



PROGRAM

106th AOCs Annual Meeting and Industry Showcases

May 3–6, 2015

Rosen Shingle Creek | Orlando, Florida, USA



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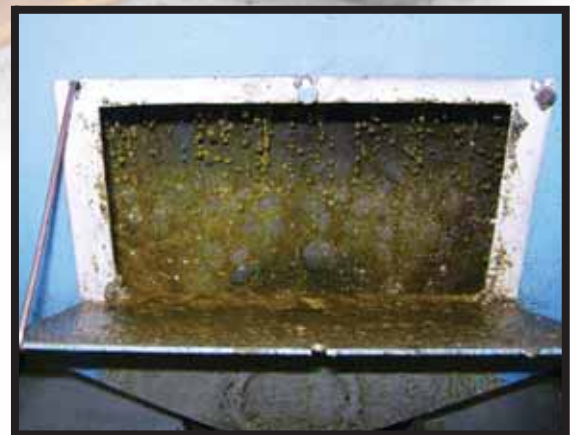
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Welcome to Orlando!

And, welcome to the new “campus format” for this meeting! This year you will experience a unique structure and I want to encourage you take advantage of all that this new version offers.

The three campuses, representing the AOCS interest areas, provide an innovative conference format designed to give attendees with similar interests *more* opportunities to network, collaborate, and learn. These are the reasons we are all here at this essential meeting for our industries, right?

Each campus features concurrent technical sessions, an Industry Showcase, poster presentations, and networking breaks. Campuses are conveniently located near each other, and follow the same schedule, allowing attendees to freely move among them. The Industry Showcases, a new and integral part of the campus environment, houses Showcase Partners providing business solutions specific to the interest areas of each campus.

Many networking events are planned within the campuses for interaction and socialization with your peers, but also be sure to join us for the President’s Welcome Reception and the Lawn Party, both casual receptions to be held outside so we can enjoy the pleasant climate of this destination.

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

I look forward to seeing you “on campus” and hope you enjoy Orlando!

Best regards,



MANFRED TRAUTMANN
Annual Meeting General Chair
Managing Director
WeylChem AG, Switzerland



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Society of Cosmetic Chemists (SCC)

AOCS is pleased to welcome the Society of Cosmetic Chemists to Rosen Shingle Creek for our 106th AOCS Annual Meeting and Industry Showcases. AOCS and the SCC recognize the importance of sharing technology, information, and analytical methods in the development of cosmetics and personal care products; and providing new avenues for professional development for members of both societies.

AOCS and the SCC have organized three joint sessions for the Annual Meeting to address topics common to both groups, including *Lipid Oils and Skin Health*, *Surfactants: Cosmetic Science*, and *Strategies in Advanced Utilization of Proteins and Peptides*. Information on these sessions may be found on pages 62, 48, and 60.



AOCS looks forward to establishing a tradition of collaboration with the SCC as our industries expand globally.



Thank You

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 As of March 25, 2015

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.

Get The App

It's easy to load and even easier to use!
It's accessible from all devices with an internet browser: smartphones, tablets, and laptops.

With The App, you can:

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Need assistance? Stop by **The App** Help Desk at the Butler Room.

Activate your profile and you could win an iPad Air!

To qualify for the iPad Air drawing, your attendee profile must be activated by 9:00 am (Eastern) on Tuesday, May 5 and feature either your photo or short biography. The winner will be announced during the Awards Plenary and Business Meeting on Tuesday, beginning at 11:00 am in Gatlin C. *You must be present to win.*

Connect with AOCs!



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We encourage other organizations to explore the many opportunities to partner with AOCs.

For more information visit: aocs.org/AssociationExchange



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WELCOME TO CAMPUS!

AOCS is pleased to welcome you to campus—our new conference format focused on networking and all-day, productive interaction between Industry Showcase Partners, speakers, poster authors, and attendees. Beginning this year, and occurring every odd-numbered year hereafter, AOCS will utilize the campus format to provide our meeting attendees more opportunities to network, collaborate, and learn from others with similar interests.

Each campus features:

- Concurrent Technical Sessions
- Poster Presentations
- Industry Showcase
- Computer Station
- Charging Station
- Beverage Service

This year's meeting contains three distinct campuses: Felix Paquin, Frank Smalley, and David Wesson. Each campus will adhere to the same daily schedule, allowing attendees to move easily among them to make the most of their Annual Meeting experience.

Industry Showcases

As the backbone of the campus format, the Industry Showcases feature international partners who provide business solutions specific to the interest areas of each campus.

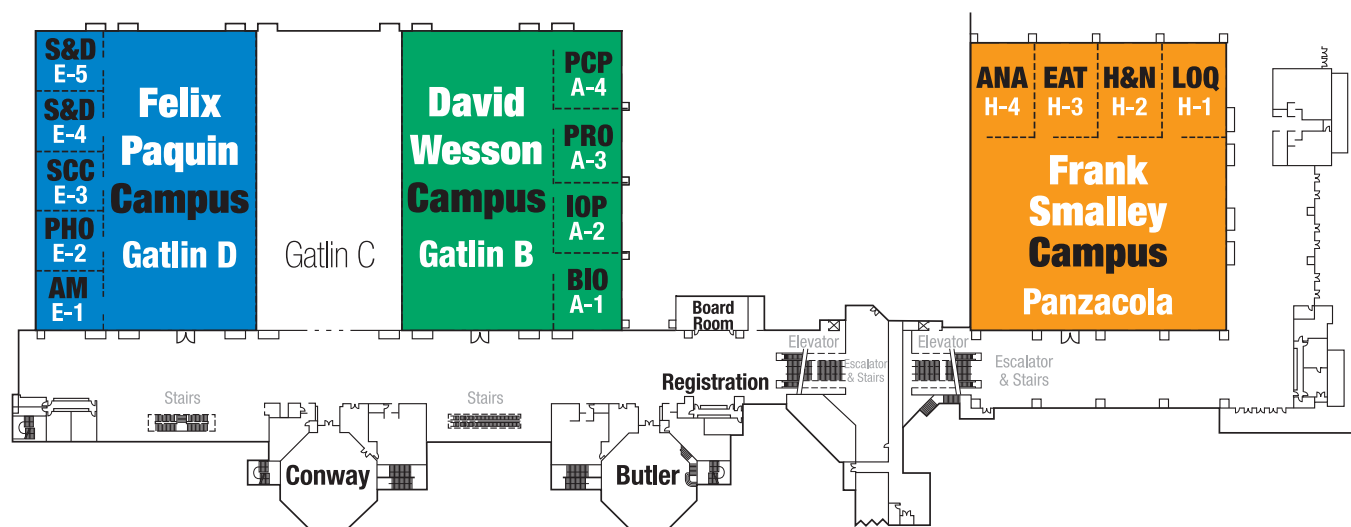
Networking Breaks

The campus schedule includes two daily networking breaks, providing ideal time for attendees to connect with colleagues, network with speakers, meet with the Industry Showcase Partners, and view posters.

Poster Author Sessions

Five of the networking breaks will serve as poster author sessions:

- Even-numbered posters have authors present during the Monday mid-morning and Tuesday afternoon breaks.
- Odd-numbered posters have authors present during the Monday afternoon and Tuesday mid-morning breaks.
- All authors are also encouraged to be present during the Wednesday mid-morning break.



Campuses are divided by interest areas:

Felix Paquin Campus

- Agricultural Microscopy Division (AM)
- Phospholipid Division (PHO)
- Surfactants and Detergents Division (S&D)
- Society of Cosmetic Chemists (SCC)

Detailed information on the Felix Paquin Campus begins on page 45.

David Wesson Campus

- Biotechnology Division (BIO)
- Industrial Oil Products Division (IOP)
- Processing Division (PRO)
- Protein and Co-Products Division (PCP)

Detailed information on the David Wesson Campus begins on page 55.

Frank Smalley Campus

- Analytical Division (ANA)
- Edible Applications Technology Division (EAT)
- Health and Nutrition Division (H&N)
- Lipid Oxidation and Quality Division (LOQ)

Detailed information on the Frank Smalley Campus begins on page 27.

The 2014-2015 AOCs Governing Board



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Monday Breaks (Wesson Campus)

Charging Station (Wesson Campus)



Wednesday Breaks (Smalley Campus)



Tuesday Morning Break (Wesson Campus)



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As of March 15, 2015



Schedule Overview

All events listed below are included in full registration. For a complete listing of all activities by day, please see the Program-at-a-Glance brochure or use **The App**.

Sunday, May 3

7:00 am–7:00 pm	Speaker Ready Room	Boardroom
9:00 am–5:30 pm	Committee Meetings	See Program-at-a-Glance
10:00 am–7:30 pm	Registration	Gatlin Foyer
4:45–5:30 pm	Student CIG Meet-and-Greet	St. John's 28
5:00–7:30 pm	Bookstore Career Center Information Services inform connect Silent Auction Souvenir Photo Center	Butler
5:30–7:00 pm	President's Welcome Reception	Butler
7:00–8:00 pm	Young Professionals' CIG Reception	Osceola Courtyard

Monday, May 4

7:00 am–6:00 pm	Campuses Industry Showcases Poster Viewing	Gatlin B, D, & Panzacola
7:00 am–5:00 pm	Committee Meetings	See Program-at-a-Glance
7:00 am–6:00 pm	Registration	Gatlin Foyer
7:00 am–7:00 pm	Speaker Ready Room	Boardroom
7:20–8:20 am	Early Risers Coffee	Gatlin B, D, & Panzacola
8:15–11:20 am	Hot Topics Symposia	Gatlin B, D, & Panzacola
9:00 am–6:00 pm	Bookstore Career Center Information Services inform connect Silent Auction Souvenir Photo Center	Butler
9:40–10:20 am	Networking Break and Poster Author Session	Gatlin B, D, & Panzacola
12:00–1:15 pm	Career Fair	Conway
1:15–5:00 pm	Technical Sessions	Gatlin B, D, & Panzacola
2:40–3:20 pm	Networking Break and Poster Author Session	Gatlin B, D, & Panzacola
5:00–6:00 pm	Career Fair	Conway
6:00–10:00 pm	Pointe Orlando Shuttles	Transportation Lobby

Tuesday, May 5

7:00 am–6:00 pm	Campuses Industry Showcases Poster Viewing	Gatlin B, D, & Panzacola
7:00 am–6:00 pm	Committee Meetings	See Program-at-a-Glance
7:00–8:00 am	Early Risers Coffee	Gatlin B, D, & Panzacola
7:00 am–6:00 pm	Registration	Gatlin Foyer
7:00 am–7:00 pm	Speaker Ready Room	Boardroom
7:55–11:00 am	Technical Sessions	Gatlin B, D, & Panzacola
9:00 am–6:00 pm	Bookstore Career Center Information Services inform connect Souvenir Photo Center	Butler
9:00 am–4:00 pm	Silent Auction	Butler Balcony
9:20–10:00 am	Networking Break and Poster Author Session	Gatlin B, D, & Panzacola
11:00 am–12:45 pm	Awards Plenary and Business Meeting	Gatlin C
2:15–6:00 pm	Technical Sessions	Gatlin B, D, & Panzacola
3:40–4:20 pm	Networking Break and Poster Author Session	Gatlin B, D, & Panzacola
6:00–7:30 pm	Lawn Party	Recreation Lawn and Patio

Wednesday, May 6

7:00 am–5:00 pm	Campuses Industry Showcases	Gatlin B, D, & Panzacola
7:00–8:00 am	Early Risers Coffee	Gatlin B, D, & Panzacola
7:00 am–3:40 pm	Poster Viewing	Gatlin B, D, & Panzacola
7:00 am–4:00 pm	Registration	Gatlin Foyer
7:00 am–2:00 pm	Speaker Ready Room	Boardroom
7:30 am–5:00 pm	Committee Meetings	See Program-at-a-Glance
7:55 am–12:00 pm	Technical Sessions	Gatlin B, D, & Panzacola
9:00 am–4:00 pm	Bookstore Career Center Information Services inform connect Souvenir Photo Center	Butler
9:40–10:20 am	Networking Break and Poster Author Session	Gatlin B, D, & Panzacola
1:55–5:00 pm	Technical Sessions	Gatlin B, D, & Panzacola
3:20–3:40 pm	Networking Break	Gatlin B, D, & Panzacola

Networking Events

Sunday, May 3

Student Common Interest Group Meet-and-Greet

4:45–5:30 pm | St. John's 28

Meet fellow students in a relaxed environment, build relationships within five minutes, and learn how to make the most of your conference experience. Feedback on this event has been very positive—we encourage you to take part! At the conclusion, we will attend the President's Welcome Reception. Open to all student attendees and those interested in networking with this group.

President's Welcome Reception

5:30–7:00 pm | Butler

Reconnect with colleagues, network with new business contacts, and meet with the Industry Showcase Partners during this outdoor reception featuring a variety of hors d'oeuvres and beverages.

This event is included in the registration fee for all full registrants and Short Course registrants.

Young Professionals' Common Interest Group Reception

7:00–8:00 pm | Osceola Courtyard

Attending the AOCS Annual Meeting is an investment in your career and your industry knowledge. Make the most of your Annual Meeting experience and start developing important professional connections now! This evening networking event is open to those new to the profession and all interested in networking with this group.

Monday, May 4

Career Fair

12:00–1:15 pm and 5:00–6:00 pm | Conway

An extension of our Career Center, the Career Fair is the perfect place to search for the ideal employee or career opportunity! Attend the Career Fair to discover potential employment openings, make industry contacts, and improve your networking skills.

Tuesday, May 5

Lawn Party

6:00–7:30 pm | Recreation Lawn and Patio

Develop important connections with other industry professionals from around the world in a friendly, casual environment. Kick off your shoes, roll up your sleeves, and enjoy playing sand volleyball, badminton, croquet, bocce ball, and bag toss. Hors d'oeuvres and beverages will be served so come and join the fun!

This event is included in the registration fee for all full and Tuesday-only registrants.

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Division Events

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

Incoming Division Leadership Orientation

Executive Steering Committee Orientation: Chairpersons, Vice Chairpersons, and Secretary-Treasurers
 Sunday, May 3, 9:30–11:00 am | St. John's 24

All Division Executive Steering Committees

Sunday, May 3, 1:30–3:00 pm | Gatlin E-1

Division Council

Sunday, May 3, 3:00–4:00 pm | Gatlin E-1

Session Chair Orientation


Sunday, May 3, 4:00–4:30 pm | Gatlin E-1

Take this opportunity to meet with your fellow Session Chairs and Division Vice Chairs for a brief presentation about onsite Session Chair responsibilities. Details on **The App**, instructions for obtaining attendee feedback, and session room equipment will also be discussed. AOCS staff and an audio visual technician will be available to answer any questions.

2016 Annual Meeting Program Roundtable

All meeting attendees are invited to attend roundtable discussions and assist in developing the technical program for the 2016 AOCS Annual Meeting. AOCS and the Annual Meeting Program Committee greatly value your input! Roundtable meeting times are listed below. Division membership is not required.

Division	Roundtables	Networking Event(s)
Agricultural Microscopy	Monday, May 4 5:00–6:00 pm Gatlin E-1	Luncheon: Tuesday, May 5 • 12:45–2:15 pm • St. John's 29
Analytical	Tuesday, May 5 5:40–6:00 pm Panzacola H-4	Luncheon: Monday, May 4 • 11:30 am–1:15 pm • Suwannee 18 Speaker: Charlotta Turner, Lund University, Sweden <i>Towards Green and Sustainable Analytical Chemistry</i>
Biotechnology	Tuesday, May 5 12:45–1:45 pm Gatlin A-1	Dinner: Tuesday, May 5 • 7:30–9:00 pm • Suwannee 15 Speaker: Richard V. Tyson, Orange County Extension, University of Florida, USA <i>Sustainable Agricultural Opportunities for Local Food Systems: Hydroponics and Aquaponics</i>
Edible Applications Technology	Monday, May 4 7:30–8:15 am Panzacola H-3	Reception/Dinner: Monday, May 4 • 6:30–8:30 pm • Suwannee 16 Speaker: David A. Pink, St. Francis Xavier University, Canada <i>Modelling 2015—The Year of the Shear</i>
Health and Nutrition	Tuesday, May 5 12:45–1:45 pm Panzacola H-2	Dinner: Tuesday, May 5 • 7:30–9:00 pm • Suwannee 17 Speaker: Carol J. Lammi-Keefe, Louisiana State University, USA <i>Looking Backwards—More than a Quarter of a Century at the 'Bench'</i>
Industrial Oil Products	Monday, May 4 5:00–6:00 pm Gatlin A-2	Luncheon: Tuesday, May 5 • 12:45–2:15 pm • Suwannee 18 Speaker: Nestor U. Soriano Jr., NALCO Champion An Ecolab Company, USA <i>Green Meets Black: Plant Oil-based Fuel Additives</i>
Lipid Oxidation and Quality	Monday, May 4 5:00–6:00 pm Panzacola H-1	Luncheon: Tuesday, May 5 • 12:45–2:15 pm • Suwannee 17 Speaker: To be announced.
Phospholipid	Tuesday, May 5 12:45–1:45 pm Gatlin E-2	Reception/Dinner: Monday, May 4 • 7:00–9:00 pm • Suwannee 17 Speaker: Sampath Parthasarathy, University of Central Florida, USA
Processing	Wednesday, May 6 7:00–7:55 am Gatlin A-3	Hospitality: Monday, May 4 and Tuesday, May 5 • 7:00–9:00 pm • Suite Luncheon: Tuesday, May 5 • 12:45–2:15 pm • Suwannee 16 Speaker: Marc J. Kellens, Desmet Ballestra Group SA, Belgium <i>Oils and Fats Processing: Past, Present, and Future</i>
Protein and Co-Products	Monday, May 4 11:45 am–1:00 pm Gatlin A-4	Dinner: Tuesday, May 5 • 7:30–9:00 pm • Suwannee 14
Surfactants and Detergents	Monday, May 4 5:00–6:00 pm Gatlin E-4	Networking Reception: Monday, May 4 • 6:00–7:30 pm • Suwannee 15 Luncheon: Tuesday, May 5 • 12:45–2:15 pm • Suwannee 14 Speaker: Charles E. Hammond, CESI Chemical, USA <i>The Art of Formulation to Dynamic Fluid Engineering</i>



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Section Events

Sections provide a mechanism for AOCS members and others residing in a specific geographic region to meet together regularly to discuss common interests. Section activities include short courses, conferences, and annual meetings. Anyone interested is encouraged to attend any Section event.

Monday, May 4

Canadian Section Luncheon

11:30 am–1:15 pm | Suwannee 17

Section Council

3:00–4:00 pm | St. John's 27

European Section Gathering (cash bar)

5:00–6:00 pm | Headwaters Lounge

Tuesday, May 5

Asian Section Leadership Team Meeting

7:00–7:55 am | St. John's 27

Latin American Section Luncheon

12:45–2:15 pm | Suwannee 19

Common Interest Group (CIG) Events

The Common Interest Groups (CIG) offer not only professional and mentoring activities, but also allows for the discussion and exchange of ideas for those involved within the groups. Anyone interested is encouraged to attend the meetings listed below or networking events on page 11.

Students

Let's Go As a Group to the Lawn Party!

Tuesday, May 5, 5:30 pm | Hotel Lobby

We will meet by the birdcage in the main hotel lobby prior to the Lawn Party to form teams for the games. Come and enjoy the evening with your fellow students!

Business Meeting and Mentoring Luncheon

Wednesday, May 6, 12:00–1:45 pm | Sandlake

Meet your leadership team and your mentors, our long-time AOCS members. During the meeting, the leadership team will discuss a variety of programs and projects designed to enhance student participation in AOCS. Don't miss this opportunity to develop your professional network with established AOCS members and other students. Open to students and mentors only.

This is a ticketed event. If you have not registered to attend this event, but would like to, please see the Registration Desk.

Sponsored by:



Young Professionals

Mentoring

Sunday, May 3, 4:00–5:00 pm | St. John's 24

Meet your leadership team and mentors, our knowledgeable AOCS members in an informal, relaxed environment. Established professionals will mix and mingle with Young Professionals that are interested in mentoring opportunities. This is your time to seek career advice from those who have led the industry and served our community.

Business Meeting

Tuesday, May 5, 5:00–6:00 pm | St. John's 25

This meeting will set priorities for the next year's activities and may include discussion of technical sessions as well as other education and meeting opportunities. This is an open meeting and your time to help lead and direct future programs the group will organize.

Professional Educators

Business Meeting

Tuesday, May 5, 4:00–5:00 pm | St. John's 27

This meeting will set priorities for the next year's activities and may include discussion of technical sessions as well as other education and teaching opportunities.

Young Professionals' and Professional Educators' Common Interest Group (CIG) Session

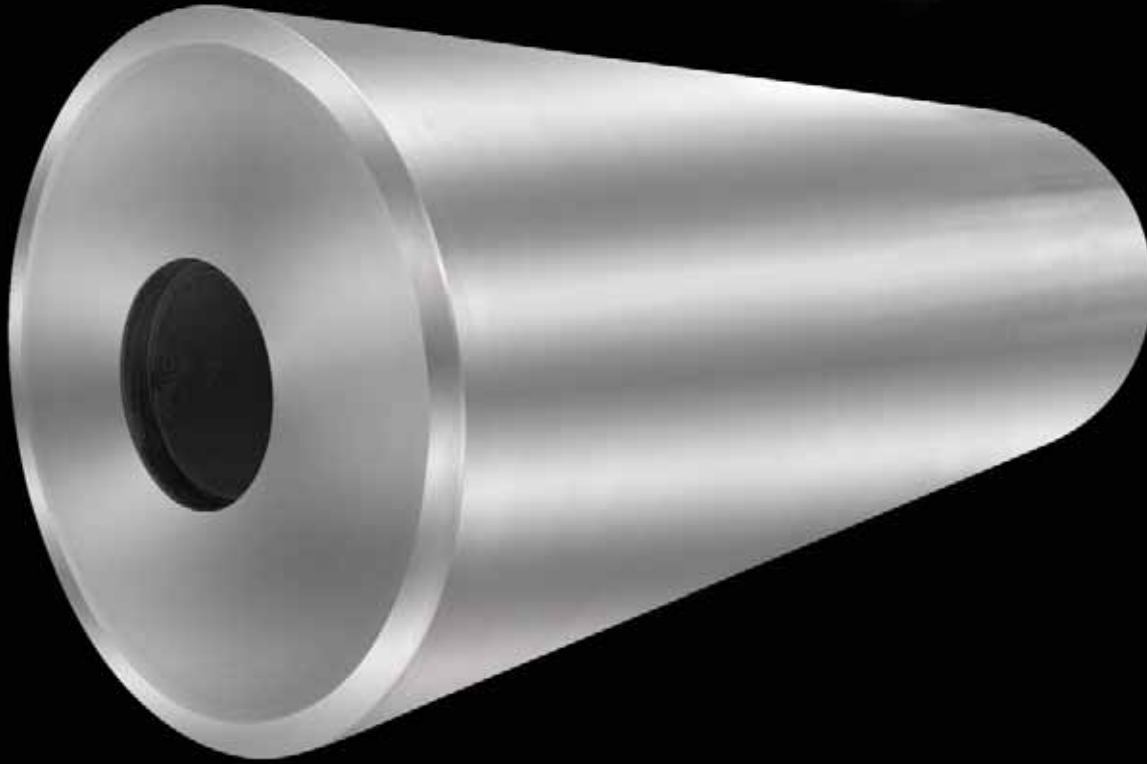
SS 3: The Challenges and Rewards of the Mentoring Relationship in Academia and Industry

Monday, May 4 | 8:15–11:20 am | Gatlin E-2

See page 24 for more information on this session.

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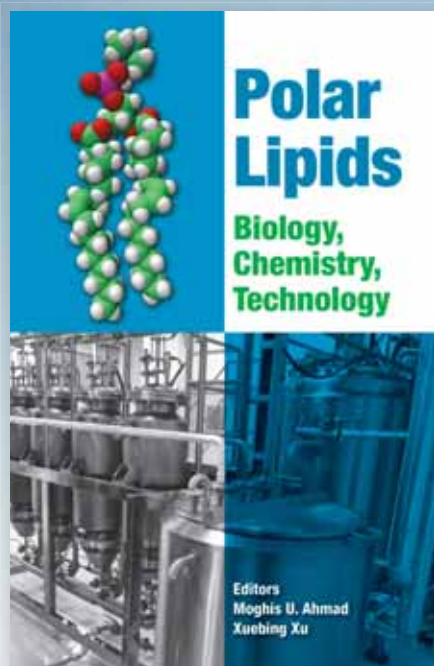
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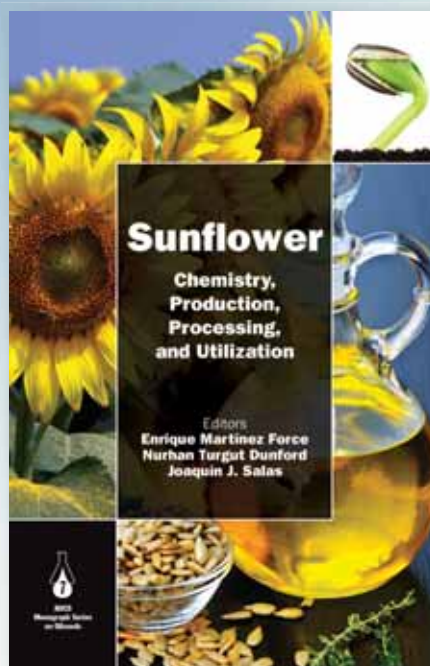
New from AOCS Press



Polar Lipids ***Biology, Chemistry, and*** ***Technology***

Edited by Moghis U. Ahmad and Xuebing Xu

Polar Lipids is a valuable reference resource providing thorough and comprehensive coverage of the application and utilization of polar lipids in food and nutrition, and health and disease. Chapters cover chemistry and chemical synthesis, biosynthesis and biological effects, functional and nutritional properties, applications, processing technologies, and future trends of a variety of polar lipids—including glycolipids, ether lipids, phenol lipids, serine phospholipids, omega-3 phospholipids, rice lecithin, palm lecithin, sunflower lecithin, sugar- and protein-based lipids, lysophospholipids, and more.

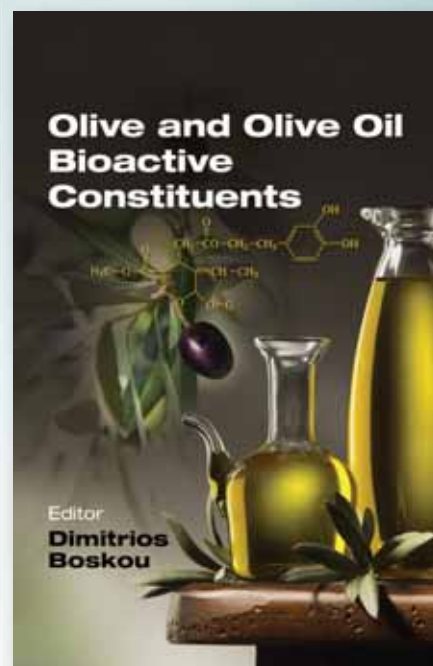


Sunflower ***Chemistry, Production,*** ***Processing, and Utilization***

AOCS MONOGRAPH SERIES ON OILSEEDS, VOLUME 7

Edited by Enrique Martínez-Force, Nurhan Turgut Dunford, and Joaquín J. Salas

This comprehensive reference book delivers key information on all aspects of sunflower. With over 20 chapters, this book provides an extensive review of the latest developments in sunflower genetics, breeding, processing, quality, and utilization, including food, energy and industrial bio-product applications. World-renowned experts in this field review US and international practices, production, and processing aspects of sunflower.



Olive and Olive Oil ***Bioactive Constituents***

Edited by Dimitrios Boskou

The market is flooded with products posing as elixirs, supplements, functional foods, and olive oil alternatives containing phenols obtained from multiple olive sources. This technically-oriented book will be of value to nutritionists and researchers in the biosciences. It unravels the body of science pertaining to olive minor constituents in relation to new chemical knowledge, technological innovations, and novel methods of recovery, parallel to toxicology, pharmacology, efficacy, doses, claims, and regulation.

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General Information

Registration

Registrars provide meeting materials and offer assistance.

Meeting Registration List is available on *The App* or online at: AnnualMeeting.aocs.org/AM15Resources

Lost and Found items may be turned in at the Registration Desk; also please check here for any lost items.

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

Name badges are color-coded to indicate registration status:

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

- Only registrants 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 see the Registration Desk.

Emergency Contacts

We encourage all attendees to please provide emergency contact information to AOCs by completing the reverse side of your name badge. This will help AOCs staff or medical personnel in case of an emergency situation during the meeting. Attendees should also login to the AOCs website, select 'Emergency Contacts' in the communication section, and add information to your AOCs record. This information will only be used in an emergency situation. If you do not recall your login details, please see the registrars at the Registration Desk.

Event Tickets

Keep your tickets with you as many AOCs events require tickets to be admitted.

Tickets fit inside your name badge holder for easy access.

If you pre-registered, your tickets are in your registration envelope along with your name badge. If you registered on site, you received your tickets with your other meeting materials.

AOCs Gives Back to Orlando

Don't forget to drop off your new toy or book in the designated boxes located by the AOCs Registration area. Cash donations are also accepted at the AOCs Registration desk. All items will be donated to the Arnold Palmer Children's Hospital. All donations should be made by 1:00 pm on Wednesday.

Presentation Information

Abstracts

Search and print abstracts for any of the presentations from the stations located in the Campuses. Abstracts are also available on *The App* or online at: AnnualMeeting.aocs.org/AM15Resources

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 kheine@aocs.org.

Speaker Ready Room | Boardroom

Laptop computers and an audio-visual technician are available.

Date	Room Open	Technician Present
Sunday, May 3	7:00 am–7:00 pm	1:00–5:00 pm
Monday, May 4	7:00 am–7:00 pm	9:00 am–5:00 pm
Tuesday, May 5	7:00 am–7:00 pm	9:00 am–5:00 pm
Wednesday, May 6	7:00 am–2:00 pm	9:00 am–1:00 pm

Miscellaneous Information

Mobile Phones

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

Photography and Recording Policy

No video recording, tape recording, or still photography is allowed, except by registered media in the session rooms.

Video or still photography of Industry Showcase Partners display or posters is not allowed, unless permission is granted by the Partner or poster author.

Smoking Policy

Smoking is prohibited at all AOCs functions.

Fire-safety Precautions/Protection of Valuables

Please take a moment to familiarize yourself with fire-safety precautions that are posted in 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.

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Be a Part of the Auction!

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

- Proceeds support student programs
- Bid generously on as many items as you like
- Auction starts on **Sunday at 5:00 pm**
- Bidding ends on **Tuesday at 4:00 pm**



Visit the Silent Auction, located in Butler, beginning Sunday and place your bids.

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

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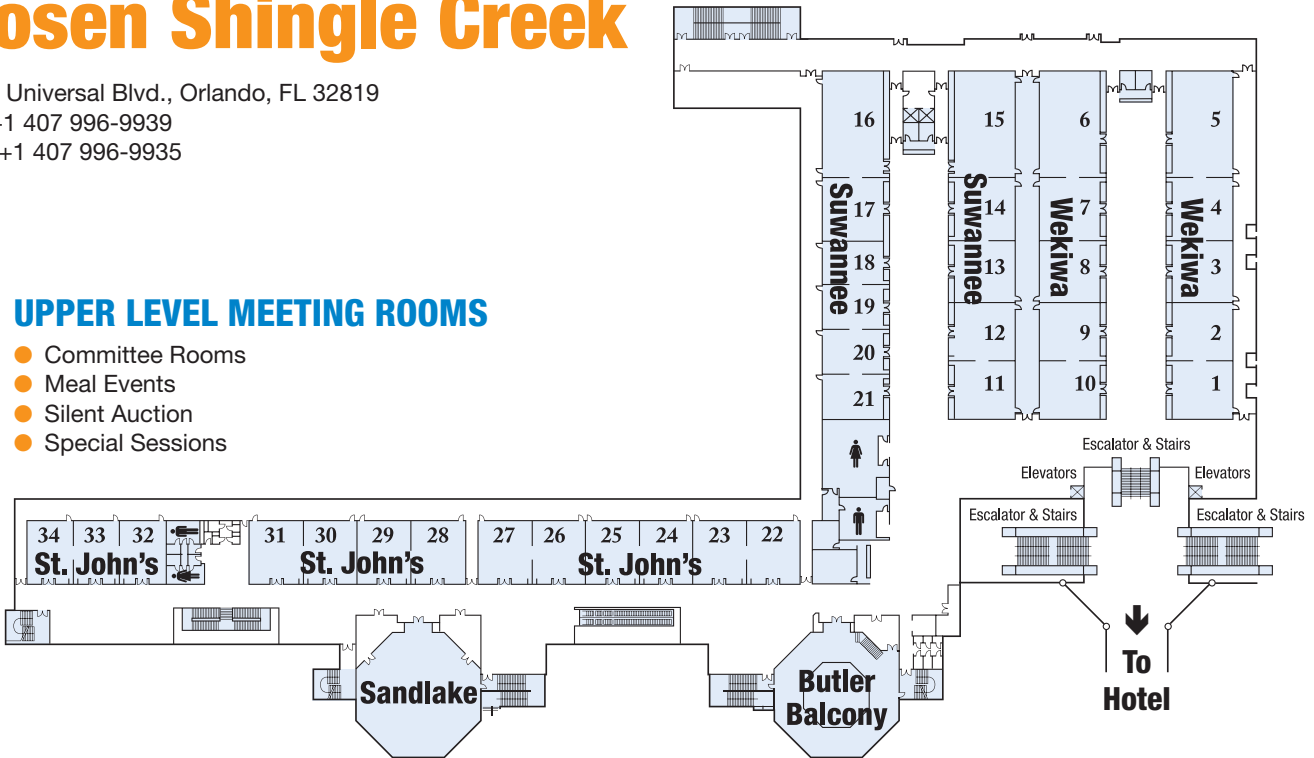
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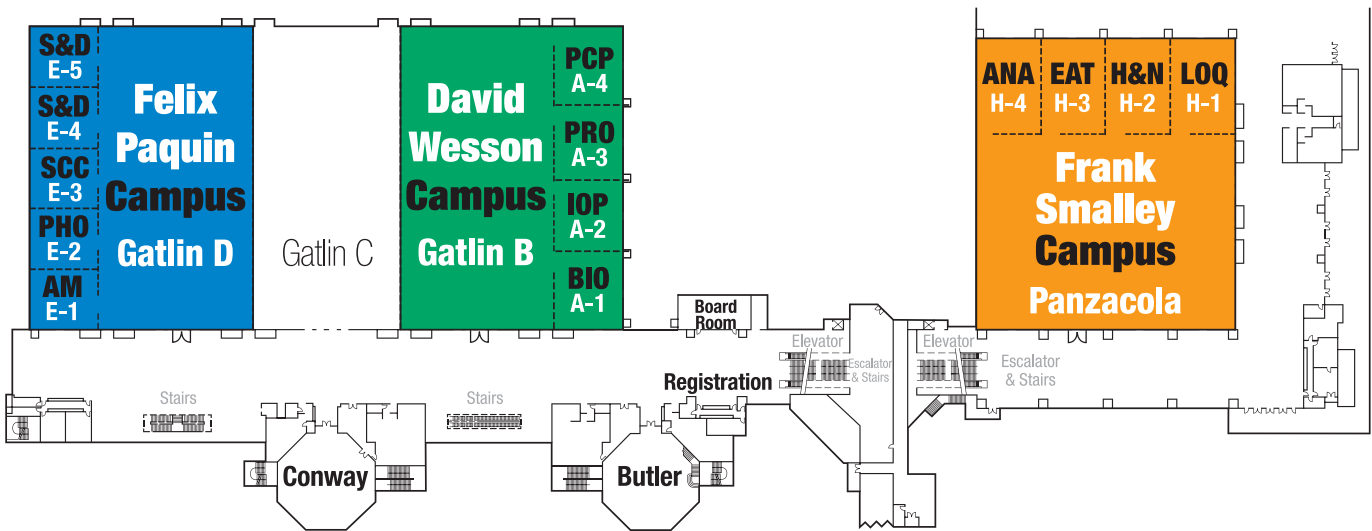
UPPER LEVEL MEETING ROOMS

- Committee Rooms
- Meal Events
- Silent Auction
- Special Sessions



LOWER LEVEL MEETING ROOMS

- Awards Plenary and Business Meeting
- Campuses
- Everything AOCS!
- Hot Topics Symposia
- Industry Showcases
- Poster Presentations
- Registration
- Speaker Ready Room
- Special Sessions
- Technical Sessions



Pointe Orlando Shuttles

Monday, May 4 | 6:00–10:00 pm | Transportation Lobby

Enjoy a night out! Seating on the complimentary shuttles is available on a first-come, first-served basis to all AOCS Annual Meeting attendees, with proof of meeting name badge.

Shuttles will operate between Rosen Shingle Creek and Pointe Orlando on a stop-and-go continuous schedule, with the final pick-up at Pointe Orlando at 9:45 pm.

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.

Monday, May 4

8:15–11:00 am | Panzacola H-1

HT 1: Saturated Fat in the Diet: Where Do Formulators Go From Here?

Organizers: Carol J. Lammi-Keefe, Louisiana State University, USA; and Neil Widlak, Consultant, USA

For decades, the food industry has put considerable effort into formulating and developing foods that are low in total fat and saturated fat. US dietary guidelines recommend that people limit their consumption of saturated fat to reduce the risk of coronary heart disease. However, recent science-based evidence questions the association between saturated fats and coronary heart disease. Because of these questions, food formulators and researchers wonder if reducing total dietary fat in general, and saturated fat in particular, should still be a priority.

To examine current thinking on dietary fats, three prominent researchers will review and discuss the most recent epidemiological and clinical evidence.

- 8:15 **Opening Remarks.**
- 8:20 **Evolving Evidence on the Role of Dietary Saturated Fat Intake and Heart Disease Prevention.** Peter J. Huth, PJH Nutrition Science, LLC, USA.
- 8:40 **Saturated Fat and Risk of Heart Disease: Optimizing Types of Fat Rather Than Reducing Total Fat.** Frank Hu, Harvard School of Public Health, USA.
- 9:10 **Where Are We With Diet and Heart Disease Prevention?** Ernst Schaefer, Tufts University, USA.
- 9:40 **Networking Break.**
- 10:20 **Moderated Panel Q & A.**

8:15–11:20 am | Gatlin A-1

HT 2: Outlook on Healthy Oils: New Policies, Functions, and Innovations

Organizer: Patricia Kearney, PMK Associates, Inc., USA

The applications landscape for healthier oils is changing rapidly and it is vital for product developers to understand the drivers shaping the future marketplace. Fats and oils comprise about one third of our daily calories and expectations are growing that products will be able to optimize functionality, both in the human body and in the product. Emerging science on specific fatty acids is showing new health benefits while new generation oils and processes are making product improvements possible that will comply with upcoming regulatory requirements on *trans* and saturated fats and labeling

issues. In addition, both scientists and non-scientists need to understand the larger implications of the science report for the 2015 US Dietary Guidelines that will address larger scope issues, such as the sustainability of the world's food supply as well as nutrition.

- 8:15 **Opening Remarks.**
- 8:25 **A New Nutritional View of Fatty Acids.** Peter J.H. Jones, University of Manitoba, Canada.
- 8:50 **Healthier Oils: New Tools for the Trade.** Michelle Peitz, Archer Daniels Midland Co., USA.
- 9:15 **Targeted Solutions with New Generation Oils.** Roger Daniels, Stratas Foods, USA.
- 9:40 **Networking Break.**
- 10:20 **Outlook on New Dietary Guidelines and Regulatory Policy.** Barbara Schneeman, University of California Davis, USA.
- 10:45 **Innovation Provides the Pathway to Sustainability.** David Dzisiak, Dow AgroSciences, USA.
- 11:10 **Moderated Panel Q & A.**

8:15–10:40 am | Gatlin E-1

HT 3: Research on Fatty Acids in Human Health and Function

Organizer: Richard Sharpee, Natural Health Research Institute, USA

This session has a strong focus and rationale representing some of the most exciting contemporary topics. Presentations will focus on human health and function as modified by a family of omega-3 fatty acids. Speakers will address how omega-3 fatty acids remain the cornerstone of health; further supported by research showing how diet and lifestyle affect lipoprotein balance in the body, and how an imbalance affects heart health, as well as neurocognitive function. New research will discuss the importance of ketone metabolism, especially acetate in health.

- 8:15 **Opening Remarks.**
- 8:20 **Omega 3 Fatty Acids: Crisis and Opportunity.** Bruce Holub, University of Guelph, Canada.
- 8:40 **Personalized Diet and Lifestyle Interventions on Lipids and Lipoproteins.** Lu Qi, Harvard School of Public Health, USA.
- 9:00 **Fatty Acids: Role in Heart Disease Prevention.** Marie-Pierre St-Onge, Columbia University, USA.
- 9:20 **Role of Dietary Fatty Acids in Mood Disorders and Neurocognitive Function.** Robert McNamara, University of Cincinnati College of Medicine, USA.
- 9:40 **Networking Break.**
- 10:20 **Acetate: Metabolism of the Forgotten Ketone Body.** Aryan Nambodiri, Uniformed Services University of the Health Sciences, USA.



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Special Sessions and Workshop

24

Special Sessions and Workshop

Sunday, May 3

1:00–3:00 pm | Suwannee 13

SS 1: Statistical Design of Experiments Training for AOCs Journal Editors, Reviewers, and Authors

Organizer: Richard W. Hartel, JAOCS Editor-in-Chief, University of Wisconsin-Madison, USA

Statistical Design of Experiments (DOE) is used frequently in research papers that are submitted to AOCs journals. This session is intended to provide a basic level of understanding of DOE concepts so that all parties will have a better idea of good design and analysis practices. After defining the key aspects of designs and the resultant analyses, examples of DOE in several papers will be discussed. This will lead into a broader discussion of what may be expected from authors when these methods are used in future submissions to the journals.

1:00 **Statistical Design of Experiments.** Frank Rossi, Kraft Foods, USA.

Monday, May 4

8:10–11:00 am | Gatlin A-2

Lipids 50th Volume Symposium

SS 2: Lipid-binding Proteins: Fatty Acid Metabolism, Trafficking, and Signaling from Gut to Brain

Organizer: Eric J. Murphy, Lipids Editor-in-Chief, University of North Dakota, USA

The 50th Volume of *Lipids* begins with the January 2015 issue. To celebrate this important landmark, AOCs is hosting a symposium focusing on the role of fatty acid binding proteins and other lipid binding proteins on fatty acid trafficking and signaling, with an emphasis on overall lipid metabolism.

Publishing Sponsor: Springer

8:10 **Role of Fatty Acid Binding Proteins in Intestinal Lipid Absorption.** Judy Storch, Rutgers University, USA.

9:00 **Role of Liver Fatty Acid Binding Protein in Gene Expression and NASH.** Friedhelm Schroeder, Texas A&M University, USA.

9:40 **Networking Break.**

10:20 **Lipid-binding Proteins in the Brain: Role in Lipid Trafficking and Downstream Role in Neurodegenerative Diseases.** Eric J. Murphy, Lipids Editor-in-Chief, University of North Dakota, USA.

Lipids 50th Volume Symposium sponsored by



8:15–11:20 am | Gatlin E-2

Young Professionals' and Professional Educators' Common Interest Group (CIG) Session

SS 3: The Challenges and Rewards of the Mentoring Relationship in Academia and Industry

Organizers: Douglas G. Hayes, University of Tennessee, USA; and Utkarsh M. Shah, Hershey Co., USA

This session will highlight the mentoring partnership in academia and industry from the mentor and mentee points-of-view. Attendees will learn about how to mentor, how to find a mentor, and the values generated by both groups.

8:15 **Welcome and Announcements.**

8:20 **The Role of an Academic Mentor.** Michael Eskin, University of Manitoba, Canada.

8:45 **Finding a Good Mentor: Transition into the Academic Life.** Nuria Acevedo, Iowa State University, USA.

9:15 **Challenges of an Industrial Mentor.** Richard Della Porta, Frito-Lay, Inc., USA.

9:40 **Networking Break.**

10:20 **Fundamentals of Being Mentored.** Chelsey Castrodale, Archer Daniels Midland Cocoa, USA.

10:50 **Panel Discussion.**

11:20 am–12:00 pm | Gatlin E-2

The AOCs Journal Editors-in-Chief Present:

SS 4: Enhance Your Career—Become a Reviewer

Organizer: Janet Brown, AOCs Press, USA

This brief but informative session will highlight the importance of becoming a peer reviewer as a young professional, what constitutes a good review, and how to use reviewing to enhance your career.

11:20 **Top 10 Reasons to Become a Peer Reviewer.** George A. Smith, *Journal of Surfactants and Detergents* Editor-in-Chief, Huntsman Performance Group, USA.

11:30 **What Constitutes a Good Review?** Richard W. Hartel, JAOCS Editor-in-Chief, University of Wisconsin-Madison, USA.

11:45 **How Peer Review Advances Your Career Trajectory.** Eric J. Murphy, Lipids Editor-in-Chief, University of North Dakota, USA.



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Tuesday, May 5

11:00 am–12:45 pm | Gatlin C

SS 5: Awards Plenary and Business Meeting

Join us as we recognize the achievements of our members and learn what Society leaders are planning for the year ahead. AOCS President Steven Hill and AOCS Vice President Manfred Trautmann are each delivering a brief address, Society and Scientific awards are presented, and routine AOCS business will be conducted.

The Supelco/Nicholas Pelick–AOCS Research Award lecture, along with the Stephen S. Chang Award lecture, are presented as part of the session.

Biographies of Society and Scientific award winners begin on page 70.

Wednesday, May 6

12:00–2:00 pm | Conway

SS 6: Understanding Olive Oil: The Romance and the Reality

Organizers: *Extra Virgin Alliance and AOCS*

Trained olive oil sensory experts will present an introduction to official olive oil tasting protocol, leading to a tasting of six olive oils, including top award-winners from around the world.

This is a ticketed event. If you have not registered to attend this event, but would like to, please see the Registration Desk.

AOCS and Olive Oil Testing: Supporting a Developing Industry.
Richard Cantrill, Chief Science Officer and Technical Director, AOCS, USA.

Antecedents and Regulatory Challenges: History, International Perspective, and Trends in the Regulatory World.

Paul Miller, President, Australian Olive Association, Co-Founder, Extra Virgin Alliance, Australia.

The Complete Picture: Chemical and Sensory Analysis of Olive Oil.

Leandro Ravetti, Technical Director, Modern Olives, Australia.

Selling Quality: Adventures in the Olive Oil Marketplace.

David Neuman, CEO, Gaea North America, USA.

Delicious and Nutritious: Olive Oil and Food at the American Table.

Alexandra Kicenik Devarenne, Industry Consultant, Co-Founder, Extra Virgin Alliance, USA.

Definitions and Descriptions: Standards of Identity for Food.

Kristie Laurvick, Senior Scientific Liaison Food Standards, US Pharmacopeia, USA.

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Frank Smalley Campus

Panzacola

Named after Frank Smalley, an AOCS co-founder, founder of the Laboratory Proficiency Program (LPP), and the Society's president in 1913, this campus houses the technical sessions, poster presentations, and Industry Showcase Partners pertaining to these interest areas:

- Analytical Division
- Edible Applications Technology Division
- Health and Nutrition Division
- Lipid Oxidation and Quality Division

Division events for the interest areas of this campus may be found on page 12.



Poster Author Sessions

- Even-numbered posters have authors present during the Monday mid-morning and Tuesday afternoon breaks.
- Odd-numbered posters have authors present during the Monday afternoon and Tuesday mid-morning breaks.
- All authors are also encouraged to be present during the Wednesday mid-morning break.

A complete list of poster presentations for this campus is available on **The App**, or beginning on page 37.

Industry Showcase Partners

(As of March 15, 2015)

Agilent Technologies
Bruker
Carlson Consulting Engineers, LLC
DuPont Nutrition & Health
FOSS North America
Kalsec
Lovibond Tintometer
Malaysian Palm Oil Board
MIDI, Inc.

Myande Group
Myer's Vacuum
PMI-Technology Sdn Bhd
ProSimTechs LLC
QUALISOY
SPX Flow Technology
Stratas Foods-RDI Center
Thermo Fisher Scientific, Inc.
Waters Corporation

Campus Schedule

Monday, May 4

7:00 am–6:00 pm Industry Showcase and Poster Viewing
7:20–8:20 am Early Risers Coffee
7:30–8:15 am Edible Applications Technology Division Roundtable
8:15–11:20 am Hot Topics Symposia
9:40–10:20 am Networking Break and Poster Author Session
1:15–5:00 pm Technical Sessions
2:40–3:20 pm Networking Break and Poster Author Session
5:00–6:00 pm Lipid Oxidation and Quality Division Roundtable
5:00–6:00 pm Process Contaminants Expert Panel

Tuesday, May 5

7:00–8:00 am Early Risers Coffee
7:00 am–6:00 pm Industry Showcase and Poster Viewing
7:55–11:00 am Technical Sessions
9:20–10:00 am Networking Break and Poster Author Session
12:45–1:45 pm Health and Nutrition Division Roundtable
2:15–6:00 pm Technical Sessions
3:40–4:20 pm Networking Break and Poster Author Session
5:40–6:00 pm Analytical Division Roundtable

Wednesday, May 6

7:00–8:00 am Early Risers Coffee
7:00 am–5:00 pm Industry Showcase
7:00 am–3:40 pm Poster Viewing
7:55 am–12:00 pm Technical Sessions
9:40–10:20 am Networking Break and Poster Author Session
1:55–5:00 pm Technical Sessions
3:20–3:40 pm Networking Break

Wednesday breaks sponsored by



See Program-at-a-Glance brochure or **The App** for complete meeting schedule.

The AOCS Laboratory Proficiency Program (LPP), formerly the Smalley Check Sample Program, is the world's most extensive and respected collaborative proficiency testing program for oil- and fat-related commodities, oilseeds, oilseed meals, and edible fats. More than 500 chemists participate to verify their lab's quality control. Participants use AOCS, or similar, methods for sample analysis and then compare their results with a large cross-section of other laboratories using the same methods and samples.

A full listing of the Laboratory Proficiency Program winners may be found on pages 74–76.

Oral Presentations

- The presenter is the first author or otherwise indicated with an asterisk (*).
- Access and print abstracts at the computer stations located in Gatlin B, D, & Panzacola
- Abstracts also available on *The App* or online at: AnnualMeeting.aocs.org/AM15Resources

Monday Afternoon

ANA 1: Trace Contaminants

Chairs: J.D. Pinkston, Kellogg Co., USA; and K. Hrnčirik, Unilever R&D, The Netherlands

Panzacola H-4

- 1:15 **Introduction.**
- 1:20 **Key Achievements and Challenges on the 3-MCPD Issue Journey.** K. Hrnčirik, Unilever R&D, The Netherlands.
- 1:40 **Determination of MCPD Esters and Glycidyl Esters in Processed Food.** T. Wenzl, V. Samaras, A. Giri, Z. Zelinkova, L. Karasek, and G. Buttlinger, Institute for Reference Materials and Measurements, Belgium.
- 2:00 **Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS) Detection of Glycidyl Esters and MCPD Esters in Infant Formula.** S. MacMahon, J. Leigh, L. DeJager, and T. Begley, US Food and Drug Administration, USA.
- 2:20 **A Rapid Indirect Method for Simultaneous Determinations of 2-/3-MCPD Esters and Glycidyl Esters in Foods.** K. Miyazaki and K. Koyama, House Foods Group Inc., Japan.
- 2:40 **Networking Break and Poster Author Session**
- 3:20 **Determination of Brominated Vegetable Oil in Soft Drinks by UPC²-MS.** J. Yang and J. Romano, Waters Corp., USA.
- 3:40 **Refining of Vegetable Oils and Fats: Formation Pathway and Mitigation of 3-MCPD and Glycidyl Esters.** K. Bhaggan and J. Werleman, IOI Lodders Croklaan, The Netherlands.
- 4:00 **Refining of Vegetable Oils: Influence of Refining Parameters on Mitigation of 3-MCPD and Glycidyl Fatty Esters.** K. Schurz, Clariant Produkte (Deutschland) GmbH, Germany.
- 4:20 **New Ways for Reduction of 3-MCPD Esters and Glycidyl Esters in Frying Oil.** T.Y. Zhang, Z.K. Ma, and Y.R. Jiang, Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China.
- 4:40 **Digestion of 2- and 3-MCPD Esters by Pancreas Lipase and Estimation of Their Intestinal Absorbability.** N. Kaze¹, H. Sato², K. Murota³, S. Kumamoto³, M. Kotaniguchi⁴, S. Kitamura⁴, H. Inui⁴, H. Yamamoto¹, and Y. Watanabe^{*2}, ¹Ueda Oils and Fats MFG, Japan, ²Osaka Municipal Technical Research Institute, Japan, ³Kindai University, Japan, ⁴Osaka Prefecture University, Japan.

EAT 1: Delivery and Dispersed Systems

Chairs: D. Rousseau, Ryerson University, Canada; and S. Ghosh, University of Saskatchewan, Canada

Panzacola H-3

- 1:15 **Introduction.**
- 1:20 **Microbial Cells as Colloidal Particles: Pickering Oil-in-Water Emulsions Stabilized by Bacteria and Yeast.** H. Firoozmand and D. Rousseau*, Ryerson University, Canada.
- 1:40 **Formation of Edible Filled Hydrogels by Spontaneous Emulsification.** J. Komaiko (*Ralph Potts Memorial Fellowship Award Winner*) and D.J. McClements, University of Massachusetts Amherst, USA.
- 2:00 **Crystallization of Fats to Control Emulsion Structure for the Manufacture of Bakery Systems.** F. Davoli², D. Karleskind¹, S. Metin², and P. Smith^{*1}, ¹Cargill, Belgium, ²Cargill, USA.

- 2:20 **CLA-rich Eggs in Mayonnaise: Emulsion Stability and Rheological Properties.** S. Shinn and A. Proctor, University of Arkansas, USA.
- 2:40 **Networking Break and Poster Author Session**
- 3:20 **Antioxidant Potential of Some Turkish Olives and Their Corresponding Extra Virgin Olive Oils in Bulk Oil and Oil-in-Water Emulsions.** T.M. Keceli, University of Cukurova, Turkey.
- 3:40 **Oil Diffusivity Through Solid Fat Crystal Networks.** N.L. Green and D. Rousseau, Ryerson University, Canada.
- 4:00 **Effects of Emulsifiers on Crystallization Behavior of Palm-based Blend and Emulsified Systems.** H. Zhang¹, C. Chen^{1,2}, Y. Bi^{1,2}, and X. Xu¹, ¹Wilmar (Shanghai) Biotechnology R&D Center, China, ²Henan University of Technology, China.
- 4:20 **Effect of Water Content and Interfacial Stabilizer on the Rheological Behavior of a Crystal Network-stabilized Water-in-Oil Emulsion.** R.R. Rafanan and D. Rousseau, Ryerson University, Canada.
- 4:40 **Effect of Oil Concentration, Droplet Size, and Storage Time on the Gelation Behavior of Nanoemulsions.** V. Erramreddy and S. Ghosh*, University of Saskatchewan, Canada.

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Edible Applications Technology (EAT) Annual Meeting Program Roundtable will begin at 7:30 am in Panzacola H-3. Planning for 2016 programs; everyone is welcome to attend.

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H&N 1: Lipids and Lipid Mediators Throughout the Lifespan

This session is sponsored in part by DSM and Johnson & Johnson

Chairs: C.J. Lammi-Keefe, Louisiana State University, USA; and A.P. Kitson, University of Toronto, Canada

Panzacola H-2

- 1:15 **Introduction.**
- 1:20 **Impact of Dietary n-3 PUFA Deficiency on Neuroimmune Interactions in the Developing Brain: Relevance for Behavioral Impairment.** A. Nadjar, C. Madore, C. Bouju-Bosch, A. Thomazeau, C. Lacabanne, Q. Leyrolle, C. Joffre, and S. Layé*, NutriNeuro, France.
- 2:00 **Effect of Oxidized Oil Consumption on Biomarkers of Atherosclerosis in LDLr Knockout Mice.** M.S. Nogueira, M.C. Kessuane, B. Cogliati, and I.A. Castro*, University of São Paulo, Brazil.
- 2:20 **A Possible Relation of Serum Fucoxanthinol Levels and Glucose Metabolism in Japanese Adults: Rumoi Fucoxanthin Intervention Study 1.** N. Mikami¹, M. Hosokawa², M. Abe², K. Miyashita², H. Sohma¹, and Y. Kokai¹, ¹Sapporo Medical University School of Medicine, Japan, ²Hokkaido University, Japan.
- 2:40 **Networking Break and Poster Author Session.**
- 3:20 **GPS2 at the Crossroad of Lipid Metabolism and Inflammation in Mouse Adipose Tissue.** C. Cederquist, C. Lentucci, H. Johnson, M. Cardamone, and V. Perissi*, Boston University, USA.
- 4:00 **Examining Temporal Changes in Docosahexaenoic Acid Status During Pregnancy Using Lipidomics and Transcriptomics.** A. Chalil¹, A.P. Kitson¹, J. Aristizabal Henao¹, K. Marks¹, J. Elzinga¹, F. Badoud², D. Mutch², and K. Stark^{*1}, ¹University of Waterloo, Canada, ²University of Guelph, Canada.
- 4:20 **Maintaining Brain PUFA Concentrations: Uptake Mechanisms and Rapid Metabolism.** R.P. Bazinet, University of Toronto, Canada.

LOQ 1a: Evaluation of Lipid Oxidation: Sensory

Chairs: A. Bedford, Bunge Oils, Inc., USA; and M. Peitz, Archer Daniels Midland Co., USA

Panzacola H-1

- 1:15 **Introduction.**
- 1:20 **What to Consider when Screening Panelists.** B.C. Bolton, Product Dynamics, a Division of RQA, Inc., USA.
- 1:40 **Key Components Essential to a Production Quality Sensory Program.** S. Perry, Archer Daniels Midland Co., USA.
- 2:00 **The Value of a Sensory Quality Program to Nutritional Consumer Products.** M. Godbout, Abbott Nutrition, USA.
- 2:20 **Oxidation and Its Effects on Quality and Sensory Attributes of Omega-3 Oils.** J. Kralovec, Z. Tan, W. Zhang, and W. Indrasena, DSM Nutritional Products Canada Inc., USA.

LOQ 1b: Evaluation of Lipid Oxidation: Markers

Chairs: P. Smith, Cargill, Belgium; and H.S. Hwang, USDA, ARS, NCAUR, USA

Panzacola H-1

- 3:15 **Introduction.**
- 3:20 **Development of a Rapid Screening Method for Determining the Impact of Ingredients on Pet Food Stability.** E. Fuller, M. Smalley, and A. Chamberlin, Kemin Industries, USA.
- 3:40 **NMR Spectroscopy for Assessment of Lipid Oxidation During Frying.** H.S. Hwang, USDA, ARS, NCAUR, USA.
- 4:00 **Interfacial Behavior and Rheology of Oxidized Proteins and Lipids.** C.C. Berton-Carabin, A. Rovalino, A. Schröder, K. Schroën, and L. Sagis, Wageningen University, The Netherlands.
- 4:20 **Oil Oxidation in Frying: A Refined Oxidation Model for Diverse Applications.** P. Smith¹, A. Menzel¹, and S. Smith², ¹Cargill, Belgium, ²Cargill, USA.
- 4:40 **Do Free Fatty Acids Promote Lipid Oxidation?** H.K. Abaidoo-Ayin, P. Jadhav, and S. Lumor, Delaware State University, USA.

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Lipid Oxidation and Quality (LOQ) Annual Meeting Program
Roundtable will begin at 5:00 pm in Panzacola H-1.
Planning for 2016 programs; everyone is welcome to attend.
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Tuesday Morning

ANA 2: Advanced Separation of Lipids/Multidimensional Techniques

Chairs: W.C. Byrdwell, USDA, ARS, BHNRC, FCMDL, USA; and P. Delmonte, US Food and Drug Administration, USA

Panzacola H-4

- 7:55 **Introduction.**
- 8:00 **The Updated Bottom-up Solution: Using Critical Ratios for Triacylglycerol Structural Analysis by Mass Spectrometry.** W.C. Byrdwell, USDA, ARS, BHNRC, FCMDL, USA.
- 8:20 **Potentiality of the GC×GC Technique for Quality and Authenticity Assessment of Olive Oil.** G. Purcaro^{2,3}, L. Mondello^{1,3}, and L. Conte², ¹University of Messina, Italy, ²University of Udine, Italy, ³Chromaleont s.r.l., Italy.
- 8:40 **Multidimensional Gas Chromatographic Techniques Applied to the Analysis of Lipids from Marine Species of the Mediterranean Sea.** R. Costa¹, A. Albergamo¹, M. Oteri¹, M. Piparo¹, G. Purcaro³, P. Dugo^{1,2}, and L. Mondello^{1,2}, ¹University of Messina, Italy, ²University Campus Bio-Medico of Rome, Italy, ³Chromaleont s.r.l., Italy.
- 9:00 **Monodimensional Gas Chromatographic Separation of Fatty Acid Methyl Esters from a Two Dimensional Perspective.** P. Delmonte, US Food and Drug Administration, USA.
- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **LC-GC-FID Technique as a Powerful Tool for Olive Oil Analysis.** T. Küchler¹, H. Boysen¹, M. Nestola², and P. Tablack², ¹Eurofins Analytik GmbH, Germany, ²Axel Semrau GmbH & Co. KG, Germany.
- 10:20 **Evaluation of Fully Comprehensive and Selective Comprehensive Two-dimensional Liquid Chromatography for the High Resolution Separation of Triacylglycerols.** D. Stoll¹ and P. Delmonte², ¹Gustavus Adolphus College, USA, ²US Food and Drug Administration, USA.
- 10:40 **Supercritical Fluid Chromatography Utilizing a Quadrapole Time of Flight Mass Spectrometer (SFC QTOF) for the Evaluation of Lipids and Non-polar Molecules.** M. Evenson and J. Godbey, Dow AgroScience, USA.

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EAT 2: Functional Fats with Reduced Saturated Fats

Chairs: N. Widlak, Consultant, USA; and A. Bedford, Bunge Oils, Inc., USA.

Panzacola H-3

- 7:55 **Introduction.**
- 8:00 **High Oleic Soybean Oil: Effects of Substituting High Oleic Oils for Other Fats and Oils on Cardiovascular Disease Risk Factors: A Systematic Review.** P.J. Huth¹, V.L. Fulgoni, III², and B. Larson³, ¹PJH Nutritional Science, LLC, USA, ²Nutrition Impact, USA, ³JG Consulting Services, LLC, USA.
- 8:20 **Oleogel in Dairy: Processed Cheese Product.** H. Huang, J.W. Harper, and F. Maleky, Ohio State University, USA.
- 8:40 **Key Physical and Microstructural Properties Underlying Roll-in Shortening Functionality.** B.A. Macias-Rodriguez and A.G. Marangoni, University of Guelph, Canada.
- 9:00 **Synergistic Enhancement of Ethylcellulose Oleogels for Fat Replacement.** A.J. Gravelle, M. Davidovich-Pinhas, S. Barbut, and A.G. Marangoni*, University of Guelph, Canada.
- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **Functional Structuring Edible Oils, Utilizing Non-hydro Techniques for Use in Shortening, and Margarine Systems with Significant Reduction in Saturated Fatty Acids. A Novel Approach.** D.K. Nakhasi, N. Higgins, and V.P. Jain, Bunge North America, Inc., USA.
- 10:20 **Commercial Factors for Considering Alternative Fats.** N. Widlak, Consultant, USA.

H&N 2: Evaluating Lipids in Human Trials

This session is sponsored in part by PepsiCo

Chairs: M.A. Belury, Ohio State University, USA; and S. Raatz, USDA, ARS, USA

Panzacola H-2

- 7:55 **Introduction.**
- 8:00 **Planning Clinical Trials with Oils.** P.J.H. Jones, University of Manitoba, Canada.
- 8:40 **Conducting Randomized Clinical Trials with Dietary Oils: Issues for Design and Interpretation.** M.A. Belury, Ohio State University, USA.
- 9:00 **Total Dietary Fat and n-3 Fatty Acids Intake Modify Plasma Phospholipid Fatty Acids, Desaturase Activity Indices, and Urinary Prostaglandin E.** S. Raatz^{1,2}, ¹USDA, ARS, USA, ²University of Minnesota, USA.
- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **Testing a Mixture of Fats and Oils for Use as a Placebo in Clinical Trials.** T. Orchard, M.A. Belury, R. Cole, R. Andridge, X. Pan, J. Lester, A. Logan, L. Yee, and M. Lustberg, Ohio State University, USA.
- 10:40 **Understanding Patterns of Incorporation of Fatty Acids in Humans.** P.C. Calder, University of Southampton, UK.

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 Health and Nutrition (H&N) Annual Meeting Program
 Roundtable will begin at 12:45 pm in Panzacola H-2.
 Planning for 2016 programs; everyone is welcome to attend.

LOQ 2: Stabilization Strategies of Omega-3 Fortified Foods

Chairs: N. Yang, Kalsec, USA; and F. Shahidi, Memorial University of Newfoundland, Canada

Panzacola H-1

- 7:55 **Introduction.**
- 8:00 **Stability and Stabilization of Omega-3 Oils and Foods.** F. Shahidi, Memorial University of Newfoundland, Canada.

- 8:20 **Formation and Stabilization of Nanoemulsion-based Delivery Systems for Omega-3 Fatty Acids.** R. Walker¹, E.A. Decker^{1,2}, and D.J. McClements^{1,2}, ¹University of Massachusetts Amherst, USA, ²King Abdulaziz University, Saudi Arabia.
- 8:40 **Improved Stabilization Using Natural Antioxidants in Omega-3 Oils and Omega-3 Enriched Foods.** C. Tian, J. McKeague, A. Uhlir, and P. VanAlstyne, Kalsec, USA.
- 9:00 **Antioxidant Activity of Sesamol and Gamma-oryzanol Towards Fish Oil.** M. Fhaner², H.S. Hwang¹, J.K. Winkler-Moser¹, E.L. Bakota¹, and S.X. Liu¹, ¹USDA, ARS, NCAUR, USA, ²University of Michigan-Flint, USA.
- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **Stabilization Strategies for Omega-3 PUFA Enriched Foods.** C. Jacobsen, Technical University of Denmark, Denmark.
- 10:20 **Seaweed Extracts to Inhibit Lipid Oxidation in Fish-oil-enriched Mayonnaise.** P.J. Honold¹, D.B. Larsen¹, H.G. Kristinsson², R. Jonsdottir², and C. Jacobsen¹, ¹Technical University of Denmark, Denmark, ²Matis ohf, Iceland.
- 10:40 **Phenolic Antioxidants for the Stabilization of PUFA Oils.** W. Indrasena, Z. Tan, and J. Kralovec, DSM Nutritional Products, USA.

Awards Plenary and Business Meeting

Gattin C

11:00–12:45

The session recognizes our Society award winners; in particular, the Stephen S. Chang Award and Supelco/Nicholas Pelick-AOCS Research Award lectures. AOCS President Steven Hill and AOCS Vice President Manfred Trautman are each delivering a brief address along with reports from the AOCS Foundation and Society headquarters.

Discovery, Engineering, and Application of Enzymes in Lipid Modification. U.T. Bornscheuer (*Stephen S. Chang Award Winner*), Greifswald University, Germany.

Influence of Government Regulations and Policies on Edible Oil Production and Consumption. G.R. List (*The Supelco/Nicholas Pelick-AOCS Research Award Winner*), Consultant, Retired USDA, USA.

Tuesday Afternoon

ANA 3: Olive Oil Analysis

Chairs: R.J. Mailer, Australian Oils Research, Australia; and M. Woodman, Agilent Technologies Inc., USA

Panzacola H-4

- 2:15 **Introduction.**
- 2:20 **Changes in Chemical Composition of Virgin Olive Oil Under Different Cooking Conditions.** S. Wang¹, D. Flynn¹, X. Li¹, and M. Flynn², ¹University of California Davis, USA, ²Miriam Hospital and Brown University, USA.
- 2:40 **Plasticizers as Process Contaminants: A Challenge for Food Oils. Preliminary Studies on DEHP in Olive Oil.** P. Miller¹ and C. Guillaume², ¹Australian Olive Association, Australia, ²Modern Olives Laboratory Services, Australia.
- 3:00 **Pyropheophytins and Diacylglycerols as Indicators of Extra Virgin Olive Oil Freshness, Quality, and Authenticity.** L. Ravetti, C. Guillaume, N. Ruiz, and D. Zaparenkov, Modern Olives, Australia.
- 3:20 **The Effect of Storage Conditions on Olive Oil Quality.** J.G. Ayton¹, R.J. Mailer^{1,2}, and K.G. Graham¹, ¹Wagga Wagga Agricultural Institute, Australia, ²Australian Oils Research, Australia.
- 3:40 **Networking Break and Poster Author Session.**
- 4:20 **A Rapid Method to Evaluate Extra Virgin Olive Oils Quality from Near-UV vis Absorption Spectral Analysis.** C. Lazzerini, D. Ancora, M. Cifelli, C.A. Veracini, M. Zandomenighi, and V. Domenici*, Università di Pisa, Italy.

- 4:40 **Defining Olive Oil Quality: Ancient Questions Come to Life.** Z. Kerem, Hebrew University of Jerusalem, Israel.
- 5:00 **Fatty Acid Alkyl Esters in Extra Virgin Olive Oil: An Evolving Parameter.** R.B. Gómez-Coca, M.C. Pérez-Camino, and W. Moreda*, Instituto de la Grasa (CSIC), Spain.

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 Analytical (ANA) Annual Meeting Program Roundtable will begin at 5:40 pm in Panzacola H-4. Planning for 2016 programs; everyone is welcome to attend.

ANA 3.1/IOP 3: Algal and Other Non-traditional Oils Characterization

Chairs: L.M.L. Laurens, National Renewable Energy Laboratory, USA; and B.W.K. Diehl, Spectral Service AG, Germany

Gatlin A-2

- 2:15 **Introduction.**
- 2:20 **Radiant Energy vs. Organic Carbon: Algal Lipid Profile Diversity in Relation to Cultivation and Conversion Parameters.** B.A. Black¹, E. Christensen¹, T. Dong¹, T. Schaub², and L.M.L. Laurens¹, ¹National Renewable Energy Laboratory, USA, ²New Mexico State University, USA.
- 2:40 **Analysis of Marine Dietary Supplement Using NMR Spectroscopy.** E. Hatzakis, Pennsylvania State University, USA.
- 3:20 **NMR Spectroscopy, a Rapid Method for Any Lipid Analysis.** B.W.K. Diehl, Spectral Service AG, Germany.
- 3:40 **Networking Break and Poster Author Session**
- 4:20 **Complex Mixture Analysis by FT-ICR Mass Spectrometry for Microalgal Biofuel Applications.** T. Schaub¹, N. Sudasinghe¹, J. Jarvis¹, A. Nag², L.M.L. Laurens², E. Christensen², and K. Dadamudi¹,

¹New Mexico State University, USA, ²National Renewable Energy Laboratory, USA.

- 5:00 **A Simple Method for the Isolation of Fucoxanthin from Brown Algae and Its Antioxidant Activity in 5% Fish Oil-in-Water Emulsion.** S.F. Koduvayur Habeebullah¹, S. Alagarsamy², and C. Jacobsen*¹, ¹National Food Institute (DTU FOOD), Denmark, ²Fisheries College and Research Institute, India.
- 5:20 **Aggregation Characteristics of Rhamnolipid Biosurfactants and Their Synthetic Variants.** R.J. Eismín, R. Palos-Pacheco, C.S. Coss, R. Polt, R.M. Maier, and J.E. Pemberton, University of Arizona, USA.
- 5:40 **On the Use of Microfluidics to Study the Early Formation and Subsequent Stability of Emulsion Droplets.** C.C. Berton-Carabin, K. Muijlwijk, and K. Schroën, Wageningen University, The Netherlands.

EAT 3: Structuring Edible Oils—The Future of Lipid Gels

Chairs: M.A. Rogers, University of Guelph, Canada; and J. Komaiko, University of Massachusetts Amherst, USA

Panzacola H-3

- 2:15 **Introduction.**
- 2:20 **Water Binding Capacity of Rice Bran Wax as an Organogelator.** E. Cramer, D. Heldman, and F. Maleky, Ohio State University, USA.
- 2:40 **Molecular Gels Based on Stratum Corneum Lipids.** M.A. Rogers (*AOCS Young Scientist Research Award Winner*), University of Guelph, Canada.
- 3:00 **Rheological Properties of Organogels of 12-Hydroxystearic Acid, (R)-12-hydroxyoctadecanamide (HOA), and N-Octadecyl-12-Hydroxyoctadecanamide Developed Under Shearing.** J.F. Toro-Vázquez, A. de la Peña-Gil, M.A. Charó-Alonso, F. Alvarez-Mitre, and J.A. Morales-Rueda, Universidad Autónoma de San Luis Potosí, Mexico.

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- 3:20 **Closing in on the Ability to Predict New Food Grade Gelators.** Y. Lan¹ and M.A. Rogers², ¹Rutgers University, USA, ²University of Guelph, Canada.
- 3:40 **Networking Break and Poster Author Session.**
- 4:20 **The Role of Hydrogen Bonds in Ethyl-cellulose Gelation.** M. Davidovich-Pinhas, A.J. Gravelle, S. Barbut, and A.G. Marangoni, University of Guelph, Canada.
- 4:40 **Organogellators as Fat Replacement in Cream Cheese Products.** M. Limbaugh, W.J. Harper, and F. Maleky, Ohio State University, USA.
- 5:00 **The Effects of Shear and Cooling Rate on the Oil Binding Capacity of Wax Oleogels.** A.I.E. Blake and A.G. Marangoni, University of Guelph, Canada.

H&N 3: Classes of Saturated Fatty Acids and Health Implications

This session is sponsored in part by Johnson & Johnson, Nestlé S.A., and The Beef Checkoff

Chairs: F. Dionisi, Nestlé, Switzerland; and E.A. Decker, University of Massachusetts Amherst, USA

Panzacola H-2

- 2:15 **Introduction.**
- 2:20 **Individual Saturated Fatty Acids and Risk of Cardiovascular Disease: Epidemiologic Evidence.** F. Hu, Harvard T.H. Chan School of Public Health, USA.
- 2:40 **Dairy Foods, Dairy Fat, and Cardiometabolic Outcomes.** D. Mozaffarian, Tufts University, USA.
- 3:00 **Reevaluating Effects of Dietary Saturated Fats on Human Health. Fatty Acid Profile or Food Factors Induced by Processing?** J.T. Brenna and K.S.D. Kothapalli, Cornell University, USA.
- 3:20 **Health Effects of Dietary Stearic Acid Compared with Other Saturated, Unsaturated, and *trans* Fatty Acids.** J.E. Hunter^{*1}, J. Zhang², and P.M. Kris-Etherton³, ¹Xavier University, USA, ²Wake Forest University, USA, ³Pennsylvania State University, USA.
- 3:40 **Networking Break and Poster Author Session.**
- 4:20 **Saturated Fatty Acids and Inflammation.** P.C. Calder (*Ralph Holman Lifetime Achievement Award Winner*), University of Southampton, UK.
- 4:40 **Considerations for Using Food Ingredients Containing Saturated Fats from a Food Ingredient Manufacturing Perspective.** B. Flickinger, Archer Daniels Midland Co., USA.
- 5:00 **Roundtable Discussion.**

H&N 3.1/BIO 3: Biomodifications, Biomechanisms, and Biosafety

This session is sponsored in part by DuPont Nutrition & Health, Johnson & Johnson, and Oilseeds & Bioscience Consulting

Chairs: M. Picklo, USDA, ARS, USA; and R.F. Wilson, Oilseeds & Bioscience Consulting, USA

Gatlin A-1

Joint session: For details, see BIO 3/H&N 3.1 on page 58.

LOQ 3a: Challenges in the Commercialization of New Antioxidants

Chairs: S. Bis, Kemin Industries Inc., USA; J.K. Winkler-Moser, USDA, ARS, NCAUR, USA; and R. Nahas, Kalsec, USA

Panzacola H-1

- 2:15 **Introduction.**
- 2:20 **“Removing the Weeds”—The Challenges in Commercializing Natural Plant Extracts.** R. Nahas, Kalsec, USA.
- 2:40 **Plants: ‘Factories’ for Renewable Ingredients.** S. Wei and S. Nayak, Kemin Personal Care, USA.
- 3:00 **Challenges and Opportunities: Commercialization Potential of Newer Antioxidants.** U. Thiyam-Hollander¹, M. Eskin^{*1}, and C. Rempel², ¹University of Manitoba, Canada, ²Canola Council of Canada, Canada.
- 3:20 **GRAS: The FEMA Flavor Perspective.** S. Taylor^{1,2}, ¹Verto Solutions, USA, ²FEMA Expert Panel, USA.

LOQ 3b: Novel Antioxidative Strategies

Chairs: W. Indrasena, DSM Nutritional Products, Canada; and K. Miyashita, Hokkaido University, Japan

Panzacola H-1

- 4:15 **Introduction.**
- 4:20 **Preventive Effect of Sphingoid Base on Volatile Compound Formation in Fish Oil Oxidation.** M. Uemura¹, A. Suzuki-Iwashima², M. Shiota², M. Hosokawa¹, and K. Miyashita^{*1}, ¹Hokkaido University, Japan, ²Megmilk Snow Brand Co., Ltd., Japan.
- 4:40 **A Novel Technology to Increase Antioxidant Activity of an Antioxidant by Reducing Volatility.** H.S. Hwang, J.K. Winkler-Moser, K. Vermillion, and S.X. Liu, USDA, ARS, NCAUR, USA.
- 5:00 **Preparation of Powdered Fish Oil for Nutraceutical Purposes.** K. Nakagawa and T. Miyazawa, Tohoku University, Japan.
- 5:20 **Impact of Phosphatidylethanolamine on the Antioxidant Activity of α -tocopherol and Trolox in Bulk Oil.** L. Cui, D.J. McClements, and E.A. Decker, University of Massachusetts Amherst, USA.
- 5:40 **Antioxidant Activity and Sensory Assessment of a Rosmarinic Acid-enriched Extract of *Salvia officinalis*.** E.J. Bakota, J.K. Winkler-Moser, M. Berhow, F.J. Eller, and S. Vaughn, USDA, ARS, NCAUR, USA.

Wednesday Morning

ANA 4a: Advanced Data Analysis

Chairs: T. Haines, Archer Daniels Midland Co., USA; and S. Seegers, Bunge Oils, Inc., USA

Panzacola H-4

- 7:55 **Introduction.**
- 8:00 **Automated Fatty Acid Analysis of Edible Oils.** G. Jackoway and M. Sasser, MIDI, Inc., USA.
- 8:20 **Combined Analysis of Stable Isotope Ratio, ¹H NMR Spectrum, and Fatty Acid Profiles to Distinguish the Authenticity of Sesame Oils.** J. Kim, G. Jin, H.S. Chun, S. Ahn, and B.H. Kim, Chung-Ang University, Republic of Korea.
- 8:40 **Purdie Assay: A Novel, Facile, and Cheap Assay for a Wide Array of Applications in Lipid, Terpene, and Estrogen Analyses.** G. Dumancas¹, M. Muriuki², N. Purdie², and R. Purdie², ¹Oklahoma Baptist University, USA, ²Oklahoma State University, USA.
- 9:00 **Application of Chemometric Analysis to the Rapid Screening of Extra Virgin Olive Oils for Authenticity: Evaluation of the Performance of a Handheld NIR Device.** S.R. Karunathilaka¹, H. Azizian², J.K.G. Kramer³, and M.M. Mossoba¹, ¹US Food and Drug Administration, USA; ²NIR Technologies, Canada; ³Agriculture and Agri-Food Canada, Canada.

ANA 4b: Rapid Methods

Chairs: B. Musselman, IonSense, USA; and H. Adams, Archer Daniels Midland Co., USA

Panzacola H-4

- 10:20 **Targeted and Non-targeted Screening of Edible Oils by Full-automated High Resolution ¹H-NMR.** M. Link, M. Spraul, H. Schaefer, B. Schuetz, F. Fang, and A. Steck, Bruker BioSpin GmbH, Germany.
- 10:40 **NMR Spectroscopy for Quality Control and Provenience of Olive Oil.** B.W.K. Diehl and Y. Monakhova, Spectral Service AG, Germany.
- 11:00 **Calibration of a Fluorescence-based Sensor and Non-invasive Rapid Method for Detecting Anti-oxidants and Maturation in Tobacco Leaf.** E. Bargiacchi¹, M. Campo², A. Romani², and S. Miele¹, ¹Consortium INSTM, Italy, ²University of Firenze, Italy.
- 11:20 **Application of NIR and Chemometrics for the Untargeted Screening of Extra Virgin Olive Oil for Assessment of Authenticity.** M.M. Mossoba¹, S. Ranasinghe¹, H. Azizian², A. Fardin-Kia¹, J.K.G. Kramer³, C.T. Srigley¹, P. Delmonte¹, and J. Callahan¹, ¹US Food and Drug Administration, USA, ²NIR Technology, Canada, ³Agriculture and Agri-Food Canada, Canada.
- 11:40 **Statistical Modeling of Data from Intact Triglycerides and Their Degradation Products for Rapid Assessment of Milk Quality and Authenticity.** B. Musselman¹, R. Goguen¹, C. Hart², and J. Lapointe¹, ¹IonSense, Inc., USA, ²Boston University Forensics, USA.

EAT 4: *trans* Lipids: Solutions and Regulation

Chairs: V.P. Jain, Bunge North America, Inc., USA; and M. Willson, LipoLogic Consultancy LLC, USA.

Panzacola H-3

- 7:55 **Introduction.**
- 8:00 **Consequences of the PHO GRAS Removal on Industry.** D.K. Strayer, Bunge North America, Inc., USA.
- 8:20 **Effect of Different Oil Base on Puff Pastry Margarine Properties.** X. Mao, Z. Zhang, Y. Li, X. Yang, Y. Zhang, and P. Hu*, Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China.
- 8:40 ***trans* Fats Solution: Novel Approach Using Palm Oil.** N.L. Habi Mat Dian^{1,2}, M. Mat Sahri¹, L. Oi Ming², and T. Chin Ping², ¹Malaysian Palm Oil Board, Malaysia, ²Universiti Putra Malaysia, Malaysia.
- 9:00 **Oil Stabilization in Peanut Butter Using Food Grade Polymers in Order to Replace Hydrogenated Vegetable Oil.** R. Tanti, S. Barbut, and A.G. Marangoni, University of Guelph, Canada.
- 9:20 **The Influence of Emulsifiers and Crystallizers on Margarine and Shortening Applications with Removal of Partially Hydrogenated Oils and *trans* Fats.** A.M. Jensen, Palsgaard A/S, Denmark.
- 9:40 **Networking Break and Poster Author Session.**
- 10:20 ***trans*/PH Fat—Challenges and Approaches to Eliminate It.** G. Yang and G. Cherian, Kellogg NA, USA.
- 10:40 **Palm Oil as a Versatile Alternative to Partially Hydrogenated Vegetable Oil.** G.P. McNeill, IOI Lodders Croklaan, USA.

- 11:00 **The Role Soybean Oil Has Played in Low *trans* Solutions.** M. Peitz, ADM Oils, USA.
- 11:20 **Enrichment of Yogurt with Stearidonic Acid Soybean Oil in Complex Coacervates Modified for Enhanced Stability.** E.A. Ifeduba (*Edible Applications Technology Division Student Award of Excellence Winner*) and C.C. Akoh, University of Georgia, USA.
- 11:40 **Conjugated Linoleic Acid (CLA): 30-year Research.** Y. Park (*Timothy L. Mounts Award Winner*), University of Massachusetts Amherst, USA.

EAT 4.1/AM 2: Imaging Fat Crystal Networks at Different Length Scales

Chairs: G. Sekosan, Bunge North America, Inc., USA; and K. Koch, North Dakota State University, USA

Gatlin E-1

Joint session: For details, see AM 2/EAT 4.1 on page 48.

H&N 4: Vitamin D: Basic, Clinical, and Translational Research

Chairs: H.A. Durham, University of California, Los Angeles, and Pennington Biomedical Research Center, USA; and M.L. Drewery, Louisiana State University, USA

Panzacola H-2

See Program Addendum for session details.

LOQ 4a: Effects of Functional Ingredients on Shelf Life

Chairs: M. Hu, DuPont Nutrition & Health, USA; and C. Jacobsen, Technical University of Denmark, Denmark

Panzacola H-1

- 7:55 **Introduction.**
- 8:00 **Functional Properties of Esterified Phenolic Compounds.** C. Grajeda-Iglesias¹, E. Salas², L. Muñoz Castellanos², B.M. Ruesgas-Ramon³, M.L. Suárez-Quiroz³, O. González-Ríos³, P. Villeneuve⁴, and M.C. Figueroa-Espinoza¹, ¹Montpellier SupAgro, France, ²Universidad Autónoma de Chihuahua, Mexico, ³UNIDA, Mexico, ⁴CIRAD, France.
- 8:20 **Strategies to Improve the Oxidative Stability of Bakery Products Fortified with Heme Iron.** M. Alemán, R. Bou, A. Tres, R. Codony, and F. Guardiola*, University of Barcelona, Spain.
- 8:40 **Functional Frying Oils Prepared by Using Olive Leaves from Sari Ulak and Gemlik Olives.** T.M. Keceli, M. Degirmen, M. Akmanlar, S. Güler, B.N. Mercankaya, and O. Ozdemir, University of Cukurova, Turkey.
- 9:00 **Oxidative Status and Effect of Raw Materials on Lipid Oxidation in Skin Care Products.** B.R. Thomsen¹, G. Hyldig¹, R. Taylor², J. Gregory², P. Blenkiron², and C. Jacobsen¹, ¹Technical University of Denmark, Denmark, ²Glaxo Smith Kline, UK.
- 9:20 **Fate of Annatto Tocotrienols During Frying and Effect on Quality and Stability of Tortilla Chips.** J.K. Winkler-Moser and E.L. Bakota, USDA, ARS, NCAUR, USA.



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LOQ 4b: Lipid Oxidation in Low-moisture Foods and Emulsions

Chairs: S. Zhou, Mallett & Company, Inc., USA; and R. Zahr, Caldic Canada Inc., Canada

Panzacola H-1

- 10:15 **Introduction.**
- 10:20 **Oxidative Stability and Shelf Life of Oils/Fats-containing Dry Foods.** M. Hu and J. Erdmann, DuPont Nutrition & Health, USA.
- 10:40 **Ascorbic Acid: Oxygen Scavenging Properties and Its Effect on Lipid Oxidation in Oil-in-Water Emulsion System.** S. Uluata^{1,2}, D.J. McClements², and E.A. Decker², ¹Inonu University, Turkey, ²University of Massachusetts Amherst, USA.
- 11:00 **Antioxidant Activity of Corn and Dry Distiller's Grain Extracts in Chips.** J. Kallenbach, B. Cobb, S. Pryor, and C. Hall, North Dakota State University, USA.
- 11:20 **Localization and Efficacy of Antioxidants in Emulsion-based Delivery Systems.** L. Cheong¹, Y. Wang^{1,2}, X. Wang², and T. Yang¹, ¹Wilmar (Shanghai) Biotechnology R&D Center, China, ²Jiangnan University, China.
- 11:40 **Applications of Lipid Soluble Catechins in Food Emulsions and Frying Oil.** L. Ban, J. Randall, and W.D. Schroeder, Kemin Food Technologies, USA.

Wednesday Afternoon

ANA 5a: Advances in *trans* Fat Analysis

Chairs: S.D. Bhandari, Silliker, Inc., USA; and M.M. Mossoba, US Food and Drug Administration, USA

Panzacola H-4

- 1:55 **Introduction.**
- 2:00 **Advances in the Analysis of *trans* EPA and DHA in Fish Oil Supplements.** C.T. Srigley, US Food and Drug Administration, USA.
- 2:20 **Analysis of *trans* Fat by GC, Silver Ion TLC-GC, and Silver Ion-HPLC.** C. Cruz-Hernandez, Nestlé Research Center, Switzerland.
- 2:40 **Portable Infrared Sensors for Determination of *trans*-fat Content in Food Products.** L.E. Rodriguez-Saona and M. Plans Pujolras, Ohio State University, USA.
- 3:00 **Analysis of *trans*-fatty Acids in Human Plasma, Serum, and Red Blood Cells by Isotope Dilution GC-MS Using Negative Chemical Ionization.** H.C. Kuiper, N. Wei, S.L. McGunigale, N. Ahuja, T. Frame, and H.W. Vesper, Centers for Disease Control and Prevention, USA.

ANA 5b: Sample Pretreatment/Handling

Chairs: K. Persons, Eurofins Scientific Inc., USA; and M. Evenson, Dow AgroSciences, USA

Panzacola H-4

- 3:35 **Introduction.**
- 3:40 **Novel Rapid Method for the Determination of Frying Oil Quality Based on Capillary Penetration.** E.P. Kalogianni, D. Georgiou, and A. Marinopoulou, Alexander Technological Educational Institution of Thessaloniki, Greece.
- 4:00 **Oxidative Stability of Cashew Nut (*Anacardium occidentale*) Oil.** M.C. Azih, Ambrose Alli University, Nigeria.
- 4:20 **A Novel Method for the Automatic Sample Preparation and Analysis of 3-MCPD-, 2-MCPD- and Glycidylesters in Edible Oils and Fats.** R.P. Zwagerman and P.M. Overman, IOI Loders Croklaan, The Netherlands.
- 4:40 **A Method for Isolation and Lipid Characterization of Chicken Yolk Vitelline Membranes.** S. Shinn, R. Liyanage, J. Lay, E. Martin, and A. Proctor, University of Arkansas, USA.

EAT 5: Confectionary Fats and Oils

Chairs: K. Sato, Hiroshima University, Japan; and A.G. Marangoni, University of Guelph, Canada

Panzacola H-3

- 1:55 **Introduction.**
- 2:00 **Effects of Thermal Treatments on the Polymorphic Behavior of Confectionary Fats: From Pure Components to End Products.** L. Bayés-García¹, T. Calvet¹, M.A. Cuevas-Diarte¹, E. Rovira², K. Sato³, and S. Ueno³, ¹University of Barcelona, Spain, ²Enric Rovira S.L., Spain, ³Hiroshima University, Japan.
- 2:40 **Potential of an Ultrasonic Shear Reflection Technique to Monitor the Isothermal Crystallization Behavior of Cocoa Butter In-line.** A. Rigolle, J. Hettler, K. Van Den Abeele, and I. Foubert, KULeuven Kulak, Belgium.
- 3:00 **Quantifying Aggregation of Triacylglycerol Systems, *in situ*, from Angstroms to Micrometers in One Shot.** F. Peyronel¹ (*Honored Student and The Peter and Clare Kalustian Award Winner*), A.G. Marangoni¹, and D.A. Pink², ¹University of Guelph, Canada, ²St. Francis Xavier University, Canada.
- 3:20 **Networking Break.**
- 3:40 **Dynamic of Mass Transportation Inside Structured Lipid Systems.** F. Maleky, Ohio State University, USA.
- 4:00 **Enzymatic Acidolysis Synthesis of Cocoa Butter Improver and Its Application Evaluation.** Z. Meng, X. Wang, and Y. Liu, Jiangnan University, China.
- 4:20 **Boundaries of the Memory Effect in Pure Triacylglycerols.** Y. Wang¹, O. Qatami^{1,2}, and G. Mazzanti^{1,2}, ¹Dalhousie University, Canada, ²Institute for Research in Materials, Canada.
- 4:40 **Thermodynamic and Polymorphic Study on Phase Behavior of Ternary Mixture of SOS/SSO/OSO for Application to Confectionary Fats.** S. Watanabe¹, K. Shiozaki¹, M. Togashi², M. Sato², and K. Sato³, ¹Oil and Fat Development Department, Japan, ²Chocolate Development Department, Japan, ³Hiroshima University, Japan.

EAT 5.1/S&D 5.1: Emulsions and Foams

Chairs: T. Tokle, Kalsec, USA; and E.J. Acosta, University of Toronto, Canada

Gatlin E-5

- 1:55 **Introduction.**
- 2:00 **Enhancing the Bioavailability of Lipophilic Nutraceuticals in Fruits and Vegetables: Excipient Food Design.** D.J. McClements^{1,2}, ¹University of Massachusetts Amherst, USA, ²King Abdulaziz University, Saudi Arabia.
- 2:40 **Beverage Emulsions.** Y. Fang, PepsiCo Research and Development, USA.
- 3:00 **Emulsions Stabilized by Edible Colloidal Particles.** C.C. Berton-Carabin and K. Schroën, Wageningen University, The Netherlands.
- 3:20 **Networking Break.**
- 3:40 **HLD-NAC Guided Formulation of Self Micro Emulsifying Delivery System (SMEDS).** M. Nouraei and E.J. Acosta, University of Toronto, Canada.
- 4:00 **Transport of Self-emulsifying Systems Through Unsaturated Porous Media.** A. Stammitti and E.J. Acosta*, University of Toronto, Canada.
- 4:20 **Methods to Predict Emulsion Formation and Stability: A Map to the Land of Emulsions.** E.J. Acosta, University of Toronto, Canada.

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H&N 5: General Health and Nutrition

Chair: M. Torres-Gonzalez, Dairy Research Institute, USA.

Panzacola H-2

- 1:55 **Introduction.**
- 2:00 **Cosolubilization of DHA and Curcumin as Synergistic Nutraceuticals as Anti-inflammation Nutraceuticals.** N. Garti, K. Ozelevski, and A. Aserin, Hebrew University of Jerusalem, Israel.
- 2:20 **Comparison of the Oxidative Stability and Water Miscibility of Conjugated Linoleic Acid Complexed with Lysine and Arginine.** S. KoohiKamali, Shahr-e-Qods Branch, Islamic Azad University, Iran.
- 2:40 **Stabilization Activity and Rancidity Inhibition of Phenolic Compounds from Oregano (*O. Vulgarea*), Rosemary (*R. Officinalis*), and Lemon Grass (*C. Citratus*).** N.R. Navarro, Nueva Ecija University of Science and Technology, Philippines.
- 3:00 **Physical and Oxidative Stability of Fish Oil-in-Water Emulsions Stabilized with Fish Protein Hydrolysates.** P.J. García Moreno¹, A. Guadix¹, E.M. Guadix¹, and C. Jacobsen², ¹University of Granada, Spain, ²Technical University of Denmark, Denmark.
- 3:20 **Networking Break.**
- 3:40 **Fatty Acids Pattern in Feeds and Plasma of Canadian Preterm Infants.** Z. Hossain, D. MacKay, and J. Friel, University of Manitoba, Canada.
- 4:00 **Enhance Intestinal Lymphatic Transport of Lipophilic Bioactive Food Components by Nanoemulsion Delivery System.** M. Yao¹, D.J. McClements^{1,2}, and H. Xiao¹, ¹University of Massachusetts Amherst, USA, ²King Abdulaziz University, Saudi Arabia.
- 4:20 **Radical-induced Lipid Transformations Under Hypoxic Condition.** A.G. Lisovskaya, A. Kulinkina, and O. Shadyro, Belarusian State University, Belarus.

H&N 5.1/BIO 5.1/SCC: Lipid Oils and Skin Health*This session is sponsored in part by Johnson & Johnson*

Chairs: K. Mahmood, Johnson & Johnson Consumer, USA; T.A. McKeon, USDA, ARS, WRRRC, USA; and K. Dobos, Society of Cosmetic Chemists/Sun Chemical Corp., USA

Gatlin E-2**Joint session:** For details, see BIO 5.1/H&N 5.1/SCC on page 62.**LOQ 5a: General Lipid Oxidation and Quality**

Chairs: C. Hall, North Dakota State University, USA; and U. Nienaber, Kraft Foods, USA

Panzacola H-1

- 1:55 **Introduction.**
- 2:00 **Novel Phosphated Mono- and Di-glycerides that Promote Enhanced Oxidative Stability in Edible Oils.** S. Kelkar, J. Wang, and C. Fouts, Vantage Specialty Chemicals, USA.
- 2:20 **Impact of Association Colloids on Lipid Oxidation in TAG and Fatty Acid Ethyl Ester.** R. Homma^{1,2}, D.J. McClements², and E.A. Decker², ¹Kao Corp., Japan, ²University of Massachusetts Amherst, USA.
- 2:40 **Effect of Triglyceride Fatty Acid Composition on Conjugated Linoleic Acid Rich Soy Oil Oxidation.** S. Lele and A. Proctor, University of Arkansas, USA.
- 3:00 **Effect of Deep-fat Frying on the Properties of Virgin Olive Oils Produced at Different Harvest Times.** T.M. Keceli, M. Degirmen, M. Akmanlar, B.N. Mercankaya, F. Ozturk, A. Dishan, M.G. Kartal, O. Ozdemir, S. Guler, and G. Alis, University of Cukurova, Turkey.

LOQ 5b: trans Fat Alternatives: Sources, Chemistry, and Oxidative Stability

Chairs: S.P.J.N. Senanayake, DuPont Nutrition & Health, USA; and S. Knowlton, DuPont Co., USA

Panzacola H-1

- 3:35 **Introduction.**
- 3:40 **Functionality Studies on High-oleic Soybean Oil.** J.J. Tuinstra¹ and F.J. Flider², ¹Stratas Foods, LLC, USA, ²QUALISOY, USA.
- 4:00 **Impact of Oil Type on Oxidative Shelf Stability of Food Products.** A. Syed, Dow AgroSciences, USA.
- 4:20 **Maximize Shelf Life of Your Fried and Baked Products.** M.K. Gupta, MG Edible Oil Consulting, USA.
- 4:40 **The Development and Current State of High Oleic Soybean Oil.** S. Knowlton, DuPont Co., USA.

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ANA-P: Analytical Poster Session

Chair: T. Mason West, Bunge Oils, Inc., USA

1. **Simultaneous Determination of Cholesterol and Monounsaturated/Polyunsaturated Fatty Acids Using a Novel Assay, Clustering Algorithms, and Genetic Algorithm Partial Least Squares.** G. Dumancas¹, M. Muriuki², N. Purdie², and R. Purdie², ¹Oklahoma Baptist University, USA, ²Oklahoma State University, USA.
2. **Drying Seeds High in Polyunsaturated Fatty Acids Can Lead to Erroneous Results When Drying to Constant Weight.** M.M. Al-Amery, S. Patel, M. Ma, M. Sanches, T. Phillips, P. Armstrong, and D. Hildebrand, University of Kentucky, USA.
3. **Development of a Rheo-NMR+XRD System Prototype for the Advanced Photon Source Synchrotron.** G. Mazzanti^{1,2}, S. Weigand^{3,4}, J. Rix^{3,4}, X. Deng¹, Y. Wang¹, P.K. Batchu¹, A.W. Alkhudair¹, R. Liu¹, O. Qatami^{1,2}, L. Lin¹, and T. Jia¹, ¹Dalhousie University, Canada, ²Institute for Research in Materials, Canada, ³Argonne National Laboratory, USA, ⁴Advanced Photon Source, USA.
4. **A Wireless Communication Contact Closure System for Four Mass Spectrometers and Two Liquid Chromatographs in Parallel (LC2/MS4).** W.C. Byrdwell, USDA, ARS, BHNRC, FCMDL, USA.
5. **Diversity of Enzyme/Substrate Ratios and Duration of Exposure Time are Related to Variability of Hydrolysis of Lipoprotein Oxidation Products by Secretory Phospholipases A2 (sPLA₂s).** A. Kuksis and W. Pruzanski, University of Toronto, Canada.
6. **Interactions Between Food Gums and Soy Flour.** T.W. Hou^{1,2}, H. Zhang^{*2}, Y.L. Bi¹, and X.B. Xu², ¹Henan University of Technology, China, ²Wilmar (Shanghai) Biotechnology R&D Center Co., Ltd., China.
7. **Preliminary Studies on the Nanostructure of Milk Fat.** P.R. Ramel and A.G. Marangoni, University of Guelph, Canada.
8. **Direct Separation of the Diastereomers of Phosphatidylcholine Hydroperoxide Bearing 13-hydroperoxy-9Z,11E-octadecadienoic Acid Using Chiral Stationary Phase HPLC.** J. Ito¹, S. Kato¹, K. Nakagawa¹, T. Nagai², and T. Miyazawa¹, ¹Tohoku University, Japan, ²Tsukishima Foods Industry Co., Japan.
9. **Determination of Short Chain Carboxylic Acids in Vegetable Oils and Fats Using Ion Exclusion Chromatography Electrospray Ionization Mass Spectrometry.** J. Viidanoja, Neste Oil Corp., Finland.
10. **Pigments' Content of Extra Virgin Olive Oils from Different European Countries Produced in 2014.** C. Lazzarini, M. Cifelli, and V. Domenici*, Università di Pisa, Italy.
11. **Lipid Fraction Extracted from *Centranthus ruber* Seed Contains Conjugated Linolenic Acid.** T. Honma, Y. Banno, and T. Takayanagi, Tokyo University of Technology, Japan.
12. **Distinguishing Edible Oils by Their Thermal Characteristics Using Fast DSC.** I.A. van Wetten^{1,2}, A.W. van Herwaarden¹, R. Splinter¹, R. Boerrigter-Eenling³, and S.M. van Ruth^{2,3}, ¹Xensor Integration, The Netherlands, ²Food Quality and Design Group Wageningen UR, The Netherlands, ³RIKILT Wageningen UR, The Netherlands.
13. **Chemical Characterization of Monovarietal Avocado Oils.** G.D. Fernandes¹, R.B. Gómez-Coca², M.C. Pérez-Camino², W. Moreda², and D. Barrera-Arellano¹, ¹University of Campinas, Brazil, ²Instituto de la Grasa-CSIC, Spain.
14. **Compositional Effects on Fat Crystallization within Confectionery Systems.** R. West and D. Rousseau, Ryerson University, Canada.
15. **Rapid Identification and Quantification of an Adulterant Oil in Extra Virgin Olive Oil.** M.M. Mossoba¹, H. Azizian², S.R. Karunathilaka¹, A. Fardin Kia¹, P. Delmonte¹, C.T. Srigley³, J.K.G. Kramer³, and J. Callahan¹, ¹US Food and Drug Administration, USA, ²NIR Technologies, Canada, ³Agriculture and Agri-Food Canada, Canada.
16. **Improved Sinigrin Analysis.** D. Yuan¹, Y.Y. Shim^{1,2}, K. Ratanapariyanuch^{*1}, V. Meda¹, and M.J.T. Reaney^{1,2,3}, ¹University of Saskatchewan, Canada, ²Prairie Tide Chemicals Inc., Canada, ³Jinan University, China.
17. **Authenticity Assessment of Extra Virgin Olive Oils in the United States Market: Evaluation of the Sterol and Triterpene Dialcohol Content and Composition.** C.T. Srigley, C.J. Oles, A.R. Fardin Kia, M.M. Mossoba, and P. Delmonte, US Food and Drug Administration, USA.
18. **Determination of Bile Acids in Piglet Bile by Solid Phase Extraction and Liquid Chromatography-electrospray Tandem Mass Spectrometry.** S. Mi¹, D.W. Lim¹, J.M. Turner¹, P.W. Wales², and J.M. Curtis¹, ¹University of Alberta, Canada, ²Hospital for Sick Children and University of Toronto, Canada.
19. **Detailed Characterization of the Unsaponifiable Fraction of Milk and Human Plasma Lipids by Using Enhanced Peak Capacity Chromatography and High-resolution Mass Spectrometry.** S. Salivo¹, M. Piparo¹, R. Costa^{*1}, P.Q. Tranchida¹, P. Dugo^{1,2}, and L. Mondello^{1,2}, ¹University of Messina, Italy, ²University Campus Bio-Medico of Rome, Italy.
20. **Chemical Characterization of Chia (*Salvia hispanica*) Seed Oil.** M. Beccaria¹, F. Rigano¹, M. Oteri¹, G. Bartolomeo¹, V. Musarra¹, G. Tripodo², D. Sciarone¹, R. Costa^{*1}, P. Dugo^{1,2}, G. Purcaro¹, and L. Mondello^{1,2}, ¹University of Messina, Italy, ²University Campus Bio-Medico of Rome, Italy.
21. **Determination of the Triacylglycerol Fraction in Fish Oil by Comprehensive Liquid Chromatography Techniques with the Support of Gas Chromatography and Mass Spectrometry.** R. Costa¹, M. Beccaria¹, F. Cacciola¹, M. Oteri¹, F. Franchina¹, G. Purcaro³, P. Dugo^{1,2}, and L. Mondello^{1,2}, ¹University of Messina, Italy, ²University Campus Bio-Medico of Rome, Italy, ³Chromaleont s.r.l., Italy.
22. **Improvement in MOAH Quantification in Edible Oils: Retention of Olefins by Using a Novel Liquid-liquid Gas Chromatography (LC-LC-GC) Method.** M. Zoccali¹, L. Barp¹, G. Purcaro^{*2}, D. Sciarone¹, P.Q. Tranchida¹, and L. Mondello^{1,2}, ¹University of Messina, Italy, ²Chromaleont s.r.l., Italy.
23. **Development of a NanoLC-EI-MS Method for the Characterization of the Free Fatty Acid Fraction in Mussels.** R. Rigano¹, A. Albergamo¹, M. Beccaria¹, S. Salivo¹, D. Sciarone¹, G. Purcaro^{*2}, P.Q. Tranchida¹, and L. Mondello^{1,2}, ¹University of Messina, Italy, ²Chromaleont s.r.l., Italy.
24. **Reliability of the Δ ECN42 Limit and Global Method for Olive Oil Purity Assessment Using Different Analytical Approach.** G. Purcaro^{2,3}, M. Beccaria¹, M. Oteri¹, A. Marra¹, D. Mangraviti¹, L. Conte², and L. Mondello^{1,3}, ¹University of Messina, Italy, ²University of Udine, Italy, ³Chromaleont s.r.l., Italy.
25. **Quantification of Brominated Vegetable Oil in Soft Drinks by Supercritical Fluid Chromatography/Mass Spectrometry.** J. Yang and J. Romano, Waters Corp., USA.
26. **Determination of Total Fat in Microbial Biomass by Time Domain NMR: An Alternative to FAME Analysis.** A. Shurer, A. Chang, and D. Burger, DSM Nutritional Products, USA.
27. **A pH Responsive Hydrogel Integrated Device for Rapid Detection of Blood Triacylglycerols.** Y.S. Mugo and D. Berg, MacEwan University, Canada.
28. **Distribution of Lauric Acid Between Hexane and an Ionic Liquid.** A.W. Alkhudair^{1,2}, S.M. Budge¹, J.A.C. Clyburne³, and G. Mazzanti^{*1,2}, ¹Dalhousie University, Canada, ²Institute for Research in Materials, Canada, ³St. Mary's University, Canada.

EAT-P: Edible Applications Technology Poster Session

Chairs: M.A. Rogers, University of Guelph, Canada; and F. Maleky, Ohio State University, USA

- Effect of Aqueous Phase Composition on Particle Size and Stability of Sunflower Oil/Sodium Caseinate Nanoemulsions.** J.M. Montes de Oca Avalos¹, R.J. Candal², and M.L. Herrera^{*1}, ¹Instituto de Tecnología en Polímeros y Nanotecnología, Argentina, ²Instituto de Investigación e Ingeniería Ambiental, Argentina.
- Determination of Free Fatty Acids and Organic Acids in Goat Cheeses.** I. Vieitez, N. Callejas, B. Irigaray, V. González, A. Arechavaleta, S. Jiménez, L. Panizzolo, A. Gámbaro, and M.A. Grompone, Universidad de la República (Udelar), Uruguay.
- Amylose Inclusion Complexation of Ferulic Acid via Lipophilization.** J.A. Kenar, D. Compton, F.C. Felker, and G.F. Fanta, USDA, ARS, USA.
- Submicron Emulsions Designed to Stabilize Blueberry Extract in Foods.** K. Latorre¹, P. Cabral², and A. Medrano^{*1}, ¹Universidad de la República (Udelar), Uruguay, ²Nuclear Research Center, Uruguay.
- Changes in Lipid Substances in Rice During Grain Development.** N.H. Kim¹, J. Kwak², J.Y. Baik¹, M. Yoon², J. Lee², S.W. Yoon¹, and I.H. Kim¹, ¹Korea University, Republic of Korea, ²Rural Development Administration, Republic of Korea.
- Liposomes as Delivery Systems for Antioxidant Hydrolysates in Functional Foods.** A. Fernandez, M. Cabrera, M. Fernandez, P. Cabral, and A. Medrano^{*}, Universidad de la República (Udelar), Uruguay.
- Emulsions Loaded with Epigallocatechin-gallate: Digestion Behaviour, Bioactive Release, and Anti Proliferative Activity of the Digestates on Caco-2 Cells.** S. Sabouri, E. Arranz, A. Guri, and M. Corredig, University of Guelph, Canada.
- Influence of Solvents on Extractability of Lipids from *Gloeotheca* sp., and Effects on Antioxidant Capacity.** H.M. Amaro, A.C. Guedes, I. Sousa-Pinto, and F.X. Malcata^{*}, University of Porto, Portugal.
- Inhibiting Nucleation and Crystal Growth of High Melting Point Lipids in Cooking Oil.** J. Nedderson¹, B. Forrest², and M. Nielsen³, ¹DuPont Nutrition & Health, USA, ²DuPont Nutrition & Health, Australia, ³DuPont NHI, Denmark.
- Development of Zero *trans*/Low Sat Fat Systems, Structured with Sorbitan Monostearate and Fully Hydrogenated Crambe Oil.** G.R. Comote, T.G. Kieckbusch, and G.M. Oliveira^{*}, University of Campinas, Brazil.
- Effect of Aqueous Phase Composition on the Physicochemical Stability of Chia O/W Emulsions.** L.M. Julio¹, V.Y. Ixtaina¹, J.R. Wagner³, S.M. Nolasco², and M.C. Tomás^{*1}, ¹Centro de Investigación y Desarrollo en Criotecología de Alimentos (CIDCA) (CONICET La Plata-UNLP), Argentina, ²Universidad Nacional del Centro de la Pcia. de Bs. As., Argentina, ³Universidad Nacional de Quilmes (UNQ), Argentina.
- Effects of High Pressure Treatment on Structure and Physical Properties of Fat Blends of Fully Hydrogenated Soybean Oil.** M. Zulkurnain, F. Maleky, and B. Balasubramaniam, Ohio State University, USA.
- In vitro* Digestion of Interesterified Stearic Acid-rich Blends: Compositional and Physical Property Investigations During Digestion.** S.H. Thilakarathna¹, M.A. Rogers¹, Y. Lan², S. Huynh¹, and A.J. Wright¹, ¹University of Guelph, Canada, ²Rutgers University, USA.
- The Effects of Applesauce and Pectin on the *in vitro* Digestive Stability, Digestibility, and Bioaccessibility of a DHA-rich Algal Oil Emulsion.** X. Lin and A.J. Wright, University of Guelph, Canada.
- Physical and Oxidative Stability of Fish Oil Nanoemulsions Produced by Spontaneous Emulsification.** R. Walker¹, E.A. Decker^{1,2}, and D.J. McClements^{1,2}, ¹University of Massachusetts Amherst, USA, ²King Abdulaziz University, Saudi Arabia.
- In vitro* Digestibility and β -carotene Release from Ethylcellulose Oleogels.** C. O'Sullivan¹, M. Davidovich-Pinhas², A.J. Wright¹, and A.G. Marangoni¹, ¹University of Guelph, Canada, ²Technion, Israel.
- Effect of *trans, trans* CLA Egg Enrichment from CLA-rich Soy Oil on Yolk Fatty Acid Composition, Viscosity, and Physical Properties.** S. Shinn, A. Proctor, N. Anthony, and A. Gilley, University of Arkansas, USA.
- Structuration of Low Saturated Lipid Blends Using Phytosterols.** M.H. Masuchi, B.G. Zaia, A.P.B. Ribeiro, and T.G. Kieckbusch, University of Campinas, Brazil.
- Organogelation of 12-hydroxystearic Acid and Monoacylglycerides in Mineral Oil and Safflower Oil Free of Polar Lipids.** J.F. Toro-Vázquez, I. Romero-Regalado, M.A. Charó-Alonso, J.A. Morales-Rueda, and F. Alvarez-Mitre, Universidad Autónoma de San Luis Potosi, Mexico.
- Structuring Emulsions W/O with Palm Hardfat and Soy Lecithin.** V.S. Santos, C.C. Ming, and L.A.G. Gonçalves, University of Campinas, Brazil.
- The Unsaturation Extent and Chain Length Effect of the Constituents Fatty Acids of Phosphatidylcholine in the Thermo-mechanical Properties of Edible Organogels.** J.F. Toro-Vázquez, M. Martínez-Avila, J.A. Morales-Rueda, F.M. Alveres-Mitre, and M.A. Charó-Alonso, Universidad Autónoma de San Luis Potosi, Mexico.
- Novel Approaches to Maximize Gelator Efficiency in Ethylcellulose Oleogels.** R. Nicholson, A.J. Gravelle, S. Barbut, and A.G. Marangoni, University of Guelph, Canada.
- Biophysical Aspects of Lipid Digestion in Human Breast Milk and Similac™ Infant Formulas.** F. AlHasawi¹ and M.A. Rogers^{*2}, ¹Rutgers University, USA, ²University of Guelph, Canada.
- Modification of Physical Properties of Palm-based Diacylglycerol Oil.** C.P. Tan¹, S.P. Ng¹, and I.A. Nehdi², ¹Universiti Putra Malaysia, Malaysia, ²King Saud University, Saudi Arabia.
- Modeling Oil Diffusion Process in Fat Crystal Network.** H. Wang and F. Maleky, Ohio State University, USA.
- Chemical and Enzymatic Transesterification of High Oleic Algae Oil, High Oleic Sunflower Oil, Shea Stearin with Palm Stearin, and Fully Hydrogenated Cottonseed Oil to Synthesize Cocoa Butter Equivalents.** S. Mirzaee Ghazani¹, C. O'Sullivan¹, R. Bond², W. Rakitsky², and A.G. Marangoni¹, ¹University of Guelph, Canada, ²Solazyme Inc., USA.
- The Development of a Choline Rich Cereal Based Functional Food Incorporating Egg Lecithin.** J. Asomaning, E.D. Lewis, J. Wu, R.L. Jacobs, C.J. Field, and J.M. Curtis^{*}, University of Alberta, Canada.
- Effect of High Intensity Ultrasound (HIU) on the Crystallization Behavior of Interesterified and Physical Blends of High Oleic Sunflower Oil (HOSO) and Tripalmitin.** J. Kadamne¹, E.A. Ifeduba², C.C. Akoh², and S. Martini¹, ¹Utah State University, USA, ²University of Georgia, USA.
- Rheology and Phase Behavior of Binary Wax Blends in Soybean Oil.** S. Jana and S. Martini, Utah State University, USA.
- The Influence of Functional Ingredients on Margarines and Spreads Application Properties.** K. Bhattacharya, P.G. Kirkeby, B. Sehested, and R.A. Trinderup, DuPont Nutrition Biosciences ApS, Denmark.
- Physical Characteristics of Peanut Butter Influenced by Fully Hydrogenated Flixweed Oil *Descurainia sophia* (L.) as a Stabilizer.** L. Ahmadi, X. Gao, and J. Vandermeij, Brescia University College at Western University, Canada.
- Maillard Reaction Products as Encapsulating Agents for Functional Lipid Palm-based Medium- and Long-chain Triacylglycerol.** Y.Y. Lee, T.K. Tang, C.P. Tan, N.B.M. Alitheen, and O.M. Lai^{*}, Universiti Putra Malaysia, Malaysia.

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33. **Development of Functional Beverages from Blends of *Hibiscus sabdariffa* Extract and Selected Fruit Juices for Optimal Antioxidant Properties.** O.M. Ogundele¹, O.O. Awolu¹, A.A. Badejo¹, T.N. Fagbemi^{1,2}, and I.D. Nwachukwu², ¹Federal University of Technology, Nigeria, ²University of Manitoba, Canada.
34. **Effect of the Stearic Sucrose Ester S-170 on Physical Properties of High Stearic High Oleic Sunflower Oil Stearins.** J.A. Rincon-Cardona^{1,2}, R.J. Candal², and M.L. Herrera¹, ¹Instituto de Tecnologia en Polimeros y Nanotecnologia, Argentina, ²Instituto de Investigacion e Ingenieria Ambiental, Argentina.
35. **Cocoa Butter Alternative from Rice Bran Oil by Enzymatic Acidolysis.** P. Kosiyanant², G. Pande¹, W. Tungjaroenchai², and C.C. Akoh¹, ¹University of Georgia, USA, ²King Mongkut's Institute of Technology, Thailand.
36. **CLA-rich Soy Oil Shortening Production and Characterization.** S.E. Mayfield¹, A. Patel², A. Proctor¹, K. Dewettinck², and D. Van de Walle², ¹University of Arkansas, USA, ²University of Gent, Belgium.
37. **Cyanogenic Glycosides and Secoisolaricresinol Diglucoside in Flaxseed Meal Fortified Gluten-free Bread.** R. Boonen^{1,2}, J. Liu³, Y.Y. Shim^{1,3}, C.M. Olivia¹, and M.J.T. Reaney^{1,3,4}, ¹Prairie Tide Chemicals Inc., Canada, ²Wageningen University, The Netherlands, ³University of Saskatchewan, Canada, ⁴Jinan University, China.
9. **Anti-inflammatory Effect of Black Raspberry Seed Oil in db/db Mice.** H.J. Lee, H. Jung, H. Cho, and K.T. Hwang*, Seoul National University, Republic of Korea.
10. **Characteristic Distribution of Metabolites in *Oryza sativa* Rice.** N. Zaima¹, Y. Yoshimura², Y. Kawamura³, and T. Moriyama¹, ¹Kinki University, Japan, ²Okayama Prefectural University, Japan, ³Kyoto Women's University, Japan.
11. **Formation of Filled Hydrogel Beads: Impact of Emulsion Structure on Retention Behaviour.** B. Zeeb¹, A.H. Saberi², J. Weiss¹, and D.J. McClements², ¹University of Hohenheim, Germany, ²University of Massachusetts Amherst, USA.
12. **Dietary Supplements For Brain Function Improvement: Are Labels Really Informative?** F.B. Pimentel, R.C. Alves, A.S.G. Costa, M.A. Nunes*, and M.B.P.P. Oliveira, University of Porto, Portugal.
13. **Ready-to-use Carrots Stored Under Modified Atmosphere Packaging Rich in CO₂.** C. Barbosa^{1,2}, M.R. Alves^{1,2}, and M.B.P.P. Oliveira², ¹Instituto Politécnico de Viana do Castelo (IPVC-ESTG), Portugal, ²Universidade do Porto, Portugal.
14. **Effects of Green Algae Feeding on Mouse Lipidome.** Y. Ma, W. Zhou, R. Ruan, G. Shurson, and C. Chen*, University of Minnesota, USA.
15. **Nutritional Quality of Snacks Commercialized in Portugal.** T.G. Albuquerque, H.S. Costa, A. Sanches-Silva, and M.B.P.P. Oliveira*, University of Porto, Portugal.
16. **Portuguese Autochthonous Acorn Species: Nutritional Analysis.** R. Pacheco, A.S.G. Costa*, A. Vinha, and M.B.P.P. Oliveira, University of Porto, Portugal.
17. **Simple Low-temperature Process for Selective Recovery of Vitamin E from Vegetable Oils.** K. Hiromori, N. Shibasaki-Kitakawa, K. Nakashima, and T. Yonemoto, Tohoku University, Japan.
18. **Vitamin E Content of Rainbow Trout Muscle After Feeding a 5% Dietary Supplementation of Seaweed *Gracilaria vermiculophylla*.** M. Araújo, R.C. Alves, F.B. Pimentel, T.J.R. Fernandes, A.S.G. Costa*, L.M.P. Valente, and M.B.P.P. Oliveira, University of Porto, Portugal.
19. **Investigation on the Qualities of Olive Drupes and Olive Oils Produced in China.** Y. Xue, D. Zhang, L. Zhu, and Z. Duan, Academy of State Administration of Grain, China.

H&N-P: Health and Nutrition Poster Session

Chairs: H.A. Durham, University of California, Los Angeles, and Pennington Biomedical Research Center, USA; and M.L. Drewery, Louisiana State University, USA

1. **Inhibition of *in vitro* Acetylcholinesterase Activity by Hemp Seed Protein Hydrolysates.** S.A. Malomo (*Honored Student Award Winner and Health and Nutrition Division Student Excellence Award Winner*) and R.E. Aluko, University of Manitoba, Canada.
2. **Effects of Life-long Diets of Common Unsaturated Fatty Acids from Vegetable Oils on Lifespan and Oxidation in a *Caenorhabditis Elegans* Model.** B. Fang¹, F. Ren², Y. Wang¹, and X. Zhou², ¹Academy of State Administration of Grain, China, ²China Agriculture University, China.
3. **Comprehensive Lipidomics of Plasma, Erythrocyte, and Whole Blood of Humans with Low, Intermediate, and High n-3 PUFA Status.** J.A. Henao, R. Smith, and K. Stark, University of Waterloo, Canada.
4. **Risk Factors for Age-related Macular Degeneration Appear Early in Life Among Female College-aged Students.** A.V. Gaitán¹, A. Ocampo¹, C. Childress¹, M.L. Drewery¹, R. Pinkston¹, C.J. Lammi-Keefe^{1,3}, and H.A. Durham^{2,4}, ¹Louisiana State University, USA, ²Pennington Biomedical Research Center, USA, ³Louisiana State University AgCenter, USA, ⁴California State University, Los Angeles, USA.
5. **Conjugated Linoleic Acid Increases Voluntary Activity and Muscle Mass via Mitochondrial Biogenesis in Adult Onset Inactivity-induced Obese Mice.** Y. Kim¹, D.J. Good², and Y. Park¹, ¹University of Massachusetts Amherst, USA, ²Virginia Polytechnic Institute and State University, USA.
6. **The Evaluation of Soybean β -conglycinin on Glucose Metabolism in Wistar Rats by Oral ¹³C-glucose Administration.** N. Inoue, A. Funayama, and I. Ikeda, Tohoku University, Japan.
7. **Effect of Black Raspberry Seed Oil on Inflammatory Status in Obese Mice Induced by High Fat Diet.** H.J. Lee, H. Jung, H. Cho, and K.T. Hwang*, Seoul National University, Republic of Korea.
8. **Effects of Consuming Thermally Oxidized Soybean Oil on Tryptophan-kynurenine Metabolism Pathway.** L. Wang, D. Yao, G. Shurson, and C. Chen*, University of Minnesota, USA.

LOQ-P: Lipid Oxidation and Quality Poster Session

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

1. **Production of Omega-3 Rich Fish Oil from By-products of Danish Trout.** P.J. Honold, M.L. Nouard, and C. Jacobsen, Technical University of Denmark, Denmark.
2. **Effect of Different Wall Materials on the Physicochemical Properties of Spray-dried Microencapsulated Chia Oil.** U. Us Medina⁴, V.Y. Ixtaina¹, L.M. Julio¹, J.R. Wagner², S.M. Nolasco³, and M.C. Tomás¹, ¹Centro de Investigación y Desarrollo en Criotecnología de Alimentos (CIDCA) (CONICET La Plata-UNLP), Argentina, ²Universidad Nacional de Quilmes (UNQ), Argentina, ³Universidad Nacional del Centro de la Provincia de Buenos Aires (UNCPBA), Argentina, ⁴Universidad Autonoma de Yucatán (UADY), Mexico.
3. **Unsaturated Lipids-facilitated Lymphatic Transport of Lipophilic Bioactive Component: Oxidized vs. Unoxidized.** M. Yao¹, F. Kitamura², D.J. McClements^{1,3}, and H. Xiao¹, ¹University of Massachusetts Amherst, USA, ²Tokyo University of Marine Science and Technology, Japan, ³King Abdulaziz University, Saudi Arabia.
4. **Development of New Methods for Analyzing Lipid Oxidation: HPLC-DNPH Analyses of Carbonyl Oxidation Products.** L. Yao and K.M. Schaich, Rutgers University, USA.

5. **Antioxidant Activity and Synergistic Interaction Between *Caralluma fimbriata* and *Rosmarinus officinalis* Extracts in 80% Mayonnaise.** L. Månsson and T. Isak, DuPont Nutrition and BioSciences ApS, Denmark.
6. **Role of the Medium in the Inhibited Oxidation of Lipid Membranes Models.** S. Lednev¹, A. Sirick², and E. Pliss¹, ¹P.G. Demidov Yaroslavl State University, Russia, ²Russian Academy of Sciences, Russia.
7. **Chain Oxidation of Methyl Linoleate as Kinetic Model of Lipid Peroxidation: A Role of Nitroxyl Radicals in Establishing the Mechanism of Process.** E. Pliss¹, A. Rusakov¹, R. Pliss^{*1}, and D. Loshadkin², ¹P.G. Demidov Yaroslavl State University, Russia, ²Yaroslavl State Technical University, Russia.
8. **Nitroxyl Radicals as a Inhibitors of Oxidation of Methyl Linoleate in Micelles.** I. Tikhonov¹, L. Borodin², E. Pliss², and V. Sen^{*1}, ¹Russian Academy of Sciences, Russia, ²P.G. Demidov Yaroslavl State University, Russia.
9. **Antioxidative Capacity of Rosemary Loaded Oil-in-Water Emulsions in Cooked Sausages.** M. Erdmann^{*1,2}, R. Lautenschlaeger¹, and J. Weiss², ¹Max Rubner-Institut, Germany, ²University of Hohenheim, Germany.
10. **Plant Raw Materials Against Linseed Oil Oxidation.** O. Shadyro, A. Sosnovskaya, I. Edimecheva, and A.G. Lisovskaya*, Belarusian State University, Belarus.
11. **Characterizing the Kinetics of Individual Triglycerides and Lipid Oxidation Products in Frying Oils via Mass Spectrometry-based Chemometric Analysis.** L. Wang, A. Csallany, and C. Chen*, University of Minnesota, USA.
12. **Unusual Kinetic Isotope Effects of Deuterium Reinforced Polyunsaturated Fatty Acids in Tocopherol-mediated Free Radical Chain Oxidations.** C. Lamberson¹, L. Xu¹, J.R. Montenegro-Burke¹, H. Muchalski¹, V. Shmanai⁴, A. Bekish³, J. McLean¹, C. Clarke², M. Shchepinov³, and N. Porter¹, ¹Vanderbilt University, USA, ²University of California, Los Angeles, USA, ³Retrotope, Inc., USA, ⁴National Academy of Sciences of Belarus, Belarus, ⁵Belarusian State University, Belarus.
13. **Lipid and Fatty Acid Profile of Edible Macroalgae.** C.G. Costa, A.S.G. Costa*, T.J.R. Fernandes, F.B. Pimentel, R.C. Alves, A.C. Alves, and M.B.P.P. Oliveira, University of Porto, Portugal.
14. **The Unsaturated Fatty Acid Composition of Vegetable Oil Affects Odor Production Formed During Heating.** S. Koishi¹, S. Nakajima¹, and Y. Endo², ¹Tsuno Food Industrial Co., Ltd., Japan, ²Tokyo University of Technology, Japan.
15. **Radical Polymerization Initiated by Hydroperoxide Decomposition on the Surface of Heterogeneous Catalysts.** M.P. Berezin, O.T. Kasaikina, D.A. Krugovov, and E.A. Mengele, Russian Academy of Sciences, Russia.
16. **Development of Iron Chelating Poly(ethylene terephthalate) Packaging for Inhibiting Lipid Oxidation in Oil-in-Water Emulsions.** D.R. Johnson¹, F. Tian¹, M.J. Roman¹, E.A. Decker^{1,2}, and J.M. Goddard¹, ¹University of Massachusetts Amherst, USA, ²King Abdulaziz University, Saudi Arabia.
17. **Microalgae Lipids Extraction Using Corona Discharge Plasma in the Biodiesel Production.** E.H.S. Moecke^{2,1}, A.P. Matos^{*1}, R. Feller¹, M.M. Machado^{1,2}, and A.L.V. Cubas², ¹Universidade Federal de Santa Catarina, Brazil, ²Universidade do Sul de Santa Catarina, Brazil.
18. **Stability of Oxidative Products in Quinoa (*Chenopodium quinoa*) During Accelerated Aging.** A.K. Anderson, Kuwait University, Kuwait.
19. **Oxidative Quality of Soybean/Beef-tallow Biodiesel Blends During a Long-term Storage.** G. Pereira, L. Ferreira, and D. Barrera-Arellano*, University of Campinas, Brazil.
20. **Improvement of the Shelf-life, Water Miscibility, and Antioxidant Capacity of Conjugated Linoleic Acid for Enrichment of Aqueous-based Foods and Drinks.** S. KoohiKamali, Shahr-e-Qods Branch, Islamic Azad University, Iran.

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Industry Showcase Partner Directory

(As of February 25, 2015)

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Smalley Campus | Industry Showcase Partners

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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.



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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.

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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.



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Increase your profitability, product quality and production efficiency with FOSS analytical solutions. FOSS offers the global industry standard used by nearly all 'top 100' global companies within food and agriculture. Achieve rapid measurement of key parameters including FFA, phosphorus and moisture. FOSS customers in the oilseed crushing and edible oil industry have saved up to \$180,000 by using improved analysis to get more out of their raw materials.

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Malaysian Palm Oil Board

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.

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MIDI's Sherlock Software automates the naming of a diverse range of compounds by GC, GC-MS and HPLC. Our proprietary software offers precise analysis of FAMES, Sterols, Tocols, and Triterpenes. Customers may purchase MIDI Software or submit samples to MIDI's service laboratory. MIDI is a Veteran-owned small business.

Myande Group

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Myer's Vacuum

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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.

ProSimTechs LLC

www.prosimtechs.com

ProSimTechs is an independent consulting firm that specializes in Modelling and Simulation (M&S) studies of Vegetable Oil Refining Nutraceutical and Oleochemical Processes, delivering innovative solutions, all around the world.

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www.stratasfoods.com

In addition to supporting the core research, development, and innovation areas of concentration for Stratas Foods LLC, the Stratas Foods – RDI Center offers pilot plant and analytical services to external customers. The Stratas Foods – RDI Center's edible oils pilot plant and analytical laboratories represents state-of-the-art product development and testing. In the 38,000 square-foot facility, our highly-trained technologist and scientists work to meet customer needs by developing customized samples on a cost-efficient outsource basis, and in quantities ranging from bench-top sizes to drum quantities. By outsourcing your company's testing and development needs, you reap the benefits of our equipment and experiences; lower costs, faster turnaround, and the guaranteed highest standards in testing and production methodology.



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www.thermoscientific.com

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Waters Corporation

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Felix Paquin Campus

Gatlin D

Named after Felix Paquin, AOCS co-founder and the Society's first president in 1909 and 1910, this campus houses the technical sessions, poster presentations, and Industry Showcase Partners pertaining to these interest areas:

- Agricultural Microscopy Division
- Phospholipid Division
- Surfactants and Detergents Division
- Society of Cosmetic Chemists

Division events for the interest areas and allied organization of this campus may be found on page 12.



Poster Author Sessions

- Even-numbered posters have authors present during the Monday mid-morning and Tuesday afternoon breaks.
- Odd-numbered posters have authors present during the Monday afternoon and Tuesday mid-morning breaks.
- All authors are also encouraged to be present during the Wednesday mid-morning break.

A complete list of poster presentations for this campus is available on **The App**, or beginning on page 51.

Industry Showcase Partners

(As of March 15, 2015)

Air Products & Chemicals	LCI Corporation
Akzo Nobel Surface Chemistry	LEEM Filtration
Alfa Laval Inc.	Lubrizol Corporation
American Emu Association	MAHLE Industrial Filtration
AOCS	MIDI Inc.
ASAGA	Novozymes (Household Care)
Buss ChemTech AG	Oils & Fats International
Chemspeed Technologies AG	Paramount Minerals and Chemicals
Euro Fed Lipid	Revolymor
Fenix Process Technologies Pvt. Ltd.	SIWACO GmbH
GKD-USA, Inc.	Society of Cosmetic Chemists
Graham Corporation	Surface Chemists of Florida, Inc.
Grosper-Dalian Gaochang Machinery Manufacturing Co., Ltd.	TMC Industries, Inc.
Italmatch USA Corp.	Wacker Chemical Corporation
	Yenar A.S.

Campus Schedule

Monday, May 4

7:00 am–6:00 pm	Industry Showcase and Poster Viewing
7:20–8:20 am	Early Risers Coffee
8:15 am–12:00 pm	Hot Topics Symposia and Special Sessions
9:40–10:20 am	Networking Break and Poster Author Session
1:15–5:00 pm	Technical Sessions
2:40–3:20 pm	Networking Break and Poster Author Session
5:00–6:00 pm	Agricultural Microscopy Division Roundtable
5:00–6:00 pm	Surfactants and Detergents Division Roundtable

Tuesday, May 5

7:00–8:00 am	Early Risers Coffee
7:00 am–6:00 pm	Industry Showcase and Poster Viewing
7:55–11:00 am	Technical Sessions
9:20–10:00 am	Networking Break and Poster Author Session
12:45–1:45 pm	Phospholipid Division Roundtable
2:15–6:00 pm	Technical Sessions
3:40–4:20 pm	Networking Break and Poster Author Session

Wednesday, May 6

7:00–8:00 am	Early Risers Coffee
7:00 am–5:00 pm	Industry Showcase
7:00 am–3:40 pm	Poster Viewing
7:55 am–12:00 pm	Technical Sessions
9:40–10:20 am	Networking Break and Poster Author Session
1:55–5:00 pm	Technical Sessions
3:20–3:40 pm	Networking Break

See Program-at-a-Glance brochure or **The App** for complete meeting schedule.



AOCS welcomes the Society of Cosmetic Chemists to the Felix Paquin Campus for their sessions, to be held in Gatlin E-3.

In addition, AOCS and SCC have partnered on three joint sessions for the AOCS Annual Meeting to address topics common to both groups, including *Lipid Oils and Skin Health*, *Surfactants: Cosmetic Science*, and *Strategies in Advanced Utilization of Proteins and Peptides*.

Information on these sessions may be found on pages 62, 48, and 60.

Oral Presentations

- The presenter is the first author or otherwise indicated with an asterisk (*).
- Access and print abstracts at the computer stations located in Gatlin B, D, & Panzacola
- Abstracts also available on *The App* or online at: AnnualMeeting.aocs.org/AM15Resources

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Monday Afternoon

AM 1: Imaging and Structure

Chair: K. Koch, North Dakota State University, USA

Gatlin E-1

- 1:15 **Introduction.**
- 1:20 **Optimization and Validation of a Rapid Method for Lipid Determination in *Nannochloropsis oculata*.** L. Balduyck, C. Veyser, K. Muylaert, and I. Foubert*, KULeuven Kulak, Belgium.
- 1:40 **Effect of Temperature on the Wide Angle X-ray Diffraction of Nanocrystalline Triglycerides.** X. Deng¹, S. Yao¹, and G. Mazzanti^{*1,2}, ¹Dalhousie University, Canada, ²Institute for Research in Materials, Canada.
- 2:00 **PUFA Oil Oxidation Monitoring: Challenges and New Strategy Using ¹H NMR Technology.** Z. Tan, W. Indrasena, E. Suarez, and J. Kralovec, DSM Nutritional Products, Canada.
- 2:20 **Development of Eco-friendly Packaging Film Using Protein Isolates.** A.V. Patel¹, T.M. Panchal¹, M. Thomas¹, J.V. Patel¹, and A. Gupte², ¹Institute of Science and Technology for Advanced Studies and Research, India, ²N.V. Patel College of Pure and Applied Sciences, India.
- 2:40 **Networking Break and Poster Author Session.**
- 3:20 **Tween Emulsifiers Affect the Stability and Crystallization Behaviour of Partially Crystalline Oil-in-Water Emulsions.** G.T. Fuller¹, T. Considine¹, M. Golding², A. MacGibbon¹, L. Matia-Merino², ¹Fonterra Co-operative Group Limited, New Zealand, ²Massey University, New Zealand.

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Agricultural Microscopy (AM) Annual Meeting Program
Roundtable will begin at 5:00 pm in Gatlin E-1. Planning for
2016 programs; everyone is welcome to attend.
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PHO 1: General Phospholipid

Chair: M. Rebmann, Perimondo, USA

Gatlin E-2

- 1:15 **Introduction.**
- 1:20 **The Effect of Microfiltration on Milk Fat Globule Distribution, Yield, and Physical Properties of Cheddar Cheese.** A. Logan, M. Xu, M. Mazzonetto, L. Day, and M.A. Augustin, CSIRO Food and Nutrition, Australia.
- 1:40 **Effect of Phospholipid and Other Factors on Free Radicals Escape in Hydroperoxide Decomposition Catalyzed by Acetylcholine.** O.T. Kasaikina, D.A. Krugovov, and E.A. Mengerle, Russian Academy of Sciences, Russia.
- 2:00 **Influence of Curcumin-loaded Chitosan Liposome on MCF7 Cytotoxicity.** M. Hasan¹, E. Arab-Tehrany¹, M. Barberi-Heyob¹, C. Kahn², M. Linder^{*1}, and E. Jabbari³, ¹Université de Lorraine, France, ²IFSTTAR, France, ³University of South Carolina, USA.
- 2:20 **Development and Modernization of USP-NF Public Standards for Phospholipids.** H. Wang, US Pharmacopeial Convention, USA.
- 2:40 **Networking Break and Poster Author Session.**

S&D 1: Surfactants: Industrial Applications

Chairs: P.T. Sharko, Shell Global Solutions Inc., USA; and B.P. Grady, University of Oklahoma, USA

Gatlin E-4

- 1:15 **Introduction.**
- 1:20 **Effect of Acid Modification of Soy Glycinin on its Interfacial and Emulsifying Properties.** C. Abirached¹, P. Moyna¹, M. Añón², and L. Panizzolo¹, ¹Universidad de la República, Uruguay, ²Universidad Nacional de La Plata, Argentina.
- 1:40 **Optimization Methods on Surfactant Mixture to Quickly Improve the Formulation Performance in Chemical EOR.** J.L. Salager and A.M. Forgiarini, University of the Andes, Venezuela.
- 2:00 **Effect of Intrinsic and Extrinsic Factors on the Stability of the α -gel Phase of a GMS-water System.** F.C. Wang and A.G. Marangoni, University of Guelph, Canada.
- 2:20 **Synergistic Effect Between Silica Nano Particles and Non-ionic Surfactants on Oil Recovery from Condensed Corn Distillers Solubles (CCDS).** L. Fang, T. Wang, and B.P. Lamsal, Iowa State University, USA.
- 2:40 **Networking Break and Poster Author Session.**
- 3:20 **Novel Polymeric Co-builder for Laundry Applications.** Y. Zhu, K.T. Selvy, G. Hsu, V. Gibson, and S. Carbone, Lubrizol Advanced Materials, Inc., USA.
- 3:40 **Unique Rheology Modifiers for Home and Personal Care Applications.** J. Shulman, A. Keenan, and J. Hayes, Dow Chemical Co., USA.
- 4:00 **Microbial Biosurfactants: Closing the Gap in the Innovation Chain.** S.L.K.W. Roelants^{1,2}, L. Van Renterghem¹, R. Gheys¹, H. Moens², B. Everaert², I. VanBogaert¹, B. Vanlerberghe², and W. Soetaert^{1,2}, ¹University of Ghent, Belgium, ²Bio Base Europe Pilot Plant, Belgium.
- 4:20 **Characteristic Curvature of Secondary Alcohol Ethoxylates Using High Throughput Techniques.** M.P. Tate, B. Karl, and C.J. Tucker, Dow Chemical Co., USA.
- 4:40 **Ultra-long Chain Fatty Acid Sugar Alcohol Monoesters: A Novel Class of Surfactant.** W. Wei^{1,2}, B. Pérez¹, F. Feng², M. Dong¹, and Z. Guo¹, ¹Aarhus University, Denmark, ²Zhejiang University, China.

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Surfactants and Detergents (S&D) Annual Meeting Program
Roundtable will begin at 5:00 pm in Gatlin E-4. Planning for
2016 programs; everyone is welcome to attend.
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S&D 1.1: Surfactants in Energy

This session is sponsored in part by Ultimate EOR Services, LLC

Chairs: S. Natali, Halliburton, USA; and U.P. Weerasooriya, University of Texas, USA

Gatlin E-5

- 1:15 **Introduction.**
- 1:20 **Interfacial Tension and Compressibility of Heavy Oil-aqueous Systems at Elevated Temperatures: Effects of Diluents.** D. Nguyen, V. Balsamo, and J. Phan, Nalco Champion, An Ecolab Company, USA.
- 1:40 **Removal of Particulate Fines from Organic Solvents Using Water as Collector Droplets.** S. Malladi and A. Ramchandran, University of Toronto, Canada.
- 2:00 **The Potential Application of Sulfonate- and Carboxylate-based Surfactants in Steam Foam EOR.** T. Nguyen and G. Trahan, Sasol Performance Chemicals, USA.

- 2:20 **Oilfield Chemicals—Solvents and Surfactants for Well Stimulation, Completions, and Production.** J.M. Fernandez, Sasol Performance Chemicals, USA.
- 2:40 **Networking Break and Poster Author Session.**
- 3:20 **Upscaling and Delivery of a Surfactant for an Enhanced Oil Recovery (EOR) Pilot and Lessons Learned.** L.A. Pretzer¹, J.R. Barnes², and T.E. King¹, ¹Shell Global Solutions (US) Inc., USA, ²Shell Global Solutions International B.V., The Netherlands.
- 3:40 **Small-molecule Organogelators for Hydraulic Fracturing Fluids.** G.P. Funkhouser, Halliburton, USA.
- 4:00 **Chemical Gradient Surfactant/Polymer Flood Design Using Seawater.** E. Trine, P. Suniga, and C. Britton, Ultimate EOR Services, LLC, USA.
- 4:20 **Latest Developments in Chemical Enhanced Oil Recovery.** U.P. Weerasooriya and G.A. Pope, University of Texas, USA.

- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **Lecitase Ultra-catalyzed Hydrolysis of Soy Phosphatidylcholine to Prepare LPC and L-a-GPC.** B.H. Kim, Chung-Ang University, Republic of Korea.
- 10:20 **¹H NMR as Release Analysis for Infant Nutrition.** B.W.K. Diehl, M. Betzgen, Y. Monakhova, Spectral Service AG, Germany.
- 10:40 **Determination of Phospholipids in Olive Oil Using Multinuclear NMR Spectroscopy.** E. Hatzakis, Pennsylvania State University, USA.

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 Phospholipid (PHO) Annual Meeting Program Roundtable will begin at 12:45 pm in Gatlin E-2. Planning for 2016 programs; everyone is welcome to attend.

Tuesday Morning

PHO 2: Nutrition and Analytics of Phospholipids

Chair: B.W.K. Diehl, Spectral Service AG, Germany

Gatlin E-2

- 7:55 **Introduction.**
- 8:00 **Sunflower Lecithin and Individual (Single) Essential Phospholipids.** S. Shulga and I. Glukh, National Academy of Sciences of Ukraine, Ukraine.
- 8:20 **Emulsifying Properties of Hydrolyzed and Low HLB Modified Sunflower Lecithin Mixtures.** D.M. Cabezas¹, B.W.K. Diehl², and M.C. Tomás³, ¹Universidad Nacional de Quilmes, Argentina, ²Spectral Service AG, Germany, ³Universidad Nacional de La Plata, Argentina.
- 8:40 **Detection of Additives and Contaminations of Sunflower Lecithin with Soy Bean Lecithin.** B.W.K. Diehl¹ and K. Rizos², ¹Spectral Service AG, Germany, ²Genetic ID (Europe) GmbH, Germany.

S&D 2: New Product Forms and Use Innovations

Chairs: D.S. Stott, Church & Dwight Co., Inc., USA; and T. Graham, Rivertop Renewables, USA

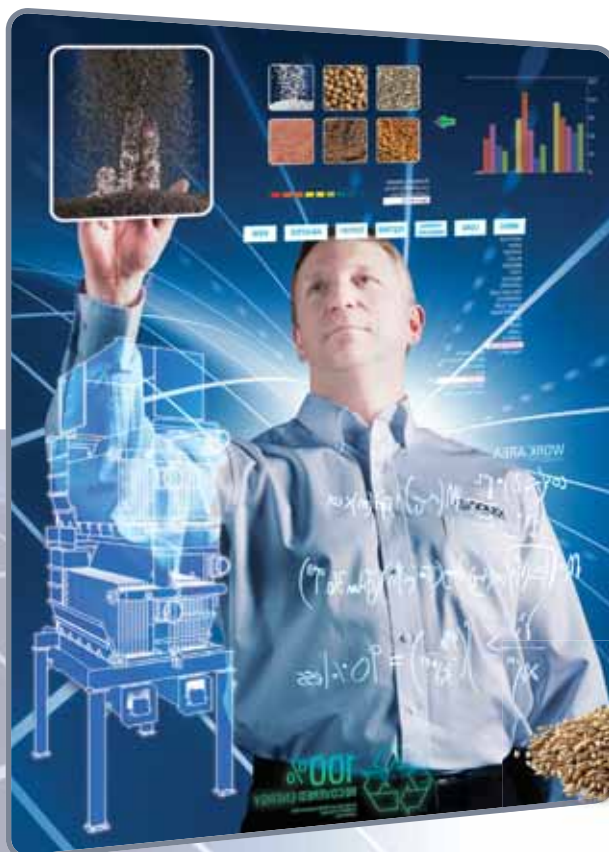
Gatlin E-4

- 7:55 **Introduction.**
- 8:00 **A Novel Naturally Derived Hydrophilization Polymer that Provides Multiple Benefits in Hard Surface Cleaners.** J. Kiplinger, F. Lambert, K. Karagianni, and C. Orizet, Solvay USA, Inc., USA.
- 8:20 **Overcoming Performance Perturbations of Amylases in Heavy Duty Liquid (HDL) Laundry Detergents.** K. Harris and E. Dodge*, DuPont Industrial Biosciences, USA.
- 8:40 **Achieving Laundry Cleaning Performance in Lower Wash Temperatures.** A. Taneja, BASF Corp., USA.
- 9:00 **Cleaning by Hydrophilic-hydrophobic Surface Modification.** A. Nagy¹, M. Hisamoto¹, D. Kuppert², and J. Peggau², ¹Evonik Corp., USA, ²Evonik Industries AG, Germany.

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- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **Modification of Rheological Properties of Compacted Liquid Laundry Formulations.** V. Prasad and J. Shulman, Dow Chemical Co., USA.
- 10:20 **Enzymatic Liquid Unit Dose Detergents.** L.M. Mikkelsen, Novozymes A/S, Denmark.
- 10:40 **Water Soluble Film Innovations for Single Unit Dose Applications.** Y.S. Parulekar, MonoSol, USA.

S&D 2.1/SCC: Surfactants: Cosmetic Science

This session is sponsored in part by Colonial Chemical, Inc.

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

Gatlin E-5

- 7:55 **Introduction.**
- 8:00 **Surfactants and Human Skin: Perspectives from 40 Years of Skin Science Research.** R.R. Wickett, University of Cincinnati, USA.
- 8:40 **Microbial Biofilm Evaluations: Impact and Insights for Industry.** B. Glembocki, D. Grinstead, S. Lyon, K. Roach, and C. Spangenberg, Sealed Air Inc., USA.
- 9:00 **The Effectiveness of Natural Oils in Cosmetic, Beauty, and Personal Care Products.** G.R. Watkins and G.A. Smith, Huntsman Performance Products, USA.
- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **Surfactants in Personal Care Applications: Challenges and Recent Trends.** M.S. Vethamuthu, Ashland Specialty Ingredients, USA.
- 10:20 **Optimized Microemulsion Systems with Low Surfactant and Salt Concentration for Detergency of Vegetable Oils at Low Bath Temperature.** C. Attaphong, J.F. Scamehorn, and D.A. Sabatini*, University of Oklahoma, USA.
- 10:40 **Formulated Solutions for Hair Repair.** S. O'Connor, C. Lepilleur, and M. Ruffing, Lubrizol Advanced Materials, USA.

Tuesday Afternoon

S&D 3: Tools of the Trade: Measurement and Characterization

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

Gatlin E-4

- 2:15 **Introduction.**
- 2:20 **Emulsion and Suspension Characterization: Is There Possibly a Direct, Better, and Faster Way?** D. Dinair, LUM Americas, USA.
- 3:00 **Instrumental Methods for a Reliable Assessment of Fabric Surface Appearance.** T.J. Burns, Novozymes North America, Inc., USA.
- 3:40 **Networking Break and Poster Author Session.**
- 4:20 **The Use of Small-angle Scattering to Determine Surfactant Micelle Structure.** B.P. Grady, University of Oklahoma, USA.
- 5:00 **Characterization of Sodium Lauryl Sulfate Foams.** R. Sanedrin, KRUS, USA.

S&D 3.1: Additives for High Efficacy

Chairs: A.C. Lee, Novozymes North America Inc., USA; and S. Raders, Church & Dwight Co., Inc., USA

Gatlin E-5

- 2:15 **Introduction.**
- 2:20 **Analysis of Structural Viscosity of Fabric Softeners Imparted by Polymers.** D. Sasaki, R. Hashimoto, Y. Kohno, E. Ogura, T. Miyahara, and T. Okamoto, Lion Corp., Japan.
- 2:40 **Narrow Range Ethoxylates versus Standard Alcohol Ethoxylates in the I&I Industry.** H. Byrne, G.A. Smith, and P. Weaver, Huntsman Performance Products, USA.

- 3:00 **Ester Quats for Low Active, High Viscosity Dispersions.** D. Murphy, C. Garipey, C. Matache, D. Dardugno, and L. Zaporowski, Stepan Co., USA.
- 3:20 **Bio-based Polyamide Gellants for Novel Product Forms and Functionality.** B.S. Jaynes, Croda, Inc., USA.
- 3:40 **Networking Break and Poster Author Session.**
- 4:20 **Formulations and Guidelines Using Lactic Acid as Biocidal Active for Detergent Applications.** P. Stuu¹, E. Lansdaal^{*1}, and R. Wietting², ¹Corbion, The Netherlands, ²Corbion, USA.
- 4:40 **Hydrophilic Encapsulation of Multi-walled Carbon Nanotubes.** S. Hanumansetty, E. O'Rear, and D. Resasco, University of Oklahoma, USA.
- 5:00 **A New Protease Inhibitor Alternative to Stabilize Protease in Liquid Detergents.** V.M. Casella, Novozymes North America, Inc., USA.
- 5:20 **Tailoring Wet Wipe Cleaning Solutions for Consumer Applications—A Systematic Approach.** B. Parrish and B. Hill, The Clorox Company, USA.
- 5:40 **The Stabilization of Reactive Benefit Agents in Liquid and Solid Consumer Cleaning Product Formulations.** R. Hay and D. Pears, Revolymer (UK) Ltd., UK.

Wednesday Morning

AM 2/EAT 4.1: Imaging Fat Crystal Networks at Different Length Scales

Chairs: K. Koch, North Dakota State University, USA; and G. Sekosan, Bunge North America, Inc., USA

Gatlin E-1

- 7:55 **Introduction.**
- 8:00 **Crystallization Behavior of Molecular Compound in the Binary System of 1,3-dioleoyl-2-palmitoyl-*sn*-glycerol and 1,3-dipalmitoyl-2-oleoyl-*sn*-glycerol.** K. Nakanishi¹, Y. Mikiya¹, T. Ishiguro¹, M. Sato², and S. Ueno³, ¹Miyoshi Oil & Fat Co., Ltd., Japan, ²Japan Synchrotron Radiation Research Institute, Japan, ³Hiroshima University, Japan.
- 8:20 **Unpredictable Binary Systems of Triacylglycerols.** P.K. Batchu^{1,2}, P.D. Wentzell¹, and G. Mazzanti^{*1,2}, ¹Dalhousie University, Canada, ²Institute for Research in Materials, Canada.
- 8:40 **The Effects of Emulsifiers on the Formation and Morphology of Crystal Spheroids.** T. Tran, A. Lim, and D. Rousseau, Ryerson University, Canada.
- 9:00 **Semi-empirical Treatment of Anomalous Moisture Transport into Sheared Lipids Using Magnetic Resonance Imaging.** S. Paluri, M. Shavezpur, A. Abduljalil, D. Heldman, and F. Maleky, Ohio State University, USA.
- 9:20 **Modelling the Effects of Shear on Solid Fats Aggregation in Edible Oils.** B. Townsend¹, B. Quinn², A. MacDonald³, T. Gordon⁴, C. Hanna⁴, A.G. Marangoni¹, and D.A. Pink^{2,1}, ¹University of Guelph, Canada, ²St. Francis Xavier University, Canada, ³OneZero Software, Canada, ⁴Boise State University, USA.
- 9:40 **Networking Break and Poster Author Session.**
- 10:20 **Self-organizing Aggregation in Complex Edible Oils.** D.A. Pink^{1,2}, B. Quinn¹, F. Peyronel², and A.G. Marangoni², ¹St. Francis Xavier University, Canada, ²University of Guelph, Canada.
- 10:40 **Effect of High Intensity Ultrasound on the Crystallization Behavior of Palm Oil in a Flow Cell.** Y. Ye and S. Martini*, Utah State University, USA.
- 11:00 **Colloidal Inorganic Particle-based Edible Oleogels and Bigels.** A. Patel, B. Mankoc, and K. Dewettinck, Ghent University, Belgium.
- 11:20 **Thermodynamic Estimates of Solid Fat Content.** L. Rong^{1,3}, A.G. Marangoni², and G. Mazzanti^{*1,3}, ¹Dalhousie University, Canada, ²University of Guelph, Canada, ³Institute for Research in Materials, Canada.

- 11:40 **Refined Concepts on the Structures of Liquid Triacylglycerols.** G. Mazzanti^{1,2}, L. Lin¹, R. Sanderson^{1,2}, O. Qatami^{1,2}, and D.A. Pink³, ¹Dalhousie University, Canada, ²Institute for Research in Materials, Canada, ³St. Francis Xavier University, Canada.

S&D 4/BIO 4: Biobased Surfactants/Detergents

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

Gatlin A-1

Joint session: For details, see BIO 4/S&D 4 on page 60.

S&D 4.1: General Surfactants and Detergents

Chairs: G. Dado, Stepan Co., USA; and R. Zehr, Church & Dwight Co., Inc., USA

Gatlin E-4

- 7:55 **Introduction.**
- 8:00 **Reference Framework to Measure the Characteristic Curvature (Cc) of Alkyl Ethoxylate Nonionic Surfactants.** S. Zarate Muñoz (*Surfactants and Detergents Division Student Award Winner*), F. Texeira, K. Myint, J. Minchom, and E.J. Acosta, University of Toronto, Canada.
- 8:20 **Are Bicontinuous Microemulsions Uniform in Their Structure and Composition?** D.G. Hayes¹, R. Ye¹, S.V. Pingali², and V. Urban², ¹University of Tennessee, USA, ²Oak Ridge National Lab., USA.
- 8:40 **Alkyl Propoxylate Ethoxylate Sulfate Extended Surfactants: The Effect of Functional Groups on Characteristic Curvature.** T. Nguyen and G. Trahan, Sasol Performance Chemicals, USA.
- 9:00 **Properties and Applications of High Mole Ethoxylates.** T. Weemes, Sasol Performance Chemicals, USA.
- 9:20 **The Hydrophilic Lipophilic Difference (HLD) and the Cloud Point Phenomena.** S. Zarate Muñoz and E.J. Acosta, University of Toronto, Canada.
- 9:40 **Networking Break and Poster Author Session.**
- 10:20 **Amic Acids as Leave-behind Surface Treatments: Substantive Materials Compatible with a Wide Range of Formulations Enhance Soil Release.** A. Hudson, J. Glover*, R. Klare, and J. Steffens, Surface Chemists of Florida, Inc., USA.
- 10:40 **Synthesis of Sugar-fatty Acid Ester Surfactants and Their Emulsion Properties.** K. Ren and B.P. Lamsal, Iowa State University, USA.

- 11:00 **Properties and Applications of Low Molecular Weight Ethoxylates.** T. Weemes, Sasol Performance Chemicals, USA.
- 11:20 **Properties of Novel Bio-inspired Glycolipid Surfactants: Tailoring Function by Disaccharide Headgroup and Alkyl Tail Length.** L.L. Kegel, L. Szabo, R. Polt, and J.E. Pemberton, University of Arizona, USA.
- 11:40 **Physico-chemical Understanding of the Synthesis of Partial Glycerol and Diglycerol Esters of Undecylenic Acid.** R. Valentin, G. Nyame Mendendy Boussambe, and Z. Mouloungui, Université de Toulouse, France.

Wednesday Afternoon

S&D 5: Surfactant Manufacturing, Processing, and Sustainability

Chairs: M.J. Williams, Air Products & Chemicals Inc., USA; and J.E. Pemberton, University of Arizona, USA

Gatlin E-4

- 1:55 **Introduction.**
- 2:00 **“Wash and Go” Approach: Chemical Modification of Biopolymers for Green Surfactants.** C. Stevens, E. Delbeke, S. Mincke, and K. Van Geem, Ghent University, Belgium.
- 2:40 **Phase Behavior Study of Sugar-based Surfactants α -Glucoside, β -glucoside, α -maltoside and β -maltoside, and Their Applications in Enhanced Oil Recovery (EOR).** Y. Wu and F. Fournier, Kemira, USA.
- 3:20 **Networking Break.**
- 3:40 **Renewable Chemicals on the Horizon for Surfactant and Personal Care Applications.** P. Foley, P2 Science, Inc., USA.
- 4:20 **Choline-based Surfactants.** W. Kunz, University of Regensburg, Germany.

S&D 5.1/EAT 5.1: Emulsions and Foams

Chairs: E.J. Acosta, University of Toronto, Canada; and T. Tokle, Kalsec, USA

Gatlin E-5

Joint session: For details, see EAT 5.1/S&D 5.1 on page 34.

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- The presenter is the first author or otherwise indicated with an asterisk (*).
- Access and print abstracts at the computer stations located in Gatlin B, D, & Panzacola.
- Abstracts also available on *The App* or online at: AnnualMeeting.aocs.org/AM15Resources

PHO-P: Phospholipid Poster Session

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

1. **Synthesis and Characterization of New Carbohydrate-lipid Conjugates for Drug Targeting.** M.U. Ahmad¹, S.M. Ali¹, A. Ahmad¹, S. Sheikh¹, P. Chen², and I. Ahmad¹, ¹Jina Pharmaceuticals, Inc., USA, ²Nia Life Sciences, USA.
2. **Individual Phosphatidylcholine Species Analysis by RP-HPLC-ELSD for Determination of Polyenyolphosphatidylcholine in Lecithins.** W.J. Lee and N.W. Su, National Taiwan University, Taiwan.
3. **LC-MS/MS Analysis of Choline/Ethanolamine Plasmalogens via Promotion of Alkali Metal Adduct Formation.** Y. Otoki, K. Nakagawa, S. Kato, and T. Miyazawa, Tohoku University, Japan.

S&D-P: Surfactants and Detergents Poster Session

Chair: M. Wint, Amway Corp., USA

1. **Cleaning Methods for Enhance the Removal of Starchy Soils in the Food Industry.** E. Jurado-Alameda, J.M. Vicaria, O. Herrera-Márquez, and A. Del Valle Chacón, University of Granada, Spain.
2. **Biodegradation and Toxicity of Synthetic and Natural Monorhamnolipids.** F. Tian, D.E. Hogan, J.E. Pemberton, and R.M. Maier, University of Arizona, USA.
3. **Enhancement of Heavy Oil Biodegradation by Double-chain**

Cleavable Surfactants Bearing Sucrose. D. Ono¹, Y. Nishida², T. Numata², M. Minamitani², S. Kawano¹, H. Sato¹, M. Shizuma¹, and A. Masuyama², ¹Osaka Municipal Technical Research Institute, Japan, ²Osaka Institute of Technology, Japan.

4. **SEM Survey on the Effects of Some Nonionic Surfactants on Epicuticular Structure of *Lemna minor* L.** G. Yilmaz and H. Akbas, Trakya University, Turkey.
5. **Fluorescent Whitening Agents in Laundry.** K. Gutowski and A. Taneja*, BASF Corp., USA.
6. **Novel Color Washfastness—Polyacrylamidopropyl Trimonium Chloride Polymers for Color in Care Laundry Detergents.** T. Crutcher, R. Rigoletto, and P. Shah, Ashland Specialty Ingredients, Inc., USA.
7. **Activity of Mannanase Detergent Enzyme in Relation to Mixed Micelle Formation of Linear Alkyl Benzene Sulfonate with Linear Ethoxylated Alcohol.** J.D. Seyfert^{1,2}, F. Pala¹, and J. Evans², ¹Battelle, USA, ²University of Massachusetts, USA.
8. **The Evolution of Builder and Polymer Systems in Dishwashing Detergents Commercialized in North America and Europe.** F. Pala, J.D. Seyfert, and C. Usher, Battelle, USA.
9. **Synergistic Effects of Precipitated Silicon Dioxide and Zeolite 4A, for Increased Surfactant Loading.** S. Mohammed, S. Rao, and A. Nagy*, Evonik Corp., USA.

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www.asaga.org.ar

ASAGA, the Argentine Fats and Oils Association, brings together experts, professionals, specialists, researchers, institutions, and companies from Argentina with an interest in the science and technology of edible fats, oils, and byproducts.

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www.eurofedlipid.org

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www.grosper.net

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www.italmatch.it

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LEEM Filtration

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www.midi-inc.com

Representatives from this company will be available at the Smalley Campus. See page 42 for company description.

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David Wesson Campus

Gatlin B

Named after David Wesson, AOCS co-founder and the Society's president in 1911, this campus houses the technical sessions, poster presentations, and Industry Showcase Partners pertaining to these interest areas:

- Biotechnology Division
- Industrial Oil Products Division
- Processing Division
- Protein and Co-Products Division

Division events for the interest areas of this campus may be found on page 12.



Poster Author Sessions

- Even-numbered posters have authors present during the Monday mid-morning and Tuesday afternoon breaks.
- Odd-numbered posters have authors present during the Monday afternoon and Tuesday mid-morning breaks.
- All authors are also encouraged to be present during the Wednesday mid-morning break.

A complete list of poster presentations for this campus is available on **The App**, or beginning on page 64.

Industry Showcase Partners


(As of March 15, 2015)

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GEA Process Engineering Inc.	Solutions 4 Manufacturing

Campus Schedule

Monday, May 4

7:00 am–6:00 pm	Industry Showcase and Poster Viewing
7:20–8:20 am	Early Risers Coffee
8:10–11:20 am	Hot Topics Symposia and Special Sessions
9:40–10:20 am	Networking Break and Poster Author Session
11:45 am–1:00 pm	Protein and Co-Products Division Roundtable
1:15–5:00 pm	Technical Sessions
2:40–3:20 pm	Networking Break and Poster Author Session
5:00–6:00 pm	Biotechnology Division Poster Oral Presentations
5:00–6:00 pm	Industrial Oil Products Division Roundtable

Monday breaks are sponsored by  **oil:dri**
fluids purification

Tuesday, May 5

7:00–8:00 am	Early Risers Coffee
7:00 am–6:00 pm	Industry Showcase and Poster Viewing
7:55–11:00 am	Technical Sessions
9:20–10:00 am	Networking Break and Poster Author Session
12:45–1:45 pm	Biotechnology Division Roundtable
2:15–6:00 pm	Technical Sessions
3:40–4:20 pm	Networking Break and Poster Author Session

Tuesday morning break is sponsored by  **SOLEX**
THERMAL SCIENCE

Wednesday, May 6

7:00–8:00 am	Early Risers Coffee
7:00 am–5:00 pm	Industry Showcase
7:00 am–3:40 pm	Poster Viewing
7:00–7:55 am	Processing Division Roundtable
7:55 am–12:00 pm	Technical Sessions
9:40–10:20 am	Networking Break and Poster Author Session
1:55–5:00 pm	Technical Sessions
3:20–3:40 pm	Networking Break

See Program-at-a-Glance brochure or **The App** for complete meeting schedule.

At the 1921 AOCS Annual Meeting, a new logo featuring two crossed Kjeldahl flasks below a small Soxhlet flask was debuted as the Society's official logo. This logo design, created by David Wesson, is still used today.



PCP 1: Analysis and Characterization of Protein and Protein Hydrolysates for Utilization: Relevance and Caveats of the Methods

This session is sponsored in part by DuPont Nutrition & Health

Chairs: P. Kerr, Solae LLC, USA; C.C. Udenigwe, Dalhousie University, Canada; and E. Krul, Solae LLC, USA

Gatlin A-4

- 1:15 **Introduction.**
- 1:20 **Mass Spectrometry of Proteome and Biomarkers for Food and Agricultural Applications.** S. Chen¹, J. Parker¹, K. Balmant¹, M. Zhu¹, T. Zhang¹, T. Ma¹, M.J. Yoo¹, J. Sheffield², and N. Taylor², ¹University of Florida, USA, ²Danforth Center, USA.
- 2:00 **Using Synchrotron-based Infrared Microspectroscopy for Plant-based Feed and Food Protein and Nutrition Study.** P. Yu, University of Saskatchewan, Canada.
- 2:40 **Networking Break and Poster Author Session.**
- 3:20 **Transport of Food Derived Peptides Important in Heart and Mental Health Across the Blood Brain Barrier: A New Model.** M. Hayes¹ and T.E. Lea², ¹Teagasc Food Research Centre, Ireland, ²University of Life Sciences NMBU, Norway.
- 3:40 **Digestibility and Allergenicity of Processed Legume Proteins by a Dynamic *in vitro* Digestion System.** L. L'Hocine, M. Pitre, Y. Arcand, I. Mainville, and A. Achouri, Agriculture and Agri-Food Canada, Canada.
- 4:00 **Storage Stability of Food Protein Hydrolysates.** Q. Rao¹, T.P. Labuza², and J. Zhao¹, ¹Florida State University, USA, ²University of Minnesota, USA.

.....
Protein and Co-Products (PCP) Annual Meeting Program
Roundtable will begin at 11:45 am in Gatlin A-4. Planning for
2016 programs; everyone is welcome to attend.
.....

Tuesday Morning

BIO 2: Biocatalysis II

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

Chairs: C.T. Hou, USDA, ARS, NCAUR, USA; and L.K. Ju, University of Akron, USA

Gatlin A-1

- 7:55 **Introduction.**
- 8:00 **Reforming of Sucrose Fatty Acid Esters by Lipase Reactions.** Y. Nishiyama, T. Aibara, H. Uehara, and Y. Ueda, Nisshin Oillio Group, Ltd., Japan.
- 8:20 **Effects of Particle Size of Sucrose Suspensions and Pre-incubation of Enzymes on Lipase-catalyzed Synthesis of Sucrose Oleic Acid Esters.** R. Ye¹, D.G. Hayes*¹, and R.M. Burton², ¹University of Tennessee, USA, ²MARC-IV Consulting, Inc., USA.
- 8:40 **Economic Model for the Glucose/Oleic Acid-based Synthesis of Sophorolipids and Some Potential New Applications for These Glycolipid Surfactants.** R.D. Ashby, D.K.Y. Solaiman, and L.S. Liu, USDA, ARS, ERRC, USA.
- 9:00 **Genetically Engineered Rhamnolipid-producing Organism for Glycerol Utilization.** D.K.Y. Solaiman and R.D. Ashby, USDA, ARS, ERRC, USA.
- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **Waste Oil/Grease Conversion and Biodiesel Feedstock Production by Phagotrophic Algae.** C. Li, J. Kohl, S. Xiao, M. Hosseini, Z. Lin, N. Vongpanish, and L.K. Ju*, University of Akron, USA.
- 10:20 **An Innovative Technology for Synthesis of Biodiesel Using Defatted Rice Bran as a Biocatalyst.** I.H. Kim and N. Choi, Korea University, Republic of Korea.
- 10:40 **Applicability of a Novel Enzymatic Method to the Analysis of Positional FA Distribution in Milk Fat.** Y. Watanabe¹, R. Hori², Y.

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.....
Biotechnology (BIO) Annual Meeting Program Roundtable
will begin at 12:45 pm in Gatlin A-1. Planning for 2016
programs; everyone is welcome to attend.
.....

BIO 2.1/IOP 2/PRO 2: Alternative Fuels and Enzymatic Biodiesel

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

Gatlin A-2

- 7:55 **Introduction.**
- 8:00 **Development of Enzymatic Catalyzed Fat-splitting Processes.** A. Rancke-Madsen, P.M. Nielsen, and H.C. Holm, Novozymes A/S, Denmark.
- 8:20 **Evaluation of Glycerol Carbonate Production and Its Cosynthesis in Enzymatic Biodiesel Production.** R.M. Burton¹ and J. Greenstein², ¹MARC-IV Consulting, Inc., USA, ²North Carolina State University, USA.
- 8:40 **New Developments in Enzymatic Catalyzed Biodiesel Improve the Process Significantly.** P.M. Nielsen, A. Rancke-Madsen, T. Balle, B. Knuthsen, and H.C. Holm, Novozymes A/S, Denmark.
- 9:00 **Continuous Enzymatic Biodiesel Processing.** B. Chrabas, Viesel Fuel, LLC, USA.
- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **Cold Flow Properties of Fatty Acid Methyl Esters: Additives versus Diluents.** R.O. Dunn, USDA, ARS, NCAUR, USA.
- 10:20 **Fuel Quality Sensors for Characterization of Biofuels and Determination of Their Aging Degree.** J. Krahl, M. Eskiner, and Z. Fan, Coburg University of Applied Sciences and Arts, Germany.
- 10:40 **Three Approaches to Fuels from Fatty Compounds.** G. Knothe, K.M. Doll, B.R. Moser, and R.E. Murray, USDA, ARS, NCAUR, USA.

PCP 2: Biocatalysts in Processing of Proteins and Co-Products

This session is sponsored in part by DuPont Nutrition & Health

Chairs: B.P. Lamsal, Iowa State University, USA; N. Shah, DuPont Health & Nutrition, USA; and R. Green, POS BioSciences, Canada

Gatlin A-4

- 7:55 **Introduction.**
- 8:00 **Enzymatic Protein Hydrolysates: From Improved Food Protein Functionality to Bioactive Peptides.** R.E. Aluko, University of Manitoba, Canada.
- 8:20 **Fractionation of Rapeseed from Oil Extraction to Minor Products.** S. Hruschka, GEA Westfalia Separator Group GmbH, Germany.
- 8:40 **Proteins and Bioactive Peptides Produced from Hard to Cook Common Bean Improved Markers Related to Diabetes.** E. De Mejia¹, M. Oseguera^{1,2}, and S. Amaya², ¹University of Illinois, USA, ²University of Queretaro, Mexico.
- 9:00 **Effects of Co-Products of Enzyme-assisted Aqueous Extraction of Soybeans on Ethanol Production in Corn Fermentation.** J.K. Sekhon¹, K. Rosentrater¹, T. Wang¹, L. Johnson¹, and S. Jung^{1,2}, ¹Iowa State University, USA, ²California Polytechnic State University, USA.

9:20 **Networking Break and Poster Author Session.**

- 10:00 **Technoeconomic Analysis of Bioethanol and Co-Product Production from Triticale Feedstocks in Western Canada.** E.K. Mupondwa¹, X. Li¹, J.P.D. Wanasundara¹, and L. Tabil², ¹Agriculture and Agri-Food Canada, Canada, ²University of Saskatchewan, Canada.
- 10:20 **A New Enzyme Cocktail for Degradation of Dietary Fibers in Palm Kernel Cake.** T.T. Hansen, D. Pettersson, M. Plambech-Nielsen, and U. Madsen, Novozymes, Denmark.

TECH 1: Technology Showcase

Chair: A. Subieta, Desmet Ballestra North American, Inc., USA

Featuring presentations by Industry Showcase Partners

Gatlin A-3

- 7:55 **Introduction.**
- 8:00 **Critical Design Steps for Upgrading or Expanding Oilseeds Facilities.** M.T. Williamson, ADF Engineering, Inc., USA.
- 8:20 **Selecting Surfactants for Emulsions, by Combining HLD-NAC Theory, its Modelling Software and High Throughput Screening.** B. Pritchard, Chemspeed Technologies, USA.
- 8:40 **Improving Mass Transfer and Product Quality in Oleochemical Production Using Buss Loop® Reactor Technologies.** Z. Opre, G. Kettenbach, and T. Blocher*, Buss ChemTech AG, Switzerland.
- 9:00 **Soy and Other Protein Concentrates.** R.W. Ozer, Crown Iron Works Co., USA.
- 9:20 **Networking Break and Poster Author Session.**
- 10:00 **High Oleic Soybean Oil: A Great Choice for the Food Industry.** F. Flider, QUALISOY, USA.
- 10:20 **Plate Heat Exchangers in Oilseeds Preparation Plants- Features and Benefits.** E. Svenson, Solex Thermal Science, Canada.
- 10:40 **Using Enzymes to Improve Your Feedstock Flexibility in Production of Biodiesel.** T. Balle, Novozymes North America, Inc., USA.

Tuesday Afternoon

BIO 3/H&N 3.1: Biomodifications, Biomechanisms, and Biosafety

This session is sponsored in part by DuPont Nutrition & Health, Johnson & Johnson, and Oilseeds & Bioscience Consulting

Chairs: R.F. Wilson, Oilseeds & Bioscience Consulting, USA; and M. Picklo, USDA, ARS, USA

Gatlin A-1

- 2:15 **Introduction.**
- 2:20 **Dietary Seed Oil Effects on Kidney Oxylipins Reveal Surprising Effects of Fatty Acids.** H. Aukema^{1,2}, ¹University of Manitoba, Canada, ²Canadian Centre for Agri-Food Research in Health and Medicine, Canada.
- 2:40 **Characterization of *Brassica napus* Type-1 Diacylglycerol Acyltransferase Variants Produced Through Directed Evolution.** Y. Xu, G. Chen, and R.J. Weselake, University of Alberta, Canada.
- 3:00 ***In vivo* and *in vitro* Evidence for Biochemical Coupling of Reactions Catalyzed by Lysophosphatidylcholine Acyltransferase and Diacylglycerol Acyltransferase.** X. Pan¹, S. Stymme², J. Zou³, X. Qiu⁴, G. Chen¹, M. Kazachkov³, I. Lager², M.S. Greer¹, and R.J. Weselake¹, ¹University of Alberta, Canada, ²Swedish University of Agricultural Sciences, Sweden, ³National Research Council Canada, Canada, ⁴University of Saskatchewan, Canada.
- 3:20 **Preparation of High-purity DHA from Microalgae Oil in a Packed Bed Reactor via Two Step Lipase-catalyzed Esterification.** E.J. Lee¹, D.S. No¹, M.W. Lee^{1,2}, and I.H. Kim¹, ¹Korea University, Republic of Korea, ²Ilshinwells, Republic of Korea.
- 3:40 **Networking Break and Poster Author Session.**

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- 4:20 **Solvent-induced 7R-Dioxygenase Activity of Soybean 15-lipoxygenase-1 in the Formation of Omega-3 DPA-derived Resolvin Analogs.** E.P. Dobson, C.J. Barrow, and J.L. Adcock, Deakin University, Australia.
- 4:40 **Effect of Dietary Lysophospholipids Containing n-3PUFAs on Serum and Liver Lipids Contents in Rats.** R. Hosomi¹, K. Miyauchi¹, K. Fukunaga¹, Y. Inoue², T. Nagao³, M. Yoshida¹, and K. Takahashi⁴, ¹Kansai University, Japan, ²Lipid Lab., Japan, ³Osaka Municipal Technical Research Institute, Japan, ⁴Hokkaido University, Japan.
- 5:00 **Effect of Feeding DHA as Phospholipid, Triacylglycerol, or Both on DHA Concentration of Brain Regions, Liver, and Serum Lipids.** A.P. Kitson¹, A. Berger², and R.P. Bazinet¹, ¹University of Toronto, Canada, ²Arctic Nutrition, Norway.
- 5:20 **An Efficient Gene Targeting and Molecular Breeding in Oil-producing Fungus *Mortierella alpina* with Deletion of *lig4* Gene for Non-homologous End Joining.** H. Kikukawa¹, E. Sakuradani^{1,2}, A. Ando¹, S. Shimizu¹, and J. Ogawa¹, ¹Kyoto University, Japan, ²University of Tokushima, Japan.

IOP 3/ANA 3.1: Algal and Other Non-traditional Oils Characterization

Chairs: L.M.L. Laurens, National Renewable Energy Laboratory, USA; and B.W.K. Diehl, Spectral Service AG, Germany

Gatlin A-2

Joint session: For details, see ANA 3.1/IOP 3 on page 31.

PRO 3: New Technology

Chairs: S. Gregory, DSM Food Specialties, USA; and W. Younggreen, Alfa Laval, Inc., USA

Gatlin A-3

- 2:15 **Introduction.**
- 2:20 **Technology in Development—Continuous Yield Improvements.** E. Ventrici, Molinos Río de La Plata S.A., Argentina.
- 2:40 **Latest Developments in Physical Refining of Seed Oils.** W. Younggreen, Alfa Laval Inc., USA.
- 3:00 **Solutions for Handling Enzymatic Degumming By-products.** M. Shindelar, M. Dasari, and A. Mafhuz, Feed Energy Co., USA.
- 3:20 **A Field Perspective on Best Practices for Enzymatic Degumming.** S. Gregory, DSM Food Specialties, USA.
- 3:40 **Networking Break and Poster Author Session.**
- 4:20 **Enzymes Bring Innovation to Oils and Fats Processing: Past, Present, Future.** H.C. Holm, Novozymes A/S, Denmark.
- 4:40 **Oil Yield Calculation from Enzymatic Degumming Process.** D. Walsh, DSM Food Specialties, USA.
- 5:00 **Enzymatic Gums Deoiling: A Flexible Process for Increasing Oil Yield.** W. De Greyt, Desmet Ballestra Group SA, Belgium.
- 5:20 **Advanced Process Simulation Applied to Deodorization and Physical Refining Processes.** M.C. Usseglio^{1,2}, ¹National University of La Plata, Argentina, ²ProSimTechs LLC, USA.

.....
 Processing (PRO) Annual Meeting Program Roundtable will be held Wednesday at 7:00 am in Gatlin A-3. Planning for 2016 programs; everyone is welcome to attend.

PCP 3/SCC: Strategies in Advanced Utilization of Proteins and Peptides

This session is sponsored in part by DuPont Nutrition & Health

Chairs: H.R. Ibrahim, Kagoshima University, Japan; H. Kumagai, Nihon University, Japan; Z. He, USDA, ARS, SRRC, USA; and P. Romanowski, Society of Cosmetic Chemists/Element 44 Inc., USA

Gatlin A-4

- 2:15 **Introduction.**
- 2:20 **Development of a Protein-rich, Novel Fermented Milk/Cereal Product as a Delivery Vehicle for Micronutrients and Bioactive Compounds.** N.M. O'Brien and T.P. O'Connor, University College Cork, Ireland.
- 2:40 **Proteomic Analysis of Eggshell Membranes.** M.T. Hincke and T. Ahmed, University of Ottawa, Canada.
- 3:00 **Impact of Dietary β -conglycinin on Adiposity and Insulin Sensitivity in Obese and Type 2 Diabetic Rodents.** K. Koba¹, K. Kawabeta¹, T. Noda¹, N. Tateiwa¹, S. Tamaru¹, and M. Sugano², ¹University of Nagasaki, Japan, ²Kyushu University, Japan.
- 3:20 **Occurrences of Food-derived and Endogenous Pro-hyp in Blood and Tissue and Their Function to Fibroblast.** K. Sato, Kyoto University, Japan.
- 3:40 **Networking Break and Poster Author Session.**
- 4:20 **Intestinal Absorption of Bioactive Peptides: Detection and Visualization.** T. Matsui, Kyushu University, Japan.
- 4:40 **Appetite Suppressive Peptides Derived from Soybean Involvement of Enteroendocrine System.** H. Hara, S. Nakajima, and T. Hira, Hokkaido University, Japan.
- 5:00 **Bioactive Peptides from Goat Milk with New Promises for Skin Health.** H.R. Ibrahim, Kagoshima University, Japan.
- 5:20 **Protein and Peptide Use and Effectiveness in Topical Cosmetic Applications.** P. Romanowski, Element 44 Inc., USA.

Wednesday Morning

BIO 4/S&D 4: Biobased Surfactants/Detergents

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

Gatlin A-1

- 7:55 **Introduction.**
- 8:00 **Surfactants Based on Algae Oil.** G.A. Smith and H. Byrne, Huntsman Performance Products, USA.
- 8:20 **Comparison of Performance for Sugar Esters Prepared by a Green Enzymatic Process and a Commercially Available Product.** R. Ye¹, D.G. Hayes^{*1}, R.M. Burton², A. Liu³, and Y. Wang³, ¹University of Tennessee, USA, ²MARC-IV Consulting, Inc., USA, ³Tianjin University of Science and Technology, China.
- 8:40 **A New and Cost-effective Biosynthetic Process for Hydroxylated PUFA's by the Yeast *Starmerella bombicola*: Opportunities for Bio-medical Research.** I.N.A. Van Bogaert¹, G. Zhang², B. Hammock², and W. Soetaert¹, ¹Ghent University, Belgium, ²Bruce Hammock Lab, USA.
- 9:00 **Production of Biosurfactants Using *Bacillus subtilis* on Pretreated Biomass Hydrolysates in 5-L Bioreactor.** R. Sharma, W.J. Colonna, and B.P. Lamsal, Iowa State University, USA.
- 9:20 **Challenges to Realizing the Commercial Potential for Biosurfactants.** R.M. Maier, University of Arizona, USA.
- 9:40 **Networking Break and Poster Author Session.**
- 10:20 **Tailoring Rhamnolipid Biosurfactant Properties Through Production by Chemical Synthesis.** J.E. Pemberton, R. Palos-Pacheco, C.S. Coss, and R. Polt, University of Arizona, USA.
- 10:40 **Scaling Up Rhamnolipid Production: Comparison of Flask,**

- Bench, Pilot, and Demo Scale Fermentations.** D. Derr, N. Lohitharn, R. Mirani, and P. Tedrick, Logos Technologies, USA.
- 11:00 **Use of Bioenhancers to Improve Growth and Product Quality of Biosurfactants.** R. Sharma and B.P. Lamsal, Iowa State University, USA.
- 11:20 **Sophorolipids—The Next Leading Class of Surfactants.** D. Kuppert¹, A. Nagy², and G. Tian^{*2}, ¹Evonik Industries AG, Germany, ²Evonik Corp., USA.
- 11:40 **Biosurfactants as a Tool for Metal Removal from Waste Effluents.** D.E. Hogan, J.E. Pemberton, and R.M. Maier, University of Arizona, USA.

IOP 4: Catalysis

Chairs: A. Zwijnenburg, Johnson Matthey, Germany; and T.J. Benson, Lamar University, USA

Gatlin A-2

- 7:55 **Introduction.**
- 8:00 **Sustainable Diesters from Methyl 10-Undecenoate—Hydroesterification Catalyst Recycling in Thermomorphic Solvent Systems (TMS).** T. Gaide, A. Behr, and A.J. Vorholt, Technische Universität Dortmund, Germany.
- 8:20 **Combination of Homo- and Heterogeneous Catalysis in Miniplant Scale: New Process for Synthesis of Saturated Branched Oleo Derivatives.** J. Haßelberg (*Industrial Oil Products Division Student Award Winner*), A. Behr, C. Weiser, and J.B. Bially, Technische Universität Dortmund, Germany.
- 8:40 **Formation of Furan Fatty Alkyl Esters from Their Bis-epoxide Fatty Esters.** G.B. Bantchev, K. Doll, G. Biresaw, and K. Vermillion, USDA, ARS, NCAUR, USA.
- 9:00 **Kinetic Modeling of Single-cell Oil Production Using Pulp and Paper Wastewater Under Substrate Inhibition Condition for**

- Biodiesel Production.** M. AmirSadeghi¹, S. Shields-Menard¹, T. French¹, R. Hernandez², M. Green¹, and B. Sukhbaatar¹, ¹Mississippi State University, USA, ²University of Louisiana at Lafayette, USA.
- 9:20 **Influence of Thermal and Enzymatic Treatments of Rapeseed Meal on Canolol Production and Its Conversion into Potential Polymer Precursors.** E.C. Zago¹, C. Aouf², F. Fine³, P. Carré³, J. Lecomte¹, and P. Villeneuve¹, ¹CIRAD, UMR IATE, France, ²INRA, UMR SPO, France, ³CETIOM, France.
- 9:40 **Networking Break and Poster Author Session.**
- 10:20 **Next Generation Vegetable Oil Structuring Agents: A Nanotechnology Approach in Food Materials/Processing.** G. John and J. Silverman, City College of New York, USA.
- 10:40 **Modified Natural Oils with New Fatty Acid Traits for Industrial Lubricant Applications.** J. Cafmeyer and D. Garbark, Battelle Memorial Institute, USA.
- 11:00 **Conversion of Acid Oils to Biodiesel Using Immobilized Lipases.** S. Basheer and U. Mohsen, TransBiodiesel Ltd., Israel.
- 11:20 **The Enzymatic Synthesis of Water-soluble Esters Made from Analogues of Iminodiacetic Acid and Solketal.** V.T. Wyatt and K. Jones, USDA, USA.
- 11:40 **Synthesis of Novel Bicyclic Ethers from Castor Oil Catalysed by Lewis Acids.** P.V. Korlipara, N. Narra, and P. Rachapudi, Indian Institute of Chemical Technology, India.

PRO 4a: Innovative Solutions

Chairs: A. Subieta, Desmet Ballestra North American, Inc., USA; and J. Willits, Desmet Ballestra North American, Inc., USA

Gatlin A-3

- 7:55 **Introduction.**
- 8:00 **A Safe, Profitable, and Sustainable Method for Disposal of Spent Bleaching Earth.** N.J. Smallwood, The Core Team, USA.



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- 8:20 **Novel Methods to Improve Oil Recoveries from Canola and Sunflower.** P. Adu-Peasah, S. Wensing, M. Robinson, P. Nelson, and T. Patterson, Dow AgroSciences, USA.
- 8:40 **How to Reduce 10% on the Steam Consumption in Oil Seed Crushing Plants.** A. Demarco, Desmet Ballestra, Argentina.
- 9:20 **Evaluating Vacuum Systems for Planned Upgrades in New Plant.** C. Braungart, Graham Manufacturing, USA.

PRO 4b: Industry Update

Chairs: A. Subieta, Desmet Ballestra North American, Inc., USA; and J. Willits, Desmet Ballestra North American, Inc., USA

Gatlin A-3

- 10:15 **Introduction.**
- 10:20 **FDA FSMA Preventive Controls for Animal Food—Understanding What Processors Need to Do.** D. Smith, Projects Inc., USA.
- 10:40 **Transforming the Soy Value Chain: How Soybean Composition, Varieties, Processing Techniques, and Profit Margins Will Cause Change.** G.B. Denny, Gordon Denny, LLC, USA.
- 11:20 **Heat Transfer—Fundamentals for Energy Recovery Optimization in Preparation.** F. Skold, Sollex Thermal Science Inc., Canada.
- 11:40 **New Trends in Alkaline Refining to Produce High Quality Edible Oil.** S. Hruschka, GEA Westfalia Separator Group GmbH, Germany.

PCP 4: New Processes, Emerging Sources, Alternative Proteins

This session is sponsored in part by DuPont Nutrition & Health

Chairs: K. Liu, USDA, ARS, USA; H. Wang, Iowa State University, USA; and L. Jiang, Northeast Agricultural University, China

Gatlin A-4

- 7:55 **Introduction.**
- 8:00 **Canola Protein Nanoparticles: Preparation by Cold Gelation and Application in Delivery of Bioactive Compounds.** J. Wu and A. Akbari, University of Alberta, Canada.
- 8:20 **Recovering Canola Protein and Other Products.** J.P.D. Wanasundara, T. McIntosh, and E.K. Mupondwa, Agriculture and Agri-Food Canada, Canada.
- 8:40 **Rice Protein: A Valuable Source for Nutrition.** J. Wu, Y. Zou*, B. Gong, and X. Xu, Wilmar Global R&D Center, China.
- 9:00 **An Environmental Friendly Method for Extraction of Soybean Oil and Protein.** X. Sui^{1,2}, B. Qi¹, Z. Wang¹, Y. Li¹, and L. Jiang¹, ¹Northeast Agricultural University, China, ²National University of Singapore, Singapore.
- 9:20 **Surfactant-based Corn Oil Extraction Aids for the Dry-grind Ethanol Process.** S. Lewis, Solenis, USA.
- 9:40 **Networking Break and Poster Author Session.**
- 10:20 **A Comparison of Distillers Corn Oil and Distillers Milo Oil for Biofuels and Animal Feed Applications.** R.A. Moreau (*Alton E. Bailey Award Winner*), USDA, ARS, ERRC, USA.
- 10:40 **Characterization of Condensed Distillers Solubles and Its Fractions for Composition of Main Nutrients, Minerals, and Amino Acids.** K. Liu, USDA, ARS, USA.
- 11:00 **Utilization of Co-Products Derived from the Corn Milling Industry in Poultry and Swine.** B. Kerr¹ and G. Shurson², ¹USDA, ARS, NLAE, USA, ²University of Minnesota, USA.
- 11:20 **In situ Esterification of Camelina Oilseed Meal and Subsequent Recovery of Esters and Proteins.** T. Withana-Gamage, U. Wanasundara, and R. Green, POS BioSciences, Canada.
- 11:40 **Lipid Producing Sugarcane: Feedstock for Biodiesel Production.** H. Huang, S. Long, and V. Singh*, University of Illinois at Urbana-Champaign, USA.

Wednesday Afternoon

BIO 5: General Biotechnology

Chairs: R.D. Ashby, USDA, ARS, ERRC, USA; and B.P. Lamsal, Iowa State University, USA

Gatlin A-1

- 1:55 **Introduction.**
- 2:00 **Milk Fat Triacylglycerol Profile Differentiation Between DGAT1 AA and KK Genotype: Effect of Fat Supplementation.** D.A. Tzompa-Sosa, H. Bovenhuis, A.M. van Vuuren, and H.J.F. van Valenberg, Wageningen University, The Netherlands.
- 2:20 **Natural Products Produced from Bioethanol Stillage.** K. Ratanapariyanuch¹, Y.Y. Shim^{1,2}, M. Haakensen³, and M.J.T. Reaney^{1,2,4}, ¹University of Saskatchewan, Canada, ²Prairie Tide Chemicals Inc., Canada, ³Contango Strategies Ltd., Canada, ⁴Jinan University, China.
- 2:40 **Enzymatic Synthesis of High Oleic Oil Based Structured Lipid Containing Palmitic and Capric Acid Suitable for a Human Milk Fat Substitute.** C. Álvarez and C.C. Akoh, University of Georgia, USA.
- 3:00 **In situ Self-catalyzed Transesterification for Production of Biodiesel from Rice Bran.** N. Choi, D.S. No, and I.H. Kim, Korea University, Republic of Korea.
- 3:20 **Networking Break.**
- 3:40 **Application of IPA-water-oil, IPA-methanol-oil, and IPA-water-salt Ternary Phase Diagrams in Biodiesel Production from Mustard Seed.** S. Sinichi and L. Diosady, University of Toronto, Canada.
- 4:00 **Novel Linoleic Acid Δ 12 Hydratase from *Lactobacillus acidophilus* Useful for 13-hydroxy Fatty Acid Production.** S. Kishino, A. Hirata, and J. Ogawa, Kyoto University, Japan.
- 4:20 **The Biochemistry of Two Microalgae with Potential as n-3 PUFA Producers.** J.L. Harwood¹, I.A. Guschina¹, and K.J. Flynn², ¹Cardiff University, UK, ²Swansea University, UK.
- 4:40 **Preparation of Stearidonic Acid-rich Triacylglycerol via Two-step Lipase-catalyzed Esterification.** N.H. Kim, J.Y. Baik, and I.H. Kim, Korea University, Republic of Korea.

BIO 5.1/H&N 5.1/SCC: Lipid Oils and Skin Health

This session is sponsored in part by Johnson & Johnson

Chairs: T.A. McKeon, USDA, ARS, WRRRC, USA; K. Mahmood, Johnson & Johnson Consumer, USA; and K. Dobos, Society of Cosmetic Chemists/Sun Chemical Corp., USA

Gatlin E-2

- 1:55 **Introduction.**
- 2:00 **The Role of Lipids in Skin Physiology.** A. Pappas, Johnson & Johnson, USA.
- 2:40 **New Insights into the Role of Polyunsaturated Fatty Acids in Skin Physiology and Pathology.** H. Gallagher, I.A. Guschina, D. Ramji, and J.L. Harwood*, Cardiff University, UK.
- 3:00 **Biosynthesis and Skin Health Applications of Antimicrobial Glycolipids.** D.K.Y. Solaiman and R.D. Ashby, USDA, ARS, ERRC, USA.
- 3:20 **Networking Break.**
- 3:40 **Meadowfoam (*Limnanthes alba*) Natural Products Inhibit Matrix Metalloproteinases in Human Keratinocytes: Relevance to Skin Health.** C.L. Miranda, R.L. Reed, A.K. Indra, and J.F. Stevens*, Oregon State University, USA.
- 4:00 **Cosmetic Applications of Castor Oil and Its Derivatives.** T.A. McKeon and X. He, USDA, ARS, WRRRC, USA.
- 4:20 **Effect of Harvest Time on Olive and Olive Oil Properties During Ripening for Gemlik and Adana Topagi Olives.** T.M. Keceli, University of Cukurova, Turkey.

IOP 5: Oleochemicals and Biorefineries

Chairs: D. Root, AURI, USA; and S. Ren, University of Tennessee, USA

Gatlin A-2

- 1:55 **Introduction.**
- 2:00 **Novel Biobased Poly(vinyl ether)s for Coating Applications.** H. Kalita, S. Alam, D. Kalita, A. Chernykh, I. Tarnavchyk, S. Samanta, A. Jayasooriyamu, S. Fernando, J. Bahr, S. Selvakumar, M. Sibi, A. Popadyuk, A. Voronov, and B.J. Chisholm*, North Dakota State University, USA.
- 2:20 **Recovery of Fatty Acids from Methanotrophic Bacteria via an Efficient Pretreatment Approach.** T. Dong, L.M.L. Laurens, and P. Pienkos, National Renewable Energy Laboratory, USA.
- 2:40 **Novel Eutectic Solvents for Generation of Multiple Products from Low-grade Palm Oil.** A. Hayyan¹ (*Honored Student and The Manuehr Eijadi Award Winner*), M.A. Hashim¹, M. Hayyan¹, and M.E.S. Mirghani², ¹University of Malaya, Malaysia, ²International Islamic University Malaysia, Malaysia.
- 3:00 **Composition and Fuel Properties of Hydrocarbons Prepared via Tandem Isomerization-decarboxylation of Oleic Acid.** B.R. Moser, K.M. Doll, G. Knothe, and R.E. Murray, USDA, ARS, NCAUR, USA.
- 3:20 **Networking Break.**
- 3:40 **Differentiation Between the Bio and Fossil Component in Hydrogenated Vegetable Oil Using Direct Liquid Scintillation Counting Method.** H. Aromaa, T. Riekkola, and T. Laurila*, Neste Oil Corp., Finland.
- 4:00 **Comparison of Heat and Frying Stability of Palm-based High Triacylglycerols Oil with Standard and Premium Quality Palm Oil.** N.A. Ab Karim¹, A. Md Noor¹, and O.M. Lai², ¹Sime Darby Research Sdn. Bhd., Malaysia, ²Universiti Putra Malaysia, Malaysia.
- 4:20 **Industrial Production of Camelina Sativa in the Canadian Prairies: Technoeconomic and Carbon Footprint Analysis of Biodiesel, Hydroprocessed Bio-jet Fuel, and Biorefinery Co-Products.** E.K. Mupondwa, X. Li, and J.P.D. Wanasundara, Agriculture and Agri-Food Canada, Canada.

PRO 5: General Processing

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

Gatlin A-3

- 1:55 **Introduction.**
- 2:00 **Effect of High Intensity Ultrasound on Crystallization Behavior of High Stearic High Oleic Sunflower Oil Soft Stearin.** J. Rincon-Cardona², L. Agudelo-Laverde³, M.L. Herrera³, and S. Martini^{*1}, ¹Utah State University, USA, ²Universidad Nacional de San Martin, Argentina, ³Instituto de Tecnologia de Polimeros y Nanotecnologia, Argentina.
- 2:20 **Mechanical Pressing of Tiger Nut Oil: Effect of High Pressure Processing and Enzymatic Pre-treatment on Oil Recovery and Quality.** O. Ezeh, K. Niranjana, and M.H. Gordon, University of Reading, UK.
- 2:40 **Supercritical Carbon Dioxide Extraction of n-3 LC-PUFA Oil from *Nannochloropsis* by Optimization of Process Parameters Using Response Surface Methodology.** C. Bruneel¹, K. Goiris², C. Dejonghe¹, L. Balduyck¹, S. Bijttebier², L. De Cooman¹, and I. Foubert³, ¹KULeuven Kulak, Belgium, ²KULeuven Campus Gent, Belgium, ³VITO, Belgium.
- 3:00 **The Effects of Oilseeds Tg and Phospholipids Polymorphism on Mechanically Pressed Raw Oil Phospholipids Content and Expeller Oil Expression Efficiency: The Cryo-press Process.** M.F. Novaes and N.J. Hewitt, University of Ulster, UK.

- 3:20 **Networking Break.**
- 3:40 **White Flake Desolventization.** R.W. Ozer, Crown Iron Works Co., USA.
- 4:00 **Industrial Studies of Contaminants Removal by Oil Refining.** X. Pages, M. Gaud, C. Segalen, J. Buchoux, and M. Gouban, ITERG, France.
- 4:20 **Next Generation in Oil Processing: What (R)evolution to Expect in Near Future.** M.J. Kellens, Desmet Ballestra Group SA, Belgium.
- 4:40 **Recovering Usable Energy From Low Value Industrial Sources.** A. Ward and M. Berkshire*, Process Plus LLC, USA.

PCP 5: Proteins and Peptides in Nutraceuticals: Functionality and Applications

Chairs: N.S. Hettiarachchy, University of Arkansas, USA; R.E. Aluko, University of Manitoba, Canada; and J.P.D. Wanasundara, Agriculture and Agri-Food Canada, Canada

Gatlin A-4

- 1:55 **Introduction.**
- 2:00 **Characterization of Functional Protein in Rice.** H. Kumagai¹, S. Ina¹, A. Hase¹, T. Ando¹, M. Akao¹, and H. Kumagai², ¹Nihon University, Japan, ²Kyoritsu Women's University, Japan.
- 2:20 **Physicochemical Properties and Angiotensin-I Converting Enzyme Inhibitory Activity of Soy Protein Hydrolysates from a Non-genetically Modified Cultivar.** Q. Nguyen, N.S. Hettiarachchy*, S. Rayaprolu, S. Kumar, S. Jayanthi, and P. Chen, University of Arkansas, USA.
- 2:40 **Effect of pH on the Physicochemical, Interfacial, and Emulsifying Properties of Pea, Soy, Lentil, and Canola Protein Isolates.** C. Chang, S. Tu, S. Ghosh, and M. Nickerson, University of Saskatchewan, Canada.
- 3:00 **Physical, Chemical, and Structural Changes of WPI Induced by Maillard Reaction with Pectin in Dry State.** P.X. Qi¹ and Y. Xiao^{1,2}, ¹USDA, ARS, ERRC, USA, ²Zhejiang Academy of Agricultural Sciences, China.
- 3:20 **Networking Break.**
- 3:40 **Purified Single Peptides from Soybeans Show Inhibitory Activity Against Human Blood and Colon Cancer Cells.** S. Rayaprolu, N.S. Hettiarachchy*, and P. Chen, University of Arkansas, USA.
- 4:00 **Nutraceutical Applications of Peptide Aggregates in Plastein.** C.C. Udenigwe, Dalhousie University, Canada.
- 4:20 **Long-term Stability of Mixed Dairy and Pea Protein-stabilized Nanoemulsions.** M. Yerramilli and S. Ghosh, University of Saskatchewan, Canada.
- 4:40 **Antioxidant Effects of a Hemp Seed Protein Hydrolysate During Long-term Oral Administration to Spontaneously Hypertensive Rats.** R.E. Aluko, University of Manitoba, Canada.
- 5:00 **Kinetics of the Inhibition of Renin and Angiotensin I-converting Enzyme by Cod (*Gadus morhua*) Protein-derived Peptides and Their Hypotensive Effects in Spontaneously Hypertensive Rats.** A.T. Girgih^{1,3}, I.D. Nwachukwu¹, F.M. Hasan^{1,4}, T.N. Fagbemi^{1,5}, T.A. Gill^{1,4}, and R.E. Aluko^{1,2}, ¹University of Manitoba, Canada, ²Richardson Centre for Functional Foods and Nutraceuticals, Canada, ³University of Agriculture, Nigeria, ⁴Federal University of Technology, Canada, ⁵Dalhousie University, Canada.

David Wesson Campus Posters

- The presenter is the first author or otherwise indicated with an asterisk (*).
- Access and print abstracts at the computer stations located in Gatlin B, D, & Panzacola
- Abstracts also available on *The App* or online at: AnnualMeeting.aocs.org/AM15Resources

BIO-P: Biotechnology Poster Session

Chairs: B.H. Kim, Chung-Ang University, Republic of Korea; and J. Ogawa, Kyoto University, Japan

The Biotechnology Division will enable up to eight poster presenters to present a brief talk on their research results during a special Oral Poster Session in room Gatlin A-1 on Monday, May 4. Presentation details are in the Program Addendum.

- Enzymatic Preparation of L- α -Glycerolphosphorylcholine via Phospholipase A₂-Catalyzed Hydrolysis of Soy Phosphatidylcholine in Organic-aqueous Media.** H.J. Bang¹, I.H. Kim², and B.H. Kim^{*1}, ¹Chung-Ang University, Republic of Korea, ²Korea University, Republic of Korea.
- Microbial Production of Biofuel from Saccharified Plant Biomass by Pentose Assimilating Thraustochytrids.** A. Matsuda¹, H. Nagatomo¹, A. Fujimoto¹, Y. Taoka¹, T. Matsuda², Y. Izumi², and M. Hayashi¹, ¹University of Miyazaki, Japan, ²Biomaterial in Tokyo, Japan.
- Microbial Production of Polyunsaturated Fatty Acids from High Concentration of Glycerol by *Aurantiochytrium* sp. mh2112.** A. Fujimoto, A. Matsuda, H. Nagatomo, Y. Taoka, and M. Hayashi, University of Miyazaki, Japan.
- Distribution of Polyunsaturated Fatty Acids in the Phospholipids of Thraustochytrids.** H. Nagatomo, A. Fujimoto, A. Matsuda, Y. Taoka, and M. Hayashi, University of Miyazaki, Japan.
- Investigating the Anaerobic Peroxidase Activity of Soybean 15-lipoxygenase with LC-PUFAs.** E.P. Dobson, C.J. Barrow, and J.L. Adcock, Deakin University, Australia.
- Enzymatic Biodiesel Synthesis of Palm Fatty Acid Distillate Using Blended Alcohol via Two-step Lipase-catalysed Transesterification.** J.I. Ryu, N. Choi, and I.H. Kim, Korea University, Republic of Korea.
- Substrate Selectivity of Novozym 435 in the Esterification of Glycerol with an Equimolar Mixture of Linoleic, Conjugated Linoleic, and Pinolenic Acids.** H. Woo¹, I.H. Kim², H.D. Choi³, I.W. Choi³, and B.H. Kim¹, ¹Chung-Ang University, Republic of Korea, ²Korea University, Republic of Korea, ³Korea Food Research Institute, Republic of Korea.
- Preparation of Highly Purified Pinolenic Acid from Pine Nut Oil via Three-step Lipase-catalyzed Esterification.** H.J. Kim¹, T.T. Zhao¹, D.S. No¹, C.T. Kim², and I.H. Kim¹, ¹Korea University, Republic of Korea, ²Korea Food Research Institute, Republic of Korea.
- Dietary Effects of Conjugated Linoleic Triacylglycerols on Body Fat Accumulation and Blood Lipids in High-fat Diet-induced Obese Mice.** H. Woo¹, M.Y. Chung², I.H. Kim³, H.D. Choi², I.W. Choi², and B.H. Kim¹, ¹Chung-Ang University, Republic of Korea, ²Korea Food Research Institute, Republic of Korea, ³Korea University, Republic of Korea.
- The Kinetics Mechanism of Enzymatic Synthesis of Phosphatidylserine in Different Reaction Systems.** Z.Q. Duan, H. Sun, and Y.L. Xue^{*}, Academy of State Administration of Grain, China.
- A Process for Recovering Genistein 7-O-phosphate, a Water Soluble Alternative of Genistein, from Fermentation Broth.** W.Y. Lo and N.W. Su, National Taiwan University, Taiwan.
- Functional Waxes Derived Plant Oils and Wax-nanocellulose Composites.** Y.S. Mugo, L. Huybregts, and C. Rusin, MacEwan University, Canada.
- Production of Structured Phospholipids Using Phospholipase and Lipase.** S.H. Yoon, Woosuk University, Republic of Korea.
- Evaluation of a Promising Glycerol Derivative, D-glyceric Acid, as Cell Proliferating Agents and Protective Solutes.** S. Sato and H. Habe^{*}, National Institute of Advanced Industrial Science and Technology (AIST), Japan.
- Essential Fatty Acids from Microalgae for Food Application.** A. Matos¹, R. Feller¹, E. Moecke^{1,2}, J. Oliveira¹, A. Junior¹, R. Derner¹, and E. Santanna¹, ¹Federal University of Santa Catarina, Brazil, ²South University of Santa Catarina, Brazil.
- Towards a Yeast-based Multivalue Technology Platform.** L.A. Garay, I.R. Sitepu, H.E. Teh, T. Cajka, L. Anderson, A.K. Franz, O. Fiehn, J.B. German, K.L. Boundy-Mills, and Z. Pan, University of California Davis, USA.
- Enzymatic Glycerolysis Under Supercritical CO₂ Conditions for Producing a Diacylglycerol (DAG)-enriched Oil.** N. Vafaei^{1,2}, M.G. Scanlon¹, P.J.H. Jones^{1,2}, C.B. Rempel^{1,3}, and N.A.M. Eskin¹, ¹University of Manitoba, Canada, ²Richardson Center for Functional Food and Nutraceuticals, Canada, ³Canola Council of Canada, Canada.
- Lipolytic Activity of Marine Actinomycetes.** T. Martins, C. Schinke^{*}, and F.G.R. Reyes, University of Campinas, Brazil.

IOP-P: Industrial Oil Products Poster Session

Chair: R. Wang, CVC Thermoset Specialties-Emerald Performance Materials, USA

- Synthesis and Physical Properties of New Coco-oleic Dimer and Trimer Plus Estolide Branched Esters.** S.C. Cermak¹, J.W. Bredsguard², T.A. Isbell¹, and R.E. Murray¹, ¹USDA, ARS, NCAUR, USA, ²BioSynthetic Technologies, USA.
- On the Properties of Biofuels Derived from Different Oils Synthesized with Various Alcohols.** C.C. Cardoso¹, V.G. Celante², E.V.R. Castro³, and V.M.D. Pasa⁴, ¹Universidade Federal Rural de Pernambuco, Brazil, ²Ciência e Tecnologia do Espírito Santo, Brazil, ³Universidade Federal do Espírito Santo, Brazil, ⁴Universidade Federal de Minas Gerais, Brazil.
- Making Biodiesel from Waste Feedstocks.** M. Lu, Q. Tu, and J.Y. Liu, University of Cincinnati, USA.
- Methyl Lactate Production from Glycerol with Methanol and Carbon Dioxide Using Solid Base Catalysts.** S. Ren and X.P. Ye, University of Tennessee Knoxville, USA.
- Production of Acrolein and Acrylic Acid from Glycerol in Carbon Dioxide Media.** X.P. Ye, B. Zou, and S. Ren, University of Tennessee, USA.
- Thermal Processing of Soybean Oil to Obtain Bio-based Polymers and Bio-oil.** V.M. Mello, M.A. Montenegro, G.B.C. Martins, and P.A.Z. Suarez, University of Brasilia, Brazil.
- Kinetics of Epoxidation: Canola Oil and Its Derivatives.** T.S. Omonov, E. Kharraz, and J.M. Curtis, University of Alberta, Canada.
- Effects of Various Metathesized Biodiesels on the Crystallization of Palm Oil Biodiesel.** N. Quezada, I. Zambrano, S. Morales, F. Toro, and J. Chavez, La Fabril, Ecuador.
- Physical and Chemical Characterization of 1,8-Cineole for Use as a Fuel in Compression Ignition Engines.** R.L. Maglinao, K. Richardson, and J. Windy Boy, Montana State University-Northern, USA.

- Polyepoxide Cardanol Glycidyl Ether Used as Reactive Diluent for Epoxy Resin.** J. Chen¹, X. Nie¹, Z.S. Liu², Z. Mi¹, and Y. Zhou¹, ¹Chinese Academy of Forestry, China, ²USDA, ARS, NCAUR, USA.
- Poly-β-hydroxybutyrate (PHB) Extraction and Recovery: A New Non-toxic and Environment Friendly Solvent System.** T. Fei, T. Wang, S. Cazeneuve, and Z. Wen, Iowa State University, USA.

PRO-P: Processing Poster Session

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

- Biodiesel Production from Acid and Saturated Frying Oil, Using Corona Discharge Plasma Technology.** A. Leal Vieira Cubas², M. Medeiros Machado^{1,2}, E.H. Siegel Moecke², and C.R. Silva de Carvalho Pinto¹, ¹Universidade Federal de Santa Catarina, Brazil, ²Universidade do Sul de Santa Catarina, Brazil.
- A New Industry Model for Predicting Oil Yield in Enzymatically Assisted Degumming of Vegetable Oil.** S. Konradt, AB Enzymes GmbH, Germany.
- Cedarwood Oil in Water Formulations for Pressure-treating Wood.** F.J. Eller, USDA, ARS, NCAUR, USA.
- Adsorptive Performance of Bleaching Clays in Soybean Oils Based on Adsorption of Chlorophylloid Analogs and Deodorized Oil Color.** D. Brooks and A. Litin, Oil-Dri Corp. of America, USA.
- Extraction of Omega-3-rich Oil from *camelina sativa* Seed Using Supercritical Carbon Dioxide.** H.D. Belayneh, O.N. Ciftci, and R.L. Wehling, University of Nebraska-Lincoln, USA.
- Hydroprime® Modular Plants Provide Low Cost, Reliable Hydrogen.** G. Shahani¹, K. Finley¹, N. Onelli², S. Parente¹, and L. Lyda¹, ¹Linde Engineering North America, USA, ²Linde Gas North America, USA.
- Physicochemical Parameters of Smoothies: Stability Along Shelf-life.** M.A. Nunes, A.S.G. Costa, J.C.M. Barreira, R.C. Alves, A.F. Vinha, A. Rocha, and M.B.P.P. Oliveira, University of Porto, Portugal.

- Alternative Bio-based Solvents to n-Hexane for the Extraction of Rapeseed Oil: Theoretical COSMO-RS Simulations and Experimental Substitution Investigation from Laboratory to Pilot Plant Scale.** A.G. Sicaire¹, M. Abert-Vian¹, F. Fine^{2*}, F. Joffre³, P. Carre⁴, and F. Chemat¹, ¹Université d'Avignon et des Pays de Vaucluse, France, ²CETIOM, France, ³ITERG, France, ⁴CREOL, France, ⁵SAIPOL, France.
- Olive Pomace: A Preliminary Approach Intending Its Valorization.** M.A. Nunes, F.B. Pimentel, A.S.G. Costa, and M.B.P.P. Oliveira, University of Porto, Portugal.
- Environmental Life Cycle Assessment of Rapeseed Production in France within a Public LCI-database of Agricultural Products.** S. Dauguet¹, F. Flenet¹, F. Fine^{1*}, V. Colomb², and P. Koch³, ¹CETIOM, France, ²ADEME, France, ³Koch Consulting, Switzerland.
- Development of Adjustable-volume Expanded Bed Reactor for Continuous Biodiesel Production.** K. Yamazaki, N. Shibasaki-Kitakawa*, K. Nakashima, and T. Yonemoto, Tohoku University, Japan.
- Evaluation of Ethanol and 2-Propanol for Rapeseed Oil Extraction.** A. Quinsac¹, P. Carre², and F. Fine^{1*}, ¹CETIOM, France, ²CREOL, France.

PCP-P: Protein and Co-Products Poster Session

This session is sponsored in part by DuPont Nutrition & Health

Chairs: M.P. Hojilla-Evangelista, USDA, ARS, NCAUR, USA; K.A. Campbell, DuPont Nutrition & Health, USA; and P.X. Qi, USDA, ARS, ERRC, USA

- Comparative NMR Investigation of Cottonseed Protein Isolate and Soy Protein Isolate.** Z. He¹, J. Zhong², and H. Cheng¹, ¹USDA, ARS, SRRC, USA, ²Intertek Analytical Services, USA.
- Proteins and Blood Flocculate Lignin.** G.J. Piazza¹, J.H. Lora², and R.A. Garcia¹, ¹USDA, ARS, ERRC, BOAC, USA, ²GreenValue Enterprises LLC, USA.

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3. **Comparison of the Adhesive Properties of Sequentially Extracted Water- and Alkali-soluble Fractions of Cottonseed Protein.** Z. He and D. Chapital, USDA, ARS, SRRRC, USA.
4. **Kinetics of Enzyme Inhibition and Blood Pressure Lowering Effects of Salmon (*Salmo salar*) Protein-derived Peptides *in vitro* and in Spontaneously Hypertensive Rats.** I.D. Nwachukwu¹, A.T. Girgin¹, and R.E. Aluko^{1,2}, ¹University of Manitoba, Canada, ²Richardson Centre for Functional Foods and Nutraceuticals, Canada.
5. **Cutaneous Permeability of Deamidated and/or Hydrolyzed Wheat Gliadin.** N. Matsukaze¹, R. Abe¹, M. Akao¹, H. Kumagai², and H. Kumagai¹, ¹Nihon University, Japan, ²Kyoritsu Women's University, Japan.
6. **Proteins of *Camelina sativa* (L.) Crantz Oilseed—Investigation of Protein Types and Their Structure.** S. Perera^{1,2}, T. McIntosh¹, R. Tyler², and J.P.D. Wanasundara^{1,2}, ¹Agriculture and Agri-Food Canada, Canada, ²University of Saskatchewan, Canada.
7. **Impact of Industry-relevant Heat Processing on Navy Bean Proteins Profile, Structural, and Immunoreactive Properties.** L. L'Hocine, M. Pitre, S. Villeneuve, A. Achouri, and L.P. Des Marchais, Agriculture and Agri-Food Canada, Canada.
8. **Simultaneous Adsorption of Sodium Caseinate and Pea Protein Isolate at the Oil Droplet Surface of Nanoemulsions.** M. Yerramilli and S. Ghosh, University of Saskatchewan, Canada.
9. **Extraction and Properties of Dried Alfalfa Leaf Protein.** M.P. Hojilla-Evangelista, G.W. Selling, P.J. Weimer, and R. Hatfield, USDA, ARS, USA.
10. **Improvements to the Gossypol HPLC Analytical Method.** M.K. Dowd and S.M. Pelitire, USDA, ARS, SRRRC, USA.
11. **Foaming Characteristics of Lentil Legumin-like Protein as Affected by pH Relationship with Molecular Structure, Shear, and Dilatational Rheology.** M. Jarpa-Parra¹, F. Bamdad¹, Z. Tian¹, H. Zeng¹, J. Han², and L. Chen¹, ¹University of Alberta, Canada, ²Alberta Agriculture and Rural Development, Canada.
12. **Foaming Performance of *N*-acylated Peptides Recovered from Specified Risk Material.** P. Appadu, M. Chae, L. Mercier, and D. Bressler, University of Alberta, Canada.
13. **Sodium Deoxycholate-binding Affinity of a Hydrophobic Casein Plastein.** A. Mohan and C.C. Udenigwe, Dalhousie University, Canada.
14. **Effect of Graphene Oxide Preparation Conditions on Functionality of Canola Protein—Graphene Oxide Hybrid Wood Adhesive.** N.P. Bandara (*Honored Student Award Winner*), Y. Esparza, and J. Wu, University of Alberta, Canada.
15. **Biopolymer-based Particles for Adsorption and Recovery of Oil in Emulsion Layer of Condensed Corn Distillers Solubles (CCDS).** J. Wong and B.P. Lamsal*, Iowa State University, USA.
16. **Intermolecular Interaction and Formation of Coacervates of Bovine Serum Albumin with Flaxseed (*Linum usitatissimum* L.) Gum.** J. Liu¹, Y.Y. Shim^{1,2}, Y. Wang³, and M.J.T. Reaney^{1,2,3}, ¹University of Saskatchewan, Canada, ²Prairie Tide Chemicals Inc., Canada, ³Jinan University, China.
17. **Conversion of Canola Meal into a High Protein Feed Additive by Submerged and Solid-state Fungal Incubation Processes.** J.R. Croat¹, M. Berhow², B. Karki¹, K. Muthukumarappan¹, and W.R. Gibbons¹, ¹South Dakota State University, USA, ²USDA, ARS, NCAUR, USA.
18. **Flaxseed Orbitide Antibodies.** P.D. Jadhav¹, Y.Y. Shim^{1,2}, and M.J.T. Reaney^{1,2,3}, ¹University of Saskatchewan, Canada, ²Prairie Tide Chemicals Inc., Canada, ³Jinan University, China.
19. **Enhancing Oil Recovery from the Corn-soy Co-fermentation Process Using Enzymes and Surfactants.** C. Lilly, T. Wang, J. Grewal, and K. Rosentrater, Iowa State University, USA.



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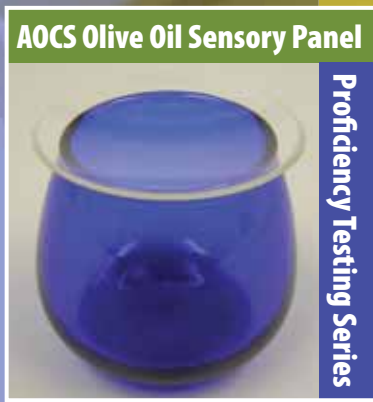
- The AOCS Olive Oil Sensory Panel Proficiency Testing Series will consist of four rounds of testing
- Each testing round will consist of four samples of 500 milliliters
- Testing and scoring will abide with International Olive Council guideline COI/T.20/Doc. No 15/Rev. 61 (November 2013)
- Qualifying panels will be promoted as an AOCS Recognized Olive Oil Sensory Panel



Save \$100

with promo code **OLIVEOIL**
when you enroll by **May 20, 2015.**

Visit www.aocs.org/sensory to redeem this offer.



AOCS also offers chemistry testing for olive oil.
Learn more at www.aocs.org/LPP

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 2014-2015 award recipients. For information on award lecture schedules, please visit **The App** or the Campus presentation pages.

Society Awards

Presented at the Awards Plenary and Business Meeting
Tuesday, May 5 | 11:00 am–12:45 pm | Gatlin C

Award of Merit



Nurhan T. Dunford, Professor, Oklahoma State University, USA, has contributed to the success of the Society through a decade of committee work. She has devoted much of her time within the Processing Division, having served on the leadership team as Chairperson, Vice Chairperson, Secretary/Treasurer, and award committees. She has also been very active with Society meetings by helping to organize

sessions for the world conferences on oilseed processing (2006, 2011). And in 2012, she was General Chairperson of the 103rd AOCS Annual Meeting and Expo held in Long Beach, California, USA. Currently, Nurhan is volunteering her time with AOCS Press by contributing book chapters and being Editor of the soon-to-be-published sunflower oil book.

As stated in her nomination letter, “(Nurhan) quietly volunteered her time and talents to keep AOCS at the forefront of fats, oil, and lipids.” Her long and dedicated service to our Society is noted with this award recognition.

AOCS Fellows

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



Timothy G. Kemper, Global Technical Director, Solvent Extraction for the global Desmet Ballestra Group is considered an authority on oilseed processing and solvent extraction. He is recognized in the oilseed crushing industry for designing some of the largest and most efficient solvent extraction plants in the world. He holds nine US patents in oilseed crushing. The full scope of this work has enabled significant

technical and commercial advances in oilseed extraction, and is documented in authoritative contributions to industry standard references, such as “Baileys Industrial Oil and Fat Products” (6th edition).

Tim has been an AOCS member for 27 years and remained active in committee work, Processing Division leadership,

and the Governing Board as President (2013), Vice President (2012), Treasurer (2008-2011), and Member-at-Large (2006-2007). Tim represents the highest ideals of professional leadership, scientific knowledge, and fellowship.



Alejandro G. Marangoni, Professor and Tier I Canada Research Chair Food, Health and Aging, University of Guelph, Canada primarily works on the physical properties of foods, particularly fat crystallization and structure. He is co-editor in chief of Current Opinion in Food Science. His recent discovery of edible oleogels structured by a cellulose derivative has attracted attention world-wide. In the same period, his

group discovered, characterized and simulated the nanoscale structural level of fats. He has published over 300 refereed research articles, 51 book chapters, 12 books, and 14 issued patents. Alex previously received the Chang Award (IFT 2014, AOCS 2013), Supelco/Nicholas Pelick – AOCS Research Award (2014), and was honored as one of the 10 most influential Hispanic Canadians in 2012.

Alex has been an AOCS member for 22 years. He has contributed to AOCS as a Governing Board Member-at-Large, organizer of short courses, program development for many Divisions, in addition to serving as book editor for AOCS Press.



Deland J. Myers, Professor of Cereal and Food Science, North Dakota State University, USA, is well known as an expert in cereal and soy proteins. Deland’s study of the physiochemical, structural, and functional properties and application of cereal and food proteins in food systems began in product development at Pillsbury Co. His work at Iowa State University to develop soy protein adhesives for wood products

resulted in two patents and several companies now applying key aspects of the technology in their adhesive formulations. These activities have helped promote new arenas for cereal and oilseed products through advances in protein processing technology.

Deland has been an AOCS member for 25 years, and contributed to the Society as Annual Meeting Session Chair, Protein and Co-Products Division leadership, and Technical Chair for the 100th anniversary of the Society. Deland also served as the Governing Board President (2012), Vice President (2011), Member-at-Large (2005-2010), and recently accepted chair responsibility for the AOCS Foundation.



Suk-Hoo (Steve) Yoon, Professor, Woosuk University, Republic of Korea, is internationally recognized in the field of food chemistry and biotechnology. He has been a leader within the food science profession, especially in food lipid area, in Korea. His research has led to the development of the chemistry of lipid oxidation, antioxidants, lipid analysis, kinetics and mechanism of single cell oil fermentation, structured

lipids, novel lipid sources for food purposes, and the refining and processing of fats and oils. He holds 13 patents, published over 180 papers including review articles, and authored 26 book chapters.

Steve has been an AOCs member for 36 years. He is currently Chairperson and Charter Member of the Asian Section, and past Chairperson of the Biotechnology Division. He served as President of the Korean Society of Food Science and Technology (KoSFoST) in 2012, as President of the Korea Food Research Institute (2011-2013), while remaining active in International Society of Biocatalysis and Agricultural Biotechnology (ISBAB). He received the Order of Science and Technology Merit from the President of Korea in 2012, Fellow (IFT 2014, ISBAB 2011).

Scientific Awards

Presented at the Awards Plenary and Business Meeting
Tuesday, May 5 | 11:00 am–12:45 pm | Gatlin C

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.



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

Gary List is an outstanding researcher in lipids whose career spans over 50 years. His research covered many crucial areas in lipid science, including analytical methods, processing of oilseeds, lecithin, hydrogenation, physical refining, and interesterification. As one nomination letter states, “He has

had a hand in at least some aspects of virtually every one of the major improvements in edible oil technology in the last four decades, from finding *trans* fat alternatives to developing tailored oils from genetically modified crops.” Moreover, his work at the US Department of Agriculture in the area of edible oil chemistry is the foundation upon which much of the modern knowledge of the stability and flavor of oils is based.

Gary has written over 370 publications, proceedings, abstracts, and book chapters/books. He has presented over 160 papers at national and international meetings, edited eight books, and made revisions to *Bailey’s Industrial Oil and Fat Products* (4th, 5th, 6th Edition). He has received numerous awards, including the A. Richard Baldwin Distinguished Service Award (AOCs, 2011), Doctor of Science Honorary (UIUC, 2011), Tanner Lecture (IFT, 2011), Herbert J. Dutton award, (AOCs, 2011), Distinguished Alumna Award (ICC, 2011), AOCs Processing Distinguished Service (2010), EuroFedLipid Technology (EFL, 2009), AOCs Award of Merit (AOCs, 2008), Stephen S. Chang award (AOCs, 2012: IFT, 2003), Outstanding Achievement Award (USB, 2007), Alton E. Bailey Award (AOCs, 1999), and is a Fellow within several societies (IFT 2013, RSC 2012, ACS 2011, AOCs 1999).

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.



Uwe T. Bornscheuer, Professor, University of Greifswald, Germany

Uwe Bornscheuer’s research focuses on the use of enzymes for applications in organic synthesis and lipid modification by using rational design tools for protein engineering and directed evolution. He is a leading scientist in the lipase-catalyzed synthesis and transformation of structured triglycerides

(sTAG). One particular finding of note is the improvement of the Betapol synthesis combined with industrial application. As stated in a nomination letter, he brought “ideas about how enzymes could be adapted and applied in the field of oils and fats chemistry to improve processes or modify functionality.” Detailed in another letter, “...this well trained chemist has not only adopted but become world-class proficient in the use of molecular biology, directed mutagenesis, and crystallographic structure information to improve enzymes for use as applied catalysts.”

Uwe is one of the most prolific contributors to the science of lipase catalyzed modification of fats and oils as an editor of four books, and author of articles and reviews, his total publications currently number over 330. This is accompanied by the authorship of over 40 patents and over 30 book chapters. His achievements have been formally recognized with the *Chevreul Medal* of the French Society of Lipid Science (2012) and the Normann Medal of the German Society for Fat Research (DGF, 2014) for his contributions to enzymatic modification of lipids, and the BioCat 2008 Award for his innovative work on tailored biocatalysts for industrial applications. He is also Editor-in-Chief of the *European Journal of Lipid Science and Technology*, Editorial Board member of *JAOCs*, and was President of the German Society for Fat Research (DGF) from 2007 to 2009.

AOCS Young Scientist Research Award

Award lecture given in EAT 3 | Tuesday | Panzacola H-3

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

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

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



Michael A. Rogers, Associate Professor, University of Guelph, Canada

Michael Rogers' research emphasis is on molecular gels, self-assembly of nano-fibers, nanotechnology focusing on delivery of bioactives, and on the biophysics of digestion. He held faculty positions at Rutgers University, USA, and University of Saskatchewan, Canada; and he has held the role of Center Director for the

Gastrointestinal Physiology Center at New Jersey's Institute of Food, Nutrition & Health, USA, where he was awarded the inaugural Directors Award for Scientific Excellence. Mike has published 50 peer-reviewed manuscripts and has two patents pertaining to organogels, one as an edible fat replacer and the other as a mechanism to clean up oil spill using castor seed oil xerogels. He is currently an Associate Editor for the *Journal of Food Biophysics* and the *International Journal of Food Science and Gastronomy*.

As stated in his nomination letters, "Mike has demonstrated an enviable ability to dissect small bodies of data and find connections between large ones. His correlations of solvent properties and comparative analyses of various treatments of them in the literature are truly hallmarks of an excellent scientist." And as another discussed, "His bottom up approach to understanding self-assembly in oils has led to quantifiable tools to help predict whether a molecule will self-assemble into aggregates capable of solidifying oil making edible oleogels." His work on molecular gels is impressive and has the potential for profound influences on edible oil molecular gels as *trans* and saturated fat replacers. Along with his research on molecular gels, he is advancing into new avenues of research focusing on lipid digestibility and the effect of food form.

2015 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.
 American Cleaning Institute (ACI)
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 Archer Daniels Midland Foundation
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 Bunge Oils, Inc.
 Cargill, Inc.
 Stephen S. and Lucy D. Chang
 Manuchehr (Manny) Eijadi
 International Food Science Centre A/S
 International Lecithin & Phospholipid Society (ILPS)

Kalsec
 Peter and Clare Kalustian Estate
 Kraft North America
 National Biodiesel Board (NBB)
 Nicholas Pelick
 Milton Rosen
 Vijai K.S. Shukla
 Supelco, Inc.
 Thomas H. Smouse and Family

Division/Section Awards

Analytical

Herbert Dutton

Charlotta Turner, Lund University, Sweden

ANA Luncheon, Monday, Suwannee 18

Biotechnology

Student Awards

For results, refer to program addendum.

Edible Applications Technology

Outstanding Achievement Award

David A. Pink, St. Francis Xavier University, Canada

EAT Dinner, Monday, Suwannee 16

Timothy L. Mounts Award

Yeonhwa Park, University of Massachusetts Amherst, USA

EAT 4, Wednesday, Panzacola H-3

Student Award of Excellence

Ebenezer A. Ifeduba, University of Georgia, USA

EAT 4, Wednesday, Panzacola H-3

Health and Nutrition

Ralph Holman Lifetime Achievement Award

Philip C. Calder, University of Southampton, UK

H&N 3, Tuesday, Panzacola H-2

Student Excellence Award

Sunday A. Malomo, University of Manitoba, Canada

H&N Poster, Smalley Campus

Industrial Oil Products

ACI/NBB Glycerine Innovation Research Award

Franck Dumeignil, University Lille 1 of Science & Technology, France

IOP 1a, Monday, Gatlin A-2

Student Award

Jennifer Haßelberg, Technische Universität, Germany

IOP 4, Wednesday, Gatlin A-2

Processing

Distinguished Service Award

Marc J. Kellens, Desmet Ballestra Group SA, Belgium

PRO Luncheon, Tuesday, Suwannee 16

Surfactants and Detergents

Samuel Rosen Memorial Award

Charles E. Hammond, GESI Chemical, USA

S&D Luncheon, Tuesday, Suwannee 14

Student Award

Silvia E. Zarate Muñoz, University of Toronto, Canada

S&D 4.1, Wednesday, Gatlin E-4

USA Section

Alton E. Bailey Award

Robert A. Moreau, US Department of Agriculture, USA

PCP 4, Wednesday, Gatlin A-4

Hans Kaunitz Award

Bicheng Wu, University of Massachusetts Amherst, USA

EAT 3, Tuesday, Panzacola H-3

Student Awards

AOCS Foundation

Thomas H. Smouse Fellowship Award

Bicheng Wu, University of Massachusetts Amherst, USA

EAT 3, Tuesday, Panzacola H-3

Honored Students

Nandika P. Bandara, University of Alberta, Canada

PCP Poster, Wesson Campus
Adeeb Hayyan, University of Malaya, Malaysia (Manuchehr Eijadi Award)

IOP 5, Wednesday, Gatlin A-2

Sunday A. Malomo, University of Manitoba, Canada

H&N Poster, Smalley Campus
Fernanda Peyronel, University of Guelph, Canada (Peter and Clare Kalustian Award)

EAT 5, Wednesday, Panzacola H-3

Ralph H. Potts Memorial Fellowship Award

Jennifer Komaiko, University of Massachusetts Amherst, USA

EAT 1, Monday, Panzacola H-3

Best Paper Awards

ADM/Protein and Co-Products

Division Best Paper

Chemistry/Nutrition

Lipid Co-oxidation of Proteins: One Size Does Not Fit All (Inform 25:134-139)

Karen M. Schaich

PCP Dinner, Tuesday, Suwannee 14

Engineering/Technology

Physicochemical Properties

Improvement of Soy Protein Using

Divalent Ions During a Two-step

Fractionation Process (JAOCS

91:1235-1245)

Na-Na Wu, Er-Li Zheng, Bin Tan, Zi Teng, Xiao-Quan Yang, and Zhi-Ming Gao

PCP Dinner, Tuesday, Suwannee 14

Edwin Frankel Award in Lipid

Oxidation and Quality

For results, refer to program

addendum.

LOQ Luncheon, Tuesday, Suwannee 17

ACI Distinguished Paper

Trends to Attain a Lower Interfacial

Tension in a Revisited Pure Alkyl

Polyethyleneglycol Surfactant-alkane-

water Ternary System. Basic Concepts

and Straightforward Guidelines for

Improving Performance in Enhanced

Oil Recovery Formulations. (JSD

17:199-213)

Jean-Louis Salager, Lisbeth

Manchego, Laura Márquez, Johnny

Bullón, and Ana Forgiarini

S&D Luncheon, Tuesday, Suwannee 14

Laboratory Proficiency Program Awards

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 Proficiency Program winners are available on pages 74-76.

Smalley Award for Oilseed Meal Analysis

Trevor Meredith, CHS Israel, Israel

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

Congratulations to the winners of the 2013-

74

2013-2014 AOCs LPP Winners

May 3-6, 2015 | Orlando, Florida, USA

Aflatoxin in Almonds

First Place

John Reuther, Sarah Ruiz,
Sean Holleran
Eurofins Central Analytical Labs
New Orleans LA 70122
USA

Aflatoxin in Corn Meal

First Place

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

Honorable Mention

Paul Thionville, Boyce Butler,
Andre Thionville,
Kristopher Williams
Thionville Laboratories, Inc.
New Orleans LA 70123
USA

Aflatoxin in Corn Meal Test Kit

First Place

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

Honorable Mention

Mumtaz Haider
Inspectorate America Corp
Webster TX 77598-1514
USA

Honorable Mention

Dennis Hogan
SDK Laboratories
Hutchinson KS 67501
USA

Aflatoxin in Cottonseed

First Place

Michelle Willet
NCDA&CS Food & Drug
Protection
Raleigh NC 27607
USA

Aflatoxin in Peanut Butter

First Place

Mike Miller
USDA AMS S&T Science
Specialty Lab
Blakely GA 39823-2785
USA

Aflatoxin in Peanut Paste

First Place

Simone Staiger
Eurofins WEJ Contaminants
GmbH
Hamburg 21079
Germany

Honorable Mention

Dawson Lab Analytical Team
JLA USA
Dawson GA 39842
USA

Honorable Mention

Edwin de Klerk, A. Verwey
Oosterhout
Oosterhout 4906 CX
The Netherlands

Honorable Mention

Brownfield Lab Analytical Team
JLA Intl
Brownfield TX 79316
USA

Honorable Mention

JLA Dalmacio Velez Analytical
Team
JLA Argentina SA
General Cabrero Cordoba
X 5809 BAS
Argentina

Aflatoxin in Peanut Paste Test Kit

First Place

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

Honorable Mention

Ashburn Analytical Team
JLA USA
Ashburn GA 31714
USA

Honorable Mention

Dawson Lab Analytical Team
JLA USA
Dawson GA 39842
USA

Aflatoxin in Pistachios

First Place

Kraig Kunde
DFA of California/Yuba City
Yuba City CA 95991
USA

Cholesterol

First Place

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

Honorable Mention

Covance Labs
Madison WI 53704
USA

DAG in Oil

First Place

Song Yinrong
Taixing Zhenhua Oils & Fats
Co. Ltd.
Taixing Jiangsu 225404
China

Edible Fat

First Place

James Houghton
AAK
Louisville KY 40208
USA

Honorable Mention

Travis Patterson
Ag Processing Hastings
Hastings NE 68901
USA

Honorable Mention

Felicia Melendez
Ag Processing Hastings
Hastings NE 68901
USA

Honorable Mention

Beth Miller
Ag Processing St. Joseph
St. Joseph MO 64504
USA

Honorable Mention

Tracie McClure
Ag Processing Hastings
Hastings NE 68901
USA

Honorable Mention

Wade Chase
Ag Processing Hastings
Hastings NE 68901
USA

Honorable Mention

Jerry Buttell
Ag Processing Hastings
Hastings NE 68901
USA

Feed Microscopy

First Place

Yuan-Te Fu
NCDA&CS Food & Drug
Protection
Raleigh NC 27607
USA

Honorable Mention

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

Second Place

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

Third Place

Piotr Czajkowski
Cargill Poland
Chelmdn 86-200
Poland

Fish Meal

First Place

Pete Cartwright
N J Feed Lab Inc.
Trenton NJ 08638
USA

Honorable Mention

Carmen Catter de Bueno
International Analytical
Services SAC
Lima Lima 32
Peru

Fumonisin in Corn

First Place

Linda Menefee
Office of the Texas State
Chemist
College Station TX 77843
USA

Gas Chromatography

First Place

Owensboro Grain Edible Oils
Owensboro KY 42303-3301
USA

Honorable Mention

Hajar Musa
Malaysian Palm Oil Board
B.B. Bangi Selangor 43650
Malaysia

Honorable Mention

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

Honorable Mention

Linda S McLaren
Loders Croklaan
Channahon IL 60410
USA

Honorable Mention

Jeremy Dehner
ADM Clinton M37
Clinton IA 52732
USA

Honorable Mention

Bill Zubrinic
Bunge Canada
Hamilton ON L8N 3K7
Canada

Honorable Mention

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

Honorable Mention

Rudy Fulawka
Bayer CropScience
Saskatoon SK S7K 3J9
Canada

Honorable Mention

Tammy Hughes
ADM Red Wing 409
Red Wing MN 55066
USA

Honorable Mention

Oilseed Lab
Canadian Grain Commission
Winnipeg MB R3C 3G7
Canada

Goed Nutraceutical Oils

First Place

Arnar Halldorsson
LYSI hf
Reykjavik 101
Iceland

Honorable Mention

Jimmie Duncan
DSM Nutritional Products
Kingstree SC 29556
USA

Honorable Mention

Mulgrave Lab
DSM Nutrition Products
Mulgrave NS BoE 2G0
Canada

Marine Oil

First Place

Otelia Robertson
Omega Protein Inc.
Reedville VA 22539
USA

Honorable Mention

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

Honorable Mention

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

Honorable Mention

Nancy D. Roman
Omega Protein Inc.
Reedville VA 22539
USA

Marine Oil FAP

First Place

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

Honorable Mention

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

Honorable Mention

Covance Labs
Madison WI 53704
USA

2014 AOCs Laboratory Proficiency Program

75

2013-2014 AOCs LPP Winners

106th AOCs Annual Meeting and Industry Showcases | AnnualMeeting.aocs.org

Mixed Seed Canola

First Place

Paul Thionville, Boyce Butler,
Andre Thionville,
Kristopher Williams
Thionville Laboratories, Inc.
New Orleans LA 70123
USA

Mixed Seed Safflower

First Place

Paul Thionville, Boyce Butler,
Andre Thionville,
Kristopher Williams
Thionville Laboratories, Inc.
New Orleans LA 70123
USA

Mixed Seed Sunflower

First Place

Oilseed Lab
Canadian Grain Commission
Winnipeg MB R3C 3G7
Canada

NIOP Fats and Oils

First Place

Renato M. Ramos
Admiral Testing Services
Luling LA 70070
USA

Honorable Mention

Philip Bastijns
Oleotest NV
Antwerp B 2660
Belgium

Nutritional Labeling

First Place

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

Honorable Mention

NP Analytical Laboratories
Nestle Purina Pet Care
St. Louis MO 63164
USA

Oilseed Meal

First Place

Trevor Meredith
CHS Israel
Ashdod 77121
Israel

Honorable Mention

Sandy Holloway
Intertek
Memphis TN 38113
USA

Honorable Mention

Renato M. Ramos
Admiral Testing Services
Luling LA 70070
USA

Honorable Mention

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

Honorable Mention

Paul Thionville, Boyce Butler,
Andre Thionville,
Kristopher Williams
Thionville Laboratories, Inc.
New Orleans LA 70123
USA

Honorable Mention

Mumtaz Haider
Inspectorate America Corp.
Webster TX 11598-1514
USA

Honorable Mention

Gabriela Celino
SGS do Brasil
Santos Sao Paulo 11095-510
Brasil

Honorable Mention

Pete Cartwright
N J Feed Lab Inc.
Trenton NJ 08638
USA

Honorable Mention

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

Oilseed Meal 100% Crude Fiber

First Place

Frank Hahn
Hahn Laboratories Inc.
Columbia SC 29201
USA

Honorable Mention

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

Honorable Mention

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

Honorable Mention

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

Honorable Mention

Gabriela Celino
SGS do Brasil
Santos Sao Paulo 11095-510
Brasil

Honorable Mention

Trevor Meredith
CHS Israel
Ashdod 77121
Israel

Oilseed Meal 100% Moisture

First Place

Foong Ming Koh
SGS North America Agricultural
Div
Deer Park TX 77536
USA

Honorable Mention

Oilseed Lab
Canadian Grain Commission
Winnipeg MB R3C 3G7
Canada

Honorable Mention

Gabriela Celino
SGS do Brasil
Santos Sao Paulo 11095-510
Brasil

Honorable Mention

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

Honorable Mention

Trevor Meredith
CHS Israel
Ashdod 77121
Israel

Honorable Mention

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

Oilseed Meal 100% Nitrogen Ba 4d-90

First Place

Sandy Holloway
Intertek
Memphis TN 38113
USA

Oilseed Meal 100% Nitrogen Ba 4e-03

First Place

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

Honorable Mention

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

Honorable Mention

Ardin Backous, Anders
Thomsen, Keith Persons,
Kent Karsjens

Eurofins Scientific

Des Moines IA 50321-3157
USA

Honorable Mention

Pete Cartwright
N J Feed Lab Inc.
Trenton NJ 08638
USA

Oilseed Meal 100% Oil

First Place

Sandy Harrison
Illinois Crop Improvement Assn.
Champaign IL 61822
USA

Honorable Mention

Mumtaz Haider
Inspectorate America Corp.
Webster TX 11598-1514
USA

Honorable Mention

Melinda Graham
Hartsville Oil Mill
Darlington SC 29540-1027
USA

Honorable Mention

Renato M. Ramos
Admiral Testing Services
Luling LA 70070
USA

Honorable Mention

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

Honorable Mention

Tuyen Mai
Intertek Agri Services
St. Rose LA 70087
USA

Olive Oil Part A

First Place

Maria Garzon
Pompeian Inc.
Baltimore MD 21224
USA

Honorable Mention

Hatzis Ioannis
Soya Hellas SA
Athens 10673
Greece

Olive Oil Part B

First Place

Claudia Guillaume
Modern Olives Laboratory
Services
Lara VIC 3212
Australia

Olive Oil Sensory Panel

First Place

Giorgio Cardone
Chemiservice SRL
Monopoli Bari 70043
Italy

Honorable Mention

Patricia Darragh
California Olive Oil Council
Berkeley CA 94707
USA

Honorable Mention

Paul Vossen
University of California Coop
Ext.
Santa Rosa CA 95403
USA

Honorable Mention

Dan Flynn
UC Davis Olive Center
Davis CA 95616
USA

Honorable Mention

Taste Panel
Pompeian Inc.
Baltimore MD 21224
USA

Honorable Mention

Emmanuel Salivaras
Multichrom Lab
Peristeri Attika 12131
Greece

Honorable Mention

Vasilis Demopoulos
Kalamata Olive Oil Taste
Laboratory
Kalamata Messinia 24100
Greece

Honorable Mention

Claudia Guillaume
Modern Olives Laboratory
Services
Lara VIC 3212
Australia

Palm Oil

First Place

Montasser A. Mohamed
IFFCO Egypt
Suez 204
Egypt

Honorable Mention

Putiha Adam
IOI Loders Croklaan Oils Sdn
Bhd
Pasir Gudang Johor 81707
Malaysia

Honorable Mention

Low Thing
Southern Edible Oils Sdn Bhd
Klang Selangor 42200
Malaysia

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Palm Oil Without SFC

First Place

Montasser A. Mohamed
IFFCO Egypt
Suez 204
Egypt

Honorable Mention

T.H. Goh
PT Musim Mas
Medan N Sumatra 2041
Indonesia

Honorable Mention

Ai Tin Khor
ITS Testing Services (M) Sdn Bhd
Port Klang Selangor 42000
Malaysia
Honorable Mention
Cheah Ping Cheong
Indelab Sdn Bhd
Port Klang Selangor 42000
Malaysia

Peanut Seed

First Place

Edenton Lab Analytical Team
JLA USA
Edenton NC 27932
USA

Honorable Mention

Brownfield Lab Analytical Team
JLA Intl
Brownfield TX 79316
USA

Phosphorus in Oil

First Place

Quality Assurance Lab-Yorkton
Richardson Oilseed Limited
Yorkton SA S3N 2W1
Canada

Honorable Mention

Jose Adolfo Juarez Chavez
Rio Grande Forwarding Co.
Brownsville TX 78521
USA

Solid Fat by NMR

First Place

Bill Zubrinic
Bunge Canada
Hamilton ON L8N 3K7
Canada

Honorable Mention

Phil Fontenot
Ventura Foods Louana Div
Opelousas LA 70570
USA

Soybean Oil

First Place

Renato M. Ramos
Admiral Testing Services
Luling LA 70070
USA

Honorable Mention

Cathy Sun
Amy Shen Branka Kraljevic
SGS Canada
Burnaby BC V5A 4W4
Canada

Soybeans

First Place

Mumtaz Haider
Inspectorate America Corp.
Webster TX 11598-1514
USA

Honorable Mention

Renato M. Ramos
Admiral Testing Services
Luling LA 70070
USA

Specialty Oils

First Place

Jaimie Barkley
Exact Scientific Services
Bellingham WA 98226
USA

Honorable Mention

Chris Beane
Deibel Labs of IL
Lincolnwood IL 60712
USA

Tallow & Grease

First Place

Adalberto Coronado
National Beef Packing Company
Liberal KS 67901
USA

Honorable Mention

Mumtaz Haider
Inspectorate America Corp.
Webster TX 11598-1514
USA

Honorable Mention

Jean-Francois Harvey
Sanimax Aci Inc.
Charny PQ G6X 3R4
Canada

Honorable Mention

Jose Garcia
National Beef Packing Company
Liberal KS 67901
USA

Honorable Mention

Mike Clayton
National Beef LLC
Dodge City KS 67801
USA

Trace Metals

First Place

John Reuther, Marvin Boyd,
William House
Eurofins Central Analytical Labs
New Orleans LA 70122
USA

Honorable Mention

James Houghton
AAK
Louisville KY 40208
USA

trans by GC

First Place (tie)

Bill Zubrinic
Bunge Canada
Hamilton ON L8N 3K7
Canada

First Place (tie)

Yixaun He, Yen Shi Shih
Weston Food Laboratories
Enfield NSW 2136
Australia

Honorable Mention

Tae Sugiyama
The Nissin Oil/O Group Ltd.
Yokosuka 239-0832
Japan

Honorable Mention

QA/QC Laboratory
ADM Mankato Refinery
Mankato MN 56001
USA

Honorable Mention

Emanoele Leite
ADM do Brasil Ltda
Campo Grande MS 79108-550
Brazil

Honorable Mention

Wakako Tsuzuki
National Food Research Institute
Tsukuba Ibaraki 305-8642
Japan

trans by IR

First Place

QA/QC Laboratory
ADM Mankato Refinery
Mankato MN 56001
USA

Unground Soybean Meal

First Place

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

Honorable Mention

Renato M. Ramos
Admiral Testing Services
Luling LA 70070
USA

Honorable Mention

Leticia Yasmin Garcia
Bachoco Bajio (Agent Advanal)
Laredo TX 78045
USA

Honorable Mention

Ms Piyanut Boriboonwiggai
Thai vegetable Oil Public Co.
Ltd.

Bukkallow Thonburi 10600
Thailand

Honorable Mention

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

Honorable Mention

Frank Hahn
Hahn Laboratories Inc.
Columbia SC 29201
USA

Honorable Mention

Maria Lina Dionisio
Sovena Oilseeds
Almada 2801-801
Portugal

Vegetable Oil Color Only

First Place

Melanie Greer
Dallas Group
Jeffersonville IN 47130
USA

Antitrust Policy

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

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

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

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

- A. Non-competition, territorial division, or operationally restrictive agreements;
- B. Boycotting, blacklisting, or unfavorable reporting; or

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

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

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

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

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Cafmeyer, J.	IOP 4	Costa, C.G.	LOQ-P	Erdmann, J.	LOQ 4b	García, R.A.	PCP-P
Cajka, T.	BIO-P	Costa, H.S.	H&N-P	Erdmann, M.	LOQ-P	Garipey, C.	S&D 3.1
Calder, P.C.	H&N 2, H&N 3	Costa, R.	ANA 2, ANA-P	Erramreddy, V.	EAT 1	Garti, N.	H&N 5
Caldo, K.M.P.	BIO 1	Cramer, E.	EAT 3	Eskin, N.A.M.	SS 3, LOQ 3a, BIO-P	Gaud, M.	PRO 5
Callahan, J.	ANA 4b, ANA-P	Croat, J.R.	PCP-P	Eskiner, M.	BIO 2.1/IOP 2/PRO 2	Gavrish, T.	PCP-P
Callejas, N.	EAT-P	Crutcher, T.	S&D-P	Esparza, Y.	PCP-P	Georgiou, D.	ANA 5b
Calvet, T.	EAT 5	Cruz-Hernandez, C.	ANA 5a	Evenson, M.	ANA 2	German, J.B.	BIO-P
Campo, M.	ANA 4b	Csallany, A.	LOQ-P	Everaert, B.	S&D 1	Gheys, R.	S&D 1
Candal, R.J.	EAT-P	Cubas, A.L.V.	LOQ-P	Ezeh, O.	PRO 5	Ghosh, S.	EAT 1, PCP 5, PCP-P
Cantrill, R.	SS 6	Cuevas-Diarte, M.A.	EAT 5	Fabre, J.F.	IOP-P, PRO-P	Gibbons, W.R.	PCP-P
Capron, M.	IOP 1a	Cui, L.	LOQ 3b	Fagbemi, T.N.	EAT-P, PCP-5	Gilbert, V.	S&D 1
Carbone, S.	S&D 1	Curtis, J.M.	ANA-P, EAT-P, IOP-P	Fakhra, I.N.	BIO 1	Gill, T.A.	PCP 5
Cardamone, M.	H&N 1	Dadamudi, K.	ANA 3.1/IOP 3	Fan, Z.	BIO 2.1/IOP 2/PRO 2	Gilley, A.	EAT-P
Cardoso, C.C.	IOP-P	Daniels, R.	HT 2	Fang, B.	H&N-P	Girardon, J.S.	IOP 1a
Carré, P.	IOP 4, PRO-P	Dardugno, D.	S&D 3.1	Fang, L.	S&D 1	Girgih, A.	PCP 5
Casella, V.M.	S&D 3.1	Dasari, M.	PRO 3	Fang, Y.	EAT 5.1/S&D 5.1	Giri, A.	ANA 1
Castro, E.V.R.	IOP-P	Dauguet, S.	PRO-P	Fanta, G.F.	EAT-P	Glembocki, B.	S&D 2.1/SCC
Castro, I.A.	H&N 1	Davidovich-Pinhas, M.	EAT 2, EAT 3, EAT-P	Fardin-Kia, A.	ANA 4b, ANA-P	Glover, J.	S&D 4.1
Castrodale, C.	SS 3	Davoli, F.	EAT 1	Fei, T.	IOP-P	Glukh, I.	PHO 2
Cazeneuve, S.	IOP-P	Day, L.	PHO 1	Felker, F.C.	EAT-P	Godbey, J.	ANA 2
Cederquist, C.	H&N 1	De Cooman, L.	PRO 5	Feller, R.	BIO-P, LOQ-P	Godbout, M.	LOQ 1a
Celante, V.G.	IOP-P	De Greyt, W.	PRO 3	Feng, F.	S&D 1	Goddard, J.M.	LOQ-P
Cermak, S.C.	IOP-P	de la Peña-Gil, A.	EAT 3	Fernandes, G.D.	ANA-P	Goguen, R.	ANA 4b
Chae, M.	PCP-P	De Mejia, E.	PCP 2	Fernandes, T.J.R.	H&N-P, LOQ-P	Goiris, K.	PRO 5
Chalil, A.	H&N 1	Decker, E.A.	LOQ 2, LOQ 3b, LOQ 4b, LOQ 5a, EAT-P, LOQ-P	Fernandez, A.	EAT-P	Gómez-Coca, R.B.	ANA 3, ANA-P
Chamberlin, A.	LOQ 1b	Degirmen, M.	LOQ 4a, LOQ 5a	Fernandez, J.M.	S&D 1.1	Gonçalves, L.A.G.	EAT-P
Chang, A.	ANA-P	DeJonger, C.	PRO 5	Fernando, S.	IOP 5	Gong, B.	PCP 4
Chang, C.	PCP 5	Del Valle Chacón, A.	S&D-P	Ferreira, L.	LOQ-P	González, V.	EAT-P
Chapital, D.	PCP-P	Delbeke, E.	S&D 5	Fhaner, M.	LOQ 2	González-Ríos, O.	LOQ 4a
Charó-Alonso, M.A.	EAT 3, EAT-P	Della Porta, R.	SS 3	Fiehn, O.	BIO-P	Good, D.J.	H&N-P
Chavez, J.	IOP-P	Delmonte, P.	ANA 2, ANA 4b, ANA-P	Field, C.J.	EAT-P	Gordon, M.H.	PRO 5
Chemat, F.	PRO-P	Demarco, A.	PRO 4a	Figueroa-Espinoza, M.C.	LOQ 4a	Gordon, T.	AM 4/EAT 4.1
Chen, C.	EAT 1, H&N-P, LOQ-P	Deng, X.	AM 1, ANA-P	Fine, F.	IOP 4, PRO-P	Gouban, M.	PRO 5
Chen, G.	BIO 1, BIO 3/H&N 3.1	Denny, G.B.	PRO 4b	Firoozmand, H.	EAT 1	Grady, B.P.	S&D 3
Chen, J.	IOP-P	Derner, R.	BIO-P	Flenet, F.	PRO-P	Graham, K.G.	ANA 3
Chen, L.	PCP-P			Flickinger, B.	H&N 3	Graiver, D.	IOP 1b
Chen, P.	PCP 5, PHO-P					Grajeda-Iglesias, C.	LOQ 4a
Chen, S.	PCP 1					Gravelle, A.J.	EAT 2, EAT 3, EAT-P
						Green, M.	IOP 4

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Green, N.L.	EAT 1	Hildebrand, D.	ANA-P	Jana, S.	EAT-P		BIO-P, EAT-P
Green, R.	PCP 4	Hill, B.	S&D 3.1	Jarpa-Parra, M.	PCP-P	Kim, J.	ANA 4a
Greenstein, J.	BIO 2.1/IOP 2/PRO 2	Hill, S.	PRO 1	Jarvis, J.	ANA 3.1/IOP 3	Kim, N.H.	BIO 5, EAT-P
Greer, M.S.	BIO 1, BIO 3/H&N 3.1	Hincke, M.T.	PCP 3/SCC	Jayanthi, S.	PCP 5	Kim, Y.	H&N-P
Gregory, J.	LOQ 4a	Hira, T.	PCP 3/SCC	Jayasooriyamu, A.	IOP 5	King, T.E.	S&D 1.1
Gregory, S.	PRO 3	Hirata, A.	BIO 5	Jaynes, B.S.	S&D 3.1	Kiplinger, J.	S&D 2
Grewal, J.	PCP-P	Hiromori, K.	H&N-P	Jensen, A.M.	EAT 4	Kirkeby, P.G.	EAT-P
Grinstead, D.	S&D 2.1/SCC	Hisamoto, M.	S&D 2	Jia, T.	ANA-P	Kishimoto, N.	BIO 1
Grompone, M.A.	EAT-P	Hogan, D.E.	BIO 4/S&D 4, S&D-P	Jiang, L.	PCP 4	Kishino, S.	BIO 1, BIO 5
Guadix, A.	H&N 5	Hojilla-Evangelista, M.P.	PCP-P	Jiang, Y.R.	ANA 1	Kitamura, F.	LOQ-P
Guadix, E.M.	H&N 5	Holm, H.C.	BIO 2.1/IOP 2/PRO 2,	Jiménez, S.	EAT-P	Kitamura, S.	ANA 1
Guardiola, F.	LOQ 4a		PRO 3	Jin, G.	ANA 4a	Kitson, A.P.	BIO 3/H&N 3.1, H&N 1
Guedes, A.C.	EAT-P	Holub, B.	HT 3	Joffre, C.	H&N 1	Klare, R.	S&D 4.1
Guillaume, C.	ANA 3	Homma, R.	LOQ 5a	Joffre, F.	PRO-P	Knothe, G.	BIO 2.1/IOP 2/PRO 2, IOP 5
Güler, S.	LOQ 4a, LOQ 5a	Honma, T.	ANA-P	John, G.	IOP 4	Knowlton, S.	LOQ 5b
Guo, Z.	S&D 1	Honold, P.J.	LOQ 2, LOQ-P	Johnson, D.R.	LOQ-P	Knuthsen, B.	BIO 2.1/IOP 2/PRO 2
Gupta, M.K.	LOQ 5b	Hori, R.	BIO 2	Johnson, H.	H&N 1	Koba, K.	PCP 3/SCC
Gupte, A.	AM 5	Hosokawa, M.	BIO 1, H&N 1, LOQ 3b	Johnson, L.	PCP 2	Koçer, A.T.	IOP-P
Guri, A.	EAT-P	Hosomi, R.	BIO 3/H&N 3.1	Jones, K.	IOP 4	Koch, P.	PRO-P
Guschina, I.A.	BIO 5.1/H&N 5.1/SCC,	Hossain, Z.	H&N 5	Jones, P.J.	BIO-P	Koduvayur Habeebullah, S.F.	
	BIO 5	Hosseini, M.	BIO 2	Jones, P.J.H.	HT 2, H&N 2		ANA 3.1/IOP 3
Gutowski, K.	S&D 2, S&D-P	Hou, C.T.	BIO 1	Jonsdottir, R.	LOQ 2	Kohl, J.	BIO 2
Haakensen, M.	BIO 5	Hou, T.W.	ANA-P	Ju, L.K.	BIO 2	Kohno, Y.	S&D 3.1
Habe, H.	BIO-P	Houston, B.	IOP 1a	Julio, L.M.	EAT-P, LOQ-P	Koishi, S.	LOQ-P
Habi Mat Dian, N.L.	EAT 4	Hrcirik, K.	ANA 1	Jung, H.	H&N-P	Kokai, Y.	H&N 1
Hall, C.	LOQ 4b	Hruschka, S.	PCP 2, PRO 4b	Jung, S.	PCP 2	Komaiko, J.	EAT 1
Hamamoto, Y.	IOP 1a	Hsu, G.	S&D 1	Junior, A.	BIO-P	Kononets, L.	BIO 5.1/H&N 5.1/SCC
Hammock, B.	BIO 4/S&D 4	Hu, F.	H&N 3	Jurado-Alameda, E.	S&D-P	KoohiKamali, S.	H&N 5
Han, J.	PCP-P	Hu, F.	HT 1	Kadamne, J.	EAT-P	Korlipara, P.	IOP 4
Hanin, A.N.	BIO 1	Hu, M.	LOQ 4b	Kahn, C.	PHO 1	Korzun, V.N.	H&N-P
Hanna, C.	AM 4/EAT 4.1	Hu, P.	EAT 4	Kalita, D.	IOP 5	Kosiyant, P.	EAT-P
Hansen, T.T.	PCP 2	Huang, H.	EAT 2, PCP 4	Kalita, H.	IOP 5	Kotaniguchi, M.	ANA 1
Hanumansetty, S.	S&D 3.1	Huang, K.	IOP 1b	Kallenbach, J.	LOQ 4b	Kothapalli, K.S.D.	H&N 3
Hara, H.	PCP 3/SCC	Hudson, A.	S&D 4.1	Kalogianni, E.P.	ANA 5b	Koyama, K.	ANA 1
Harper, J.W.	EAT 2	Hunter, J.E.	H&N 3	Karagianni, K.	S&D 2	Krahl, J.	BIO 2.1/IOP 2/PRO 2
Harper, W.J.	EAT 3	Huth, P.J.	EAT 2	Karasek, L.	ANA 1	Kralovec, J.	AM 1, LOQ 1a, LOQ 2
Harris, K.	S&D 2	Huth, P.J.	HT 1	Karki, B.	PCP-P	Kramer, J.K.G.	ANA 4a, ANA 4b,
Hart, C.	ANA 4b	Huybregts, L.	BIO-P	Karl, B.	S&D 1		ANA-P
Hartel, R.W.	SS 4	Huynh, S.	EAT-P	Karleskind, D.	EAT 1	Kris-Etherton, P.M.	H&N 3
Harwood, J.L.	BIO 5.1/H&N 5.1/SCC,	Hwang, H.S.	LOQ 1b, LOQ 2, LOQ 3b	Kartal, M.G.	LOQ 5a	Kristinsson, H.G.	LOQ 2
	BIO 5	Hwang, K.T.	H&N-P	Karunathilaka, S.R.	ANA 4a, ANA-P	Krugovov, D.A.	LOQ-P, PHO 1
Hasan, F.M.	PCP 5	Hyldig, G.	LOQ 4a	Kasaikina, O.T.	PHO 1, LOQ-P	Küchler, T.	ANA 2
Hasan, M.	PHO 1	Ibrahim, H.R.	PCP 3/SCC	Kato, S.	ANA-P, PHO-P	Kuiper, H.C.	ANA 5a
Hase, A.	PCP 5	Ifeduba, E.A.	EAT 4, EAT-P	Kaur, S.	S&D-P	Kukhar, V.	BIO 5.1/H&N 5.1/SCC
Hashim, M.A.	IOP 5	Ikeda, I.	H&N-P	Kawabeta, K.	PCP 3/SCC	Kuksis, A.	ANA-P
Hashimoto, R.	S&D 3.1	Ina, S.	PCP 5	Kawada, T.	BIO 1	Kulinkina, A.	H&N 5
Haßelberg, J.	IOP 4	Inan, B.	IOP-P	Kawamura, Y.	H&N-P	Kumagai, H.	PCP 5, PCP-P
Hatfield, R.	PCP-P	Indra, A.K.	BIO 5.1/H&N 5.1/SCC	Kawano, S.	S&D-P	Kumamoto, S.	ANA 1
Hatzakis, E.	ANA 3.1/IOP 3, PHO 2	Indrasena, W.	AM 1, LOQ 1a, LOQ 2	Kazachkov, M.	BIO 3/H&N 3.1	Kumar, S.	PCP 5
Hay, R.	S&D 3.1	Inoue, N.	H&N-P	Kaze, N.	ANA 1	Kunz, W.	S&D 5
Hayashi, M.	BIO-P	Inoue, Y.	BIO 3/H&N 3.1	Keceli, T.M.	BIO 5.1/H&N 5.1/SCC,	Kuppert, D.	BIO 4/S&D 4, S&D 2
Hayes, D.G.	BIO 2, BIO 4/S&D 4,	Inui, H.	ANA 1		EAT 1, LOQ 4a, LOQ 5a	Kurata, A.	BIO 1
	S&D 4.1	Ionescu, M.	IOP 1b	Keenan, A.	S&D 1	Kureck, I.	LOQ-P
Hayes, J.	S&D 1	Irigaray, B.	EAT-P	Kegel, L.L.	S&D 4.1	Kurokawa, H.	IOP 1a
Hayes, M.	PCP 1	Isak, T.	LOQ-P	Kelkar, S.	LOQ 5a	Kwak, J.	EAT-P
Hayyan, A.	IOP 5	Isbell, T.A.	IOP-P	Kellens, M.J.	PRO 5	Labuza, T.P.	PCP 1
Hayyan, M.	IOP 5	Ishida, K.R.	LOQ-P	Kenar, J.A.	EAT-P	Lacabanne, C.	H&N 1
He, X.	BIO 5.1/H&N 5.1/SCC	Ishiguro, T.	AM 4/EAT 4.1	Kerem, Z.	ANA 3	Lacroux, E.	PRO-P
He, Z.	PCP-P	Ito, J.	ANA-P	Kerr, B.	PCP 4	Lager, I.	BIO 3/H&N 3.1
Heistand, II, R.	PRO 1	Ixtaina, V.Y.	EAT-P, LOQ-P	Kessuane, M.C.	H&N 1	Lai, O.M.	IOP 5, EAT-P
Heldman, D.	AM 4/EAT 4.1, EAT 3	Izawati, A.M.D.	BIO 1	Kettenbach, G.	TECH 1	Lamberson, C.	LOQ-P
Henao, J.A.	H&N-P	Izumi, Y.	BIO-P	Kharraz, E.	IOP-P	Lambert, F.	S&D 2
Hernandez, R.	IOP 4	Jabbari, E.	PHO 1	Khilchevsky, O.	BIO 5.1/H&N 5.1/SCC	Lammi-Keefe, C.J.	H&N-P
Herrera, M.L.	EAT-P, PRO 5	Jackoway, G.	ANA 4a	Kicenic Devarenne, A.	SS 6	Lamsal, B.P.	BIO 4/S&D 4, PCP-P,
Herrera-Márquez, O.	S&D-P	Jacobs, R.L.	EAT-P	Kieckbusch, T.G.	EAT-P		S&D 1, S&D 4.1
Hettiarachchy, N.	PCP 5	Jacobsen, C.	ANA 3.1/IOP 3, H&N 5,	Kikukawa, H.	BIO 1, BIO 3/H&N 3.1	Lan, Y.	EAT 3, EAT-P
Hettler, J.	EAT 5		LOQ 2, LOQ 4a, LOQ-P	Kim, B.H.	ANA 4a, PHO 1, BIO-P	Lansdaal, E.	S&D 3.1
Hewitt, N.J.	PRO 5	Jadhav, P.	LOQ 1b	Kim, C.T.	BIO-P	Lapointe, J.	ANA 4b
Higgins, N.	EAT 2	Jadhav, P.D.	PCP-P	Kim, H.J.	BIO-P	Larsen, D.B.	LOQ 2
Hilbig, J.	LOQ-P	Jain, V.P.	EAT 2	Kim, I.	BIO 2, BIO 3/H&N 3.1, BIO 5,	Larson, B.	EAT 2

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Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)	Author/Presenter	Session(s)
Latorre, K.	EAT-P	MacKay, D.	H&N 5	Mercier, L.	PCP-P	Nag, A.	ANA 3.1/IOP 3
Laurens, L.M.L.	ANA 3.1/IOP 3, IOP 5	MacMahon, S.	ANA 1	Metin, S.	EAT 1	Nagai, T.	ANA-P, BIO 2
Laurila, T.	IOP 5	Madore, C.	H&N 1	Mi, S.	ANA-P	Naganuma, T.	IOP 1a
Laurvick, K.	SS 6	Madsen, U.	PCP 2	Mi, Z.	IOP-P	Nagao, T.	BIO 1, BIO 3/H&N 3.1
Lautenschlaeger, R.	LOQ-P	Mafhuz, A.	PRO 3	Miele, S.	ANA 4b	Nagatomo, H.	BIO-P
Lay, J.	ANA 5b	Maglinao, R.L.	IOP-P	Mikami, N.	H&N 1	Nagy, A.	BIO 4/S&D 4, S&D 2
Layé, S.	H&N 1	Maier, R.M.	ANA 3.1/IOP 3, BIO 4/S&D 4, S&D-P	Mikiya, Y.	AM 4/EAT 4.1	Nahas, R.	LOQ 3a
Lazzerini, C.	ANA 3, ANA-P	Mailer, R.J.	ANA 3	Mikkelsen, L.M.	S&D 2	Nakagawa, K.	ANA-P, LOQ 3b, PHO-P
Lea, T.E.	PCP 1	Mainville, I.	PCP 1	Miller, P.	ANA 3	Nakajima, S.	LOQ-P, PCP 3/SCC
Leal Vieira Cubas, A.	PRO-P	Malcata, F.X.	EAT-P	Miller, P.	SS 6	Nakanishi, K.	AM 4/EAT 4.1
Lecomte, J.	IOP 4	Maleky, F.	AM 4/EAT 4.1, EAT 2, EAT 3, EAT 5, EAT-P	Mimura, N.	IOP 1a	Nakano, H.	BIO 1
Lednev, S.	LOQ-P	Malladi, S.	S&D 1.1	Minamitani, M.	S&D-P	Nakashima, K.	H&N-P, PRO-P
Lee, E.J.	BIO 3/H&N 3.1	Malomo, S.A.	H&N-P	Minchom, J.	S&D 4.1	Nakhasi, D.K.	EAT 2
Lee, H.J.	H&N-P	Mangat, C.K.	S&D-P	Mincke, S.	S&D 5	Nambodiri, A.	HT 3
Lee, J.	EAT-P	Mangraviti, D.	ANA-P	Ming, C.C.	EAT-P	Narayan, R.	IOP 1b
Lee, M.W.	BIO 3/H&N 3.1	Mankoc, B.	AM 4/EAT 4.1	Minor, B.	PRO 1	Narra, N.	IOP 4
Lee, W.J.	PHO-P	Månsson, L.	LOQ-P	Miranda, C.L.	BIO 5.1/H&N 5.1/SCC	Navarro, N.R.	H&N 5
Lee, Y.Y.	EAT-P	Mao, X.	EAT 4	Mirani, R.	BIO 4/S&D 4	Nayak, S.	LOQ 3a
Leigh, J.	ANA 1	Marangoni, A.G.	AM 4/EAT 4.1, ANA-P, EAT 2, EAT 3, EAT 4, EAT 5, EAT-P, S&D 1	Mirghani, M.E.S.	IOP 5	Neddersen, J.	EAT-P
Lele, S.	LOQ 5a	Marinopoulou, A.	ANA 5b	Mirzaee Ghazani, S.	EAT-P	Nehdi, I.A.	EAT-P
Lemieux, M.J.	BIO 1	Marks, K.	H&N 1	Miyahara, T.	S&D 3.1	Nelson, P.	PRO 4a
Lentucci, C.	H&N 1	Marra, A.	ANA-P	Miyashita, K.	BIO 1, H&N 1, LOQ 3b	Nestola, M.	ANA 2
Lepilleur, C.	S&D 2.1/SCC	Martin, E.	ANA 5b	Miyauchi, K.	BIO 3/H&N 3.1	Neuman, D.	SS 6
Lester, J.	H&N 2	Martinez-Avila, M.	EAT-P	Miyazaki, K.	ANA 1	Ng, S.P.	EAT-P
Lewis, E.D.	EAT-P	Martini, S.	AM 4/EAT 4.1, EAT-P, PRO 5	Miyazaki, Y.	BIO 2	Nguyen, D.	S&D 1.1
Lewis, S.	PCP 4	Martins, G.B.C.	IOP-P	Miyazawa, T.	ANA-P, LOQ 3b, PHO-P	Nguyen, Q.	PCP 5
Leyrolle, Q.	H&N 1	Martins, T.	BIO-P	Moecke, E.	BIO-P	Nguyen, T.	S&D 1.1, S&D 4.1
L'Hocine, L.	PCP 1, PCP-P	Masani, M.Y.A.	BIO 1	Moecke, E.H.S.	LOQ-P	Nicholson, R.	EAT-P
Li, C.	BIO 2	Masuchi, M.H.	EAT-P	Moens, H.	S&D 1	Nickerson, M.	PCP 5
Li, M.	IOP 1b	Masura, M.S.	BIO 1	Mohan, A.	PCP-P	Nie, X.	IOP-P
Li, S.H.	IOP 1b	Masuyama, A.	S&D-P	Mohsen, U.	IOP 4	Nielsen, M.	EAT-P
Li, X.	ANA 3, IOP 5, PCP 2	Mat Sahri, M.	EAT 4	Monakhova, Y.	ANA 4b, PHO 2	Nielsen, P.M.	BIO 2.1/IOP 2/PRO 2
Li, Y.	PCP 4	Matache, C.	S&D 3.1	Mondello, L.	ANA 2, ANA-P	Nikaido, M.	IOP 1a
Lilly, C.	PCP-P	Matos, A.	BIO-P	Montenegro, M.A.	IOP-P	Niranjan, K.	PRO 5
Lim, A.	AM 4/EAT 4.1	Matos, A.P.	LOQ-P	Montenegro-Burke, J.R.	LOQ-P	Nishida, Y.	S&D-P
Lim, D.W.	ANA-P	Matsuda, A.	BIO-P	Montes de Oca Avalos, J.M.	EAT-P	Nishiyama, Y.	BIO 2
Limbaugh, M.	EAT 3	Matsuda, T.	BIO-P	Morales, S.	IOP-P	No, D.S.	BIO 3/H&N 3.1, BIO 5, BIO-P
Lin, L.	AM 4/EAT 4.1, ANA-P	Matsui, T.	PCP 3/SCC	Morales-Rueda, J.A.	EAT 3, EAT-P	Noda, T.	PCP 3/SCC
Lin, X.	EAT-P	Matsukaze, N.	PCP-P	Moreau, R.A.	PCP 4	Nogueira, M.S.	H&N 1
Lin, Z.	BIO 2	Mayfield, S.E.	EAT-P	Moreda, W.	ANA 3, ANA-P	Nolasco, S.M.	EAT-P, LOQ-P
Linder, M.	PHO 1	Mazzanti, G.	AM 1, AM 4/EAT 4.1, EAT 5, ANA-P	Moriyama, T.	H&N-P	Nouard, M.L.	LOQ-P
Lisovskaya, A.	H&N 5, LOQ-P	Mazzonetto, M.	PHO 1	Moser, B.R.	BIO 2.1/IOP 2/PRO 2, IOP 5	Nouraei, M.	EAT 5.1/S&D 5.1
List, G.R.	SS 5	McClements, D.J.	EAT 1, EAT 3, EAT 5.1/S&D 5.1, H&N 5, LOQ 2, LOQ 3b, LOQ 4b, LOQ 5a, EAT-P, H&N-P, LOQ-P	Mossoba, M.M.	ANA 4a, ANA 4b, ANA-P	Novaes, M.F.	PRO 5
Litin, A.	PRO-P	McGinagle, S.L.	ANA 5a	Mouchalski, H.	LOQ-P	Numata, T.	S&D-P
Liu, A.	BIO 4/S&D 4	McIntosh, T.	PCP 4, PCP-P	Mugo, S.	ANA-P	Nunes, M.A.	PRO-P, H&N-P
Liu, J.	EAT-P, PCP-P	McKeague, J.	LOQ 2	Mugo, Y.S.	BIO-P	Nurfahisza, A.R.	BIO 1
Liu, K.	PCP 4	McKeon, T.A.	BIO 5.1/H&N 5.1/SCC	Muijlwijk, K.	ANA 3.1/IOP 3	Nwachukwu, I.	PCP 5
Liu, L.	BIO-P	McLean, J.	LOQ-P	Muller, C.M.O.	LOQ-P	Nyame Mendendy Bousambe, G.	S&D 1
Liu, L.S.	BIO 2	McNamara, R.	HT 3	Muñoz Castellanos, L.	LOQ 4a	O'Brien, N.M.	PCP 3/SCC
Liu, R.	ANA-P	McNeill, G.P.	EAT 4	Mupondwa, E.K.	IOP 5, PCP 2, PCP 4	Ocampo, A.	H&N-P
Liu, S.X.	LOQ 2, LOQ 3b	Md Noor, A.	IOP 5	Murillo-Hernández, N.I.	EAT-P	O'Connor, S.	S&D 2.1/SCC
Liu, Y.	EAT 5	Meda, V.	ANA-P	Muriuki, M.	ANA 4a, ANA-P	O'Connor, T.P.	PCP 3/SCC
Liu, Z.S.	IOP 1b, IOP-P	Medeiros Machado, M.	PRO-P	Murota, K.	ANA 1	Ogawa, J.	BIO 1, BIO 3/H&N 3.1, BIO 5
Liyanage, R.	ANA 5b	Medrano, A.	EAT-P	Murphy, D.	S&D 3.1	Ogura, E.	S&D 3.1
Lo, W.Y.	BIO-P	Mello, V.M.	IOP-P	Murphy, E.J.	SS 2, SS 4	Ohdera, M.	IOP 1a
Logan, A.	H&N 2, PHO 1	Melnik, A.	BIO 5.1/H&N 5.1/SCC	Murray, R.E.	BIO 2.1/IOP 2/PRO 2, IOP 5, IOP-P	Ohki, T.	IOP 1a
Lohitharn, N.	BIO 4/S&D 4	Meng, Z.	EAT 5	Musarra, V.	ANA-P	Oi Ming, L.	EAT 4
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Lora, J.H.	PCP-P	Menzel, A.	LOQ 1b	Mutch, D.	H&N 1	Okuda, T.	BIO 1
Loshadkin, D.	LOQ-P	Mercankaya, B.N.	LOQ 4a, LOQ 5a	Muthukumarappan, K.	PCP-P	Oles, C.J.	ANA-P
Lumor, S.	LOQ 1b			Muylaert, K.	AM 1	Oliveira, G.M.	EAT-P
Lustberg, M.	H&N 2			Myint, K.	S&D 4.1	Oliveira, J.	BIO-P
Lyon, S.	S&D 2.1/SCC			Nadjar, A.	H&N 1	Oliveira, M.B.P.P.	H&N-P, LOQ-P, PRO-P
Ma, M.	ANA-P					Olivia, C.M.	EAT-P
Ma, T.	PCP 1					Omonov, T.S.	IOP-P
Ma, Y.	H&N-P					Ono, D.	S&D-P
Ma, Z.K.	ANA 1					Orchard, T.	H&N 2
MacDonald, A.	AM 4/EAT 4.1						
Machado, M.M.	LOQ-P						
Macias-Rodriguez, B.A.	EAT 2						



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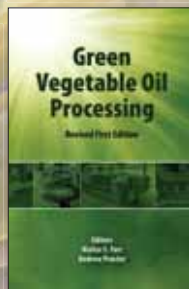
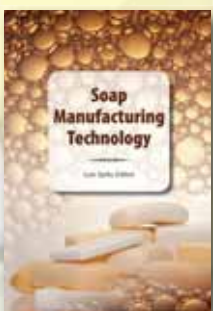
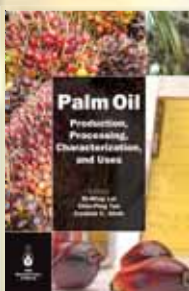
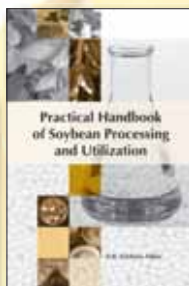
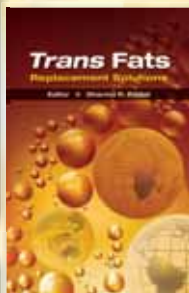
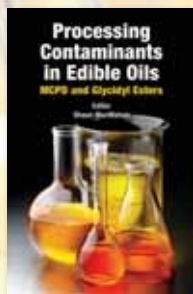
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O'Sullivan, C.	EAT-P	Porter, N.	LOQ-P	Romano, J.	ANA 1, ANA-P	Sharma, R.	BIO 4/S&D 4
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Overman, P.M.	ANA 5b	Pratap, A.P.	IOP-P, S&D-P	Rong, L.	AM 4/EAT 4.1	Sheffield, J.	PCP 1
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Pages, X.	PRO 5	Purcaro, G.	ANA 2, ANA-P	Ruffing, M.	S&D 2.1/SCC	Shimizu, S.	BIO 1, BIO 5
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Pande, G.	BIO 1, EAT-P	Qiu, X.	BIO 3/H&N 3.1	Sabouri, S.	EAT-P	Shulman, J.	S&D 1, S&D 2
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Parrish, B.	S&D 3.1	Radojcic, D.	IOP 1b	Salivo, S.	ANA-P	Silva de Carvalho Pinto, C.R.	PRO-P
Parulekar, Y.S.	S&D 2	Rafanan, R.R.	EAT 1	Samanta, S.	IOP 5	Silverman, J.	IOP 4
Parveez, G.K.A.	BIO 1	Rakitsky, W.	EAT-P	Samaras, V.	ANA 1	Singh, V.	PCP 4
Pasa, V.M.D.	IOP-P	Ramchandran, A.	S&D 1.1	Sanches, M.	ANA-P	Sinichi, S.	BIO 5
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Patel, A.V.	AM 1, IOP 1b	Ramji, D.	BIO 5.1/H&N 5.1/SCC	Sanderson, R.	AM 4/EAT 4.1	Sitepu, I.R.	BIO-P
Patel, J.V.	AM 1, IOP 1b	Ranasinghe, S.	ANA 4b	Sanedrin, R.	S&D 3	Skold, F.	PRO 4b
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Patil, S.V.	S&D-P	Randall, J.	LOQ 4b	Santanna, E.	BIO-P	Small, M.	LOQ 1b
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Pedrosa, R.C.	LOQ-P	Ravetti, L.	ANA 3	Sasaki, R.	BIO 2	Smith, P.	EAT 1, LOQ 1b
Peggau, J.	S&D 2	Ray, K.	BIO 1	Sasser, M.	ANA 4a	Smith, R.	H&N-P
Peitz, M.	HT 2	Rayaprolu, S.	PCP 5	Sato, C.	BIO 2	Smith, S.	LOQ 1b
Pelittire, S.M.	PCP-P	Reaney, M.J.T.	BIO 5, ANA-P, EAT-P, PCP-P	Sato, H.	ANA 1, S&D-P	Snow, M.A.	PRO 1
Pemberton, J.E.	ANA 3.1/IOP 3, BIO 4/S&D 4, S&D 4.1, S&D-P	Reed, R.L.	BIO 5.1/H&N 5.1/SCC	Sato, K.	EAT 5, PCP 3/SCC	Soetaert, W.	S&D 1, BIO 4/S&D 4
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Perera, S.	PCP-P	Ren, F.	H&N-P	Sato, S.	BIO 2, BIO-P	Solaiman, D.K.Y.	BIO 2, BIO 5.1/H&N 5.1/SCC
Peréz, B.	S&D 1	Ren, K.	S&D 4.1	Sawabe, T.	BIO 1	Sosnovskaya, A.	LOQ-P
Pérez-Camino, M.C.	ANA 3, ANA-P	Ren, S.	IOP-P	Scamehorn, J.F.	S&D 2.1/SCC	Sousa-Pinto, I.	EAT-P
Perissi, V.	H&N 1	Resasco, D.	S&D 3.1	Scanlon, M.G.	BIO-P	Spangenberg, C.	S&D 2.1/SCC
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Petrovic, Z.S.	IOP 1b	Ribeiro, A.P.B.	EAT-P	Schaich, K.	LOQ-P	Srigley, C.T.	ANA 4b, ANA 5a, ANA-P
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Peyronel, F.	AM 4/EAT 4.1, EAT 5	Riekkola, T.	IOP 5	Schneeman, B.	HT 2	Stark, K.	H&N 1, H&N-P
Phan, J.	S&D 1.1	Rigano, F.	ANA-P	Schröder, A.	LOQ 1b	Steffens, J.	S&D 4.1
Phillips, T.	ANA-P	Rigano, R.	ANA-P	Schroeder, F.	SS 2	Stevens, C.	S&D 5
Piazza, G.J.	PCP-P	Rigoletto, R.	S&D-P	Schroeder, W.D.	LOQ 4b	Stevens, J.F.	BIO 5.1/H&N 5.1/SCC
Pienkos, P.	IOP 5	Rigolle, A.	EAT 5	Schroën, K.	ANA 3.1/IOP 3, EAT 5.1/S&D 5.1, LOQ 1b	Stoll, D.	ANA 2
Pimentel, F.B.	H&N-P, PRO-P, H&N-P, LOQ-P	Rincon-Cardona, J.	PRO 5	Schurz, K.	ANA 1	St-Onge, M.-P.	HT 3
Pingali, S.V.	S&D 4.1	Rincon-Cardona, J.A.	EAT-P	Sciarrone, D.	ANA-P	Storch, J.	SS 2
Pink, D.A.	AM 4/EAT 4.1, EAT 5	Rix, J.	ANA-P	Segalen, C.	PRO 5	Strayer, D.K.	EAT 4
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Pliss, R.	LOQ-P			Shah, P.	S&D-P	Sugano, M.	PCP 3/SCC

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