}, and M.A. Hashim^{1,2}, ¹Dept. of Chemical Engineering, University of Malaya, Malaysia, ²University of Malaya Centre for Ionic Liquids (UMCIL), University of Malaya, Malaysia, ³Dept. of Civil Engineering, University of Malaya, Malaysia.
- Supercritical Fluid Extraction and Bioactivity of Cedarwood Oil.** F.J. Eller¹, L.B. Flor-Weiler², and R.W. Behle², ¹USDA, NCAUR, ARS, FFR, USA, ²USDA, NCAUR, ARS, CPR, USA.
- Biodiesel Production from Acidic Soybean Oil Using Solid Mixtures of Li₂SiO₃ and Zeolite ABW as Heterogeneous Catalysts.** Y.J. Chen, D.Y. Lin, and B.H. Chen*, National Cheng Kung University, Taiwan.
- Polyesters from Canola Oil Derived Monomers.** L. Jin and A. Ullah, University of Alberta, Canada.
- Biodiesel from Microalgae Oil via Ultrasound-assisted *in situ* Alkaline Transesterification: (I). Effect of Co-solvent.** N. Martinez¹, N. Callejas¹, E. Morais², J. Costa², I. Jachmanián¹, and I. Vieitez^{1*}, ¹Facultad de Química, Universidad de la República, Uruguay, ²Escuela de Química y Alimentos, Universidad Federal de Rio Grande, Brasil.
- Biodiesel from Microalgae Oil via Ultrasound-assisted *in situ* Alkaline Transesterification: (II). Effect of Ultrasound Power.** N. Martinez¹, N. Callejas¹, E. Morais², J. Costa², I. Jachmanián¹, and I. Vieitez^{1*}, ¹Facultad de Química, Universidad de la República, Uruguay, ²Escuela de Química y Alimentos, Universidad Federal de Rio Grande, Brasil.
- Crop Production of Acetyl-triacylglycerols as a New Source of Emulsifiers, Plasticizers, Biolubricants, and Reduced Calorie Oil.** J.B. Ohlrogge^{1,2}, J. Liu^{1,2}, and T.P. Durrett³, ¹Dept. of Plant Biology, Michigan State University, USA, ²Great Lakes Bioenergy Research Center, USA, ³Dept. of Biochemistry & Molecular Biophysics, Kansas State University, USA.
- Evaluation of Techniques for Reducing Sulfur Content of Biodiesel Produced from Grease Trap Waste and Sewage Scum Grease.** R.A. Cairncross, M.E. Hums, and S. Spatari, Chemical & Biological Engineering Dept./Civil, Architectural, & Environmental Engineering Dept., Drexel University, USA.
- Synthesis of Soybean Oil-based Epoxide with a Terminal Epoxy Group for Developing New Polycarbonate Polymers via the Copolymerization with Carbon Dioxide.** X. Luo, C. Chang, Y. Qin, and Y.B. Li*, Dept. of Food, Agricultural & Biological Engineering, Ohio State University, USA.
- A Camelina Oil Polyol That Can Be an Alternative to Castor Oil in Polymer Formulations.** T.S. Omonov¹, E. Kharraz¹, J. Grushcow², R. Bergstra², and J.M. Curtis¹, ¹Lipid Chemistry Group, Dept. AFNS, University of Alberta, Canada, ²Linnaeus Plant Sciences Inc., Canada.
- Techno-economic and Lifecycle Assessment of the Conversion of Microalgae to Liquid Fuels and Intermediate Value Products.** C. DeMill², R.W. Davis¹, A. George¹, R.C. Pate¹, B.C. Wu¹, and W. Wu¹, ¹Sandia National Lab., USA, ²Utah State University, USA.
- Effect of Temperature and Partial Pressure on the Solubility of Carbon Dioxide in Fractionated Milk Fat.** T. Truong¹, M. Palmer², N. Bansal¹, and B. Bhandari^{1*}, ¹School of Agriculture & Food Sciences, University of Queensland, Australia, ²Dairy Innovation Australia, Australia.

LOQ-P: Lipid Oxidation and Quality Poster Session

Chair: X. Pan, DuPont Nutrition & Health, USA

- The Use of Factorial Design to Accelerate the Oxidation of Oils Containing Different Types of Omega-3 Fatty Acids.** T.A.D. Fabiano and I.A. Castro*, LADAF, Dept. of Food & Experimental Nutrition, University of São Paulo, Brazil.
- Effect of Water Activity and Solid Fat Content on Lipid Oxidation in a Model Crackers System.** T.P. Vu, L. He, D.J. McClements, and E.A. Decker, University of Massachusetts Amherst, USA.
- Quality Characteristics, Fatty Acid Composition, and Oxidation Stability of Selected Cold-pressed Seed Oils.** C. Zheng^{1,2}, M. Yang^{1,2}, Q. Zhou^{1,2}, W.L. Li^{1,2}, C.S. Liu^{1,2}, and F.H. Huang^{1,2}, ¹Oil Crops Research Inst., Chinese Academy of Agricultural Sciences, China, ²Hubei Key Lab. of Lipid Chemistry & Nutrition, China.
- Effect of Genotype on the Oil Content and Fatty Acid Composition of the Oils from Sunflower Seeds Cultivated in Brazil.** R.D.A. Amaral, L.C. Rabonato, R.S. Oliveira, T.D. Alexandrini, and R.A. Ferrari, Food Technology Inst., Brazil.
- Evaluation of Antioxidants from Plant Extracts in Pet Food.** C. Deyrieux^{1,2}, E. Durand¹, J. Lecomte¹, F. Michel-Salaun², and P. Villeneuve¹, ¹CIRAD UMR IATE, France, ²Videka Diana Pet Food, France.

6. **Authentication of Turkish Extra Virgin Olive Oils Using a Portable Infrared Technology.** D.P. Aykas¹, A.D. Karaman², B. Keser³, and L.E. Rodriguez-Saona¹, ¹Ohio State University, USA, ²Adnan Menderes University, Turkey, ³AYTB Lab., Turkey.
7. **Encapsulation of Bioactive Unsaponifiable Matter of Rice Bran Oil and Evaluation of Their Oxidative Stability.** S. Das¹, D.K. Bhattacharyya², and M. Ghosh¹, ¹University of Calcutta, India, ²IEST, Shibpur, India.
8. **Oxidative Stability of Palm and Other Vegetable Oil Blends in Deep Fat Frying Applications.** C. Soriano and G.L. Baker, University of Florida, USA.
9. **Do Glassware Washing Procedures Affect Oxidative Stability Index (OSI) Equipment Measurements?** L. Bueno-Borges, G. Santos, N. Sangaletti-Gerhard, and M. Regitano-d'Arce, Luiz de Queiroz College of Agriculture, University of São Paulo, Brazil.
10. **High Stability Soybean Oil Obtained from Ethanolic Extraction.** L. Bueno-Borges, G. Santos, N. Sangaletti-Gerhard, and M. Regitano-d'Arce, Luiz de Queiroz College of Agriculture, University of São Paulo, Brazil.
11. **Stabilization of Margarine by Rosemary Extract.** W. Ji, T. Zhang, and Y.R. Jiang, Wilmar (Shanghai) Biotechnology Research & Development Center, Co., Ltd., China.
12. **Effect of Processing and Storage at Two Temperatures on the Physicochemical Properties of Sesame Seeds and Sesame Pasta.** T. Rababah¹ and S. Brewer², ¹Jordan University of Science & Technology, Jordan, ²University of Illinois at Urbana-Champaign, USA.
13. **Study of the Effectiveness of Testo 270 Based on Dielectric Constant for the Evaluation of Used Frying Oil.** X. Li, R. Liu, Q. Jin, and X. Wang, Jiangnan University, China.
14. **Omega-3 Egg Yolk Fortification Using a Processing Approach.** S.Y. Gonzalez and J. Wu, University of Alberta, Canada.
15. **Effect of Encapsulated Starter Cultures Usage and Heat Treatment on Lipid Oxidation of Sucuk: A Turkish Sausage.** T. Bilenler and I. Karabulut, Inonu University, Turkey.
16. **Influence of Laccase Enzyme in the Oxidative Stability of Several Virgin Vegetable Oils.** G.K. Guerberoff¹ and C.C. Camusso^{*1,2}, ¹Universidad Nacional de Córdoba, Argentina, ²Universidad Nacional de La Rioja, Argentina.
17. **Oxidative Stability of an Iranian Ghee (Butter Fat) versus Soybean Oil During Storage at Different Temperatures.** M. Enteshari^{1,2} and K. Nayebedeh², ¹Otago Food Science University, Australia, ²Dept. of Food Science & Technology, Shahid Beheshti Medical University, Iran.
18. **Novel, Natural, and Multifunctional Emulsion Stabilizers: Softwood Hemicelluloses.** M.J. Lehtonen¹, S. Teräslahti¹, M. Merinen¹, C. Xu², P. Kilpeläinen³, A.M. Lampi¹, S. Willför², and K.S. Mikkonen¹, ¹Dept. of Food & Environmental Sciences, University of Helsinki, Finland, ²Johan Gadolin Process Chemistry Centre, Lab. of Wood & Paper Chemistry, Åbo Akademi University, Finland, ³Natural Resources Inst. Finland, Finland.

PHO-P: Phospholipid Poster Session

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

1. **Inverse Gas Chromatography Determination of the Solution Thermodynamic Parameters Between Lecithin and Organic Solutes.** R. Araya¹, F. Temelli¹, and J.W. King², ¹University of Alberta, Canada, ²CFS, University of Arkansas, USA.

PRO-P: Processing Poster Session

Chair: N.T. Dunford, Oklahoma State University, USA

1. **Theoretical Optimization of Vitamin E Recovery by Adsorption/Desorption Using Ion-exchange Resin.** K. Hiromori, K. Kanuma, N.

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- Shibasaki-Kitakawa, and T. Yonemoto, Dept. of Chemical Engineering, Tohoku University, Japan.
- Effects of Process Parameters on Levels of Fatty Acid Esters of 3-Chloropropane-1,2-diol (3-MCPD) and Glycidol (G) in Palm Olein.** V.R.R. Yettella and B. Eapen, ©AAK USA, Inc., USA.
 - A Study on Adsorptive Refining of Rapeseed Oil in Pilot-scale System.** C.S. Liu, F.H. Huang, W.L. Li, M. Yang, and Q. Zhou, Oil Crops Research Inst., Chinese Academy of Agricultural Sciences, China.
 - Pilot-scale Production of Renewable Diesel Fuel from Filamentous Fungi *Rhizopus oligosporus* Using Continuous-flow Hydrothermal Liquefaction.** A. Suesse, G. Norton, P. Bell, and J. van Leeuwen, Iowa State University, USA.
 - Extraction Process of Lipophilic and Hydrophilic Compounds from Olive Kernel Based on Gas Assisted Mechanical Expression and Conventional Methods.** M. Koubaa¹, H. Mhemdi¹, F.J. Barba², N. Grimi¹, and E. Vorobiev¹, ¹Université de Technologie de Compiègne, France, ²Universitat de València, Spain.
 - Application of Deep Eutectic Solvent for the Treatment of Free Fatty Acid: A Review.** A. Hayyan^{1,2}, C.W. Keat¹, S.N. Rashid^{1,2}, M.A. Hashim^{1,2}, M. Hayyan^{2,3}, and M.E.S. Mirghani⁴, ¹Dept. of Chemical Engineering, University of Malaya, Malaysia, ²University of Malaya Centre for Ionic Liquids (UMCIL), University of Malaya, Malaysia, ³Dept. of Civil Engineering, University of Malaya, Malaysia, ⁴Dept. of Biotechnology Engineering, International Inst. for Halal Research & Training (INHART), International Islamic University Malaysia, Malaysia.
 - Esterification of Free Fatty Acid in Acidic Crude Palm Oil Using (1S)-(+)-10-Camphorsulfonic Acid.** A. Hayyan^{1,2}, M.A. Hashim^{1,2}, M.E.S. Mirghani³, M. Hayyan^{2,4}, and S.N. Rashid^{1,2}, ¹Dept. of Chemical Engineering, University of Malaya, Malaysia, ²University of Malaya Centre for Ionic Liquids (UMCIL), University of Malaya, Malaysia, ³Dept. of Biotechnology Engineering, International Inst. for Halal Research & Training (INHART), International Islamic University Malaysia, Malaysia, ⁴Dept. of Civil Engineering, University of Malaya, Malaysia.
 - Extraction of Sesame Oil from Defatted Sesame Meal Using Supercritical Carbon Dioxide.** K. Kim^{1,2}, N.K. Choi^{1,2}, H. Kim^{1,2}, and I.H. Kim^{1,2}, ¹Dept. of Food & Nutrition, Korea University, Republic of Korea, ²Dept. of Public Health Science, Graduate School, Korea University, Republic of Korea.
 - Clarification of Wheat-based Distillers' Solubles and Thin Stillage.** K. Ratanapariyanuch¹, Y.Y. Shim², S. Emami², and M.J.T. Reaney^{2,3}, ¹Dept. of Food & Bioproduct Sciences, University of Saskatchewan, Canada, ²Dept. of Plant Sciences, University of Saskatchewan, Canada, ³Guangdong Saskatchewan Oilseed (GUSTO) Joint Lab., Dept. of Food Science & Engineering, Jinan University, China.
 - High Power Ultrasound Treatment Effects on Process Yield Efficiency and Extra Virgin Olive Oil Characteristics.** B.M. Iqdam, M.R. Marshall, R. Goodrich-Schneider, G.L. Baker, and B.A. Welt, University of Florida, USA.
 - Life Cycle Assessment for the Production and Use of Palm Biodiesel.** C.W. Puah and Y.M. Choo, Malaysian Palm Oil Board, Malaysia.
 - Solubility of Tocopherol and Tocotrienols from Palm Oil in Supercritical Carbon Dioxide.** C.W. Puah and Y.M. Choo, Malaysian Palm Oil Board, Malaysia.
 - Bioinformatics and Peptidomics of Potato Protein Hydrolysates for Bioactivities.** S.R.C.K. Rajendran¹, C.C. Udenigwe¹, and B. Mason², ¹Dept. of Environmental Sciences, Dalhousie University, Canada, ²Verschuren Centre for Sustainability in Energy & the Environment, Cape Breton University, Canada.
 - Evaluating the Effect of Processing Conditions on the Functionality of Whey Protein Hydrolysate During Enzymatic Hydrolysis.** A. Mohan and C.C. Udenigwe, Dalhousie University, Canada.
 - Antioxidative Capacity of Potato Proteins Hydrolyzed with Gastrointestinal Proteases Using *in vitro* Glutathione Oxidation Model.** M.C. Udechukwu, C. Yiridoe, A. Gibson, M. Gong, and C.C. Udenigwe, Dalhousie University, Canada.
 - Physical Properties and Electrophoretic Characterization of Select Rosaceae Seeds.** S. Gupta, V.D. Zaffran, C. Liu, and S.K. Sathe, Florida State University, USA.
 - Protein Derived Biodegradable Food Packaging Material from Poultry By-product.** M. Zubair, J. Wu, and A. Ullah, University of Alberta, Canada.
 - Estimation of Current Cottonseed Fiber and Seed Properties.** M.K. Dowd, S.M. Pelitire, and C.D. Delhom, USDA, ARS, SRRC, USA.
 - Protein Nutritional Quality, Amino Acid Profile, and Digestibility of 30 Canadian Wheat Varieties.** A.J. Hernández-Alvarez, A. Hernández-Jabalera, S. Ribéreau, A. Achouri, Y. Arcand, and L. L'Hocine*, Agriculture & Agri-Food Canada, Canada.
 - Assessment of Protein Nutritional Quality in Canadian Soybean Varieties: Relation with Nutritional and Non-nutritional Components.** A. Hernández-Jabalera, A.J. Hernández-Alvarez, S. Ribéreau, A. Achouri, Y. Arcand, and L. L'Hocine*, Agriculture & Agri-Food Canada, Canada.
 - Effect of Novel Antioxidant Composite on the Oxidative Stability of Frying Oil and Sensory Quality of Final Fried Product.** M.A.M. Hussien, S. Saber, A. Salem, and S. Gomaa*, Innovation Center, Savola Foods Group, Egypt.

SCC-P: Society of Cosmetic Chemists Poster Session

- Axillary Microbiota Variation Across Caucasians, Hispanics, and East Asians.** A. Fan, M. Li, and L. Du-Thumm, Colgate-Palmolive Co., USA.

S&D-P: Surfactants and Detergents Poster Session

Chair: M. Wint, Amway Corp., USA

- Antimicrobial Properties of Bio-based Surfactants.** K.Z. Ren and B.P. Lamsal, Iowa State University, USA.
- Chemocleavable Surfactants Bearing Polyethylene Glycol Derived from Diethyl Tartrate.** D. Ono¹, R. Uematsu², S. Kawano¹, H. Sato¹, M. Shizuma¹, and A. Masuyama², ¹Osaka Municipal Technical Research Inst., Japan, ²Osaka Inst. of Technology, Japan.
- Syntheses and Surface Active Properties of Fluorosurfactants Having Short Perfluoroalkyl Groups.** B.M. Lee^{1,2}, E. Kang², and G. Jung², ¹Korea Research Inst. of Chemical Technology, Republic of Korea, ²University of Science & Technology, Republic of Korea.
- Organomodified Silicones in Household Care Applications.** M. Hisamoto and A. Nagy, Evonik Corp., USA.
- Surfactants with Glycerol and Sophorose Headgroup.** S.S. Bhagwat, S.P. Sulakhe, and V. Dingle-Pulate, Inst. of Chemical Technology, India.
- Optimization of Nanoemulsion Fabrication Using Microfluidization: Role of Surfactant Concentration on Formation and Stability.** S. Uluata^{1,2}, D.J. McClements^{2,3}, and E.A. Decker^{2,3}, ¹Dept. of Food Science, University of Massachusetts Amherst, USA, ²Dept. of Food Technology, Inonu University, Turkey, ³Dept. of Biochemistry, King Abdulaziz University, Saudi Arabia.

PCP-P: Protein and Co-Products Poster Session

Chairs: M.P. Hojilla-Evangelista, USDA, ARS, NCAUR, USA; and P.X. Qi, USDA, ARS, ERRRC, USA

- Profiling of Polypeptides Extracted from Water and Alkali Soluble Cottonseed Preparations.** Z. He¹ and D. Zhang², ¹USDA, ARS, SRRC, USA, ²USDA, ARS, AAHRU, USA.
- Ultra-structural Features of Oil and Protein Bodies of Canola and Camelina.** S.P. Perera^{1,2}, R.T. Tyler², D. Hegedus^{1,2}, and J.P.D. Wanasundara^{1,2}, ¹Saskatoon Research Centre, Agriculture & Agri-Food Canada, Canada, ²Dept. of Food & Bioproduct Sciences, University of Saskatchewan, Canada.

Recognizing our 2015 Elite Group of AOCS President's Club Members!



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Recruited 5 members!

Recruited 4 members

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Andrew Proctor

Recruited 3 members

Chibuike Udenigwe

Recruited 2 members

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Jessica Albright
Jonathan Curtis
Donna Dean-Zavala
Stephen Gross
Stephen Lumor
Victor Man
Mohamed Mirghani
Kevin Swanson
Heather Watson

Recruited 1 member

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Eddie Baldwin
Roberto Berbesi
Richard Carlson
Fiona Case
Brian Cooke
A. Saari Csallany
Mohan Prasad Dasari
Eleanor Dobson
Supratim Ghosh
Clifford Hall
Richard Heggs
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Jody House
Daniel Jackson
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Masaki Tsumadori
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October 1, 2014 – September 30, 2015

AOCS President's Club members receive special awards and recognition.

Learn more—visit **AOCS Information Services in the Expo Hall** or aoocs.org/recruit.

AOCS 
Since 1909
Your Global Fats and Oils Connection

EXPO 2016 EXHIBITOR DIRECTORY (as of March 15, 2016)

Connect with exhibitors on **The App!** See page 6 for download instructions.

AB Enzymes (806)

www.abenzymes.com

Let's boost your oil yield and reduce your cost with ROHALASE® PL XTRA phospholipase! AB Enzymes is an industrial biotech company specializing in enzymes. The company is part of AB Foods, and based in Darmstadt, Germany. We are pleased to join the AOCS Annual Meeting & Expo, and look forward to meeting you in our booth.

ADF Engineering Inc. (512)

www.adfengineering.com

ADF Engineering is a leading provider of process engineering solutions for the food, feed, biofuel, and bioscience industries. We offer process, structural, piping, electrical engineering, and project management services at four strategic US locations. ADF provides cost-effective engineering solutions for our clients, including many Fortune 500 companies. The ADF team of talented engineers uses cutting edge engineering tools for process modeling and design. We offer expertise in oilseeds processing, surfactants, fatty acids, and biodiesel.

Agilent Technologies (713)

www.agilent.com

Agilent Technologies is a leading provider of sample preparation, chromatography, mass spectrometry, elemental analysis, molecular spectroscopy, and laboratory information systems, as well as support services, columns, and consumables that enable you to analyze, confirm, and quantify substances of interest with confidence from sample preparation to final report.

Alfa Laval Inc. (502)

www.alfalaval.us

Alfa Laval is a leading global fats and oils industry supplier. We provide engineering services and equipment for complete processing lines, including degumming, neutralization, bleaching, deodorization, interesterification, fractionation, hydrogenation, and biofuels production. Our market-leading portfolio features SoftColumn continuous and SoftFlex semi-continuous deodorizers, PX centrifuges, decanters, heat exchangers, evaporators, and condensers.



Anderson International Corp. (412)

www.andersonintl.net

Anderson International Corporation, inventor of the Expeller® press and pioneer of the continuous press process, is a world leader in manufacturing and installing modern, oil-extraction equipment. Anderson leads in mechanical extraction of "green" oils and offers the most energy-efficient, productive machinery for preparing low-and high-oil content seeds for solvent extraction.



Artisan Industries Inc. (508)

www.artisanind.com

With over 80 years of trusted separation solutions experience, Artisan Industries Inc. has offered proprietary thin-film processes to eliminate processing steps, reduce waste, and to increase profitability. Our separation expertise can also be applied to several other applications. Our custom-configured pilot plant facilitates the design of our customized solutions for exceptionally challenging separations. Our advanced separation solution technologies can be customized, proven, and created to your specific needs, to get the most out of your product.

BASF Corporation (228)

www.catalysts.basf.com

BASF's Catalysts Division is the world's leading supplier of environmental and process catalysts, while offering exceptional expertise in the development of technologies that protect the air, produce the fuels that power our world, and ensure efficient production of a wide variety of chemicals, plastics, and other products. By leveraging our industry-leading R&D platforms, passion for innovation, and deep knowledge of precious and base metals, we develop unique, proprietary catalyst, and adsorbent solutions that drive customer success.



Biolin Scientific Inc. (301)

www.biolinscientific.com

Biolin Scientific systems are based on nanotechnology and advanced measurement techniques. From contact angle meters and tensiometers to instrumentation for

film fabrication and characterization, as well as systems that enable analysis of surface properties, our precision instruments help develop better solutions research at the frontiers of science and technology.

Bruker Corporation (607)

www.bruker.com

Bruker Corporation manufactures a variety of instruments dedicated to Analytical Solutions for Food Quality and Safety. Testing includes trait, edible oil, frying fat, and biodiesel quality control recommended by AOCS standards. A wide number of quality parameters can be analyzed with only one measurement. Ready-to-use calibrations for edible fats and oils, as well as for oil seeds, enable a quick and efficient start. Bruker is supporting the industry to contribute to better nutrition and health around the world.



Bühler Inc. (304)

www.buhlergroup.com

Bühler provides a complete line of oilseed processing equipment, including ship unloading, pre-cleaning, conveying, storage, oilseed preparation (low- and high-protein meal), large-capacity cracking and flaking mills, extraction meal grinding, pelletizing, and meal-bagging. We provide solutions for you no matter what your requirements are: upgrading your existing plant, automation engineering and controls, engineering, or single machines. Bühler: Innovations for a better world.

Buss ChemTech AG (507)

BUSS CHEMTECH
Process Technologies



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www.buss-ct.com

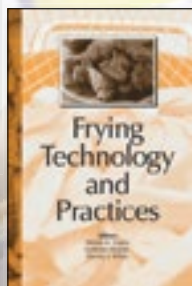
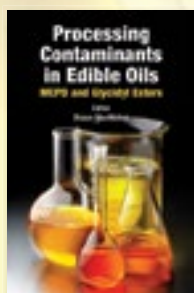
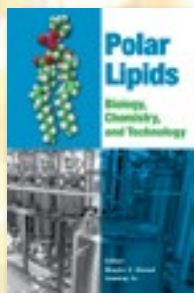
Buss ChemTech (BCT) delivers innovative, reliable, and safe process design solutions for catalyzed gas/liquid reactions to oleochemical companies around the globe. Our wide-ranging know-how and process development resources have been the key to success at over one hundred oleochemical plants. BCT will provide the scope of supply that fits your particular needs.



Top 10 of 2015



Bestsellers



Thank you to our book buyers
and all of our editors for another
successful year of publishing!

- #1 ▶ Olive Oil
A Field Guide**
Edited by Alexandra Kicenik Devarenne
Softbound. 2014. 88 pages. ISBN: 978-1-630670-55-9.
- #2 ▶ Polar Lipids
Biology, Chemistry, and Technology**
Edited by Moghis U. Ahmad and Xuebing Xu
2015. Hardback. 568 pages. ISBN: 978-1-630670-44-3.
- #3 ▶ Sunflower
Chemistry, Production, Processing, and Utilization**
 **AOCS MONOGRAPH SERIES ON OILSEEDS, VOLUME 7**
Edited by Enrique Martínez-Force, Nurhan Turgut Dunford, and
Joaquín J. Salas
2015. Hardback. 730 pages. ISBN 978-1-893997-94-3.
- #4 ▶ Palm Oil
Production, Processing, Characterization, and Uses**
 **AOCS MONOGRAPH SERIES ON OILSEEDS, VOLUME 5**
Edited by Oi-Ming Lai, Chin-Ping Tan, and Casimir C. Akoh
2012. Hardback. 852 pages. ISBN 978-0-9818936-9-3.
- #5 ▶ Processing Contaminants in Edible Oils
MCPD and Glycidyl Esters**
Edited by Shaun MacMahon
2014. Hardback. 230 pages. ISBN 978-0-9888565-0-9.
- #6 ▶ Biobased Surfactants and Detergents
Synthesis, Properties, and Applications**
Edited by Douglas G. Hayes, Dai Kitamoto, Daniel K.Y. Solaiman, and
Richard D. Ashby
2009. Hardback. 504 pages. ISBN 978-1-893997-67-7.
- #7 ▶ Structure-Function Analysis of Edible Fats**
Edited by Alejandro G. Marangoni
2012. Hardback. 322 pages. ISBN 978-0-9830791-3-2.
- #8 ▶ Olive and Olive Oil Bioactive Constituents**
Edited by Dimitrios Boskou
2015. Hardback. 400 pages. ISBN: 978-1-630670-41-2.
- #9 ▶ Frying Technology and Practices**
Edited by Monoj K. Gupta, Kathleen Warner, and Pamela J. White
2004. Hardback. 240 pages. ISBN 978-1-893997-31-8.
- #10 ▶ Lipid Oxidation
Challenges in Food Systems**
Edited by Amy Logan, Uwe Nienaber, and Xiangqing (Shawn) Pan
2013. Hardback. 548 pages. ISBN 978-0-9830791-6-3.

Visit us in the AOCS Pavilion for more information
on these best-selling titles!

Carlson Consulting Engineers, LLC (602)

www.carlsonconsultingengineers.com

Carlson Consulting Engineers is truly your "one stop" for innovative, expert help in the production, and processing of fats and oils. The Carlson professional team services clients throughout the United States and Canada with operations consulting, new facilities design/startup, troubleshooting, and process improvements such as deodorizers, interesterification, bleaching, debottlenecking, and supplier of biodiesel enzymes. Nationally recognized throughout the industry, Kenneth A. Carlson, President and founder, offers "hands-on" manufacturing process design and operational experience in the foods and vegetable oils industries. Our client roster includes many of the top food and vegetable oil companies. We also represent a new enzyme treatment in the production of biodiesel that dramatically lowers production costs.

C.M. Bernardini International Spa (700)

www.cmbernardini.it

C.M. Bernardini International is an internationally-recognized company providing technologies and complete plants for the vegetable oil and oleochemical industries. Its headquarters and workshop are integrated in an area of more than 30,000 sq. mt. located in Cisterna di Latina, an important industrial district 50 km. south of Rome.

Cosa Xentaur (321)

www.cosaxentaur.com

Cosa Xentaur provides innovative, affordable NMR analysis solutions to the food, fuel, chemical, plastic, and petrochemical industries. The manual and fully automated SpinPulseCX-20 Time Domain NMR (TD-NMR) systems are the most compact, modular, and smallest footprint 10mm NMRs in the market.

Croll Reynolds Co., Inc. (615)

www.croll.com

Croll Reynolds jet ejectors play a vital role in the deodorization and bleaching phases of the edible oil refining process. With design, manufacturing, research, and test facilities in the Far East and the United States, Croll Reynolds is the leading supplier of low cost, high performance vacuum systems to the edible oil industry.



Crown Iron Works Company (406)



Sponsor of the Program-at-a-Glance

www.crowniron.com

Crown Iron Works provides complete design and supply services for vegetable and specialty oils processing worldwide. Specializing in corn fractionation, preparation, extraction, refining, biodiesel, and oleochemical technology, we have worked to develop advanced processing technology to improve your bottom line. Our engineered approach to reliable system design makes life easier for processing professionals who desire increased capacity, lower steam/utility usage, and improved finished-product quality.



Desmet Ballestra North America (313)



Sponsor of Expo Networking Lunch

www.desmetballestra.com

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



DSM (515)



Sponsor of *The App* and Expo Wi-Fi

www.purifine.com

Royal DSM N.V. is a global science-based company active in health, nutrition, and materials. By connecting its unique competences in life sciences and materials sciences, DSM delivers innovative solutions that nourish, protect, and improve

performance in global markets. To create sustainable value for all stakeholders, DSM's Purifine® enzymes are degumming solutions designed for oilseed crushing and refining. Purifine® enzymes will increase your oil yields to provide you with a higher profit and a sustainable process.

DuPont Nutrition & Health (307)

www.food.dupont.com

Antioxidants, emulsifiers, soy protein, and trans-free technology will be just a few of the ingredients and solutions being highlighted at the DuPont booth. DuPont offers an extensive range of lipid-soluble or water-dispersible antioxidant blends and newer technologies, such as trans-free quality solutions utilizing emulsifier technology. DuPont Nutrition & Health addresses the world's challenges in food by offering a wide range of sustainable, bio-based ingredients, and advanced microbial diagnostic solutions to provide safer, healthier, and more nutritious food. Through close collaboration with customers, DuPont combines knowledge and experience with a passion for innovation to deliver unparalleled customer value to the marketplace.



Eastman Chemical Company (300)

www.eastman.com

Eastman is a global specialty chemical company. Its market-driven approaches take advantage of world-class technology platforms and leading positions in attractive end-markets such as transportation, building and construction, and consumables. Eastman serves customers in approximately 100 countries and had revenues of approximately \$9.6 billion in 2015. Headquartered in Kingsport, Tennessee, USA, Eastman employs approximately 15,000 people around the world.

Euro Fed Lipid (610)

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, by the co-organization of the fair "oils+fats", and the publishing of the *European Journal of Lipid Science and Technology*.

FlakTek, Inc. (701)

www.speedmixer.com

FlackTek Inc. will be demonstrating an advanced tool for mixing, grinding/milling and dispersing. This Non-Invasive Mixing™ technology can be used to process any combination of powders, pastes, putties and liquids from 1g to 10kg. The SpeedMixer removes air bubbles while homogenizing the sample, in seconds, and there is absolutely no cleanup!

Formulation Inc. (327)

www.formulation.com

Formulation manufactures two lines of instruments to include a microrheology system and the Turbiscan Stability Analyzer. The Rheolaser utilizes diffusing wave spectroscopy to measure the viscoelastic properties of a sample at rest. Turbiscan Stability Analyzer enables you to predict stability measuring creaming, sedimentation, flocculation, and particle size in high concentration solutions without dilution.

French Oil Mill Machinery Company (500)

www.frenchoil.com

French custom designs, manufactures, and supports oilseed processing equipment, full-press extraction, and preparation systems for food and industrial uses. Our long-lasting, durable equipment operates with maximum productivity and lower processing costs per ton. French's process solutions meet and exceed industry standards of high-quality crude oil, meal, and oil-extraction efficiencies.

**GEA Group** (309)

www.wsus.com

Description not available at press time.

GIG Karasek LLC/InCon Process Systems LLC (226)

www.gigkarasekusa.com

Enhance and recover specialty essential oils and other molecular distillation plants with modular systems using technology developed in InCon's toll plant. We have technology kernels around high vacuum distillation, molecular distillation, wiped film, and short path evaporation. Our proprietary processes concentrate Omega-3 fish oil beyond 90%, continuously

process to 98% glycerol monostearate, and concentrate Vitamin E and tocopherols. We are practiced in the art of building modular thin film evaporation plants.

Graham Corporation (214)

www.graham-mfg.com

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

HF Press+LipidTech (402)

www.hf-press-lipidtech.com

HF Press+LipidTech (HF PLT) is a division of the Hamburg/Germany based HF Group. The product portfolio of 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 special applications in the dewatering sector.

DEQUEST®

Italmatch Chemicals

www.italmatch.it

Italmatch USA Corporation (329)

www.italmatch.it

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

Kalsec (613)

www.kalsec.com

Kalsec®, the leader in natural oxidation management, provides a wide range of natural antioxidants including Herbalox® XT, a low-flavor, low-aroma antioxidant ideal for oil and other flavor-sensitive applications. Herbalox® XT provides the ability to improve shelf life by increasing the amount of natural antioxidant used without flavor and aroma limitations.



Kemin Food Technologies (603)



Sponsor of the President's Welcome Reception and the Badge Holders

www.kemin.com

Kemin is committed to providing the food and beverage industry with only the highest quality, efficacious ingredients to help extend product shelf-life. Our extensive knowledge of oxidation processes and understanding of food products on a molecular level have made Kemin a leading choice for much needed preservation and food safety.



LCI Corporation (218)

www.lcicorp.com

LCI Corporation provides a broad range of thermal separation solutions including thin-film, wiped-film, and short path evaporators; lecithin and solids/slurries dryers; high viscosity processors; and modular systems. Typical process problems solved with LCI technology involve foaming, fouling, temperature sensitive products, deep vacuum/high boilers, high viscosity, and low residual volatile requirements.

LEEM Filtration (414)

www.leemfiltration.com

LEEM Filtration is a diversified manufacturer of custom filtration products including pressure leaf filters, filter leaves, underdrains, lateral systems, and wedge wire screens. We manufacture North American Hercules® filters, as well as our new LEEM VLD series filters which are designed specifically for oilseed, animal fat, and biodiesel applications. We have engineers and manufacturer's representatives available to our customers throughout the US, Canada, and Central and South America.

Louisville Dryer Company (323)

www.louisvilledryer.com

Louisville Dryer Company is the world's leading provider of high quality rotary processing equipment with over 100 years of experience in mechanical design, process design, manufacturing, application, and service. Featured industry dryers include rotary steam tube dryers and conditioners.

Lovibond® Tintometer® (319)

www.lovibond.com

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



Lubrizol Advanced Materials, Inc. (600)

www.lubrizol.com

Lubrizol develops, manufactures, and markets a broad range of specialty ingredients for personal care and home care. Our innovative technologies modify physical properties, enhance functional performance, and deliver aesthetic benefits. Lubrizol's mission in home care is to deliver solutions that enhance the cleaning, care, and protection of fabrics, surfaces, and dishes.

MAHLE Industrial Filtration (212)

MAHLE

Industry

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www.us.mahle.com

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

Malaysian Palm Oil Board (215)

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

Metrohm USA (720)

www.metrohmusa.com

Metrohm offers a complete line of analytical laboratory and process systems for titration, ion chromatography, electrochemistry, and spectroscopy. From routine moisture analysis to sophisticated anion and cation quantification, we are ready to help you develop your method and configure the optimum system. At Metrohm we provide systems that find solutions. Stop by our booth and meet Metrohm.

MilliporeSigma (612)

www.emdmillipore.com

Sigma-Aldrich and EMD Millipore have joined forces to create MilliporeSigma, the U.S. life science business of Merck KGaA, Darmstadt, Germany. Visit our website to explore our suite of analytical tools that meet regulations and quality standards, allowing simplified sample preparation, cleanup and analysis, while increasing sensitivity to trace and harmful substances.

The AOCs Foundation gratefully acknowledges the following Century Club members!



\$1000+

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*As of March 23, 2016

For the complete list of Century Club members, visit aocsfoundation.org/CenturyClub.

Thank you!

Your support enables the AOCs Foundation to fund the development of new products and services for AOCs.



Myande Group (503)

www.myande.com

Myande Group (China) specializes in providing oils and fats processing machinery and its engineering services on turn-key basis, including process design, equipment manufacturing and supply, project management, installation, and commissioning and training service, etc.

**Myer's Vacuum** (302)

www.myers-vacuum.com

Myer's 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.

Oil-Dri Corporation of America (506)

oil:dri
fluids purification

Sponsor of the Expo Networking Reception

www.pure-flo.com

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

**Oils & Fats International/ Quartz Business Media** (401)

www.ofimagazine.com

The OFI portfolio comprises conferences, exhibitions, websites, and the industry-leading *Oils & Fats International* magazine. Targeting decision-makers, buyers, and influencers, OFI is committed to helping companies in the oils and fats industry run sustainable enterprises by supplying them with the latest news, features, and trends concerning all aspects of the supply chain, whether they concern prices, regulations,

feedstocks, processing, refining, trading, or technology, or in specialist areas such as biofuels, biotechnology, renewable materials, and transport.

optek-Danulat, Inc. (718)

www.optek.com

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

Pattyn North America, Inc. (608)

PATTYN[®] NORTH AMERICA
RESPONSIVE BOX LINING

Sponsor of the Tuesday Expo Networking Break

www.pattyn.com

Pattyn North America, Inc. offers project design, management, installation, and after-sales service. We guarantee the best handling, weigh filling, and packing of oils and fats into lined boxes, tins, drums, or pails. We are a subsidiary of Pattyn Packing Lines, who has over 35 years of experience in semi-liquid packaging.

**PMI-Technology Sdn Bhd**

(400)

www.pmi-group.com

PMI offers technological solutions for edible oil and oleochemical industry processes. Our innovative and customized filters have been successfully utilized in an extensive range of applications.

PQ Corporation (702)

www.pqcorp.com

PQ's SORBSIL® silica improves oil quality and offers process cost savings to the refiner. The silica removes phospholipids, metals, and soaps via selective adsorption in edible oil and biodiesel production. SORBSIL® oil purifiers meet all regulatory requirements for food-grade silica. PQ SORBSIL® oil purifiers: silica for enhanced oil quality.

**Renuvix LLC** (705)

www.renuvix.com

*Description not available at press time.***Revolmer (UK) Ltd.** (220)

www.revolmer.com

Revolmer is a specialty chemicals business focused on controlled release, responsive encapsulation systems, and delivery systems which improve the performance of our customers' products. We develop novel ingredients for use in home care, personal care, coatings, adhesives, sealants, medicated chewing gum, and much more.

Rotex Global LLC (405)

www.rotex.com

*Description not available at press time.***SIWACO GmbH-Member of IRLE Group** (213)

www.siwaco.com

SIWACO, as member of the IRLE GROUP, specializes in selling wear-resistant flaking and cracking rolls for the food and feed industry. The world-wide validation for ORT® Flaking rolls with life times of approximately 12 years and OCE® 600 Ultra Cracking rolls with guaranteed extension of life times are well-known.

Solex Thermal Science Inc. (722)

SOLEX
THERMAL SCIENCE

Sponsor of the Monday Expo Networking Break

www.solexthermal.com

Solex Thermal Science specializes in the science of heating, cooling, and drying bulk solids. This ultra-efficient technology operates with efficiencies of greater than 90%, and can utilize waste heat as the heat source for pre-heating and conditioning oilseeds and grains, making it one of the most efficient technologies available.

**Solutions 4 Manufacturing** (513)

www.s4mequipment.com

Solutions 4 Manufacturing offers complete plants and used equipment for the oilseed and biofuels/biodiesel industries. We can handle any size project, with services including engineering consulting and asset/plant liquidation. With 40+ years of technical experience, we can put together a solution for you. We will buy your idle equipment and plants.

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aocs.org/YouCan



Spectral Service (604)

www.spectralservice.de

*Description not available at press time.***Stratas Foods—RDI Center**

(514)

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 technologists 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 (SCF)** (501)

www.surfacechemists.com

Surface Chemists is an R&D company based in the technology of surface science. We are problem solvers—developing and commercializing unique products and processes that allow our customers to accelerate their innovation, differentiate their products, and increase the value they provide to their customers. For nearly 50 years, SCF has been a trusted innovation partner in the cleaning market.

Technochem International, Inc. (703)

www.technocheminc.com

Technochem is a technology partner and plant supplier for the oil processing industry. Contact us for oil refining, biodiesel, glycerin refining, biodiesel distillation, methanol rectification, cold filtration, dewaxing, degumming, corn-oil extraction, esterification, FFA stripping, fermentation, extrusion, expelling, and solvent extraction. We build skid-mounted plants for pilot as well as commercial scale. We also assist with development of new technologies in lab and pilot plants.

Thermo Fisher Scientific

(403)

www.thermoscientific.com

Thermo Fisher Scientific understands that edible oils present analytical challenges due to chemical complexity. Learn our easy-to-use solutions for analyzing oils for nutrition, contamination and composition, and adulteration and authenticity.

VACUUBRAND Inc. (803)

www.vacuubrand.com

VACUUBRAND offers exceptionally quiet, corrosion-resistant, oil-free vacuum pumps and vacuum systems with ultra-long service intervals. Applications include distillation, evaporators, reactors, concentrators, filtration and drying, OEM vacuum, and roughing pumps for high-vacuum systems. Use our rotary vane pumps, low-maintenance hybrid pumps, and new fine-vacuum controller for effective molecular distillation of oils.

VELP Scientific, Inc. (814)

Program Support Sponsor

www.velp.com

VELP Scientific is the American subsidiary of VELP Scientifica, established in Milan in 1983. The company is focused on providing solutions for food and feed analysis, environmental control, and sample preparation. VELP's range of products includes Kjeldahl and Dumas analyzers, solvent, fiber extractors, instruments for shelf life investigation, BOD/COD analyzers, incubators, stirrers, and vortex.

Versum Materials (The Materials

Technologies Business of Air Products)

(303)



Sponsor of the AOCs Pavilion Charging Station and the Annual Meeting Signs

www.airproducts.com

Air Products' Materials Technologies business will soon become Versum Materials. Offering a portfolio of non-ionic and cationic surfactants provide effective detergency, foaming, and other characteristics

that bridge various forms of cleaning, from degreasing under harsh conditions to gentle skin cleansing. With a range that spans from basic alcoholethoxylates to specialty amine-based surfactants, we aim to provide the market with solutions that drive desired outcomes. Come and learn more about some selected examples that showcase our range of surfactant capabilities for the markets that matter most to you.

VTA GmbH & Co., KG (709)

www.vta-process.de

VTA manufactures thin film, wiped film, and short path evaporators and systems. Typical applications include lecithin drying, tocopherol concentration, omega-3 concentrations, deodorization, CBA, CBDA, cannabidiol, FFA removal, physical refining, MCT, sterols, hops oil, dietary supplements, and monoglycerides.

VUV Analytics, Inc. (802)

www.vuvanalytics.com

*Description not available at press time.***Waters Corporation** (601)

www.waters.com

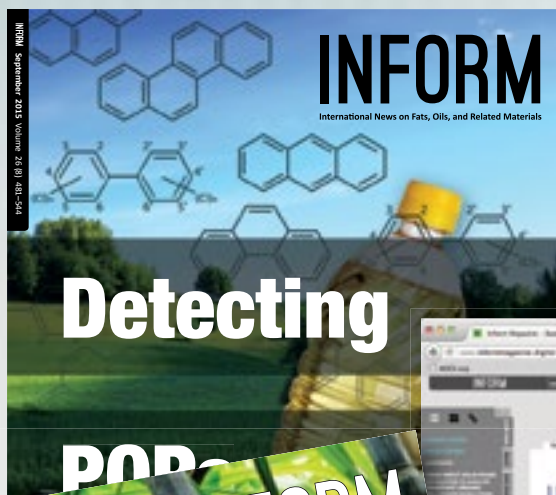
Waters Corporation creates business advantages for laboratory-dependent organizations by delivering scientific innovation to enable customers to make significant advancements. Waters helps customers make profound discoveries, optimize laboratory operations, deliver product performance, and ensure regulatory compliance with a connected portfolio of separations and analytical science, laboratory informatics, and mass spectrometry, as well as thermal analysis.

Yenar AS (222)

www.yenar.com.tr

As Yenar A.S., we are one of the world's leading producers of centrifugal cast iron rolls for the flour and oil mill industry. We are currently producing 13,000 Rolls/annum for the main machine manufacturers and also for the aftermarket. Our production range varies from 150 mm to 800 mm in diameter and up to 2,500 mm in length. The rolls are produced according to the machine manufacturer's design and fully finished or rough machined according to the customer's request. We have a capacity to corrugate (flute) rolls up to 2,500 mm length and 700 mm in diameter. The smooth rolls are sand blasted.

Having a choice is good — not having to choose is even better!



Inform print edition — the premier scientific and business magazine for the fats and oils community.

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Inform mobile app — for your iPhone, iPad, Android, or Kindle.

Inform SmartBrief — a concise, global briefing on the week's top fats and oils news stories delivered right to your desk.



AOCS AWARD WINNERS

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

AOCS congratulates each of the 2015–2016 award recipients. For information on award lecture schedules, please refer to the Program-at-a-Glance or *The App*. See page 6 for download instructions.

Award lectures are highlighted on the oral and poster presentation pages by a gray box.

Society Awards

Presented at the Awards Plenary and Business Meeting
Monday, May 2, 10:30 am–12:15 pm | Ballroom D

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.



Dilip K. Nakhasi, Senior Director, Research & Development, Stratas Foods LCC, has contributed to the success of the Society through over a decade of committee work and Division leadership. He has devoted much time within the Edible Applications Technology Division, having served on the leadership team as Chairperson, as Vice Chairperson, and on award committees. He has also been very active

with Society meetings by helping to organize the programming of previous Annual Meetings, and he has a long history of involvement with the Division Council. During his leadership, the EAT Division has grown its technical program to include six solid technical sessions at the annual meeting. Currently, Nakhasi is volunteering as the Program Committee chairperson, while also focusing his time on the mentoring of AOCS' younger members and preparing them for increased participation within the Society.

As stated by a colleague in one of his nomination letters, "Few AOCS members have contributed more to the AOCS Divisions than Dilip Nakhasi, and he has consistently done so without desire or search for recognition." His long and dedicated service to our Society is noted with this award.

Fellow Award

Recognizes: Achievements in science or extraordinary service to the Society.



James A. Kenar, Research Scientist for the United States Department of Agriculture, Agricultural Research Service, National Center for Agricultural Utilization Research is a prominent fats and oils researcher, well versed in techniques necessary for the synthesis, purification, characterization, and scale-up of organic agricultural compounds, and a world-recognized expert in the fields of oleochemicals and

industrial oils. He is also an influential writer, with many of his publications being featured in the industry's top peer-reviewed journals.

Kenar has been an AOCS member for 17 years and is active in committee work, Industrial Oil Products Division leadership, and as a contributor and Associate Editor for AOCS' *Journal of the American Oil Chemists' Society (JAOCS)*. He has long contributed his time and expertise to the advancement of the Society, and his appointment as a Fellow duly recognizes these years of service.



Leonard M. Sidisky, R&D Manager for the Gas Separations Business Unit at Supelco, a member of the Sigma-Aldrich Group, is responsible for having developed many novel technologies related to gas chromatography, solid-phase microextraction, and high-performance carbon adsorbents. He is a world-renowned lecturer and an authority in the fields of gas chromatography and lipid analysis. His work at

the forefront of emerging fats and oils related sciences and technologies has resulted in numerous applications for the food and industrial sectors. A presenter of papers and seminars worldwide, Sidisky has published over 25 journal articles in the industry's most prestigious peer-reviewed journals.

Sidisky has been an AOCS member for 26 years and is very active in the Analytical Division, the Northeast Section leadership, and the leadership of the Technical Steering Committee. He has also served on the AOCS Governing Board as member-at-large since 2010 and is the recipient of several prestigious AOCS awards. In countless ways over the past decades, he has leveraged his expertise and influence in the fats and oils industries to ensure the growth and advancement of AOCS.



Eric A. Decker, Department Head, Department of Food Science at the University of Massachusetts Amherst, is known globally for his expertise in the field of lipid chemistry. The recipient of numerous prestigious honors and awards over the years, he has contributed to the science and technology of fats and oils with the publication of over 300 journal articles, 27 book chapters, and the securing of 10 patents in his

field. He continues to have a meaningful impact on commercial products that rely on emulsions and oxidative stability of lipids in food, and his research has been critical to the success of many commercial products. Even with those notable

contributions, perhaps his most lasting contribution to the fats and oils sciences has been the training of 22 doctoral and 19 masters' degree students who are now active members of AOCS and who are advancing the science of lipids at top universities and industry-leading companies around the world.

Decker has been an AOCS member for over 15 years and has made many direct contributions to the Society as a leader and a volunteer. Along with his service on the AOCS Governing Board as a member-at-large, Decker has contributed heavily to AOCS publications as a committee member and chair of the Content Value Center and through the submission of many articles to AOCS journals.



Tong Wang, Professor, Department of Food Science and Human Nutrition, Iowa State University, is a leading researcher in the fields of lipid chemistry, phosphatides, proteins, and biofuels. With over 120 articles published in industry-leading journals and eight patents to her name, she is widely sought after as an international lecturer, author, and journal reviewer. Her work as a scientist, author, and professor have netted her an impressive collection of awards and honors, all of which confirm her prominence as a researcher in lipid chemistry and associated fields.

Wang has been a member of AOCS for 21 years and is very active in the Phospholipid Division, where she has served as Chairperson, Vice Chairperson, and Secretary-Treasurer. Wang has also contributed to the growth of AOCS' publications through her many years of work on the Publications Steering Committee and as an Associate Editor of *JAOCS*.

Wang has been a member of AOCS for 21 years and is very active in the Phospholipid Division, where she has served as Chairperson, Vice Chairperson, and Secretary-Treasurer. Wang has also contributed to the growth of AOCS' publications through her many years of work on the Publications Steering Committee and as an Associate Editor of *JAOCS*.



Thomas A. McKeon, Research Chemist, United States Department of Agriculture, Agricultural Research Service, Western Regional Research Center, works in the field of lipid biochemistry, where his work has notably corrected several prevalent misunderstandings regarding fatty acid biosynthesis in plants, the role of oleoyl-12-hydroxylase in ricinoleic acid synthesis, and others. His groundbreaking

research and other unique contributions to the science of lipid chemistry have led him to be a much sought-after lecturer and journal reviewer.

McKeon has been an AOCS member for 19 years, and has contributed to the growth of the Biotechnology Division through his service as Chairperson, Vice Chairperson, and Secretary-Treasurer. He also has a notable history of service on the Books and Special Publications Committee, where his understanding of the leading-edge issues related to fats and oils chemistry has enhanced the quality of AOCS' publications. He has excelled in academia, is a top researcher in his field, and works actively to promote educational opportunities for younger scientists.

Scientific Awards

Award lecture given at the Awards Plenary and Business Meeting

Monday, May 2, 10:30 am–12:15 pm | Ballroom D

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.



D. Julian McClements, Professor, Department of Food Science, University of Massachusetts Amherst, is renowned worldwide for advancing how the industry understands the structuring of lipids used in food applications. His work has led to dramatic improvements in quality, chemical stability, and functionality of lipids in a large variety of complex food matrices. McClements has published over 600 peer-reviewed

papers and 11 books, the importance and groundbreaking nature of which is widely acknowledged by the scientific

2016 Award Sponsors

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

AkzoNobel, Inc.
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Cargill, Inc.
Stephen S. and Lucy D. Chang
Manuchehr (Manny) Eijadi
International Lecithin & Phospholipid Society (ILPS)
Kalsec, Inc.
Peter and Clare Kalustian Estate
National Biodiesel Board (NBB)
Nicholas Pelick
Nitto Pharmaceutical Industries, Ltd.
Milton Rosen
Vijai K.S. Shukla
Supelco, Inc.
Thomas H. Smouse and Family

community. He is regarded as an international authority in the fields of Food Science and Emulsion Science. McClements has received numerous awards and honors, including the Babcock-Hart Award (IFT, 2015), Hilditch Memorial Award (SCI, 2012), Marcel Loncin Research Prize (IFT, 2010), Stephen S. Chang Award (AOCS, 2010), and the Research and Development Award (IFT, 2007); and he is a Fellow in several professional societies (IFT 2015, ACS 2015, RSC 2014).

Award lecture given at the Awards Plenary and Business Meeting
Monday, May 2, 10:30 am–12:15 pm | Ballroom D

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 \$1,500 honorarium.

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



John L. Harwood, Professor, School of Biosciences, Cardiff University, is one of the leading scientists and researchers in biochemistry and lipid science. His research on thiocarbamates, pyridazinones, ethofumesate, and graminicides received widespread support from many industrial collaborators, and this work led to the determination of the mechanisms of action of these herbicides and pesticides. Through over 590 published

articles and a number of authored books, students, researchers, and biochemists around the world rely on him as an important resource. As detailed in one of his nomination letters, “John’s career and achievements can be presented as an ideal model of how fundamental science can dramatically impact industrial products, processes, and importance.” Another letter said, “Dr. Harwood’s contributions to lipid science over the course of his career has been extraordinary. More than 600 scientific contributions, including a vast number of published scientific articles and several books, and numerous prestigious awards are a testimony to his success.” Some of these awards and honors include being formally recognized in 2014 with the Chevreul Award of the Société française pour l’étude des lipides (SFEL), the 2016 Morton Lecture Award by the Biochemical Society, and as a distinguished Fellow of AOCS (2014).

Award lecture given in H&N 3.2
Tuesday, May 3, 2:00–2:40 pm | Ballroom A

George Schroepfer Medal

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

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

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



Steven L. Kelly, Professor, Institute of Life Science and College of Medicine, Swansea University, has been a leader in the sterol field for more than 30 years. Some of his notable contributions to the fields of sterols and biochemistry include developing a systematic approach to unearth the molecular libraries that code and regulate ergosterol metabolome in microbes. Furthermore, his studies regarding the mode of ac-

tion and resistance to azole antifungals, and how these mixed-function oxidase enzymes have mutations in their primary structure which are associated with drug resistance, have led the industry to a better understanding of the relationship between sterol biosynthesis and pathogenicity. His understanding of biochemistry and genetics of enzymes in eukaryotic cells required for cholesterol and other sterol biosynthesis truly sets him apart as a leader in his field. As one of his nomination letters states, “Dr. Kelly’s research regarding the lethality of CYP1 inhibitors when found in fungi and yeast, and how these organisms cause deadly infections in humans, has directly led to groundbreaking advances in medicine and drug development.”

Kelly’s research accomplishments have made him a much sought after speaker at international mycological/antifungal and actinomycete related symposia, in addition to an impressive range of international biochemistry conferences. Furthermore, he is a contributing author to over 180 peer-reviewed articles, and numerous other papers. As another nominee letter states, “If I were to name one leader in the biochemistry of drugs and drug resistance in pathogenic fungi, it would be Dr. Kelly. His work in the pathogenic fungi has had a huge impact on the field of drug activity and drug resistance.”

Division Awards

Analytical

Herbert J. Dutton Award

Pierluigi Delmonte, US Food & Drug Administration, USA

Lecture: ANA Luncheon

Student Award

Ryan West, Ryerson University, Canada

Recognition: ANA Luncheon

Wei Xia, Dalhousie University, Canada

Recognition: ANA Luncheon

Biotechnology

Student Award

For results, refer to program addendum.

Edible Applications Technology

Timothy L. Mounts Award

Ki-Teak Lee, Chungham National University, Republic of Korea

Recognition: EAT Reception and Dinner

Student Award of Excellence

Shy Kai Ng, Universiti Putra Malaysia, Malaysia

Recognition: EAT Reception and Dinner

Health and Nutrition

Ralph Holman Lifetime Achievement Award

Carol Lammi-Keefe, Louisiana State University, USA

Lecture: H&N Dinner

Student Award of Excellence

Ifeanyi Nwachukwu, University of Manitoba, Canada

Recognition: H&N Dinner

Surfactants and Detergents

Samuel Rosen Memorial Award

Dennis S. Murphy, Stepan Company, USA

Lecture: S&D Luncheon

Student Award

Fan Wang, University of Guelph, Canada

Recognition: S&D Luncheon

Student Awards

AOCS Foundation

Thomas H. Smouse Memorial

Fellowship Award

David Johnson, University of Massachusetts Amherst, USA

Lecture: LOQ 4a

Honored Student Award

Ifeanyi Nwachukwu, University of Manitoba, Canada

Lecture: PCP 2b

Maxine J. Roman, University of Massachusetts Amherst, USA (Manuchehr Eijadi Award)

Lecture: LOQ 3a

Sara Shinn, University of Arkansas, USA (Peter and Clare G. Kalustian Award)

Poster: ANA-P

Wei Wei, Aarhus University, Denmark

Lecture: EAT 4.1/IMG 3

Ralph H. Potts Memorial Fellowship Award

Maxine J. Roman, University of Massachusetts Amherst, USA

Lecture: LOQ 3a

Best Paper Awards

ADM/Protein and Co-Products Division Best Paper Chemistry/Nutrition

Validation of a Method for Quantitation of Soybean Lectin in Commercial Varieties (JAOCS 92(8):1085–1092).

Matthew L. Breeze, Elisa Leyva-Guerrero, Grant R. Yeaman, Yelena Dudin, Ryan Akel, Phil Brune, Fred Claussen, Cecil Dharmasri, Jenny Golbach, and nine others

Recognition: PCP Dinner

Engineering/Technology

Examination of the Causes of Instability of Soy Protein Isolate During Storage Through Probing of the Heat Induced Aggregation (JAOCS 92(8):1075–1084). Feng Xian Guo, Youling L. Xiong, Fang Qin, Hua-Jun Jian, Xiao-Lin Huang, and Jie Chen

Recognition: PCP Dinner

ACI Distinguished Paper Award

Using the Scanning Fluid Dynamic Gauging Device to Understand the Cleaning of Baked Lard Soiling Layers (JSD 18(6): 933-947).

Akin Ali, Zayed Alam, Glenn Ward, D. Ian Wilson

Recognition: S&D Luncheon

Edwin Frankel for Best Paper in Lipid Oxidation and Quality

For results, refer to program addendum.

Additional Awards

Alton E. Bailey Award

Moghis U. Ahmad, Jina Pharmaceuticals Inc., USA

Lecture: PHO 4

Hans Kaunitz Award

Cansu E. Gumus, University of Massachusetts Amherst, USA

Lecture: EAT 4.1/IMG 3

Laboratory Proficiency Program Awards

AOCS' Laboratory Proficiency Program is the world's most extensive and respected collaborative proficiency program for oil- and fat-related commodities, oilseeds, oilseed meals, and edible fats. A full listing of the Laboratory Program winners begins on page 78.

Congratulations to the winners of the 2014-

78

Aflatoxin Almonds

First Place

Setton Pistachio of Terra
Bella Inc
Terra Bella CA 93270-9226
USA

Honorable Mention

Jeremiah Szabo, Kraig Kunde
DFA of California / Yuba City
Yuba City CA 95991
USA

Aflatoxin Corn Meal

First Place

Paul Thionville, Boyce Butler,
Andre Thionville, Kristopher
Williams
Thionville Laboratories, LLC
New Orleans LA 70123-3227
USA

Honorable Mention

Cindy McCormick
Office of the Texas State
Chemist
College Station TX 77843
USA

Aflatoxin Corn Meal Test Kit

First Place

Aaron Jusko
SGS North America
Agricultural Div.
Deer Park TX 77536-2518
USA

Honorable Mention

Janet Smith
Fieldale Farms Corp
Baldwin GA 30511
USA

Honorable Mention

Dennis Hogan
SDK Laboratories
Hutchinson KS 67501-1978
USA

Aflatoxin Peanut Butter

First Place

Edenton Lab Analytical Team
JLA USA
Edenton NC 27932
USA

Aflatoxin Peanut Paste

First Place

Amit Lachhwani
IEH Laboratories & Consulting
Lost Hills CA 93249-9700
USA

Honorable Mention

JLA Lab 2 Alejandro Roca
JLA Argentina SA
General Cabrero Cordoba
X 5809 BAS
Argentina

Honorable Mention

De Leon Lab Analytical Team
JLA USA
De Leon TX 76444-1031
USA

Honorable Mention

Brownfield Lab Analytical Team
JLA Intl
Brownfield TX 79316
USA

Aflatoxin Peanut Paste Test Kit

First Place

Madill Lab Analytical Team
JLAI
Madill OK 73446
USA

Honorable Mention

Matthew Gilbert,
Dillon Oostendorp
ABC Research Laboratories
Gainesville FL 32607
USA

Honorable Mention

Headland Analytical Team
JLA I
Headland AL 36345
USA

Aflatoxin Pistachios

First Place

Setton Pistachio of Terra
Bella Inc
Terra Bella CA 93270-9226
USA

Honorable Mention

Arbuckle Analytical Team
JLA Arbuckle
Arbuckle CA 95912
USA

Cholesterol

First Place

Sarah Fraser
MVTL
New Ulm MN 56073
USA

Honorable Mention

Ardin Backous, Anders
Thomsen, Brian Gilchrist,
Keith Persons, Kent Karsjens
Eurofins Scientific
Des Moines IA 50321-3157
USA

Honorable Mention

Jocelyn Alfieri
Silliker Canada Co
Markham ON L3R 5V5
Canada

Edible Fat

First Place (tie)

Wade Chase, Jerry Buttell
Ag Processing Hastings
Hastings NE 68901
USA

Honorable Mention

James Houghton, Jack M.
Stearns
AAK
Louisville KY 40208
USA

Honorable Mention

Tracie McClure, Travis
Patterson,
Ag Processing Hastings
Hastings NE 68901
USA

Feed Microscopy

First Place

Mr. Michael Olivarez
Office of the Texas State
Chemist
College Station TX 77843
USA

Second Place

Jim Selkirk
Wisconsin Dept. Of Agriculture
Madison WI 53707-7883
USA

Third Place

Piotr Czajkowski
Cargill Poland
Chelmd 86-200
Poland

Honorable Mention

Marion Smith
Canadian Food Inspection
Agency
Ottawa ON K1A 0C6
Canada

Fish Meal

First Place

Pete Cartwright
N J Feed Lab Inc
Trenton NJ 08638-3037
USA

Honorable Mention

Carmen Catter de Bueno
NSF INASSA SAC
Lima 32
Peru

Gas Chromatography

First Place

Mrs. Hajar Musa
Malaysian Palm Oil Board
AOTD
Selangor 43000
Malaysia

Honorable Mention

Don Pepper
ADM Windsor
Windsor ON N9C 4G9
Canada

Honorable Mention

Jamie Ayton
NSW Dept of Primary
Industries
Wagga Wagga NSW 2650
Australia

Honorable Mention

Oilseed Lab
Canadian Grain Commission
Winnipeg MB R3C 3G7
Canada

Honorable Mention

Kim Jennings-Wilson
Stratas Foods
Quincy IL 62306
USA

Honorable Mention

Owensboro Grain Edible Oils
Owensboro KY 42303-3301
USA

Honorable Mention

Jeremy Dehner
ADM Clinton
Clinton IA 52732 USA

Honorable Mention

Diane Simmons, Rosalin
Manalang
California Oils Corp
Richmond CA 94804
USA

Honorable Mention

Eddie L. Baldwin, Helen
Cianciolo, Derek Gum
Stratas Foods RDI Center
Bartlett TN 38133-4009
USA

Honorable Mention

Pete Cartwright
N J Feed Lab Inc
Trenton NJ 08638-3037
USA

Honorable Mention

Tamara Coory
Bakels Edible Oils (N.Z.) Ltd
Mt Maunganui 3116
New Zealand

Honorable Mention

Paul Thionville, Boyce Butler,
Andre Thionville, Kristopher
Williams
Thionville Laboratories, LLC
New Orleans LA 70123-3227
USA

GOED/AOCS

Nutraceutical Oils

First Place

Mulgrave Labs
DSM Nutritional Products
Mulgrave NS BOE 2G0
Canada

Honorable Mention

Maiké Timm-Heinrich
BASF A/S
Ballerup DK-2750
Denmark

Honorable Mention

Jimmie Duncan
DSM Nutritional Products
Kingstree SC 29556-1000
USA

Marine Oil

First Place (tie)

Angie Johnson
POS Bio-Sciences
Saskatoon SK S7N 2R4
Canada

First Place (tie)

Nancy D. Roman
Omega Protein Inc
Reedville VA 22539
USA

Honorable Mention

Bertha Sulca
SGS Del Peru S A C
Lima 27-0125
Peru

Marine Oil FAP

First Place

Paul Thionville, Boyce Butler,
Andre Thionville, Kristopher
Williams

Thionville Laboratories, LLC
New Orleans LA 70123-3227
USA

Honorable Mention

Angie Johnson
POS Bio-Sciences
Saskatoon SK S7N 2R4
Canada

Honorable Mention

Pete Cartwright
N J Feed Lab Inc
Trenton NJ 08638-3037
USA

NIOP Fats & Oils

First Place

Renato M. Ramos
Admiral Testing Services
Luling LA 70070-4060
USA

2015 AOCS Laboratory Proficiency Program

79

LPP Award Winners

Honorable Mention

Mumtaz Haider
Inspectorate America Corp
Webster TX 77598
USA

Nutritional Labeling

First Place

Dr. Thomas P. Mawhinney
University of Missouri -
Columbia
Columbia MO 65211-7170
USA

Honorable Mention

Jana Pogacnik
Nutreco Canada Inc
St Hyacinthe QB J2R 1S5
Canada

Oilseed Meal

First Place (tie)

Renato M. Ramos
Admiral Testing Services
Luling LA 70070-4060
USA

First Place (tie)

Frank Tenent, Edgar Tenent
K-Testing Lab Inc
Memphis TN 38116-3507
USA

Honorable Mention

Ardin Backous, Anders
Thomsen, Brian Gilchrist,
Keith Persons, Kent Karsjens
Eurofins Scientific
Des Moines IA 50321-3157
USA

Honorable Mention

Mumtaz Haider
Inspectorate America Corp
Webster TX 77598
USA

Honorable Mention

Amanda Self
Barrow-Agee Laboratories
Memphis TN 38116-3507
USA

Honorable Mention

Tuyen Mai
Intertek Agri Services
New Orleans LA 70122
USA

Oilseed Meal 100% Crude Fiber

First Place

Gordon Whitbeck,
John Dillard
Whitbeck Laboratories Inc.
Springdale AR 72764-2204
USA

Honorable Mention

Brad Newton Beavers, Jennie
Stewart
Carolina Analytical Services
Bear Creek NC 27207
USA

Honorable Mention

Renato M. Ramos
Admiral Testing Services
Luling LA 70070-4060
USA

Honorable Mention

Mumtaz Haider
Inspectorate America Corp
Webster TX 77598
USA

Oilseed Meal 100% Moisture

First Place

Mike White, Brian Eskridge
ATC Scientific LLC
N Little Rock AR 72114-5120
USA

Honorable Mention

John Reuther, Eric de Ronde
Eurofins Central Analytical Labs
New Orleans LA 70122
USA

Honorable Mention

Tuyen Mai
Intertek Agri Services
New Orleans LA 70122
USA

Honorable Mention

Janet Smith
Fieldale Farms Corp
Baldwin GA 30511
USA

Honorable Mention

Sandy Harrison
Illinois Crop Improvement Assn.
Champaign IL 61822
USA

Honorable Mention

Chin Chaothaworn
SGS Thailand Ltd
Bangkok 10120
Thailand

Honorable Mention

CHS Israel QA Laboratory
CHS Israel
Ashdod 77121
Israel

Oilseed Meal 100% Nitrogen Ba 4d-90

First Place

Aaron Jusko
SGS North America
Agricultural Div
Deer Park TX 77536-2518
USA

Oilseed Meal 100% Nitrogen Ba 4e-93

First Place

Frank Tenent, Edgar Tenent
K-Testing Lab Inc
Memphis TN 38116-3507
USA

Honorable Mention

Paul Thionville, Boyce Butler,
Andre Thionville, Kristopher
Williams

Thionville Laboratories, LLC
New Orleans LA 70123-3227
USA

Honorable Mention

Renato M. Ramos
Admiral Testing Services
Luling LA 70070-4060
USA

Honorable Mention

Tuyen Mai
Intertek Agri Services
New Orleans LA 70122
USA

Oilseed Meal 100% Oil

First Place

George Ducsay, Bruce Kerr
Isotek Laboratories LLC
Oklahoma City OK 73127-5801
USA

Honorable Mention

Tuyen Mai
Intertek Agri Services
New Orleans LA 70122
USA

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Ahmad, M.U.	HT 1, PHO 4	Liu, G.	IOF 5	Ye, X.R.	IOF 2a	Azizian, H.	ANA 4
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Alam, M.S.	PRO 5	Lu, Y.	ANA 2	Younggreen, W.	PRO 4	Bahr, J.	BIO 1.1/IOF 1/SCC 1
Aluko, R.E.	PCP 3	Ludwig, C.L.	CEA 1, CEA 2, CEA-P	Zander, T.	S&D 1.1	Bai, L.	ANA 5, ANA-P
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Bandara, N.P.	PCP 5	Mahmood, K.	HT 2, H&N 3.1/PHO 3			Bakar, Z.A.	IOF 5
Barden, L.M.	LOQ 5a	Mailer, R.J.	ANA 4			Baker, G.L.	LOQ-P, PRO-P
Belury, M.A.	H&N 2	Maleky, F.	EAT 2			Balasubramaniam, V.M.	EAT 2.1/IMG 2
Bis, S.	LOQ 3a	Marangoni, A.G.	EAT 2.1/IMG 2	Abaidoo-Ayin, H.K.	ANA-P, LOQ 1b	Balkanli, N.E.	BIO-P
Blum, E.	HT 3	Martini, S.	EAT 5/H&N 5.1	Abbeduto, D.	S&D 2/SCC 2	Balle, T.	BIO 3.1/IOF 3
Borel, M.	SS 3	Matlock, M.	SS 3	Abdrabu, R.	BIO 4.2/IOF 4	Ban, L.	ANA 2.1/LOQ 2b, LOQ 2a
Burton, R.M.	BIO 4.2/IOF 4	McCullough, D.M.	HT 6	Abdullah, M.O.	BIO 4	Banba, K.	BIO 2
Byrne, H.E.	BIO 4.1/S&D 4	McKeon, T.A.	BIO 5	Abdulnour, R.E.	H&N 3	Bandara, N.P.	PCP 1
Cherian, G.	EAT 1.1/IMG 1	Miyashita, K.	LOQ 2a	Abe, R.	PCP 4	Bandyopadhyaya, N.R.	EAT 4/S&D 4.2
Clough, R.C.	PRO 5	Moser, B.R.	IOF-P	Abid, M.	PRO 1	Baney, G.A.	ANA 5
Coope-Epstein, J.	S&D 4.1	Musselman, B.	ANA 4	Abrams, J.S.	CEA 2	Bang, S.	S&D 1
Craft, E.	LOQ 1b	Narine, S.S.	EAT 2.2/IOF 2b	Abuzaytoun, R.S.	ANA 2.1/LOQ 2b, ANA 5	Banh, T.	H&N-P
Dayan, N.	SCC 3	Natali, S.	S&D 5	Achouri, A.	PCP-P	Bankert, W.	CEA 2
Della Porta, R.A.	LOQ 3b, ANA-P	Nathan, S.	LOQ 5b	Acosta, E.J.	S&D 3	Banni, S.	H&N 2
Delmonte, P.	ANA 5	Nesper, V.	HT 5	Adamy, S.T.	S&D 3	Bansal, N.	IOF-P
Demarco, A.A.	PRO 3	Nyström, L.	H&N 3.2	Adhikari, B.B.	PCP 5	Barba, F.J.	PRO-P
Dionisi, F.	EAT 5/H&N 5.1	Ogawa, J.	HT 2, BIO 1, BIO 5	Adhikari, P.	LOQ 4a	Barbut, S.	EAT 1, EAT 2.2/IOF 2b
Donnelly, P.J.	SS 3	O'Lenick, T.	BIO 1.1/IOF 1/SCC 1	Adlof, R.O.	EAT-P	Baréa, B.	LOQ 5b, LOQ 2a
Drewery, M.L.	H&N 4	Pan, X.	LOQ-P	Adnan, S.	IOF 5	Bargiacchi, E.	H&N 5
Dumeignil, F.	IOF 2a	Patel, A.R.	EAT 1	Agren, J.J.	H&N-P	Barnes, J.	S&D 1
Dunford, N.T.	PRO-P	Peitz, M.	LOQ 1a	Aguilar-Alvarez, D.	PHO 2	Barot, A.	BIO 1.1/IOF 1/SCC 1, IOF 5
Durham Zanetti, H.A.	H&N 1	Peyronel, F.	EAT 2	Ahmad, I.	HT 1	Barouh, N.	BIO 3
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Fleith, M.	H&N-P	Pioch, D.	IOF-P	Ahmed, T.	PCP 4	Barrows, R.	PCP 1
Genco, K.	S&D 2.1	Purcaro, G.	ANA 5	Aibara, T.	BIO 1	Basheer, S.	BIO 3.1/IOF 3
Ghosh, S.	EAT 4/S&D 4.2	Qi, P.X.	PCP-P	Akabane, C.	S&D 5	Baum, J.I.	EAT-P
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Hall, C.	LOQ 5b	Schmidt, W.W.	S&D 4.1	Alexandrini, T.D.	LOQ-P	Behle, R.W.	IOF-P
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Bochicchio, R.	EXH 2	Chakrabarti, P.P.	PRO 5	Cutler, C.	PCP 1	Dowd, M.K.	PCP-P
Boeck, H.C.	PRO 1	Chakraborty, S.	PHO 4	Cutler, S.	LOQ 3a	Dreja, M.	S&D 2.1
Bogaert, L.	PRO 5	Chalil, A.	H&N 4	Cypcar, C.C.	S&D 4.1	Drewery, M.L.	H&N 4
Bolanos-Garcia, V.	H&N-P	Chance, D.L.	ANA 2	Da Silva, E.	EAT 3	Dubova, O.	EAT 3
Bollinger, M.K.	BIO 3.1/IOP 3, PRO 1	Chandler, J.M.	SCC 2/S&D 2	Dag, C.	ANA-P	Dubreucq, É.	BIO 5
Borbone, C.	CEA-P	Chang, A.N.	ANA 2	Dagostinho, N.R.	EAT-P	Duchek, A.	PCP 3
Borel, J.	SS 3	Chang, C.	IOP-P	Dahl, J.H.	CEA 2	Dufour, S.	S&D 1
Boschuetz, J.J.	PRO 2	Chang, G.	PCP 2b	Daniels, R.	ANA 2	Dumandan, N.G.	BIO-P
Botts, J.B.	EAT 3	Chang, P.S.	BIO 3	Danthine, S.	EAT 3, EAT-P	Dumeignil, F.	IOP 2a
Bouhallab, S.	H&N 3.1/PHO 3	Chapman, K.D.	BIO 4	Dao, M.	ANA 5	Duncan, S.E.	LOQ 1a
Boulos, S.	H&N 3.2	Chatterjee, K.	S&D 2.1	Dao, T.	ANA 4	Dunér, G.	S&D 5
Bourrieu, C.	H&N-P, LOQ 2a, H&N 3.1/PHO 3	Chatthai, P.	ANA-P	Das, S.	LOQ-P	Dunn, J.B.	BIO 4.2/IOP 4
Bouzidi, L.	EAT 2.2/IOP 2b	Chauhan, D.D.	IOP 5	Daugs, E.D.	S&D 3	Dunn, R.O.	BIO 3.1/IOP 3
Boxley, C.J.	BIO 4.1/S&D 4	Cheadle, C.E.	ANA 2	Davidovich-Pinhas, M.	EAT 1	Dupont, D.	H&N-P, H&N 3.1/PHO 3
Boyle, N.	H&N 5	Chen, B.	BIO 5	Davidov-Pardo, G.	EAT 4.1/IMG 3	Durand, E.	LOQ 2a, LOQ 5b, LOQ-P
Bradley, D.	H&N-P	Chen, B.C.	LOQ 3b	Davis, C.S.	BIO 1.1/IOP 1/SCC 1	Durant, Y.G.	S&D 1.1
Brambilla, G.	ANA 3	Chen, B.H.	IOP-P	Davis, R.W.	IOP-P	Düring, K.	PRO 3
Brauer, P.	H&N-P	Chen, C.	S&D 1	Davoli, F.	EAT 1.1/IMG 1, EAT 3	Durrett, T.P.	BIO 4, IOP-P
Bravo-Diaz, C.	ANA 2.1/LOQ 2b	Chen, F.	ANA-P, BIO 4	Dayan, N.	SCC 3	Du-Thumm, L.	SCC-P
Brekan, J.A.	EAT 2.2/IOP 2b	Chen, G.	BIO 1, BIO 4	Dayton, C.L.G.	PRO 4	Dyer, J.M.	BIO 4
Brenna, J.T.	H&N 4	Chen, G.	H&N-P	de Carvalho, M.G.	EAT 3	Eapen, B.	EAT-P, PRO-P
Bressler, D.C.	PCP 5	Chen, H.	BIO 2, ANA 5	De Greyl, W.	PRO 3	Edgar, M.	LOQ 4b
Breuer, A.	BIO 1.1/IOP 1/SCC 1	Chen, J.	H&N 3.1/PHO 3	De Oliveira Vigier, K.	IOP 2a	Edwardsen, J.	CEA 2
Brewer, S.	LOQ-P	Chen, J.	IOP-P	De Oliveira, S.	H&N-P, PHO-P	Eilander, A.	H&N 4
Bru, P.	EXH 1	Chen, J.H.	H&N 5	de Vries, R.	EAT 4/S&D 4.2	Elkind-Hirsch, K.	H&N 4
Bruner, L.H.	SS 2	Chen, J.N.	H&N 5	Decker, E.A.	LOQ 1b, LOQ 3a, LOQ 3b, LOQ 4a, LOQ 5b, IOP-P, LOQ-P, S&D-P	Elzinga, S.	CEA-P
Budge, S.M.	LOQ 2a, ANA 2.1/ LOQ 2b, ANA 5, LOQ 5b	Chen, L.	PCP 3	Deglaire, A.	H&N-P	Emami, S.	PCP 2b, PRO-P
Budhathoki, M.	S&D 1, S&D 5.1	Chen, P.	PCP 5	DeJager, L.S.	ANA 1	Emil, S.	PHO 4
Bueno-Borges, L.	LOQ-P	Chen, S.L.	BIO 5	Delatte, S.	EAT 3	Endo, C.	S&D 2.1
Bullock, M.	S&D 4.1	Chen, Y.J.	IOP-P	Delbaere, J.C.	EAT 4.1/IMG 3	Enig, E.N.	H&N 5
Bulsara, P.	PHO 4	Cheng, H.	H&N 3.2	Delgado, J.G.	S&D 3	Enteshari, M.	LOQ-P
Bünger, J.	BIO 3.1/IOP 3	Cheow, Y.L.	EAT-P	Delhom, C.D.	PCP-P	Ertas, E.	ANA-P
Burns, T.J.	S&D 1.1	Chiew, N.	EAT-P	Delmonte, P.	ANA 5	Esfandi, R.	PCP 5
Burroughs, L.	LOQ 1b	Chijioko, G.	BIO 5	Demarco, A.A.	PRO 1, PRO 3, PRO 5	Essasi, E.M.	S&D 3
Burton, R.M.	BIO 4.2/IOP 4	Chisholm, B.J.	BIO 1.1/IOP 1/SCC 1	Demarne, F.	BIO 3	Estefan, N.	EAT-P
Busmann, M.	S&D 3	Cho, H.	H&N-P	DeMill, C.	IOP-P	Eussen, S.	H&N 4
Byrdwell, W.C.	ANA 3, EAT 4.1/IMG 3	Choi, H.D.	BIO 3, BIO-P	Demirtas, I.	ANA-P	Evangelista, R.L.	PCP 1, BIO 4
Byrne, H.E.	BIO 4.1/S&D 4	Choi, I.H.	BIO 1, BIO-P	Dempster, T.A.	PRO 3	Evans, T.A.	S&D 2/SCC 2
Caesar, J.	PHO 4	Choi, I.W.	BIO-P	Demurtas, D.	H&N 2	Fabiano, T.A.D.	LOQ-P
Cahoon, E.	PRO 5	Choi, N.K.	BIO 1, EAT 3, BIO-P, PRO-P	Dengle-Pulate, V.	S&D-P	Facciotti, D.	BIO 4
Cai, H.	BIO 4.2/IOP 4	Choi, S.J.	ANA-P	Derks, E.P.P.A.	LOQ 1a	Fagbemi, T.N.	PCP 2b
Cai, J.	S&D 1	Choi, Y.G.	IOP-P	Desorcie, J.L.	ANA 5	Faith, J.J.	HT 2
Cairncross, R.A.	IOP-P	Chong, G.H.	EAT 3	Develter, D.W.G.	BIO 4.1/S&D 4	Fan, A.	SCC-P
Cajape, J.	EAT-P	Choo, Y.M.	BIO 1, PRO-P	DeVries, A.	H&N-P	Fan, H.	ANA 5, ANA-P
Calder, P.C.	H&N 4	Chu, J.W.	IOP-P	Dewettinck, K.	EAT 1, EAT 3.1, EAT 4.1/IMG 3, H&N 3.1/PHO 3	Fan, X.	IOP-P
Caldo, K.M.P.	BIO 1	Chu, Z.	H&N 3.2	Deyrieux, C.	BIO 5, LOQ-P	Fang, L.	S&D 2.1
Callaghan-Patrachar, N.	EAT 4.1/ IMG 3	Chun, H.S.	ANA-P	Di Antonio, E.	S&D 2/SCC 2	Farahmand, S.	SCC 3
Callejas, N.	EAT-P, IOP-P	Chung, J.K.	ANA 4	Diao, M.	H&N 5	Fardin Kia, A.R.	ANA 4
Campo, M.	H&N 5	Chung, M.Y.	BIO 3, BIO-P	Dias, C.B.	H&N 5	Fares, H.	S&D 2/SCC 2
Campos, F.	ANA 1	Ciftci, O.N.	EAT 4/S&D 4.2, PRO 5	Dibildox-Alvarado, E.	EAT 1.1/IMG 1, EAT 3.1	Farhang, B.	PHO 2
Campoy, C.	H&N 4	Clarke, M.	LOQ 2a, PHO 4	Dicely, I.	BIO 4	Faria-Machado, A.F.	EAT-P
Camusso, C.C.	LOQ-P	Cleary, C.	BIO 4.1/S&D 4	Diehl, B.W.K.	PHO 1, ANA 2, EAT 4.1/IMG 3, ANA-P, EAT-P	Favéro, C.	S&D 1
Candal, R.J.	EAT 4.1/IMG 3	Clement, L.M.	ANA 5	Dijckmans, P.	EAT-P	Federle, T.	S&D 1.1
Cantrill, R.C.	ANA 1	Cochran, J.W.	CEA 2	Dionisi, F.	HT 3	Feinle-Bisset, C.	EAT 5/H&N 5.1
Cao, P.R.	H&N 5, PRO 5	Cole, R.M.	H&N-P	DiPatrizio, N.V.	EAT 5/H&N 5.1, H&N 2	Feng, F.	EAT 4.1/IMG 3
Cao, W.	ANA-P	Collette, R.	HT 5	Dirson, E.	H&N-P	Fereday, N.	SS 3
Carey, L.B.	ANA 3, S&D 1	Condellii, N.	EXH 2	Dixon, P.	SS 3	Ferrari, R.A.	LOQ-P
Carlson, K.F.	PRO 1	Cong, F.	PHO 1	Do, L.	S&D 1	Fevola, M.J.	BIO 1.1/IOP 1/SCC 1
Carre, P.	PRO 5	Cook, M.E.	H&N-P	Do, L.D.	S&D 3	Fey, B.	BIO 3.1/IOP 3
Carrière, F.	BIO 3, H&N-P, H&N 3.1/PHO 3	Cooper, Z.	EAT 3	Dolata, L.A.	EXH 1, ANA-P	Field, C.J.	BIO 4
Carta, G.	H&N 2	Cordeiro, C.	PCP 4	Dole, B.	PRO 5	Fine, F.	PRO 5
Caruso, M.	EXH 2	Cordova-Barragan, M.	EAT 1.1/IMG 1	Doll, K.M.	IOP-P	Fischer, C.L.	SCC 3
Casella, V.M.	S&D 4.1	Corno, S.	EXH 2			Fisher, H.	PCP 1
Casteel, K.	S&D 1.1	Corradini, M.G.	EAT 2.1/IMG 2			Flakelar, C.	ANA 3
Castro, I.A.	LOQ-P	Corredig, M.	PHO 2			Fleck, G.	PRO 5
		Corstens, M.	EAT 4/S&D 4.2			Fleith, M.	H&N 4
		Corti, S.	EXH 2			Fleury, M.	ANA 3, EXH 1
		Corzo, M.	PRO 5			Flores, R.	PCP 1

Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Floros, M.C.	EAT 2.2/IOP 2b	Green, T.B.	EAT 2.1/IMG 2, EAT 3	Hisamoto, M.	S&D-P	Johnson, D.R.	LOQ 1a, LOQ 4a
Flor-Weiler, L.B.	IOP-P	Greer, M.S.	S&D 4.1	Hitchman, T.S.	PRO 1, PRO 4	Johnson, L.K.	H&N 2
Fokkink, R.	EAT 4/S&D 4.2	Gregory, S.R.	BIO 4	Hoem, N.	PHO 2	Johnson, P.E.	PCP 2a
Foley, T.	EAT 2.1/IMG 2	Grimaldi, R.	PRO 4	Hogel, H.	EXH 2	Johnson, V.	S&D 2/SCC 2
Fonseca, A.	EXH 1, S&D 4.1	Grimaldi, R.	EAT 3	Hojilla-Evangelista, M.P.	PCP 1	Jones, A.J.	ANA 5
Forgiarini, A.M.	S&D 3	Grimi, N.	PRO-P	Holic, R.	BIO 1	Jones, K.C.	ANA-P
Forsyth, S.	H&N 4	Grootveld, M.	LOQ 4b	Holick, M.F.	H&N 1	Jones, P.J.H.	HT 3
Fox, D.M.	BIO 1.1/IOP 1/SCC 1	Gross, S.	S&D 4.1	Holm, H.C.	BIO 3.1/IOP 3, PRO 1	Ju, L.K.	BIO 2, BIO 4.1/S&D 4
Fox, J.	H&N 3.2	Grushcow, J.	IOP-P	Homma, R.	EAT 2.1/IMG 2, LOQ 3b, LOQ 5b	Julio, L.M.	PHO 1
Fraser, R.	ANA 5	Guedes, A.M.M.	EAT 3, EAT-P	Hondoh, H.	EAT 2.1/IMG 2	Jung, G.	S&D-P
Friel, J.K.	H&N-P	Guerberoff, G.K.	LOQ-P	Hoong, S.S.	IOP 5	Jung, H.	H&N-P
Fritz, H.	ANA 1	Gugliucci, A.	H&N 5	Horax, R.	PCP 5	Jung, J.H.	BIO 1, BIO-P
Fu, L.	EAT 4/S&D 4.2	Guinard, J.X.	EAT 5/H&N 5.1	Hornstra, G.	H&N 4	Jung, M.Y.	ANA-P
Fujita, Y.	BIO 1	Gumus, C.E.	EAT 4.1/IMG 3	Hosokawa, M.	BIO 2, H&N-P	Jung, S.	BIO 4.2/IOP 4
Fujuchi, K.	BIO 2	Guo, F.	EAT 4/S&D 4.2	Hosomi, R.	H&N-P	Kachadourian, R.	CEA 2
Fukui, M.	S&D 4.1	Guo, H.	H&N 3.2	Hossain, Z.	H&N-P	Kadamne, J.V.	EAT 1.1/IMG 1
Fukunaga, K.	H&N-P	Guo, J.	H&N 3.2	Hou, C.T.	BIO 1, BIO-P	Kadhun, M.J.	S&D 1
Fukusaki, E.	BIO 2	Guo, P.M.	BIO 3	Hou, C.T.	BIO 1, BIO-P	Kadowaki, M.	PCP 4
Fuller, N.J.	ANA-P	Guo, Z.	EAT 4.1/IMG 3, PRO 3, PHO 4, BIO 5, ANA-P	Howitt, J.	ANA 3	Kakoi, S.	H&N-P
Furukawa, K.	PHO 1	Gupta, M.K.	ANA 2.1/LOQ 2b	Hrcirik, K.	ANA 1	Kalita, D.	BIO 1.1/IOP 1/SCC 1
Furumoto, H.	BIO 3	Gupta, S.	PCP 2a, PCP-P	Hu, M.	LOQ 3a	Kaneko, Y.	S&D 2.1
Furuzono, T.	BIO 3	Guschina, I.A.	BIO 1, BIO 4	Huang, F.H.	BIO 3, LOQ-P, PRO-P	Kang, E.	S&D-P
Gadberry, R.J.	SCC 3	Haas, A.W.	H&N-P	Huh, H.	S&D 1	Kang, J.	H&N 2
Gaillard, N.	S&D 1	Haasis, P.	S&D 4.1	Hulett, C.	IOP 5	Kanuma, K.	PRO-P
Gaitán, A.V.	SS 1, H&N 4	Haile, E.A.	ANA-P	Hums, M.E.	IOP-P	Karabulut, I.	EAT-P, LOQ-P
Galdeano, M.C.	EAT 3	Haizhen, Z.	LOQ 5b	Hussien, M.A.M.	PCP-P	Karam, A.	IOP 2a
Galvano, F.	EXH 2	Hall, G.J.	PRO 2	Hutkins, R.	EAT 4/S&D 4.2	Karaman, A.D.	LOQ-P
Galgos-Peretz, T.	ANA 3	Han, J.	BIO 4.2/IOP 4	Hwang, H.S.	LOQ 3b	Kardam, V.	H&N-P
Galleguillos, R.	S&D 2/SCC 2	Hansen, S.L.	ANA 5	Hwang, K.T.	H&N-P	Karleskind, D.	EAT 1.1/IMG 1, EAT 2.2/IOP 2b
Galloway, R.	HT 5	Hanzah, N.A.	IOP 5	Ibrahim, H.R.	PCP 4	Karnjanapratum, S.	PCP 4
Gao, Y.	IOP 5	Hara, H.	PCP 4	Ichihashi, K.	S&D 5	Karunathilaka, S.R.	ANA 4
Garbe, L.A.	PHO 4	Harkness, K.	S&D 1	Igarashi, T.	S&D 3	Kassner, S.	LOQ 1a
Garg, M.L.	H&N 5	Harris, K.	S&D 4.1	Inan, B.	BIO-P	Kasuya, M.	S&D 5
Garoff, S.G.	S&D 5	Harwell, J.H.	S&D 1, S&D 5.1	Indrasena, W.M.	LOQ 1b	Kato, S.	PHO 1
Garti, N.	EAT 4/S&D 4.2	Harwood, J.L.	SS 3, BIO 1, BIO 4	Invally, K.	BIO 4.1/S&D 4	Katryniok, B.	IOP 2a
Gaudier-Diaz, M.M.	H&N-P	Hashim, M.A.	ANA-P, IOP-P, PRO-P	Ionescu, M.	IOP 5	Iqdiem, B.M.	H&N-P
Geloan, A.	H&N 5	Hashimoto, K.	BIO 2	Iqdiem, B.M.	PRO-P	Kawabeta, K.	PCP 4
George, A.	IOP-P	Hashiro, S.	BIO 2	Isbell, T.A.	BIO 4, IOP-P	Kawada, T.	BIO 3
Gertz, C.	ANA 4, LOQ 4b	Hassan, H.A.	IOP 5	Ishibashi, C.	EAT 2.1/IMG 2	Kawano, S.	S&D-P
Ghazani, S.M.	LOQ 5b	Hassan, N.	S&D 3	Ishikawa, Y.	PCP 4	Ke, J.Y.	H&N-P
Ghosh, M.	EAT 4/S&D 4.2, PHO 4	Hay, R.	EXH 2	Ismail, B.M.	PCP 3	Keat, C.W.	PRO-P
Ghosh, S.	LOQ-P	Hayashi, T.	S&D 4.1	Ismail, T.N.M.T.	IOP 5	Kelly, S.L.	H&N 3.2
Giacomoni, P.	S&D 2/SCC 2	Hayes, D.G.	BIO 4.1/S&D 4, PHO 4	Ito, Y.	S&D 2.1	Kemény, Z.	ANA 1
Gibon, V.	EAT 3, EAT-P	Hayes, J.	S&D 4.1	Itrich, N.	S&D 1.1	Kemper, T.G.	EXH 1
Gibson, A.	PCP-P	Hayyan, A.	ANA-P, IOP-P, PRO-P	Iwar, M.I.	PCP 2b	Kenar, J.A.	H&N-P, IOP-P
Gibson, P.	CEA 2	Hayyan, M.	ANA-P, IOP-P, PRO-P	Ixtaina, V.Y.	PHO 1	Kendall, A.C.	H&N 3
Gilbertson, T.A.	EAT 5/H&N 5.1	He, L.	LOQ-P	Izum, Y.	BIO 3	Kennedy, D.	BIO 1.1/IOP 1/SCC 1
Gilman, J.W.	BIO 1.1/IOP 1/SCC 1	He, R.F.	EAT 1.1/IMG 1	Jachmanián, I.	EAT-P, IOP-P	Kennedy, M.	BIO 1.1/IOP 1/SCC 1
Gioielli, L.A.	EAT-P	He, Y.	BIO 5	Jacob, R.F.	LOQ 5b	Keser, B.	LOQ-P
Girgih, A.T.	PCP 2b	He, Z.	PCP-P	Jacques, H.	H&N 5	Kester, A.	EAT 4/S&D 4.2
Gisder, J.	LOQ 4a	Hegedus, D.	PCP 1, PCP-P	Jadhav, P.	EAT 2	Khapii, S.	BIO 4.2/IOP 4
Gitan, R.S.	ANA 2	Heiden, R.W.	BIO 3.1/IOP 3	Jadhav, P.D.	ANA 3, PCP 2b, PCP 3	Kharraz, E.	BIO 1.1/IOP 1/SCC 1, IOP-P
Glasius, M.	PHO 4	Helbling, B.	ANA 1	Jagannathan, R.	BIO 4.2/IOP 4	Khraiwesh, B.	BIO 4.2/IOP 4
Goddard, J.M.	LOQ 3a	Hellner, G.	ANA 1	Jamili, A.	S&D 1	Kikukawa, H.	BIO 2
Goel, S.	EAT 4/S&D 4.2, S&D 5	Hernálsteens, S.	PCP 2b	Jan, A.H.	BIO 5	Kilpeläinen, P.	LOQ-P
Goemaere, J.	EAT 1	Hernandez, E.M.	PHO 2, IOP 5, S&D 5.1	Jana, S.	EAT-P	Kim, B.H.	ANA-P, BIO 3, BIO 5, BIO-P
Goldschmidt, R.J.	EAT 4.1/IMG 3	Hernández-Alvarez, A.J.	PCP-P	Jansson, P.	LOQ 4b	Kim, H.	BIO 5, IOP 2a, PRO-P
Golinski, S.	ANA 1	Hernández-Jabalera, A.	PCP-P	Japar, M.	PCP 3	Kim, H.R.	BIO 1, BIO-P
Gomaa, S.	PCP-P	Herrera, M.L.	EAT 4.1/IMG 3	Jaso, V.	IOP 5	Kim, I.H.	BIO 1, EAT 3, IOP 2a, BIO 5, PRO-P, BIO-P, PRO-P
Gong, M.	PCP-P	Hess, D.	BIO-P	Jayawardhane, K.	BIO 4	Kim, J.	ANA-P, BIO-P
Gonzalez, S.Y.	LOQ-P	Hettiarachchy, N.S.	PCP 5	Jaynes, B.S.	S&D-P	Kim, K.	PRO-P
Goodrich-Schneider, R.	PRO-P	Hewezi, T.	BIO 4	Jensch, S.	ANA-P	Kim, S.R.	BIO 1
Goodstal, J.	BIO 4	Hibi, M.	BIO 1	Jensen, M.M.	PHO 4	Kim, T.	IOP 2a, BIO 5
Goto, T.	BIO 3	Hildebrand, D.F.	BIO 4	Jentoft, R.E.	S&D 5.1	Kim, Y.I.	BIO 3
Götz, K.	BIO 3.1/IOP 3	Hilliard, C.	CEA 2	Jeong, W.C.	IOP-P	Kimball, M.	EAT 3
Götz, M.R.	HT 2	Hinckle, M.T.	PCP 4	Jérôme, F.	IOP 2a	Kimura, F.	PHO 1
Gow, R.V.	H&N 4	Hinrichsen, N.	ANA 1	Ji, W.	LOQ-P	Kimura, I.	HT 2, BIO 3
Grady, B.P.	S&D 3, S&D 5.1	Hintze, K.H.	H&N 3, H&N 5	Jiang, B.	S&D 1.1	Kimura, T.	BIO 1
Graham, T.R.	S&D 1.1	Hira, T.	PCP 4	Jiang, J.	H&N 5, IOP-P, PRO 5	Kincaid, P.D.	S&D 2.1
Graiver, D.	BIO 1.1/IOP 1/SCC 1	Hirata, A.	BIO 3	Jiang, Y.R.	ANA 2.1/LOQ 2b, PHO 1, LOQ-P	King, J.W.	SS 1, CEA 1, PHO-P
Granvogel, M.	ANA 4	Hirata, T.	BIO 3	Jijakli, K.	BIO 4.2/IOP 4	King, T.E.	S&D 1
Gravelle, A.J.	EAT 1	Hiromori, K.	PRO-P	Job, M.	S&D 2.1	Kirkeby, P.G.	EAT 4/S&D 4.2
Green, A.G.	BIO 4	Hironaka, S.	PCP 4				
Green, N.L.	EAT 1.1/IMG 1,						

Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Kishino, S.	BIO 2, BIO 3	Li, F.	H&N 3.1/PHO 3	Manaf, M.A.A.	BIO 4	Miele, S.	H&N 5
Kislitsin, V.	PCP 5	Li, J.	H&N 3.2	Manca, C.	H&N 2	Mietkiewska, E.	BIO 4
Kitamura, N.	BIO 3	Li, J.	PRO 3, BIO 5	Mandulak, P.	BIO 4.2/IOP 4	Miguel, A.M.R.O.	ANA 1
Kitson, A.P.	H&N 4	Li, L.	EAT 1.1/IMG 1	Manson, H.	EAT-P	Mikkonen, K.S.	LOQ-P
Knol, D.	H&N 3.2	Li, M.	SCC-P	Marangoni, A.G.	HT 3, EAT 1, EAT 2, EAT 2.1/IMG 2, EAT 2.2/IOP 2b, EAT 3.1, EAT 4.1/IMG 3, LOQ 5b, S&D 5, EAT-P	Miles, R.	BIO 4
Knoshaug, E.	PRO 3	Li, T.	ANA 1	Marcillo, E.	EAT-P	Miliic, J.	BIO 1.1/IOP 1/SCC 1
Knothe, G.	BIO 3.1/IOP 3, IOP-P	Li, W.	H&N 3.2, PRO-P	Marcolino, P.F.C.	ANA 1	Miller, E.P.	CEA 2
Knowlton, S.	SS 3	Li, W.L.	LOQ-P, PRO-P	Marinoni, G.	EAT 2.1/IMG 2	Miller, N.	EXH 2
Koba, K.	PCP 4	Li, X.	PCP 2b, ANA-P, H&N-P, LOQ-P	Marshall, M.R.	PRO-P	Milligan, A.	ANA 2
Koçer, A.T.	BIO-P	Li, Y.	ANA 2	Marsili, R.	LOQ 1a	Mirghani, M.E.S.	ANA-P, PRO-P
Kodali, D.R.	EAT 4.1/IMG 3, IOP-P	Li, Y.B.	IOP-P	Martinez, N.	IOP-P	Mirzaee Ghazani, S.	EAT 3.1
Kodali, S.	BIO 5	Li, Z.	ANA-P	Martini, S.	EAT 1.1/IMG 1, EAT 2.1/IMG 2, EAT 3, EAT-P	Mishima, S.	EAT 2.1/IMG 2
Kohl, J.	BIO 2	Liang, J.	ANA 2.1/LOQ 2b	Maruyama, J.M.	EAT-P	Mishra, A.	S&D 5.1
Kok, C.R.	EAT 4/S&D 4.2	Liang, S.	H&N-P	Masclee, A.	EAT 4/S&D 4.2	Mittelbach, M.	BIO 3.1/IOP 3, BIO 4.2/IOP 4
Kondoh, E.	H&N-P	Liao, W.	H&N-P	Mason, B.	PCP-P	Miya, H.	PCP 3
Kong, X.	BIO 1.1/IOP 1/SCC 1	Lichtenstein, A.H.	HT 4	Mason, R.P.	LOQ 5b	Miyahara, H.	H&N-P
Konradt, S.	EXH 1	Lidich, N.	EAT 4/S&D 4.2	Massoui, M.	S&D 3	Miyamoto, J.	BIO 3
Korlesky, N.	EAT 4.1/IMG 3	Liebens, A.	IOP 2a	Masters, R.A.	S&D 1.1	Miyashita, K.	BIO 2, H&N-P, LOQ 2a
Koubaa, M.	PRO-P	Lilbaek, H.M.	PRO 1	Masuyama, A.	S&D-P	Miyauchi, K.	H&N-P
Kovash, K.	CEA 2	Lin, D.Y.	IOP-P	Matheis, K.	ANA 4	Miyazawa, T.	PHO 1
Kowalski, J.	CEA 2	Lin, J.T.	BIO 1	Matheson, L.	S&D 1	Mohan, A.	PCP 5, PCP-P
Krahl, J.	BIO 3.1/IOP 3	Lin, Y.	H&N 3.2	Matsubara, M.	H&N-P	Monakhova, Y.B.	ANA 2, PHO 1, EAT 4.1/IMG 3, ANA-P, EAT-P
Kramer, J.K.G.	ANA 4, ANA 5	Lipp, L.	S&D 2/SCC 2	Matsui, T.	PCP 4	Moore, D.	LOQ 2a
Kris-Etherton, P.M.	HT 3	Lisai, S.	H&N 2	Matsukaze, N.	PCP 4	Moorefield, C.N.	S&D 2.1
Krumm, C.	ANA 5	List, G.R.	EAT-P	Matsuoka, K.	PCP 3	Morais, E.	IOP-P
Kuiper, H.C.	ANA 3	Littich, R.	EAT 2.2/IOP 2b	Matsumura, Y.	BIO 4.2/IOP 4, PCP 3	Moreau, R.A.	IOP-P
Kuksis, A.	H&N-P	Liu, C.	PCP 2a, PCP-P	Mattes, R.	EAT 5/H&N 5.1	Morgano, M.A.	ANA 1
Kumagai, H.	PCP 4	Liu, C.K.	BIO 2	Matthews, J.	BIO 4.2/IOP 4	Morita, N.	S&D 3
Kume, T.	BIO 3	Liu, C.S.	LOQ-P, PRO-P	Mauromoustakos, A.	PCP 5	Moritz, J.	H&N 3.2
Kurihara, K.	S&D 5	Liu, G.	IOP-P	Mawhinney, T.P.	ANA 2	Moser, B.R.	IOP-P
Kurokawa, T.	S&D 4.1	Liu, H.	BIO-P	Mayfield, S.E.	SS 1, EAT 4.1/IMG 3	Mossine, V.V.	ANA 2
Kuzdzal, S.A.	CEA 2	Liu, J.	BIO 4, PCP 5, IOP-P	Mboma, S.J.J.	H&N 5	Mossoba, M.M.	ANA 4
LaBlanc, A.	S&D 1	Liu, K.	PCP 1	McArdle, S.	CEA 2	Moumtaz, S.	LOQ 4b
Lafont, D.	BIO 3	Liu, L.	ANA 1	McClements, D.J.	SS 3, LOQ 3b, H&N 3.1/PHO 3, EAT 4.1/IMG 3, LOQ 4a, LOQ 5b, EAT-P, IOP-P, LOQ-P, S&D-P	Moustiès, C.	H&N-P
LaGuardia, M.K.	HT 4	Liu, L.	EAT 1.1/IMG 1	McCullough, D.M.	HT 6, PRO 2	Mu, H.	EAT 4.1/IMG 3
Lai, J.	IOP 2a	Liu, R.	LOQ-P	McDonough, K.	S&D 1.1	Mueller, B.	S&D 1
Lai, O.M.	EAT 3	Liu, S.	BIO 2, H&N-P	McGowen, J.	PRO 3	Muenker, T.	EXH 1
Lakhrissi, B.	S&D 3	Liu, X.	EAT 4/S&D 4.2	McGuire, C.	BIO 4	Muijlwijk, K.	EAT 4/S&D 4.2
Lakhrissi, L.	S&D 3	Liu, Y.F.	EAT 1, H&N 5, LOQ 4b, PRO 5	McGunigale, S.L.	ANA 3	Müller, M.F.	PHO 4
Lammi-Keefe, C.J.	H&N 4	Liu, Z.	IOP-P	McIntosh, T.C.	PCP 1	Muredda, L.	H&N 2
Lamontagne-Kam, D.M.E.	H&N 4	Liyanage, R.	ANA-P	McKee, H.S.	H&N-P	Murillo-Hernández, N.I.	EAT 3.1
Lampi, A.M.	LOQ-P	Loeffler, D.	BIO 4	McKeon, T.A.	BIO 4	Murillo-Rodríguez, E.	H&N 2
Lamsal, B.P.	BIO 5, S&D 2.1, S&D-P	Lohner, S.	H&N 4	McNeil, B.	BIO-P	Murotomi, K.	LOQ 2a
Landon, T.	EAT 2	Lonardo, E.C.	HT 4	McNeill, G.P.	EAT 1.1/IMG 1	Murru, E.	H&N 2
Lansakara-P, D.S.P.	S&D 1	Long, Q.	BIO-P	McVeigh, J.	S&D 2.1	Mutch, D.M.	H&N-P
Latona, N.P.	BIO 2	Lor, J.	H&N-P	Meda, V.	ANA 3	Nagao, T.	BIO 2, H&N-P
Laurens, L.M.L.	BIO 4.2/IOP 4, PRO 3	Louis, D.	H&N 5	Meier, M.A.R.	BIO 1.1/IOP 1/SCC 1	Nagaoka, S.	PCP 4
Lay, J.O.	ANA-P, EAT-P	Low, E.T.L.	BIO 4	Ménard, O.	H&N-P	Nagle, N.J.	BIO 4.2/IOP 4
Layden, B.	SS 3	Lu, M.	EAT 2.1/IMG 2	Meneguetti, E.M.	PRO 1	Nagy, A.	S&D-P
Leblanc, N.	H&N 5	Luckett, D.	ANA 3	Menéndez, N.	BIO 5	Naik, S.N.	H&N-P
Lecomte, J.	BIO 3, LOQ 2a, LOQ 5b, LOQ-P	Lukas, J.	EXH 2	Menezes, J.P.	EAT-P	Nakagawa, K.	PHO 1
Lee, A.C.	S&D 1.1, S&D 4.1	Lumor, S.E.	LOQ 1b, EAT 2, H&N 5, ANA-P	Meng, Z.	EAT 1, LOQ 4b	Nakajima, Y.	LOQ 2a
Lee, B.	S&D-P	Lund, H.	S&D 4.1	Mengdehl, M.	PHO 4	Nakamura, K.	S&D 3
Lee, H.G.	BIO-P	Luo, X.	IOP-P	Mensink, R.	H&N 4	Nakamura, Y.	PCP 3
Lee, H.J.	H&N-P	Lützenkirchen, S.	ANA-P	Menzies, J.	S&D 1.1	Nakashimada, Y.	BIO 4.2/IOP 4
Lee, J.	EAT-P	Lv, D.	ANA 2.1/LOQ 2b	Mercier, L.G.	PCP 5	Nakato, Y.	H&N-P
Lee, J.H.	H&N-P	Lv, X.	ANA 5, BIO 2	Meredith, M.T.	BIO 4.1/S&D 4	Nanthirudjanar, T.	BIO 3
Lee, J.Y.	ANA-P	Lyons, S.	S&D 5	Merinen, M.	LOQ-P	Napan, K.	BIO-P
Lefevre, Y.	EXH 1	Macias, L.	EAT-P	Metherel, A.H.	H&N 4	Narayan, R.	BIO 1.1/IOP 1/SCC 1
Lefevre, M.	H&N 3	Macias-Rodríguez, B.A.	EAT 2.1/IMG 2	Metin, S.	EAT 1.1/IMG 1, EAT 2.2/IOP 2b	Narine, S.S.	EAT 2.2/IOP 2b, IOP 5
Legouar, Y.	H&N-P	MacKay, D.S.	H&N-P	Metzger, J.O.	BIO 1.1/IOP 1/SCC 1	Nayebzadeh, K.	LOQ-P
Lehtonen, M.J.	H&N 3.2, LOQ-P	MacKay, J.A.	CEA 1	Meunier, G.	EXH 1	Nehdi, I.A.	EAT 3
Leigh, J.	ANA 1	Mackinnon, S.L.	ANA 2.1/LOQ 2b	Meunier, M.	ANA 3	Nelson, D.R.	BIO 4.2/IOP 4
Lemma, B.	H&N-P	MackMahon, S.	ANA 1	Mhemdi, H.	PRO 5, PRO-P	Nepras, M.J.	S&D 1.1
Len, C.	IOP 2a	Maes, J.	EAT-P	Miao, S.	BIO 4.1/S&D 4	Nes, W.D.	H&N 3.2
Leon, O.	BIO-P	Maglinao, R.L.	IOP 5	Michalski, M.C.	H&N 5	Ng, S.	EAT 4/S&D 4.2
LePage, J.N.	S&D 1.1, S&D 2.1	Mahdoueni, W.	H&N 3.1/PHO 3	Michel-Salaun, F.	LOQ-P	Ng, S.K.	EAT 3
Lesaffer, A.	EAT 1	Maier, R.M.	BIO 4.1/S&D 4			Ngo, H.	IOP-P
Lewis, N.J.	HT 6	Makriyannis, A.	H&N 2			Nguyen, D.P.	ANA 4
Lewis, S.	PCP 1	Maleky, F.	EAT 2.1/IMG 2, EAT 3.1			Nguyen, T.	S&D 1, S&D 5
L'Hocine L.	PCP 2a, PCP-P	Manabe, Y.	H&N 3.1/PHO 3			Nguyen, T.M.T.	ANA 4
Li, A.J.	BIO 1					Nicholson, R.	EAT 2.2/IOP 2b
Li, C.	BIO-P						
Li, D.	BIO 1						

Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Nickerson, M.	PCP 3	Parveez, G.K.A.	BIO 4	Ract, J.N.R.	EAT-P	Sahibollah, A.F.	BIO 4
Nicolaou, A.	H&N 3	Pate, R.C.	IOP-P	Radnóti, A.	ANA 1	Saitou, K.	EAT 2.1/IMG 2
Nie, X.	IOP-P	Patel, A.R.	EAT 1, H&N 3.1/PHO 3, EAT 4.1/IMG 3	Rafanan, R.R.	EAT 2.1/IMG 2	Sakamoto, T.	BIO 1
Nielsen, P.M.	PRO 1, BIO 3.1/IOP 3	Patel, A.V.	IOP 5	Rajakpaksha, S.	S&D 1	Sakuradani, E.	BIO 2
Nishiyama, Y.	BIO 1	Patel, C.M.	BIO 1.1/IOP 1/SCC 1, IOP 5	Rajendran, S.R.C.K.	PCP-P	Salager, J.L.	S&D 3
Nitin, N.	EAT 4/S&D 4.2	Patel, J.V.	IOP 5	Rakitsky, W.G.	HT 3, EAT 1.1/IMG 1, EAT 3.1	Salazar Peña, M.	PRO 1
Niu, F.	ANA 2.1/LOQ 2b	Patel, N.	ANA 2.1/LOQ 2b, H&N 3.1/PHO 3, LOQ 2a	Ramachandran, A.	EAT 4/S&D 4.2, S&D 5	Salehi-Ashtiani, K.	BIO 4.2/IOP 4
Noda, T.	PCP 4	Patel, P.M.	H&N 3.1/PHO 3	Ramadesai, K.	EAT 4.1/IMG 3	Salem, A.	PCP-P
Noh, S.K.	BIO 3	Patsioura, A.	LOQ 4b	Ramel, Jr., P.R.R.	EAT 2	Salmon, K.	S&D 4.1
Nolasco, S.M.	PHO 1	Paturi, J.	H&N 3.1/PHO 3	Ramírez de Molina, A.	H&N 3.1/PHO 3	Salvaneschi, L.	H&N-P
Nolles, R.	S&D 5.1	Paul, S.	IOP 2a	Ramsch, R.	ANA 3	Samanta, S.	BIO 1.1/IOP 1/SCC 1
Noor, N.M.	IOP 5	Pears, D.A.	EXH 2	Randall, J.	ANA 2.1/LOQ 2b, LOQ 2a	Sambanthamurthi, R.	BIO 4
Norton, G.	PRO-P	Pegg, R.B.	ANA-P	Rangavajjala, N.	EAT 2	Sammynaiken, R.	PCP 2b
Nuñez, A.	IOP-P	Pelittire, S.M.	PCP-P	Rashid, S.N.	ANA-P, PRO-P	Sancheti, A.	BIO 4.1/S&D 4
Nurul, A.H.	IOP 5	Pemberton, J.E.	BIO 4.1/S&D 4	Rasid, O.A.	BIO 4	Sangaletti-Gerhard, N.	LOQ-P
Nwachukwu, I.D.	PCP 2b	Perera, S.P.	PCP-P, PCP 1	Ratanapariyanuch, K.	PCP 2b, PRO-P	Santonastaso, A.	H&N-P
Nyam, K.L.	EAT 3	Pérez, B.C.	EAT 4.1/IMG 3, PHO 4	Rattner, J.J.	H&N-P	Santos, G.	LOQ-P
Nyström, L.	H&N 3.2	Perkins, C.	EXH 1	Rawlings, A.V.	PHO 4	Sasaki, A.	ANA 1
O'Callaghan, Y.C.	PCP 4	Perrier, V.	BIO 5	Ray, K.J.	BIO 1	Satchithanandam, E.	PCP 5
O'Donnell, B.	H&N-P	Petisca, C.	H&N 4	Rayaprolu, S.	PCP 5	Sathe, S.K.	PCP 2a, PCP-P
Obibuzor, J.U.	IOP-P	Petrie, J.R.	BIO 4	Reaney, M.J.T.	SS 1, PCP 2b, ANA 3, PCP 3, EAT 4.1/IMG 3, H&N-P, PRO-P	Sato, H.	S&D-P
O'Brien, N.M.	PCP 4	Petrovic, Z.S.	BIO 1.1/IOP 1/SCC 1, IOP 5	Recseg, K.	ANA 1	Sato, K.	EAT 2.1/IMG 2, EAT 3.1, PCP 3, PCP 4
O'Connor, M.J.	BIO 4.2/IOP 4	Peyronel, F.	EAT 1, EAT 2, EAT 2.1/IMG 2, EAT 4.1/IMG 3	Reddy, C.R.	BIO 3.1/IOP 3	Sattar, M.N.	IOP 5
Ogawa, J.	HT 2, BIO 1, BIO 2, BIO 3	Pezenec, S.	H&N 3.1/PHO 3	Redwine, J.G.	LOQ 3b	Satya, S.	H&N-P
Ohlogge, J.B.	BIO 4, IOP-P	Pham, L.J.	BIO-P	Regitano-d'Arce, M.	LOQ-P	Sayoud, N.	IOP 2a
Ohuchi, Y.	H&N-P	Pham, L.J.	BIO-P	Reglero, G.	BIO 5, H&N 3.1/PHO 3, PRO 5	Scamehorn, J.F.	S&D 3
Okamoto, T.	S&D 4.1	Picklo, M.J.	H&N 2, H&N 4	Reid, M.	LOQ 2a	Scarnelo, G.R.	ANA 1
Okamoto, Y.	S&D 3	Pienkos, P.T.	BIO 4.2/IOP 4, PRO 3	Remaley, A.	H&N-P	Scarpa, T.	EXH 2
Okamura, Y.	BIO 4.2/IOP 4	Pierson, B.	ANA-P	Ren, K.Z.	S&D-P	Schaefer, E.	S&D 1.1
O'Keefe, S.F.	LOQ 1a	Pifer, F.	PRO 4	Ren, S.	IOP-P	Schaich, K.M.	PCP 3
Okogbenin, E.A.	IOP-P	Pillai, P.S.	IOP 5	Resurreccion, E.P.	IOP 5	Schaller, H.	H&N 3.2
Okuda, T.	BIO 2	Pinelli, P.	H&N 5	Rhine, D.	S&D 4.1	Schroeder, W.D.	LOQ 2a, ANA 2.1/LOQ 2b
Okunwaye, T.	IOP-P	Pinheiro, B.C.M.T.	EAT-P	Ribéreau, S.	PCP-P	Schroën, C.G.P.H.	EAT 4/S&D 4.2
O'Lenick, T.	S&D 2/SCC 2	Pink, D.A.	EAT 4.1/IMG 3, LOQ 5a	Richardson, L.K.	BIO 4	Schug, K.A.	ANA 5, ANA-P
Oles, C.J.	ANA-P	Pinkston, R.I.	H&N 4	Rigdon, A.	CEA 2	Schultz, F.	PHO 4
Oliveira, A.C.	EAT-P	Pioch, D.	BIO 5	Riley, W.W.	SS 1	Scotti, C.	H&N-P
Oliveira, R.S.	LOQ-P	Piofczyk, T.	PRO 5	Rivers, D.B.	PCP 1	Sehlinger, A.	BIO 1.1/IOP 1/SCC 1
Olson, J.M.	H&N-P	Plans-Pujolres, M.	ANA 2	Robbins, S.	HT 4	Seidemann, E.	H&N 4
Omonov, T.S.	BIO 1.1/IOP 1/SCC 1, IOP-P	Plant, J.J.	ANA 4	Roberts, B.	S&D 1	Sein, A.	PRO 1
O'Neil, G.W.	BIO 3.1/IOP 3	Podchong, P.	EAT-P	Roberts, D.E.	ANA 4	Seikhon, J.K.	BIO 4.2/IOP 4
Ono, D.	S&D-P	Pollard, M.J.	BIO 4	Robertson, J.	EAT 3	Senanayake, S.P.J.N.	LOQ 4a
Onwubolu, N.B.	IOP-P	Popadyuk, A.	BIO 1.1/IOP 1/SCC 1	Rodier, J.D.	BIO 3	Serrano, G.	ANA 5
Orchard, T.	H&N-P	Pope, G.A.	S&D 1	Rodriguez-Abreu, C.	S&D 3	Serre, E.	EAT 3
Orellana, F.	BIO-P	Poth, A.G.	PCP 5	Rodriguez-Saona, L.E.	ANA 2, LOQ-P	Serva, M.	LOQ 5a
Ortego, E.	PRO 5	Potter, G.	ANA 5	Roelants, S.L.K.W.	BIO 4.1/S&D 4	Seward, B.	ANA 4
Otoki, Y.	PHO 1	Prajapati, N.	H&N 3.1/PHO 3	Rogers, M.A.	EAT 1, EAT 2.1/IMG 2, EAT 4.1/IMG 3	Shafrańska, O.	BIO 1.1/IOP 1/SCC 1
Ouchi, M.	ANA 1	Prenzler, P.	ANA 3	Rohrback, B.G.	CEA 2	Shah, S.	BIO 4
Özçimen, D.	BIO-P	Pretzer, L.E.	S&D 1	Roke, K.	H&N-P	Shahidi, F.	LOQ 3a
Ozdemir, I.	ANA-P	Primožic, M.	PCP 3	Roman, M.J.	LOQ 3a	Sharma, R.	BIO 5
Ozer, R.W.	CEA 1, EXH 1, PRO 1, PRO 5	Proctor, A.	EAT 4.1/IMG 3, ANA-P	Romani, A.	H&N 5	Sharma, S.K.	BIO 4.2/IOP 4
Ozkan, S.	S&D 2/SCC 2	Pruzanski, W.	H&N-P	Romano, J.P.	ANA-P	Shen, J.	ANA 3, PCP 2b, PCP 3
Ozkaya, M.T.	ANA-P	Pryor, M.	H&N-P	Romsted, L.S.	ANA 2.1/LOQ 2b	Shen, Q.	EAT 1.1/IMG 1
Öztay, D.	BIO-P	Przybycien, T.M.	S&D 5	Rosentrater, K.A.	BIO 4.2/IOP 4	Sherratt, S.	LOQ 5b
Paboeuf, G.	PHO-P	Puah, C.W.	PRO-P	Rosnack, K.J.	ANA-P	Shi, J.	BIO 3
Packer, R.J.	ANA 2, ANA 4	Puchala, S.	H&N-P	Rousseau, D.	EAT 1.1/IMG 1, EAT 2.1/IMG 2, EAT 3, EAT 3.1, EAT-P	Shiau, B.J.	S&D 1, S&D 5.1
Palam, K.D.P.	IOP 5	Pudel, F.	PRO 3, PRO 5	Rousseau, F.	H&N-P	Shibasaki-Kitakawa, N.	PRO-P
Palacios, L.	PRO 3	Punvichai, T.	BIO 5	Ruiz-Rodado, V.	LOQ 4b	Shibata, A.	LOQ 2a
Palmer, M.	IOP-P	Purcaro, G.	ANA 5	Ruso, J.M.	S&D 3	Shim, Y.Y.	ANA 3, H&N-P, PCP 2b, PCP 3, PRO-P
Palmer, S.	ANA 4	Qi, D.	H&N 3.1/PHO 3	Russell, G.	S&D 1	Shimizu, M.	ANA 1, EAT 2.1/IMG 2
Palu, S.	BIO 5	Qin, Y.	IOP-P	Rutenberg, D.	PHO 2	Shindou, H.	S&D 4.1
Pan, X.	BIO 1	Qiu, M.	LOQ 4b	Ryu, J.	BIO 1	Shinn, S.E.	ANA-P, EAT 4.1/IMG 3, EAT-P
Pan, Y.	EAT 4/S&D 4.2	Quek, S.Y.	BIO 2	Sabatini, D.A.	S&D 3	Shittu, O.	PCP 5
Panchal, T.M.	IOP 5	Quezada, N.	BIO-P, EAT-P	Sabelko, J.J.	S&D 4.1	Shizuma, M.	S&D-P
Pant, K.K.	H&N-P	Quinn, J.C.	BIO 4.2/IOP 4, BIO-P	Saber, S.	PCP-P	Shotts, M.	ANA 2
Pantalone, V.	BIO 4	Quinsac, A.	PRO 5	Sacui, I.A.	BIO 1.1/IOP 1/SCC 1	Showmaker, D.	S&D 4.1
Papp-Szabo, E.	LOQ 5a	Quraishi, S.	S&D 3	Sadykova, Z.	PHO 4	Shulman, J.E.	S&D 4.1
Park, E.Y.	PCP 3, PCP 4	Raatz, S.K.	H&N 2	Sae-leaw, T.	PCP 4	Sibi, M.	BIO 1.1/IOP 1/SCC 1
Park, H.M.	BIO 1	Rababah, T.	LOQ-P	Safariamin, M.	IOP 2a	Sidisky, L.M.	ANA 5
Park, H.R.	EAT 3	Raber, J.C.	CEA 2, CEA-P			Sidykova, R.C.	EAT-P
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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:

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- B. Boycotting, blacklisting, or unfavorable reporting; or

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- 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.

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