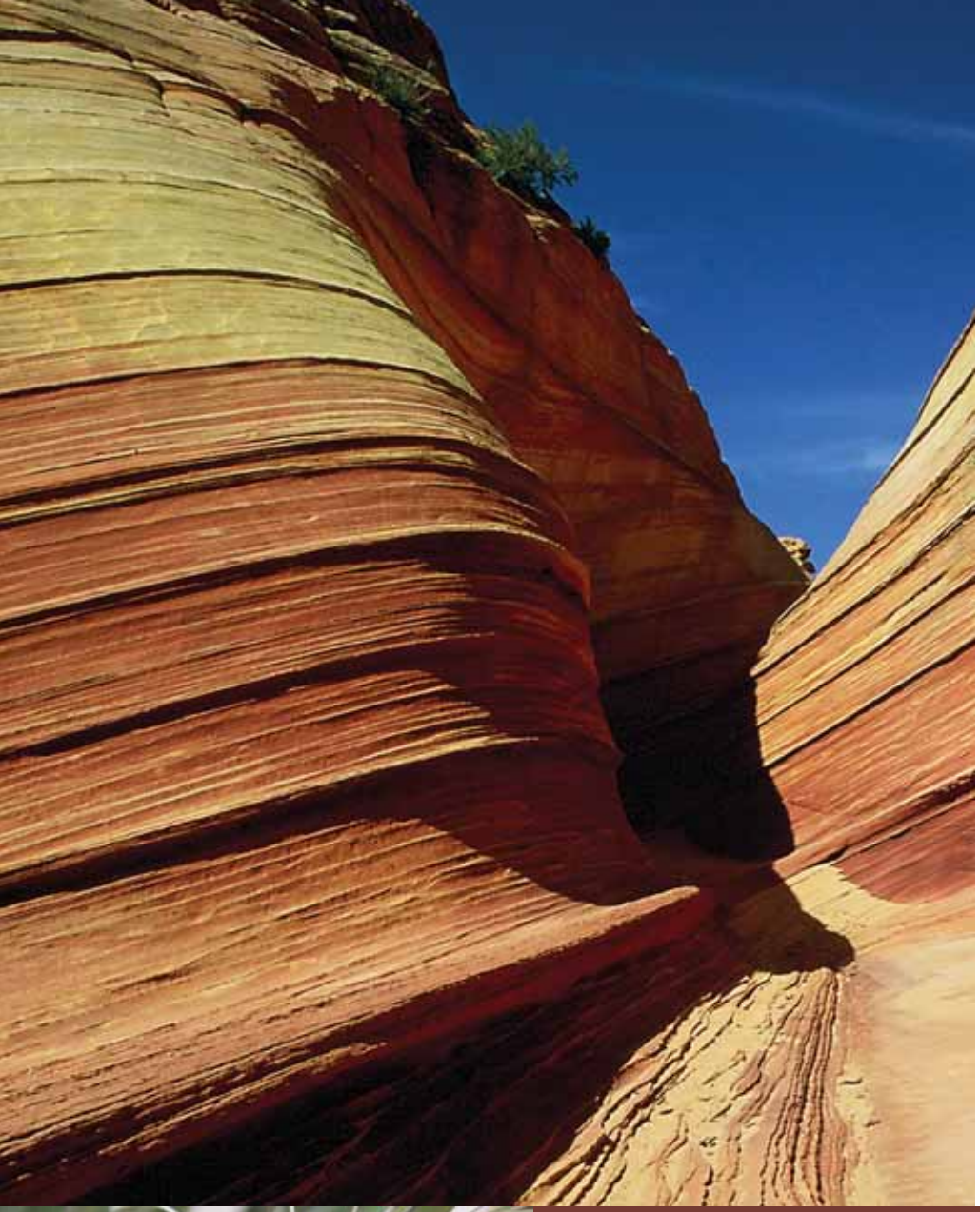

AOCS
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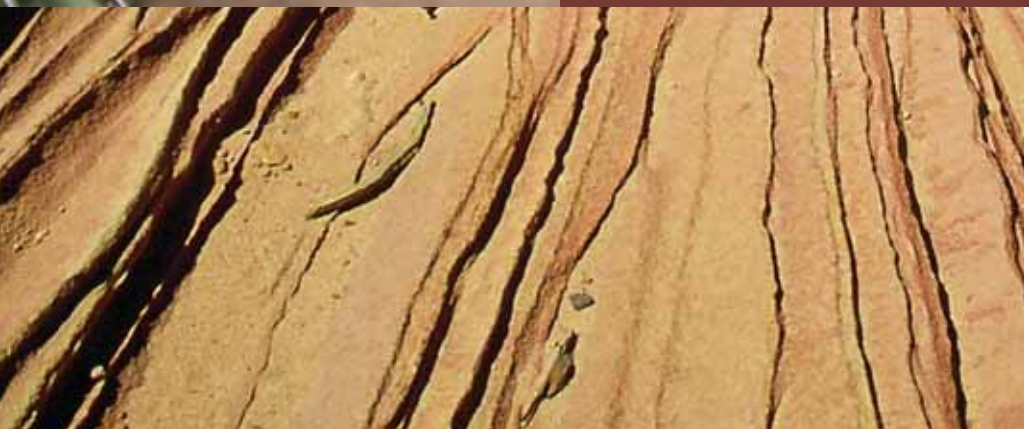
Your Global Fats and Oils Connection

101st AOCS Annual Meeting & Expo

May 16–19, 2010

PHOENIX CONVENTION CENTER
Phoenix, Arizona, USA

Program



A Global Business and Scientific Forum on Fats, Oils, Surfactants, Lipids, and Related Materials

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Sustainability means meeting today's needs without compromising the needs of tomorrow's generations

Henkel has been using ingredients based on renewable raw materials for decades. The surfactants in our laundry detergents and household cleaners are from renewable raw materials such as palm kernel oil. Since 2003, we have participated in the Round Table for Sustainable Palm Oil (RSPO) and in 2008, we were the first company worldwide to purchase certificates for sustainable palm kernel oil.

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Chemithon International Pte. Ltd, 42 Tuas South Street 5, Singapore 637832
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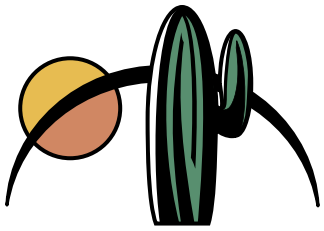
tda 04/10

COVER PHOTO: BROCK PEOPLES
CACTUS/COVER: LEE ANN GALAWAY

Welcome!



Dear Meeting Attendees,

On behalf of the organizing committee, staff, and 4000+ worldwide AOCS members, it is my distinct pleasure to welcome you to the 101st AOCS Annual Meeting and Expo! An enriching week of science, friendship, and fun awaits you in sunny Phoenix.

Thank you also to the 90+ exhibiting companies in our Expo and to the authors who have contributed to the 72+ technical sessions in the program. Our scientific sessions represent the quality and dedication of our Society's members to provide you with the most up-to-date and meaningful developments in the field of fats and oils and their related applications.

This year's program offers sessions by all 12 AOCS Divisions, including six joint inter-Division sessions. In addition to these oral and poster presentations, our "Hot Topic" Symposia will again be offered on Tuesday morning.

Also, make sure to join us at the annual business meeting Tuesday morning to welcome in our new leadership, learn about our Society's past year and future goals, and to honor the many deserving AOCS Award Program winners.

Please take advantage of all the Annual Meeting has to offer, including informal networking, the Opening Mixer, technical and social events throughout the meeting, and the poster displays Sunday through Wednesday, with authors present on Monday afternoon.

These functions provide great opportunities to learn about recent developments in all aspects of oilseeds—production, processing, products, green technology, and health benefits. The industry representatives at the Expo displays will keep you up-to-date on the latest research supplies, equipment, literature, and oilseed products.

I am looking forward to seeing YOU at the Opening Mixer and at many of our other functions this week. If you have any questions, please do not hesitate to ask me or any of the AOCS staff members.

Have fun in Phoenix!

Douglas M. Bibus
General Chairperson

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We've Gone Mobile

Get the most current Annual Meeting schedule, changes, and registration list online right from your phone.

Schedule: http://AnnualMeeting.aocs.org/pag
Registration List: http://www.aocs.org/meetings/annual_mtg/prereglist.cfm

Ian Purtle

J. Keith Grime

AOCS Mission

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

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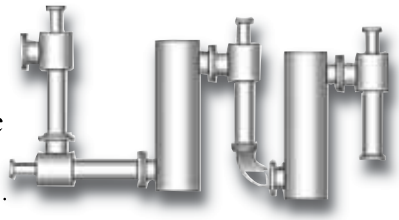

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AOCS greatly appreciates the generous contributions from the following organizations.
Without their assistance, the success of the 101st AOCS Annual Meeting & Expo would not be possible.

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Poster Viewing Reception

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AOCS Annual Business Meeting

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QUALISOY offers the latest updates on healthy and functional soybean oils

Join us on Tuesday, May 16 at the QUALISOY Expo Networking Lunch

Visit us on the web at **QUALISOY.com**
or contact us at **info@QUALISOY.com**

QUALISOY™

QUALISOY is a soybean industry collaboration striving to promote currently available trait-enhanced soybean oils as well as those in the research pipeline. Those oils include low-linolenic, Increased Oleic, High-Oleic, High-Oleic/Low-Saturate, Increased Omega-3 and High-Stearic. All of these oils can offer trans fat solutions with improved functionality, nutrition and/or performance.

Social Events

Opening Mixer

Co-sponsored by: Henkel — A Brand like a Friend; PQS Pilot Plant Corp.

Sunday, May 16, 5:30–7:00 pm
Expo, Hall 6
$70

This event is included in the registration fee for full-technical registrants, exhibit personnel, pre-meeting short-course-only registrants, and for those who purchased the guest package. Additional tickets may be purchased at the Registration Desk.

Dedicated Poster Viewing and Reception

Sponsored by: Henkel — A Brand like a Friend

Monday, May 17, 4:00–6:00 pm
Expo, Hall 6

Come and meet with poster authors and representatives from the exhibiting companies in a friendly, relaxed atmosphere. Beverages and light snacks will be offered.

***Please be on time!** These presentations will be recorded and live-streamed. Doors will be monitored and latecomers will be asked to wait until an appropriate time to enter.

AOCS Annual Business Meeting*

Sponsored by: OIL-DRI CORPORATION OF AMERICA

Tuesday, May 18, 7:00–8:00 am
120A

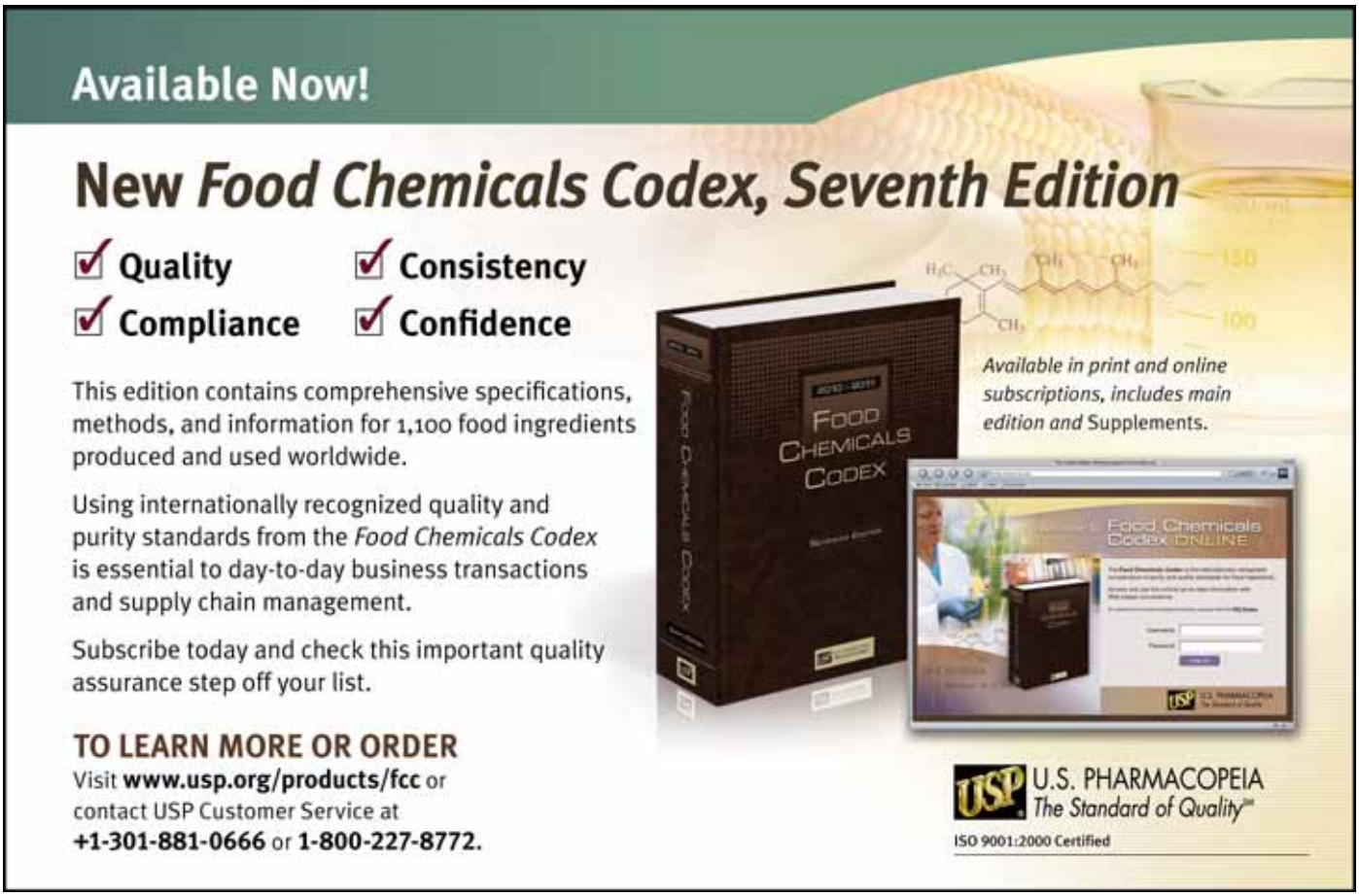
AOCS President Ian Purtle will deliver a brief address, followed by the installation of incoming officers and the presentation of awards. This event is included in the fee for all full-technical registrants and for guests who have purchased the guest package. Single-day and non-technical registrants may purchase a ticket at the Registration Desk for $30.

Keynote Address*

Tuesday, May 18, 8:00–8:45 am
120A

Sustainability Innovation in the Chemicals and Consumer Product Goods (CPG) Industries.
Richard F. Theiler, Senior Vice President, Research & Development, The Dial Corporation, USA

Directly following the AOCS Annual Business Meeting, Richard Theiler will provide a comprehensive examination of the business impacts and new opportunities associated with sustainability.



Experience AOCS!

AOCS Pavilion

Inside the Expo, Hall 6

Sunday..... 10:00 am–7:30 pm
Monday..... 7:00 am–6:00 pm
Tuesday..... 7:00 am–6:00 pm
Wednesday..... 7:30 am–5:00 pm

Experience the AOCS website!

The new and improved website was launched in early May. The clean design, increased functionality, and improved technologies were implemented to serve your needs. Visit the Pavilion to *experience* more.

THE LAB Need help with computer or technical difficulties? Stop by The Lab. Or, take a few minutes for some one-on-one, hands-on training in a variety of online learning programs, online products, and networking opportunities available through www.aocs.org.

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Learn about the AOCS e-learning modules available.

eLearning AOCS Training Options

3rd Annual AOCS Job Fair
Employers and job seekers may take advantage of this expanded career network to find the perfect employee or career.

Complimentary wireless internet access, *sponsored by Verenium*, and email stations are available in the Expo Hall during the AOCS Pavilion hours.

VERENIUM THE NATURE OF ENERGY™

15th Annual Student CIG Silent Auction

Sponsored by the AOCS Foundation and Student Common Interest Group

This popular event begins at 1:00 pm on Sunday and ends at 6:00 pm on Tuesday. Now in its 15th year, the Silent Auction raises money for the outstanding AOCS Foundation student initiatives and generates friendly competition for the variety of creative items that are donated. Help support AOCS student programs by taking part in the bidding. See page 23 for more details.

AOCS FOUNDATION
Influencing Innovation

The AOCS Foundation introduces the Influencing Innovation Campaign. See how the AOCS Foundation is partnering with AOCS to provide resources to our constituents which will result in the improvement of health, wellness, cleaning, personal care, nutrition, energy alternatives, and food products (to name just a few).

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

Abstract Search Station

POWERED BY THE AOCS FOUNDATION
Delegates can search for and print abstracts for any of the technical presentations.

Create Your Annual Meeting Itinerary

POWERED BY THE AOCS FOUNDATION
Delegates can create an itinerary schedule of the technical presentations.

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

AOCS Resource Center

Here you can find anything AOCS. Review current and past AOCS publications, collect information on upcoming AOCS conferences, and find printed information on all AOCS products and services.

AOCS Student Lounge

The Student Lounge is designated for students who wish to gather, socialize, and network with other students. Come leave a message for others about activities and events pertaining to students throughout the meeting. The lounge will be open the same hours as the AOCS Pavilion, so stop by and lounge around with your colleagues from around the world.

AOCS Press Bookstore

Sunday.....10:00 am–7:30 pm
Monday.....7:00 am–6:00 pm
Tuesday.....7:00 am–6:00 pm
Wednesday.....7:30 am–5:00 pm

AOCS PRESS

Browse through special conference-priced books, new releases, and technical reference materials at the AOCS Press Bookstore. AOCS t-shirts are available for sale, too.

Plinko!

New this year! Play this suspenseful game of chance to win prizes or an additional discount on your purchase. See page 33 for more details on the AOCS Press Bookstore.

Author/Editor Book Signing
Monday May 17, from 5:00–6:00 pm. Be sure to stop by for this great opportunity to meet the authors and editors of AOCS Press Products.

Expo 2010

Hall 6

The AOCS Expo—the gathering place for Annual Meeting delegates from around the globe—will showcase more than 90 exhibiting companies covering a variety of product categories:

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

Attendees have the opportunity to visit industry suppliers in one convenient location. See the Expo Guide on page 74 for more details.

The Expo Hall also hosts the Opening Mixer, Poster Viewing and Reception, the Expo 2010 Reception, and the Qualisoy Expo Networking Lunch, a new networking event in the Expo Hall.

The CAML

Presented by:

MONSANTO imagine™ USB UNITED SOYBEAN BOARD Making Your Checkoff Pay Off. SQT TECHNICAL SERVICES AOCS

For the first time at the AOCS Annual Meeting & Expo, annual meeting delegates will have the opportunity to tour Monsanto's Crop Analytics Mobile Lab (CAML), guided by Monsanto employees Morgan Petty of the Vistive™ Commercial Analytics Team and Cindy Ludwig, Tour Program Manager for Technology Communications. The CAML possesses "…accurate, rapid and simple NIR technology…supplemented with a sophisticated fast GC technology…"

Additionally, the AOCS Technical Department will be joining the Monsanto staff to discuss NIR technology, GC technology, and how the CAML performs in real-life situations, along with live demonstrations inside the CAML.

Schedule

Monday, May 17
11:30 am–6:00 pm . . . Tours
12:00–2:00 pm . . . . . Presentations
4:00–6:00 pm. . . . . Presentations

Tuesday, May 18
11:30 am–6:00 pm . . . Tours
5:00–6:00 pm. . . . . Presentations

Wednesday, May 19
8:00 am–2:00 pm . . . . . Tours

The Qualisoy Expo Networking Lunch is complimentary for Annual Meeting delegates who replied to the invitation emailed in April 2010 and who hold a Networking Lunch ticket. The Qualisoy Expo Networking Lunch is your opportunity to network with the AOCS exhibitors and is the only event where you could win a new Apple iPad.

Complimentary Wireless Internet Access, *sponsored by Verenium*, and Email Stations are available in the Expo Hall during the AOCS Pavilion hours.

Sunday, May 16
10:00 am–7:30 pm . . . .AOCS Pavilion
5:30–7:30 pm. . . . . .Exhibition Open
5:30–7:30 pm. . . . . .Poster Viewing
5:30–7:30 pm. . . . . .The CAML, *Presented by:* USB UNITED SOYBEAN BOARD Making Your Checkoff Pay Off. TECHNICAL SERVICES AOCS MONSANTO imagine™ SQT
5:30–7:00 pm. . . . . .Opening Mixer, *Co-sponsored by:* Henkel A Brand like a Friend POS PILOT PLANT CORP.

Monday, May 17
7:00 am–6:00 pm . . . . .AOCS Pavilion
7:00 am–6:00 pm . . . . .Poster Viewing
11:30 am–6:00 pm . . . .Exhibition Open
11:30 am–6:00 pm . . . .The CAML, *Presented by:* USB UNITED SOYBEAN BOARD Making Your Checkoff Pay Off. TECHNICAL SERVICES AOCS MONSANTO imagine™ SQT
4:00–6:00 pm. . . . . .Dedicated Poster Viewing and Reception
Sponsored by: Henkel A Brand like a Friend

Tuesday, May 18
7:00 am–6:00 pm . . . . .AOCS Pavilion
7:00 am–6:00 pm . . . . .Poster Viewing
11:30 am–6:00 pm . . . .Exhibition Open
11:30 am–6:00 pm . . . .The CAML, *Presented by:* USB UNITED SOYBEAN BOARD Making Your Checkoff Pay Off. TECHNICAL SERVICES AOCS MONSANTO imagine™ SQT
12:00–2:00 pm . . . . . .Qualisoy Expo Networking Lunch QUALISOY™
5:00–6:00 pm. . . . . .Expo 2010 Reception

Wednesday, May 19
7:30 am–5:00 pm . . . . .AOCS Pavilion
7:30 am–5:00 pm . . . . .Poster Viewing
8:00 am–2:00 pm . . . . .The CAML, *Presented by:* USB UNITED SOYBEAN BOARD Making Your Checkoff Pay Off. TECHNICAL SERVICES AOCS MONSANTO imagine™ SQT

General Information

Registration Desk

Sunday . . . . . 10:00 am–7:30 pm
Monday . . . . . 7:00 am–6:00 pm
Tuesday. . . . . 7:00 am–6:00 pm
Wednesday . . . . . 7:30 am–5:00 pm

Information Desks

Located at Registration (Lower Level) and Level 200; please stop by for help with any meeting and AOCS-related questions.

Message Board

Leave messages for your colleagues on this message board located near Registration. You may leave messages for AOCS staff with the Information Desk located at the AOCS Registration Desk.

Lost and Found

Please bring any items you may find to the Registration Desk. In turn, if you lose something, please check here to see if it has been turned in.

Name Badges

Name badges are color-coded to indicate registration status:

AOCS Member. . . . . Yellow
Nonmember. . . . . Blue
Guest . . . . . Tan
Student . . . . . Green
Exhibit Personnel . . . . . White
Expo Only. . . . . White
Single-Day. . . . . Orange
Daily Tour Only . . . . . Purple

- Only registrants with the badge colors noted in **bold** are allowed to attend technical sessions.
- Badge checkers will be at the doors to all sessions, and only those with the correct badges will be admitted.
- If you are not a technical registrant, but would like to upgrade to one, please see the Registration Desk.
- You are encouraged to complete the reverse side of your name badge. This will help AOCS staff or medical personnel in case of an emergency situation.

Smoking Policy

Smoking is prohibited at all AOCS functions.

General Information continued on page 12.

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Create Your Annual Meeting Itinerary

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Just stop by the "Itinerary Builder" kiosk located in the AOCS Pavilion to take advantage of the opportunity to create an itinerary schedule of the technical presentations and events you don't want to miss.

Event Tickets

- Keep your tickets with you. Most AOCS events are ticketed functions and you will need your ticket 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.

Cell Phones

In the Technical Sessions: Please turn off your cellular phones (or set to vibrate).

Photography and Recording Policy

- In the Technical Sessions: No video recording, tape recording, or still photography is allowed.
- In the Expo Hall: Video or still photography of an exhibitor's booth is not allowed unless permission is granted by the exhibitor. No video or still photography of poster presentations is allowed.

Fire Safety Precautions/Protection of Valuables

Fire safety precautions are posted in every guest room, so please take a moment to familiarize yourself with them. 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.

Meeting Registration List

In keeping with the AOCS "Green Initiative," a link to the registration list for this meeting was emailed to all pre-registered delegates the week before the meeting. If you did not receive this and would like a copy, please see the Registration Desk. You may view it at http://www.aocs.org/meetings/annual_mtg/prereglist.cfm.

May 16–22, 2010

AOCS Job Fair

AOCS will host the 3rd annual AOCS Job Fair during the 101st AOCS Annual Meeting & Expo. Employers and job seekers can take advantage of this expanded career network to search for the perfect employee or career opportunity.

Attendees of the meeting may post job openings or résumés from May 16–22 **AT NO CHARGE**.

Stop by the AOCS Job Fair Booth located in the AOCS Pavilion.

If you have a question or need space to meet for a first interview, please stop by the Information Desk located outside the Exhibit Hall.

www.aocs.org/member/jobcent

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Phoenix City and Convention Center Information

Phoenix Convention Center

100 N. 3rd Street
Phoenix, AZ 85004

Phone: +1 800-282-4842 or +1 602-262-6225
Email: phoenix.convention.center@phoenix.gov

Convention Center Venue Hosts

Lost? Can't find a room? Need help? Look for the dark blue-suited Venue Hosts who can be found in the area of the Convention Center Information Booth in the North Building near the Main Entrance on 3rd Street.

Phoenix Convention Center Business Center

The UPS Store

This business center offers a variety of services, including: volume copies, color copies, signs, digital output, fax, computer services, and more. ***AOCS attendees will receive a 5–10% discount off posted pricing—just show your badge.***

Two Locations in the Convention Center:

	North Building	West Building
Saturday, May 15	8:00 am–2:00 pm	8:00 am–2:00 pm
Sunday, May 16	9:00 am–3:00 pm	Closed
Monday, May 17	8:00 am–5:30 pm	7:00 am–6:00 pm
Tueday, May 18	8:00 am–5:30 pm	7:00 am–6:00 pm
Wednesday, May 19	8:00 am–5:30 pm	7:00 am–6:00 pm

The Business Center at the Sheraton Phoenix

(Headquarters Hotel—2nd Floor)

FedEx Office

The Business Center is a full-service FedEx Office and Kinko's, providing a full range of services including printing and shipping services, large-format signs and banners, faxing, computer rental, and more. **AOCS attendees will receive a 10% discount off posted pricing–just show your badge.**

340 N. 3rd Street
Phoenix, AZ 85004

Ph: +1 602-258-0266
Email: usa5048@fedex.com

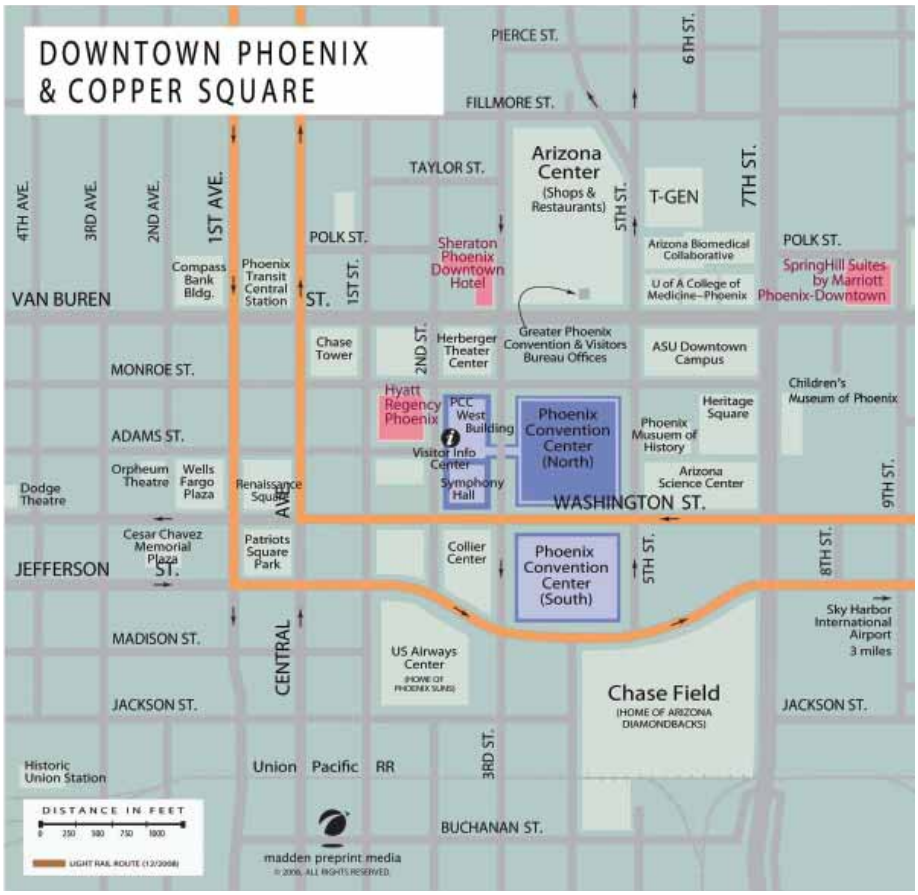
Phoenix Visitor Information

Downtown Phoenix Visitor Information Center

West Building – Phoenix Convention Center
(next to Starbucks, across from the Hyatt)
Monday–Friday, 8:00 am-5:00pm

The Visitor Information Center features a video wall, public Internet stations, and a touch-screen map of Arizona. Stop by for assistance with:

- Attractions and sightseeing
- Restaurant reservations
- Ground transportation
- General Phoenix and Arizona information



Greater Phoenix Convention & Visitors Bureau

Phone: +1 877-CALLPHX, +1 602-254-6500
Email: visitors@visitphoenix.com
Website: www.visitphoenix.com/index.aspx

Annual Meeting Hotels

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Sheraton Phoenix Downtown
340 North 3rd Street, Phoenix, AZ 85004
Tel: +1 602-262-2500
Fax: +1 602-262-2501

Hyatt Regency Phoenix
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Tel: +1 602-252-1234
Fax: +1 602-254-9472

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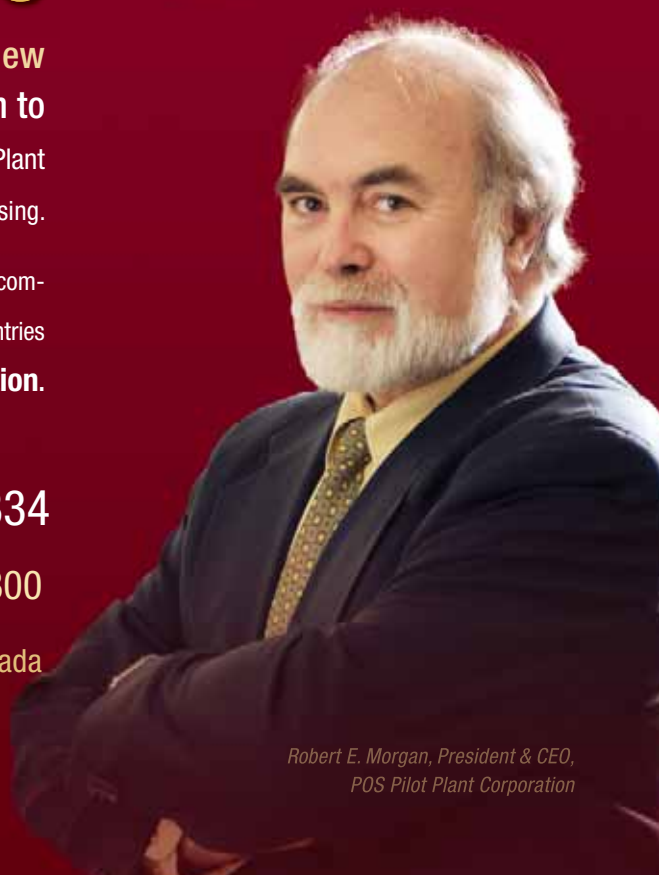

Robert E. Morgan, President & CEO, POS Pilot Plant Corporation

Optional Tours

Please visit the AOCS Registration Desk for more complete tour information or to register for the tours. Tickets are on a space-availability basis.

All tours depart from and return to the Phoenix Convention Center Main Entrance of the North Building, which is located on 3rd Street between Washington and Monroe. Please plan to arrive at least 15 minutes prior to the tour departure time.

Sunday, May 16	Tuesday, May 18
1:00–5:00 pm	1:00–5:00 pm
Phoenix/Scottsdale Tour	Taliesin West Insight Tour
$40	$85
Monday, May 17	**Wednesday, May 19**
8:30 am–4:30 pm	8:30 am–12:30 pm
Red Rocks of Sedona Tour	Los Cedros Arabian Horse Ranch Tour
$75	$85

Guest Package

$285 • If you have not already purchased this package, please see the Registration Desk for availability.

The Guest Package includes tickets for:

- The Phoenix/Scottsdale Tour Sunday afternoon. Other tours, if available, may be purchased separately.
- The receptions held in the Expo Hall Sunday–Tuesday
- Tuesday morning Annual Business Meeting (includes continental breakfast)
- Monday and Wednesday morning guest continental breakfast

Guest Breakfasts

121A
Monday, May 17, 7:30–9:00 am
Wednesday, May 19, 7:30–9:00 am

Student Activities

AOCS Student Lounge

Nestled in the heart of the AOCS Pavilion is the Student Lounge. This area is designated for students who wish to gather, socialize, and network with other students. The lounge will be open the same hours as the AOCS Pavilion, so stop by and lounge around with your colleagues from around the world!

Student/Mentor Meet and Greet

A preview to the Mentor Program is scheduled for Sunday, May 16 at the AOCS Pavilion. Stop by the Student Lounge to mix and mingle with the mentors from 5:30–6:00 pm. Don't miss this opportunity to start developing your professional network through the AOCS.

Student Common Interest Group (CIG) Lunch and Meeting

Sponsored by: Kraft North America

All students are invited to enjoy a free lunch on Wednesday, May 19th at 12:00 pm in 132ABC as part of the Student CIG business meeting. The business meeting will discuss a variety of programs and projects designed to enhance student participation in AOCS. Everyone will receive a free book* from AOCS.
*While supplies last.

Mentor Program

A number of active members from academia, industry, and government have volunteered to serve as mentors to AOCS student members. The mentoring program will begin at 12:30 pm, immediately following the Student CIG Meeting, on Wednesday, May 19 in 132ABC, and will last until 1:45 pm.

15th Annual Student CIG Silent Auction

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

Free Wi-Fi

Complimentary wireless internet access is available in the Expo Hall. To access the complimentary Wi-Fi, the User Name is "Purifine" and the Password is "Verenium".

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Complimentary email stations are also available in the Expo Hall.

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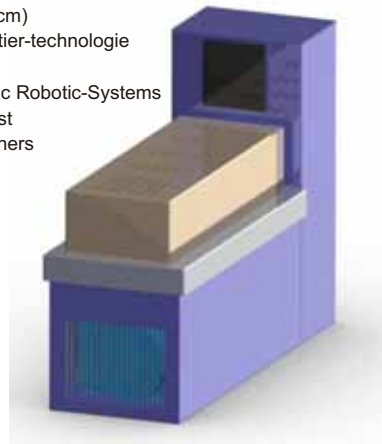

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Division Activities

AOCS 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 meeting attendees, and anyone interested is encouraged to attend.

■ **Division Officer Meetings**
Incoming Division Chairs will meet on Sunday, May 16, from 9:00–9:45 am, 128A.
Incoming Division Vice Chairs will meet on Sunday, May 16, from 10:00–10:45 am, 128A.
Incoming Division Secretary-Treasurers will meet on Sunday, May 16, from 11:00–11:45 am, 128A.

■ **Executive Steering Committee Meetings**
All Division Executive Steering Committee meetings will be held on Sunday, May 16, from 1:00–2:30 pm, 232ABC. Division officers will meet to discuss operations and strategic plans for Division activities.

The Division Council meeting will be held on Sunday, May 16, at 2:30 pm, 232ABC, immediately following the Division Executive Steering Committee meetings.

● **Roundtable Discussions**
These meetings will set priorities for Division activities and funds and will include discussion of technical sessions for future annual meetings, as well as other education and meeting opportunities.

▲ **Luncheon/Dinner Meetings**
These social functions provide time to network with peers. A presentation of interest to the Division members may be scheduled following the meal. Tickets to attend may be purchased at the Registration Desk.

Agricultural Microscopy Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC
● Roundtable Discussion: Monday, May 17, 11:20 am–12:00 pm, 223
▲ Luncheon Meeting: Monday, May 17, 12:00–2:00 pm, 128B
Christopher J. Silva, USDA, ARS, WRRC, USA, will present "The Future of Prion Diseases."

Analytical Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC
● Roundtable Discussion: Tuesday, May 18, 5:00–6:00 pm, 224A
▲ Luncheon Meeting: Wednesday, May 19, 12:00–2:00 pm, 131B
Herbert J. Dutton Award winner Andrew Proctor, University of Arkansas, USA, will present "Problem Solving Through Lipid Chemistry."

Biotechnology Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC
● Roundtable Discussion: Tuesday, May 18, 12:30–1:30 pm, 125A
▲ Dinner Meeting: Tuesday, May 18, 6:30 pm cash bar reception, 124B; 7:30 pm dinner, 129A
John Dyer, USDA/ARS, Maricopa, AZ, USA, will present "Biotechnology Meets the Bio-based Economy: Engineering Oilseed Crops for Production of High-Value Fuels and Industrial Feedstocks."

Edible Applications Technology Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC
● Roundtable Discussion: Monday, May 17, 12:00–1:00 pm, 226BC
▲ Dinner Meeting (joint with Phospholipid Division): Monday, May 17, 6:30 pm cash bar reception, Room 129A; 7:30 pm dinner, 129A
Eila Järvenpää, MTT Agrifood Research, Finland, will present "Oil-Free Egg Yolk Lecithin—Processing and Properties."

2010 Division Sponsors

As of April 7, 2010:

The AOCS Divisions gratefully acknowledge and extend thanks to the following companies and organizations for their generous donations to support Division programming at the Annual Meeting & Expo.

Agribusiness & Water Technology Inc.
Alfa Laval Inc.
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Bunge North America
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Steraloids
Tsukishima Foods Industry Co. Ltd.
Unilever Research
United Soybean Board (USB)

Food Structure & Functionality Forum Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC

●▲ Roundtable Discussion and Luncheon: Monday, May 17, 12:00 pm–2:00 pm, 131C

John Blundell, University of Leeds, United Kingdom, will present "Exercise Makes You Fat! Cross Talk Between Physical Activity and Foods."

Health and Nutrition Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC

● Roundtable Discussion: Tuesday, May 18, 12:30–2:00 pm, 127A

▲ Dinner Meeting: Tuesday, May 18, 6:30 pm cash bar reception, 124B; 7:30 pm dinner, 129B

Michael J. Murray, The Mayo Clinic, USA, will present "Bombs, Bullets, Beans, and Band-aids."

Industrial Oil Products Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC

● Roundtable Discussion: Monday, May 17, 4:00–5:00 pm, 224B

▲ Luncheon Meeting: Monday, May 17, 12:00–2:00 pm, 129A

USB Industrial Uses of Soybean Oil Award winner Herman Benecke, Battelle, USA, will present "Highlights of Soybean Oil-Derived Products Developed at Battelle."

Lipid Oxidation and Quality Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC

● Roundtable Discussion: Tuesday, May 18, 5:00–6:00 pm, 227AB

▲ Luncheon Meeting: Monday, May 17, 12:00–2:00 pm, 129B

Eric Decker, University of Massachusetts, USA, will present "Rethinking Oxidation in Bulk Oils: Role of Physical Structures."

▲ Networking reception: Monday, May 17, 5:30–7:00 pm, 124B

Phospholipid Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC

● Roundtable Discussion: Monday, May 17, 12:00–1:00 pm, 225A

▲ Dinner Meeting (joint with Edible Applications Technology Division): Monday, May 17, 6:30 pm cash bar reception, 129A; 7:30 pm dinner, Room 129A

Eila Järvenpää, MTT Agrifood Research, Finland, will present "Oil-Free Egg Yolk Lecithin—Processing and Properties."

Processing Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC

● Roundtable Discussion: Monday, May 17, 12:00–1:30 pm, 125B

▲ Hospitality: Monday, May 17, 6:00 pm–12:00 am, Sheraton Phoenix, North Mountain.

▲ Luncheon Meeting: Tuesday, May 18, 12:00–2:00 pm, 129A

Daniel G. McChesney, Office of Surveillance and Compliance, U.S. Food and Drug Administration, USA, will present "Contemporary and Future Regulation/Legislation Regarding Food/Feed Safety and Quality."

Protein and Co-Products Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, Room 232ABC

● Roundtable Discussion: Tuesday, May 18, 12:30–1:30 pm, Room 222A

▲ Dinner Meeting: Tuesday, May 18, 6:30 pm cash bar reception, 124B; 7:30 pm dinner, 131B

Donna Winham, Arizona State University Polytechnic, USA, will present "The Health Benefits of Beans."

Surfactants and Detergents Division

■ Executive Steering Committee Meeting: Sunday, May 16, 1:00–2:30 pm, 232ABC

● Roundtable Discussion: Monday, May 17, 5:00–6:00 pm, 229A

▲ Networking reception: Monday, May 17, 6:00 – 7:30 pm, 124A

▲ Luncheon Meeting: Tuesday, May 18, 12:00–2:00 pm, 132ABC

Samuel Rosen Memorial Award winner Ammanuel Mehreteab, Colgate-Palmolive, USA, will present "Thought Process Involved in the Development of Soluble Cat-anionic Surfactant Complexes."

Section Activities

Sections provide a mechanism for AOCS members and others residing in a specific geographic region to get together regularly to discuss common interests. Section activities can include short courses, conferences, and/or an annual meeting. Anyone interested is encouraged to attend the Section functions listed below, which will be held at the Phoenix Convention Center.

Section Council
Meeting: Wednesday, May 19, 7:30–9:00 am, 121B

Asian Section
Planning Meeting: Wednesday, May 19, 9:00–10:30 am, 121C

Canadian Section
Leadership Team Meeting: Monday, May 17, 11:00 am–12:00 pm, 121C
Luncheon Meeting: Wednesday, May 19, 12:00–2:00 pm, 131C

European Section
Luncheon Meeting: Tuesday, May 18, 12:00–2:00 pm, 131A
Leadership Team Meeting: Wednesday, May 19, 9:00–10:00 am, 128A

Latin American Section
Luncheon Meeting: Monday, May 17: 12:00–2:00 pm, 131B
Leadership Team Meeting: Tuesday, May 18, 9:00–10:00 am, 128A

USA Section
Leadership Team Meeting: Tuesday, May 18, 5:30–6:30 pm, 128B
Luncheon Meeting: Tuesday, May 18, 12:00–2:00 pm, 131C
Alton E. Bailey Award winner Lawrence Johnson, Iowa State University, USA, will present "The Bioeconomy—A Revolution in American Agriculture."

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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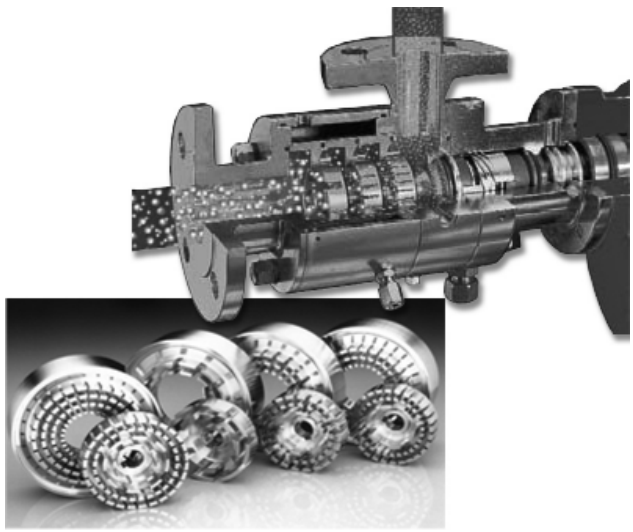

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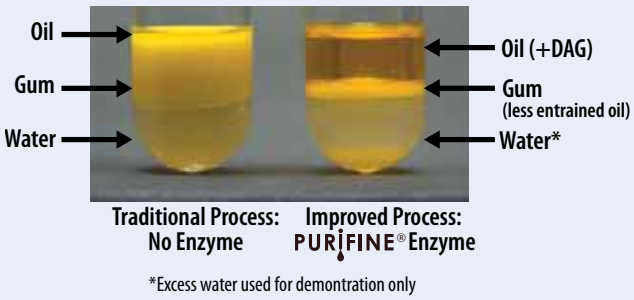

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Be a part of it!

THE AOCS FOUNDATION

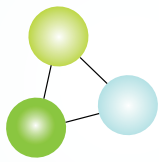
Our strength lies in our foundation.

The AOCS Foundation's Campaign for Technology finished in December 2009. The Campaign was very successful and provided almost all of the new electronic products and services now offered by AOCS. The high point of the Campaign is the newly designed www.aocs.org!

AOCS Foundation

The AOCS Foundation is now turning its attention to raising funds on an ongoing basis through the **Influencing Innovation Campaign**, so there is a steady source of funding to advance the AOCS Mission. So many advancements in the fields AOCS serves came about as a result of our network of professionals. Through them, AOCS is able to provide you with:

- One-stop resource for high quality information
- Networking and collaboration opportunities
- Connections to professionals around the world



Your support makes a difference! Stop by the AOCS Foundation booth in the AOCS Pavilion to learn about the upcoming products and services we plan to implement and to make your contribution.

Foundation Century Club

The AOCS Foundation gratefully acknowledges Foundation Century Club members. More than 500 members have joined since the program began in August 2007. See our distinguished list of Century Club Members at the Foundation Booth or at www.aocs.org/found/cent_club.cfm. Don't miss your chance to be a part of it! Visit the Foundation booth in the Expo Hall for more details.

NEW!! Corporate Century Club

The AOCS Foundation recently started the Corporate Century Club. This provides a great opportunity for our AOCS Corporate Members to make a donation to the Foundation when renewing their dues each year. Much like the Century Club, the Corporate Century Club will provide unrestricted funds to be used to advance the AOCS Mission. We are pleased to announce that our first Corporate Century Club member is **Church & Dwight Co., Inc**. Lead the way and be a part of it! Visit the Foundation booth in the Expo Hall for more details.

1909–2009 Century CLUB

CORPORATE Century CLUB

Honored Students

The following firms and individuals have donated funds for AOCS Honored Students to attend this year's Annual Meeting:

Anderson International Corporation
Nu-Chek-Prep Inc.

Thank you to AOCS Members who included a donation to Student Programs when paying dues. Appreciation is also extended to companies whose donations were received after the print deadline of April 7, 2010, for this program.

15th Annual Silent Auction

15th Annual Student CIG Silent Auction

Sponsored by the AOCS Foundation and Student Common Interest Group

This popular event begins at 1:00 pm on Sunday and bidding ends at 5:30 pm on Tuesday. (Please see our ad on this page for Auction hours.) Bid on as many items as you like. All proceeds are used to fund student programs such as awards, fellowships, and the Honored Students. The AOCS Foundation gratefully acknowledges and thanks the following organizations and individuals who donated products and services to the Auction.

Ag Processing, Inc.—duffle bag, golf balls, umbrella, wind shirt, thermos, tape measures
AOCS Administration Staff—gift set
AOCS Advertising & Sales Department—full page, four color ad in *inform*
AOCS Meetings Department—one full technical registration to the 102nd AOCS Annual Meeting & Expo, May 2011
AOCS Membership Department—Bronze Level corporate membership
AOCS Press—select books
AOCS Technical Department—6th Edition of AOCS Methods plus E-access
Archer Daniels Midland—logo wear, gifts
Arizona Cardinals (NFL)—autographed football
Ms. Doreen Berning—framed photography, "Autumn Glory"
Mr. & Mrs. Edward Campbell—hand crafted Navajo pots
Cincinnati USA CVB (2011 Annual Meeting site)—gift basket
CPM Roskamp Champion—jacket, black and camo baseball caps, safety glasses, luggage tags
Daniels Plant Food Inc.—plant food
Ms. Donna Elbon—framed photography
Ms. Kimmy Farris—matted photography
Frito-Lay, Inc.—gifts
GEA Westfalia Separator, Inc.—golf shirt, golf jacket, golf umbrella
Genencor, A Danisco Division—4GB memory stick
Graham Corporation—8GB Apple I-Pod Nano (black), golf shirts, hats, dress shirt
Greater Phoenix CVB—Soleri wind bells
Steve Hill (Kraft Foods)—gift baskets
Ms. Connie Hilson—framed photography
Hilton Cincinnati Netherland Plaza (2011 Annual Meeting site)—one-night stay
Hyatt Regency Cincinnati (2011 Annual Meeting site)—two-night weekend stay
Innolabtec GmbH—gifts
Dr. Howard Knapp—Montana wildlife photo book and Montana Grizzlies mousepad
K-State Alumni Association—commemorative ornament
Lipid Technologies LLC—Omega-3 blood testing kits
Mr. Gary List—gifts
Mikrolab Aarhus—painting
Mr. Keith Nelms—hand-carved walking stick
Novozymes North America, Inc.—jacket, notebook, pens, carafe, gifts
Oils of Aloha—variety of lotions, cooking oils
Rudolph Research Analytical—logo shirt, travel mug
Ms. Jodey Schonfeld—gifts
Supelco, Inc.—SP2560 capillary column, logo wear
Surface Chemists of Florida, Inc.—autographed books
Taylor & Francis/CRC Press—*"Handbook of Essential Oils: Science, Technology, and Applications"*
Tsuno Food Industrial Co., Ltd.—gifts

Appreciation is also extended to donors whose items were received after the printing deadline of April 7, 2010 for this program.

Be a Part of the Auction!

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

- Proceeds support student programs.
- Bid generously on as many items as you like.
- Auction starts on Sunday at 1:00 pm
- Bidding ends on Tuesday at 5:30 pm
- Visit the auction tables for bidding details.
- Donations to the AOCS Foundation are tax-deductible.

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

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

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Inside the Expo! Hall 6

Sunday	10:00 am–7:30 pm
Monday	7:00 am–6:00 pm
Tuesday	7:00 am–6:00 pm
Wednesday	7:30 am–5:00 pm

AOCS
Your Global Fats and Oils Connection

AOCS Annual Business Meeting*

Tuesday, May 18 • 7:00–8:00 am • 120A

Sponsored by: OIL-DRI CORPORATION OF AMERICA

On Tuesday, May 18, at 7:00 am, the Annual Business Meeting of the AOCS will be held. This event is included in the fee for all full-technical registrants and for guests who have purchased the guest package. Single-day and non-technical registrants may purchase a ticket at the Registration Desk for $30.

AOCS President Ian Purtle will present a brief address, followed by the installation of incoming officers and the presentation of awards. Award winners will be recognized in the major AOCS award categories.

Keynote Address*

Tuesday, May 18
8:00–8:45 am
120A

Sustainability Innovation in the Chemicals and Consumer Product Goods (CPG) Industries.
Richard F. Theiler, Senior Vice President, Research & Development, The Dial Corporation, USA

Directly following the AOCS Annual Business Meeting, Richard Theiler will provide a comprehensive examination of the business impacts and new opportunities associated with sustainability.

"The sustainability movement continues to gain momentum and will change the future business environment worldwide," Theiler notes. "The driving forces that contribute to this movement include economic and environmental influences, regulatory and legislative initiatives, consumer behavior, customer demands, and media attention."

Insights regarding those driving forces will be presented, as well as their implications and impacts on the global fats, oils, and CPG industries. Subjects he will touch on include sustainable business applications, product technologies, and the tools for assessing life-cycle impacts.

Theiler was named senior vice president, research and development, of The Dial Corporation, a subsidiary of Henkel KGaA based in Scottsdale, Arizona, USA, in 2003. Prior to Dial, he held senior management positions with Colgate-Palmolive Co. and Unilever, both in the United States and United Kingdom. He is active with a number of trade associations, including the Personal Care Products Council and The Soap and Detergent Association, which are both based in Washington, DC, USA. Theiler earned a Ph.D. in biochemistry from the University of Illinois in Urbana-Champaign, USA, and is the author of numerous patents and publications.

SOCIETY AWARDS

Keshun Liu, U.S. Department of Agriculture–NRCS, USA—*Award of Merit Winner*

The **Award of Merit** is presented for productive service to the AOCS. Leadership in technical, administrative, or special committees and activities; outstanding service that has advanced the Society's prestige, standing, or interests; and services not otherwise specifically recognized are considered.

AOCS Fellow
Veteran AOCS members whose achievements in science entitle them to exceptionally important recognition or who have rendered unusually important service to the Society or to the profession are eligible for this honor. Candidates must have been an AOCS member for a minimum of 15 years.

2010 AOCS Fellows

Albert J. Dijkstra
Consultant, France

Levente L. Diosady
University of Toronto, Canada

Walter E. Farr
Farr Group of Companies, USA

Apostolos (Paul) Kiritsakis
Institute of Thessaloniki, Greece

Dharma R. Kodali
Global Agritech Inc., USA

Edmund W. Lusas
Consultant, USA

***Please be on time!** These presentations will be recorded and live-streamed. Doors will be monitored and latecomers will be asked to wait until an appropriate time to enter.

SCIENTIFIC AWARDS

William W. Christie, formerly at The Scottish Crop Research Institute and consultant to Mylnefield Lipid Analysis, Scotland—*Supelco/Nicholas Pelick Research Award Winner*

The **Supelco/Nicholas Pelick Research Award** honors significant original contributions in fats and oils research. The award is sponsored by Supelco Inc., Bellefonte, Pennsylvania, a subsidiary of Sigma Aldrich Corporation, and Past President Nicholas Pelick.

William Christie will give the award address, "What Lipids are For," on Tuesday, May 18, at 1:30 pm in 231C.

David Julian McClements, University of Massachusetts, USA—*Stephen S. Chang Award Winner*

The **Stephen S. Chang Award** recognizes a scientist, technologist, or engineer who has made distinguished and significant accomplishments in basic research, either by one major breakthrough or by an accumulation of publications. This person's creative efforts must have been utilized by industries for the improvement or development of food products related to lipids. The award was established by AOCS Past President Stephen S. Chang and his wife, Lucy D. Chang.

David Julian McClements will give the award address, "Advances in Structured Emulsion–Based Delivery Systems," on Monday, May 17, at 1:30 pm in 231C.

Cedric H.L. Shackleton, University of Birmingham, United Kingdom, and Children's Hospital Oakland Research Institute, USA–*George Schroepfer Medal*

The **George Schroepfer Medal** recognizes significant and distinguished accomplishments in the steroid field, defined to encompass sterols and other natural and synthetic compounds incorporating the tetracyclic gonane ring system. Presented every two years, the award honors the memory of George J. Schroepfer, Jr., a leader in the sterol and lipid field for more than 40 years.

Cedric Shackleton will give the award address, "The Role of a Disordered Steroid Metabolome in the Elucidation of Sterol and Steroid Biosynthesis and Metabolism," on Monday, May 17, at 8:00 am in the Sterols 1 Session, 221AB.

Edgar J. Acosta, University of Toronto, Canada—*AOCS Young Scientist Research Award Winner*

The AOCS Young Scientist Research Award was established to annually recognize a young scientist who has made a significant and substantial research contribution in one of the areas represented by the Divisions of AOCS. This year, the award is sponsored by the International Food Science Centre A/S in Denmark.

Edgar Acosta will give the award address, "Formulation Engineering: Opportunities and Challenges," on Monday, May 17, 2:40 pm in the General Surfactants II Session, 229B.

DIVISION AWARDS

ANALYTICAL DIVISION

Andrew Proctor, University of Arkansas, USA—*Herbert J. Dutton Award Winner*

The **Herbert J. Dutton Award** is presented to a scientist who has made significant contributions to the analysis of fats and oils or for work that has resulted in major advances in the understanding of processes utilized in the fats and oils industry.

Andrew Proctor will give the award lecture, "Problem Solving Through Lipid Chemistry," on Wednesday, May 19, as part of the Analytical Division Luncheon, 131B.

Analytical Division Student Award

Jenna C. Sullivan, Dalhousie University, Canada, will present "Identification of Volatile Oxidation Products Responsible for Sensory Degradation of Fish Oil Using GCMS," in the Mass Spectrometry Session on Tuesday, May 18, 224A.

Gerard G. Dumancas, Oklahoma State University, USA, will present "Chemometric Algorithms for the Direct Determination of Lipids in Human Serum," in the General Analytical II Session on Wednesday, May 19, 224A.

[SFE]

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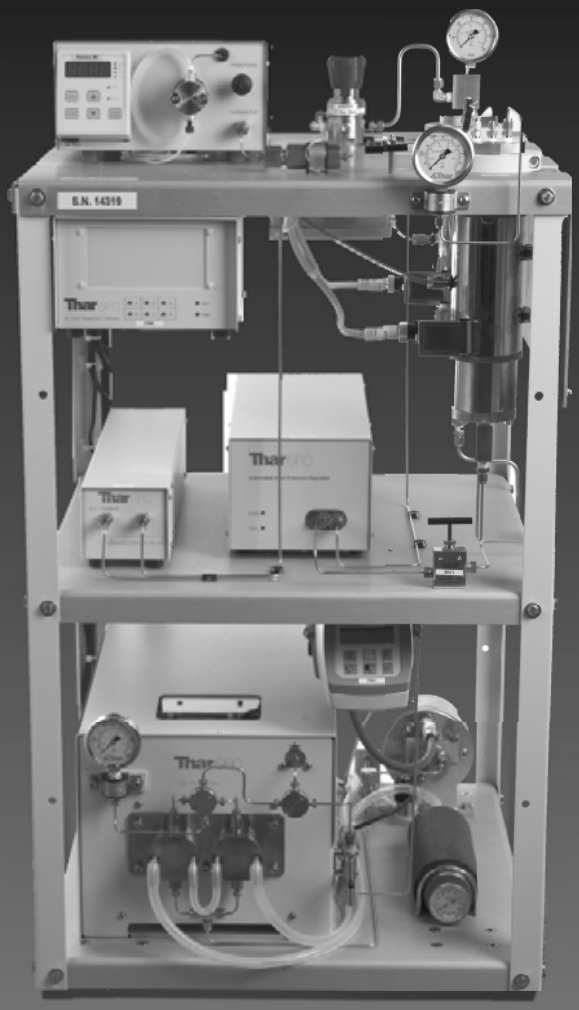

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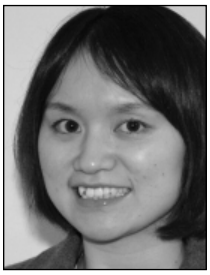
BIOTECHNOLOGY DIVISION

Biotechnology Division Student Paper Award

Jinwei Zhang, Newcastle University, United Kingdom, will present "Systems Biology of Fatty Acid Biosynthesis in Marine Microorganisms," in the Biotechnology Poster Session on Monday, May 17, Expo, Hall 6.



Qin Liu, University of Alberta, Canada, will present "Probing the Role of Cysteine Residues in Acyl-CoA: Diacylglycerol Acyltransferase 2 from Yeast," in the Plant Lipid Biotechnology Session on Tuesday, May 18, 221AB.

Zhuliang Tan, Memorial University of Newfoundland, Canada, will present "Enzymatic Synthesis of Novel Phytosteryl Caffeates and Their Antioxidant Activity," in the Biotechnology Poster Session on Monday, May 17, Expo, Hall 6.

EDIBLE APPLICATIONS TECHNOLOGY DIVISION

Albert J. Dijkstra, Consultant, France—*Timothy L. Mounts Award Winner*

The **Timothy L. Mounts Award** recognizes research accomplishments relating to the science, technology, or applications of edible oils or derivatives in food products. The award is named after Timothy L. Mounts, a distinguished scientist and leader in the Society who made numerous contributions to the science and technology of edible fats and oils. The award is sponsored by Bunge North America.

Albert Dijkstra will give the award lecture, "Degumming Revisited," on Wednesday, May 19, 2:00 pm in the General Edible Applications Session, 226BC.

Edible Applications Technology Division Student Award of Excellence

Leong Wai Fun, Universiti Putra Malaysia, Malaysia, will present "Optimization of Sucrose Laureate Stabilized Water-soluble Phytosterol Nanodispersion," in the Food Emulsions and Dispersed Systems Session on Tuesday, May 18, 226BC.

HEALTH AND NUTRITION DIVISION

William E.M. Lands, Retired, USA – *Ralph Holman Lifetime Achievement Award*

The **Ralph Holman Lifetime Achievement Award** recognizes outstanding performance and meritorious contributions to the health and nutrition interest area. The award is named after Ralph Holman in recognition of his lifetime service to the study of essential fatty acids.

Bill Lands will give the award lecture, "n-3 and n-6 Acids Compete for Accumulation as Highly Unsaturated Fatty Acids (HUFA) in Tissues," on Tuesday, May 18, 4:00 pm in the n-3, n-6 Benefits/Liabilities: Interactions, Competition Session, 228AB.

Health and Nutrition Division Student Excellence Award

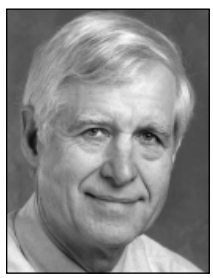
Jennifer E. Lambert, University of Alberta, Canada, will present "Response of Liver Transplant Patients to Hypolipidemic Dietary Intervention: Role of Lipogenesis," in the General Nutrition I Session on Wednesday, May 19, 228AB.

INDUSTRIAL OIL PRODUCTS DIVISION

Ramon Gonzalez, Rice University, USA—*SDA/NBB Glycerine Innovation Award Winner*

The **SDA/NBB Glycerine Innovation Award** recognizes outstanding achievement for research into new applications for glycerine with particular emphasis on commercial viability. The award is sponsored by The Soap and Detergent Association (SDA) and the National Biodiesel Board (NBB).

Ramon Gonzalez will give the award lecture, "Harnessing the Microbial Fermentation of Glycerol for the Production of Fuels and Chemicals," on Tuesday, May 18, 3:20 pm in the New Glycerol Uses Session, 224B.



Herman P. Benecke, Battelle, USA—*United Soybean Board's Industrial Uses of Soybean Oil Award Winner*

United Soybean Board's Industrial Uses of Soybean Oil Award

This award recognizes outstanding research into new industrial applications or uses for soybean oil. The award is sponsored by the United Soybean Board (USB).

Herman Benecke will give the award lecture, "Highlights of Soybean Oil-Derived Products Developed at Battelle," on Monday, May 17, as part of the Industrial Oil Products Division Luncheon, 129A.

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Industrial Oil Products Division Student Award

Zul Ilham Z.L., Kyoto University, Japan, will present "Novel One-Step and Two-Step Supercritical Dimethyl Carbonate Process for Non-Catalytic Biodiesel Production," in the Poster Session on Monday, May 17, Expo, Hall 6.

LIPID OXIDATION AND QUALITY DIVISION

The **Edwin Frankel Award for Best Paper in Lipid Oxidation and Quality** is presented annually to the author(s) of the best paper relating to lipid oxidation and quality published during the past year in AOCS Press publications. This award is sponsored by Kalsec.

This year's recipients are **Aya Ouchi**, **Masaharu Ishikura**, **Kensuke Konishi**, **Shin-ichi Nagaoka**, and **Kazuo Makai** for their article published in *Lipids* vol. 44(10): 935–943, entitled "Kinetic Study of the Prooxidant Effect of α-Tocopherol. Hydrogen Abstraction from Lipids by α-Tocopheroxyl Radical." The award will be presented during the Lipid Oxidation and Quality Division Luncheon on Monday, May 17,129B.

PHOSPHOLIPID DIVISION

The **Phospholipid Division Best Paper Award** is presented annually to the author(s) of the best paper relating to phospholipids published during the past year. This award is sponsored by the International Lecithin & Phospholipid Society.

This year's recipients are **Heikki Aro**, **Eila P. Järvenpää**, **Karoliina Könkö**, **Mikko Sihvonen**, **Veli Hietaniemi,** and **Rainer Huopalahti** for their article published in *Eur Food Res Technol* (2009) 228: 857-863, entitled "Isolation and Purification of Egg Yolk Phospholipids using Liquid Extraction and Pilot–scale Supercritical Fluid Techniques." The award will be presented during the Phospholipid Division Dinner on Monday, May 17,129A.

PROCESSING DIVISION

Processing Division Distinguished Service Award

The award recognizes and honors an individual who has shown outstanding, meritorious service to the oilseed processing industry or to the Processing Division over a substantial amount of time.

This year's award is presented to **Gary R. List**, Collaborator, U.S. Department of Agriculture, USA.

Processing Division Student Excellence Award

An Philippaerts, KU Leuven, Belgium, will present "The Shape-Selective Hydrogenation of FAMEs and Vegetable Oils," in the General Processing Session on Wednesday, May 19, 222BC.

PROTEIN AND CO-PRODUCTS DIVISION

The **ADM Protein and Co-Products Division Award** recognizes outstanding papers published each year in AOCS Press publications on topics of engineering/technology and chemistry/nutrition of protein and co-products. The award is sponsored by the Archer Daniels Midland Company. The awards will be presented at the Protein and Co-Products Division Dinner on Tuesday, May 18, 131B.

Chemistry/Nutrition Category

This year's recipients in the chemistry/nutrition category are **Hui Li**, **Mark Gulden**, **Robert Cocciardi**, and **Jan Hughes** for "Fourier Transform Near Infrared Spectroscopy as a Quality Control Tool for the Analysis of Lecithin and By-Products During Soybean Oil Processing" (*JAOCS* vol. 86(9):835-841).

Engineering/Technology Category

This year's recipients in the engineering/technology category are **Juliana Maria Leite Nobrega de Moura**, and **Lawrence A. Johnson** for "Two-

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Stage Countercurrent Enzyme-Assisted Aqueous Extraction Processing of Oil and Protein from Soybeans." (*JAOCS* vol. 86(3):283–289).

SURFACTANTS AND DETERGENTS DIVISION

Ammanuel Mehreteab, Colgate-Palmolive, USA—*Samuel Rosen Memorial Award Winner*

The **Samuel Rosen Memorial Award** recognizes a significant advancement or application of the principles of surfactant chemistry. The award is sponsored by Milton Rosen to recognize his father, Samuel Rosen, who worked as an industrial chemist on the formulation of printing inks for more than 40 years.

Ammanuel Mehreteab will give the award lecture, "Thought Process Involved in the Development of Soluble Cat-anionic Surfactant Complexes," on Tuesday, May 18, as part of the Surfactants and Detergents Division Luncheon, 132ABC.

Surfactants and Detergents Division Distinguished Service Award
The award recognizes and honors an individual who has shown outstanding, meritorious service to the surfactants, detergents, and soaps industry or to the Surfactants and Detergents Division over a substantial amount of time.

This year's award is presented to **John F. Scamehorn,** University of Oklahoma, USA.

The **Soap and Detergent Association Distinguished Paper Award** is presented annually to the author(s) of the best technical paper appearing during the preceding year in the *Journal of Surfactants and Detergents* (*JSD*), a publication of AOCS Press. The Soap and Detergent Association (of the United States) sponsors the award.

This year's recipients are **S. Kay Obendorf**, **Haiqing Liu**, **Kuitian Tan**, **Michael J. Leonard**, **Timothy J. Young**, and **Michael J. Incorvia** for "Adsorption of Aroma Chemicals on Cotton Fabric in Different Aqueous Environments," (*JSD* vol. 12(1): 43–58). The award will be presented during the Surfactants and Detergents Division Luncheon on Tuesday, May 18, 132ABC.

Surfactants and Detergents Division Student Travel Award

Sumit K. Kiran, University of Toronto, Canada, will present "Predicting the Morphology and Viscosity of Ionic Surfactant Microemulsions Using the HLD-NAC Model," in the Dynamic Properties of Surfactants Session on Monday, May 17, 229A.

SECTION AWARDS

Lawrence A. Johnson, Iowa State University, USA—*Alton E. Bailey Award Winner*

The **Alton E. Bailey Award** recognizes outstanding research and exceptional service in the field of lipids and associated products. The award commemorates Alton E. Bailey's great contributions to the field of fats and oils as a researcher, an author of several standard books in the field, and a leader in the work of the Society. Archer Daniels Midland Company and Kraft North America co-sponsor the award.

Lawrence Johnson will give the award address, "The Bioeconomy–A Revolution in American Agriculture" on Tuesday, May 18, at the USA Section Luncheon, 131C.

Gerard G. Dumancas, Oklahoma State University, USA–*Hans Kaunitz Award Winner*

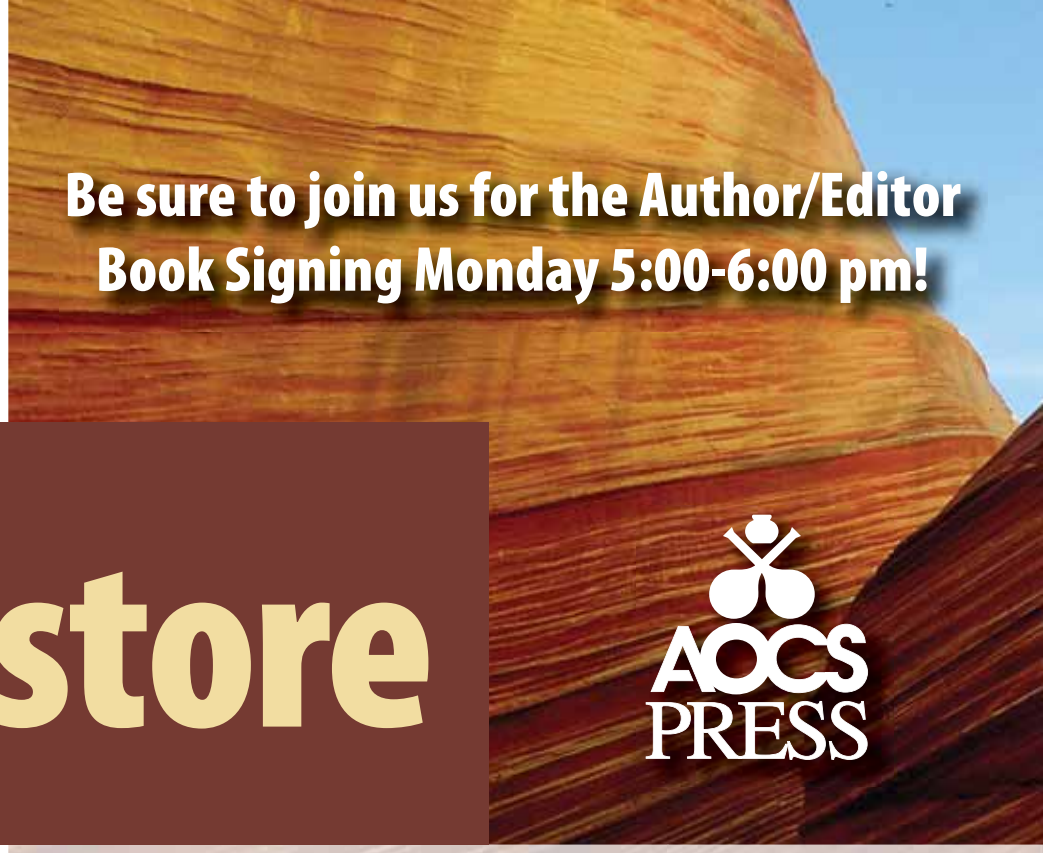
The **Hans Kaunitz Award** recognizes the outstanding performance and merit of a graduate student within the geographical boundaries of the USA Section of the AOCS.

Gerard Dumancas will give the award address "Chemometric Algorithms for the Direct Determination of Lipids in Human Serum" on Wednesday, May 19, during the General Analytical II Session, 224A.

STUDENT AWARDS

AOCS Honored Student Awards, supported by contributions from members as well as companies in the industry, recognize graduate students at any institution of higher learning who are conducting research in any area of science dealing with fats and lipids and who are interested in the areas of science and technology.

The **Manuchehr (Manny) Eijadi Award** recognizes the outstanding merit and performance of an Honored Student. The award is supported by donations in honor of Manuchehr (Manny) Eijadi, a distinguished and active member of the AOCS.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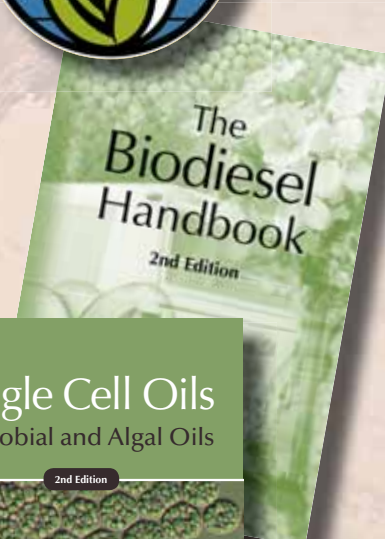

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Gerhard Knothe, Jürgen Krahl, and Jon Van Gerpen, Editors
ISBN 978-1-893997-62-2.
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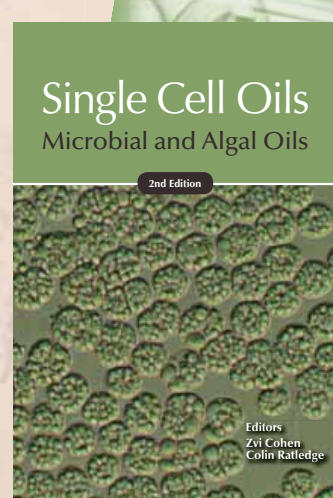


Single Cell Oils Microbial and Algal Oils, 2nd Edition

Zvi Cohen and Colin Ratledge, Editors
ISBN: 978-1-893997-73-8.
Product code 249

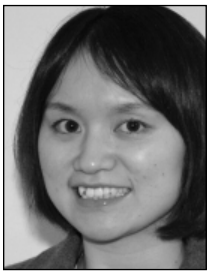
PHOTO: BROCK PEOPLES

The **Peter and Clare Kalustian Award** also recognizes the outstanding merit and performance of an Honored Student. The award is supported by the Kalustian estate.

Honored Student award to **Carlos E. Astete**, Louisiana State University, USA, for the paper presentation "Alpha-tocopherol-Ascorbic-Acid: A New Surfactant of Antioxidant Properties," in the General Surfactants II Session on Monday, May 17, 229B.

Honored Student award to **Gerard G. Dumancas**, Oklahoma State University, USA, for the paper presentation "Chemometric Algorithms for the Direct Determination of Lipids in Human Serum," in the General Analytical II Session on Wednesday, May 19, 224A.

Honored Student and Peter and Clare Kalustian awards to **Jennifer E. Lambert**, University of Alberta, Canada, for the paper presentation "Response of Liver Transplant Patients to Hypolipidemic Dietary Intervention: Role of Lipogenesis," in the General Nutrition I Session on Wednesday, May 19, 228AB.



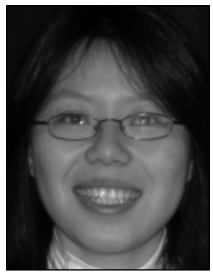
Honored Student award to **Qin Liu**, University of Alberta, Canada, for the paper presentation "Acyl-CoA: Diacylglycerol Acyltransferase 2 from Yeast" in the Plant Lipid Biotechnology Session on Tuesday, May 18, 221AB.

Honored Student award to **Debjani Mitra**, Iowa State University, USA, for the paper presentation "Fungal Fermentation for Bio-oil Production," in the General Industrial Oil Products Session on Wednesday, May 19, 224B.

Honored Student award to **Amir Malaki Nik**, University of Guelph, Canada, for the paper presentation "Mechanism of Lipolysis and Micellization of β-carotene from Oil-in-Water Emulsions Stabilized with Soy Protein Isolate," in the Design of Successful Performing Interfaces Session on Monday, May 17, 226A.

Honored Student award to **Vera Van Hoed**, Ghent University, Belgium, for the paper presentation "Influence of Filtering of Cold-Pressed Berry Seed Oils on their Antioxidant Profile and Quality Characteristics," in the Specialty Antioxidants Session on Monday, May 17, 227AB.

Honored Student and Manuchehr Eijadi awards to **Yu Zhang**, the University of Pennsylvania, USA, for the paper presentation "Low Temperature Oxidation of Biodiesel Surrogates in a Motored Engine," in the Alternative Fuels Session on Monday, May 17, 224B.



Honored Student award to **Ying Zhong**, Memorial University of Newfoundland, Canada, for the paper presentation "Modified Tea Catechins in Oxidation Control," in the Specialty Antioxidants Session on Monday, May 17, 227AB.

Linh Do, the University of Oklahoma, USA—*Ralph H. Potts Memorial Fellowship Award Winner*

The **Ralph H. Potts Memorial Fellowship Award**, sponsored by AkzoNobel, commemorates the career of Ralph H. Potts, a pioneer in the development of industrial fatty acids and their derivatives.

Linh Do will present "Microemulsion Fuels: Phase Behaviors and Combustion Properties," in the Industrial Applications Session on Tuesday, May 18, 229B.

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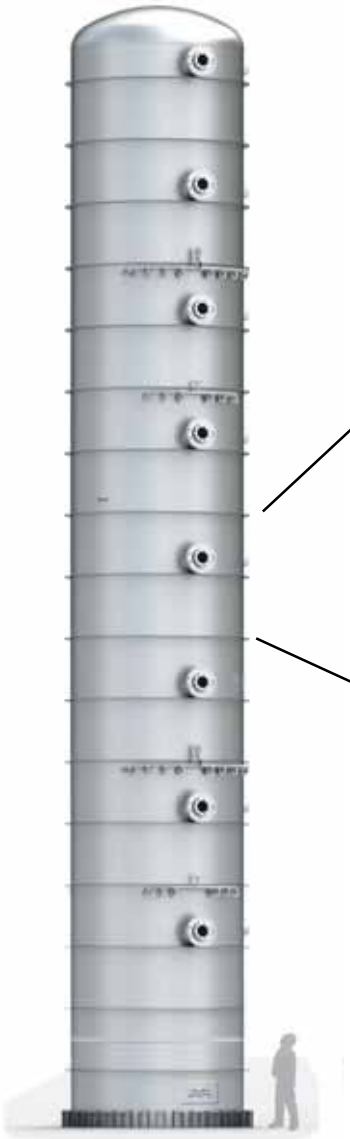

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Copies of Papers—Many of the papers presented during the meeting will appear in AOCS Press publications or other journals in the future. However, it is impossible to know whether or when a specific paper will be published. If you want a copy of an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

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Speaker Information

Speaker Ready Room—230

Laptop computers and an audio-visual technician will be available to speakers during the following hours:

Sunday, May 16 ..... 12:00–6:00 pm
Monday, May 17 ..... 7:00 am–6:00 pm
Tuesday, May 18 ..... 8:00 am–6:00 pm
Wednesday, May 19 ..... 7:00 am–2:00 pm

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

AOCS Technical Services Expert Panels

Three expert panels will meet at the 101st AOCS Annual Meeting and Expo in the Phoenix Convention Center.

Expert Panel on Biodiesel

Sunday, May 16, 4:00–5:30 pm
Room 127B

Technical Services will lead a formal discussion of current analytical issues.
Chair: Gina Clapper

Expert Panel on Olive Oil

Monday, May 17, 9:00–11:00 am
Room 125B

Technical Services will lead a formal discussion of on-going projects and concerns of the global olive oil industry.
Chair: Richard Cantrill

Expert Panel on Process Contaminants

Tuesday, May 18, 1:55–5:00 pm
Room 122AB

This meeting will take the format of a series of brief presentations consolidated from the Annual Meeting program, followed by a Technical Services-led formal discussion of analytical issues.
Chair: Richard Cantrill

TECHNICAL SERVICES AOCS

All Technical Services committee and expert panel meetings are open to all interested parties.

Oral Presentations

Abstracts are published in the Abstract Book which is included in your meeting portfolio. The speaker is the first author listed or otherwise indicated with an asterisk (*)

Monday Morning

AM 1: Agricultural Microscopy I

Chairs: G. Ideus, Archer Daniels Midland Co., USA; and G. Kobata, California Dept. of Food & Agriculture, USA

223

7:55 **Introduction.**

8:00 **Nutrient Variation of Common Ingredients.** D. Hill, ADM Alliance Nutrition, Inc., USA.

8:40 **Airborne Dust Particles Size and Size Distribution by Machine Vision.** C. Igathinathane[1], L.O. Pordesimo*[2], S. Melin[3], S. Sokhansanj[4], and E.P. Columbus[5], [1]Dept. of Agricultural and Biosystems Engineering, North Dakota State University, USA, [2]ADM Alliance Nutrition, USA, [3]Delta Research Corporation, Canada, [4]Dept. of Chemical and Biological Engineering, University of British Columbia, Canada, [5]Dept. of Agricultural and Biological Engineering, Mississippi State University, USA.

9:20 **Melamine in the Feed and Food Chain.** C.W. Cruywagen and T. Calitz, Stellenbosch University, South Africa.

10:00 **Equine Nutrition—Plain and Simple.** D.M. Green, Los Cedros USA, USA.

10:40 **Understanding Lipid Distribution in New Zealand King Salmon (*Oncorhynchus tshawytscha*) during Thermal Processing, Using Confocal Microscopy and Magnetic Resonance Imaging (MRI).** D. Larsen[1], S.-Y. Quek[1], and L. Eyres[2], [1]The University of Auckland, New Zealand, [2]Eyres Consulting Group Ltd., New Zealand.

ANA 1: Nutraceutical and Desert Plants

Chairs: J. King, University of Arkansas, USA; and D. Knowles, Dionex Corporation, USA

224A

7:55 **Introduction.**

8:00 **HPLC Analysis of Carotenoids, Tocopherols, and Capsaicinoids of Extracts from Different Peppers (*Capsicum annuum* L.).** D.M.A. Molina-Quijada[1], L.A. Medina-Juárez[2], and N. Gámez-Meza[2], [1]Posgrado en Biociencias. Universidad de Sonora, Mexico, [2]Depto. Investigaciones Científicas y Tecnológicas de la Universidad de Sonora, Mexico.

8:20 **Extraction and Analysis of Tomato Seed Oil.** F.J. Eller, J.K. Moser, J.A. Kenar, and S.L. Taylor, USDA, ARS, NCAUR, USA.

8:40 **Effect of Wavelet Daubechies Denoising on K-Matrix Chemometric Algorithm for the Direct Determination of Lipids in Synthetic Mixtures and Human Serum.** G. Dumancas[1], M. Muriuki[1], N. Purdie[1], and L. Reilly[2], [1]Oklahoma State University, USA, [2]Bethany College, USA.

9:00 **Date Palm (*Phoenix dactylifera* L.) Kernel Oil and Antioxidant Activity of its Kernel Cake Extracts.** M.E.S. Mirghani[1], N.A. Kabbashi[1], I.H. Hussein[2], and Y.B. Che Man[3], [1]International Islamic University Malaysia, Malaysia, [2]National Oilseed Processing Research Institute, University of Gezira, Sudan, [3]Halal Products Institute, Universiti Putra Malaysia, Malaysia.

9:20 **Optimization of Extraction Parameters: A Critical Step for Accurate Quantification of Bioactive Phytochemicals.** D. Luthria, USDA, ARS, USA.

9:40 **Preparation, Isolation and Determination of Non-conjugated Geometric/positional Isomers of Linoleic Acid.** A.R. Fardin Kia, P. Delmonte, and J.I. Rader, U.S. Food and Drug Administration, USA.

10:00 **Comprehensive Quantitation of Palm Vitamin E Constituents by High Performance Liquid Chromatography.** C.H. Xu, S. Ong, K.H. Teo, N. Zaiden, W.N. Yap, and Y.L. Yap, Davos Life Science Pte. Ltd., Singapore.

10:20 **Solvent Fractionation for Natural Product Analysis.** R. Carlson, B. Richter, and D. Knowles, Dionex, USA.

10:40 **Essential Fats vs. Essential Oils.** M. Schrueder, Young Family Living Farms, USA.

11:00 **Gas Chromatography and Mass Spectrometric Analysis of Chia Oil Extracts.** J.W. King[1], J. Lay, Jr.[2], J. Rocha[3], M. Maya[3], J. Sacramento[3], and G. Guillermo[4], [1]Dept. of Chemical Engineering, University of Arkansas, USA, [2]Dept. of Chemistry, University of Arkansas, USA, [3]Universidad Autonoma de Yucatan, Facultad de Ingenieria Y. Ciencias, Mexico, [4]Industrias Oleox S.A, Mexico.

BIO 1: Sterols I

This session sponsored in part by Steraloids

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

221AB

7:55 **Introduction.**

8:00 **The Role of a Disordered Steroid Metabolome in the Elucidation of Sterol and Steroid Biosynthesis and Metabolism.** C. Shackleton[1,2], ***(George Schroepfer Medal Award Winner)*** [1]Centre for Endocrinology, Diabetes and Metabolism, University of Birmingham, UK, [2]Children's Hospital Oakland Research Institute, USA.

8:40 **Biological Activity of Phytosterol Glycosides.** R.E. Ostlund, Jr.[1], X. Lin[1], S.B. Racette[2], L. Ma[1], R. Fitzgerald[1], C.L. Anderson Spearie[3], and R. Moreau[4], [1]Division of Endocrinology, Metabolism and Lipid Research, Washington University, USA, [2]Dept. of Physical Therapy, Washington University, USA, [3]Institute of Clinical and Translational Sciences, Washington University, USA, [4]Agricultural Research Service, USDA, USA.

9:00 **Long Term Cholesterol-lowering Efficacy of Phytosterols.** I. Demonty and E.A. Trautwein, Unilever Research & Development, The Netherlands.

9:20 **Plant Stanol Ester Enriched Foods Lower LDL-C and Serum Triacylglycerol Concentrations.** J. Plat and R.P. Mensink, Maastricht University, The Netherlands.

9:40 **Very High Intake of Plant Stanol Esters. Time for Revision of Efficacy and Safety?** H. Gylling[2], M. Hallikainen[2], P. Simonen[1], M. Nissinen[1], and T.A.

What's for Lunch?

The Expo Café, located in the Expo Hall, will offer a variety of lunch options for purchase. Open Monday through Wednesday, 11:30 am–3:00 pm.

Tuesday's Qualisoy Expo Networking Lunch in the Expo Hall is sponsored by Qualisoy.

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Miettinen[1], [1]Dept. of Medicine, University of Helsinki, Finland, [2]Dept. of Clinical Nutrition, University of Eastern Finland, Finland.

10:00 **Oxidation of Plant Sterols in the Industrial By-products of Edible Fats and Oils.** P. Dutta and S.J.K.A. Ubhayasekera, Dept. of Food Science, Swedish University of Agricultural Sciences, Sweden.

10:20 **Public Perception of Values of Plant Sterols in Foods.** J. Cranfield, University of Guelph, Canada.

10:40 **Global Regulations and Health Claims on Phytosterol-containing Functional Foods.** J. Zawistowski, Food, Nutrition and Health, University of British Columbia, Canada.

11:20 **Economic and Societal Benefits of Plant Sterols in Foods.** P.J. Jones, Richardson Centre for Functional Foods and Nutraceuticals, University of Manitoba, Canada.

11:40 **Phytosterols and Phytosteryl Conjugates in Grains.** A.-M. Lampi[1], T. Nurmi[1], L. Nyström[1,2], and V. Piironen[1], [1]University of Helsinki, Finland, [2]ETH Zurich, Switzerland.

BIO 1.1: Biocatalysis I

This session sponsored in part by Nisshin OilliO Ltd. and Tsukishima Foods Industry Co., Ltd.

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

221C

8:15 **Introduction.**

8:20 **A Novel Aliphatic Amino Acid Metabolism in Bacteria Generating a Potential Insulinotropic and Anti-obesity Amino Acid.** J. Ogawa[1,2], T. Kodera[3], S. V. Smirnov[4], N. N. Samsonova[4], M. Hibi[5], K. Yokozeki[5,6], and S. Shimizu[1], [1]Division Applied Life Science, Graduate School of Agriculture, Kyoto University, Japan, [2]Research Division of Microbial Sciences, Kyoto University, Japan, [3]Institute of Life Sciences, Ajinomoto Co., Inc., Japan, [4]Ajinomoto-Genetika Research Institute, Russia, [5]Laboratory of Industrial Microbiology, Graduate School of Agriculture, Kyoto University, Japan, [6]Aminoscience Laboratory, Ajinomoto Co., Inc., Japan.

8:40 **Chiral Technologies for Single Enantiomer Drug Intermediates through Biocatalysis.** R.N. Patel[1,2] and S.J. Parekh[2], [1]SLRP Associates, USA, [2]Unimark Remedies, Ltd., India.

9:00 **Characterization of Milkweed Oil and *cis*-vaccenate Biosynthesis.** T. McKeon, F. Rittig, and C. Turner, USDA, ARS, WRRC, USA.

9:20 **Construction and Characterization of Fusion Class III Poly(hydroxyalkanoate) Biopolymer Synthase Genes.** D.K.Y. Solaiman, R.D. Ashby, and J. Zerkowski, ERRC, ARS, USDA, USA.

9:40 **Screening of Microbial *n*-Alkane Degradation through Subterminal Oxidation.** E. Sakuradani, K. Kobayashi, N. Shibata, J. Ogawa, and S. Shimizu, Kyoto University, Japan.

10:00 **Production of Biologically Active 7, 10-dihydroxy-8(E)-octadecenoic Acid from Korean Pine Seed Oil by Pseudomonas aeruginosa PR3.** H.R. Kim[1], K.Y. Baek[1], J.B. Ellamar[1], C.T. Hou[2], M.H. Kwon[1], and H.R. Lim[1], [1]Dept. of Animal Science and Biotechnology, Kyungpook National University, Korea, [2]Microbial Genomic and Bioprocessing Research Unit, National Center for Agricultural Utilization Research, ARS, USDA, USA.

10:20 **Metabolism and Synthesis of Lipids in Polyunsaturated Fatty Acid-producing Fungus, *Mortierella*.** T. Aki, W. Jermsuntiea, S. Kawamoto, and K. Ono, Hiroshima University, Japan.

10:40 **Linoleic Acid Isomerase in *Lactobacillus plantarum* AKU1009a is a Multi-component Enzyme System Requiring Oxidoreduction Cofactors.** S. Kishino[1,2], S.-B. Park[1], Y. Ishigaki[1,2], J. Ogawa[2,3], K. Yokozeki[1], and S. Shimizu[2], [1]Laboratory of Industrial Microbiology, Kyoto University, Japan, [2]Division of Applied Life Sciences Graduate School of Agriculture, Kyoto University, Japan, [3]Research Division of Microbial Sciences, Kyoto University, Japan.

11:00 **Hydroxyl Fatty Acids and Hydroxyl Oils.** C.T. Hou, Renewable Product Technology Research Unit, NCAUR, ARS, USDA, USA.

BIO 1.2/PCP 1: Process and Co-products of Biofuel and Industrial Production

Chairs: K. Liu, USDA, ARS, PWA, USA; D. Solaiman, USDA, ARS, ERRC, USA; J. Wanasundara, Agriculture and Agri-Food Canada, Canada; and H. Wang, Iowa State University, USA

222A

7:55 **Introduction.**

8:00 **Product Opportunities from Algae.** J. Butler and J. Money, Solix Biofuels, USA.

8:20 **In situ Transesterification of Algae for the Production of Fatty Acid Methyl Esters for Use as Biodiesel.** M.J. Haas and K.M. Scott, USDA, ARS, ERRC, USA.

8:40 **Glycerine—A Valuable Biodiesel Coproduct for Fermentation Processes.** R.D. Ashby, D.K.Y. Solaiman, and T.A. Foglia, USDA, ARS, ERRC, USA.

9:00 **Advances in Corn Ethanol Enzyme Technology, Effect on DDGS and Opportunities for Animal Feed Industry.** M. Hruby, Danisco Animal Nutrition, USA.

9:20 **Techno-economic Analysis of Brassica Protein and Co-product Extraction Technologies for Food and Biofuel Applications.** E.K. Mupondwa and J. Wanasundara, Bioproducts and Bioprocesses, Agriculture and Agri-Food Canada, Canada.

9:40 **Manufacturing New Food Co-Product(s) Using a Novel Ethanol Corn Fractionation System.** T.T. Lohrmann and D.J. Hammes, Quality Technology International, Inc., USA.

10:00 **Identification of Novel Co-product Opportunities From the Low Temperature Fermentation of Grains to Ethanol.** D. Bressler, R. Zijlstra, and A. Gibreel, University of Alberta, Canada.

10:20 **The Composition of Crude Corn Oil Recovered after Fermentation via Centrifugation from a Commercial Dry Grind Ethanol Process.** R.A. Moreau[1], K.B. Hicks[1], D.B. Johnston[1], and N.P. Laun[2], [1]ERRC, USDA, USA, [2]Western New York Energy, USA.

10:40 **Changes in the Oil Concentration, Fatty Acid Composition, and Functional Lipid Profiles during Dry Grind Ethanol Production from Corn.** K. Liu[1], R. Moreau[2], and J. Moser[3], [1]USDA, ARS, USA, [2]USDA, ARS, ERRC, USA, [3]USDA, ARS, NCAUR, USA.

11:00 **Changes in Physical Properties During Dry Grind Processing of Corn.** K.A. Rosentrater[1] and K. Liu[2], [1]USDA, ARS, USA, [2]USDA, ARS, USA.

11:20 **Integrated Production of Ethanol and Succinic Acid in a Biorefinery.** N.P. Nghiem, K. Hicks, and D. Johnston, USDA ARS, ERRC, USA.

11:40 **Assessment of a High Purity Zein Product from Commercial Zein.** D.J. Sessa and K. Kruger Woods, Plant Polymer Research, USDA, ARS, NCAUR, USA.

12:00 **Proteins as Renewable Flocculants.** G. Piazza and R. Garcia, USDA, ARS, ERRC, USA.

EAT 1: Lipid Crystals and Structural Properties in Food

Chairs: N. Garti, Hebrew University of Jerusalem, Israel; and S. Narine, Trent University, Canada

226BC

7:55 **Introduction.**

8:00 **The Immobilization of Free Liquid Oil in Food Products—Principles and Applications.** A. Marangoni, Dept. of Food Science, University of Guelph, Canada.

8:20 **The Spherulite Structures of Palm Olein.** S. Ueno, N. Ohgi, and K. Sato, Hiroshima University, Japan.

8:40 **Characterization of the Polymorphic Forms and Liquid State of Cocoa**

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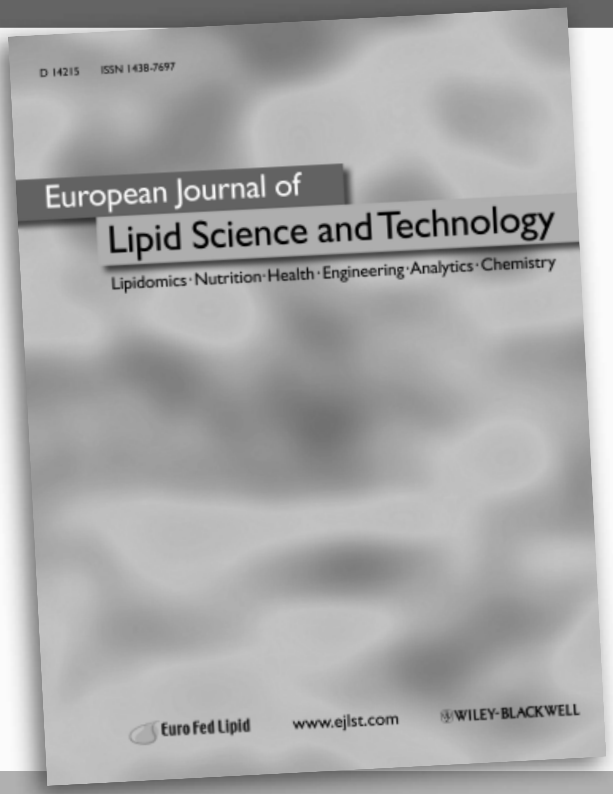

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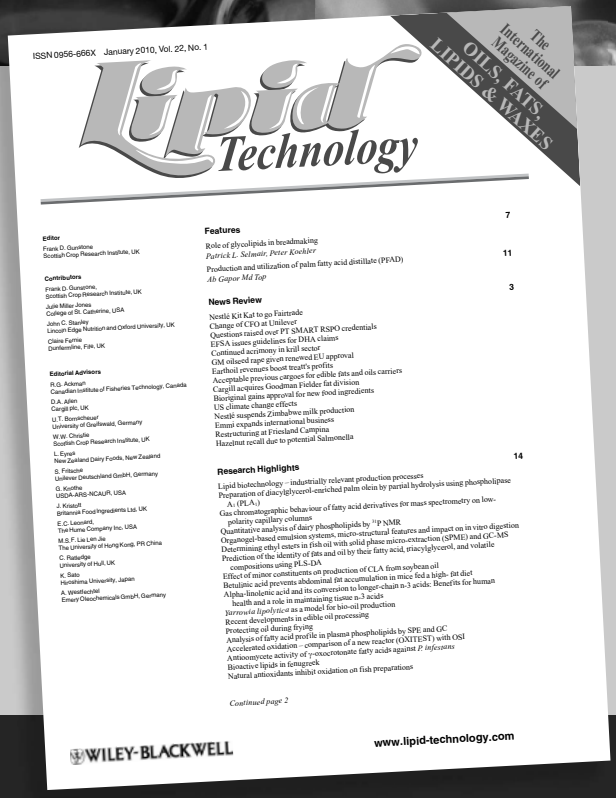

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Butter by Raman Spectroscopy. S. Bresson[1] and D. Rousseau*[2], [1]Laboratoire de Physique des Systèmes Complexes, Université Picardie Jules Verne, France, [2]Dept. of Chemistry and Biology, Ryerson University, Canada.

9:00 **Bulk and Microstructural Effects of Anisotropic Colloid Adsorption at Emulsion Interfaces.** P.T. Spicer[1], A.B. Pawar[1,2], R. Ergun[2], and R. Hartel[2], [1]Procter & Gamble, USA, [2]University of Wisconsin, USA.

9:20 **Effects of Cocoa Butter Origin, Tempering Procedure, and Structure on Oil Migration Kinetics.** S. Marty-Terrade[1] and A. Marangoni[2], [1]Nestlé Product Technology Centre, Germany, [2]Dept. of Food Science, University of Guelph, Canada.

9:40 **Structuring of Organogels by Steroid-based Helixes in the Presence of a Dispersed Aqueous Phase.** E. Flöter and A. Bot, Unilever R&D Vlaardingen, The Netherlands.

FS&FF 1: Food-Body Interactions

This session sponsored in part by FrieslandCampina Research, Kraft Foods Global, Inc., and Unilever Research

Chairs: I. Appelqvist, CSIRO, Food and Nutritional Sciences, Australia; and M. Paques, Royal FrieslandCampina, The Netherlands

226A

7:55 **Introduction.**

8:00 **Keynote Lecture: Overview of Field.** L. Huang, Monell Chemical Senses Center, USA.

8:40 **Gut-expressed Sweet Taste Receptor and Regulation of Intestinal Glucose Transport.** S. Beechey, University of Liverpool, UK.

9:00 **Chemosensory Functions of the Brain.** I.E. de Araujo, The John B. Pierce Laboratory & Yale University School of Medicine, USA.

9:20 **Gut Nutrient Sensing, Gut Hormone Release and Appetite Regulation.** G. Frost, Imperial College London, UK.

9:40 **Break.**

10:00 **Nutrient and Taste Receptors in the GI-Tract: Consequences for Food Preferences and Intake.** R. Mattes, Purdue University, USA.

10:40 **Food Preferences Conditioned by Nutrient Actions in the Gut.** A. Sclafani, Dept. of Psychology, Brooklyn College-CUNY, USA.

11:00 **A Gut Feeling for Satiety—Are Gut Receptors a Potential Target for Energy Intake Control?** M. Foltz, Unilever, The Netherlands.

11:20 **Moderated Discussion.**

H&N 1: Lipids, Inflammation and Lipid Signaling Molecules

This session sponsored in part by the Archer Daniels Midland Co.

Chairs: C. Lammi-Keefe, Louisiana State University, USA; and B. Flickinger, Archer Daniels Midland Co., USA

228AB

7:55 **Introduction.**

8:00 **The Anti-Obesity Effects of Dietary *trans/trans* Conjugated Linoleic Acid-rich Soy Oil on Fa/Fa Obese Zucker Rats.** W. Gilbert[1], V. Gadang[1], A. Proctor[1], V. Jain[1], L. Katwa[2], and L. Devareddy[1], [1]University of Arkansas, USA, [2]East Carolina University, USA.

8:20 **Endotoxin Absorption during the Digestion of Emulsified Lipids.** M.C. Michalski[1,2], F. Laugerette[2,1], C. Soulage[2,3], A. Geloën[2,3], C. Vors[1,3], M. Alligier[4], M.A. Chauvin[2], S. Lambert-Porcheron[4], R. Burcelin[5], M. Laville[4,2], H. Vidal[2,1], and N. Peretti[4], [1]INRA UMR1235, France, [2]INSA-Lyon, France, [3]INSERM U870, France, [4]CRNH Rhône-Alpes, France, [5]I2MR, France.

8:40 **Alpha-synuclein is a Key Regulator of Brain Inflammatory Response via its Regulation of Brain Arachidonic Acid Metabolism.** E. Murphy, University of North Dakota, USA.

9:00 **Fatty Acids and Inflammatory Processes.** P.C. Calder, University of Southampton, UK.

9:40 **Specialized Pro-Resolving Mediators in Inflammation-Resolution from Omega-3 Oils.** L.V. Norling[1,2] and C.N. Serhan[1], [1]Brigham and Women's Hospital, Harvard Medical School, USA, [2]William Harvey Research Institute, UK.

10:20 **n-3 Polyunsaturated Fatty Acids, Fatty Liver Disease, and Inflammation.** D.B. Jump, M. Torres-Gonzalez, S. Tripathy, C. Depner, and K. Hardin, Oregon State University, USA.

11:00 **Omega-3 Essential Fatty Acid Signaling Regulates Initiation and Progression of Neurodegenerative Diseases.** N.G. Bazan, Louisiana State University Health Sciences Center, USA.

11:40 **Discussion.**

IOP 1: Alternative Fuels

Chair: R.O. Dunn, USDA, ARS, NCAUR, USA; and B.R. Moser, USDA, ARS, NCAUR, USA.

224B

7:55 **Introduction.**

8:00 **Biodiesel from Alternative Oilseed Feedstocks: Production and Properties.** B.R. Moser, G. Knothe, and S.F. Vaughn, USDA, ARS, NCAUR, USA.

8:20 **Biodiesel Derived From a Source Enriched in Palmitoleic Acid, Macadamia Nut Oil.** G. Knothe, USDA, ARS, NCAUR, USA.

8:40 **Triacylglyceride as a Feedstock for Jet Fuel Production.** P.D. Pansegrau, T. Aulich, C. Wocken, M. Kurz, and B. Oster, Energy & Environmental Research Center, USA.

9:00 **Isolation and Characterization of Acylated Steryl Glucosides (ASG) in Oil Seed Crops of Pacific Northwest (PNW).** K. Duff, J. Van Gerpen, and B. He, University of Idaho Biological and Agriculture Engineering, USA.

9:20 **Detection and Characterization of Selected Contaminants in Biodiesel.** M.J. Haas[1], S. Kasprzyk[2], and R.A. Moreau[1], [1]USDA, ARS, USA, [2]BlackGold Biofuels, USA.

9:40 **Testing of Biodiesel in Engines with Modern Emission Control Equipment.** A. Williams, J. Burton*, and R.L. McCormick, National Renewable Energy Laboratory, USA.

10:00 **The Effects of Illumination Intensity and Period on Growth Rates and Fatty Acid Composition of the Microalgae.** H. Tang, M.E. Danton Garcia, A. Li, H. Ma, M. Chen, N. Abunasser, S. Salley, and S. Ng, Wayne State University, USA.

10:20 **Low Pressures Catalyst for Deoxygenation of Pyrolysis Oils.** W. Holmes and M.G. White*, Mississippi State University, USA.

10:40 **Solubility Limitations of Saturated Monoglycerides in Biodiesel during Cold Weather.** R.W. Heiden, R.W. Heiden Associates, LLC, USA.

11:00 **Low Temperature Oxidation of Biodiesel Surrogates in a Motored Engine.** Y. Zhang ***(Honored Student Award Winner and Manuchehr (Manny) Eijadi Award Winner)***, and A. Boehman, The EMS Energy Institute, The Pennsylvania State University, USA.

11:20 **Study of the Effects on Oxidative Stability Biodiesel Blends Using Synergistic Antioxidants in the Presence of Metallic Prooxidants.** R.C. de Guzman, H. Tang, S.O. Salley, and K.Y.S. Ng, Wayne State University, USA.

11:40 **Degradation of Biodiesel Blends.** J. Krahl[1,2], A. Munack[2], and L. Schmidt[2], [1]Coburg University of Applied Sciences, Germany, [2]Federal Research Institute for Rural Areas, Forestry and Fishery, Germany.

LOQ 1: Stability of Omega-3/Omega-6 Lipids in Emulsions and Microemulsions

Chairs: C. Jacobsen, Technical University of Denmark, Denmark; and S.J. Yoo, Martek Biosciences Corp., USA

227AB

7:55 **Introduction.**

8:00 **Lipophilized Phenolics as Antioxidants in Fish Oil Enriched Food Systems.** A.-D.M. Sørensen, N.S. Nielsen, and C. Jacobsen, DTU Food, Denmark.

8:20 **Stability of Food Emulsions Enriched with Stearidonic Acid (18:4, n-3).** R.S. Wilkes[1] and D. Welsby[2], [1]Monsanto Company, USA, [2]Solae, USA.

8:40 **Micellar Catalysis in Lipid and Hydrocarbon Oxidation.** O.T. Kasaikina, A.A. Golyavin, D.A. Krugovov, E.A. Mengele, Z.S. Kartasheva, and L.M. Pisarenko, Semenov Institute of Chemical Physics, Russia.

9:00 **Antioxidant Activity of a Synthesized Palmityl Ester of Carnosic Acid.** A. Prasad and C. Hall, III, North Dakota State University, USA.

9:20 **Effect of Emulsifiers and Physical Structure on Lipid Oxidation in Omega-3 Emulsions.** A.F. Horn, N.S. Nielsen, and C. Jacobsen, DTU Food, Denmark.

9:40 **Kinetics in Oxidation of Marine ω-3 Fatty Acids in Heterophasic Systems.** I. Storrø[1], R. Mozuraityte[1], A. Carvajal[1], V. Kristinová[2], and T. Rustad[3], [1]SINTEF Fisheries and Aquaculture, Norway, [2]Brno University of Technology, Czech Republic, [3]Norwegian University of Science and Technology, Norway.

10:00 **Impact of Phospholipid Reverse Micelles on the Physical and Chemical Properties of Bulk Oil.** B.C. Chen, D.J. McClements, and E.A. Decker, Dept. of Food Science, University of Massachusetts, USA.

PHO 1: Nutritional and Biological Functions of Polar Lipids

Chairs: G. Wang, Iowa State University, USA; and X. Xu, University of Aarhus, Denmark

225A

7:55 **Introduction.**

8:00 **Effects of Different Phospholipids on Gastric- and Pancreatic-lipase Activity and Establishment of the Gut Microbiota.** L.I. Hellgren[1], J.H. Mathiasen[1], H. Frøkiær[2], Å. Nilsson[3], L. Olsson[3], and T.R. Licht[1], [1]Technical University of Denmark, Denmark, [2]Copenhagen University, Denmark, [3]Lund University, Sweden.

8:20 **Effect of Adding Milk Fat Globular Membrane (MFGM) to Anhydrous Milk Fat on Lipid Metabolomics in Fischer 344 Rats Compared to Corn Oil Control.** R.E. Ward, K. Hintze, A. Zhou, and D. Snow, Nutrition, Dietetics and Food Sciences, Utah State University, USA.

8:40 **Effect of Milk Sphingolipids on Rodent Plasma and Liver Lipids.** S. Watanabe[1], T. Takahashi[1], L. Tanaka[2], Y. Haruta[2], M. Shiota[2], M. Hosokawa[1], and K. Miyashita*[1], [1]Faculty of Fisheries Sciences, Hokkaido University, Japan, [2]Snow Brand Company, Japan.

9:00 **Analysis of Possible Pathways Involved in Buttermilk's Antiproliferative Activity in in vitro Studies.** A. Kuchta[1,4], R. Devery[1,2], B. Murray[3], C. Stanton[4], and P. Kelly[3], [1]School of Biotechnology, Dublin City University, Ireland, [2]National Institute for Cellular Biotechnology, Dublin City University, Ireland, [3]Dept. of Food Processing and Functionality, Moorepark Food Research Centre, Ireland, [4]Biotechnology Centre, Moorepark Food Research Centre, Ireland.

PRO 1: Processing Hot Topics

Chairs: N. Dunford, Oklahoma State University, USA; and J. Mulholland, N. Hunt Moore & Assoc. Inc., USA

222BC

7:55 **Introduction.**

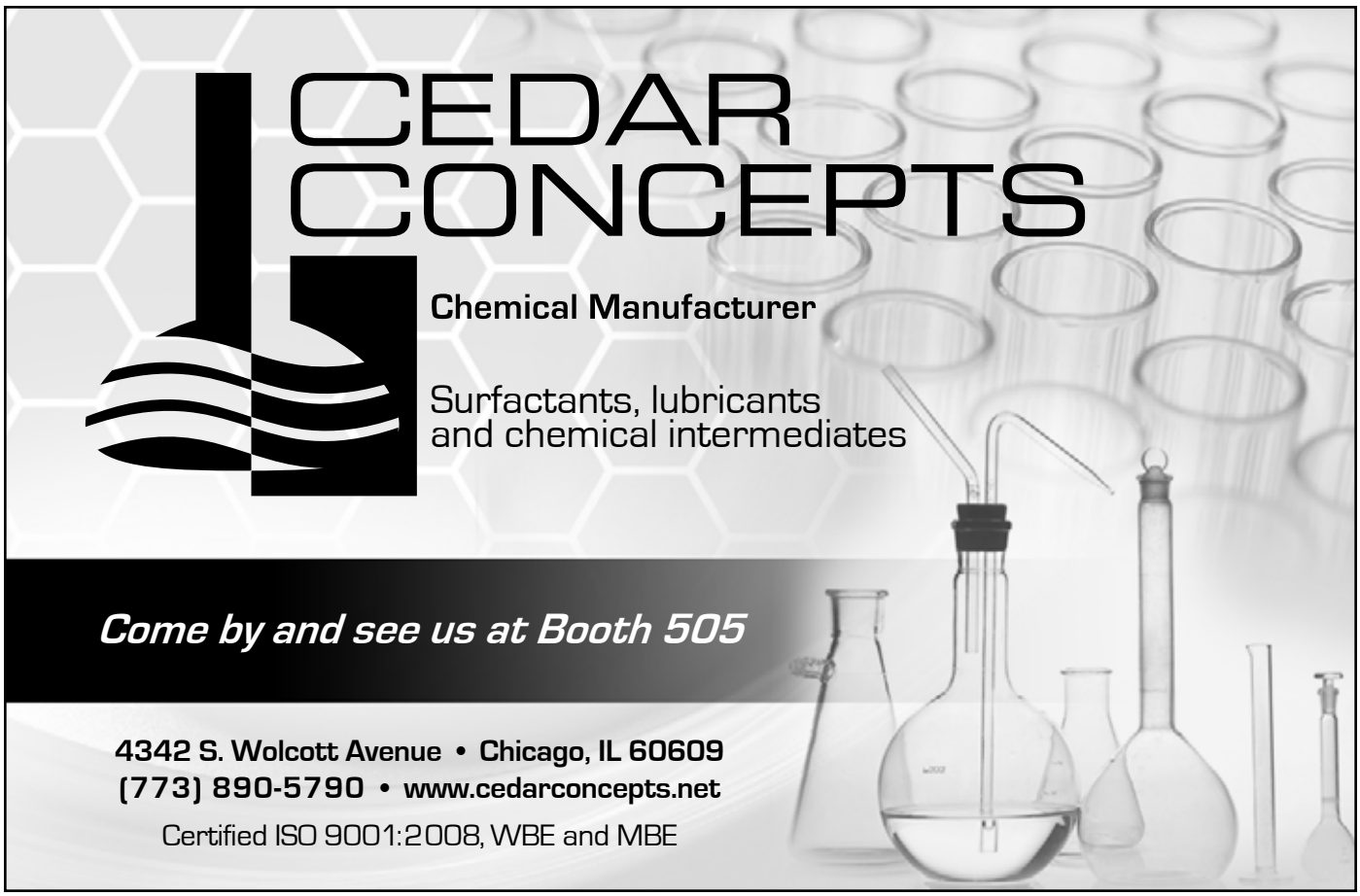
8:00 **How Sustainability-related Issues are Affecting Business Practices Focusing on the Oil and Oilseed Processors.** E. Dumelin, Consultant, Switzerland.

8:20 **Sustainability: An Innovation Platform for Oil Seed Agriculture, Processing, and Products.** D. Ross and I. Purtle, Cargill, Inc., USA.

8:40 ***Trans* Free Production of Margarine Hardstocks.** G. van Duijn, Unilever R&D, The Netherlands.

9:00 **Enzymatic Oil Processing: Current Status and Future Trends.** M. Kellens[1], W. De Greyt[1], T. Kemper[2], and J. Willits[2], [1]Desmet Ballestra Group, Belgium, [2]Desmet Ballestra North America, USA.

9:40 **Advances in Enzyme-assisted Aqueous Extraction of Soybeans.** J.M.L.N



de Moura[1], N.M. de Almeida[2], S. Jung[1], and L.A. Johnson[1], [1]Iowa State University, USA, [2]Universidade Federal da Paraiba, Brazil.

10:00 **Opportunities and Challenges in Industrial Production of Functional Lipids.** T. Yang, Dalian University of Technology, China.

10:20 **Developments in Edible Oil Refining for the Production of High Quality, Contaminant-free Food Oils.** W. De Greyt, Desmet Ballestra Group, Belgium.

10:40 **What are the Possibilities to Reduce the Content of 3-MCPD Esters in Edible Oils?** B. Matthäus[1], A. Freudenstein[1], F. Pudel[2], and J.-P. Krause[2], [1]Max Rubner-Institute, Germany, [2]Pilot Pflanzenöltechnologie Magdeburg e.V., Germany.

11:00 **A Fungal Route to Produce Biodiesel from Lignocellulosics.** J. van Leeuwen[1,2], D. Mitra[2], P. Chand[2], D. Grewell[2], J. Verkade[2], V. Chintareddy[2], T.H. Kim[2], C. Ziel[2], M. Montalbo-Lomboy[2], and S. Beattie[2], [1]MycoInnovations, USA, [2]Iowa State University, USA.

PCP 1/BIO 1.2: Process and Co-products of Biofuel and Industrial Production

Chairs: K. Liu, USDA, ARS, PWA, USA; D. Solaiman, USDA, ARS, ERRC, USA; J. Wanasundara, Agriculture and Agri-Food Canada, Canada; and H. Wang, Iowa State University, USA

222A

7:55 **Introduction.**

8:00 **Product Opportunities from Algae.** J. Butler and J. Money, Solix Biofuels, USA.

8:20 **In situ Transesterification of Algae for the Production of Fatty Acid Methyl Esters for Use as Biodiesel.** M.J. Haas and K.M. Scott, USDA, ARS, ERRC, USA.

8:40 **Glycerine—A Valuable Biodiesel Coproduct for Fermentation Processes.** R.D. Ashby, D.K.Y. Solaiman, and T.A. Foglia, USDA, ARS, ERRC, USA.

9:00 **Advances in Corn Ethanol Enzyme Technology, Effect on DDGS and Opportunities for Animal Feed Industry.** M. Hruby, Danisco Animal Nutrition, USA.

9:20 **Techno-economic Analysis of Brassica Protein and Co-product Extraction Technologies for Food and Biofuel Applications.** E.K. Mupondwa and J. Wanasundara, Bioproducts and Bioprocesses, Agriculture and Agri-Food Canada, Canada.

9:40 **Manufacturing New Food Co-Product(s) Using a Novel Ethanol Corn Fractionation System.** T.T. Lohrmann and D.J. Hammes, Quality Technology International, Inc., USA.

10:00 **Identification of Novel Co-product Opportunities From the Low Temperature Fermentation of Grains to Ethanol.** D. Bressler, R. Zijlstra, and A. Gibreel, University of Alberta, Canada.

10:20 **The Composition of Crude Corn Oil Recovered after Fermentation via Centrifugation from a Commercial Dry Grind Ethanol Process.** R.A. Moreau[1], K.B. Hicks[1], D.B. Johnston[1], and N.P. Laun[2], [1]ERRC, USDA, USA, [2]Western New York Energy, USA.

10:40 **Changes in the Oil Concentration, Fatty Acid Composition, and Functional Lipid Profiles during Dry Grind Ethanol Production from Corn.** K. Liu[1], R. Moreau[2], and J. Moser[3], [1]USDA, ARS, USA, [2]USDA, ARS, ERRC, USA, [3]USDA, ARS, NCAUR, USA.

11:00 **Changes in Physical Properties During Dry Grind Processing of Corn.** K.A. Rosentrater[1] and K. Liu[2], [1]USDA, ARS, USA, [2]USDA, ARS, USA.

11:20 **Integrated Production of Ethanol and Succinic Acid in a Biorefinery.** N.P. Nghiem, K. Hicks, and D. Johnston, USDA ARS, ERRC, USA.

11:40 **Assessment of a High Purity Zein Product from Commercial Zein.** D.J. Sessa and K. Kruger Woods, Plant Polymer Research, USDA, ARS, NCAUR, USA.

12:00 **Proteins as Renewable Flocculants.** G. Piazza and R. Garcia, USDA, ARR, ERRC, USA.

S&D 1: Extended Chain Surfactants

Chairs: E. Acosta, University of Toronto, Canada; and D. Sabatini, University of Oklahoma, USA

229A

7:55 **Introduction.**

8:00 **Extended Surfactants: A Fine-tuned Structure to Improve Interfacial Performance through a Gradual Polarity Transition.** J.-L. Salager, A. Forgiarini, C. Scorzza, L. Tolosa, and J. Velasquez, Universidad de Los Andes, Columbia.

8:40 **Extended Chain Surfactants in Detergent Applications.** G.A. Smith and S. Sfamenos, Huntsman Corporation, USA.

9:00 **Microemulsions with Extended-surfactants: Characterization and Applications.** D.A. Sabatini[1], L.D. Do[2], and T.T. Phan[1], [1]University of Oklahoma, Civil Engineering and Environmental Science, USA, [2]University of Oklahoma, Chemical Engineering and Material Science, USA.

9:20 **Laboratory-based Small Pilot Scale Surfactant Microemulsion Based Oil Seed Extraction.** S. Islamoglu Kadioglu[1], L. Do[2], and D.A. Sabatini[1], [1]University of Oklahoma Dept. of Civil Engineering and Environmental Science, USA, [2]University of Oklahoma Dept. of Chemical Engineering and Material Science, USA.

9:40 **Adsolubilization and Solubilization using Carboxylate-based Extended Surfactants.** N. Arpornpong[1], J. Lewlomphaisan[1], A. Charoensaeng[1], D.A. Sabatini[2], and S. Khaodhiar[3], [1]National Center of Excellence for Environmental and Hazardous Waste Management, Chulalongkorn University, Thailand, [2]Schools of Civil Engineering and Environmental Science, University of Oklahoma, USA, [3]Dept. of Environmental Engineering, Chulalongkorn University, Thailand.

10:00 **Application of the HLD-NAC Model to Formulate Detergents Using Extended Surfactants.** S.K. Kiran and E.J. Acosta, University of Toronto, Dept. of Chemical Engineering and Applied Chemistry, Canada.

10:20 **Effect of Hydrocarbon Tail Branching on the Packing of Extended Surfactants at Oil Water Interfaces.** C. Hammond[1] and E.J. Acosta[2], [1]Sasol North America Inc., USA, [2]Dept. of Chemical Engineering and Applied Chemistry, University of Toronto, Canada.

S&D 1.1: General Surfactants I

Chairs: M. Ventura, Church & Dwight Co. Inc., USA; and S. Adamy, Church & Dwight Co. Inc., USA

229B

7:55 **Introduction.**

8:00 **Effect of Sodium Bicarbonate on Wetting Synergies in Mixed Surfactant Systems.** S.T. Adamy, Church & Dwight Co., Inc., USA.

8:20 **Synergistic Interactions in Mixed Anionic-cationic Surfactant Mixtures: Palm-based Methyl Sulfonate-alkyl Trimethylammonium Bromide Mixtures.** S.P. Wong[1,2], W.H. Lim[2], S.F. Cheng[1], and C.H. Chuah[1], [1]University of Malaya, Malaysia, [2]Advanced Oleochemical Technology Division, Malaysian Palm Oil Board Malaysia.

8:40 **An Investigation into Inhibition of Precipitation of Mixed Anionic Surfactant Systems.** A. Maneedaeng[1], K.J. Haller[2], B.P. Grady[3], and A.E. Flood[1], [1]School of Chemical Engineering, Suranaree University of Technology, Thailand, [2]School of Chemistry, Suranaree University of Technology, Thailand, [3]School of Chemical, Biological and Materials Engineering, University of Oklahoma, USA.

9:00 **Influence of Hydrophobic Chain Length on the Properties of Phosphate Based Gemini Surfactants.** V.K. Tyagi and D. Shukla, Harcourt Butler Technological Institute, India.

9:20 **Mixed Micelle Formation in the Mixture of a Bile Salt and a Cationic Fluorocarbon Surfactant.** Z. Wang, T. Wu, and W. Zhou, College of Chemistry, Chemical Engineering and Materials Science, Shandong Normal University, China.

9:40 **Vegetable Oil Detergency: Removal of Highly Unsaturated Triglycerides Using Optimized Microemulsion System at Low Surfactant Concentration and Bath Temperature.** C. Attaphong, T. Phan, and D.A. Sabatini, The University of Oklahoma, USA.

10:00 **The Cleaning of Heavy Oils from Solid Particles.** S. Quraishi and E. Acosta, University of Toronto, Canada.

10:20 **Aggregation of a 4-armed Starblock EO-PO Copolymeric Surfactant in Aqueous Solutions.** P. Bahadur, VNSG University, India.

10:40 **Gemsurfs: Preparation from Butanetetracarboxylic Acid.** C.N. Huynh, T. Oida, and T. Kawase, Kyoto Institute of Technology, Japan.

Monday Afternoon

The Stephen S. Chang Award Lecture

Sponsored by the late Stephen S. Chang and his wife, Lucy D. Chang

Chair: S.E. Hill, Kraft Foods Global, Inc., USA

231C

1:30 **Introduction.**

1:35 **Advances in Structured Emulsion-based Delivery Systems.** D.J. McClements, Dept. of Food Science, University of Massachusetts, USA.

AM 2/PRO 2: Food/Feed Safety and Quality

Chairs: M. McCutcheon, West Virginia Dept of Agriculture, USA; and J. Willits, Desmet Ballestra North America Inc., USA, and M. Snow, Bunge North America Inc., USA

222BC

1:55 **Introduction.**

2:00 **Salmonella Prevention in Oilseed Meals.** T. Kemper, Desmet Ballestra North America, Inc., USA.

2:40 **Deodorization as a Driver for Product Quality.** D. Otten, Cargill Inc., USA.

3:20 **Safe Feed/Safe Food and International Trade.** K. Epperson, American Feed Industry Association, USA.

ANA 2: Rapid and Non-Destructive Technologies

Chairs: K. Ma, Cognis Corporation, USA; and H. Li, Bruker Optics Inc., USA

224A

1:55 **Introduction.**

2:00 **New Development of Networked FT-IR method: AOCS Approved Practice for Biodiesel Analysis.** B. Stefl, C.-H. Tseng, and N. Wang, Cognis Corporation, USA.

2:20 **In vivo Monitoring of Microalgal Oil Production: A Single-cell Biodiesel-mining Approach.** H. Wu[1], J. Volponi[1], and S. Singh*[1,2], [1]Sandia National Laboratories, USA, [2]Joint Bioenergy Institute, USA.

2:40 **High-throughput Fats and Oils Analyses Using TD-NMR without Sample Preparation and Solvents.** S. Ghosh and X. Tombokan, Bruker Corporation, USA.

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3:00 **Measurement of Conjugated Linoleic Acid in CLA-Rich Soy Oil by ATR-FTIR.** J. Kadamne, V. Jain, M. Saleh, and A. Proctor, University of Arkansas, USA.

3:20 **FT-IR Spectroscopy to Study Structures of Protein Based Matrices in Food Applications.** L. Chen and Z. Tian, Dept. of Agricultural, Food and Nutritional Science, University of Alberta, Canada.

3:40 **Quality Control of Edible Oils Using an Electronic Nose.** J.C. Mifsud, X. Bredzinski, and M. Bonnefille, Alpha MOS, USA.

BIO 2: Sterols II

This session sponsored in part by Steraloids

Chairs: G.I. Lepesheva, Vanderbilt University, USA; and W.D. Nes, Texas Technical University, USA

221AB

12:55 **Introduction.**

1:00 **Identification of Natural Ligands for the Nuclear Hormone Receptor RORγ.** F.R. Santori[1], V. Sondhi[2], B. Rosales[3], H.E. Xu[4], W.D. Nes[3], D. Mangelsdorf[2], and D.R. Littman[1], [1]Skirball Institute of Biomolecular Medicine, NYU School of Medicine, USA, [2]Howard Hughes Medical Institute and Dept. of Pharmacology, University of Texas Southwestern Medical Center at Dallas, USA, [3]Dept. of Chemistry and Biochemistry, Texas Tech University, USA, [4]Laboratory of Structural Sciences, Van Andel Research Institute, USA.

1:20 **Genetic Dissection of AACT Paralog-function on the Phytosterol Profile of Arabidopsis.** Z. Song[1,2], H. Jin[2], and B.J. Nikolau[1,2], [1]The Ames Laboratory of US DOE, USA, [2]Iowa State University, USA.

1:40 **Bioengineering Strategies for Enhanced Phytosterol Accumulation in Soybean Seeds.** A. Neelakandan[1], S. Chamala[2], B. Valliyodan[1], W.D. Nes[2], and H. Nguyen[1], [1]University of Missouri, USA, [2]Texas Tech University, USA.

2:00 **Phytosterols as Novel Tools for Controlling Insect Pests.** S. Behmer[1], R. Grebenok[2], and A. Douglas[3], [1]Texas A&M University, USA, [2]Canisius College, USA, [3]Cornell University, USA.

2:20 **Structural Insights into Selective Inhibition of Protozoan Sterol 14alpha-demethylase.** G.I. Lepesheva, Vanderbilt University, USA.

2:40 **New Methods for Oxysterol Synthesis: Allylic Oxidation of Steroids and Sterols.** E.J. Parish, A.D. Bell, D. Lu, A.E.V. Gorden, Y. Li, X. Wu, and T. Lee, Dept. of Chemistry and Biochemistry, Auburn University, USA.

BIO 2.1/PRO 2.1: Processing Technologies

Chairs: X. Xu, University of Aarhus, Denmark; and N. Dunford, Oklahoma State University, USA

221C

1:15 **Introduction.**

1:20 **Advantages and Challenges in Enzymatic Catalyzed Biodiesel Production.** P.M. Nielsen, J. Brask, H. Lilbaek, M.L. Damstrup, A.R. Madsen, and H.C. Holm, Novozymes, Denmark.

2:00 **Evaluation of Reaction Engineering Parameters in Enzyme-based FAEE-biodiesel Processes.** M. Nordblad, Y. Xu, and J.M. Woodley, Process Engineering and Technology Group, Dept. of Chemical and Biochemical Engineering, Technical University of Denmark, Denmark.

2:20 **Development of Reactor Technology for Improved Catalytic Productivity in Enzymatic FAEE-biodiesel Production.** Y. Xu, M. Nordblad, and J.M. Woodley, Process Engineering and Technology Group, Dept. of Chemical and Biochemical Engineering, Technical University of Denmark, Denmark.

2:40 **Enzymatic Biodiesel, Monitoring and Analysis of the Reaction.** S.N. Fedosov and X. Xu, Agrobiology Group, Dept. Molecular Biology, Aarhus University, Denmark.

3:00 **Predictive Studies on Phase Equilibria of Enzymatic Biodiesel Production.** G. Güzel and X. Xu, Aarhus University, Dept. of Molecular Biology, Denmark.

3:20 **Synthesis of Diacylglycerols: Lipases vs. Macroreticular Strongly Acidic Cation Exchange Resins.** O.M. Lai[1,2] and S.K. Lo[3], [1]Universiti Putra Malaysia, Malaysia, [2]Institute of Bioscience, Malaysia, [3]Sime Darby Research Centre, Malaysia.

3:40 **Enzyme-Catalyzed Production of Structured Lipids under High-Pressure Conditions.** S. Ferreira-Dias[1], N.M. Osório[2,1], C. Tecelão[3,1], V. Perrier[4], E. Dubreucq[4], and M.H. Ribeiro[5], [1]Instituto Superior de Agronomia, Technical University of Lisbon, CEER, Portugal, [2]Instituto Piaget, Núcleo de Investigação em Engª Alimentar e Biotecnologia, ISEIT de Almada, Portugal, [3]Escola Superior de Turismo e Tecnologia do Mar, Instituto Politécnico de Leiria, Portugal, [4]Montpellier SupAgro, UMR 1208 IATE, France, [5]Faculdade de Farmácia, Research Institute for Medicines and Pharmaceutical Sciences (i-Med.UL), University of Lisbon, Portugal.

EAT 2: Structured Solutions

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

226BC

1:55 **Introduction.**

2:00 **Fatty Acid Chain Mismatch Optimization to Influence Bakery Shortening Functionality.** D.K. Nakhasi, R.L. Daniels, and J.W. Eartly, Oils Division of Bunge North America, Inc., USA.

2:20 **Enzymatic Interesterification: Sustainable Solutions for the Bakery Industry.** B. Johnson, Bunge North America, Inc., USA.

2:40 **Lipase-catalyzed Synthesis of Omega-3 Vegetable Oils.** F. Jovica and S.M. Budge, Dalhousie University, Canada.

3:00 **Processing EPA Oil from *Yarrowia lipolytica*: A New, Vegetarian Source for Omega-3 Fatty Acids.** S.-C. Liang, B.D. Tyreus, C.R. Powley, L.A. Belcher, and D.E. Spahr, DuPont Applied BioSciences, USA.

3:20 **Structured Unique Phospholipids Gels—Technology and Application.** S. Baseeth and B. Sebree, Archer Daniels Midland Co., USA.

EAT 2.1/PHO 2: Lipids in Nanotechnology I

This session sponsored in part by Matreya LLC

Chairs: S. Ali, Jina Pharmaceuticals, Inc., USA; M. Ahmad, Jina Pharmaceuticals, Inc., USA; and F. Orthoefer, FTO Food Research, USA

225A

1:55 **Introduction.**

2:00 **Micro/Nanochannel Emulsification for Producing Monodisperse Emulsions Containing Lipids.** I. Kobayashi[1] and M. Nakajima[2,1], [1]National Food Research Institute, NARO, Japan, [2]University of Tsukuba, Japan.

2:40 **Structured Lipids in Physical Structuring: Case Studies.** X. Xu, Aarhus University, Denmark.

3:00 **Milk Phospholipids Nanoliposome as Bioactive Compounds Carrier.** B. Farhang, Y. Kakuda, and M. Corredig, University of Guelph, Canada.

3:20 **Lecithin-based Self-Emulsifying Oral Delivery Systems.** J. Chu and E. Acosta, University of Toronto, Canada.

3:40 **Phenolipids: Novel Phenolics Enriched Lecithin for Functional and Pharmaceutical Applications.** M.F.R. Hassanien, Agricultural Biochemistry Department, Faculty of Agriculture, Zagazig University, Egypt.

FS&FF 2: Design of Successful Performing Interfaces

Chairs: K. Dewettinck, Ghent University, Belgium; and Y. Wang, Kraft Foods Inc., USA

226A

1:55 **Introduction.**

2:00 **Factors Governing Partial Coalescence in Oil-in-Water Emulsions: a Review.** K. Dewettinck[1], E. Fredrick[1], and P. Walstra[2], [1]Ghent University, Belgium, [2]FrieslandCampina, The Netherlands.

2:20 **Mechanism of Lipolysis and Micellization of β-carotene from Oil-in-Water Emulsions Stabilized with Soy Protein Isolate.** A. Malaki Nik ***(Honored Student Award Winner)***, M. Corredig, and A.J. Wright, University of Guelph, Canada.

2:40 **Stability and Controlled Release Properties of Double Emulsions.** L. Sapei and D. Rousseau, Ryerson University, Canada.

3:00 **The Development of a One-step Double Emulsion Formation Protocol.** M. Pradhan and D. Rousseau, Ryerson University, Canada.

3:20 **Formation and Stability of Salt-containing Microemulsions.** N. Berry and D. Rousseau, Ryerson University, Canada.

3:40 **Characterization of Solid Lipid Nanoparticles as a Novel Emulsifier for Food Applications.** R. Gupta and D. Rousseau, Ryerson University, Canada.

H&N 2: Bioactivity and Emerging Benefits of Short and Medium Chain Fatty Acids

This session sponsored in part by the National Dairy Council

Chairs: P. J. Jones, University of Manitoba, Canada; and P.J. Huth, PJH Nutritional Science, USA

228AB

1:55 **Introduction.**

2:00 **Dietary Intakes, Food Sources and Bioactive Effects of Short and Medium Chain Fatty Acids.** P.J. Huth[1] and V. Fulgoni[2], [1]PJH Nutritional Science, USA, [2]Nutrition Impact LLC, USA.

2:20 **Medium Chain Triglycerides: Target for Cardiovascular Disease and Insulin Resistance?** P.J. Jones, Richardson Centre for Functional Foods and Nutraceuticals, University of Manitoba, Canada.

2:40 **Benefits of Medium Chain Triglyceride Consumption for Weight Management and Metabolic Syndrome.** M.-P. St-Onge, New York Obesity Research Center, St. Luke's/Roosevelt Hospital and College of Physicians and Surgeons, Columbia University, USA.

3:00 **Applications of Medium- and Short Chain Fatty Acids.** R.J. Jandacek, University of Cincinnati, USA.

3:20 **Panel Discussion.**

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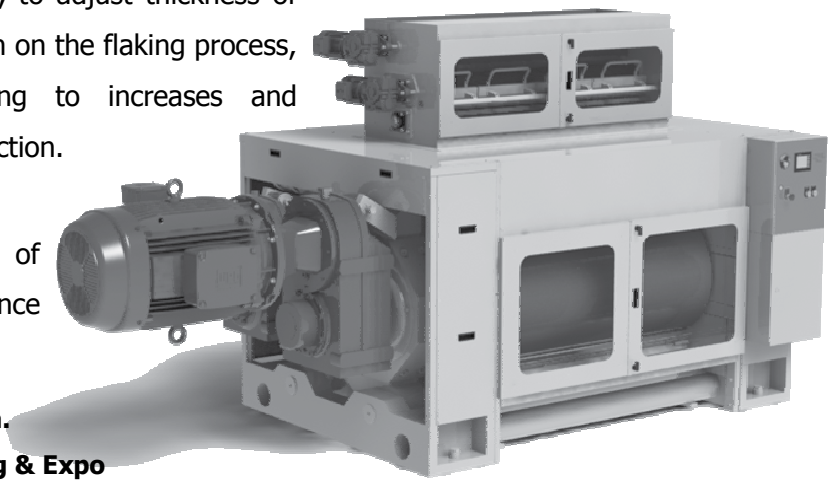

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IOP 2: Bio-based Lubricants, Plasticizers, and Value-added Products

Chairs: D. Kodali, Global Agritech Inc., USA; and Z. Guo, Aarhus University, Denmark

224B

1:55 **Introduction.**

2:00 **Sustainable Plasticizers.** L. Wiebe, Danisco, Denmark.

2:20 **Developing Heterogeneous Catalysts for the Production of Value-added Biobased Products from Fats and Oils.** H. Ngo, T. Foglia, and M. Haas, USDA, ARS, ERRC, USA.

2:40 **Development of Biodegradable Lubricating Oil Formulations from Non Edible Vegetable Oils.** P. Nagendramma, S. Kaul, R.P.S. Bisht, and M.R. Tyagi, IIP, India.

3:00 **Low VOC Alkyd Paints and Coatings via Sucrose Polyesters.** R. Berger[1], D. Back[1], R. Starghill[1], V. Arredondo[1], N. Rogers[2], D. Eslinger[2], and D. Ryer[2], [1]The Procter & Gamble Company, USA, [2]Cook Composites & Polymers, USA.

3:20 **A Direct Synthesis Route to Soy-based Thiol Oligomers.** Z. Chen[1], J.F. Wu[1], S. Fernando[1], B.J. Chisholm[1,2], and D.C. Webster[1,2], [1]Center for Nanoscale Science and Engineering, North Dakota State University, USA, [2]Dept. of Coatings and Polymeric Materials, USA.

3:40 **Development of Soybean Oil Derived Plasticizers for PVC.** D.R. Kodali, L.J. Stolp, and M. Bhattacharya, University of Minnesota, USA.

LOQ 2: Specialty Antioxidants

Chairs: F. Shahidi, Memorial University of Newfoundland, Canada; and J. Gerde, Iowa State University, USA

227AB

1:55 **Introduction.**

2:00 **Novel Antioxidants in Food Preservation and Health.** F. Shahidi, Dept. of Biochemistry, Memorial University of Newfoundland, Canada.

2:20 **Application of Natural Extracts in Margarines and Spreads.** N. Senanayake, J. Erdmann, and C. Dorko, Danisco USA Inc., USA.

2:40 **Enzymatic Synthesis of Novel Phytosteryl Caffeates and their Antioxidant Activity.** Z. Tan and F. Shahidi, Dept. of Biochemistry, Memorial University of Newfoundland, Canada.

3:00 **Modified Tea Catechins in Oxidation Control.** Y. Zhong ***(Honored Student Award Winner)***, and F. Shahidi, Memorial University of Newfoundland, Canada.

3:20 **Influence of Filtering of Cold Pressed Berry Seed Oils on their Antioxidant Profile and Quality Characteristics.** V. Van Hoed[1] ***(Honored Student Award Winner)***, I. Barbouche[1,3], N. De Clercq[2], K. Dewettinck[2], M. Slah[3], and R. Verhé[1], [1]Ghent University, Dept. of Organic Chemistry, Belgium, [2]Ghent University, Dept. of Food Safety and Food Quality, Laboratory of Food Technology and Engineering, Belgium, [3]University 7th November of Carthage, National Agronomical Institute of Tunisia, Tunisia.

3:40 **Antioxidant Activity of Brown Seaweed Lipids.** A. Widjaja-Adhi, S. Iwasaki, M. Hosokawa, and K. Miyashita, Faculty of Fisheries Sciences, Hokkaido University, Japan.

PHO 2/EAT 2.1: Lipids in Nanotechnology I

This session sponsored in part by Matreya LLC

Chairs: S. Ali, Jina Pharmaceuticals, Inc., USA; M. Ahmad, Jina Pharmaceuticals, Inc., USA; and F. Orthoefer, FTO Food Research, USA

225A

1:55 **Introduction.**

2:00 **Micro/Nanochannel Emulsification for Producing Monodisperse Emulsions Containing Lipids.** I. Kobayashi[1] and M. Nakajima[2,1], [1]National Food Research Institute, NARO, Japan, [2]University of Tsukuba, Japan.

2:40 **Structured Lipids in Physical Structuring: Case Studies.** X. Xu, Aarhus University, Denmark.

3:00 **Milk Phospholipids Nanoliposome as Bioactive Compounds Carrier.** B. Farhang, Y. Kakuda, and M. Corredig, University of Guelph, Canada.

3:20 **Lecithin-based Self-Emulsifying Oral Delivery Systems.** J. Chu and E. Acosta, University of Toronto, Canada.

3:40 **Phenolipids: Novel Phenolics Enriched Lecithin for Functional and Pharmaceutical Applications.** M.F.R. Hassanien, Agricultural Biochemistry Department, Faculty of Agriculture, Zagazig University, Egypt.

PRO 2/AM 2: Food/Feed Safety and Quality

Chairs: M. McCutcheon, West Virginia Dept of Agriculture, USA; and J. Willits, Desmet Ballestra North America Inc., USA, and M. Snow, Bunge North America Inc., USA

222BC

1:55 **Introduction.**

2:00 **Salmonella Prevention in Oilseed Meals.** T. Kemper, Desmet Ballestra North America, Inc., USA.

2:40 **Deodorization as a Driver for Product Quality.** D. Otten, Cargill Inc., USA.

3:20 **Safe Feed/Safe Food and International Trade.** K. Epperson, American Feed Industry Association, USA.

PRO 2.1/BIO 2.1: Processing Technologies

Chairs: X. Xu, University of Aarhus, Denmark; and N. Dunford, Oklahoma State University, USA

221C

1:15 **Introduction.**

1:20 **Advantages and Challenges in Enzymatic Catalyzed Biodiesel Production.** P.M. Nielsen, J. Brask, H. Lilbaek, M.L. Damstrup, A.R. Madsen, and H.C. Holm, Novozymes, Denmark.

2:00 **Evaluation of Reaction Engineering Parameters in Enzyme-based FAEE-biodiesel Processes.** M. Nordblad, Y. Xu, and J.M. Woodley, Process Engineering and Technology Group, Dept. of Chemical and Biochemical Engineering, Technical University of Denmark, Denmark.

2:20 **Development of Reactor Technology for Improved Catalytic Productivity in Enzymatic FAEE-biodiesel Production.** Y. Xu, M. Nordblad, and J.M. Woodley, Process Engineering and Technology Group, Dept. of Chemical and Biochemical Engineering, Technical University of Denmark, Denmark.

2:40 **Enzymatic Biodiesel, Monitoring and Analysis of the Reaction.** S.N. Fedosov and X. Xu, Agrobiology Group, Dept. Molecular Biology, Aarhus University, Denmark.

3:00 **Predictive Studies on Phase Equilibria of Enzymatic Biodiesel Production.** G. Güzel and X. Xu, Aarhus University, Dept. of Molecular Biology, Denmark.

3:20 **Synthesis of Diacylglycerols: Lipases vs. Macroreticular Strongly Acidic Cation Exchange Resins.** O.M. Lai[1,2] and S.K. Lo[3], [1]Universiti Putra Malaysia, Malaysia, [2]Institute of Bioscience, Malaysia, [3]Sime Darby Research Centre, Malaysia.

3:40 **Enzyme-Catalyzed Production of Structured Lipids under High-Pressure Conditions.** S. Ferreira-Dias[1], N.M. Osório[2,1], C. Tecelão[3,1], V. Perrier[4], E. Dubreucq[4], and M.H. Ribeiro[5], [1]Instituto Superior de Agronomia, Technical University of Lisbon, CEER, Portugal, [2]Instituto Piaget, Núcleo de Investigação em Engª Alimentar e Biotecnologia, ISEIT de Almada, Portugal, [3]Escola Superior de Turismo e Tecnologia do Mar, Instituto Politécnico de Leiria, Portugal, [4]Montpellier SupAgro, UMR 1208 IATE, France, [5]Faculdade de Farmácia, Research Institute for Medicines and Pharmaceutical Sciences (i-Med.UL), University of Lisbon, Portugal.

PCP 2: Ground Corn Meal in Ethanol Industry—Food Grade Applications

Chairs: T. Yunusov, NFI Iowa, USA; and R. Aluko, University of Manitoba, Canada

222A

1:55 **Introduction.**

2:00 **Corn Ethanol—Backend Fractionation the Solution is in Solution.** D. Winsness, GreenShift Corporation, USA.

2:20 **New Co-product Production from Fuel Ethanol Processing Streams.** D.B. Johnston and A.J. McAloon, USDA, ARS, ERRC, USA.

2:40 **New Corn Degerming Processes and the Germ Quality.** H. Wang[1], T. Wang[2], and L. Johnson[1,2], [1]Center for Crops Utilization Research, Iowa State University, USA, [2]Department and Human Nutrition, Iowa State University, USA.

3:00 **The Processing of Corn for Food, Feed, and Energy.** G. Haider and C. Teeter, Crown Iron Works Company, USA.

3:20 **Corn Processing to New Food Ingredients—Corn Oil Powder.** R. Barton, NFI Iowa LLC, USA.

S&D 2: Dynamic Properties of Surfactants

Chairs: D. Wood, Dial Corp./Henkel, USA; and B. Lin, Dial Corp./Henkel, USA

229A

1:55 **Introduction.**

2:00 **Predicting the Morphology and Viscosity of Ionic Surfactant Microemulsions Using the HLD-NAC Model.** S.K. Kiran ***(Surfactants and Detergents Division Student Travel Award Winner)*** and E.J. Acosta, University of Toronto, Dept. of Chemical Engineering and Applied Chemistry, Canada.

2:20 **New Applications for Multifunctional Cleaning Ingredients.** J. Shulman and M.I. Busby*, Dow Chemical, USA.

2:40 **Particulate Soil Detergency: Performance and Mechanism of Hydrophilic Soil Removal.** S. Rojvoranun[1], S. Chavadej*[1], J.F. Scamehorn[2], and D.A. Sabatini[2], [1]The Petroleum and Petrochemical College, Thailand, [2]The University of Oklahoma, USA.

3:00 **Production of New Types of Glycolipid Biosurfactants by Yeasts and their Interfacial Properties.** D. Kitamoto, T. Fukuoka, T. Morita, and T. Imura, National Institute for Advanced Industrial Science and Technology, Japan.

3:20 **Partitioning Behavior of an Acid-Cleavable, 1,3-Dioxolane Alkyl Ethoxylate, Surfactant in Single and Binary Surfactant Mixtures for 2- and 3-Phase Microemulsion Systems According to Ethoxylate Head Group Size.** J.A. Gomez del Rio[1], D.G. Hayes*[1], and V.S. Urban[2], [1]University of Tennessee, USA, [2]Oak Ridge National Laboratory, USA.

3:40 **Effect of Fatty Imidazolines on Properties of Laundry Detergent Compositions Based on Nonionic Surfactants.** V.K. Tyagi and D. Bajpai, Harcourt Butler Technological Institute, India.

S&D 2.1: General Surfactants II

This session sponsored in part by the International Food Science Centre A/S

Chairs: G. Dado, Stepan Co., USA; and J. Pytel, Stepan Co., USA

229B

1:55 **Introduction.**

2:00 **Oligomeric Surfactants Derived from the Sulfonation of Fatty Acids.** G. Dado and J. Weitgenant, Stepan Company, USA.

2:20 **Physical and Performance Properties of Sulfonated Oligomeric Surfactants.** D. Murphy, E. Filipovic, and L. Alonso, Stepan Company, USA.

2:40 **Formulation Engineering: Opportunities and Challenges.** E. Acosta ***(Young Scientist Research Award Winner)***, Dept. of Chemical Engineering and Applied Chemistry, University of Toronto, Canada.

3:00 **Alpha-tocopherol-Ascorbic Acid: A New Surfactant of Antioxidant Properties.** C.E. Astete[1] ***(Honored Student Award Winner)***, D. Dolliver[3], L. Khachatryan[2], and C.M. Sabliov[1], [1]Louisiana State University, Agricultural Center, USA, [2]Louisiana State University, Dept. of Chemistry, USA, [3]Southeastern Louisiana University, USA.

3:20 **O-Acylated Hydroxy Carboxylic Acid Anhydrides: Novel Building Blocks for Surfactants and Emulsifiers.** R. Ihizane, H.J. Altenbach, M.P. Schneider, K. Lange, and B. Jakob, Bergische Universität Wuppertal, Germany.

3:40 **Lecithin-Based Biocompatible Microemulsions Using Sophorolipid and Rhamnolipid Biosurfactants.** T. Nguyen[1,2] and D. Sabatini[1,2], [1]University of Oklahoma, USA, [2]Institute for Applied Surfactant Research, USA.

Hot Topic Symposia

Tuesday, May 18, 2010

9:00–11:00 am • 228AB

Biotechnology: What Edible Oil Technologists Need to Know

Organizers: Steve Poole, Director of Edible Protein and Oil Programs, United Soybean Board; and
Gary List, USDA Fats & Oil Chemist (retired), current consultant to the edible oil industry.

- Biotechnology is quickly becoming one of the top issues for edible oil technologists. Experts will share tips to negotiate regulatory and legal processes and how to successfully navigate the complex biotech landscape to minimize product development and business risk.
- Results from the 14th Annual Consumer Perspectives on Biotechnology study will be discussed and many may be surprised about how consumers really feel about biotech.
- Learn how nutrition and functionality challenges with partially hydrogenated oils can be solved with biotech soybean oils, which is critical. U.S. Food Manufacturers depend on soybeans as soybean oil accounts for 71.3% of edible fat and oil consumption.

9:00 **Introduction and Opening Remarks.** Steve Poole, Director of Edible Protein and Oil Programs, United Soybean Board, USA.
9:05 **Navigating Diverse Biotechnology Regulations Around the World**. David Green, CEO, Greenhouse Communications, Inc., USA.
9:25 **Legal Implications for Edible Oil Technologists Considering Biotech/Non-Biotech Ingredients.** Thomas Parker Redick, Global Environmental Ethics Counsel, USA.
9:45 **What Consumers Really Say about Biotechnology in Food**. Lindsey Loving, Director of Food Ingredient Communications, International Food Information Council (IFIC), USA.
10:05 **Biotech-Enhanced-Trait Soybean Oils Can Offer Nutrition & Functionality Solutions.** Joe Cornelius, Executive Director of Food Quality Traits, Monsanto Company, USA.
10:25 **Closing Remarks.** Steve Poole, Director of Edible Protein and Oil Programs, United Soybean Board, and Gary List, USDA Fats & Oil Chemist (retired), current consultant to the edible oil industry.
10:30 **Roundtable Discussion/Audience Q&A.** All presenters.

9:00 am–12:00 pm • 229A

Challenges and Opportunities in Lipids and Oil/Fats Education and Curriculum Development

Organizers: Andrew Proctor, Department of Food Science, University of Arkansas, USA; and
Randy Weselake, Department of Agricultural, Food and Nutritional Science, University of Alberta, Canada.

- Preparing students for careers in industry, government, and academia through the development of lipid/oils/fats learning strategies is becoming increasingly important.
- Learn about challenges/opportunities in developing educational approaches from the point of view of faculty, students, and industry with a comparative review of practices in different countries.
- Roundtable discussion will further explore key issues and provide guidance for the Professional Educators' Common Interest Group to promote education and prepare future professionals.

9:00 **Introductions.** Andrew Proctor, Department of Food Science, University of Arkansas, USA.
9:05 **A Professor's Perspective of Challenges and Opportunities.** Richard Hartel, University of Wisconsin, USA.
9:35 **A Student's Perspective of Challenges and Opportunities.** Crystal Snyder, Department of Agricultural, Food and Nutritional Science, University of Alberta, Canada.
10:05 **An Industrialist's Perspective of Challenges and Opportunities.** Steven E. Hill, Kraft Foods Inc., USA.
10:35 **An International Perspective of Challenges and Opportunities.** Roland Verhé, University of Ghent, Belgium.
11:05 **Lipids—Facts and Myths.** Karen Schaich, Rutgers University, USA.
11:35 **Round Table Discussion.** All Presenters.

9:00 am–12:00 pm • 224B

Food Safety Management Systems

Organizer: Gina Clapper, AOCS Technical Services, USA.

- Consumer confidence is waning with respect to food safety in the wake of recent food recalls. Because of this, more companies are looking to differentiate their products through food-safety-and-quality-management-systems audits throughout their supply chain.
- Topics will include GFSI, ISO 22000, third-party audits, and training for staff/auditors.
- Discussion will involve speakers and selected representatives who have implemented management systems.

9:00 **Introductions.** Gina M. Clapper, AOCS Technical Services, USA.
9:05 **Why Do We Have Standards and What Do They Really Do?** Mark Ames, AQS Management Systems, USA.
9:50 **Global Food Safety Initiative (GSFI) and ISO 22000 Certification Systems.** John G. Surak, Surak and Associates, USA.
10:35 **Quality Management Systems and Food Safety for Bulk Grain.** Charles R. Hurburgh, Jr., Iowa State University, USA.

11:20 **ISO 101 and Current ISO/TC 34 (Food Products) Opportunities.** Richard Cantrill, AOCS Technical Services, USA.
11:45 **Roundtable Discussion.** All Speakers.

9:00 am–12:00 pm • 226BC

High-Protein Diets and Weight Management

Organizer: Nicolas Deak, Solae LLC, USA; and Charles Schasteen, Solae LLC, USA.

- Obesity has become a worldwide epidemic and it continues to increase at a rapid rate.
- Numerous human studies show that protein is more satiating than fat or carbohydrate and promotes weight loss.
- State-of-the-art research will show protein's key role in weight management, the satiety in high-protein diets, mechanism(s) of weight management with high-protein diets, and sports nutrition/lean mass preservation.

9:00 **Introduction.** Nicolas Deak, Solae LLC, USA.
9:05 **Plant-Based Diets—Weight Management and Health.** Cyril Kendall, University of Toronto, Canada.
9:45 **Protein Intake and Targets of Weight Management.** Stijn Soenen, University of Maastricht, The Netherlands.
10: 25 **Essential Aminoacid Supplementation to Maintain or Improve Function in Sports, Rehabilitation, and Aging.** Blake Rassmussen, University of Texas, USA.
11:05 **Role of High-Quality Soy Protein in Weight Management.** Mark Cope, Solae LLC, USA.
11:45 **Discussion.** All Presenters.

9:00 am–12:00 pm • 227AB

Value-Added Fats and Oils: What's on the Horizon?

Organizer: Patricia Kearney, President and CEO, PMK Associates, Inc., USA.

Session Chairs: Patricia Kearney, President and CEO, PMK Associates, Inc., USA; and Mary LaGuardia, Omega-9 Oils Market Manager, Dow AgroSciences, USA.

- This year, the 2010 US Dietary Guidelines for Americans will be issued by the federal government. Included will be updated recommendations based on a review of the science by the Subcommittee on Fatty Acids. This will shape how Americans eat and the products they demand over the next decade and will impact not only which fats should be limited in the diet, but also which ones are essential to include.
- As healthy oils have become more mainstream, more attention has been given to their value in foods, their role in improving nutrition, and how they are affecting labels.
- Learn about up-to-date science on the role of fatty acids in health, new clinical data specific to healthy oils, and state-of-the-art trends for formulating healthier functional products for a wide array of applications.

9:00 **Welcome and Introduction.** Patricia Kearney, President and CEO, PMK Associates, Inc.; and Mary LaGuardia, Omega-9 Oils Market Manager, Dow AgroSciences, USA.
9:05 **New News on Fats and Oils.** Dariush Mozaffarian, Harvard School of Public Health, USA.
9:45 **Effects of Oils and Fats on Health Promotion.** Leah Gillingham, Richardson Centre for Functional Foods and Nutraceuticals, Canada.
10:15 **Formulating Better-For-You Products.** Roger Daniels, Research and Development, Bunge Oils, USA.
10:45 **Trends in Healthy Oils.** Chris Eggerman, Informa Economics, Inc., USA.
11:15 **Healthy Oils of the Future.** David Dzisiak, Commercial Leader Oils, Dow AgroSciences, USA.
11:45 **Panel Discussion/Mini Roundtable.** All Presenters.

Also on Tuesday Morning

9:00 am

EXH 1: Exhibitor Showcase • 225B

Chair: B.S. Cooke, The Dallas Group, USA

8:55 **Introduction.**
9:00 **Cold Water Enzyme Performance.** J.C. Naab, Genencor, USA.
9:15 **CARS Microscopy: A New Chemical Way for Lipid Imaging in Food Samples.** V. Lurquin, Leica Microsystems CMS GmbH, Germany.
9:30 **Novel Rinse Aid Surfactants for the Modern ADW Market.** R. Ettl and J. Jefferis, BASF, USA.
9:45 **Rapid, Multi-Component Analysis of Soybeans by FT-NIR.** C. Heil and Y. Fintschenko, Thermo Fisher Scientific, USA.
10:00 **Low Field NMR Methods for Measuring Oil Content for the Biofuel and Food Industries.** A. Sagidullin[1], K. Nott[1], and D. Bhattacharrya*[2], [1]Oxford Instruments Magnetic Resonance, UK, [2]Oxford Instruments Magnetic Resonance, USA.
10:15 **Lipid Profiling of Mono-, Di-, and Tri-acyl Glycerols by HPLC.** L.L. Lopez, D.C. Hurum, B.M. De Borba, and J.S. Rohrer, Dionex Corporation, USA.
10:30 **The Battelle World Detergent Program.** F. Pala, Battelle, USA.

Tuesday Afternoon

The Supelco/Nicholas Pelick Research Award Lecture

Sponsored by Supelco, Inc., a subsidiary of Sigma Aldrich Corp., and Nicholas Pelick

Chair: L.M. Sidisky, Supelco, USA

231C

1:30 **Introduction.**

1:35 **What Lipids Are For.** W. Christie, Scottish Crop Research Institute (and MRS Lipid Analysis Unit), Scotland.

AM 3: Agricultural Microscopy II

Chairs: P. Ramsey, Retired, California Dept of Food & Agriculture, USA; and C. Rogers-Kelly, Mississippi State Chemical Lab, USA

223

1:55 **Introduction.**

2:00 **Adulteration of Protein Sources.** C.W. Cruywagen, Stellenbosch University, South Africa.

2:40 **The Forensics of High Concentrate Fertilizer of DAP, MAP, and GTSP.** J. Falls, CF Industries, Inc., USA.

3:20 **Detecting and Quantifying Prions: Mass Spectrometry-based Approaches.** C.J. Silva,[1] B.C. Onisko,[2] I. Dynin,[1] M.L. Erickson,[1] and J.M. Carter[1], [1]USDA, ARS, WRRC, USA, [2]OniPro Biosciences, USA.

ANA 3: Mass Spectrometry

Chairs: W.C. Byrdwell, USDA, ARS, BHNRC, FCMDL, USA; and T. Alleman, National Renewable Energy Laboratory, USA

224A

1:55 **Introduction.**

2:00 **Identification of Diacylglycerols and Triacylglycerols Containing Trihydroxy Fatty Acids in Castor Oil and the Regiospecific Identification of Triacylglycerols by Mass Spectrometry.** J. Lin and G. Chen, U.S. Dept. of Agriculture, USA.

2:20 **Identification of Volatile Oxidation Products Responsible for Sensory Degradation of Fish Oil Using GCMS.** J.C. Sullivan[1], ***(Analytical Division Student Award Winner)***, S.M. Budge[1], and M. St-Onge[2], [1]Dalhousie University, Canada, [2]Ascenta Health Ltd., Canada.

2:40 **Suppression of Electrospray Ionization of Glycerophospholipids by their Lyso Derivatives during Normal Phase LC/ESI-MS.** A. Kuksis, A. Ravandi, and W. Pruzanski, University of Toronto, Canada.

3:00 **Targeted Lipid and Fatty Acid Shotgun Profiling of Complex Extracts by NanoESI-infusion.** B. Simons[1], E. Duchoslav[1], and G. Impey[2], [1]MDS Analytical Technologies, Canada, [2]Applied Biosystems, Canada.

3:20 **HPLC/MS Analysis of Regioisomeric Triacylglycerols.** M. Holčapek, M. Lísa, and H. Velínská, University of Pardubice, Czech Republic.

3:40 **Determination of the Regiospecific Distribution of Fatty Acid Double Bond Positional Isomers in Triacylglycerols of Berry Oils by High-performance Liquid Chromatographic and Mass Spectrometric Methods.** H. Leskinen, J.-P. Suomela*, B. Yang, and H. Kallio, Dept. of Biochemistry and Food Chemistry, University of Turku, Finland.

4:00 **Effects of Antioxidants on Rapeseed Oil Oxidation in Artificial Digestion Model Analyzed by UPLC-MS.** M. Tarvainen, J.-P. Suomela, and H. Kallio, Dept. of Biochemistry and Food Chemistry, University of Turku, Finland.

4:20 **Dual Parallel Mass Spectrometry for Analysis of Vitamin D in Retail Fortified Orange Juice.** W.C. Byrdwell[1], J. Exler[2], S.E. Gebhardt[2], J.M. Harnly[1], J.M. Holden[2], K.Y. Patterson[2], and K.M. Phillips[3], [1]USDA, ARS, BHNRC, Food Composition and Methods Development Lab, USA, [2]USDA, ARS, BHNRC, Nutrient Data Laboratory, USA, [3]Virginia Polytechnic Institute and State University, Dept. of Biochemistry, USA.

4:40 **Lipid Profiling of Biomass Feedstocks using Rapid Separation LC with Alternative Solvent Systems and Mass Spectrometry.** L. Lopez, M. Tracy, L. Wang, and X. Liu, Dionex Corporation, USA.

BIO 3: Plant Lipid Biotechnology

Chairs: R. Weselake, University of Alberta, Canada; and R.F. Wilson, Oilseeds and Biosciences Consulting, USA

221AB

1:55 **Introduction.**

2:00 **Biogenesis of ER Subdomains Containing DGAT2, an Enzyme Involved in Industrial Oil Biosynthesis.** S.K. Gidda[1], J.M. Shockey[2], R.T. Mullen[1], and J.M. Dyer*[3], [1]Dept. of Molecular and Cellular Biology, University of Guelph, Canada, [2]USDA, ARS, Southern Regional Research Center, USA, [3]USDA, ARS, US Arid-Land Agricultural Research Center, USA.

2:20 **An Overview of Castor Oil Biosynthesis.** T.A. McKeon, USDA, ARS, WRRC, USA.

2:40 **Producing DHA in Canola Oil Via Algal PUFA Synthases.** T. Walsh[1] and J. Metz[2], [1]Dow AgroSciences, USA, [2]Martek BioSciences, USA.

3:00 **Enhancing Carotenoid Production in *Brassica napus* Seeds.** A. Hannoufa, Agriculture and Agri-Food Canada, Canada.

3:20 **Quantifying the Control of Lipid Accumulation in Oil Crops.** U.S. Ramli[1], M. Tang[1], I. Guschina[1], P.A. Quant[2], and J.L. Harwood*[1], [1]Cardiff University, UK, [2]Oxford University, UK.

3:40 **The Use of Biotechnology to Alter Agronomic Properties of *Camelina sativa*: From Oil Production to Herbicide Resistance.** E.J. Murphy[1], [1]Agragen, LLC, USA, [2]Unicrop, Oy, Finland.

4:00 **Comparative Deep Transcript Profiling Reveals a Novel DGAT with *sn*-3**

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Acetyltransferase Activity that Synthesizes Unusual, Reduced-Viscosity Oils in Euonymus and Transgenic Seeds. T. Durrett, Dept. of Plant Biology, University of Michigan, USA.

4:20 **Branched-chain Fatty Acid Accumulation in Plant Oil.** H. Fukushige[1], A. Lewis[1], T. Davenport[2], and D. Hildebrand*[1], [1]University of Kentucky, USA, [2]University of Florida, USA.

4:40 **Probing the Role of Cysteine Residues in Acyl-CoA:Diacylglycerol Acyltransferase 2 from Yeast.** Q. Liu ***(Honored Student Award Winner and Biotechnology Division Student Award Winner)***, R.M.P. Siloto, and R.J. Weselake, University of Alberta, Canada.

BIO 3.1: Biocatalysis II

This session sponsored in part by Nisshin OilliO Ltd. and Tsukishima Foods Industry Co., Ltd.

Chairs: C. Hou, Renewable Product Technology Research Unit, NCAUR, ARS, USDA, USA; and K. Takahashi, Hokkaido University, Japan

221C

1:55 **Introduction.**

2:00 **Suppression and Promotion of Cachexia with n-3 Fatty Acid Bounded Phospholipids.** K. Ikegame[1], T. Tsushima[1], H. Arai[2], and K. Takahashi*[1], [1]Hokkaido University, Japan, [2]Kitami Institute of Technology, Japan.

2:20 **Enzymatic Modification of Phospholipids Using Lipase and Phospholipase.** S.H. Yoon[1] and S.K. Kim[2], [1]Korea Food Research Institute, Korea, [2]Doo San, Sung Bok-Ri, Korea.

2:40 **Novel Functionality of Glycolipids from Brown Seaweeds.** A. Sho, Y. Sugiyama, T. Takahashi, M. Hosokawa, and K. Miyashita*, Faculty of Fisheries Sciences, Hokkaido University, Japan.

3:00 **Fractionation of Conjugated Linoleic Acid Isomers.** Y. Yamauchi-Sato[1], H. Uehara[1], Y. Watanabe[2], T. Nagao[2], S. Negishi[1], and Y. Shimada[2], [1]The Nisshin OilliO Group, Ltd., Japan, [2]Osaka Municipal Technical Institute, Japan.

3:20 **Enzymatic Synthesis of Novel Phosphatidyl-pantenol by Phospholipase D-mediated Transphosphatidylation.** M. Hosokawa, K. Suzuri, Y. Yamamoto, and K. Miyashita, Hokkaido University, Japan.

3:40 **Microbial Conversion of Vegetable Oil to Rare Unsaturated Fatty Acids and Fatty Alcohols and Their Culture Conditions.** T. Nagao[1], Y. Watanabe[1], N. Kishimoto[2], and Y. Shimada[1], [1]Osaka Municipal Technical Research Institute, Japan, [2]Kinki University, Japan.

4:00 **Shortenings Prepared with Palm Stearin and Rice Bran Oil-based Structured Lipid.** C.C. Akoh and B.H. Jennings, University of Georgia, USA.

4:20 **Improving Selectivity and Productivity of a Biocatalystic Reaction by Engineering Binary Media System.** Z. Guo, D. Kahveci, and X. Xu, Aarhus University, Denmark.

4:40 **One Pot Production of Biodiesel from *Jatropha curcas* Oil.** Y. Watanabe[1], T. Nagao[1], T. Kakihira[2], H. Miyasaka[2], and Y. Shimada[1], [1]Osaka Municipal Technical Research Institute, Japan, [2]Kansai Electric Power Co., Japan.

EAT 3: Food Emulsions and Dispersed Systems

Chairs: P. Rousset, Nestle Research Center, Switzerland; and A. Wright, University of Guelph, Canada

226BC

1:55 **Introduction.**

2:00 **Pre-freezing of Emulsifier-Fat Complex During Interfacial Heterogeneous Nucleation in Oil-in-Water Emulsion.** K. Sato, S. Murakami, and S. Ueno, Hiroshima University, Japan.

2:40 **Delivery Systems in Emulsions.** L. Sagalowicz, Nestlé Research Center, Switzerland.

3:00 **Comparative Analysis of Structuring Effects of Different Lecithins on Palm Oil-based Blends.** S. Danthine[1], S. Delacharlerie[1], and E. Floter[2], [1]University of Liège Gembloux Agro-bio Tech, Belgium, [2]Unilever, The Netherlands.

3:20 **Mechanism of Partial Coalescence and the Role of Tempering.** R. Ergun[1], R.W. Hartel[1], P. Spicer[2], and A. Pawar[1,2], [1]Food Science Department, University of Wisconsin-Madison, USA, [2]The Procter & Gamble Co., USA.

3:40 **Optimization of Sucrose Laureate Stabilized Water-soluble Phytosterol Nanodispersion.** W. Fun Leong[1] ***(Edible Applications Technology Division Student Award of Excellence Winner)***, Y. Che Man[1], O. Ming Lai[2], K. Long[4], M. Misran[3], and C. Ping Tan[1], [1]Dept. of Food Technology, Faculty of Food Science and Technology, Universiti Putra Malaysia, Malaysia, [2]Dept. of Bioprocess Technology, Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia, Malaysia, [3]Dept. of Chemistry, Faculty of Science, University of Malaya, Malaysia, [4]Malaysian Agricultural Research & Development Institute, Malaysia.

4:00 **Molecular Interactions Responsible for Oil Gelation as Studied by Vibrational Spectroscopy.** T. Laredo and A.G. Marangoni, University of Guelph, Canada.

EAT 3.1/LOQ 3.1: Antioxidants in Omega-9 Oils

Chairs: F. Orthoefer, FTO Food Research, USA; and U. Thiyam, University of Manitoba, Canada

227AB

1:55 **Introduction.**

2:00 **Retention of Sinapic Acid and Canolol after Oven and Microwave Pre-treatment of Canola Seeds.** U. Thiyam, R. Khattab, and S. Mayengbam, University of Manitoba, Canada.

2:20 **Effect of Canolol (4-vinylsyringol) on the Oxidative Stability of Canola Oil.** B. Matthäus, Max Rubner-Institute, Germany.

2:40 **Oxidation of β-sitosterol and Campesterol in Vegetable Oils Upon Heating.** M.F.R. Hassanien[1], A.-M. Lampi[2], and V. Piironen[2], [1]Agricultural Biochemistry Department, Faculty of Agriculture, Zagazig University, Egypt, [2]Dept. of Applied Chemistry and Microbiology, University of Helsinki, Finland.

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3:00 **Evaluation of Phytosterol Oxidation in High Oleic Vegetable Oils during Heating.** E. Tabee[1,2], M. Jagerstad[1], and P.C. Dutta[1], [1]Dept. of Food Science, Swedish University of Agricultural Sciences, Sweden, [2]Food and Drug Department, Ministry of Health and Medical Education, Iran.

3:20 **Effect of Saturated/Unsaturated Fatty Acid Ratio on Physicochemical Properties of Palm Olein-Olive Oil Blend.** M. Naghshineh, A. Azis Ariffin, H. Mohd Ghazali, H. Mirhosseini, A. Sabur Mohammad, and S. Tabassi, Universiti Putra Malaysia, Malaysia.

3:40 **Changes in Sterols and Formation of Oxysterols During Oil Processing.** R. Przybylski[1] and M. Rudzinska[2], [1]University of Lethbridge, Canada, [2]Poznan University of Life Sciences, Poland.

4:00 **High Oleic/Low Sat Soybean for Food and Industrial Uses.** T. Ulmasov, Monsanto, USA.

4:20 **The Effect of Blending Frying Oils on French Fry Quality.** N.A.M. Eskin, M. Aliani*, D. Ryland, K. Loewen, and S. Siddhu, University of Manitoba, Canada.

4:40 **Aroma Profiles of Greek Olive Oils from Different Olive Cultivars and Geographical Origins.** T.S. Savvidou[1], M.G. Kontominas[1], A.K. Kiritsakis[1]*, and A.V. Badeka, [1]Alexander Technological Education Institute of Thessaloniki, Greece, [2]University of Ioannina, Greece.

FS&FF 3: Phase Transitions and Rheology of Food Structures

Chairs: D. Rousseau, Ryerson University, Canada; and S. Martini, Utah State University, USA

226A

1:55 **Introduction.**

2:00 **Use of Ultrasound Spectroscopy to Examine on the Effect of Fatty Acid Sodium Salt on the Gel Formation of Milk Proteins at Ambient Temperature.** N. Yuno-Ohta[1] and M. Corredig[2], [1]Nihon University, Japan, [2]University of Guelph, Canada.

2:20 **Microfluidic Engineering of Oil-in-Water Emulsions.** J. Kim and S. Vanapalli, Dept. of Chemical Engineering, Texas Tech University, USA.

2:40 **Fat Crystallization at the Oil-Water Interface under Continuous Shear Flow: a Rheomicroscopy Approach.** S. Ghosh and D. Rousseau, Ryerson University, Canada.

3:00 **The Influence of Seed Crystals on Fat Crystallization within Oil-in-Water Emulsion Systems Using Ultrasound Velocity Techniques.** A.S. Richards[1] and M.J.W. Povey[2], [1]CSIRO Food and Nutritional Sciences, Australia, [2]School of Food Science and Nutrition, The University of Leeds, UK.

3:20 **Destabilization of W/O Emulsion by Continuous Phase Fat Crystals.** S. Ghosh[1], H. Hajir[2], and D. Rousséau[1], [1]Ryerson University, Canada, [2]Université de la Réunion, France.

3:40 **The Importance of Microstructure in Controlling Migration Fat Bloom.** C. Delbaere, F. Depypere, N. De Clercq, S. De Pelsmaeker, R. Januszewska, X. Gellynck, and K. Dewettinck*, Ghent University, Belgium.

4:00 **Key Components and their Microstructural Functionality in the Chocolate Matrix.** K. Dewettinck, D. Vandewalle, and F. Depypere, Ghent University, Dept. of Food Safety and Food Quality, Laboratory of Food Technology and Engineering, Belgium.

4:20 **Measurement of Elastic Waves Generated by Biscuits during Chewing Simulation.** A. Fok[1], H. Li[1], and X. Liu[2], [1]Minnesota Dental Research Center for Biomaterials and Biomechanics, USA, [2]Peking University, China.

H&N 3: n-3, n-6 Benefits/Liabilities: Interactions, Competition

This session sponsored in part by Martek Biosciences Corp.

Chairs: M. Craig-Schmidt, Auburn University, USA; E. Bailey-Hall, Martek Biosciences Corp., USA; and D.M. Bibus, Minnesota State University, USA

228AB

1:55 **Introduction.**

2:00 **Overview of n-3 and n-6 PUFA Metabolism.** J.T. Brenna, Cornell University, USA.

2:20 **Dietary Intakes of n-6 and n-3 Fatty Acids and the Developing Infant.** S.E. Carlson[1], J. Colombo[2], and K. Gustafson[1], [1]University of Kansas Medical Center, USA, [2]University of Kansas, USA.

2:40 **Dietary Intakes of n-3 and n-6 Fatty Acids in Neurological Health.** J.R. Hibbeln, National Institute on Alcohol Abuse and Alcoholism/NIH, USA.

3:00 **Dietary Intakes of n-6 and n-3 Fatty Acids for Coronary Heart Disease: Summary of Evidence from Prospective Cohort and Randomised Controlled Trials.** C.M. Skeaff and J. Miller, University of Otago, New Zealand.

3:40 **Dietary Intakes of n-6 and n-3 Fatty Acids and Cardiovascular Disease: Recommendations from the American Heart Association.** W.S. Harris, Sanford Research/USD, USA.

4:00 **n-3 and n-6 Acids Compete for Accumulation as Highly Unsaturated Fatty Acids (HUFA) in Tissues.** W. Lands ***(Ralph Holman Lifetime Achievement Award Winner)***, Retired, USA.

4:20 **Recent Advances and Perspectives on the Role of Long Chain Polyunsaturated Fatty Acids in Bone Health.** H. Weiler, McGill University, Canada.

4:40 **Fats and Fatty Acids Requirements for Adults.** I. Elmadfa and M. Kornsteiner-Krenn, University of Vienna, Institute of Nutritional Sciences, Austria.

IOP 3: New Glycerol Uses

This session sponsored in part by The Soap and Detergent Association (SDA) and National Biodiesel Board (NBB)

Chairs: J. Kenar, USDA, ARS, NCAUR, USA; and T. Benson, Lamar University, USA

224B

1:55 **Introduction.**

2:00 **Glycerine as a New Carbon Building Block.** D.J. Brown, HBI USA, USA.

2:40 **Hydrogen Production from Glycerol: An Update.** S. Adhikari, Auburn University, USA.

3:00 **A Biodiesel Feedstock of Microbial Oils from Seafood Processing Waste and Glycerol.** G. Zhang, T. French, R. Hernandez, D.L. Sparks, W.E. Holmes, and E. Alley, Dave C. Swalm School of Chemical Engineering, Mississippi State University, USA.

3:20 **Harnessing the Microbial Fermentation of Glycerol for the Production of Fuels and Chemicals.** R. Gonzalez, ***(SDA/NBB Glycerine Innovation Award Winner)***, Dept. of Chemical and Biomolecular Engineering, Rice University, USA.

4:00 **Catalytic Conversion of Glycerine to Renewable Amino Alcohol.** V. Arredondo, N. Fairweather, P. Corrigan, D. Back, A. Cearley, M. Gibson, and D. Kreuzer, The Procter & Gamble Company, USA.

4:20 **Microbial Production of Glyceric Acid from Raw Glycerol and Development of Novel Bio-based Polymers.** T. Fukuoka, H. Habe, D. Kitamoto, and K. Sakaki, National Institute of Advanced Industrial Science and Technology, Japan.

LOQ 3: Shelf Life Stability and Sensory Properties of Whole Grains and Cereal Products

Chairs: U. Nienaber, Kraft Foods Inc., USA; and S.C. Liang, DuPont Applied BioSciences, USA

227C

1:55 **Introduction.**

2:00 **Protein Oxidation in Cereal Products: Footprint of Lipid Oxidation or Reflection of Processing Stress?** K.M. Schaich, Rutgers University, USA.

2:40 **Key Antioxidants from Whole Grain Wheat Flours.** M. Bunzel and C. Tyl, University of Minnesota, Dept. of Food Science and Nutrition, USA.

3:00 **Oxidative Stability of Processed Pea Flours.** T. Jeradechachai[2], C. Hall III[1], and M. Tulbek[2], [1]North Dakota State University, USA, [2]Northern Crops Institute, USA.

3:20 **Consequences of Lipid Degradation During Storage of Whole Grain Products.** D. Rose[1,2], M. Dunn[2], and O. Pike[2], [1]USDA, ARS, USA, [2]Brigham Young University, USA.

3:40 **Shelf Life Stability and Sensory Properties of Whole Grains and Cereal Products.** M. Sewald, General Mills, USA.

LOQ 3.1/EAT 3.1: Antioxidants in Omega-9 Oils

Chairs: F. Orthoefer, FTO Food Research, USA; and U. Thiyam, University of Manitoba, Canada

227AB

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PHO 3: Analytical Characterization and Quantification in Phospholipids

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

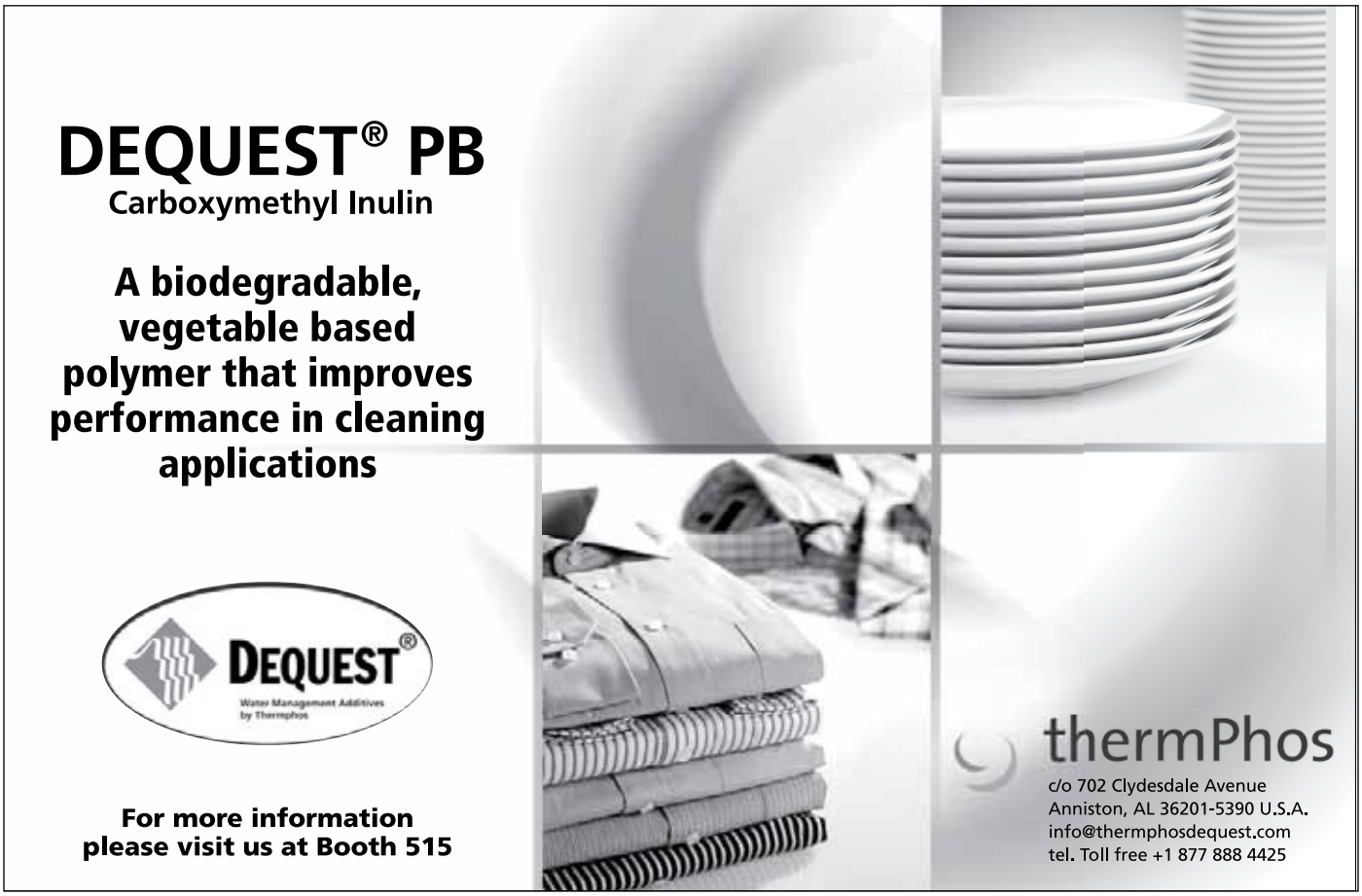
225A

1:55 **Introduction.**

2:00 **Milk Lecithin Reference Standard is Available.** B.W.K. Diehl, Spectral Service, Germany.

2:20 **^{1}H-NMR, an Alternative Method for Analysis of Peroxide Values in Oils and Lecithin.** G. Randel[1] and K. Oelke[2], [1]Spectral Service, Germany, [2]Christian Albrechts University Kiel, Germany.

2:40 **Qualitative and Quantitative Analysis of Glycolipids and Neutral Lipids in Soy Lecithin.** B.W.K. Diehl, Spectral Service, Germany.



PHO 3.1: Lipids in Nanotechnology II

This session sponsored in part by Matreya LLC

Chairs: S. Ali, Jina Pharmaceuticals, Inc., USA, and M. Ahmad, Jina Pharmaceuticals, Inc., USA

225B

1:55 **Introduction.**

2:00 **Novel Architectures Based on Lipids and Oil Derivatives as Delivery Vehicles.** N. Garti, Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem, Israel.

2:40 **Designed Phospholipid Self-assemblies in Drug Delivery and Nanomedicine.** H. Mansour, University of Kentucky, College of Pharmacy, USA.

3:00 **Investigation on the Influence of Well-defined Cooling Rates on the Crystallization and Polymorphism of Triglyceride Nanoparticles using a Microfluidic Approach.** S. Fehr[1], V. Huzhalska[2], W. Augustin[2], S. Scholl[2], and H. Bunjes[1], [1]Institut für Pharmazeutische Technologie, Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany, [2]Institut für Chemische und Thermische Verfahrenstechnik, Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany.

PRO 3/EXH 2: Processing Exhibitor Presentations

Chairs: T. Neuman, GEA Westfalia Separator Inc., USA; and J. Piazza, Alfa Laval Inc., USA

222BC

1:55 **Introduction.**

2:00 **Seeds and Grain Pre-Heating, Conditioning and Drying—Flexible Operation and Waste Heat Recovery.** F. Salaria, Solex Thermal Science, Canada.

2:20 **Phospholipase C Enzymatic Degumming: A New Technology for Oil Refining.** T. Hitchman, Verenium Corporation, USA.

2:40 **Semi-Continuous Deodorization: New Design Featuring Enhanced Heat Recovery and Stripping Efficacy.** W. Younggreen and S. Balchen, Alfa Laval Copenhagen A/S, Denmark.

3:00 **Purification of Glycerin from Biodiesel Plants.** P. Alasti, Artisan Industries Inc., USA.

3:20 **Advances in Distillation and Solvent Recovery Equipment and Processes.** A. Subieta, Desmet Ballestra North America, USA.

3:40 **Chemical Refining of Oils in Solvent Phase.** T. Neuman, GEA Westfalia Separator Inc., USA.

4:00 **Process Photometry—Using Filtered Light Waves to Identify Change for In-line Conditional Process Control.** T. Schwalbach, optek-Danulat, Inc., USA.

4:20 **Canola and Sunflower Seed Crushing: Development and Best Practice.** H.C. Boeck, Harburg-Freudenberger Maschinenbau GmbH, Germany.

PCP 3: Proteins for Healing: From Peptides to Macromolecules

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

222A

1:55 **Introduction.**

2:00 **Lunasin Reduces Colon Cancer in vitro by Modifying the Expression of Clusterin Isoforms to Promote Cell Death.** V. Dia and E. Gonzalez de Mejia, University of Illinois, USA.

2:20 **Bowman-Birk Inhibitor: Bioactivities of a Small, Soluble Soybean Protein.** C. Schasteen, Solae LLC, USA.

2:40 **Novel Protein-based Drug-targeting Strategy from Beneath the Shell of Egg.** H. Ibrahim, Kagoshima University, Faculty of Agriculture, Japan.

3:00 **Preparation of Fermented Egg Sauce by Use of Delipidated Egg Yolk.** H. Hatta[1], S. Shou[2,1], and Y. Ueno[3], [1]Kyoto Women's University, Kyoto, Japan, [2]Hishiroku Co., Ltd., Japan, [3]Kyoto Prefectural Technology Center for Small and Medium Enterprises, Japan.

3:20 **Cedar Pollen Cry j 1-galactomannan Conjugate Can Be Used as an Immunotherapy for Pollinosis Pacients.** A. Kato[1], R. Aoki[1], A. Saito[2], and H. Azakami[1], [1]Yamaguchi University, Japan, [2]Wako Filter Technology, Japan.

3:40 **Development of the Molecules for Antigen-specific Immune Tolerance against Cedar Pollinosis.** A. Saito[1,2], H. Kageshima[1], S. Hirano[1], R. Aoki[2], and A. Kato[2], [1]Biobusiness Propulsion Division, Wako Filter Technology Co., Ltd., Japan, [2]Protec Co., Ltd., Yamaguchi University, Japan.

4:00 **Is Wheat-dependent Exercise-induced Anaphylaxis Induced by Gli-B1?** T. Nagano[1], M. Tanaka[1], Y. Nakayama[1], T. Nezu[1], H. Yano[1], Y. Kato[1], T. Matsuda[2], T. Ikeda[3], and K. Haruma[4], [1]Kawasaki University of Medical Welfare, Japan, [2]Nagoya University, Japan, [3]Agricultural Research Center for Western Region, Japan, [4]Kawasaki Medical School, Japan.

4:20 **The Anti-fatigue Effects of Salmon Muscle Extract Containing Anserine.** H. Honda, Y. Takahashi, M. Kawarasaki, H. Muneda, M. Sugimoto, and H. Enari, Central Research Institute, Maruha Nichiro Holdings, Inc., Japan.

4:40 **Influence of Rat Strain and Diet Composition on Dietary β-Conglycinin-Dependent Reduction of Food Consumption and Modulation of Lipid Metabolism.** K. Koba[1], D. Oikawa[1], S. Tamaru[1], K. Tanaka[1], and M. Sugano[2], [1]University of Nagasaki, Japan, [2]Professor Emeritus, Kyushu University, Japan.

S&D 3: Green Ingredients and Labeling

Chairs: C. Choy, Seventh Generation Inc., USA; and M. Wolf, Seventh Generation Inc., USA

229A

1:55 **Introduction.**

2:00 **Sustainable Approaches to Surfactants and Detergents.** A. Douglass[1], M. Dahanayake[1], P. Herve[1], and V. Jean-Francois[2], [1]Rhodia, Inc., USA, [2]Rhodia Operations, France.

2:20 **Green Solvents and Ionic Liquids: Formulating for the Sustainable Future.** S.S. Seelig and A. O'Lenick, Waterless Cleaning LLC, USA.

2:40 **Enzymes—Essential, Bio-based Ingredients for High-performance Environmentally-friendly Detergent Formulations.** T. Neal[1], A. Merete Nielsen[2], A. Malladi[2], and S. Friis-Jensen[2], [1]Novozymes, North America, USA, [2]Novozymes A/S, Denmark.

3:00 **Rethinking Detergent Formulations–Maintain Your Performance and Manage Your Costs with Enzymes.** N.E. Prieto[1], P. Skagerlind[2], M. Ribeiro Ferreira[3], J.M. Koehler[3], and C. Cavanholi[3], [1]Novozymes NA, USA, [2]Novozymes A/S, Denmark, [3]Novozymes LA, Brazil.

3:20 **Economics, Exposure and Technology Division Office of Pollution Prevention and Toxics.** M. Vrabel, Design for the Environment Branch, Economics, Exposure and Technology Division Office of Pollution Prevention and Toxics, USA.

3:40 **Use of Life Cycle Assessment in Identifying and Creating Green Products and Processes.** J. Yorzyk, Five Winds International, USA.

4:00 **Looking Back to Look Ahead: The Soap and Detergent Industry's Continuous Commitment to Being Green and Sustainable.** K. Stanton, The Soap and Detergent Association, USA.

4:20 **Green Seal and its Life Cycle-Based Ecolabel.** S. Cooperstein, Green Seal, USA.

4:40 **CleanGredients: A Tool for Alternatives Assessment to Support Chemical Product Formulation.** T. Buck, GreenBlue, USA.

S&D 3.1: Industrial Applications

This session sponsored in part by Akzo Nobel Inc.

Chairs: M. Dahanayake, Rhodia Inc., USA; and T.C. Jao, Afton Chemical Corp., USA

229B

1:55 **Introduction.**

2:00 **MEE: The Genuine Green Surfactant.** H. Shindo, R. Hyodo, T. Okamoto, Y. Kaneko, and H. Takaoka, Lion Corporation, Japan.

2:20 **Emulsifiable Green Solvents: Delivering Sustainable Performance.** A. Sehgal[1], B. Roux[2], D. Fluck[1], S. Trivedi[1], M. Dahanayake[1], and C. Aymes[1], [1]Rhodia Inc., Center for Research & Technology, USA, [2]Rhodia Laboratoire du Futur, France.

2:40 **Improved Stability of Anionic Surfactants for CEOR Applications.** U. Weerasooriya and G. Pope, The University of Texas, USA.

3:00 **Microemulsion Fuels: Phase Behaviors and Combustion Properties.** L.D. Do[1] ***(Ralph Potts Memorial Fellowship Award Winner)***, V. Singh[2], S.R. Gollahalli[2], and D.A. Sabatini[3], [1]Chemical Engineering, University of Oklahoma, USA, [2]Mechanical Engineering, University of Oklahoma, USA, [3]Civil Engineering and Environmental Science, University of Oklahoma, USA.

3:20 **Surfactants Derived from High Molecular Weight Mono-Unsaturated Alcohols and Acids.** P.D. Berger[1], C.H. Lee[1], and D.C. Taylor[2], [1]Oil Chem Technologies, USA, [2]National Research Council of Canada Plant Biotechnology Institute, Canada.

3:40 **Impact of Asphaltenes and Naphthenic Amphiphiles on the Phase Behavior of Solvent-Bitumen-Water Systems.** S.K. Kiran[1], E.J. Acosta[1], and S. Ng[2], [1]University of Toronto, Dept. of Chemical Engineering and Applied Chemistry, Canada, [2]Syncrude Canada Ltd., Edmonton Research Centre, Canada.

4:00 **Selection of the Right Hydrophobe Size for the Surfactant Molecule for Chemical Enhanced Oil Recovery (CEOR).** U.P. Weerasooriya and G.A. Pope, The University of Texas, USA.

EXH 2/PRO 3: Processing Exhibitor Presentations

Chairs: T. Neuman, GEA Westfalia Separator Inc., USA; and J. Piazza, Alfa Laval Inc., USA

222BC

1:55 **Introduction.**

2:00 **Seeds and Grain Pre-Heating, Conditioning and Drying—Flexible Operation and Waste Heat Recovery.** F. Salaria, Solex Thermal Science, Canada.

2:20 **Phospholipase C Enzymatic Degumming: A New Technology for Oil Refining.** T. Hitchman, Verenium Corporation, USA.

2:40 **Semi-Continuous Deodorization: New Design Featuring Enhanced Heat Recovery and Stripping Efficacy.** W. Younggreen and S. Balchen, Alfa Laval Copenhagen A/S, Denmark.

3:00 **Purification of Glycerin from Biodiesel Plants.** P. Alasti, Artisan Industries Inc., USA.

3:20 **Advances in Distillation and Solvent Recovery Equipment and Processes.** A. Subieta, Desmet Ballestra North America, USA.

3:40 **Chemical Refining of Oils in Solvent Phase.** T. Neuman, GEA Westfalia Separator Inc., USA.

4:00 **Process Photometry—Using Filtered Light Waves to Identify Change for In-line Conditional Process Control.** T. Schwalbach, optek-Danulat, Inc., USA.

4:20 **Canola and Sunflower Seed Crushing: Development and Best Practice.** H.C. Boeck, Harburg-Freudenberger Maschinenbau GmbH, Germany.

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Wednesday Morning

ANA 4: General Analytical I

Chairs: S. Bhandari, Silliker Inc., USA; and R. Della Porta, Frito Lay, Inc., USA

224A

7:55 **Introduction.**

8:00 **Quantitation of Sterols and Steryl Esters in Fortified Foods and Beverages by GC/FID.** L. Clement, S. Hansen, C. Costin, and G. Perri, Cargill Inc., USA.

8:20 **Use of NMR Imaging to Determine the Diffusion Coefficient of Water in Bio-based Hydrogels.** K. Doll, BOR-NCAUR, ARS, USDA, USA.

8:40 **Extraction of Lipids from Microalgae.** E. Ryckebosch, K. Muylaert, and I. Foubert, K.U. Leuven Campus Kortrijk, Belgium.

9:00 **Detection of Diacylglycerol Using High Performance Liquid Chromatography-Charged Aerosol Detector.** B.K. Beh[1] and O.M. Lai[1,2], [1]Dept. of Bioprocess Technology, Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia, Malaysia, [2]Laboratory of Industrial Biotechnology, Institute of Bioscience, Universiti Putra Malaysia, Malaysia.

9:20 **Direct Determination of Glycidyl Esters and MCPD Esters in Vegetable Oils by LC-TOFMS.** T. Haines and M. Collison, Archer Daniels Midland Company, USA.

9:40 **Fatty Acid Analysis without Prior Fat Extraction in Some Difficult Matrices using Selected Acid Treatments.** S.D. Bhandari and J. Leahy, Silliker Inc., USA.

10:00 **Determination of Mono-, Di-, and Tri-acyl Glycerols in Biodiesel Fuels by HPLC.** D.C. Hurum, B.M. De Borba, L.L. Lopez*, and J.S. Rohrer, Dionex Corporation, USA.

10:20 **Development of Biocatalyst Based Microreactors for Lipid Transformations and Blood Profiling.** S.M. Mugo and K. Ayton, Grant MacEwan University, Canada.

10:40 **The New Guidance Method for Calibration, Validation and Use of Near Infrared Analyzers.** C. Hurburgh[1] and B. Igne[2], [1]Iowa State University, USA, [2]Duquesne University, USA.

11:00 **Analysis of Canola Oil by Rapid Analytical Methods (NIR, NMR, FT-NIR).** V.J. Barthet and A. Siemens, Canadian Grain Commission, Canada.

11:20 **New Method for Solid Fat Content (SFC) by TD NMR.** A. Kook[1] and C. Tanzer[2], [1]NMR Service + Consulting, Austin, TX USA, [2]MR Resources, USA.

11:40 **Separation of CLA Fatty Acid Isomers from CLA-rich Soy Oil by Reverse Phase Gradient HPLC.** U. Shah and A. Proctor, Dept. of Food Science, University of Arkansas, USA.

BIO 4/S&D 4.1: Biobased Surfactants and Ingredients

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

221AB

8:15 **Introduction.**

8:20 **Chemical Modification of Sophorolipids for Improved Water Solubility.** J.A. Zerkowski and D.K.Y. Solaiman, ERRC, USDA, ARS, USA.

8:40 **The Use of Biosurfactants in Detergents.** D. Develter, Ecover Belgium N.V., Belgium.

9:00 **Alkyl Polyglyceride Surfactants.** G.A. Smith and H. Zhao, Huntsman Corporation, USA.

9:20 **Control of Water Activity of Solvent-Free Lipase-Catalyzed Synthesis of Saccharide-Fatty Acid Ester Biobased Surfactants.** R. Ye and D.G. Hayes, University of Tennessee, USA.

9:40 **Technical Criteria of Enzyme Systems for Cleaning.** E. Concar, V. Huang, O. Stoica, and C. Adams*, Genencor, A Danisco Division, USA.

10:00 **Use of Biobased Surfactants to Stabilize Emulsions Relevant for Industrial Lubrication.** K. Doll[1] and B.K. Sharma[1,2], [1]BOR-NCAUR, ARS, USDA, USA, [2]ISTC-University of Illinois, USA.

10:20 **Application of Response Surface Methodology in the Optimization of Inoculum Age and Size for Enhanced Biosurfactant Production from *Pseudomonas aeruginosa* Isolated from Petroleum Contaminated Soil.** C.O. Onwosi and F.J.C. Odibo, Dept. of Applied Microbiology and Brewing, Nnamdi Azikiwe University, Nigeria.

10:40 **A Green Alternative to Polyacrylates in Home Autodish Detergents.** G. Bonnechère[1] and J. Kolpa[2], [1]Dequest AG, Belgium, [2]Thermphos USA Corporation, USA.

11:00 **Synthesis and Properties of Novel Cationics Containing Carbonate Linkages Directed Towards Green and Sustainable Chemistry.** T. Banno[1], K. Kawada[2], and S. Matsumura[1], [1]Dept. of Applied Chemistry, Faculty of Science and Technology, Keio University, Japan, [2]Dept. of Chemistry, School of Science, Kitasato University, Japan.

11:20 **Protein-Based Enhancement of Surfactancy.** C. Podella, J. Baldridge, and M. Goldfeld, Advanced BioCatalytics Corp., USA.

BIO 4.1: Designing Soybeans for 21st Century Markets

Chair: R. Wilson, United Soybean Board, USA

221C

7:55 **Introduction.**

8:00 **Economic Outlook for Soybeans and Soybean Products in Global Markets.** R.F. Wilson, United Soybean Board, USA

8:20 **Implementing a Uniform Process for Measurement of Soybean Quality Traits.** R. Cantrill, G. Clapper, and A. Johnson, AOCS, USA.

8:40 **Modern Breeding Methods for Enhancing Soy Protein Quality.** V.R. Pantalone, University of Tennessee, USA.

9:00 **Biological Mechanisms that Influence Soy Protein Concentration and Composition.** H. Nguyen, University of Missouri-Columbia, USA.

9:20 **Enhancing Oil Seed Value by Modifying Protein Co-product Composition.** E. Herman and M. Schmidt, Donald Danforth Plant Science Center, USA.

9:40 **Improved Model and Tools for Study of Soybean Mediated Food and Feed Allergy.** N.C. Nielsen, North Carolina State University, Crop Science Department, USA.

10:00 **Next Generation Innovations for Market Integration of Soybean Quality.** T. Ulmasov, Monsanto, USA.

10:20 **The Use of Biotechnology to Enhance Soy Protein Ingredients Quality.** P. Kerr[1], N. Deak[1], S. Knowlton[2], T. Wong[1], N. Shah[1], and D. Staerk[1], [1]Solae Co., USA, [2]DuPont Company, USA.

EAT 4: Crystalline Properties of Fats

Chair: N. Widlak, ADM Cocoa, USA

226BC

7:55 **Introduction.**

8:00 **Physical Analysis of Mixing Phase Behavior of POP/POS/SOS.** K. Sato, M. Sasaki, and S. Ueno, Hiroshima University, Japan.

8:20 **Monitoring Crystal Size, Morphology and Polymorphism by Ultrasonic Spectroscopy in Cocoa Butter.** F. Peyronel[1], A. Shukla[2], A. Prakash[2], R. Hone[3], I. Neeson[3], and A. Marangoni[1], [1]University of Guelph, Canada, [2]The University of Western Canada, [3]VN Instruments Ltd., Canada.

8:40 **Effect of Laminar Shear and Crystalline Orientation on Fat Crystal Network's Nano-structure.** F. Maleky and A.G. Marangoni, University of Guelph, Canada.

9:00 **Isothermal Crystallization Kinetics of Palm Oil in Blends with Palm-Based Diacyglycerol.** A. Hossein Saberi[1] and L. Oi-Ming[1,2], [1]Dept. of Bioprocess Technology, Faculty of Biotechnology and Biomolecular Sciences, University Putra Malaysia, Malaysia, [2]Institute of Bioscience, University Putra Malaysia, Malaysia.

9:20 **Ultrasound Doppler based in–line Viscosity and Solid Fat Profile Measurement of Fat Blends.** P. Wassell[1,2], J. Wiklund[3], M. Stading[3], G. Bonwick[2], C. Smith[2], E. Almiron-Roig[2], and N.W.G. Young[1,2], [1]Dansico A/S, Multiple Food Applications, Denmark, [2]University of Chester, Environmental Quality and Food Safety, Great Britain, [3]SIK-The Swedish Institute for Food and Biotechnology, Sweden.

9:40 **Nanoscale Modifications of Fat Crystal Networks.** N.C. Acevedo and A.G. Marangoni, University of Guelph, Canada.

10:00 **Use of High Stearic High Oleic Sunflower Oil in Enzymatic Interesterification for CBE Application.** E. Dubinsky[1], I. Jachmanian[2], and M.A. Grompone[2], [1]Eduardo Dubinsky & Associates, Argentina, [2]Universidad de la Republica, Uruguay.

10:20 **Fat Bloom in Compound Coatings.** A. Lechter[1], N. Widlak[2], W.Y.T. Tam[2], and D. Sikorski[2], [1]ADM Cocoa, USA, [2]ADM Research, USA.

10:40 **Experimental Validation of the Modified Non-Isothermal Avrami Model for 1D Fibrillar, 2D Platelet and 3D Spherulitic Crystal Growths.** R. Lam and M.A. Rogers, University of Saskatchewan, Canada.

11:00 **An Extraction Method for the Removal of the Fat Phase in Chocolate.** A. Coutouly[1], S. Hodge[2], and D. Rousseau*[2], [1]ENSBANA, Université de Bourgogne, France, [2]Ryerson University, Canada.

11:20 **Additional Evidence of the Structuring Effect of Triacylglicerides with Palmitic Acid: The Effect on the Induction Time and the Free Energy for Nucleation.** E. Dibildox-Alvarado, A. Marangoni, and J.F. Toro-Vazquez, Universidad Autónoma de San Luis Potosi, Facultad de Ciencias Químicas-CIEP, Mexico.

FS&FF 4: New Processing Approaches for the Creation of Novel Food Structures

Chairs: P. Smith, Cargill, Belgium; and G. Yang, Kellogg North America Co., USA

226A

7:55 **Introduction.**

8:00 **Polycarbonyls: Modelling the Interactions Between Fats in a Liquid Phase.** D.A. Pink[1], D. Rousseau[2], S. Razul[1], C. MacDougall[1], and J. Marsh[1], [1]St. Francis Xavier University, Canada, [2]Ryerson University, Canada.

8:20 **How Useful is Lifshitz Theory? Modelling Complex Fats in a Liquid Medium.** D. Pink, B. Quinn, S. Razul, C. MacDougall, and J. Marsh, St. Francis Xavier University, Canada.

8:40 **Solid Lipid Encapsulation of Water-soluble Compounds for Controlled Release Applications.** M. Ray and D. Rousseau, Ryerson University, Canada.

9:00 **Engineering Crystallographic Mismatches of Self-Assembled Fibrillar Networks: Shedding Synchrotron Light on a Molecular Problem.** R. Lam[1], L. Quaroni[2,3], T. Pederson[2], M.A. Rogers[1], and H. Rutherford*[1], [1]University of Saskatchewan, Canada, [2]Canadian Light Source, Canada, [3]University of Manitoba, Canada.

9:20 **Novel Structuring Strategies for Unsaturated Fats—Meeting the Zero-*trans*, Zero-Saturated Fat Challenge.** M.A Rogers, University of Saskatchewan, Canada.

9:40 **Experiences Using Stearidonic Acid-enriched Soybean Oil, a Source of Omega-3 Fatty Acids, in Shortenings Intended for Use in Baked Goods.** J. Whittinghill, B. Lambach, S. Lee, D. Engelbrecht, C. Lucak, and D. Welsby, Solae, USA.

10:00 **Modelling Food Systems Using Computer Simulation.** D.A. Pink[1], D. Rousseau[2], and S. Razul[1], [1]St. Francis Xavier University, Canada, [2]Ryerson University, Canada.

H&N 4: General Nutrition I

Chair: H. Durham, Louisiana State University, USA

228AB

7:55 **Introduction.**

8:00 **Regulation of Adipocyte Differentiation by Marine Allene Carotenoids.** M.-J. Yim, M. Hosokawa, and K. Miyashita, Hokkaido University, Japan.

8:20 **Effects of n3 Intake on Plasma Phospholipid Fatty Acids and Sex Hormone Profiles in Postmenopausal Women: Potential for Breast Cancer Risk Reduction.** S. Raatz[1,2], L. Orr[2], B. Redmon[2], and M. Kurzer[2], [1]USDA Human Nutrition Research Center, USA, [2]University of Minnesota, USA.

8:40 **Upregulated Liver Synthesis-secretion in Awake Rats of Docosahexaenoic (DHA) and Arachidonic acids from Circulating Unesterified 18-carbon Precursors When DHA is Removed from the Diet.** F. Gao, S. Rapoport, and M. Igarashi, National Institutes of Health, USA.

9:00 **Targeting Cancer Stem Cells with Dietary Compounds.** J. Losso, Louisiana State University Agricultural Center, USA.

9:20 **Clinical Preparation of Erythrocytes Can Influence Fatty Acid Composition.** T.L. Smith, A.C. Patterson, A.H. Metherel, and K.D. Stark, University of Waterloo, Canada.

9:40 **Lipid Emulsion for Neurological Disease.** P. Kane, T. Wnorowski, K. Bieber, and M. Speight, NeuroLipid Research, USA.

10:00 **Beneficial Effects of Dietary Docosahexaenoic Acid in a Mouse Model for Alzheimer's Disease.** C. Bascoul-Colombo, R. Nair-Roberts, V. Stahl, K. Hall, C. Hughes, M. Good, and J.L. Harwood*, Cardiff University, UK.

10:20 **Regulation of Plasma Endocannabinoids during the Second and Third Trimesters of Pregnancy.** H.A. Durham[1], J.T. Wood[2], J.S. Williams[2], A. Makriyannis[2], and C.J. Lammi-Keefe[1], [1]Louisiana State University, USA, [2]Center for Drug Discovery, Northeastern University, USA.

10:40 **Soleus Preferentially Accumulates Labelled Linoleate and α-linolenate as Compared with Red and White Gastrocnemius Muscles.** P. Charkhzarin, H. Izadi, and K.D. Stark, University of Waterloo, Canada.

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11:00 **Response of Liver Transplant Patients to Hypolipidemic Dietary Intervention: Role of Lipogenesis.** J.E. Lambert[1] ***(Honored Student Award Winner, The Peter and Clare Kalustian Award Winner, and the Health and Nutrition Division Student Excellence Award Winner)**, V.G. Bain[2], A.B.R. Thomson[2], E.A. Ryan[2], and M.T. Clandinin[1,2], [1]Alberta Institute for Human Nutrition, Canada, [2]Dept. of Medicine, University of Alberta, Canada.

11:20 **Gamma-Tocotrienol as an Effective Agent in Targeting Prostate Cancer Stem Cell-like Populations for Cancer Prevention.** W.N. Yap[1], M.T. Ling[2], and Y.L. Yap[1], [1]Davos Life Science Pte Ltd., Singapore, [2]Queensland University of Technology, Australia.

11:40 **Effects of Dietary Saturated Fatty Acids on Human Subclinical Inflammation and Blood Lipid.** V. Phooi Tee[1,2], T. Ng Kock Wai[1], V. Lee Kar Mun[1], and K. Nesaretnam[2], [1]International Medical University, Malaysia, [2]Malaysian Palm Oil Board, Malaysia.

IOP 4: Oleochemicals and Polymers

Chairs: D. Pioch, CIRAD, France; and J. Metzger, University of Oldenburg, Germany

224B

7:55 **Introduction.**

8:00 **Oleochemicals Products: Feedstocks and Building Blocks for Polymers.** Z. Mouloungui, Université de Toulouse, UMR 1010 INRA/INP-ENSIACET, France.

8:40 **Branched Fatty Acid Esters through Addition of Alcohols Catalyzed by Zeolites.** D. Pioch[1], A.T. Nguyen[1], C. Lansalot-Matras[1], Annie Finiels[2], Claude Moreau[2], [1]CIRAD, Montpellier, France, [2]Ecole Nationale Supérieure de Chimie de Montpellier, France.

9:00 **Catalytic Mono-Functionalization of Triacylglycerols.** M. Rüsch gen. Klaas, R. Wahlandt, and T. Vari, Neubrandenburg University of Applied Sciences, Germany.

9:20 **Esters of Calendula Oil and Tung Oil as Reactive Diluents for Alkyd Resins.** U. Biermann, W. Butte, and J.O. Metzger, University of Oldenburg, Germany.

9:40 **Industrial Hydroxylated Fatty Acids—New Opportunities in Polymer and Functional Chemicals.** F.H.M. Graichen, M.S. O'Shea, G. Peeters, and S. Kyi, CSIRO, Molecular and Health Technologies, Australia.

10:00 **Break.**

10:20 **Hyperbranched Polyols from Hydroformylated Methyl Soyate.** Z.S. Petrovic, I. Cvetkovic, D.-P. Hong, and I. Javni, Pittsburg State University, USA.

10:40 **UV-curable Nano-composite Coatings from Soybean Oil: Sustainable Platform for Advanced Materials.** V. Mannari and J. Patel, Eastern Michigan University, USA.

11:00 **Autoxidative Drying Characteristics of Water Borne Coatings from Renewable Resources.** P. Sengupta, X. Pan, T. Nelson, A. Paramarta, and D. Webster, Dept. of Coatings and Polymeric Materials, North Dakota State University, USA.

11:20 **Thiol-Ene Reaction of Vegetable Oils with Butyl Thiol: Sulfide Derivatized Vegetable Oils.** J.A. Kenar[1], G. Bantchev[2], and G. Biresaw[2], [1]Functional Foods Research Unit, USDA, ARS, NCAUR, USA, [2]Bio-oils Research Unit, USDA, ARS, NCAUR, USA.

11:40 **Fatty Acid Modified Anhydrides of Hydroxy Carboxylic Acids—Novel Oleochemicals for the Lipid Modification of Renewables.** H.-J. Altenbach, R. Ihizane, B. Jakob, K. Lange, S. Nandi, and M.P. Schneider*, Bergische Universität Wuppertal, Germany.

LOQ 4: Frying Oil Chemistry, Quality, and Nutrition

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

227AB

7:55 **Introduction.**

8:00 **Chemical Reactions in Oils During Deep-Fat Frying.** E. Choe, Inha University, Korea.

8:40 **Oxidative Changes in Fat-based Products in Cooking Applications.** K. Hrncirik, Unilever R&D, The Netherlands.

9:00 **Application of Rapeseed Oils for Frying Processes.** K. Franke, German Institute of Food Technologies, Germany.

9:20 **Using Biotechnology to Improve the Health and Functionality of Edible Oils.** S. Knowlton, DuPont Company, USA.

9:40 **Effects of Frying Condition on Physicochemical Properties of Palm Olein-Olive Oil Blends.** M. Naghshineh, A. Azis Ariffin, H. Mohd Ghazali, H. Mirhosseini, A. Sabur Mohammad, and S. Tabassi, Universiti Putra Malaysia, Malaysia.

10:00 **Recent Possibilities in the Analysis of Used Frying Oils.** M.C. Dobarganes[1], G. Márquez-Ruiz[2], J. Velasco[1], and S. Marmesat[1], [1]Instituto de la Grasa (CSIC), Spain, [2]Instituto del Frío (CSIC), Spain.

10:20 **Investigation of Frying Oil Quality Using VIS/NIR Hyperspectral Analysis.** A. Yavari[1], M. Hamedi[1], and S. Haghbin[2], [1]Tehran University, Iran, [2]Tehran University, Iran, [3]Bioengineering Research Institute, Iran.

10:40 **Development of Novel Antioxidants for Frying Application.** F. Aladedunye, Y. Catel, and R. Przybylski, University of Lethbridge, Canada.

11:00 **Effect of Polydimethylsiloxane (MS) on 4–Hydroxynonenal (4HNE) Formation in Frying Oil.** J.A. Gerde, E.G. Hammond, and P.J. White, Dept. of Food Science and Human Nutrition Iowa State University, USA.

11:20 **Endogenous Minor Components and Frying Stability of Oil.** F. Aladedunye and R. Przybylski, University of Lethbridge, Canada.

11:40 **Effect of Natural Steryl Ferulates on Frying Oil Degradation.** J.K. Moser and K.A. Rennick, USDA, ARS, NCAUR, USA.

PHO 4: Non-Food Applications and General Phospholipids

Chairs: B. Sebree, Archer Daniels Midland Co., USA; and K. Seabolt, Solae Co., USA

225A

7:55 **Introduction.**

8:00 **Novel Bio-based Pigment Dispersants for Coating Applications.** S. Baseeth, D. Salyers, and B. Sebree, Archer Daniels Midland Co., USA.

8:20 **Functionality and Uses of Lecithin in Feed and Pet Foods.** B. Sebree, Archer Daniels Midland Co., USA.

8:40 **Overview of Lecithin Uses and Functionality for Industrial Products.** K. Allen Seabolt, Solae, USA.

9:00 **Glycerol Phosphocholine and Phenethyl Alcohol Extraction from Thin Stillage.** K. Ratanapariyanuch[1], Y. Jia[2], J. Shen[1], and M. Reaney[1], [1]Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada, [2]College of Medicine, University of Saskatchewan, Canada.

9:20 **Effect of Processing Conditions on Enzymatic Hydrolysis of Sunflower Lecithins.** D.M. Cabezas[1], R. Madoery[2], B. Diehl[3], and M.C. Tomás*[1], [1]Centro de Investigación y Desarrollo en Criotecnología de Alimentos (CIDCA) (FCE UNLP CONICET), Argentina, [2]Fac. de Cs. Agrarias (UNC), Argentina, [3]Spectral Service, Germany.

9:40 **Enzymatic Modification of Phospholipids in Milk, and the Effect on UHT-milk Processing.** J.B. Soe and N.E. Larsen, Danisco A/S, Denmark.

PRO 4: Personnel and Facility Safety

Chair: T. Gum, Agribusiness & Water Tech Inc., USA

222BC

7:55 **Introduction.**

8:00 **Facility Security and Food Defense Planning.** R. Ryan, Archer Daniels Midland Company, USA.

8:40 **Challenges in Complying with Both Construction and Site Specific Safely Polices.** B. Kooiman, Interstates Engineering, USA.

9:20 **Planning for a Pandemic.** W. Minor, Ventura Foods, LLC, USA.

10:00 **Creating a Corridor of Care for Injured Workers.** M. Boulton, Travelers Insurance, USA.

PCP 4: Novel Technologies for Isolation and Extraction of Proteins and Co-Products

Chairs: P. Kerr, Solae Co., USA; and S. Jung, Iowa State University, USA

222A

7:55 **Introduction.**

8:00 **Aqueous Extraction of Oil and Protein from Soybeans by Subcritical Water Treatment.** S.C. Ndlela[1], J.M. Leite Nobrega de Moura[2], L.A. Johnson[2], and N.K. Olson[1], [1]Iowa State University, Iowa Energy Center, BECON, USA, [2]Iowa State University, Center for Crops Utilization Research, Food Science Department, USA.

8:20 **The Twin-screw Extrusion Technology: An Original Solution for the Extraction of Proteins from Sunflower and Alfalfa.** P. Evon[1,2], D. Colas[1,2], P.-Y. Pontalier[1,2], and L. Rigal[1,2], [1]Université de Toulouse, INP, LCA, ENSIACET, France, [2]INRA, LCA, France.

8:40 **A New Modular Concept to Produce Proteins.** F. Pudel[1], R.-P. Tressel[1], and G. Börner[2], [1]Pilot Pflanzenöltechnologie Magdeburg, Germany, [2]ÖHMI Engineering GmbH, Germany.

9:00 **Fractionation of Storage Proteins of *Brassicaceae* Oilseeds.** J. Wanasundara and T. McIntosh, Agriculture and Agri-Food Canada, Saskatoon Research Centre, Canada.

9:20 **Plant Proteins—A Clear Solution for Beverages.** M. Schweizer, K. Segall, S. Medina, and B. Green, Burcon NutraScience (MB) Corp., Canada.

9:40 **Development and Implementation of a Novel Integrated Hexane-free Process for the Isolation of Oil and Soluble Protein from Canola-grade *Brassica juncea*.** J. Doucet[1], G. Beye*[2], N. Tang[3], L. Rozenszain[4], [1]Kengtek Engineering, Canada, [2]Bioexx Proteins of Saskatoon Inc., Canada, [3]POS Pilot Plant Corp., Canada, [4]BioExx Specialty Proteins Ltd., Canada.

10:00 **Break.**

10:20 **Phosvitin Extraction from Leftover Egg Yolk.** J. Ren and J. Wu, University of Alberta, Canada.

10:40 **Inverse Engineering: Reconstitution of Rapeseed Oleosomes with Native Tensioactives.** J.F. Fabre[1], G. Vaca-Medina[1], M. Deleu[2], R. Valentin[1], and Z. Mouloungui[1], [1]Université de Toulouse - UMR1010 Chimie Agro-industrielle, ENSIACET, INPT, INRA, France, [2]Unité de Chimie biologique industrielle, Faculté Universitaire des Sciences Agronomiques de Gembloux, Belgium.

11:00 **Synthesis and Characterization of Methoxy Derivatives of Gossypol.** M. Dowd[1], C. Zelaya[2], E. Stevens[2], S. Pelitire[1], and J. Mellon[1], [1]USDA. SRRC, USA, [2]Dept. of Chemistry, University of New Orleans, USA.

S&D 4: General Cleaning—New Surfaces

Chairs: M. Dery, Akzo Nobel Surface Chemistry LLC, USA; and E. Endler, Shell Global Solutions, USA

229A

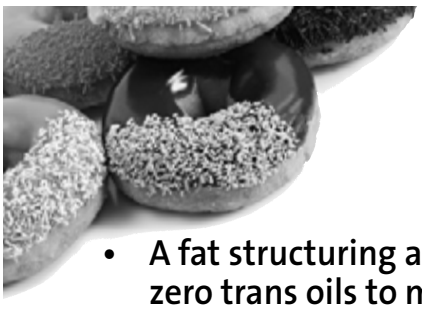
7:55 **Introduction.**

8:00 **Development of Novel Bleach Catalyst and its Application for Detergents.** T. Suekuni, Y. Iwasa, Y. Kohno, T. Majima, T. Kubozono, and N. Yamamoto, Lion Corporation, Japan.

8:20 **Hydrophobic Particulate Soil Removal in Laundry Detergency.** W. Pengjun[1], S. Chavadej[1], N. Rojvoranun[1], and J.F. Scamehorn*[2], [1]Petroleum and Petrochemical College, Chulalongkorn University, Thailand, [2]Institute for Applied Surfactant Research, University of Oklahoma, USA.

8:40 **A New Developed Bleach Activator Cogranule with Improved Stain Removal and Hygiene Wash Properties.** M. Sajitz and G. Reinhardt, Clariant Produkte (Deutschland) GmbH, Germany.

9:00 **New Silicone-Based Granulated Products for Home-Care Applications.** K. Everaere and J. L'Hostis, Dow Corning, Belgium.



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9:20 **Liquid Innovation in Automatic Dishwashing.** T. Eiting, C. Nitsch, and J. Zipfel, Henkel AG & Co. KGaA, Germany.

9:40 **Development of Allergy-friendly Home Care Products.** M. Dreja[1], K.C. Bergmann[2], and T. Zuberbier[2], [1]Henkel AG & Co. KGaA, Germany, [2]Charité Universitätsmedizin, Germany.

10:00 **Break.**

10:20 **New Technologies in Surface Care.** J. Wates, Akzo Nobel Surface Chemistry, USA.

10:40 **Clear View into a Green Future—Starch-based Polymer for Hard Surface Cleaning.** S. Gross[1], T. Albers[2], C. Schunicht[2], and J. Huh[3], [1]Cognis Corporation, USA, [2]Cognis GmbH, Germany, [3]Cognis Korea, Ltd., South Korea.

11:00 **New Classes of Polymer that Exhibit Next Time Cleaning Benefit in Hard Surface Cleaning Applications.** D. Rocque[1], G. Nunes[1], S. Mahoski[1], and M. Loeffler[2], [1]Clariant Corporation, USA, [2]Clariant Produkte GmbH, Germany.

11:20 **Novel Surfactant Applications in Household Cleaning.** P.T. Sharko, Shell Global Solutions, USA.

11:40 **The Wonderful World of Solvents.** M.I. Busby, M.L. Tulchinsky, and S.A. Elliott, The Dow Chemical Company, USA.

S&D 4.1/BIO 4: Biobased Surfactants and Ingredients

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

221AB

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11:20 **Protein-Based Enhancement of Surfactancy.** C. Podella, J. Baldridge, and M. Goldfeld, Advanced BioCatalytics Corp., USA.

Wednesday Afternoon

ANA 5: General Analytical II

Chairs: T. Mason West, Bunge Oils Inc., USA; and V. Jain, Oil-Dri Corp of America, USA

224A

1:55 **Introduction.**

2:00 **Increased Profits through Tighter Control; A New Look at Free Fatty Acid and Peroxide Value Analysis in Edible Oils.** J. Tompkins[1] and M. Kenedy[2], [1]Metrohm USA, USA, [2]Cargill, Inc., USA.

2:20 **Texture Measurements: Bridging Qualitative and Quantitative Methodologies.** D. Guy, H. Shuman, and B. Johnson, Bunge Oils, USA.

2:40 **Analysis of Triacylglycerols in Fats and Oils by UPLC®-ELSD.** K. Ross, Cargill Global Foods Research, USA.

3:00 **Measuring Moisture and Fat Contents of Breaded Fried Chicken Nuggets Using VIS/NIR Hyper-Spectroscopy.** A. Yavari[1], M. Hamedi[1], and S. Haghbin[2], [1]Dept. of Food Technology, Agricultural Biosystem Engineering Faculty, Iran, [2]Food Technology Dept., Agricultural Bioengineering Research Institute, Iran.

3:20 **Chemometric Algorithms for the Direct Determination of Lipids in Human Serum.** G. Dumancas[1], ***(Honored Student Award Winner, Analytical Division Student Award Winner, and Hans Kaunitz Award Winner)***, M. Muriuki[1], N. Purdie[1], and L. Reilly[2], [1]Oklahoma State University, USA, [2]Bethany College, USA.

3:40 **Structural Investigation of Stratum Corneum Lipid by Electron Paramagnetic Resonance.** K. Nakagawa, Fukushima Medical University, Japan.

4:00 **Quantitative Method to Measure Glycidol Fatty Acid Esters in Edible Oils.** H. Shiro[1], Y. Masukawa[1], N. Kondo[1], and N. Kudo*[2], [1]Tochigi Research Laboratories, Kao Corporation, Japan, [2]Tokyo Research Laboratories, Kao Corporation, Japan.

4:20 **SFC Using the Thar PetroAnalyzer for Analysis of Petroleum Distillates and Biodiesel.** C.M. White, TharSFC, USA.

BIO 5: General Biotechnology

Chairs: R. Patel, SLRP Associates, USA; and J. Ogawa, Kyoto University, Japan

221AB

1:55 **Introduction.**

2:00 **Eicosapentaenoic Acid Production by Molecular Breeding of Filamentous Fungus *Mortierella alpina*.** A. Ando[1,2], Y. Sumida[2], H. Negoro[2], D. Anggraini Suroto[2], J. Ogawa[1,2], E. Sakuradani[2], and S. Shimizu[2], [1]Research Division of Microbial Sciences, Kyoto University, Japan, [2]Division of Applied Life Sciences, Graduate School of Agriculture, Kyoto University, Japan.

2:20 **Arabitol Production from Glycerol by Yeast Fermentation.** S. Koganti[1], L.-K. Ju*[1], and T.-M. Kuo[2], [1]Dept. of Chemical and Biomolecular Engineering, University of Akron, USA, [2]USDA, NCAUR, USA.

2:40 **Off-Flavor Problem in Soy Proteins: a Process for the Removal of Phospholipids in SPI.** A. Aurora and S. Damodaran*, University of Wisconsin-Madison, USA.

3:00 **The Extraction of *Rhodotorula glutinis* from Aqueous Media Using the Solvent Extraction Technique.** M. Hetrick, C. Zumbro, B. Holmes, J. Donaldson, R. Hernandez, and W. French, Mississippi State University, USA.

3:20 **Enzymatic Production of Healthier Lard-based Fats.** L.Z. Cheong[1], L. Nersting[2], and X. Xu[1], [1]Aarhus University, Denmark, [2]Danish Meat Research Institute, Denmark.

3:40 **Enzymatic Conversion of Castor Bean Oil to Biodiesel.** S. Basheer and E. Masoud, Transbiodiesel Ltd., Israel.

4:00 **Metabolic Engineering of Yarrowia lipolytica: Production of Eicosapentaenoic Acid-Rich Oil for Commercialization.** N. Yadav, Q. Zhu, Z. Xue, P. Sharpe, H. Damude, D. Xie, D. Short, R. Hong, A. Kinney, and B. Tyreus, DuPont Co., USA.

EAT 5: General Edible Applications

This session sponsored in part by Bunge North America

Chairs: B. Farhang, University of Guelph, Canada; and G.R. List, Retired, USDA, ARS, NCAUR, USA

226BC

1:55 **Introduction.**

2:00 **Degumming Revisited.** A.J. Dijkstra ***(Timothy L. Mounts Award Winner)***, Consultant, France.

2:40 **Physical and Structural Case Study of Low *trans* Shortenings for Improved Performance in Icing Applications.** M. Peitz, Archer Daniels Midland Co., USA.

3:00 **Fry Studies Utilizing a Novel Low Saturate High Oleic Soybean Oil.** R. Wilkes and L. Jurado, Monsanto Company, USA.

3:20 **Formulation of Zero *trans*, Low Saturated and Nutritious Rate of Omega 9,6,3 Semi-solid Fat for Production of Muffins and Cupcakes.** F. Madadnoee[2], M.R. Modalal[1,2], and F. Karami[1,2], [1]Kesht va Sanaat Shomal, Iran, [2]Mahidasht Agri-Industry and Vegetable Oil Manufacturing, Iran.

3:40 **Comparison of Oil, Interesterified Soy Shortening, and a Monoglyceride Structured Shortening Alternative on Wheat Dough Rheological Properties and Starch Pasting.** B. Huschka, C. Challacombe, A.G. Marangoni, and K. Seetharaman, University of Guelph, Canada.

4:00 **Performance of Hybrid Triacylglycerides During Frying and Storage of Oil.** R. Przybylski and E. Gruczynska*, University of Lethbridge, Canada.

4:20 **Research and Development of Micro Algae Food Ingredients.** M. Golembieksi, Solazyme, USA.

H&N 5: General Nutrition II

Chair: S. Raatz, USDA, ARS, NPA, USA

228AB

1:55 **Introduction.**

2:00 **Inhibition of Breast Cancer Cell Hsp90 and Client Oncoproteins by Black Seed (*Nigella sativa*) Oil.** N. Karki and J. Losso, Louisiana State University Agricultural Center, USA.

2:20 **Comparative Metabolic Fate of Alpha-linolenic Acid from Natural Oil (Flaxseed Oil) and Structured Lipids in Rats.** L. Couëdelo[1,2], C. Vaysse[1], E. Vaique[2], S. Pinet[2], N. Combe[1], and M. Cansell[2], [1]ITERG, France, [2]ENSCPB, France.

2:40 **Effect of Dietary Plant Epidermal Wax on Blood Glucose Level in KKAy Mice.** N. Watanabe[1], C. Nanbu[1], Y. Sawano[1], Y. Takeo[1], K. Fujimoto[2], Y. Takamura[3], and M. Takumi[4], [1]Showa Women's University, Japan, [2]Koriyama Women's University, Japan, [3]Okinawa Sugar Canes Research Corporation, Japan, [4]Koyo Sangyo Co., Ltd., Japan.

3:00 **Alpha-linolenic Acid is a Key Dietary Source of N-3 Fatty Acids: What Kinetics Tells Us.** E. Murphy, University of North Dakota, USA.

3:20 **Inhibition of Pancreatic Cancer Cells by Black Seed Oil.** N. Magazine and J. Losso, Louisiana State University Agricultural Center, USA.

3:40 **Inhibition of Oncogenic Enzymes in Breast Cancer Cells by Black Seed (*Nigella sativa*) Oil.** T. Jombai and J. Losso, Louisiana State University Agricultural Center, SA.

4:00 **SDA Soybean Oil: Nutritional Rationale for a Land-Based Source of Heart Healthy Omega-3 Fatty Acids.** S. Lemke[1], D. Goldstein[1], W. Harris[3], E. Krul[2], and R. Wilkes*[1], [1]Monsanto Company, USA, [2]Solae, LLC, USA, [3]Sanford Research/USD, USA.

IOP 5: General Industrial Oil Products

Chairs: D. Sparks, Mississippi State University, USA; and R. Hernandez, Mississippi State University, USA

224B

1:55 **Introduction.**

2:00 **Integrated Biorefinery Based on Soybeans.** D. Graiver[1], R. Narayan[1,2], and K. Farminer[2], [1]Michigan State University, USA, [2]BioPlastics Polymers and Composites, USA.

2:20 **Effect of Lignocellulosic Inhibitory Compounds on Growth and Lipid Accumulation of Municipal Sewage Activated Sludge Microflora.** A. Mondala, R. Hernandez, T. French, L. McFarland, W. Holmes, Mississippi State University, Mississippi State, USA.

2:40 **Sub-critical Water Assisted Biodiesel Production from Activated Sludge.** L.-H. Huynh and Y.-H. Ju, National Taiwan University of Science and Technology, Taiwan.

3:00 **Additization of Ultra Low Sulfur Diesel (ULSD) Fuel with Mono Glycerol Esters (Monoglycerides).** S.N. Shah and G. Knothe, USDA, ARS, NCAUR, USA.

3:20 **Biodiesel Production via Transmethylation of Triglycerides Using Dimethylcarbonate: A Glycerol-free Biofuel.** M.S. Miguez and T.J. Benson, Lamar University, USA.

3:40 **Biodiesel and Biofuel Production from High Acidic Feedstock.** R. Verhé[1], V. Van Hoed[1], C. Echim[1,2], J. Maes[2], N. Zyaykina[2], and W. De Greyt[2], [1]Ghent University, Belgium, [2]Desmet Ballestra, Belgium.

4:00 **Using Synthetic Biology to Create Renewable Chemical Building Blocks.** N. Renninger, D. McPhee, and E. Cratsenburg, Amyris Biotechnologies, Inc., USA.

4:20 **Fungal Fermentation for Bio-oil Production.** D. Mitra ***(Honored Student Award Winner)***, P. Chand, D. Grewell, V. Chintareddy, J. Verkade, and J. van Leeuwen, Iowa State University, USA.

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4:40 **Green Diesel from Lipidic Materials Obtained from Activated Sludge.** E. Revellame[1], R. Hernandez[1], W.T. French[1], E. Alley[2], and W. Holmes[2], [1]Swalm School of Chemical Engineering, Mississippi State University, USA, [2]Mississippi State Chemical Laboratory, USA.

LOQ 5: General Lipid Oxidation and Quality

Chairs: C. Hall, North Dakota State University, USA; and B. Zhao, Kraft Foods Inc., USA

227AB

1:55 **Introduction.**

2:00 **Novel Vegetable and Spice Extracts with Unique Antioxidant Potential as Natural Food Preservatives in Complex Systems.** R. Nahas, G. Reynhout, A. Uhlir, P. VanAlstyne, and J. McKeague, Kalsec, Inc., USA.

2:20 **Delay of Oil Oxidation Using Rosemary Extract, Increasing Shelf Life.** T. ONeill and R. Jonas*, PL Thomas & Co., Inc., USA.

2:40 **Synergistic Antioxidant Effect from Combination of Herb Extracts.** H. Ge and T. Doering, The Dial Corporation, a Henkel Company, USA.

3:00 **Stability of Stearidonic Acid Enriched Soybean Oil through the Shelf-lives of a Broad Range of Processed Foods.** S. Lee, B. Lambach, X. Pan, C. Lucak, and D. Welsby, Solae, USA.

3:20 **Composition and Antioxidant Activities of Selected Species of Seaweeds from the Danish Coast.** K.H. Sabeena Farvin, S.L. Holdt, and C. Jacobsen, National Institute of Food (DTU-FOOD), Technical University of Denmark, Denmark.

3:40 **Role of Plasmalogen in Lipid Oxidation.** G. Wang and T. Wang, Iowa State University, USA.

4:00 **Fatty Acid Profile and Antioxidant Properties of Mangosteen Seed.** A. Thanonkaew[1] and A. Jongjareonrak[2], [1]Research Unit of Local Southern Thai Foods, Dept. of Food Science and Technology, Faculty of Technology and Community Development, Thaksin University, Thailand, [2]Nutraceutical and Functional Food Research and Development Center, Faculty of Agro-Industry, Prince of Songkla University, Thailand.

4:20 **Effect of Natural Antioxidants on the Oxidative Stability of Chia Seed Oil.** V.Y. Ixtaina[1,2], S.M. Nolasco[2], and M.C. Tomás*[1], [1]Centro de Investigación y Desarrollo en Criotecnología de Alimentos (CIDCA - CONICET La Plata-UNLP), Argentina, [2]Facultad de Ingeniería, Dto. de Ingeniería Química (TECSE), Universidad Nacional del Centro de la Provincia de Buenos Aires (UNCPBA), Argentina.

PRO 5: General Processing

Chairs: G. Hatfield, Bunge Canada, Canada; and M. Noble, Lake Erie Biofuels LLC, USA

222BC

1:55 **Introduction.**

2:00 **Quality Differences between Pressed and Solvent Extracted Vegetable Oils.** R. Verhé[1], V. Van Hoed[1], C. Ben Ali[1,2], and M. Slah[2], [1]Ghent University, Belgium, [2]University 7th November of Carthage, Tunisia.

2:20 **Optimization of Enzyme Efficiency through Control of Oil Quality Used in Interesterification.** W.D. Cowan[1], H.S. Yee[2], H.C. Holm[3], and H.M.L. Pedersen[3], [1]Novozymes UK, UK, [2]Novozymes Malaysia, Malaysia, [3]Novozymes Denmark, Denmark.

2:40 **The Shape-Selective Hydrogenation of FAMEs and Vegetable Oils.** A. Philippaerts ***(Processing Division Student Excellence Award Winner)***, S. Paulussen, B. Sels, and P. Jacobs, KU Leuven, Belgium.

3:00 **Ethanolic Extraction of Rape- Seed Meal. Current Results and Prospective Outlook using this New Process.** G. Börner[1], W. Paul[2], and G. Fleck[2], [1]ÖHMI Engineering, Germany, [2]PPM e.V. Magdeburg, Germany.

3:20 **Fractionation of Short and Medium Chain Fatty Acid Ethyl Esters from a Blend of Oils via Ethanolysis and Short-Path Distillation.** L. Vázquez and C.C. Akoh, University of Georgia, USA.

3:40 **Jet-based Dehulling and Conditioning of Seeds in a Fluidized Bed Process.** M. Börner[1], M. Peglow[1], M. Henneberg[2], and G. Börner[3], [1]Otto-von-Guericke-University, Germany, [2]AVA - Anhaltinische Verfahrens- und Anlagentechnik GmbH, Germany, [3]ÖHMI Engineering, Germany.

4:00 **Mechanisms of Aqueous Extraction of Extruded Sunflower Meal.** K.A. Campbell[1], P.-Y. Pontallier[2], and C.E. Glatz*[1], [1]Dept. of Chemical and Biological Engineering, Iowa State University, USA, [2]Laboratoire de Chimie Agro-Industrielle, Ecole Nationale Supérieure des Ingénieurs en Arts Chimiques et Technologiques, France.

4:20 **Reducing the Global Warming Potential of Margarines.** R.M.M. Diks and G. van Duijn, Unilever, The Netherlands.

PCP 5: General Protein and Co-Products

Chairs: N. Deak, Solae Co., USA; and P. Qi, USDA, ARS, ERRC, USA.

222A

1:55 **Introduction.**

2:00 **High Fischer Ratio Multifunctional Peptides from Flaxseed Protein.** C.C. Udenigwe[1] and R.E. Aluko[1,2], [1]Human Nutritional Sciences, University of Manitoba, Canada, [2]The Richardson Centre for Functional Foods and Nutraceuticals, University of Manitoba, Canada.

2:20 **Identification and Characterization of Sphingosine-binding Protein.** Z. Hossain[1,2], T. Masuda[3], O. Nishimura[1], E. Matsuo[4], T. Tsuduki[5], T. Sugawara[1], and T. Hirata[1], [1]Division of Applied Biosciences, Graduate School of Agriculture, Kyoto University, Japan, [2]Dept. of Fisheries Biology and Genetics, Faculty of Fisheries, Bangladesh Agricultural University, Bangladesh, [3]Division of Agronomy and Horticultural Science, Graduate School of Agriculture, Kyoto University, Japan, [4]Division of Disease Proteomics, Institute for Protein Research, Osaka University, Japan, [5]Graduate School of Agricultural Science, Tohoku University, Japan.

2:40 **Effects of Extrusion Conditions on the Molecular Structures and Functional Properties of WPI.** P. Qi and C. Onwulata, USDA, ARS, ERRC, USA.

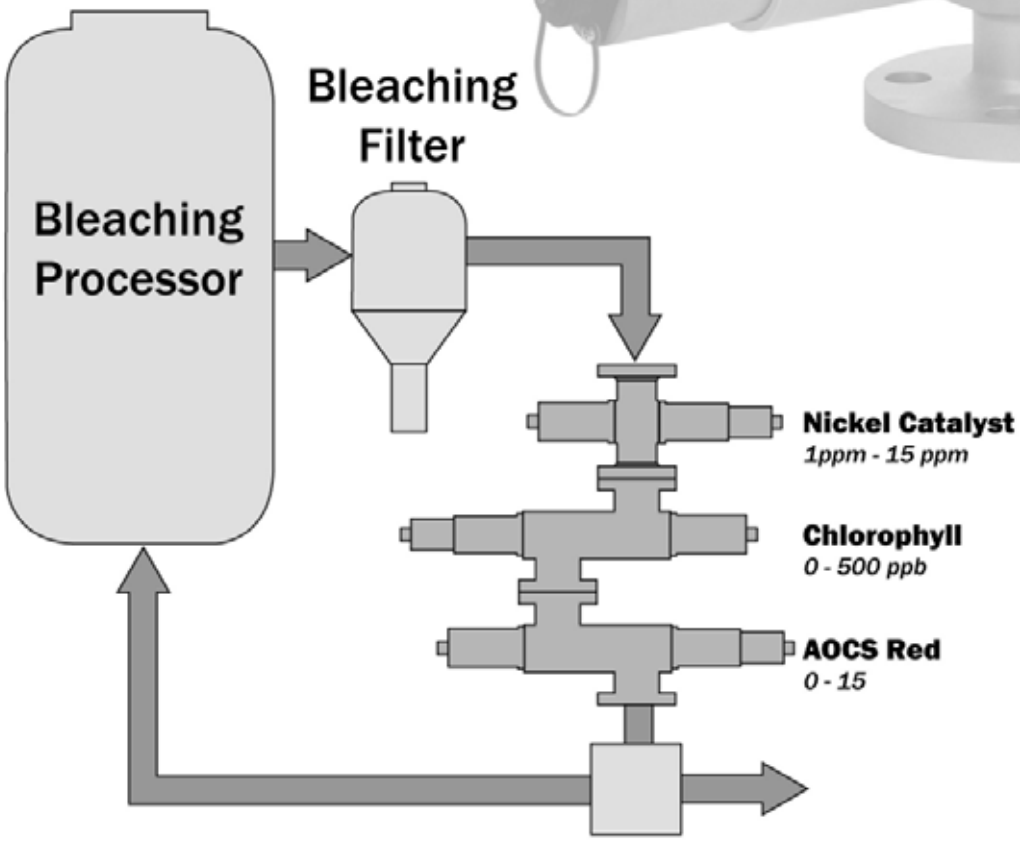
3:00 **Reducing Hemoagglutination Activity of Soy Proteins.** Y. Ma, R. Faris*, T. Wang, and M. Spurlock, Iowa State University, USA.

3:20 **Ovotransferrin-derived Peptides Inhibits TNFα induced Inflammatory Response in Endothelial Cells.** K. Majumder[1], W. Huang[1], S. Chakrabarti[2], S. Davidge[2], and J. Wu[1], [1]Dept. of Agricultural, Food, and Nutritional Science, University of Alberta, Canada, [2]Dept. of Obstetrics & Gynecology and, University of Alberta, Canada.

3:40 **Production of Bioactive Peptides from Spent Hens.** W. Yu, C. Field, and J. Wu, Dept. of Agricultural, Food and Nutritional Science, University of Alberta, Canada.

4:00 **Processing Method Used to Crush *Camelina sativa* Inhibits Myrosinase Activity in Camelina Meal.** C. Murphy[1,2] and E. Murphy[1,2], [1]Agragen, LLC, USA, [2]University of North Dakota, USA.

Inline Chlorophyll & Clay Monitoring



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Viewing

Sunday .....5:30–7:30 pm
Monday .....7:00 am–6:00 pm

Monday .....4:00–6:00 pm
Dedicated Poster Viewing and Reception
Meet the Authors

Tuesday .....7:00 am–6:00 pm
Wednesday ...7:00 am–5:00 pm

Abstracts are published in the abstract book which is included in your meeting portfolio. The speaker is the first author listed or is otherwise indicated with an asterisk (*).

ANA-P: Analytical Posters

Chair: J.T. Lin, USDA, USA

Expo Hall

1. **The Absolute Configurations of Some Hydroxy Fatty Acids from the Royal Jelly of Honeybees (*Apis mellifera*).** T. Kodai, T. Nakatani, and N. Noda, Setsunan University, Japan.
2. **Sensory Characterization of Olive Oil Using a Flash GC Electronic Nose.** J.C. Mifsud, X. Bredzinski, and M. Bonnefille, Alpha MOS, USA.
3. **The Unique Benefits of FT-NIR Spectroscopy for At-line and On-line Analysis of Oleochemicals.** F. Despagne and J. Labrecque, ABB Analytical, France.
4. **Differences Between the Effects of Microwave and Convection Oven Heating on the Formation of Oxidation Products from Rapeseed Oil.** J.P. Suomela, M. Tarvainen, and H. Kallio, Dept. of Biochemistry and Food Chemistry, University of Turku, Finland.
5. **Optimization of *trans* Fat Determination by Infrared Spectroscopy.** M.M. Mossoba, Food and Drug Administration, USA.
6. **Quantification of Sugar Esters in Chocolate and Oil Samples.** U. Strijowski and K. Franke*, German Institute of Food Technologies, Germany.
7. **Influence of Chemical Refining Process and Oil Type on Bound 3-MCPD Contents.** U. Strijowski and K. Franke*, German Institute of Food Technologies, Germany.
8. **Rapid Method for Lipid Determination of Microalgae.** E. Ryckebosch, K. Muylaert, and I. Foubert, K.U. Leuven Campus Kortrijk, Belgium.
9. **Characteristics of Palm Oil from Various Sources Using Gas Chromatography and Differential Scanning Calorimetry.** S. Seegers, G. Sekosan*, and T. West, Bunge North America, USA.
10. **A New Approach Towards Authentication of Animal Fats.** A. Hayyan[1,2], M.E.S. Mirghani[1,2], A.R.A. Al-Saadi[3], M. Hayyan[4], and M.A.A. Al-Saadi[1], [1]Bioenvironmental Engineering Research Unit, Dept. of Biotechnology Engineering, Kulliyyah of Engineering, IIUM, Malaysia, [2]Halal Industry Research Centre, IIUM, Malaysia, [3]Dept. of Arabic Language and Literatures, Kulliyyah of IRKHS, IIUM, Malaysia, [4]Dept. of Chemical Engineering, Faculty of Engineering, University of Malaya, Malaysia.
11. **Conformation of Cyclolinopeptides Observed by Circular Dichroism.** Y.Y. Shim[1], D.P. Okinyo-Owiti[1], P.G. Burnett[1], J. Shen[1], R. Sammynaiken[2], and M. Reaney[1], [1]Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada, [2]Saskatchewan Structural Sciences Center, University of Saskatchewan, Canada.
12. **Limitations in the Use of Liquid Chromatography/Mass Spectrometry for the Structural Characterization of DHA Triacylglycerols.** P. Perrone, Martek Bioscience, USA.
13. **Determination of Total *trans* Fat: An Infrared International Collaborative Validation Study.** M.M. Mossoba, FDA, USA.
14. **Verification of the Identity of Organic Eggs by Fatty Acid Fingerprinting.** A. Tres[1,2], R. O'Neill[1], M. Rozijn[1], H. van der Kamp[1], M. Alewijn[1], and S. van Ruth[1], [1]RIKILT - Institute of Food Safety, Wageningen University and Research Centre, The Netherlands, [2]Nutrition and Food Science Department, Faculty of Pharmacy, University of Barcelona, Spain.
15. **3-MCPD Esters in Edible Oils: Analytical Aspects.** F. Joffre, F. Lacoste*, B. Soulet, and H. Griffon, ITERG, France.
16. **Identification and Quantification of Biodiesel and Other Reaction Products by HPLC.** A.N.A. Aryee[1], L.E. Phillip[2], and B.K. Simpson[1], [1]Dept. of Food Science and Agricultural Chemistry, McGill University (Macdonald Campus), Canada, [2]Dept. of Animal Science, McGill University (Macdonald Campus), Canada.
17. **A Simple, One-step Analytical Method for the Chromatographic Analysis of Fatty Acids in Natural Products.** R.R. Freeman[1], T. Yuzawa[2], and C. Watanabe[2], [1]Quantum Analytics, USA, [2]Frontier Laboratories, Japan.

BIO-P: Biotechnology Posters

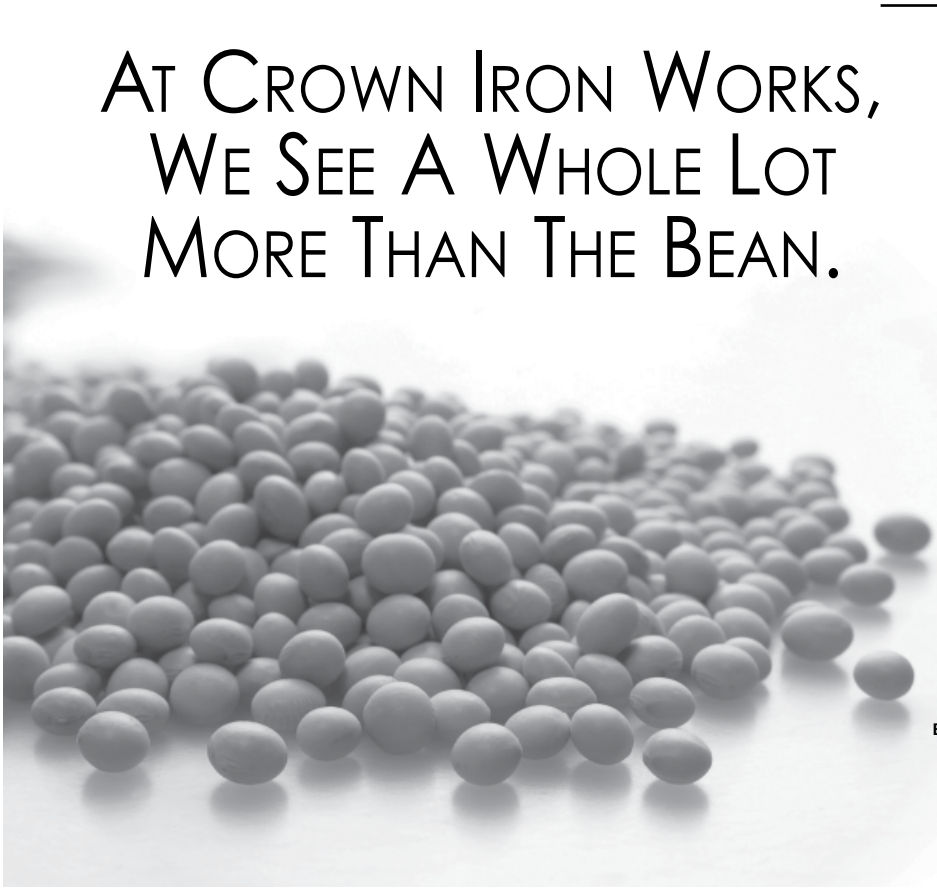
Chair: R. Ashby, USDA, USA

Expo Hall

The Biotechnology Division is enabling up to 12 poster presenters to give a brief talk on their research results in the Expo poster area on Monday, May 17, at 5:00 pm. Check Program Addendum for presentation details.

1. **Monitoring Enzymatic Interesterification: Quantification of Mono-, Di- and Triglycerides.** C. Pacheco, G.H. Crapiste, and M.E. Carrín, PLAPIQUI (UNS - CONICET), Argentina.
2. **Enzymatic Interesterification: Confirmation Experiments Following a Fractional Factorial Design.** C. Pacheco, G.H. Crapiste, and M.E. Carrín, Plapiqui (UNS - CONICET), Argentina.
3. **Acidolysis of Sunflower Oil with *Rhizomucor miehei* Lipases Immobilized on Modified Chitosan Microspheres.** C. Palla, C. Pacheco*, and M.E. Carrin, PLAPIQUI (UNS-CONICET), Argentina.
4. **Enzymatically Production of Structured Lipids from Sunflower Oil in a Packed Bed Reactor.** C. Palla and M.E. Carrin*, PLAPIQUI (UNS-CONICET), Argentina.
5. **Isolation of Fungi from Diesel Oil Polluted Soil in Mbaise Nigeria.** C.W. Agbakwuru[1] and J.O. Anyanwanu*[1], [1]Imo State University Owerri, Nigeria, [2]Imo State University Owerri, Nigeria.
6. **Using a Biotechnology Approach to Increase Oil Content of *Camelina sativa*.** K. Koivu[1], V. Kuvshinov[1], S. Kaijalainen*[1], R. Weselake[3], and E. Murphy[1,2], [1]Unicrop, Oy, Finland, [2]Agragen, LLC, USA, [3]University of Alberta, Canada.
7. **Production of a High Lauric Acid Containing *Camelina sativa* Using Biotechnology.** K. Koivu[1], V. Kuvshinov*[1], S. Kaijalainen[1], and E. Murphy[1,2], [1]Unicrop, Oy, Finland, [2]Agragen, LLC, USA.
8. **Production of Class-2 Herbicide Tolerant Camelina sativa via Introduction of Specific Mutations in the Acetolactate Synthase Gene from Arabidopsis thaliana.** K. Koivu[1], V. Kuvshinov[1], S. Kaijalainen[1], and E. Murphy[1,2], [1]Unicrop, Oy, Finland, [2]Agragen, LLC, USA.
9. **Enzymatic Production of Omega-3 Specialty Oils: Emerging Process Technologies.** D. Kahveci[1], K. Sandnes[2], and X. Xu[1], [1]Dept. of Molecular Biology, Aarhus University, Denmark, [2]Marine Bioproducts AS, Norway.

10. **Enzymatic Esterification of PUFA Isolated from Rapeseed Oil.** A. Onofre-Sestiaga, C. Marquez-Beltrán, R.E. Lugo-Sepúlveda, and J.A. Noriega-Rodríguez*, Universidad de Sonora Mexico.
11. **Enzymatic Modification of Corn Oil with Conjugated Linolenic Acid Originated *Momordica charantia* (Bitter Gourd) Seed Oil.** H.F. Suzen, B. Elibal, and H.A. Aksoy*, Istanbul Technical University Chemical Engineering Department, Turkey.
12. **Enzymatic Synthesis of Lysophosphatidylcholine Containing CLA from Glycerophosphatidylcholine under Vacuum System.** S. In Hong[1], M.-H. Chae[1], J.-H. Choi[1], T.T. Zhao[1], I. Kim[2], J.-W. Kim[3], E.J. Lee[3], K.-I. Kwon[3], and I.-H. Kim[1], [1]Dept. of Food and Nutrition, Korea University, Republic of Korea, [2]R&BD Oils & Fats Development Team, Nong Shim Co., Ltd., Republic of Korea, [3]Korea Food and Drug Administration (KFDA), Republic of Korea.
13. **Analyses of Glucosinolate Content in Brassica Seeds.** B. Li[1], L.W. Thomson[1], D.P.O. Owiti[1], K. Thoms[2], and M.J.T. Reaney[1], [1]University of Saskatchewan, Canada, [2]Saskatchewan Structural Science Centre, Canada.
14. **Isolation of Segetalins A and B from *Saponaria vaccaria*.** P.G. Burnett[1], I. Ramirez-Erosa[2], J. Balsevich[2], P. Arnison[3], and M. Reaney[1], [1]Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada, [2]National Research Council, Plant Biotechnology Institute, Canada, [3]Botanical Alternatives Inc., Canada.
15. **Comparison of 1H NMR, HPLC, GOPOD and UV Absorbance Procedures to Estimate Brassica Seed Myrosinase Activity.** L.W. Thomson, B. Li, and M.J.T. Reaney, University of Saskatchewan, Canada.
16. **Efficient Production of Multiple Functional Trehalose Catalyzed by *Picrophilus torridus* Trehalose Synthase in Permeabilized Cells.** S.-M. Liou[1], J.-F. Shaw[2], and S.-W. Chang*[3], [1]Dept. of Bioindustry Technology, Dayeh University, Taiwan, R.O.C., [2]Dept. of Food Science and Biotechnology, National Chung Hsing University, Taiwan, R.O.C., [3]Dept. of Medicinal Botanicals and Health, Dayeh University, Taiwan, R.O.C.
17. **Lipase-catalyzed Synthesis of Triacylglycerols Enriched in Pinolenic acid at *sn*-2 Position from Pine Nut Oil.** J.-H. Choi[1], S.I. Hong[1], B.-M. Lee[1], Y.-G. Pyo[1], J.-W. Kim[2], E. Ju Lee[2], K.-I. Kwon[2], and I.-H. Kim[1], [1]Dept. of Food and Nutrition, Korea University, Republic of Korea, [2]Korea Food and Drug Administration (KFDA), Republic of Korea.
18. **Systems Biology of Fatty Acid Biosynthesis in Marine Microorganisms.** J. Zhang ***(Biotechnology Division Student Award Winner)***, and G. Burgess, Dove Marine Laboratory, School of Marine Science and Technology, Newcastle University, UK.
19. **Vegetable Oil Hydrolysis in Submerged Membrane Bioreactor for Innovative Production Systems.** S. Chakraborty[1,2], L. Giorno[1], and E. Drioli[1,2], [1]Research Institute on Membrane Technology, Italy, [2]Dept. of Chemical and Materials Engineering ,University of Calabria, Italy.
20. **'Designer Liquids' for Sustainable Development of Lipid Processing.** S.C. Chua, Z. Guo, and X. Xu, Dept. of Molecular Biology, University of Aarhus, Denmark.
21. **Improvement of the Flavor Intensity of Aromatic Peanut Oil by the Use of Carbohydrate Hydrolytic Enzymes.** X.C. Wan and J.Y. Rong, Wilmar Biotechnology Research and Development Center, China.
22. **Enzymatic Synthesis of Novel Phytosteryl Caffeates and their Antioxidant Activity.** Z. Tan ***(Biotechnology Division Student Award Winner)***, and F. Shahidi, Dept. of Biochemistry, Memorial University of Newfoundland, Canada.
23. **Probing the Limits of Very Long Chain Polyunsaturated Fatty Acid Accumulation in Transgenic *Brassica napus*.** C.L. Snyder[1], R. Hryniuk[1], J. Bauer[2], T. Senger[2], and R.J. Weselake[1], [1]Dept. of Agricultural, Food and Nutritional Science, University of Alberta, Canada, [2]BASF Plant Science GmbH, Germany.
24. **Effect of Nutrients on Growth and Lipids Accumulation in *Dunaliella tertiolecta*.** M. Chen[1], H. Ma[1], H. Tang[1], T. Holland[2], S. Salley[1], and S. Ng[1], [1]Wayne State University, Dept. of Chemical Engineering, USA, [2]Wayne State University, Dept. of Microbiology and Immunology, USA.



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BIO-P: Sterols Posters

Chair: E.J. Parish, Auburn University, USA

Expo Hall

1. **Candida Sterol Methyltransferase: Properties and Inhibition.** K. Ganapathy, R. Kanagasabai, and W.D. Nes, Texas Tech University, USA.
2. **Unmasking the Molecular Libraries of the *Trypanosoma cruzi* Sterol Metabolome.** C.R. Nes[1], W.D. Nes[1], F. Villalta[2], and Y. Kleshchenko[2], [1]Dept. of Chemistry and Biochemistry, Texas Tech University, USA, [2]Dept. of Microbial Pathogenesis and Immune Response, Meharry Medical College, USA.
3. **Probing Hydrogen-bonding in Sterol Catalysis.** A. Howard, W.D. Nes, K.S. Ganatra, C.A. Nwogwugwu, E. Collins, K. Brooks, and B. Rosales, Dept. of Chemistry and Biochemistry, Texas Tech University, USA.
4. **Manipulation of Fungal Sterol Biosynthesis to Form Substrates and Inhibitors.** S. Chamala, D. Carpenter, A. Shiva, and W.D. Nes, Dept. of Chemistry and Biochemistry Texas Tech University, USA.
5. **Synthesis of Substrate Analogs for Study in Sterol Biosynthesis.** G.A.E. Aly, J. Liu*, and W.D. Nes, Dept. of Chemistry and Biochemistry, Texas Tech University, USA.

EAT-P: Edible Applications Technology Posters

Chair: N. Garti, Hebrew University of Jerusalem, Israel

Expo Hall

1. **Crystallization Behaviors of Diacylglycerols.** K. Saitou, Y. Mitsui, J. Moriwaki, M. Shimizu, N. Kudou, and Y. Katsuragi, Kao Corporation, Human Health Care Research Center, Health Care Food Research Laboratories, Japan.
2. **Using Multilayer Emulsion Technique to Protect Omega-3 Fish Oil from Oxidation.** D. Tang, S. Cloutier, and C. Brooks, Ocean Nutrition Canada Ltd., Canada.
3. **Effect of Shear on the Crystallization of Fat Blend.** M. Shiota, M. Konno, A. Iwasawa, T. Isogai, L. Tanaka, and M. Murakami, Snow Brand Milk Products Co., Ltd., Japan.
4. **Extraction of Essential Oils from Natural Feedstocks Using Supercritical Fluid Extraction.** K. James, Supercritical Fluid Technologies, USA.
5. **Oil and Fatty Acid Content among Diverse Sesame Genetic Resources.** J.B. Morris and M.L. Wang, USDA, ARS, USA.
6. **Rheological Properties of Nitrogen-containing Derivatives of (R)-12-Hydroxystearic Acid and Candelilla Wax Organogels.** J.F. Toro-Vazquez[1], J.A. Morales-Rueda[1], M.A. Charo-Alonso[1], E. Dibildox-Alvarado[1], V. Ajay Mallia[2], and R.G. Weiss[2], [1]Universidad Autonoma de San Luis Potosi, Mexico, [2]Georgetown University, USA.
7. **Thermal History and Effect of Shearing on the Rheological Properties of Candelilla Wax Organogels.** J.F. Toro-Vazquez, M. Chopin-Doroteo, E. Dibildox-Alvarado, M.A. Charó-Alonso, and J.A. Morales-Rueda, Universdad Autonoma de San Luis Potosi-FCQ, Mexico.
8. **Stability and Bioaccessibility of Beta Carotene Encapsulated in Poloxamer 188 and Tween 20 Stabilized Canola Oil Emulsions Versus Canola Stearin Solid Lipid Articles.** S. Langmaid, C. Trujillo, and A.J. Wright, University of Guelph, Canada.
9. **Effect of Evaporation Conditions on Physicochemical Properties of Sodium Caseinate-stabilized Astaxanthin Nanodispersions Prepared by Using Emulsification-evaporation Method.** N. Anarjan and C. Ping Tan*, Universiti Putra Malaysia, Malaysia.
10. **Characterization and Encapsulation of Pytochemical-rich *Hylocereus polyrhizus* Seed Oil.** H. Kwong Lim, J. Bakar, and C. Ping Tan*, Universiti Putra Malaysia, Malaysia.
11. **Hard Stock from Enzymatically Interesterified Hard Palm Stearin: Characterization and Potential Application in *trans* Free and Low SAFA Solid Fat Formulations.** N.L. Habi Mat Dian[1], F. Mohd Nor[1], M. Mat Sahri[1], and L. Oi Ming[2], [1]Malaysian Palm Oil Board, Malaysia, [2]Universiti Putra Malaysia, Malaysia.
12. **Edible Oil Polymer Organogels as Fat Substitutes in Comminuted Meat Products.** A.K. Zetzl, A.G. Marangoni, and S. Barbut, Dept. of Food Science, University of Guelph, Canada.
13. **The Effect of Nanoscale van der Waals Interactions on the Mechanical Properties of Fats.** F. Peyronel and A. Marangoni, University of Guelph, Canada.

FS&FF-P: Food Structure and Functionality Forum Posters

Chair: K. Dewettinck, Ghent University, Belgium

Expo Hall

1. **Monitoring Bubble Dynamics in Soybean Oil.** S. Martini, R.J. Tejeda Pichardo, S.C. Jensen, V. Hart, and T. Doyle, Utah State University, USA.
2. **Flavor Characteristics of Docosahexaenoic Acid Fortified Emulsions Formulated under Different Processing Conditions: A Sensory Evaluation Perspective.** M. Tippetts and S. Martini, Utah State University, USA.
3. **Impact of *Konjac glucomannan* on Rheological Properties and Granule Morphologies of Corn Starch.** Y. Hiwatashi and T. Nagano, Kawasaki University of Medical Welfare, Japan.
4. **Morphological Transitions in 12-HSA Crystals Induced by Oscillatory Shear.** E.D. Co and A.G. Marangoni, University of Guelph, Canada.
5. **Formation of Transparent Solid Lipid Nanoparticles by Microfluidization and Influence of Lipid Physical State on Appearance.** T. Helgason[1,2], T. Awad[3], K. Kristbergsson[2], D. McClements[3], and J. Weiss[1], [1]University of Hohenheim, Germany, [2]University of Iceland, Iceland, [3]University of Massachusetts, USA.
6. **Rheological Properties of Liver Paste.** L. Steen[1,2], S. Impens[1], O. Goemaere[1], H. Paelinck[1], and I. Foubert[2], [1]KaHo St. Lieven, Belgium, [2]K.U. Leuven Campus Kortrijk, Belgium.

H&N-P: Health and Nutrition Posters

C. Lammi-Keefe, Louisiana State University, USA

Expo Hall

1. **Multivariate Correlation between Major Phenolic classes and *in vitro* Antioxidant Activity of Brazilian Red Wines.** D. Granato, F. Chizuko Uchida Katayama, and I. Alves Castro*, University of São Paulo, Brazil.
2. **Effect of Protamine on Lipid Metabolism in Rats.** H. Ryota[1], F. Kenji[1], H. Arai[2], S. Kanda[3], N. Toshimasa[3], and M. Yoshida[1], [1]Kansai University, Japan, [2]Kitami Institute of Technology, Japan, [3]Kansai Medical University, Japan.
3. **Oxidation of Flax Oil Cyclolinopeptides (CLP): Preparation of CLP-J and -K.** P.D. Jadhav, D.P.O. Owiti, J. Shen, P.G. Burnett, and M.J.T. Reaney, University of Saskatchewan, Canada.
4. **The Bioactive Cyclic Peptides in Flax.** B. Gui, S. Suri, J. Shen, S. Ramaswami, and M. Reaney, University of Saskatchewan, Canada.
5. **Lipid Metabolism in Rats Fed Cholesterol-enriched Diets.** R. De Schrijver and D. Vermeulen, Catholic University Leuven, Belgium.
6. **Antioxidant Capacity and Lipid Characterization of Six Georgia-grown Pomegranate Cultivars.** G. Pande and C.C. Akoh, Dept. of Food Science & Technology, University of Georgia, USA.
7. **Macular Pigment Optical Density During Pregnancy and its Relationship to the Diet.** A. Page, H. Durham, and C. Lammi-Keefe, Louisiana State University, USA.
8. **A Determination of Vitamin D Status and Intake of Pregnant and Non-pregnant Saudi Arabian Women.** W. Azhar, N. alTheyab, and G. Liepa*, Eastern Michigan University, USA.
9. **Modulation of Lipid Droplet (LD) Formation and Cell Proliferation by Wy14643 in Response to Conjugated Linoleic Acid (CLA).** G. Thiyam[1,2], P. Zahradka[1,2], and C.G. Taylor[1,2], [1]University of Manitoba, Canada, [2]CCARM, Canada.
10. **Canola and Flax Oils Attenuate Development of Obesity and its Associated Complications in Obese-prone Rats Fed High Fat Diets.** D. Durston[1], P. Zahradka[1,2], and C. Taylor[1], [1]University of Manitoba, Canada, [2]CCARM, Canada.
11. **Identification of Soy Protein-derived Hypolipidemic Peptide-sequences using in vitro and in vivo System.** K. Nagao[1], N. Inoue[1], K. Sakata[1], N. Yamano[1],

P. Gunawardena[1], T. Matsui[2], T. Nakamori[3], H. Furuta[3], K. Tkamatsu[3], and T. Yanagita[1], [1]Saga University, Japan, [2]Kyushu University, Japan, [3]Fuji Oil Co. Ltd., Japan.

12. **Effects of Diets Containing Fish Oil on Fatty Acid Composition of Jade Tiger Hybrid Abalone.** H.T. Mateos[1], P.A. Lewandowski[2], and S.Q. Su[1], [1]School of Biomedical and Health Sciences, Victoria University, Australia, [2]School of Medicine, Deakin University, Australia.
13. **Influence of Soybean, Olive, Macadamia Nut, and Fish Oils on Hepatic Fatty Acid Metabolism in Mice.** R. Siddiqui[1], Z. Xu[2], K. Harvey[1], C. Walker[1], T. Pavlina[2], M. Becker[2], A. Banan[2], and G. Zaloga[2], [1]Methodist Research Institute, USA, [2]Baxter Healthcare Corporation, USA.
14. **Fucoxanthin Regulates Adipocytokine mRNA Expression in White Adipose Tissue of Diabetic/Obese Mice.** M. Hosokawa, Hokkaido University, Japan.
15. **The Supply of Naturally Sourced Plant Seed Oils Containing Stearidonic Acid—A Decade of Multidisciplinary Research.** K. Coupland[1,2] and A. Hebard[1], [1]Technology Crops International, USA, [2]Centre for Advanced Lipid Research, The University of Hull, UK.
16. **Nutraceutical Potential of Wheat Germ Oil for Lipid Profile Management.** M. Arshad[1], F. Anjum[2], and A. Bajwa[3], [1]University of Sargodha, Pakistan, [2]University of Agriculture, Pakistan, [3]Punjab Medical College, Pakistan.

IOP-P: Industrial Oil Products Posters

Chair: B.R. Moser, USDA, ARS, NCAUR, USA

Expo Hall

1. **Novel Bio-based UV-cure Oligomers for Sustainable Coatings' Applications.** S. Rengasamy and V. Mannari, Eastern Michigan University, USA.
2. **Photo-curable Advanced Nano-composite Coatings from Soybean Oil: Sustainable Hybrids.** J. Patel and V. Mannari, Eastern Michigan University, Coatings Research Institute, USA.
3. **Interesterification of Camelina and Castor Oil: Analysis and Optimization of the Reaction.** J. Garcia, J.Y. Bergeron, A. Tremblay, G. Hersant, and J. Labrecque, Oleotek Inc., Canada.
4. **Dilute Solution Absorption Isotherm Determination of Biodiesel/n-Alcohol Binary Mixtures by Inverse Gas Chromatography.** N.S. Bobbitt and J.W. King*, University of Arkansas, Dept. of Chemical Engineering, USA.
5. **Cold Flow Properties and Performance of Biodiesel.** R.O. Dunn and B.R. Moser, Bio-Oils Research, USDA, ARS, NCAUR, USA.
6. **Synthesis and Tribological Properties of Alkyl Succinate Derivatives.** Y.-W. Kim, K.-W. Chung, B.-T. Yoon, S.-Y. Baik, M.-H. Kim, and S.-B. Kim, Korea Research Institute of Chemical Technology, S. Korea.
7. **Biodiesel Production from Algae.** D. Özçimen and S. Yucel*, Yildiz Technical University, Bioengineering Department, Turkey.
8. **Microwave-assisted Methanolysis of Sunflower Oil.** S. Yucel, I. Rahmanlar, and P. Terzioglu, Yildiz Technical University, Turkey.
9. **Fuel Properties of a Novel Plant-based Biofuel from *Copaifera reticulata*.** B.L. Joyce[2], B.G. Bunting[1], S. Lewis[1], J.S. Choi[1], J. Storey[1], F. Chen[2], and C.N. Stewart[2], [1]Oak Ridge National Laboratory, Oak Ridge, TN, USA, [2]The University of Tennessee, USA.
10. **Different Purification Methods and Quality of Peanut Biodiesel.** A.L. Pighinelli[2], A.M. R.O. Miguel*[1], R.A. Ferrari[1], and K.J. Park[2], [1]ITAL Institute of Food Technology, Brazil, [2]UNICAMP, Brazil.
11. **Surfactants Used in Agriculture.** F. Dane[1], G. Yılmaz[1], and H. Akbaş[2], [1]Trakya University, Faculty of Science and Arts, Dept. of Biology, Turkey, [2]Trakya University, Faculty of Science and Arts, Dept. of Chemistry, Turkey.
12. **Fatty Acid Monoglyceride Synthesis from Palm oil by Transesterification with 1,2-*O*-isopropylideneglycerol.** K. Makkam[1] and B. Kitiyanan[1,2], [1]The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, [2]Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.
13. **Synthesis, Characterization and Industrial Application of Polyalkoxide Base Catalyst.** F.H.Y. Gok*[1], J.H. Shen[1], M.J.T. Reaney[1], R. Samminaiken[2], and G. Schatte[2], [1]Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada, [2]Saskatchewan Structural Science Centre, University of Saskatchewan, Canada.
14. **Novel Fatty Acid-glycidyl Carbamate Resins for Air Drying Coatings.** U. Harkal, A. Muehlberg, and D. Webster, Dept. of Coatings and Polymeric Materials, North Dakota State University, USA.
15. **Effect of Acid and Base Catalysts in Alcoholysis of Waste Oil from Activated Bleaching Earth.** O. Faruk Gul[1] and M. Tuter*[2], [1]TUBITAK, Turkey, [2]Istanbul Technical University, Chemical Engineering Department, Turkey.
16. **Compressed Fluid Application in the Extraction of Waxes from Sunflower Seeds.** E.R. Baümler, M.E. Carrin, G.D.B. Mabe, E. Brignole, and A.A. Carelli*, PLAPIQUI (UNS-CONICET), Argentina.
17. **Bioactivity of Polymer Surfaces Containing α-Hydroxy Fatty Acids.** F.H.M. Graichen, M.S. O'Shea, G. Peeters, and S. Kyi, CSIRO, Molecular and Health Technologies, Australia.
18. **Production and Enrichment of Conjugated Linoleic Acid from Corn Oil.** S. Eryilmaz Kar and G. Ustun*, Istanbul Technical University, Chemical Engineering Department, Turkey.
19. **Novel One-step and Two-step Supercritical Dimethyl Carbonate Process for Non-catalytic Biodiesel Production.** Z. Ilham ***(Industrial Oil Products Division Student Award Winner)***, and S. Saka, Graduate School of Energy Science, Kyoto University, Japan.
20. **The Use of Cadmium Compounds as Catalysts for Biodiesel Production from Low-grade Raw-materials.** M.B. Alves, F.C.M. Medeiros, and P.A.Z. Suarez*, University of Brasilia, Brazil.
21. **Fats and Oils Hydrocracking Using Noble-metal Magnetic-nanoparticles as Catalysts.** J.P. Rodrigues[1], M.J. Jacinto[2], H.L. Oliveira[1], P.A.Z. Suarez*[1], and L.M. Rossi[2], [1]University of Brasilia, Brazil, [2]University of São Paulo, Brazil.

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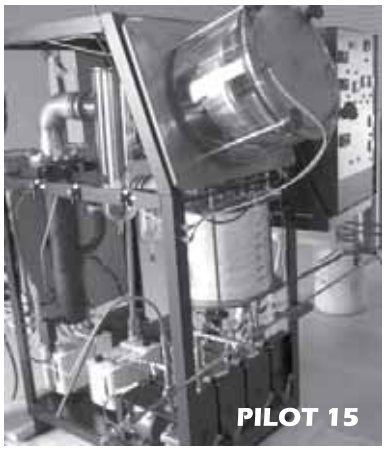

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22. **Synthesis of Ni (II), Sn(II), Co(II) and Fe (II) Carboxilate Complexes and Evaluation of their Catalytic Activity for Polyesterification of Castor Oil (*Ricinum communis*) with Terephthalic Acid.** E.U.X. Peres, A.P. Umpierre, and P.A.Z. Suarez*, University of Brasília, Brazil.
23. **Production of Biodiesel from Bitter Almond Oil (*Prunus dulcis*).** S. Singh, S. Ghorbanian, and O. Tavakoli, University of Tehran, Engineering Faculty, Iran.
24. **Production of Biodiesel from Brown Indian Mustard (*Brassica juncea*) Oil.** S. Singh, A. Talebizadeh Rafsanjani*, and M. Torabi Angaji, University of Tehran, Engineering Faculty, Iran.
25. **The Synthesis of Poly(diacid-glycerol)s in an Apparent Quazi-Melt Solution with Toluene.** V.T. Wyatt and G. Strahan, ERRC, ARS, USDA, USA.
26. **Preparation of Soypolymers by a Green Processing Method.** Z. Liu, NCAUR, ARS, USDA, USA.
27. **Methylester Preparation from Brown Grease by Using Heterogeneous Catalysts.** M. Kim[1,2], C. DiMaggio[1,2], Y. Shuli[1,2], S. Salley[1,2], and K.Y. Simon Ng[1,2], [1]Wayne State University, USA, [2]Next Energy, USA.
28. **Quality Survey of Biodiesel Blends in Michigan.** R. de Guzman, H. Tang, S. Wadumesthrige, T. Zhou, D. Garcia, S. Salley, and S. Ng, Wayne State University, USA.
29. **Long Term Activity of Modified ZnO Nanoparticles for Oil Transesterification.** S. Yan, S. Mohan, C. DiMaggio, M. Kim, S. Ng, and S. Salley, Dept. of Chemical Engineering and Material Science, Wayne State University, USA.
30. **Using Solid Base Containing Ca and La species for Biodiesel Production.** S. Yan, S. Mohan, C. DiMaggio, M. Kim, S. Salley, and S. Ng, Dept. of Chemical Engineering and Material Science, Wayne State University, USA.
31. **Biojet Production from Vegetable Oil Hydroprocessing Using Supported Noble Metals, and Transition Metal Carbide and Nitride.** H. Wang, C. DiMaggio, M. Kim, S. Salley, and S. Ng, Dept. of Chemical Engineering and Material Science, Wayne State University, USA.
32. **Fuel Properties of Butanol-Diesel-Biodiesel Blends.** K. Wadumesthrige, S.O. Salley, and K.Y.S Ng, Wayne State University, USA.
33. **Solvent Characteristics of Biodiesel Esters and Their Co-Products.** J.W. King, K. Srinivas, N.S. Bobbitt, and J.D. Vincent, University of Arkansas, Dept. of Chemical Engineering, USA.
34. **Ethyl Ester Obtained from Turkish Originated Safflower Oil and Fuel Ethanol as an Alternative Diesel Fuel.** A. Isler and F. Karaosmanoglu, Istanbul Technical University, Chemical Engineering Department, Turkey.
35. **Phenolation of Vegetable Oils.** M. Ionescu and Z. Petrovic, Pittsburg State University, Kansas Polymer Research Center, USA.
36. **New Industrial Technology in Enzymatic Extraction of Vegetable Oils in Czech Republic.** O. Urevbu Okwudili, IFRANE s.r.o., Czech Republic.
37. **Prevention and Elimination of Pathogens from Cooling Towers by Hydrofugation of Surfaces by Pure Short Chain Polymorphic Glycerol and Carbonic Fatty Acids Esters.** R. Valentin[1], G. Giacinti[1], M. Alignan[1], F. Renaud[3], B. Raymond[2], and Z. Mouloungui[1], [1]ENSIACET – Unité Chimie Agro-Industrielle - UMR 1010 INRA /INP-ENSIACET, France, [2]BR Consultant, France, [3]NOSOCO, Tech Laboratoire de Microbiologie-Unité Biomatériaux, France.
38. **Synthesis of Lipophilic Carboxylic Acid Salts from Oleic Acid, Sunflower Oil and Used Frying Oils in an Original Hydrothermal Reactor Heated by Direct Induction.** E. Lacroux, G. Vaca Medina, J.F. Fabre, R. Valentin, and Z. Mouloungui, ENSIACET – Unité Chimie Agro-Industrielle - UMR 1010 INRA/INP-ENSIACET, France.
39. **Physical, Chemical and Cold Flow Performance Properties of Triglycerides and Methyl Esters from Canadian Oilseeds.** S. Wang[1], J. Clancy[1], G. Rowland[2], K.C. Falk[3], and M.J. Reaney[1], [1]Dept. of Food and Bioproduct Sciences, University of Saskatchewan, Canada, [2]Dept. of Plant Sciences, University of Saskatchewan, Canada, [3]Agriculture and Agri-Food Canada, Saskatoon Research Centre, Canada.
40. **Degradation and Flammability of Glycerin-based Polyurethane Foams.** I. Javni, S. Fu, D.P. Hong, O. Bilic, and Z.S. Petrovic, Kansas Polymer Research Center, Pittsburg State University, USA.
41. **Identification of Enantioselectivity of Recombinant Candida rugosa Lipase Isozymes for l-Menthyl Acetate Production.** Y.-T. Luo[1], J.-F. Shaw[2], and S.-W. Chang*[3], [1]Dept. of Bioindustry Technology, Dayeh University, Taiwan, R.O.C., [2]Dept. of Food Science and Biotechnology, National Chung Hsing University, Taiwan, R.O.C., [3]Dept. of Medicinal Botanicals and Health, Dayeh University, Taiwan, R.O.C.
42. **Potential and Prospects of Biodiesel from Seed Oil of *Prinsepia utilis*.** S. Kaul and Y.K. Sharma, IIP, India.
43. **Properties of Biodiesel Derived from Processed Neem Oil.** J.M. Vargas-Lopez[1], D.D. Wiesenborn[2], K.K. Tostenson[2], and N. Chaira-Alcaraz[1], [1]Universidad de Sonora, Departamento de Investigacion y Posgrado en Alimentos, Mexico, [2]North Dakota State University, Dept. of Agricultural and Biosystems Engineering, USA.
44. **Improved Coupling Reactions for Production of Kilogram Quantities *cis* and *trans*-Vaccenic Acid.** J. Shen[1], S. Proctor[2], and M.J.T. Reaney[1], [1]Food & Bioproduct Sciences, University of Saskatchewan, Canada, [2]Dept. of Agricultural, Food & Nutritional Science, Canada.
45. **Preparation of Cyclolinopeptide A Analogues as Plausible Drug Candidates.** D.P. Okinyo-Owiti[1], P.G. Burnett[1], J. Shen[1], B. Li[1], R. Sammynaiken[2], and M.J. Reaney[1], [1]University of Saskatchewan, Dept. of Food and Bioproduct Sciences, Canada, [2]University of Saskatchewan, Saskatchewan Structural Science Centre, Canada.
46. **Textural Properties of Biorenewable Waxes Containing Partial Acylglycerides.** L. Yao and T. Wang, Iowa State University, USA.
47. **Effect of Water on Esterification of Free Fatty Acids using Zeolite Catalysts.** A. Coker, A. Iretski, R. Hernandez, M. White, and T. French, Mississippi State University, USA.
48. **Oil Production for Biofuels via Oleaginous Microorganism Consortium.** J.I. Hall, W.T. French, R.A. Hernandez, W. Holmes, and D. Sparks, Mississippi State University, USA.
49. **Thevetia Peruviana Juss: An Unknown Oil Seed Plant Suffering Neglect.** S. Ibiyemi, Biofuel and Alternate Renewable Energy Ltd., Nigeria.
50. **Rheological Properties of a Biological Thermo-hydrogel Produced from Soybean Oil Polymers.** J. Xu, Z. Liu, S. Kim, and S. Liu, NCAUR, ARS, USDA, USA.
51. **Sterol Glycoside Reduction in Biodiesel using Synthetic Magnesium Silicate and the Effect on Cold Soak and Total Contamination.** M.K. Greer, G.E. Hicks, and B.S. Cooke*, The Dallas Group, USA.
52. **Preparation of Omega-3 PUFA Enriched Triglycerides: Esterification vs. Transesterification.** W. Wang, R. Townsley, and J.A. Kralovec, Ocean Nutrition Canada Ltd., Canada.
53. **Pyrolysis of Palm Biomass.** S.K. Loh and M.A. Sukiran, Malaysian Palm Oil Board, Malaysia.
54. **Determination of Ester Content of Biodiesel Derived from Lauric Oils.** C.L. Yung, Y.M. Choo, and A.N. Ma, Malaysian Palm Oil Board, Malaysia

LOQ-P: Lipid Oxidation and Quality Posters

Chair: A. Richards, CSIRO Food Science Australia, Australia

Expo Hall

1. **Impact of the Addition of Bioactive Compounds on Oxidative Stability of Refined Soyabean Oil.** A.M. Rauen-Miguel[1], C.A.S. Almeida*[1], and N. Bragagnolo[2], [1]ITAL - Institute of Food Technology, Brazil, [2]State University of Campinas, Brazil.
2. **Effect of Natural Pigments on the Oxidative Stability of Sausages Stored Under Refrigeration.** A. Mercadante[1], C. Capitani[2], E. Decker[3], and I. Castro*[2], [1]Dept. of Food Science, Faculty of Food Engineering, University of Campinas, Brazil, [2]Dept. of Food and Experimental Nutrition, Faculty of Pharmaceutical Sciences, University of São Paulo, Brazil, [3]Dept. of Food Science, Chenoweth Laboratory, University of Massachusetts, USA.
3. **Triglyceride Regiospecificity on Lipase-catalyzed Transesterification of Ethyl Esters and Esterification of Fatty Acid Hydrolysates of Varying EPA/DHA Concentrations: A 13C NMR Study.** E. Reyes-Suarez[1], J. Kralovec[1], P.M. Mugford[1], I. Burton[2], and J. Walter[2], [1]Ocean Nutrition Canada Ltd., Canada, [2]National Research Council Canada, Canada.

4. **Carotenoids Quantification of Different Colored Sweet Bell Peppers (*Capsicum annuum* L.).** J.C. Germán-Jauregui[1], S. Agustín-Salazar[1], L.A. Medina-Juárez[2], and N. Gámez-Meza*[2], [1]Depto. Ingeniería Química y Metalurgia de la Universidad de Sonora, México, [2]Depto. Investigaciones Científicas y Tecnológicas de la Universidad de Sonora, México.
5. **Effect of Pepper (*Capsicum annuum* L.) Extracts on Cholesterol Stability During Thermal-Induced Oxidation.** S. Agustín-Salazar[1], D.M.A. Molina-Quijada[2], L.A. Medina-Juárez[3], and N. Gámez-Meza[3], [1]Depto. de Ingeniería Química y Metalurgia de la Universidad de Sonora, México, [2]Posgrado en Biociencias, Universidad de Sonora, México, [3]Depto. Investigaciones Científicas y Tecnológicas de la Universidad de Sonora, México.
6. **Antioxidant Activity of Methanolic and Oily Fractions of Different Colored Sweet Bell Peppers (*Capsicum annuum L.*).** A.K. Blanco-Rios[1], N. Gámez-Meza[2], S. Agustin-Salazar[2], and L.A. Medina-Juárez[2], [1]Posgrado en Biociencias de la Universidad de Sonora, México, [2]Departamento de Investigaciones Científicas y Tecnológicas de la Universidad de Sonora, México.
7. **Effect of Fried on Quality and Volatile Compounds of Different Oils.** J. Ortega-Garcia, J.A. Noriega-Rodriguez, N. Gamez-Meza, and L.A. Medina-Juarez, Universidad de Sonora, Mexico.
8. **Sinapic Acid Derivatives in Hulls and Cotyledons of Canola and Mustard.** U. Thiyam and S. Mayengbam*, University of Manitoba, Canada.
9. **Effects of Tocols on the Inhibition of Autoxidation of Conjugated Linoleic Acid.** S.-N. Ko[1], C.-J. Kim[2], C.-T. Kim[2], S.I. Hong[1], J.-W. Kim[3], E.J. Lee[3], K.-I. Kwon[3], and I.-H. Kim*[1], [1]Dept. of Food and Nutrition, Korea University, Republic of Korea, [2]Korea Food Research Institute, Republic of Korea, [3]Korea Food and Drug Administration (KFDA), Republic of Korea.
10. **Effects of Esterification on Hydroperoxide Formation of Sterol.** M. Lehtonen, A.-M. Lampi, and V. Piironen, Dept. of Food and Environment Sciences, University of Helsinki, Finland.
11. **4-Hydroxynonenal (HNE), a Toxic Aldehyde, in French Fries from Fast Food Restaurants.** A. Saari Csallany, I. Han, D.W. Shoeman, and C. Chen, Dept of Food Science and Nutrition, University of Minnesota, USA.
12. **Triglyceride Analysis of Medium and Normal Oleic Peanuts and Rheological Properties of Medium and Normal Oleic Peanut Pastes.** V.E. Buck, S.F. O'Keefe, R.M. Davis, and S.E. Duncan, Virginia Tech, USA.
13. **Effects of Chitosan and Rosmarinate Esters on the Physical and Oxidative Stability of Liposomes.** A. Panya[1], J. Lecomte[3], M. Laguerre[3], D.J. McClements[1], J. Weiss[2], P. Villeneuve[3], and E.A. Decker[1], [1]Dept. of Food Science, University of Massachusetts, USA, [2]University of Hohenheim, Dept. of Food Science & Biotechnology, Germany, [3]UMR IATE, CIRAD Dept. Persyst, France.
14. **Seasonal Lipid Dynamics of Sprat (*Sprattus sprattus*) and Herring (*Clupea harengus*) in the Baltic Sea.** M. Røjbek[1], C. Jacobsen*[2], J. Tomkiewicz[1], and J.G. Støttrup[1], [1]Technical University of Denmark, DTU Aqua, Denmark, [2]Technical University of Denmark, DTU Food, Denmark.
15. **Antioxidant Activity of Polar Fraction from Flax Oil.** O. Sharav[1], K. Thomas[2], D.P.O. Owiti[1], R. Sammynaiken[2], and M.J.T Reaney[1], [1]University of Saskatchewan, Canada, [2]Saskatchewan Structural Science Centre, Canada.
16. **Polar Compounds Determination by HPSEC in Frying Oils Collected in Different Times.** C.F. Furquin[1], R.S.P. Oliveira[2], E.E. Lima[3], J.M. Block*[1], and D. Barrera-Arellano[2], [1]University of Santa Catarina, Brazil, [2]University of Campinas, Brazil, [3]Federal Institute of Santa Catarina, Brazil.
17. **Applicability of Oil-in-Water Emulsions as Delivery System for Omega-3 Fatty Acids Incorporated in Meat Products.** H. Salminen, K. Herrmann, and J. Weiss, Food Structure and Functionality Laboratories, Dept. of Food Science and Biotechnology, University of Hohenheim, Germany.
18. **Aliphatic Aldehydes in Genuine Olive Oils.** W. Moreda, R. Gómez Coca, A. Cert, and M.C. Pérez-Camino, Dept. of Food Quality and Characterization Instituto de la Grasa (C.S.I.C.), Spain.
19. **Lipid Oxidation in French Fries Samples Commercialized on Districts with Different Human Development Index of São Paulo City.** J.S. Minetto, G.F. Branco, and I.A. Castro, Universidade de São Paulo, Brazil.
20. **Synergistic Effect of Natural Antioxidants and Chelating Agents on the Retardation of Oxidative Deterioration of Fish Oil.** W.M. Indrasena, M. Oxford and J.A. Kralovec, Ocean Nutrition Canada, Canada.

PHO-P: Phospholipid Posters

Chairs: G. Randel, Spectral Service GmbH, Germany; and B. Diehl, Spectral Service GmbH, Germany

Expo Hall

1. **Supercritical Fluid Purification of Lisophosphatidylcholine from a Phospholipase A2 Hydrolysate.** C. Torres, V. Casado, F. Señorans, and G. Reglero, Sección Departamental Ciencias de la Alimentación, Facultad de Ciencias, Universidad Autónoma de Madrid, Spain.
2. **Sunflower Lecithin Hydrolysis by Phospholipase A1. Effect of Reaction System.** M.L. Goni, D.T. Constenla, and A.A. Carelli*, PLAPIQUI (UNS-CONICET), Argentina.
3. **Kinetic Study of Sunflower Lecithin Hydrolysis using Phospholipase A1.** M.L. Goñi, D.T. Constenla, and A.A. Carelli, PLAPIQUI (UNS-CONICET), Argentina.
4. **Enzymatic Degumming of Sunflower Oil.** D.L. Lamas, L.N. Ceci, D.T. Constenla, and G.H. Crapiste, Plapiqui (UNS-CONICET), Argentina.
5. **Novel Synthesis of Guggullipid Derivatives as a Drug Delivery System.** M. Ahmad, S. Ali, A. Ahmad, S. Sheikh, and I. Ahmad, Jina Pharmaceuticals, Inc., USA.
6. **Effect of Different Enzymatic Treatments on Emulsion Properties of Leftover Egg.** S. Navidghasemizad, Y. Xiong, J.M. Curtis, F. Temelli, and J. Wu, Dept. of Agricultural, Food and Nutritional Science, Faculty of Agricultural, Life and Environmental Sciences, University of Alberta, Canada.

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PRO-P: Processing Posters

Chair: V. Jain, Oil-Dri Corp of America, USA

Expo Hall

1. **Minor Compounds Extractability of Sunflower Oil in Packed Bed Extractor.** M.C. Cingolani, M.E. Carrin, and A.A. Carrelli*, PLAPIQUI (UNS-CONICET), Argentina.
2. **Solubility of Lipids in Subcritical Propane.** D.L. Sparks, S.D. Crymble, W.E. Cherry, R. Hernandez, and W.T. French, Mississippi State University, USA.
3. **Obtention of High Micro-nutrients Content Oils for Food and Non-food Uses.** X. Pages[1], M. Gaud[1], C. Alfos[1], A. Rossignol Castera[1], and P. Carre[2], [1]ITERG, France, [2]CREOL, France.
4. **Chemical Composition of Jatropha cordata (Ort.) Muell. Arg. and Jatropha cardiophylla (Torr.) Muell. Arg. Seeds from Northwest of Mexico.** L.A. Medina-Juárez[1], E. Gil-Montaño[2], P.P. Alday-Lara[3], L. Bringas-Alvarado[1], and N. Gámez-Meza[1], [1]Departamento de Investigaciones Científicas y Tecnológicas de la Universidad de Sonora, Mexico, [2]División de Ciencias Biológicas de la Universidad de la Sierra, Mexico, [3]Posgrado en Biociencias de la Universidad de Sonora, Mexico.
5. **In situ Alkaline-catalyzed Transesterification of Ripe Mantled (Poissoni Spp) and White Ripe (Albescens) Oil Palm Fruits for Biodiesel Fuel Production: Preliminary Results.** R. Abigor[1], J. Obibuzor[1], D. Okiy[1], P. Uadia[2], and E. Okogbenin[1], [1]Biochemistry Division, Nigerian Institute for Oil Palm Research, Nigeria, [2]Dept. of Biochemistry, University of Benin, Nigeria.
6. **Aqueous Enzymatic Extraction of Wheat Germ Oil.** M. Xie, N. Dunford, and C. Goad, Oklahoma State University, USA.
7. **Catalyst Removal Following CLA Production by Soy Oil Linoleic Acid Isomerization.** B. Henbest and A. Proctor, University of Arkansas, USA.
8. **Biodiesel Production from Sludge Palm Oil Using Chemical Reactor.** A. Hayyan[1], M.Z. Alam[1], M.E.S. Mirghani[1], N.A. Kabbashi[1], I.N.M. Hakimi[2], Y.M. Siran[2], and S. Tahiruddin[2], [1]IIUM, Bioenvironmental Engineering Research Unit , Dept. of Biotechnology Engineering, Faculty of Engineering, International Islamic University, Malaysia, [2]Sime Darby, Processing & Engineering, R&D Centre, Sime Darby Research Sdn Bhd. Malaysia.
9. **Supercritical CO_2 Extraction of Lipids and Other Valuable Products from Microalgae.** M. Danthurebandara[1], K. Goiris[2,1], K. Muylaert[1], L. De Cooman[2], and I. Foubert*[1], [1]K.U.Leuven Campus Kortrijk, Belgium, [2]KaHo Sint-Lieven, Belgium.
10. **Harvesting of Micro-algae for Low Value Applications: the Possibilities of Flocculation.** D. Vandamme, I. Foubert*, and K. Muylaert, K.U. Leuven Campus Kortrijk, Belgium.
11. **Bleaching Properties of Brazilian Natural Clays.** R.S.P. Oliveira[1], V. Mariotto[2], J.M. Block[3], and D. Barrera-Arellano[1], [1]University of Campinas - UNICAMP, Brazil, [2]TECNARGILAS, Brazil, [3]University of Santa Catarina - UFSC, Brazil.
12. **Quantification of Free Sterols and Steryl Glucosides in Soybean Oils from Different Stages of Seed Preparation.** M.V. Ruiz-Méndez and M.R. Aguirre-Gonzalez, Instituto de la Grasa, CSIC, Spain.
13. **Dehulling of Lesquerella Seeds for the Production of Gums and Oil.** R. Evangelista and R.H. O'kuru, USDA, ARS, NCAUR, USA.
14. **Optimization of Oil Recovery from Viscera of Indian Mackerel (*Rastrelliger kanagurta*) Using Supercritical Fluid Extraction Techniques.** F. Sahena, I.S.M. Zaidul, S. Jinap, M.R. Karim, and M.J.H. Akanda, University Putra Malaysia, Malaysia.
15. **Optimization of Camelina Sativa Oil Deodorization.** R. Hrastar[1], L.Z. Cheong[2], X. Xu[2], and I.J. Kosir[1], [1]Slovenian Institute of Hop Research and Brewing, Slovenia, [2]University of Aarhus, Dept. of Molecular Biology, Denmark.
16. **Aqueous Enzyme-assisted Oil and Protein Extraction from Jatropha Curcas Kernels.** S. Latif, H.P.S. Makkar, and K. Becker, Institute for Animal Production in the Tropics and Subtropics, Dept. of Aquaculture Systems and Animal Nutrition, University of Hohenheim, Germany.

PCP-P: Protein and Co-Products Posters

Chairs: P. Qi, USDA, ARS, ERRC, USA; and N. Deak, Solae Co., USA

Expo Hall

1. **Functional Properties of Soy Protein Produced by Enzyme-assisted Aqueous Extraction of Soybeans.** N.M. de Almeida[1], J.M. Leite Nobrega de Moura*[2], and L.A. Johnson[2], [1]Universidade Federal da Paraiba, Brazil, [2]Iowa State University, Center for Crops Utilization Research, Food Science Department, USA.
2. **Human Breast Cancer Cell Growth Inhibiting Peptides Derived from High Oleic Acid Soy Bean Lines.** S. Rayaprolu, N. Hettiarachchy*, A. Kannan, and P. Chen, University of Arkansas, USA.
3. **Probiotic-derived Bioactive Peptides from Distiller's Dried Grains and Solubles (DDGS) with Colon Anticancer Properties.** A. Kannan[1], N. Hettiarachchy[1], R. Horax[2], R. Liyanage[1], J. Lay[1], C. Coon[1], and C. Rosenkrans[1], [1]University of Arkansas, USA, [2]Politeknik Kesehatan Depkes RI, Indonesia.
4. **Antioxidant and Renin Inhibitory Properties of Hempseed (*Cannabis sativa* L.) Protein Hydrolysate Fractions Evaluated in vitro.** A.T. Girgih[1] and R.E. Aluko[1,2], [1]Human Nutritional Sciences, University of Manitoba, Canada, [2]The Richardson Centre for Functional Foods and Nutraceuticals, University of Manitoba, Canada.
5. **Impact of Processing Conditions on the Color and Flavor of Canola Protein Extracts.** A. Fadi, L. Bennamoun, F. Siemeni, S. Azarnia, and J. Boye*, Agriculture & Agri-Food Canada, Canada.
6. **Physicochemical and Functional Properties of Defatted Canola Meal Residue and its Potential Use as a Source of Dietary Fibre.** L. Bennamoun and J. Boye*, Agriculture & Agri-Food Canada, Canada.
7. **Purification and Characterization of Angiotensin Converting Enzyme (ACE) Inhibitory Peptides Derived from Egg White Protein Ovotransferrin.** K. Majumder and J. Wu, University of Alberta, Dept. of Agricultural Food and Nutritional Science, Edmonton, Alberta, Canada.
8. **Purification and Characterization of Gli-B1: A Major Allergen of Wheat-dependent Exercise-induced Anaphylaxis.** Y. Nakayama[1], M. Tanaka[1], T. Nezu[1], Y. Kato[1], T. Ikeda[2], and T. Nagano[1], [1]Kawasaki University of Medical Welfare, Japan, [2]Agricultural Research Center for Western Region, Japan.
9. **Monoglycerides and Diglycerides Preparation Using Glycerin, Co-products of Biodiesel Industry.** R. Aparecida Ferrari, M.B. Casarini, and A.M.R.O. Miguel*, Food Technology Institute, Brazil.
10. **Rapeseed Protein Applications: Aqua Feeds.** H. Adem[1], F. Pudel*[2], R.-P. Tressel[2], H. Slawski[1], and C. Schulz[1], [1]Gesellschaft für Marine Aquakultur GmbH, Germany, [2]Pilot Pflanzenöltechnologie Magdeburg, Germany.
11. **Rapeseed Protein Applications: Agricultural Plastic Foils.** U. Georgius[1], F. Pudel*[2], R.-P. Tressel[2], and Z. Saleem[2], [1]Biofol GmbH, Germany, [2]Pilot Pflanzenöltechnologie Magdeburg e.V., Germany.
12. **Enzymatic Saccharification of Soybean Fiber.** D. Maurer, B. Karki, and S. Jung*, Iowa State University, USA.
13. **Influence of Time, Temperature, and Intensity of High Intensity Ultrasound on the Turbidity of Whey Proteins.** S. Martini, R. Potter, and M. Walsh, Utah State University, USA.
14. **Effect of Gli-B1 on Wheat-dependent Exercise-induced Anaphylaxis in Mice.** M. Tanaka[1], Y. Nakayama[1], T. Nezu[1], H. Yano[1], Y. Kato[1], T. Matsuda[2], T. Ikeda[3], K. Haruma[4], and T. Nagano[1], [1]Kawasaki University of Medical Welfare, Japan, [2]Nagoya University, Japan, [3]Agricultural Research Center for Western Region, Japan, [4]Kawasaki Medical School, Japan.

S&D-P: Surfactants and Detergents Posters

Chair: M. Wint, Amway Corporation, USA

Expo Hall

1. **Surfactant Adsorption on Hydrophobic Surfaces in Relation to Wettability: Effect of Cationic Tail Length.** T. Sritapunya[1], J.F. Scamehorn[2], B.P. Grady[2], and S. Chavadej[1,3], [1]The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, [2]Institute for Applied Surfactant Research, University of Oklahoma, USA, [3]Center for Petroleum Petrochemicals and Advanced Materials, Chulalongkorn University, Thailand.
2. **Microemulsion Formation of Motor Oil with Alcohol Ethoxylates: Effects of Ethylene Oxide Group, Temperature and Alcohol Type.** C. Sittiarjharn[1], S. Chavadej[1,2], and B. Kitiyanan[1,2], [1]The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, [2]Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.
3. **Correlation of Adsorption of Alcohol Ethoxylates and Wettability on Hydrophobic Surfaces.** Y. Mahasittiwat[1] and S. Chavedej[1,2], [1]The Petroleum and Petrochemical College, Chulalongkorn University, Thailand, [2]The Center for Petroleum, Petrochemicals, and Advanced Materials, Chulalongkorn University, Thailand.
4. **Oily Soil Detergency under Microemulsion Condition Using Mixed Surfactants.** R. Kusuma Na Ayuthya[1], S. Chavadej[1], J.F. Scamehorn[2], and V. Tantayakom[3], [1]Chulalongkorn University, Thailand, [2]Oklahoma University, USA, [3]PTT Chemical Public Company Limited, Thailand.
5. **The Effect of Salts Addition on Separation Efficiency of Trace Cd^{2+} Using Continuous Multi-Stage Ion Foam Fractionation.** V. Rujirawanich[1], S. Chavadej[1,2], R. Rujiravanit[1], and J.H. O'Haver[3], [1]The Petroleum and Petrochemical College, Chulalongkorn University, Bangkok, Thailand, [2]The Center for Petroleum, Petrochemicals and Advanced Materials, Chulalongkorn University, Thailand, [3]Dept. of Chemical Engineering, The University of Mississippi, , USA.
6. **Phase Behavior of a Novel Glycolipid Biosurfactant, Mannosylerythritol Lipid-D (MEL-D).** T. Yanagihara[1], T. Fukuoka[2], S. Ito[1], T. Morita[2], T. Imura[2], H. Sakai[1], M. Abe[1], and D. Kitamoto[2], [1]Tokyo University of Science, Japan, [2]National Institute of Advanced Industrial Science and Technology (AIST), Japan.
7. **The Effects of Nonionic Surfactant with Herbicide on Growth of Wheat Seedlings.** G. Yilmaz and F. Dane*, Trakya University, Faculty of Science and Arts, Dept. of Biology, Turkey.
8. **The Aggregation Properties of Cationic Gemini Surfactants.** H. Akbas[1] and A. Elemenli[2], [1]Trakya University, Faculty of Science and Letters, Dept. of Chemistry, Edirne, Turkey, [2]Trakya University, Institute of Natural Science, Dept. of Chemistry, Turkey.
9. **The Effects of Nonionic Surfactant on Foliar Uptake of Herbicide on Wheat.** G. Yilmaz and F. Dane, Trakya University, Faculty of Science and Arts, Dept. of Biology, Turkey.
10. **Preparation and Surface Properties of Novel Gemini Surfactant via Michael Addition of 1-Nitro-1-alkene.** T. Oida, S. Ohara, Y. Konda, and T. Kawase, Kyoto Institute of Technology, Japan.
11. **Study on Detergent Pollution in River Chambal along the City Kota of Rajasthan, India.** N. Gupta and K. Sharma, Government College Kota, India.
12. **Novel Water- and Dirt-repellent Silicone Formulations as an Alternative to Fluorocarbon Resins in Household Products.** J. Richards, Wacker Chemical Corporation, USA.
13. **Technical Challenges in Developing a 3-in-1 Laundry Sheet.** K. Yu and C. Bessler, Henkel, USA.
14. **Using a Static Screw Elevator as a Heat Exchanger for Surfactants—A Case Study.** R.S. McIntosh[1], D. O'Herron[1], W. Skelley[1], and S. Groh[2], [1]Olds Elevator LLC, USA, [2]Pilot Chemical Co., USA.
15. **New Oil Gelling Polymer for Home Care and Industrial Applications.** A. Kaziska, D. Kelly, P. Stuut, and P. Tollington, Croda Inc., USA.

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Expo Guide

Sunday, May 16

10:00 am–7:30 pm . . . .AOCS Pavilion
5:30–7:30 pm. . . . . .Exhibition Open
5:30–7:30 pm. . . . . .Poster Viewing

5:30–7:30 pm. . . . . .The CAML, ***Presented by:***

5:30–7:00 pm. . . . . .Opening Mixer, ***Co-sponsored by:***

Monday, May 17

7:00 am–6:00 pm . . . . .AOCS Pavilion
7:00 am–6:00 pm . . . . .Poster Viewing
11:30 am–6:00 pm . . . .Exhibition Open

11:30 am–6:00 pm . . . .The CAML, ***Presented by:***

4:00–6:00 pm. . . . . .Dedicated Poster Viewing and Reception
Sponsored by:

Tuesday, May 18

7:00 am–6:00 pm . . . . .AOCS Pavilion
7:00 am–6:00 pm . . . . .Poster Viewing
11:30 am–6:00 pm . . . .Exhibition Open

11:30 am–6:00 pm . . . .The CAML, ***Presented by:***

12:00–2:00 pm . . . . . .Qualisoy Expo Networking Lunch

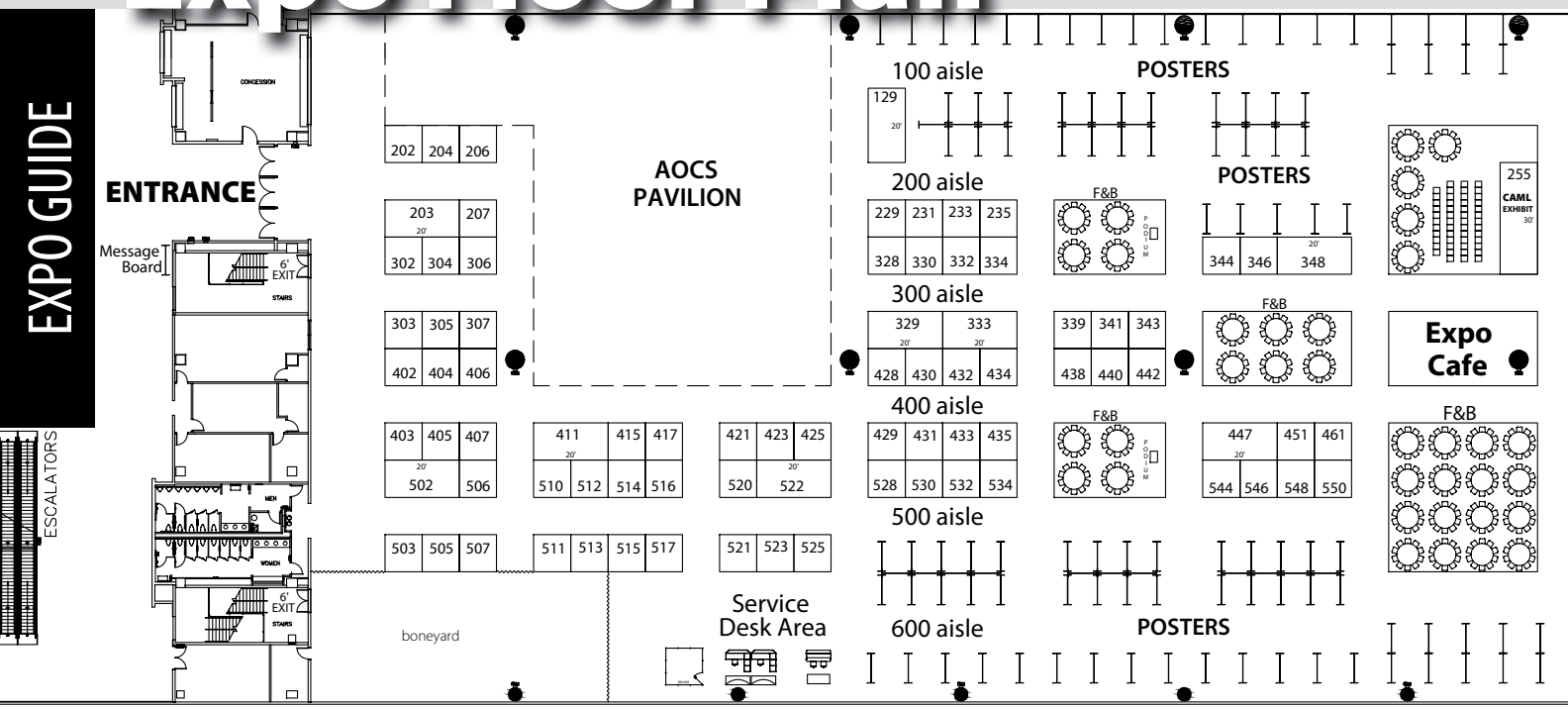
5:00–6:00 pm. . . . . .Expo 2010 Reception

Wednesday, May 19

7:30 am–5:00 pm . . . . .AOCS Pavilion
7:30 am–5:00 pm . . . . .Poster Viewing

8:00 am–2:00 pm . . . . .The CAML, ***Presented by:***

Expo Floor Plan



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American Emu Association	435	80
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Anderson International Corp.	502/504	80
ANKOM Technology	305	82
Artisan Industries Inc.	306	82
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I		
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InCon Processing, LLC	403	86
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Leem Filtration Products	442	86
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Metrohm	407	88
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Myers Vacuum Distillation Division	202	88
N		
Nealanders International Inc.	534	88
Novozymes	329/331	88
O		
Oil-Dri Corporation of America	404	90
optek-Danulat, Inc.	438	90
Oxford Instruments America	431	90
P		
Pattyn Packing Lines nv	432	90
Perten Instruments	520	90
POS Pilot Plant Corp.	334	90
Purac America, Inc.	330	90
Q		
QTA–Cognis Corporation	235	90
R		
RJ Blaze, Inc.	405	91
Rudolph Research Analytical	303	91
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Sharplex Filters (India) Pvt. Ltd.	207	91
Solex Thermal Science Inc.	429	91
Springer	521	91
Supercritical Fluid Technologies, Inc.	516	91
Surface Chemists of Florida, Inc.	229	91
T		
The Tintometer Ltd.	544	91
Thermo Scientific	348/350	91
thermPhos	515	92
TMC Industries, Inc.	328	92
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329/331	Novozymes	88
330	Purac America, Inc.	90

*Exhibitors as of March 8, 2010

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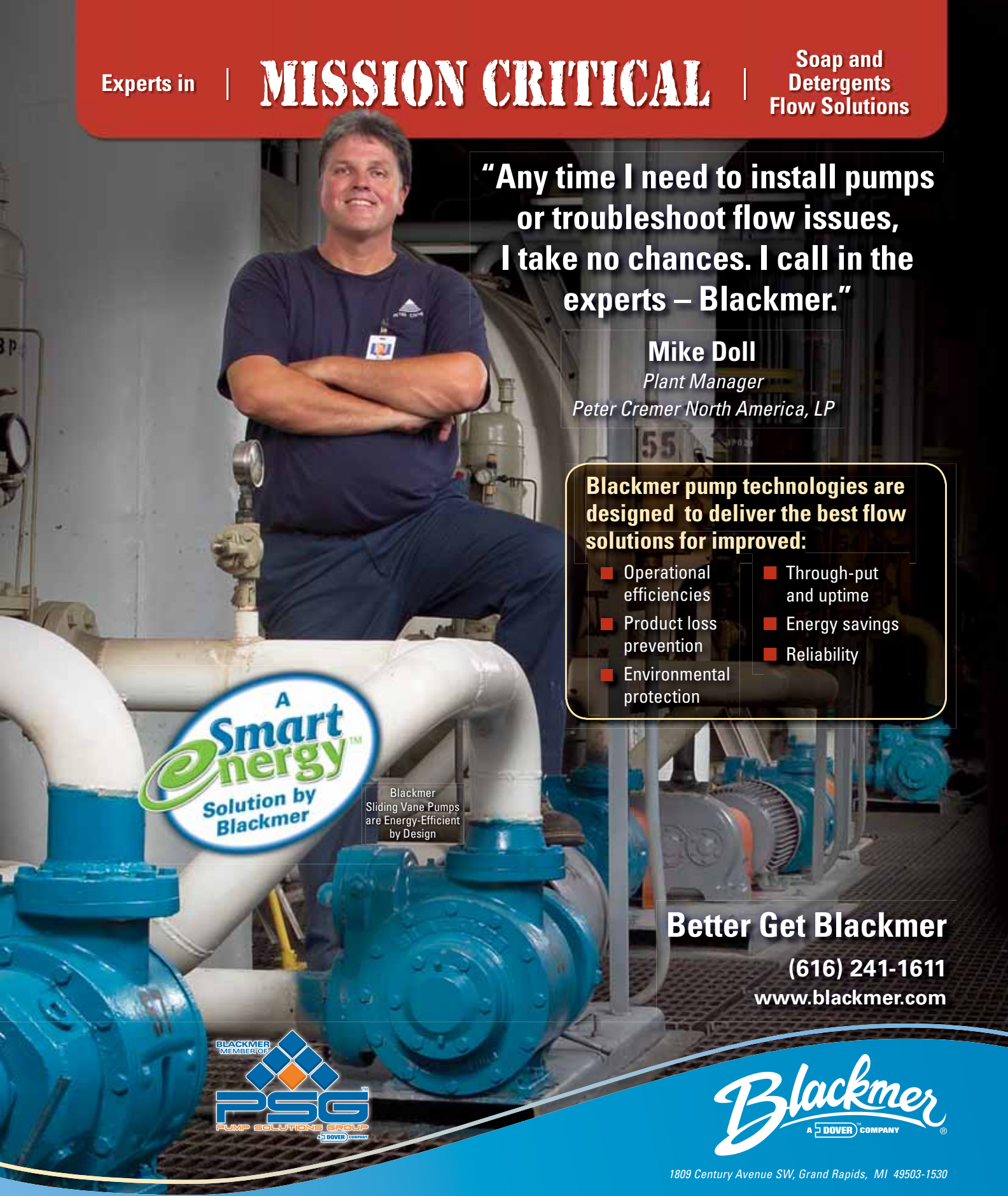

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optek-Danulat, Inc.	438	90
Oxford Instruments America	431	90
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Leem Filtration Products	442	86
MAHLE Industrial Filtration USA, Inc.	344	88
Metrohm	407	88
Myers Vacuum Distillation Division	202	88
Oil-Dri Corporation of America	404	90
Pattyn Packing Lines nv	432	90
Perten Instruments	520	90
POS Pilot Plant Corp.	334	90
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Exhibitor Descriptions

ABB Analytical

Booth(s): 307
Product/Service Category: Instrumentation and Analytical Technology
585 Boulevard Charest E, Suite 300
Quebec QC G1K 9H4, Canada
www.abb.com/analytical

Founded in 1973, ABB Analytical designs, manufactures, and markets high-performance, affordable FT-IR/FT-NIR spectrometers as well as turnkey analytical solutions for petroleum, chemical, pharmaceutical, semiconductor, academic, metallurgy, OEM industries and spectroradiometers for the remote sensing/ aerospace market. ABB capabilities encompass one of the largest portfolios in the world for laboratory, at-line, and process FT-IR/FT-NIR analyzers. They perform real-time analysis of the chemical composition and/or physical properties of a process sample stream.

Agmet LLC

Booth(s): 417
Product/Service Category: Processing/ Manufacturing: Equipment Supplies and Services
7800 Medusa Street
Oakwood Village, OH 44146, USA
www.agmet1.com

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

Alfa Laval

Booth(s): 513
Product/Service Category: Processing/ Manufacturing: Equipment Supplies and Services
2015 Spring Road, Suite 250
Oak Brook, IL 60523, USA
www.alfalaval.com

Alfa Laval is a global solution provider to the fats and oils industry. Our scope of supplies includes engineering services and equipment for complete processing lines such as degumming, neutralization, bleaching, deodorization, interesterification, fractionation, hydrogenation, and biofuels production. Our components include the standard-setting PX range of disk stack centrifuges, decanters, the market-leading range of heat exchange products including condensers and evaporators, the ground-breaking SoftColumn continuous deodorizer, and the new SoftFlex semi-continuous deodorizer.

AkzoNobel Corporation

Booth(s): 522/524
Product/Service Category:
Non-Edible Products' Supplies and Services
525 West Van Buren Street
Chicago, IL 60607-3845, USA
www.akzonobel.com

Three cooperating parts of AkzoNobel are represented at the AOCS Annual Meeting & Expo: surface chemistry, EKA, and functional chemicals. Together these organizations are helping to develop and market surfactants, polymers, chelates, modified nanoparticles and high-performance oxidant technologies: all to the global HI&I marketplace.

AMEROL Corp./Dulcette Technologies

Booth(s): 206
Product/Service Category: Food Technology and Ingredients
2 Hicks St.
Lindenhurst, NY 11757, USA
www.dulcettetech.com

As the US affiliate of India world largest producer of antioxidants, AMEROL Corp., a Division of Dulcette Technologies, offers FCC grade BHA,TBHQ, Ascorbyl Palmitate and its formulations for use to preserve food, odor, color, and flavor in oils, butter, fats, meats, cereals and other food products. All Dulcette Technologies products, including antioxidants, sweeteners and nutraceuticals, are manufactured in its ISO certified facility guarantying the best purity on the market. Implementation of a HACCP program during production ensures food safety, hygiene and consistent quality.

American Emu Association

Booth(s): 435
Product/Service Category:
Non-Edible Products' Supplies and Services; Scientific or Trade Association
P.O. Box 2502
San Angelo, TX 76902, USA
www.aea-emu.org

The American Emu Association is a national livestock trade association. Emu products include the fat, meat, feathers, and hide. The fat is refined into oil, which animal research has shown to have transdermal, anti-inflammatory, and cholesterol-lowering capabilities. The AEA is seeking partners for human trials. The meat is a lean red meat low in cholesterol and fat, while high in vitamins and minerals. The feathers and hide are used in the apparel industry. AEA Emu Oil Trade Rules recognize three grades of emu oil: Grade C, crude (used in hot process soaps and animal feed products), Grade B (used for industrial applications), and Grade A, fully refined (used for pharmaceutical, cosmetic, and dietary supplement purposes).

Anderson International Corp.

Booth(s): 502/504
Product/Service Category: Processing/ Manufacturing: Equipment Supplies and Services
6200 Harvard Avenue
Cleveland, OH 44105, USA
www.andersonintl.com

Anderson's line of Expeller® presses can be found in practically every country of the world, processing 60 different varieties of oil- and fat-bearing materials. With 17 different models to choose, from pilot plant capacities to prepress operations, flexibility is assured. Anderson's line of oilseed expanders is at the forefront of providing operational efficiencies that increase capacities in most operations by 40%,

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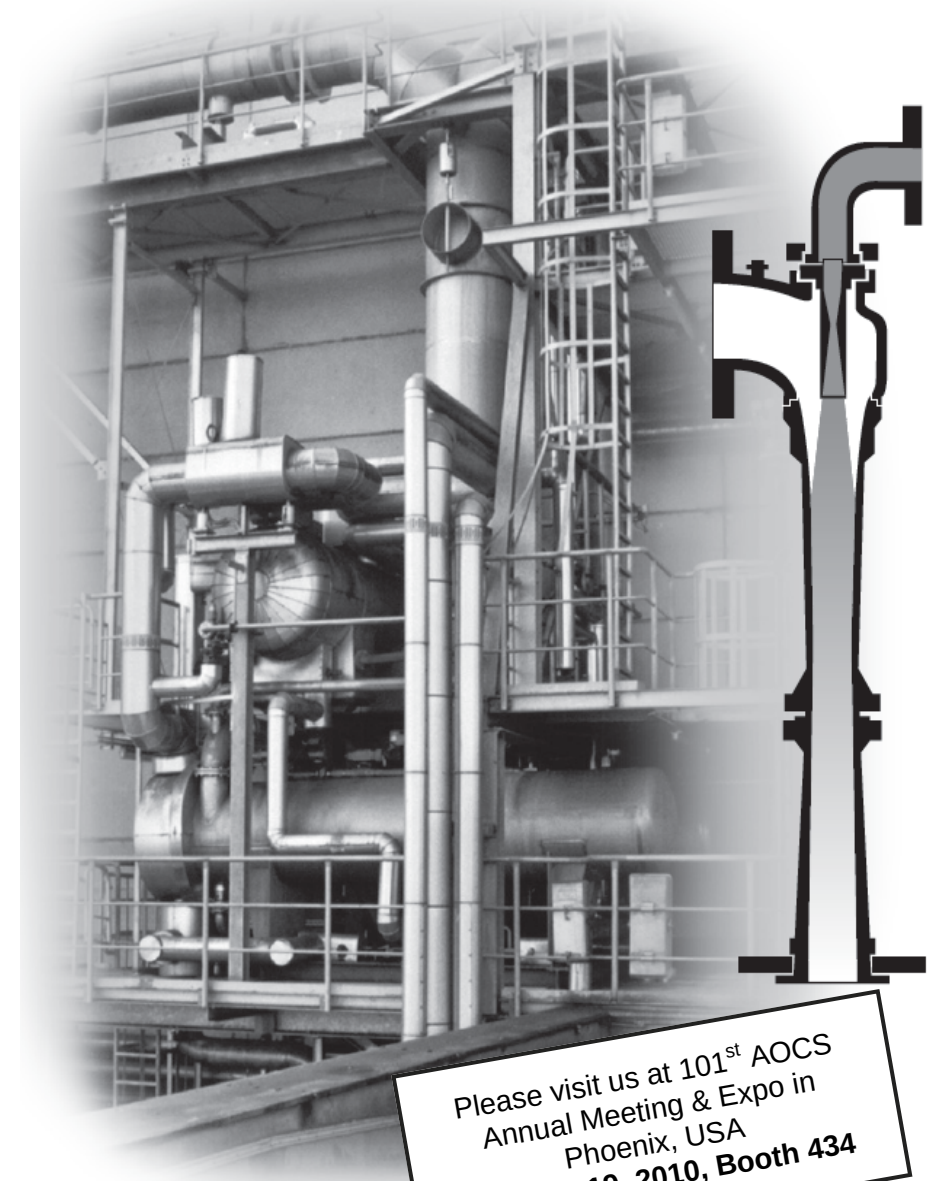

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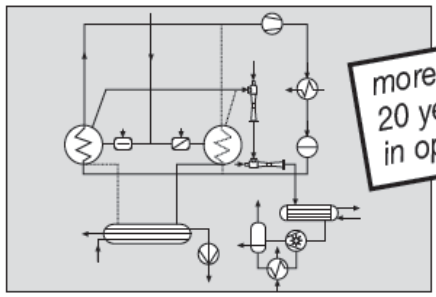

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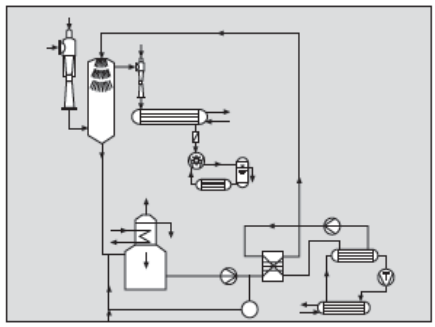
in operation

ACL (cold)

Alkaline condensate loop with
refrigeration system –
with low energy consumption
and low amount of waste water.



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May 16 - 19, 2010, Booth 434

ACL (warm)

Alkaline condensate loop operating
at normal cooling water temperature –
low cost system with clean cooling water;
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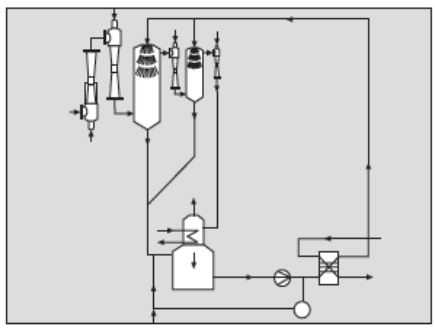

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ANKOM Technology

Booth(s): 305
Product/Service Category: Instrumentation and Analytical Technology
2052 O'Neil Road
Macedon, NY 14502, USA
www.ankom.com

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Artisan Industries Inc.

Booth(s): 306
Product/Service Category: Food Technology and Ingredients; Processing/Manufacturing: Equipment Supplies and Services
73 Pond Street
Waltham, MA 02451-4594, USA
www.artisanind.com

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

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BASF Catalysts LLC

Booth(s): 203/205
Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services
25 Middlesex-Essex Turnpike
Iselin, NJ 08830, USA
www.catalysts.basf.com

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

Booth(s): 514
Product/Service Category: Food Technology and Ingredients; Processing/Manufacturing: Equipment Supplies and Services; Publishers; Consultants and Other Services
309-C Manuel Drive
College Station, TX 77840, USA
www.bioactivesworld.com

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

Blackmer

Booth(s): 525
Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services
1809 Century Avenue, SW
Grand Rapids, MI 49503, USA
www.blackmer.com

Blackmer is a leading global provider of innovative and high-quality rotary vane pump, centrifugal pump, and reciprocating compressor technologies for the transfer of liquids and gasses. For more than a century, the Blackmer name has stood for unparalleled product performance, superior service and support, well-timed innovation, and a commitment to total customer satisfaction. Blackmer pumps and compressors are used in a multitude of applications in the process, energy, transport, and military-marine markets.

Bruker

Booth(s): 406
Product/Service Category: Instrumentation and Analytical Technology
19 Fortune Drive
Billerica, MA 01821, USA
www.bruker.com

Bruker offers dedicated FTIR, NIR, and bench-top NMR analyzers for trait quality, edible oil analysis, and biodiesel process control applications recommended by the AOCS standards.

Buhler Inc.

Booth(s): 204
Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services
P.O. Box 9497
Minneapolis, MN 55440-9497, USA
www.buhlergroup.com

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

Caravan Ingredients

Booth(s): 506
Product/Service Category: Food Technology and Ingredients
7905 Quivira Rd.
Lenexa, KS 66215, USA
www.caravaningredients.com

Caravan Ingredients is a leader in the finest bakery and food ingredients. For over 100 years, we have delivered innovative solutions, technical expertise, and endless customer service. With an extensive product portfolio including specialty ingredients, vitamin and mineral pre-mixers, grain processing, polymer additives, baking products and ingredients, and specialty blending equipment, Caravan Ingredients serves a wide range of customer channels.

Cedar Concepts

Booth(s): 505
Product/Service Category: Non-Edible Products' Supplies and Services
4342 S. Wolcott Ave.
Chicago, IL 60609, USA
www.cedarconcepts.net

Cedar Concepts Corporation is a contract chemical manufacturer located in Chicago, Illinois. The company manufactures and distributes surfactants, lubricants, and chemical intermediates per their customers' individual needs. The products are used in industries such as personal care, oil field, agricultural, petroleum, and airplane. Product line includes, but is not limited to: alkanolamides, betaines, fatty acid esters, fatty alcohol emulsifying blends, custom blends, amine oxide, and methyl esters. Cedar Concepts also houses three flakers/pastillators.

The Chemithon Corporation

Booth(s): 510
Product/Service Category: Non-Edible Products' Supplies and Services
5430 West Marginal Way SW
Seattle, WA 98106-1598, USA
www.chemithon.com

Established in 1954, Chemithon is an oleo-chemical and surfactant technology and manufacturing company that supplies chemical process equipment and services to the detergent, specialty chemical, EOR, and power industries. The company offers sulfonation, powder production, liquid blending, offsites, fractionation, hydrogenation, ethoxylation, and technical services. Chemithon developed the first continuous sulfonation process. Partners include Chemithon International Pte. Ltd., Singapore; Chemithon Engineers Pvt. Ltd., Mumbai; IIT S.r.l., Italy; Binacchi & Co., Italy; MITSUI Plant Systems, Tokyo.

Cincinnati USA Convention & Visitors Bureau

Booth(s): 428
Product/Service Category: Consultants and Other Services
525 Vine Street, Suite 1500
Cincinnati, OH 45202, USA
www.cincyusa.com

Learn more about Cincinnati, the host city for the 102nd AOCS Annual Meeting & Expo in 2011.

C.M. Bernardini S.r.l.

Booth(s): 433
Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services; Non-Edible Products' Supplies and Services
Via Appia Km. 55, 900
04012 Cisterna di Latina (LT), Italy
www.cmbernardini.it

C.M. Bernardini S.r.l. operates in the area of design and supply of equipment and plants for the oils and fats industries. The company features a complex in an area of 30,000 square meters, and a full-fledged technology office for the process, fabrication, design, and execution of projects. The critical components of all types of plants are manufactured in a modern workshop which has a certification of ISO 9001 Vision 2000. More than 1,500 units have been supplied in 70 countries. Over 130 personnel are involved in process design, fabrication, and technical assistance for supplying plants based on the technology of C.M. BERNARDINI. The company has in-house technology for process and design of equipment for: seed extraction, oils and fats refining, fats modification, oleochemicals and glycerine, and biodiesel.

Croll Reynolds

Booth(s): 507
Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services
Six Campus Dr.
Parsippany, NJ 07054, USA
www.croll.com

Crown Iron Works Company

Booth(s): 411/413
Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services; Non-Edible Products' Supplies and Services
PO Box 1364
Minneapolis, MN 55440, USA
www.crowniron.com

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

Danisco USA Inc.

Booth(s): 339
Product/Service Category: Food Technology and Ingredients
Four New Century Parkway
New Century, KS 66031, USA
www.danisco.com/ingredients

Danisco will highlight *trans*-free technology, emulsifiers, and antioxidant products at the 101st AOCS Annual Meeting and Expo. Danisco also offers an extensive range of lipid-"soluble" or water-dispersible antioxidant blends. Newer technologies, such as *trans*-free quality solutions utilizing emulsifier technology, are available. Danisco is one of the largest food ingredient companies offering a broad portfolio of ingredients, including emulsifiers, antioxidants, specialty fats, hydrocolloids, enzymes, antimicrobials, and sweeteners.

Desmet Ballestra North America

Booth(s): 129/228
Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services
450 Franklin Road, Suite 170
Marietta, GA 30067, USA
www.desmetballestra.com

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

Dionex Corporation

Booth(s): 528
Product/Service Category: Instrumentation and Analytical Technology
1228 Titan Way
Sunnyvale, CA 94088-3603, USA
www.dionex.com

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French Oil Mill Machinery Company

Booth(s): 402
Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services
1035 W. Greene Street, PO Box 920
Piqua, OH 45356, USA
www.frenchoil.com

The French Oil Mill Machinery Company manufactures industrial process machinery, including equipment for the extraction of vegetable oil from oil-bearing seeds and nuts, in either prepress or full-press applications. The major equipment manufactured by French includes cracking mills, flaking mills, conditioners, screw presses, and oil-settling tanks. Prepress and full-press systems can also be supplied: they include purchased auxiliary equipment such as magnets, cleaners, cake coolers and grinders; and oil filtration equipment, tanks, pumps, instrumentation, conveyors, and control systems.

GEA Process Engineering

Booth(s): 333
Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services
9165 Rumsey Road
Columbia, MD 21045, USA
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Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services
100 Fairway Court
Northvale, NJ 07647, USA
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AOCS CORPORATE MEMBER 2010

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Processing/Manufacturing: Equipment Supplies and Services
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Waukesha, WI 53186, USA
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Graham Corporation

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Product/Service Category: Processing/ Manufacturing: Equipment, Supplies, and Services
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www.grainnservice.com.br

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Harburg-Freudenberger Maschinenbau GmbH

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www.h-fgroup.com

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Booth(s): 403
Product/Service Category: Processing/ Manufacturing: Equipment Supplies and Services
970 Douglas Road
Batavia, IL 60510, USA
www.incontech.com

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Product/Service Category: Instrumentation and Analytical Technology
Werther Str. 6A
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www.innolabtec.de

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Leem Filtration Products

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Product/Service Category: Processing/Manufacturing: Equipment Supplies and Services
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Malaysian Palm Oil Board

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Product/Service Category: Consultants and Other Services; Scientific or Trade Association
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The Technical Advisory Services office of the Malaysian Palm Oil Board in Washington DC offers customer support and technical advisory services to users and potential users of Malaysian palm and palm kernel oil products in the United States, 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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The ML Oxipres and Oxigraph compare the resistance to auto-oxidation for oil, fat, food, and flavor. The new Version 3 of the Paralog software for collecting and handling data will also be introduced and updates will be given at the booth.

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The Tintometer Ltd.

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Product/Service Category:
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THANK YOU FOR ANOTHER SUCCESSFUL YEAR.

The following group of elite professionals ultimately support the future of AOCS by growing its membership. The President's Club embraces AOCS members who lead the Society in their membership recruitment efforts. Since 1973, AOCS has annually recognized the outstanding recruitment abilities of its members.

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Jinwei Zhang
Luis Angel Medina Juarez
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Fabio Favati
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Karl E. Weingartner
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Recruited members from January 1, 2009 through April 7, 2010

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Foglia, T.A.	BIO 1.2/PCP 1, IOP 2
Fok, A.	FS&FF 3
Foltz, M.	FS&FF 1
Forgiarini, A.	S&D 1
Foubert, I.	PRO-P, ANA 4, ANA-P, FS&FF-P, PRO-P
Franke, K.	ANA-P, LOQ 4
Fredrick, E.	FS&FF 2
Freeman, R.R.	ANA-P
French, W.T.	BIO 5, IOP 3, IOP 5, IOP-P, PRO-P
Freudenstein, A.	PRO 1
Friis-Jensen, S.	S&D 3
Frøkiær, H.	PHO 1
Frost, G.	FS&FF 1
Fu, S.	IOP-P
Fujimoto, K.	H&N 5
Fukuoka, T.	IOP 3, S&D 2, S&D-P
Fukushige, H.	BIO 3
Fulgoni, V.	H&N 2
Furquin, C.F.	LOQ-P

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Furuta, H.	H&N-P
Gómez Coca, R.	LOQ-P
Güzel, G.	BIO 2.1/PRO 2.1
Gadang, V.	H&N 1
Galberd, L.	BIO 5
Gámez-Meza, N.	ANA 1, LOQ-P, PRO-P
Ganapathy, K.	BIO-P
Ganatra, K.S.	BIO-P
Gao, F.	H&N 4
Garcia, D.	IOP-P
Garcia, J.	IOP-P
Garcia, M.E.D.	IOP 1
Garcia, R.	BIO 1.2/PCP 1
Garti, N.	PHO 3.1
Gaud, M.	PRO-P
Ge, H.	LOQ 5
Gebhardt, S.E.	ANA 3
Gellynck, X.	FS&FF 3
Geloën, A.	H&N 1
Georgius, U.	PCP-P
Gerde, J.A.	LOQ 4
Germán-Jauregui, J.C.	LOQ-P
Ghorbanian, S.	IOP-P
Ghosh, S.	ANA 2, FS&FF 3
Giacinti, G.	IOP-P
Gibreel, A.	BIO 1.2/PCP 1
Gibson, M.	IOP 3
Gidda, S.K.	BIO 3
Gilbert, W.	H&N 1
Gil-Montaño, E.	PRO-P
Giorno, L.	BIO-P
Girgih, A.T.	PCP-P
Glatz, C.E.	PRO 5
Goñi, M.L.	PHO-P
Goad, C.	PRO-P
Goemaere, O.	FS&FF-P
Goiris, K.	PRO-P
Gok, F.H.Y.	IOP-P
Goldfeld, M.	BIO 4/S&D 4.1
Goldstein, D.	H&N 5
Golembieksi, M.	EAT 5
Gollahalli, S.R.	S&D 3.1
Golyavin, A.A.	LOQ 1
Gomez del Rio, J.A.	S&D 2
Goni, M.L.	PHO-P
Gonzalez, R.	IOP 3
Gonzalez de Mejia, E.	PCP 3
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Gorden, A.E.V.	BIO 2
Grady, B.P.	S&D 1.1, S&D-P
Graichen, F.H.M.	IOP 4, IOP-P
Graiver, D.	IOP 5
Granato, D.	H&N-P
Grebenok, R.	BIO 2
Green, B.	PCP 4
Green, D.M.	AM 1
Greer, M.K.	IOP-P
Grewell, D.	IOP 5, PRO 1
Griffon, H.	ANA-P
Groh, S.	S&D-P
Grompone, M.A.	EAT 4
Gross, S.	S&D 4
Gruczynska, E.	EAT 5
Gui, B.	H&N-P
Guillermo, G.	ANA 1
Gul, O.F.	IOP-P
Gunawardena, P.	H&N-P
Guo, Z.	BIO-P
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Gupta, R.	FS&FF 2
Guschina, I.	BIO 3
Gustafson, K.	H&N 3
Guy, D.	ANA 5
Gylling, H.	BIO 1
Haas, M.J.	BIO 1.2/PCP 1, IOP 1, IOP 2
Habe, H.	IOP 3
Habi Mat Dian, N.L.	EAT-P
Haghbin, S.	ANA 5, LOQ 4
Haider, G.	PCP 2
Haines, T.	ANA 4
Hajir, H.	FS&FF 3
Hakimi, I.N.M.	PRO-P
Hall, J.I.	IOP-P
Hall, K.	H&N 4
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Haller, K.J.	S&D 1.1
Hallikainen, M.	BIO 1
Hamedi, M.	ANA 5, LOQ 4
Hammes, D.J.	BIO 1.2/PCP 1
Hammond, C.	S&D 1
Hammond, E.G.	LOQ 4
Han, I.	LOQ-P
Hannoufa, A.	BIO 3
Hansen, S.	ANA 4
Hardin, K.	H&N 1
Harkal, U.	IOP-P
Harnly, J.M.	ANA 3
Harris, W.	H&N 5
Harris, W.S.	H&N 3
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Hart, V.	FS&FF-P
Hartel, R.W.	EAT 1, EAT 3
Haruma, K.	PCP 3, PCP-P
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Harvey, K.	H&N-P
Harwood, J.L.	BIO 3, H&N 4
Hassanien, M.F.R.	EAT 3.1/LOQ 3.1, PHO 2/EAT 2.1
Hatta, H.	PCP 3
Hayes, D.G.	BIO 4/S&D 4.1, S&D 2
Hayyan, A.	ANA-P, PRO-P
Hayyan, M.	ANA-P
He, B.	IOP 1
Hebard, A.	H&N-P
Heiden, R.W.	IOP 1
Heil, C.	EXH 1
Helgason, T.	FS&FF-P
Hellgren, L.I.	PHO 1
Henbest, B.	PRO-P
Henneberg, M.	PRO 5
Herman, E.	BIO 4.1
Hernandez, R.	BIO 5, IOP 3, IOP 5, IOP-P, PRO-P
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Hersant, G.	IOP-P
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Hettiarachchy, N.	PCP-P
Hibbeln, J.R.	H&N 3
Hibi, M.	BIO 1.1
Hicks, G.E.	IOP-P
Hicks, K.B.	BIO 1.2/PCP 1
Hildebrand, D.	BIO 3
Hill, D.	AM 1
Hintze, K.	PHO 1
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Hiwatashi, Y.	FS&FF-P
Hodge, S.	EAT 4
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Holden, J.M.	ANA 3
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Holm, H.C.	BIO 2.1/PRO 2.1, PRO 5
Holmes, B.	BIO 5
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Hone, R.	EAT 4
Hong, D.-P.	IOP 4, IOP-P
Hong, R.	BIO 5
Hong, S.I.	BIO-P, LOQ-P
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Horn, A.F.	LOQ 1
Hosokawa, M.	LOQ 2, BIO 3.1, H&N 4, PHO 1, H&N-P
Hossain, Z.	PCP 5
Hou, C.T.	BIO 1.1
Howard, A.	BIO-P
Hrastar, R.	PRO-P
Hrncirik, K.	LOQ 4
Hruby, M.	BIO 1.2/PCP 1
Hryniuk, R.	BIO-P
Huang, L.	FS&FF 1
Huang, V.	BIO 4/S&D 4.1
Huang, W.	PCP 5
Hughes, C.	H&N 4
Huh, J.	S&D 4
Hurburgh, C.	ANA 4
Hurum, D.C.	EXH 1, ANA 4
Huschka, B.	EAT 5
Hussein, I.H.	ANA 1
Huth, P.J.	H&N 2
Huynh, C.N.	S&D 1.1
Huynh, L.-H.	IOP 5
Huzhalska, V.	PHO 3.1
Hyodo, R.	S&D 3.1
Ibiyemi, S.	IOP-P

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Igarashi, M.	H&N 4
Igathinathane, C.	AM 1
Igne, B.	ANA 4
Ihizane, R.	IOP 4, S&D 2.1
Ikeda, T.	PCP 3, PCP-P
Ikegame, K.	BIO 3.1
Ilham, Z.	IOP-P
Impens, S.	FS&FF-P
Impey, G.	ANA 3
Imura, T.	S&D 2, S&D-P
Indrasena, W.M.	LOQ-P
Inoue, N.	H&N-P
Ionescu, M.	IOP-P
Iretski, A.	IOP-P
Ishigaki, Y.	BIO 1.1
Islamoglu Kadioglu, S.	S&D 1
Isler, A.	IOP-P
Isogai, T.	EAT-P
Ito, S.	S&D-P
Iwasa, Y.	S&D 4
Iwasaki, S.	LOQ 2
Iwasawa, A	EAT-P
Ixtaina, V.Y.	LOQ 5
Izadi, H.	H&N 4
Jachmanian, I.	EAT 4
Jacinto, M.J.	IOP-P
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Jacobsen, C.	LOQ-P, LOQ 1, LOQ 5
Jadhav, P.D.	H&N-P
Jagerstad, M.	EAT 3.1/LOQ 3.1
Jain, V.	ANA 2, H&N 1
Jakob, B.	IOP 4, S&D 2.1
James, K.	EAT-P
Jandacek, R.J.	H&N 2
Januszewska, R.	FS&FF 3
Javni, I.	IOP 4, IOP-P,
Jean-Francois, V.	S&D 3
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Jennings, B.H.	BIO 3.1
Jensen, S.C.	FS&FF-P
Jeradechachai, T	LOQ 3
Jermsuntiea, W.	BIO 1.1
Jia, Y.	PHO 4
Jin, H.	BIO 2
Jinap, S.	PRO-P
Joffre, F.	ANA-P
Johnson, A.	BIO 4.1
Johnson, B.	ANA 5, EAT 2
Johnson, L.A.	PRO 1, PCP 2, PCP 4, PCP-P
Johnston, D.B.	BIO 1.2/PCP 1, PCP 2
Jombai, T.	H&N 5
Jonas, R.	LOQ 5
Jones, P.J.	BIO 1, H&N 2
Jongjareonrak, A.	LOQ 5
Jovica, F.	EAT 2
Joyce, B.L.	IOP-P
Ju, L-K	BIO 5
Ju, Y-H	IOP 5
Jump, D.B.	H&N 1
Jung, S.	PCP-P, PRO 1
Jurado, L.	EAT 5
Kabbashi, N.A.	ANA 1, PRO-P
Kadamne, J.	ANA 2
Kageshima, H.	PCP 3
Kahveci, D.	BIO 3.1, BIO-P
Kaijalainen, S.	BIO-P
Kakihira, T.	BIO 3.1
Kakuda, Y.	PHO 2/EAT 2.1
Kallio, H.	ANA 3, ANA-P
Kanagasabai, R.	BIO-P
Kanda, S.	H&N-P
Kane, P.	H&N 4
Kaneko, Y.	S&D 3.1
Kannan, A.	PCP-P
Karami, F.	EAT 5
Karaosmanoglu, F.	IOP-P
Karim, M.R.	PRO-P
Karki, B.	PCP-P
Karki, N.	H&N 5
Kartasheva, Z.S.	LOQ 1
Kasaikina, O.T.	LOQ 1
Kasprzyk, S.	IOP 1
Kato, A.	PCP 3
Kato, Y.	PCP 3, PCP-P
Katsuragi, Y.	EAT-P
Katwa, L.	H&N 1
Kaul, S.	IOP 2, IOP-P
Kawada, K.	BIO 4/S&D 4.1
Kawamoto, S.	BIO 1.1
Kawarasaki, M.	PCP 3
Kawase, T.	S&D 1.1, S&D-P
Kaziska, A.	S&D-P
Kellens, M.	PRO 1
Kelly, D.	S&D-P
Kelly, P.	PHO 1
Kemper, T.	PRO 1, AM 2/PRO 2
Kenar, J.A.	ANA 1, IOP 4
Kenedy, M.	ANA 5
Kenji, F.	H&N-P
Kerr, P.	BIO 4.1
Khachatryan, L.	S&D 2.1
Khaodhiar, S.	S&D 1
Khattab, R.	EAT 3.1/LOQ 3.1
Kim, C.-T.	LOQ-P
Kim, C.-J.	LOQ-P
Kim, H.R.	BIO 1.1
Kim, I.-H.	BIO-P, LOQ-P
Kim, J.	FS&FF 3
Kim, J.-W.	BIO-P, LOQ-P
Kim, M.	IOP-P
Kim, M.-H.	IOP-P
Kim, S.	IOP-P
Kim, S.K.	BIO 3.1
Kim, S.-B.	IOP-P
Kim, T.H.	PRO 1
Kim, Y.-W.	IOP-P
King, J.W.	ANA 1, IOP-P
Kinney, A.	BIO 5
Kiran, S.K.	S&D 1, S&D 2, S&D 3.1
Kiritsakis, A.K.	EAT 3.1/LOQ 3.1
Kishimoto, N.	BIO 3.1
Kishino, S.	BIO 1.1
Kitamoto, D.	IOP 3, S&D 2, S&D-P
Kitiyanan, B.	IOP-P, S&D-P
Kleshchenko, Y.	BIO-P
Knothe, G.	IOP 1, IOP 5
Knowls, D.	ANA 1
Knowlton, S.	BIO 4.1, LOQ 4
Ko, S.-N.	LOQ-P
Koba, K.	PCP 3
Kobayashi, I.	PHO 2/EAT 2.1
Kobayashi, K.	BIO 1.1
Kodai, T.	ANA-P
Kodali, D.R.	IOP 2
Kodera, T.	BIO 1.1
Koehler, J.M.	S&D 3
Koganti, S.	BIO 5
Kohno, Y.	S&D 4
Koivu, K.	BIO-P
Kolpa, J.	BIO 4/S&D 4.1
Konda, Y.	S&D-P
Kondo, N.	ANA 5
Konno, M.	EAT-P
Kontominas, M.G.	EAT 3.1/LOQ 3.1
Kooiman, B.	PRO 4
Kook, A.	ANA 4
Kornsteiner-Krenn, M.	H&N 3
Kosir, I.J.	PRO-P
Krahl, J.	IOP 1
Kralovec, J.A.	IOP-P, LOQ-P
Krause, J.-P.	PRO 1
Kreuzer, D.	IOP 3
Kristbergsson, K.	FS&FF-P
Kristinová, V.	LOQ 1
Kruger Woods, K.	BIO 1.2/PCP 1
Krugovov, D.A.	LOQ 1
Krul, E.	H&N 5
Kubozono, T.	S&D 4
Kuchta, A.	PHO 1
Kudo, N.	ANA 5
Kudou, N.	EAT-P
Kuksis, A.	ANA 3
Kuo, T.-M.	BIO 5
Kurz, M.	IOP 1
Kurzer, M.	H&N 4
Kusuma Na Ayuthya, R.	S&D-P
Kuvshinov, V.	BIO-P
Kwon, K.-I.	BIO-P, LOQ-P
Kwon, M.H.	BIO 1.1
Kyi, S.	IOP 4, IOP-P
Labrecque, J.	ANA-P, IOP-P
Lacoste, F.	ANA-P
Lacroux, E.	IOP-P
Laguerre, M.	LOQ-P
Lai, O.M.	ANA 4, BIO 2.1/PRO 2.1, EAT 3
Lam, R	FS&FF 4, EAT 4

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Lamas, D.L.	PHO-P
Lambach, B.	FS&FF 4, LOQ 5
Lambert, J.E.	H&N 4
Lambert-Porcheron, S.	H&N 1
Lammi-Keefe, C.J.	H&N 4, H&N-P
Lampi, A.-M.	BIO 1, EAT 3.1/LOQ 3.1, LOQ-P
Lands, B.	H&N 3
Lange, K.	IOP 4, S&D 2.1
Langmaid, S.	EAT-P
Lansalot-Matras, C.	IOP 4
Laredo, T.	EAT 3
Larsen, D.	AM 1
Larsen, N.E.	PHO 4
Latif, S.	PRO-P
Laugerette, F.	H&N 1
Laun, N.P.	BIO 1.2/PCP 1
Laville, M.	H&N 1
Lay, J.	ANA 1, PCP-P
Leahy, J.	ANA 4
Lechter, A.	EAT 4
Lecomte, J.	LOQ-P
Lee, B.-M.	BIO-P
Lee, C.H.	S&D 3.1
Lee, E.J.	BIO-P, LOQ-P
Lee, S.	FS&FF 4, LOQ 5
Lee, T.	BIO 2
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Lehtonen, M.	LOQ-P
Leite Nobrega de Moura, J.M.	PCP 4, PCP-P
Lemke, S.	H&N 5
Leong, W.F.	EAT 3
Lepesheva, G.I.	BIO 2
Leskinen, H.	ANA 3, ANA-P
Lewandowski, P.A.	H&N-P
Lewis, A.	BIO 3
Lewis, S.	IOP-P
Lewlomphaisan, J.	S&D 1
L'Hostis, J.	S&D 4
Li, A.	IOP 1
Li, B.	IOP-P, BIO-P
Li, H.	FS&FF 3
Li, Y.	BIO 2
Liang, S-C	EAT 2
Licht, T.R.	PHO 1
Liepa, G.	H&N-P
Lilbaek, H.	BIO 2.1/PRO 2.1
Lim, H.R.	BIO 1.1
Lim, H.K.	EAT-P
Lim, W.H.	S&D 1.1
Lima, E.E.	LOQ-P
Lin, J.	ANA 3
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Linderborg, K.	ANA-P
Ling, M.T.	H&N 4
Liou, S.-M.	BIO-P
Lísa, M.	ANA 3
Littman, D.R.	BIO 2
Liu, J.	BIO-P
Liu, K.	BIO 1.2/PCP 1
Liu, Q.	BIO 3
Liu, S.	IOP-P
Liu, X.	ANA 3
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Liu, Z.	IOP-P
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Liyanage, R.	PCP-P
Lo, S.K.	BIO 2.1/PRO 2.1
Loeffler, M.	S&D 4
Loewen, K.	EAT 3.1/LOQ 3.1
Loh, S. K.	IOP-P
Lohrmann, T.T.	BIO 1.2/PCP 1
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Losso, J.	H&N 4, H&N 5
Lu, D.	BIO 2
Lucak, C.	FS&FF 4, LOQ 5
Lugo-Sepúlveda, R.E.	BIO-P
Luo, Y.-T.	IOP-P
Lurquin, V.	EXH 1
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Ma, H.	BIO-P, IOP 1
Ma, L.	BIO 1
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MacDougall, C.	FS&FF 4
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Malaki Nik, A.	FS&FF 2
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Malladi, A.	S&D 3
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Márquez-Ruiz, G.	LOQ 4
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Marty-Terrade, S.	EAT 1
Masoud, E.	BIO 5
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Masukawa, Y.	ANA 5
Mat Sahri, M.	EAT-P
Mateos, H.T.	H&N-P
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Matsui, T.	H&N-P
Matsumura, S.	BIO 4/S&D 4.1
Matsuo, E.	PCP 5
Mattes, R.	FS&FF 1
Matthäus, B.	PRO 1, EAT 3.1/LOQ 3.1
Maurer, D.	PCP-P
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Medeiros, F.C.M.	IOP-P
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Mellon, J.	PCP 4
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Mensink, R.P.	BIO 1
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Michalski, M.C.	H&N 1
Miettinen, T.A.	BIO 1
Mifsud, J.C.	ANA 2, ANA-P
Miguel, A.M.R.O.	IOP-P, PCP-P
Miguez, M.S.	IOP 5
Miller, Jody	H&N 3
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Mirghani, M.E.S.	ANA 1, ANA-P, PRO-P
Mirhosseini, H.	EAT 3.1/LOQ 3.1, LOQ 4
Misran, M.	EAT 3
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Mitsui, Y.	EAT-P
Miyasaka, H.	BIO 3.1
Miyashita, K.	LOQ 2, BIO 3.1, H&N 4PHO 1
Modalal, M.R.	EAT 5
Mohan, S.	IOP-P, IOP-P
Mohd Ghazali, H.	EAT 3.1/LOQ 3.1, LOQ 4
Mohd Nor, F.	EAT-P
Molina-Quijada, D.M.A.	ANA 1, LOQ-P
Mondala, A.	IOP 5
Money, J.	BIO 1.2/PCP 1
Montalbo-Lomboy, M.	PRO 1
Morales-Rueda, J.A.	EAT-P, EAT-P
Morreau, C.	IOP 4
Moreau, R.A.	BIO 1, BIO 1.2/PCP 1, IOP 1
Moreda, W.	LOQ-P

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Moriwaki, J.	EAT-P
Morris, J.B.	EAT-P
Moser, B.R.	IOP 1, IOP-P
Moser, J.K.	ANA 1, BIO 1.2/PCP 1, LOQ 4
Mossoba, M.M.	ANA-P
Mouloungui, Z.	IOP-P, IOP 4, PCP 4
Mozuraityte, R.	LOQ 1
Muehlberg, A.	IOP-P
Mugford, P.M.	LOQ-P
Mugo, S.M.	ANA 4
Mullen, R.T.	BIO 3
Munack, A.	IOP 1
Muneda, H.	PCP 3
Mupondwa, E.K	BIO 1.2/PCP 1
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Muriuki, M.	ANA 1, ANA 5
Murphy, C.	PCP 5
Murphy, D.	S&D 2.1
Murphy, E.J.	BIO 3, H&N 1, H&N 5, PCP 5, BIO-P
Murray, B.	PHO 1
Muylaert, K.	PRO-P, ANA 4, ANA-P, PRO-P
Naab, J.C.	EXH 1
Nagano, T.	PCP 3, FS&FF-P, PCP-P
Nagao, K.	H&N-P
Nagao, T.	BIO 3.1
Nagendramma, P.	IOP 2
Naghshineh, M.	EAT 3.1/LOQ 3.1, LOQ 4
Nahas, R.	LOQ 5
Nair-Roberts, R.	H&N 4
Nakagawa, K.	ANA 5
Nakajima, M.	PHO 2/EAT 2.1
Nakamori, T.	H&N-P
Nakatani, T.	ANA-P
Nakayama, Y.	PCP 3, PCP-P
Nakhasi, D.K.	EAT 2
Nanbu, C.	H&N 5
Nandi, S.	IOP 4
Narayan, R.	IOP 5
Navidghasemizad, S.	PHO-P
Ndlela, S.C	PCP 4
Neal, T.	S&D 3
Neelakandan, A.	BIO 2
Neeson, I.	EAT 4
Negishi, S.	BIO 3.1
Negoro, H.	BIO 5
Nelson, T.	IOP 4
Nersting, L.	BIO 5
Nes, C.R.	BIO-P
Nes, W.D.	BIO 2, BIO-P
Nesaretnam, K.	H&N 4
Neuman, T.	PRO 3/EXH 2
Nezu, T.	PCP 3, PCP-P
Ng, K.Y.S.	BIO-P, IOP 1, S&D 3.1, IOP-P
Ng Kock Wai, T.	H&N 4
Nghiem, N.P.	BIO 1.2/PCP 1
Ngo, H.	IOP 2
Nguyen, A.T.	IOP 4
Nguyen, H.	BIO 2, BIO 4.1
Nguyen, T.	S&D 2.1
Nielsen, N.C.	BIO 4.1
Nielsen, N.S.	LOQ 1
Nielsen, P.M.	BIO 2.1/PRO 2.1
Nikolau, B.J.	BIO 2
Nilsson, Å	PHO 1
Nishimura, O.	PCP 5
Nissinen, M.	BIO 1
Nitsch, C.	S&D 4
Noda, N.	ANA-P
Nolasco, S. M.	LOQ 5
Nordblad, M.	BIO 2.1/PRO 2.1
Noriega-Rodríguez, J.A.	BIO-P, LOQ-P
Norling, L.V.	H&N 1
Nott, Kevin	EXH 1
Nunes, G.	S&D 4
Nurmi, T.	BIO 1
Nwogwugwu, C.A.	BIO-P
Nyström, L.	BIO 1
O'Haver, J.H.	S&D-P
O'Herron, D.	S&D-P
Obibuzor, J.	PRO-P
Ochiai, Y.	LOQ 5
Odibo, Fidelis J.C.	BIO 4/S&D 4.1
Oelke, K.	PHO 3
Ogawa, J.	BIO 1.1, BIO 5
Ohara, S.	S&D-P
Ohgi, N.	EAT 1
Ohshima, T.	LOQ 5
Oi Ming, L.	EAT 4, EAT-P
Oida, T.	S&D 1.1, S&D-P
Oikawa, D.	PCP 3
Okamoto, T.	S&D 3.1
O'Keefe, S.F.	LOQ-P
Okinyo-Owiti, D.P.	ANA-P, IOP-P
Okiy, D.	PRO-P
Okogbenin, E.	PRO-P
O'Lenick, A.	S&D 3
Oliveira, H.L.	IOP-P
Oliveira, R.S.P.	LOQ-P, PRO-P
Olson, N.K.	PCP 4
Olsson, L.	PHO 1
ONeill, T.	LOQ 5
O'Neill, R.	ANA-P
Ong, S.	ANA 1
Ono, K.	BIO 1.1
Onofre-Sestiaga, A.	BIO-P
Onwosi, C.O.	BIO 4/S&D 4.1
Onwulata, C.	PCP 5
Orr, L.	H&N 4
Ortega-Garcia, J.	LOQ-P
O'Shea, M.S.	IOP 4, IOP-P
Osório, N.M.	BIO 2.1/PRO 2.1
Oster, B.	IOP 1
Ostlund, Jr., R.E.	BIO 1
Otten, D.	AM 2/PRO 2
Owiti, D.P.O.	LOQ-P, BIO-P, H&N-P
Oxford, M.	LOQ-P
Özçimen, D.	IOP-P
Pérez-Camino, M.C.	LOQ-P
Pacheco, C.	BIO-P
Paelinck, H.	FS&FF-P
Page, A.	H&N-P
Pages, X.	PRO-P
Pala, F.	EXH 1
Palla, C.	BIO-P
Pan, X.	LOQ 5
Pan, X.	IOP 4
Pande, G.	H&N-P
Pansegrau, P.D.	IOP 1
Pantalone, V.R.	BIO 4.1
Panya, A.	LOQ-P
Paramarta, A.	IOP 4
Parekh, S.J.	BIO 1.1
Parish, E.J.	BIO 2
Park, K.J.	IOP-P
Park, S.-B.	BIO 1.1
Patel, J.	IOP 4, IOP-P
Patel, R.N.	BIO 1.1
Patterson, A.C.	H&N 4
Patterson, K.Y.	ANA 3
Paul, W.	PRO 5
Paulussen, S.	PRO 5
Pavlina, T.	H&N-P
Pawar, A.	EAT 3
Pawar, A.B.	EAT 1
Pedersen, H.M.L.	PRO 5
Pederson, T	FS&FF 4
Peeters, G.	IOP 4, IOP-P
Peglow, M.	PRO 5
Peitz, M.	EAT 5
Pelitire, S.	PCP 4
Pengjun, W.	S&D 4
Peres, E.U.X.	IOP-P
Peretti, N.	H&N 1
Perri, G.	ANA 4
Perrier, V.	BIO 2.1/PRO 2.1
Perrone, P.	ANA-P
Petrovic, Z.S.	IOP 4, IOP-P
Peyronel, F.	EAT 4, EAT-P
Phan, T.T.	S&D 1, S&D 1.1
Philippaerts, A.	PRO 5
Phillip, L.E.	ANA-P
Phillips, K.M.	ANA 3
Phooi Tee, V.	H&N 4
Piazza, G.	BIO 1.2/PCP 1
Pighinelli, A.L.	IOP-P
Piironen, V.	BIO 1,EAT 3.1/LOQ 3.1, LOQ-P
Pike, O.	LOQ 3
Pinet, S.	H&N 5
Pink, D.A.	FS&FF 4
Pioch, D	IOP 4
Pisarenko, L.M.	LOQ 1
Plat, J.	BIO 1
Podella, C	BIO 4/S&D 4.1
Pontalier, P.-Y.	PCP 4, PR 5,
Pope, G.A.	S&D 3.1

Author/Speaker	Session(s)
Pordesimo, L.O.	AM 1
Potter, R.	PCP-P
Povey, M.J.W.	FS&FF 3
Powley, C. R	EAT 2
Pradhan, M.	FS&FF 2
Prakash, A.	EAT 4
Prasad, A.	LOQ 1
Prieto, N.E.	S&D 3
Proctor, A.	ANA 2, ANA 4, H&N 1, PRO-P
Proctor, S.	IOP-P
Pruzanski, W.	ANA 3
Przybylski, R.	EAT 3.1/LOQ 3.1, EAT 5, LOQ 4
Pudel, F.	PRO 1, PCP 4, PCP-P
Purdie, N.	ANA 1, ANA 5
Purtle, I.	PRO 1
Pyo, Y.-G	BIO-P
Qi, P.	PCP 5
Quant, P.A.	BIO 3
Quaroni, L	FS&FF 4
Quek, S.-Y.	AM 1
Quinn, B.	FS&FF 4
Quraishi, S.	S&D 1.1
Røjbek, M.	LOQ-P
Raatz, S.	H&N 4
Racette, S.B.	BIO 1
Rader, J.I.	ANA 1
Rahmanlar, I.	IOP-P
Ramaswami, S.	H&N-P
Ramirez-Erosa, I.	BIO-P
Ramli, U.S.	BIO 3
Randel, G.	PHO 3
Rapoport, S.	H&N 4
Ratanapariyanuch, K.	PHO 4
Rauen-Miguel, A.M.	LOQ-P
Ravandi, A.	ANA 3
Ray, M.	FS&FF 4
Rayaprolu, S.	PCP-P
Raymond, B.	IOP-P
Razul, S.	FS&FF 4
Reaney, M.J.T	PHO 4, ANA-P, BIO-P, H&N-P, IOP-P, LOQ-P
Redmon, B.	H&N 4
Reglero, G.	PHO-P
Reilly, L.	ANA 1, ANA 5
Reinhardt, G.	S&D 4
Ren, J.	PCP 4
Renaud, F.	IOP-P
Rengasamy, S.	IOP-P
Rennick, K.A.	LOQ 4
Renninger, N	IOP 5
Revellame, E.	IOP 5
Reyes-Suarez, E.	LOQ-P
Reynhout, G.	LOQ 5
Ribeiro, M.H.	BIO 2.1/PRO 2.1
Ribeiro Ferreira, M.	S&D 3
Richards, A.S.	FS&FF 3
Richards, J.	S&D-P
Richter, B.	ANA 1
Rigal, L.	PCP 4
Rittig, F.	BIO 1.1
Rocha, J.	ANA 1
Rocque, D.	S&D 4
Rodrigues, J.P.	IOP-P
Rogers, M.A	FS&FF 4, EAT 4
Rogers, N.	IOP 2
Rohrer, J.S.	EXH 1, ANA 4
Rojvoranun, N.	S&D 4
Rojvoranun, S.	S&D 2
Rosales, B.	BIO 2, BIO-P
Rose, D.	LOQ 3
Rosenkrans, C.	PCP-P
Rosentrater, K.A.	BIO 1.2/PCP 1
Ross, D.	PRO 1
Ross, K.	ANA 5
Rossi, L.M.	IOP-P
Rossignol Castera, A.	PRO-P
Rousseau, D.	EAT 1, EAT 4, FS&FF 2, FS&FF 3, FS&FF 4
Roux, B.	S&D 3.1
Rowland, G.	IOP-P
Rozenszain, L.	PCP 4
Rozijn, M.	ANA-P
Rudzinska, M.	EAT 3.1/LOQ 3.1
Ruiz-Méndez, M.V.	PRO-P
Rujiravanit, R.	S&D-P
Rujirawanich, V.	S&D-P
Rüsch gen. Klaas, M.	IOP 4
Rustad, T.	LOQ 1
Rutherford, H	FS&FF 4
Ryan, E.A.	H&N 4
Ryan, R.	PRO 4
Ryckebosch, E.	ANA 4, ANA-P
Ryer, D.	IOP 2
Ryland, D.	EAT 3.1/LOQ 3.1
Ryota, H.	H&N-P
Sabatini, D.A.	S&D 1, S&D 2, S&D 2.1, S&D 1.1, S&D 3.1
Sabeena Farvin, K.H.	LOQ 5
Saberi, A.H.	EAT 4
Sabliov, C.M.	S&D 2.1
Sabur Mohammad, A.	EAT 3.1/LOQ 3.1, LOQ 4
Sacramento, J.	ANA 1
Sagalowicz, L.	EAT 3
Sagidullin, A.	EXH 1
Sahena, F.	PRO-P
Saito, A.	PCP 3
Saito, Akira	PCP 3
Saitou, K.	EAT-P
Sajitz, M.	S&D 4
Saka, S.	IOP-P
Sakai, H.	S&D-P
Sakaki, K.	IOP 3
Sakata, K.	H&N-P
Sakuradani, E.	BIO 1.1, BIO 5
Salager, J.-L.	S&D 1
Salaria, F.	PRO 3/EXH 2
Saleem, Z.	PCP-P
Saleh, M.	ANA 2
Salley, S.	BIO-P, IOP 1, IOP-P
Salminen, H.	LOQ-P
Salyers, D.	PHO 4
Sammynaiken, R.	IOP-P, LOQ-P, ANA-P
Samsonova, N.N.	BIO 1.1
Sandnes, K.	BIO-P
Santori, F.R.	BIO 2
Sapei, L.	FS&FF 2
Sasaki, M.	EAT 4
Sato, K.	EAT 1, EAT 3, EAT 4
Savvidou, T.S.	EAT 3.1/LOQ 3.1
Sawano, Y.	H&N 5
Scamehorn, J.F.	S&D 2, S&D 4, S&D-P
Schaich, K.M.	LOQ 3
Schasteen, C.	PCP 3
Schatte, G.	IOP-P
Schmidt, L.	IOP 1
Schmidt, M.	BIO 4.1
Schneider, M.P.	IOP 4, S&D 2.1
Scholl, S.	PHO 3.1
Schrueder, M.	ANA 4
Schulz, C.	PCP-P
Schunicht, C.	S&D 4
Schwalbach, T.	PRO 3/EXH 2
Schweizer, M.	PCP 4
Sclafani, A.	FS&FF 1
Scorzza, C.	S&D 1
Scott, K.M.	BIO 1.2/PCP 1
Sebree, B.	PHO 4, EAT 2
Seegers, S.	ANA-P
Seelig, S.S.	S&D 3
Seetharaman, K.	EAT 5
Segall, K.	PCP 4
Sehgal, A.	S&D 3.1
Sekosan, G.	ANA-P
Sels, B.	PRO 5
Senanayake, N.	LOQ 2
Senger, T.	BIO-P
Sengupta, P.	IOP 4
Señorans, F.	PHO-P
Serhan, C.N.	H&N 1
Sessa, D.J.	BIO 1.2/PCP 1
Sewald, M.	LOQ 3
Sfamenos, S.	S&D 1
Shackleton, C.	BIO 1
Shah, N.	BIO 4.1
Shah, S.N.	IOP 5
Shah, U.	ANA 4
Shahidi, F.	LOQ 2
Sharav, O.	LOQ-P
Sharko, P.T.	S&D 4
Sharma, B.K.	BIO 4/S&D 4.1
Sharma, K.	S&D-P
Sharma, Y.K.	IOP-P
Sharpe, P.	BIO 5
Shaw, J.-F.	IOP-P, BIO-P
Sheikh, S.	PHO-P
Shen, J.	PHO 4, ANA-P, H&N-P, IOP-P
Shibata, N.	BIO 1.1

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Shim, Y.Y.	ANA-P
Shimada, Y.	BIO 3.1
Shimizu, M.	EAT-P
Shimizu, S.	BIO 1.1, BIO 5
Shindo, H.	S&D 3.1
Shiota, M.	PHO 1, EAT-P
Shiro, H.	ANA 5
Shiva, A.	BIO-P
Sho, A.	BIO 3.1
Shockey, J.M.	BIO 3
Shoeman, D.W.	LOQ-P
Short, D.	BIO 5
Shou, S.	PCP 3
Shukla, A.	EAT 4
Shukla, D.	S&D 1.1
Shuli, Y.	IOP-P
Shulman, J.	S&D 2
Shuman, H.	ANA 5
Siddhu, S.	EAT 3.1/LOQ 3.1
Siddiqui, R.	H&N-P
Siemeni, F.	PCP-P
Siemens, A.	ANA 4
Sikorski, D.	EAT 4
Siloto, R.M.P.	BIO 3
Silva, C.	AM 3
Simonen, P.	BIO 1
Simons, B.	ANA 3
Simpson, B.K.	ANA-P
Singh, S.	IOP-P
Singh, S.	ANA 2
Singh, V.	S&D 3.1
Siran, Y.M.	PRO-P
Sittiarjharn, C.	S&D-P
Skagerlind, P.	S&D 3
Skeaff, C.M.	H&N 3
Skelley, W.	S&D-P
Slah, M.	LOQ 2, PRO 5
Slawski, H.	PCP-P
Smirnov, S.V.	BIO 1.1
Smith, C.	EAT 4
Smith, G.A.	BIO 4/S&D 4.1, S&D 1
Smith, T.L.	H&N 4
Snow, D.	PHO 1
Snyder, C.L.	BIO-P
Soe, J.B.	PHO 4
Sokhansanj, S.	AM 1
Solaiman, D.K.Y.	BIO 1.1, BIO 1.2/PCP 1, BIO 4/S&D 4.1
Sondhi, V.	BIO 2
Song, Z.	BIO 2
Sørensen, A.-D.M.	LOQ 1
Soulage, C.	H&N 1
Soulet, B.	ANA-P
Spahr, D. E.	EAT 2
Sparks, D.L.	IOP 3, IOP-P, PRO-P
Speight, M.	H&N 4
Spicer, P.	EAT 3
Spicer, P.T.	EAT 1
Spurlock, M.	PCP 5

Author/Speaker	Session(s)
Srinivas, K.	IOP-P
Sritapunya, T.	S&D-P
Støttrup, J.G.	LOQ-P
Stading, M.	EAT 4
Staerk, D.	BIO 4.1
Stahl, V.	H&N 4
Stanton, C.	PHO 1
Stanton, K.	S&D 3
Starghill, R.	IOP 2
Stark, K.D.	H&N 4
Steen, L.	FS&FF-P
Stefl, B.	ANA 2
Stevens, E.	PCP 4
Stewart, C.N.	IOP-P
Stoica, O.	BIO 4/S&D 4.1
Stolp, L.J.	IOP 2
St-Onge, M.	ANA 3, H&N 2
Storey, J.	IOP-P
Storrø, I.	LOQ 1
Strahan, G.	IOP-P
Strijowski, U.	ANA-P
Stuut, P.	S&D-P
Su, S.Q.	H&N-P
Suarez, P.A.Z.	IOP-P
Subieta, A.	PRO 3/EXH 2
Suekuni, T.	S&D 4
Sugano, M.	PCP 3
Sugawara, T.	PCP 5
Sugimoto, M.	PCP 3
Sugiyama, Y.	BIO 3.1
Sukiran, M.A.	IOP-P
Sullivan, J.C.	ANA 3
Sumida, Y.	BIO 5
Suomela, J.-P.	ANA 3, ANA-P
Suri, S.	H&N-P
Suzen, H.F.	BIO-P
Suzuri, K.	BIO 3.1
Tabassi, S.	EAT 3.1/LOQ 3.1, LOQ 4
Tabee, E.	EAT 3.1/LOQ 3.1
Tahiruddin, S.	PRO-P
Takahashi, K.	BIO 3.1
Takahashi, T.	BIO 3.1, PHO 1
Takahashi, Y.	PCP 3
Takamura, Y.	H&N 5
Takaoka, H.	S&D 3.1
Takeo, Y	H&N 5
Takumi, M	H&N 5
Talebizadeh Rafsanjani, A.	IOP-P
Tam, W.Y.T.	EAT 4
Tamaru, S.	PCP 3
Tan, C.P.	EAT-P, EAT 3
Tan, Z.	LOQ 2
Tanaka, K.	PCP 3
Tanaka, L.	PHO 1, EAT-P
Tanaka, M.	PCP 3, PCP-P
Tang, D.	EAT-P
Tang, H.	BIO 5, IOP 1, IOP-P
Tang, M.	BIO 3
Tang, N.	PCP 4

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Tantayakom, V.	S&D-P
Tanzer, C.	ANA 4
Tarvainen, M.	ANA 3, ANA-P
Tavakoli, O.	IOP-P
Taylor, C.	H&N-P
Taylor, D.C.	S&D 3.1
Taylor, S.L.	ANA 1
Tecelão, C.	BIO 2.1/PRO 2.1
Teeter, C.	PCP 2
Tejeda Pichardo, R.J.	FS&FF-P
Temelli, F.	PHO-P
Teo, K.H.	ANA 1
Terzioglu, P.	IOP-P
Thanonkaew, A.	LOQ 5
Thiyam, G.	H&N-P
Thiyam, U.	EAT 3.1/LOQ 3.1, LOQ-P
Thomas, K.	LOQ-P
Thoms, K.	BIO-P
Thomson, A.B.R.	H&N 4
Thomson, L.W.	BIO-P
Tian, Z.	ANA 2
Tippetts, M.	FS&FF-P
Tkamatsu, K.	H&N-P
Tollington, P.	S&D-P
Tolosa, L.	S&D 1
Tomás, M.C.	LOQ 5, PHO 4
Tombokan, X.	ANA 2
Tomkiewicz, J.	LOQ-P
Tompkins, J.	ANA 5
Torabi Angaji, M.	IOP-P
Toro-Vazquez, J.F.	EAT 4, EAT-P
Torres, C.	PHO-P
Torres-Gonzalez, M.	H&N 1
Toshimasa, N.	H&N-P
Tostenson, K.	IOP-P
Townsley, R.	IOP-P
Tracy, M.	ANA 3
Trautwein, E.A.	BIO 1
Tremblay, A.	IOP-P
Tres, A.	ANA-P
Tressel, R.-P.	PCP 4, PCP-P
Tripathy, S.	H&N 1
Trivedi, S.	S&D 3.1
Trujillo, C.	EAT-P
Tseng, C.	ANA 2
Tsuduki, T.	PCP 5
Tsushima, T.	BIO 3.1
Tulbek, M	LOQ 3
Tulchinsky, M.L.	S&D 4
Turner, C.	BIO 1.1
Tuter, M.	IOP-P
Tyagi, M.R.	IOP 2
Tyagi, V.K.	S&D 1.1, S&D 2
Tyl, C.	LOQ 3
Tyreus, B.D.	EAT 2, BIO 5
Uadia, P.	PRO-P
Ubhayasekera, S.J.K.A.	BIO 1
Udenigwe, C.C.	PCP 5
Uehara, H.	BIO 3.1

Author/Speaker	Session(s)
Ueno, S.	EAT 1, EAT 3, EAT 4
Ueno, Y.	PCP 3
Uhlir, A.	LOQ 5
Ulmasov, T.	EAT 3.1/LOQ 3.1, BIO 4.1
Umpierre, A.P.	IOP-P
Urban, V.S.	S&D 2
Urevbu Okwudili, O.	IOP-P
Ustun, G.	IOP-P
Vaca-Medina, G.	PCP 4, IOP-P
Vaique, E.	H&N 5
Valentin, R.	PCP 4, IOP-P
Valliyodan, B.	BIO 2
van der Kamp, H.	ANA-P
van Duijn, G.	PRO 1
Van Gerpen, J.	IOP 1
Van Hoed, V.	IOP 5, LOQ 2, PRO 5
van Leeuwen, J.	IOP 5, PRO 1
van Ruth, S.	ANA-P
VanAlstyne, P.	LOQ 5
Vanapalli, S.	FS&FF 3
Vandamme, D.	PRO-P
Vandewalle, D.	FS&FF 3
Vargas-Lopez, J.M.	IOP-P
Vari, T.	IOP 4
Vaughn, S.F.	IOP 1
Vaysse, C.	H&N 5
Vázquez, L.	PRO 5
Velasco, J.	LOQ 4
Velasquez, J.	S&D 1
Velínská, H.	ANA 3
Verhé, R.	LOQ 2
Verhe, R.	IOP 5, PRO 5
Verkade, J.	IOP 5, PRO 1
Vermeulen, D.	H&N-P
Vidal, H.	H&N 1
Villalta, F.	BIO-P
Villeneuve, P.	LOQ-P
Vincent, J.D.	IOP-P
Volponi, J.	ANA 2
Vors, C.	H&N 1
Vrabel, M.	S&D 3
Wadumesthrige, K	IOP-P
Wadumesthrige, S.	IOP-P
Wahlandt, R.	IOP 4
Walker, C.	H&N-P
Walsh, K.	BIO 5
Walsh, M.	PCP-P
Walsh, T.	BIO 3
Walstra, P.	FS&FF 2
Walter, J.	LOQ-P
Wanasundara, J.	BIO 1.2/PCP 1, PCP 4
Wanene, W.	BIO 5
Wang, G.	LOQ 5
Wang, H.	IOP-P
Wang, H	PCP 2
Wang, L.	ANA 3
Wang, M.L.	EAT-P
Wang, N.	ANA 2
Wang, S.	IOP-P
Wang, T.	PCP 5
Wang, T.	IOP-P, LOQ 5, PCP 2
Wang, W.	IOP-P
Wang, Z.	S&D 1.1
Ward, R.E.	PHO 1
Wassell, P.	EAT 4
Watanabe, C.	ANA-P
Watanabe, N.	H&N 5
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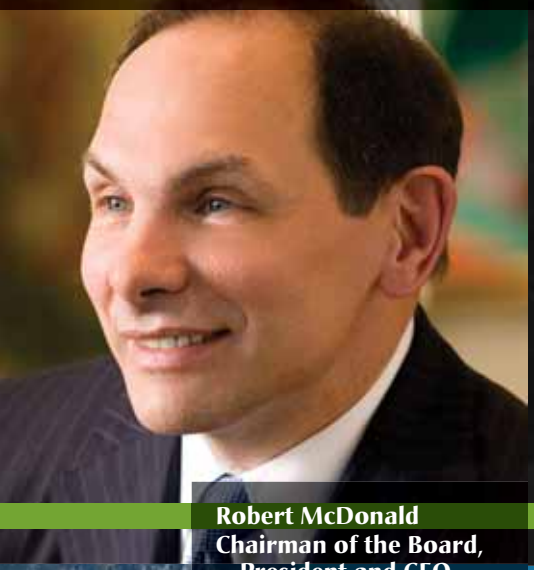

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The Procter & Gamble Company
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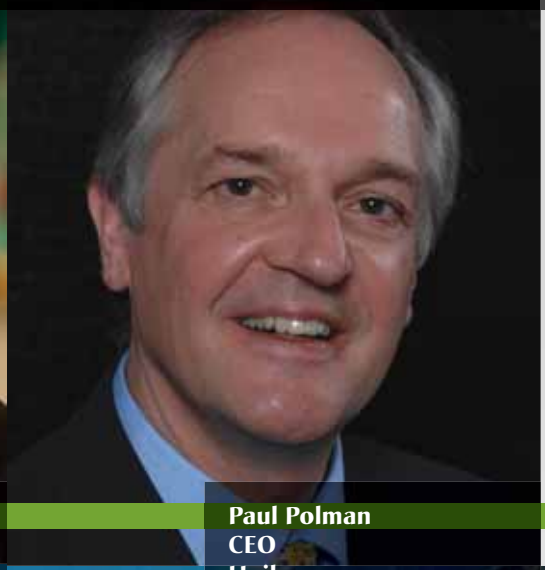

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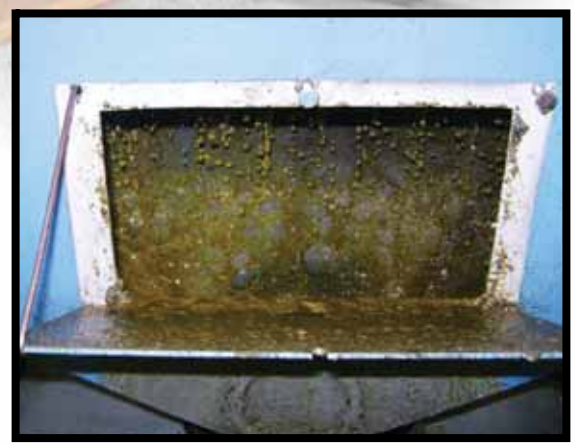

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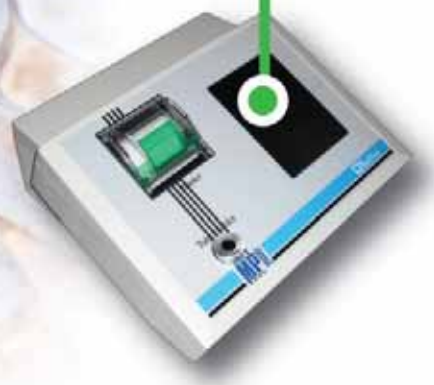

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