



13TH

CONGRESS OF THE INTERNATIONAL SOCIETY FOR THE STUDY OF FATTY ACIDS AND LIPIDS



SPECIAL EVENT HIGHLIGHTS

SUNDAY, MAY 27

Satellite Symposia—Two, Half-Day
Sponsored Programs

SUNDAY, MAY 27

Opening Welcome Reception
at the Havana Room

MONDAY, MAY 28

Young Investigator Social at
The Mob Museum

TUESDAY, MAY 29

Special Interest Group Meetings

WEDNESDAY, MAY 30

Free day for delegates to explore
Las Vegas and the surrounding areas

THURSDAY, MAY 31

Gala Dinner at the Hofbräuhaus



DSM: Driving Science and Innovation in Nutritional Lipids.

DSM Nutritional Products, a leader in the development of polyunsaturated fatty acids, is a proud sponsor of the ISSFAL Congress.

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13TH

CONGRESS OF THE INTERNATIONAL SOCIETY FOR THE STUDY OF FATTY ACIDS AND LIPIDS

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Abstracts for all
presentations and posters are
available online at
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SPONSORS & EXHIBITORS

THANK YOU! The support that the ISSFAL 2018 Congress has received from sponsors, exhibitors and other supporters is critically important in keeping the cost of registration at a reasonable level, and also to enable the award of 50 free registrations (worth over \$20,000 USD) to New Investigator Award winners, thus encouraging good investigators into, and to remain in, the field of fatty acid research. The meeting organisers and the Society appreciate this support, and urge delegates to take every opportunity to express this appreciation to the representatives of sponsors, exhibitors and other supporters that they come into contact with during the meeting and afterwards.

PLATINUM



SILVER



SPECIAL SPONSORSHIPS



Travel Award Sponsorship



Educational Grant



Clinical Trials Workshop



Workshop



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New Investigator Awards



Lanyard Sponsor



Satellite Symposium 2



Satellite Symposium 1



Clinical Trials Workshop



Workshop



Coffee Breaks

EXHIBITORS



Welcome to Las Vegas, host city for the 13th ISSFAL Biennial Congress. It has been 10 years since the Congress has been held in the United States.

Our Congress will provide a unique occasion for the exchange of scientific results in the lipid area among seasoned and new members, and invited guests. The program covers three major topics: Biochemistry and Metabolism of Fatty Acids; Lipids in Health and Disease; and Lipids in Nutrition. These major themes and others encompass all aspects of lipids, from fatty acids, to cholesterol, to lipidomics and metabolomics, all important keys to understanding human physiology and pathophysiology.

Presentations from basic research to translational research to clinical studies will be of interest to a diverse audience of basic researchers, physicians, and nutritionists. Evidence about the impact of lipids in different clinical diseases is increasing rapidly as is our understanding of the role that dietary lipids can play at all ages in preventing diseases related to lifestyle.

As is typical of our biennial ISSFAL Congresses, we encourage you to take advantage of the many opportunities to strengthen cooperation among international researchers and clinicians. In addition to the plenary lectures and oral presentations chosen from over 300 abstract submissions, poster presentations and wonderful social occasions will offer opportunities for interaction among all participants.

Las Vegas is the 28th most populated city in the United States and is an internationally renowned city known for its gambling, shopping, fine dining, entertainment and nightlife as well as its excellent location close to major United States natural parks and wonders. Las Vegas is a top three destination in the United States for business conventions and ranks as one of the world's most visited tourist destinations. The location of Las Vegas will give delegates the opportunity to take day trips to both the Grand Canyon and Hoover Dam or take short flights to visit the West Coast of the United States.

Details of the Congress venues and transportation are in the following pages as well as a detailed schedule of events. Whether you are a long standing member or friend of ISSFAL and the conference, or this is your first time, we have worked to make your visit productive and pleasant. Please do not hesitate to contact any of the ISSFAL staff or leadership on any matter for which we might be of assistance.

Welcome and enjoy the Congress.



Hee-Yong Kim
Congress Chair



Richard Bazinet
ISSFAL President

WELCOME

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CONGRESS ADMINISTRATION
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NEW INVESTIGATOR AWARDS

Sponsored by:



TRAVEL AWARDS

Sponsored by:



Bold indicates ISSFAL Travel Award Winners.

Peyman Akbari	Michigan State University	United States of America
Juan Aristizabal Henao	University of Waterloo	Canada
Ella Baker	University of Southampton	United Kingdom
Surjyadipta Bhattacharjee	LSU Health Science Center	United States of America
Amritpal Bhullar	University of Alberta	Canada
Daniel Chalil	University of Waterloo	Canada
Jane Chang	King's College of London	United Kingdom
Tsitsi Chimhashu	North West University	South Africa
Patricia de Velasco	Federal University of Rio de Janeiro—UFRJ	Brazil
Abhishek Desai	National Institute on Alcohol Abuse and Alcoholism	United States of America
Alexandre Do Couto e Silva	LSU Health Science Center	United States of America
Anthony Domenichiello	NIH National Institute on Aging	United States of America
Sally Draycott	University of Adelaide	Australia
Adélie Dumont	INSERM	France
Quentin Escoula	University of Bourgogne	France
Paul Fairbairn	Bournemouth University	United Kingdom
Jessica Ferguson	University of Newcastle	Australia
Helena Fisk	University of Southampton	United Kingdom
Kristine Gagnon	Université de Moncton	Canada
Chang Gao	University of Adelaide	Australia
Khaled Kanakri	The University of Adelaide	Australia
Abe Kasonga	University of Pretoria	South Africa
R. J. Scott Lacombe	University of Toronto	Canada
Anneloes Martinsen	University of East Anglia	United Kingdom
Chloe Mitchell	The University of Adelaide	Australia
Isabell Nessel	Bournemouth University	United Kingdom
Taeyeop Park	National Institutes of Health	United States of America
Michael Patan	Northumbria University	United Kingdom
Samantha Pauls	University of Manitoba	Canada
Jose Perez-Mojica	University of Southampton	United Kingdom
Samuel Poirier	Université Laval	Canada
Kumari Rathnayake	Wayamba University	Sri Lanka
Philippe-Pierre Robichaud	Université de Moncton	Canada
Loreana Silveira	University of Sao Paulo	Brazil
May Slim	McGill University	Canada
Marie Teisen	University of Copenhagen	Denmark
Megan Uttley	Manchester University	United Kingdom
Carina Valenzuela	University of Southampton	United Kingdom
Inge van der Wurff	Open University	Netherlands
Johnine Viljoen	North-West University	South Africa
Stine Vuholm	University of Copenhagen	Denmark
Rachel Walker	Penn State University	United States of America
Yi Wan	Zhejiang University	People's Republic of China
Annette West	University of Southampton	United Kingdom
Kathryn Wierenga	University of Michigan	United States of America
Celeste Wu	LSU Health Science Center	United States of America

DELEGATE & SPEAKER INFORMATION

The venue for the 2018 Congress in Las Vegas is the MGM Grand.

Within the MGM Grand, we will be utilizing the Premier Ballroom located on the 3rd floor of the Conference Center for the Exhibits and the Poster Sessions as well as the Scientific Program. The following rooms will be used during the Congress:

Satellite Symposia: Premier 309

Plenary Session/Breakout 1:
Premier 319–320

Breakout 2: Premier 318

Breakout 3: Premier 311

Exhibit Hall & Poster Sessions:
Premier 312–317

Speaker Ready Room: Premier 306

MGM Grand

3799 Las Vegas Blvd S
Las Vegas, NV 89109
P: (877) 880-0880

Wifi Access Information

Network: ISSFAL
Password: ISSFAL18

ISSFAL REGISTRATION DESK

The ISSFAL Registration Desk is conveniently located in the Foyer of the Premiere Ballroom (see floor plan on p. 8). Be sure to check-in at the Registration Desk to pick up your Congress materials, event tickets and name badge. Desk hours are as follows:

Sunday, May 27 08:00–18:30

Monday, May 28 08:00–18:15

Tuesday, May 29 08:00–18:00

Thursday, May 31 08:00–17:30

**Note: On Wednesday, May 30, the ISSFAL Registration Desk will be closed.*

NAME BADGE POLICY

Your badge grants you access to the ISSFAL 2018 Congress. Please handle it with care. Delegates are required to wear their name badge at all times and will not be granted access to the Congress sessions or social events without it. A reprint convenience fee of \$50.00 USD will be assessed for any lost or misplaced badge. This is to help ensure that access to the Congress is properly managed.

CERTIFICATE OF ATTENDANCE

A Certificate of Attendance will be distributed to each registered delegate following the ISSFAL 2018 Congress via email.

Business Center

There are two business centers located in the MGM Grand, one in the lobby and the other on the first floor of the Conference Center. Both locations can assist with your printing and shipping needs.

Internet Access

ISSFAL attendees will have complimentary internet in all areas of the Premier Ballroom. Network name and passwords will be posted onsite.

Smoking

The Conference Center is a non-smoking facility. Smoking is only permitted inside the casino or outside the MGM Grand. This is the same policy for most local restaurants, bars and public buildings.

Lost Property

Please report any lost or unattended items immediately to Congress staff. Should you lose anything while at the Congress, do enquire at the ISSFAL Registration Desk where any found property will be held.

EXHIBIT & POSTER HALL/ MEETING ROOM FLOOR PLAN

EXHIBIT & POSTER HALL *Premier 312-317*

Posters will be available for review during all three days of the Congress. Formal presentation of posters will take place during the breaks and lunch. A separate schedule with exact presentation dates and time will be distributed on-site.

UNOPPOSED EXHIBIT & POSTER PRESENTER HOURS

	MONDAY, MAY 28	TUESDAY, MAY 29	THURSDAY, MAY 31
Morning Break	09:30–10:00	09:30–10:00	09:30–10:00
Lunch Break	12:00–13:30	12:00–13:30	12:00–13:30
Afternoon Break	16:00–16:15	16:00–16:30	

MEETING ROOM FLOOR PLAN

- **Plenary Session/Breakout 1:**
Premier 319–320
- **Breakout 2:** Premier 318
- **Breakout 3:** Premier 311
- **Exhibit Hall & Poster Sessions:**
Premier 312–317
- **Speaker Ready Room:**
Premier 306

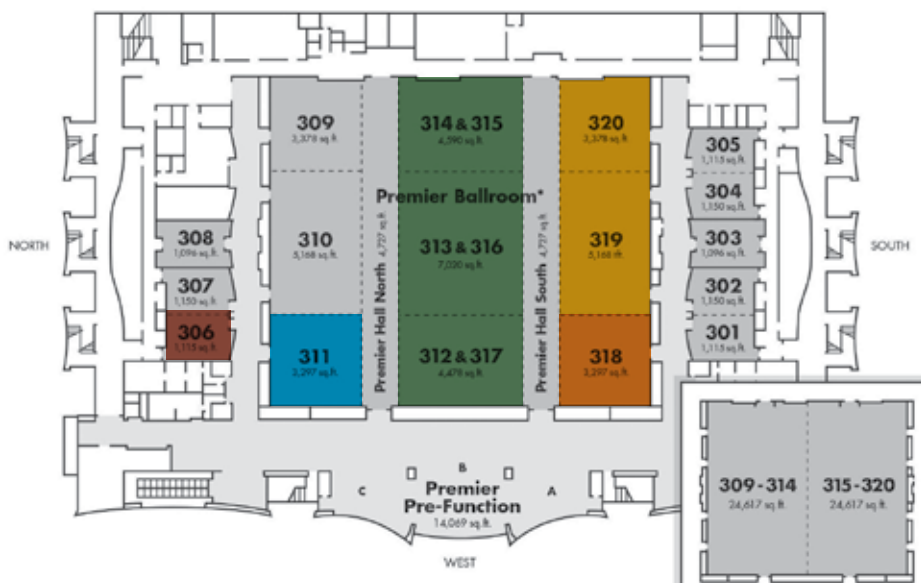
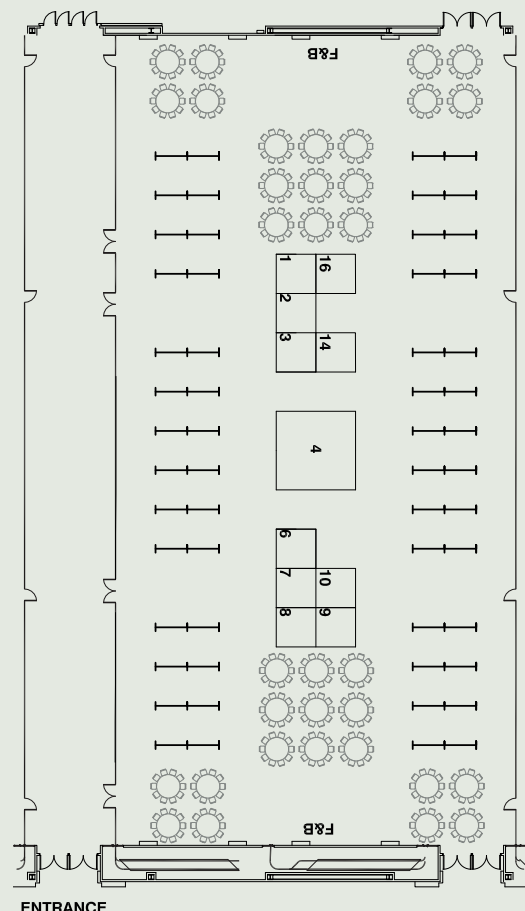


EXHIBIT & POSTER HALL FLOOR PLAN

Premier Ballroom 312–317



BOOTH

ABITEC Corporation.....	14
AlaskOmega.....	6
BASF.....	3
Carlson	7
Cayman Chemical	10
Croda	9
DSM	4
JEOL.....	16
Larodan	2
OmegaQuant.....	1
Skunys Bioscience.....	8



SATELLITE SYMPOSIA SUNDAY, MAY 27

ISSFAL will host two Sponsored Satellite Symposia on Sunday, May 27. This program will be held at the MGM Grand. A separate registration is required to attend. The fee includes breaks, and admission to any of the symposia. If you have signed up for this event, please see your final confirmation email for any additional Satellite information. The ISSFAL Registration Desk will be located at the Premier Ballroom Foyer and open in the morning prior to the start of the first Satellite.

SPEAKER READY ROOM—PREMIER 306

Please identify yourself as a Congress presenter to the ISSFAL Registration Desk staff and you will be directed to the Speaker Ready Room. Speaker Ready Room hours are as follows:

Sunday, May 27 08:00–16:30

Monday, May 28 08:00–16:30

Tuesday, May 29 08:00–16:30

Thursday, May 31 08:00–14:30

Due to the large number of presentations in the program, speakers are urged to visit the Speaker Ready Room no later than four (4) hours prior to the scheduled session, and preferably on the day prior to the presentation. An audio-visual technician will be available to assist speakers with pre-flighting their presentation. Please bring a copy of your presentation to the Speaker Ready Room on a flash drive/stick.

SCHEDULED MEALS & SOCIAL PROGRAM

BREAKFAST

Breakfast will not be provided to delegates over the course of the Congress. We suggest that you plan ahead for your breakfast arrangement on MGM Grand property due to the possibility of long wait times.

COFFEE BREAKS & LUNCHES

Premier 312–317

ISSFAL 2018 Congress registration includes morning and afternoon coffee breaks and lunch on Monday and Tuesday, May 28 and 29. Sandwiches will be available for purchase in the Exhibit Hall on Thursday, May 31.

WELCOME RECEPTION AT THE HAVANA ROOM

Sunday, May 27 | 18:30–20:30

Heavy hors d'oeuvres and beverages will be provided. ONLY those attendees who registered for the Congress may be allowed to attend this special event. Please note that the Welcome Reception will be held in the Havana Room located on the main floor of the Tropicana Hotel. **The Tropicana Hotel is located across the street from the MGM Grand.**

GALA DINNER AT THE HOFBRÄUHAUS

Thursday, May 31 | 19:30–22:30

Say goodbye to your colleagues at Hofbräuhaus which is designed and styled to make you feel as if you have been transported to Munich, Germany. This event is off-site and short distance away from the MGM Grand. **All delegates are responsible for their own transportation to the Hofbräuhaus located at 4510 Paradise Rd, Las Vegas, NV 89169.**

EXHIBITORS & SPONSORS

ABITEC CORPORATION: BOOTH 14

ABITEC Corporation is a global leader in the development and manufacture of high quality functional lipids and surfactants for the pharmaceutical, nutraceutical and specialty chemical markets. Through its offerings of world-class technical, scientific, regulatory, and manufacturing expertise, ABITEC delivers the highest quality product-based solutions in solubilisation, emulsification, and lubrication to its global customers. The lipid excipients that ABITEC produces are critical components across a multitude of drug formulations and are used for various dosage forms including, oral, transdermal, topical, and parenteral. As drug development technology advances, so must the complex delivery systems that enable the body to absorb and effectively utilize the active ingredients. ABITEC remains at the forefront of these new technologies and continually strives to provide the most effective solutions in the market.

ALASKOMEGA: BOOTH 6

AlaskOmega® is produced from wild-caught Alaska Pollock oil sourced from the Bering Sea that is certified sustainable by the Marine Stewardship Council. AlaskOmega® omega-3 ingredients are available in ultra-high purity ethyl ester and triglyceride concentrates up to 80% EPA and DHA content. AlaskOmega® omega-7 ingredients are available in a 50% and 70 concentration. We are happy to support omega-3 and omega-7 research with donation of AlaskOmega® test materials on select projects.

AMARIN CORPORATION

Amarin Corporation plc is a biopharmaceutical company focused on the commercialization and development of therapeutics to improve cardiovascular health. Amarin's product development program leverages its extensive experience in lipid science and the potential therapeutic benefits of polyunsaturated fatty acids. Vascepa® (icosapent ethyl), Amarin's first FDA-approved product, is an ultra-pure, EPA-only omega-3 fatty acid product available by prescription. For more information about Vascepa visit www.vascepa.com.



AMERICAN SOCIETY FOR NUTRITION

ASN was founded in 1928 as the American Institute for Nutrition. In 2005, the American Society for Clinical Nutrition, the American Society for Nutritional Sciences (formerly the American Institute for Nutrition) and the Society for International Nutrition merged to form ASN. Today, the Society encompasses both research and clinical focuses and is building upon its rich history.

ARAWANA BRAND

Comprehensive range of edible oils including blended oils, soybean oil, rapeseed oil, corn oil, sunflower oil, sesame oil, groundnut oil and camellia oils, rice, flour, soy milk powder, noodle, mixed grains. Comprehensive range of edible oils including blended oils, soybean oil, rapeseed oil, corn oil, sunflower oil, sesame oil, groundnut oil and camellia oils, rice, flour, soy milk powder, noodle, mixed grains. Arawana is a division of Wilmar. Wilmar produces and markets edible oil, rice, flour, grains and noodles under our own brands to wholesalers and distributors in China, Indonesia, India, Vietnam, Bangladesh and Africa. Wilmar is the largest producer of consumer pack edible oils in the world. Over the years, Wilmar has established a comprehensive sales and distribution network reaching out to traditional retail outlets, supermarkets, convenience stores and hypermarkets.

AVANTI POLAR LIPIDS, INC.

Avanti Polar Lipids, Inc., has a long history of 50 years creating the highest purity lipids available. Our passion for high quality and unique products is only exceeded by our excellent reputation in the marketplace. Although we are known for our lipids, we are More than Lipids. We offer solutions for the entire product cycle...Research to Commercialization. Avanti ships worldwide and encompasses all 8 divisions of our company including: Highest Purity Lipid Reagents; API & Contract Manufacturing; Immunotherapy & Vaccine Development; Lipid Analysis; Mass Spec Standards, Antibodies & Lipid Toolbox; Liposomes & Nanoparticles; Liposome Production Tools; Synthesis & Beyond. We are here to help in any aspect of your research. People do amazing things with our lipids...what will you do?

BASF: BOOTH 3

BASF is a global market leader for omega-3 fatty acids offering a full range from low to medium to high-concentrate omega-3 fatty acids for pharmaceuticals, dietary supplements and clinical nutrition—derived from nature, enhanced by science.

CARLSON: BOOTH 7

Since 1965, Carlson has produced pure, quality, award-winning vitamins, minerals, fish oils, and other nutritional supplements. The company began with a single vitamin E product in Founder Susan Carlson's small Chicago apartment and quickly grew to offer the most complete line of vitamin E supplements in the world. In the early 1980s, we helped launch the omega-3 market in North America, importing our first high-quality, great-tasting, sustainable fish oils from Norway. In 2009, we released a new marine oil sourced from an abundant species of calamari. Today, the next generation of Carlson leads the company, and the innovations continue. Carlson now offers more than 200 products designed with your family's unique nutritional needs in mind.

EXHIBITORS & SPONSORS

CAYMAN CHEMICAL COMPANY: BOOTH 10

Headquartered in Ann Arbor, Michigan, Cayman Chemical Company supplies scientists worldwide with the resources necessary for advancing human and animal health. We manufacture high quality biochemicals, assay kits, antibodies, and recombinant proteins and offer contract services for custom chemical synthesis/analysis, assay development/screening, and drug discovery.

Our mission is to help make research possible. That starts by employing a talented and highly qualified group of experts to develop the tools to support research scientists across academic, biotechnology, and pharmaceutical institutions. Our scientists are experts in the synthesis, purification, and characterization of a wide-range of biochemicals. We are highly skilled in all aspects of assay and antibody development and are fully accomplished at protein expression, crystallization, and structure determination.

CRODA: BOOTH 9

Croda has specialist capabilities for manufacturing and delivering high purity Omega 3 fish oil concentrates globally. Croda creates lipids with high concentrations of EPA and/or DHA for use as nutritional supplements as well as active pharmaceutical ingredients (APIs).

Our Incromega™ and OmeRx™ fish oil concentrates are manufactured to ICH Q7 standards using proprietary purification technologies and our in-house technical and manufacturing expertise ensures high levels of purity, potency and quality throughout every step in the supply chain.

Croda's capabilities allow us to meet all regulatory demands as well as extremely stringent production standards required for pharmaceutical drugs and our Omega 3 production facility has been approved by the UK MHRA and inspected by the FDA for the manufacture of APIs.

DSM: BOOTH 4

Royal DSM is a global science-based company active in health, nutrition and materials. By connecting its unique competences in Life Sciences and Materials Sciences DSM is driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders simultaneously. DSM delivers innovative solutions that nourish, protect and improve performance in global markets such as food and dietary supplements, personal care, feed, medical devices, automotive, paints, electrical and electronics, life protection, alternative energy and bio-based materials. DSM and its associated companies deliver annual net sales of about €10 billion with approximately 25,000 employees. The company is listed on Euronext Amsterdam. More information can be found at www.dsm.com.

FRESENIUS KABI

Fresenius Kabi is a global health care company specializing in lifesaving medicines and technologies for infusion, transfusion and clinical nutrition. The products and services help to care for critically and chronically ill. Product portfolio: I.V. generic drugs, infusion therapies, clinical nutrition and related medical devices, products for whole blood and blood components collection and processing and transfusion medicine.

GOED

GOED is a proactive and accountable association of the finest manufacturers, marketers, and supporters of EPA and DHA omega-3s, working to educate consumers, government groups, and the healthcare community, while setting high ethical and quality standards for our business sector.

ILSI

ILSI is a global, nonprofit scientific organization where scientists from industry, government, and academia and other civil society organizations collaborate to generate scientific information and encourage scientific dialogue. ILSI's mission is to provide science that improves human health and well-being and safeguards the environment. ILSI achieves its mission by fostering collaboration among experts from industry, government, and academia and other civil society organizations on conducting, gathering, summarizing, and disseminating science. Our activities focus on nutrition and health promotion; food and water safety; risk science and toxicology; and sustainable agriculture and nutrition security.

JEOL: BOOTH 16

Since 1949, the JEOL legacy has been one of outstanding innovation in developing instruments used to advance scientific research and technology. JEOL has 60 years of expertise in the field of electron microscopy, more than 50 years in mass spectrometry and NMR spectrometry, and more than 40 years of e-beam lithography leadership. JEOL USA, Inc., a wholly-owned subsidiary of JEOL Ltd. Japan, was incorporated in the United States in 1962. The primary business of JEOL USA is sales of new instruments and peripherals and support of a vast installed base of instruments throughout the United States, Canada, Mexico, and South America.

LARODAN: BOOTH 2

Larodan AB develops, manufactures and market high quality research grade Lipids for the international research community. Our products are used in a number of fields within research, product development and industrial processes. Our product range includes fatty acids, oxylipins, carnitines, phospholipids, sphingolipids, ceramides, customized acyl glycerides, labeled lipids and many other products.

MEAD JOHNSON PEDIATRIC NUTRITION INSTITUTE

The Mead Johnson Pediatric Nutrition Institute is a global network dedicated to advancing and applying the latest breakthroughs in nutrition science to benefit infants and children worldwide. Our only purpose is to be at the forefront of pediatric nutrition research.

MORE LOVE FOUNDATION

More Love Charity Foundation's mission is innovation and public practice, leading the ecological public welfare, enhance self development capacity of beneficiaries; Our vision is to foster public interest personality, building public culture, our core values is to promote love, advocate equality, the pursuit of harmony.

NESTLE HEALTHSCIENCE

The Nestlé Institute of Health Sciences does fundamental research for the understanding of health and disease and for developing science-based targeted nutritional solutions for the maintenance of health. The Nestlé Institute of Health Sciences is part of Nestlé's global R&D network and works closely with Nestlé's Swiss R&D sites, such as the Nestlé Research Center and the Clinical Development Unit, as well as with Nestlé's global R&D network to share resources and complement expertise in differentiating technologies.

EXHIBITORS & SPONSORS

OMEGAQUANT: BOOTH 1

OmegaQuant partners with academic and corporate researchers to provide a full range of fatty acid analytical services. We also consult in study design and assist in data interpretation.

SUNTORY

Suntory Group offers food services and alcoholic beverages to achieve our mission "In Harmony with People and Nature." As part of Suntory Group, Suntory Wellness is making an innovative business for health care. Institute for Health Care Science is the center for research based on science and tradition.

SKUNY BIOSCIENCE: BOOTH 8

Skuny Bioscience is a dynamic bio-tech company committed to discovery and commercializes active ingredients and formulas derived nutritional and pharmaceutical products utilizing proprietary biotechnology including Bio-separation, Bio-enzyme, and Fermentation. Skuny has developed a unique and patented technological platform (MSETTM) for manufacturing high purity Omega-3 EPA/DHA/ALA Oil and other lipids Oil, MSETTM included 11 patents and it is a key breakthrough for separating isomer or similar polarity substances in Oil. With unceasing development in pharmaceutical and nutritional industries, now Skuny is the one of leading global suppliers of high quality lipids ingredients as Omega-3, 6, 9, Vitamin E and etc. Megafullife® is the brand for Skuny's Lipids ingredients and solutions.

PROGRAM AT-A-GLANCE

Saturday, May 26 Executive & Board meetings

Sunday, May 27

9:00 AM–12:00 PM

Satellite 1: An Update on the Role of EPA and DHA for Brain Health (Sponsored by GOED), *Room 309*

14:00 PM–17:30 PM

Satellite 2: Arachidonic and docosahexaenoic acids in infant development (Sponsored by DSM), *Room 309*

18:30 PM

Opening Welcome Reception in the Havana Room at the Tropicana Hotel

	Monday, May 28	Tuesday, May 29	Wednesday, May 30	Thursday, May 31
8:00 AM	OPENING CEREMONY , <i>Rooms 319–320</i>	Meet the Professors Breakfast (07:00 Start), <i>Rooms 301–302</i>	Off-day for scheduled and unscheduled tours	Appreciation Breakfast (07:00 Start), <i>Rooms 301–302</i>
9:00 AM	PLENARY 1: The Diverse Metabolic Actions Of FGF21 Prof. David Mangelsdorf, University of Texas, Southwestern, United States of America <i>Rooms 319–320</i>	PLENARY 3: Novel Pro-Resolving Mediators In Infectious Inflammation & Tissue Regeneration Prof. Charles N. Serhan, Ph.D., D.Sc., Harvard Medical School, United States of America <i>Rooms 319–320</i>		PLENARY 5: Genome And Metagenome Interaction On Lipids Metabolism Prof. Jingyuan Fu, University Medical Centre Groningen, The Netherlands, <i>Rooms 319–320</i>
10:00 AM	Coffee Break / Posters & Exhibits <i>Rooms 312–317</i>	Coffee Break / Posters & Exhibits <i>Rooms 312–317</i>		Coffee Break / Posters & Exhibits <i>Rooms 319–320</i>
11:00 AM	PS1: Aging and Neuro-degenerative Diseases <i>Rooms 319–320</i>	PS9: Clinical Neuroscience (Psychiatry / Mental Health) <i>Rooms 319–320</i>		PS18: Dietary Fatty Acid Intake <i>Rooms 319–320</i>
	PS2: Lipidomics/ Metabolomics Keynote: R. Murphy <i>Room 318</i>	PS10: Metabolic Disorders <i>Room 318</i>		PS19: Lipid Metabolism 1 <i>Room 318</i>
	PS3: Nutrition (General) <i>Room 311</i>	PS11: Panel on the Omega-6 / Omega-3 Ratio (Sponsored Session) <i>Room 311</i>		PS20: Lipid Therapeutics & Protective Potential Keynote: W-H. Schunck <i>Room 311</i>
12:00 PM	Early Career Award Dr. Mojgan Masoodi, <i>Rooms 319–320</i>	ISSFAL Member Meeting <i>Room 318</i>		Alexander Leaf Award Dr. Maria Makrides, <i>Rooms 319–320</i>
	Lunch / Posters & Exhibits <i>Rooms 312–317</i>	Lunch / Posters & Exhibits <i>Rooms 312–317</i>		Posters & Exhibits (Sandwiches available for purchase) <i>Rooms 312–317</i>
13:00 PM				
14:00 PM	PLENARY 2: Roles of Pregnancy DHA in Maternal and Child Health and Development Prof. Susan Carlson, Kansas University Medical Center, United States of America <i>Rooms 319–320</i>	PLENARY 4: Beyond GWAS Of Insulin Resistance: Translation Of Genetic Association To Function Prof. Erik Ingelsson, Stanford University, United States of America <i>Rooms 319–320</i>		PLENARY 6: Omega-3 And Inflammatory Processes: From Membrane To Nucleus And From Bench To Bedside Prof. Philip Calder, University of Southampton, United Kingdom <i>Rooms 319–320</i>
15:00 PM	PS4: Brain Fatty Acid Uptake <i>Rooms 319–320</i>	PS12: Genetics and Gene Expression <i>Rooms 319–320</i>		PS21: Oxidized Lipids Keynote: B. Hammock <i>Rooms 319–320</i>
	PS5: Cardiovascular <i>Room 318</i>	PS13: Cancer and Microbiome <i>Room 318</i>		PS22: Lipid Metabolism 2: Clinical Studies <i>Room 318</i>
	PS6: Maternal / Infant Nutrition <i>Room 311</i>	PS14: Clinical Trial Methodology: Design & Execution <i>Room 311</i>		PS23: Ketoneuro-therapeutics (Sponsored Session) <i>Room 311</i>
16:00 PM	Coffee Break / Posters & Exhibits, <i>Rooms 312–317</i>	Coffee Break / Posters & Exhibits <i>Rooms 312–317</i>		Coffee Break <i>Premier Foyer</i>
17:00 PM	Omega-3 Research Award Dr. Michael Crawford, <i>Rooms 319–320</i>	PS15: Endocannabinoids Keynote: D. Lovinger <i>Rooms 319–320</i>		Why Was Omega-3 Ignored for 50 Years? A. Spector, <i>Rooms 319–320</i>
	PS7: Neuroscience Keynote: N. Bazan <i>Rooms 319–320</i>	PS16: Receptor Signaling & Bioactive Lipids <i>Room 318</i>		Closing Ceremony & 2020 Congress Preview
18:00 PM	PS8: Inflammation and Allergy <i>Room 318</i>	PS17: Clinical Trial Methodology: Fatty Acid Best Practices (Sponsored Workshop) <i>Room 311</i>		END
	DSM Science and Technology Award <i>Room 311</i>			
19:00 PM	END	END		
	Young Investigator Social Corporate Dinner (Invite Only)	Special Interest Group Meetings		GALA AT "THE HOFBRAUHAUS"

SATELLITE SYMPOSIA

SATELLITE 1: AN UPDATE ON THE ROLE OF EPA AND DHA FOR BRAIN HEALTH SUNDAY, MAY 27 | 09:00–12:00

Premier 309 | Sponsored by GOED

An update on the role/functions of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) in human brain health will be explored. The presentations will explore the current state of the science and identify research gaps in the following areas: mental illness, Attention Deficit (Hyperactivity) Disorder, cognitive function and brain injury.

PROGRAM/SPEAKERS

Introduction: Harry Rice, Vice President of Regulatory and Scientific Affairs, GOED

EPA/DHA and Mental Illness

Capt. Joseph R. Hibbeln, M.D. Acting Chief, Section on Nutritional Neurosciences LMBB, NIAAA, NIH, United States of America

EPA/DHA in Depression and ADHD

Kuan-Pin Su, M.D., Ph.D., China Medical University, Taiwan

Coffee Break

EPA/DHA and Cognitive Function/Decline

Karen Yurko-Mauro, Ph.D., DSM Nutritional Products, United States of America

EPA/DHA and Brain Injury

Adina Michael-Titus, D.Sc, University of London, United Kingdom

Panel Discussion

SATELLITE 2: ARACHIDONIC AND DOCOSAHEXAENOIC ACIDS IN INFANT DEVELOPMENT SUNDAY, MAY 27 | 14:00–17:00

Premier 309 | Sponsored by DSM

The biological functions of arachidonic acid (ARA) and docosahexaenoic acid (DHA) in mammalian development, both human and animal, will be highlighted in this symposium. An international panel of thought leaders in this area will be assembled for these presentations.

Co-chairs: *Norman Salem, Jr. (United States of America) & Susan E. Carlson (United States of America)*

PROGRAM/SPEAKERS

Introduction: Norman Salem Jr., Nutritional Sciences, Biological Sciences, Senior Science Fellow, Nutritional Lipids, DSM

Developmental Implications of the Newly Discovered Elovans for Vision and Cognition

Nicholas Bazan, Professor & Director, Neuroscience Center of Excellence, LSU Health Sciences Center

ARA and DHA Functions in Delta-6 Desaturase Knockout Mice: Teasing Apart Their Separate Functions Using Artificial Rearing

Toru Moriguchi, Laboratory of Food and Nutritional Science, Department of Food and Life Science, School of Life and Environmental Science, Azabu University, Japan

Early Life Supplementation without LCPUFA Results in Long Term Differences in Brain Function

Kathleen Gustafson, Research Associate Professor, University of Kansas Medical Center, United States of America

Addition of ARA and DHA to Infant Formula: Clinical Results and Future Directions

Eric Lien, Adjunct Professor, University of Illinois, United States of America

Interaction of Infant Diet and FADS Gene Polymorphisms on Cognition and Allergy: Implications for Policy

Berthold Koletzko, LMU—Ludwig-Maximilians-Universität, Germany

Panel Discussion

FINAL PROGRAM

SUNDAY, MAY 27

TIME

18:30–20:30 **Opening Reception in the Havana Room at the Tropicana Hotel**

MONDAY, MAY 28

TIME

IMPORTANT: The six digit number following the session number (i.e. PS1.01) is the corresponding abstract ID number which is available online.

08:15–08:30 **Opening Ceremony** Premier 319–320

08:30–09:30 **Plenary 1: The Diverse Metabolic Actions of FGF21** Premier 319–320

Prof. David Mangelsdorf, University of Texas, Southwestern, United States of America

Fibroblast growth factor 21 (FGF21) is an endocrine and paracrine factor that is produced in many tissues in response to metabolic stress, including several nutrient and dietary conditions. In addition to its physiologic role in regulating the adaptive response to these conditions, pharmacologic administration of FGF21 to obese animals has profound effects on lipid and carbohydrate metabolism, causes weight loss and improves insulin sensitivity. The diverse actions of FGF21 are mediated through a unique receptor complex that is composed of a classic FGF receptor and the novel co-receptor, β -Klotho. Investigation of the tissue-specificity of this FGF21 signaling pathway has revealed the existence of a complex peripheral and neural endocrine circuit, which in addition to regulating metabolism, also governs reward behaviors.

09:30–10:00 **Coffee Break / Poster & Exhibits** Premier 312–317

PS1 Premier 319–320

AGING & NEURODEGENERATIVE DISEASES

Co-Chairs: Norman Salem Jr. (United States of America) & Melanie Plourde (Canada)

PS2 Premier 318

LIPIDOMICS/METABOLOMICS

Co-Chairs: Hee-Yong Kim (United States of America) & Tom Brenna (United States of America)

PS3 Premier 311

NUTRITION (GENERAL NUTRITION)

Co-Chairs: Cornelius Smuts (South Africa) & Barbara Meyer (Australia)

10:00–10:15

PS1.01 441491

Phospholipid fatty acid profiling in post-mortem brains across the spectrum of Alzheimer's disease

Aleix Sala-Vila (Spain)

PS2.01

Keynote: Lipidomic Mass Spectrometry: Challenges and Successes

Robert Murphy (United States of America)

PS3.01 442273

Associations between red blood cell fatty acid status, sex, APOE genotype and cognition: Data from the CANN trial

Anne Marie Minihiene (United Kingdom)

10:15–10:30

PS1.02 434126

Brain Docosahexaenoic Acid uptake in Apolipoprotein E4 carriers: a PET study with [1-11C]-DHA

Hussein Yassine (United States of America)

PS3.02 446420

Preliminary analysis suggests a high DHA multi-nutrient supplementation and aerobic exercise produce similar improvements in verbal memory in older females

Paul Fairbairn (United Kingdom)

10:30–10:45

PS1.03 440177

The age-associated decrease in brain DHA is only evident in females with an APOE4 genotype: a study in a rodent transgenic model

Anneloes Martinsen (United Kingdom)

PS3.03 445169

Pre- and postnatal n-3 fatty acid and iron deficiency negatively and irreversibly affect bone development in rats

Jeannine Baumgartner (South Africa)

10:45–11:00

PS1.04 448545

APOE4 dependent deficits in brain LPC-DHA and its transporter mfsd2a in Alzheimer's disease patients

Laila Abdullah (United States of America)

PS2.02 448007

Diagnostic evaluation of steroidomics in a breast cancer cohort in Sweden by convergence chromatography-tandem mass spectrometry

Neil de Kock (Sweden)

PS3.04 446982

Optimising long-chain polyunsaturated fatty acid content of donor human milk: a review of current milk banking practices and recommendations for improvement

Isabell Nessel (United Kingdom)

MONDAY, MAY 28

11:00–11:15	PS1.05 430871 Senescence progression and Aβ cytotoxicity are counter regulated via novel VLC-PUFAs mediators: the elovanoids Khanh V. Do (United States of America)	PS2.03 419736 Identification of novel pro-resolving and inflammatory lipid mediators in human psoriasis skin and blood Alexander V. Sorokin (United States of America)	PS3.05 447113 Lipid mediating effects of almonds in overweight and obese participants at risk of type 2 diabetes Welma Stonehouse (Australia)
11:15–11:30	PS2.04 447039 Lipidomics reveals association of plasma lysophosphatidylcholine species with adolescent obesity: a pilot study Yang Wang (People's Republic of China)		
11:30–12:00	Early Career Award: The Role of Lipid Metabolism in Metabolic Disorders: From Biomarker Discovery to Nutritional Intervention Dr. Mojgan Masoodi, Nestlé Institute of Health Sciences, Switzerland Premier 319–320		
12:00–13:30	Lunch / Posters & Exhibits Premier 312–317		
13:30–14:30	Plenary 2: Roles of Pregnancy DHA in Maternal and Child Health and Development Premier 319–320 Prof. Susan Carlson, Kansas University Medical Center, United States of America DHA is a nutrient found in a limited number of foods and consequently subject to variable intake. The hypothesis that greater DHA could benefit maternal and fetal development arose largely out of observational studies and a few clinical studies in infants linking low DHA status to depression and infant/child cognitive development, respectively. While some smaller clinical studies support these hypotheses, larger studies designed to test these outcomes have not. Secondary outcomes from these same trials, however, suggest other benefits of increased DHA intake during pregnancy. The most convincing finding is that higher DHA intake can reduce early preterm birth (<34 weeks gestation), which compared to term and late preterm birth is associated with higher morbidity, cost and long-term health issues. Two recent RCTs studied DHA to reduce early preterm birth as a primary outcome—the ORIP trial conducted in Australia and the ADORE trial, currently recruiting in the United States of America. We await results from these trials. An RCT from Denmark showed a significant reduction in asthma in young children exposed to higher omega-3 LCPUFA in utero. Other outcomes for which there is lower quality of evidence—but that suggest the importance of continued study—include improved autonomic control of the fetus, reduction in maternal and newborn stress, resistance to higher blood pressure with child obesity, more efficient child brain function, and increased fat free mass in young children. New studies are being conducted (at least in the USA) with cohorts of women who have better DHA status than a decade ago; and this may confound our ability to see real benefits of improved DHA intake.		
	PS4 Premier 319–320 BRAIN FATTY ACID UPTAKE Co-Chairs: Michel Lagarde (France) & Richard Bazinet (Canada)	PS5 Premier 318 CARDIOVASCULAR Co-Chairs: William Harris (United States of America) & Angela Devlin (Canada)	PS6 Premier 311 MATERNAL/INFANT NUTRITION Co-Chairs: Robert Gibson (Australia) & Miyoung Suh (Canada)
14:30–14:45	PS4.01 457118 Efficient enrichment of brain EPA and DHA by oral lysophosphatidylcholine (LPC)-EPA, the preferred carrier for Mfsd2a Papasani V. Subbaiah (United States of America)	PS5.01 445242 Fatty acid risk score improves risk prediction in primary and secondary prevention compared to established risk prediction algorithms Clemens von Schacky (Germany)	PS6.01 438691 Docosahexaenoic Acid and Bronchopulmonary Dysplasia in Preterm Infants—The N3RO Trial Robert Gibson (Australia)
14:45–15:00	PS4.02 464288 How docosahexaenoic acid enters the brain: A model unifying plasma lysophospholipid and unesterified pools Richard P. Bazinet (Canada)	PS5.02 447555 EPA and DHA Protection Against Left Ventricular Hypertrophy: MESA Linxi Liu (United States of America)	PS6.02 445618 Long-Term Outcomes of Prenatal DHA Supplementation John Colombo (United States of America)
15:00–15:15	PS4.03 447386 DHA bioavailability from the structured phospholipid 1-acetyl,2-docosahexaenoyl-glycerophosphocholine (AceDoPC®) in humans Houda Nacir (France)	PS5.03 426011 Erythrocyte Long-Chain Omega-3 Fatty Acid Levels are Inversely Associated with Mortality and with Incident Cardiovascular Disease: the Framingham Heart Study William Harris (United States of America)	PS6.03 439580 Docosahexaenoic acid supplementation during pregnancy affects offspring brain function at age 5 years Kathleen Gustafson (United States of America)
15:15–15:30	PS4.04 447685 Applying stable carbon isotopic analysis at the natural abundance level to determine the origin of brain docosahexaenoic acid Vanessa Giuliano (Canada)	PS5.04 433119 Biomarkers of dietary omega-6 fatty acids and incident cardiovascular disease and mortality: a pooled analysis of 30 cohort studies Matti Marklund (United States of America)	PS6.04 447734 DHA supplementation during prenatal ethanol exposure reduces oxidative stress in fetal liver Bradley A. Feltham (Canada)

MONDAY, MAY 28

15:30–15:45

PS4.05 447964

Natural abundance carbon isotopic analysis indicates equal contribution of local synthesis and plasma uptake to palmitic acid levels in mouse brain

R.J. Scott Lacombe (Canada)

PS5.05 447385

Gender dependent effects of fish oil supplementation on cerebrovascular responsiveness

Peter Howe (Australia)

PS6.05 432877

Erythrocyte polyunsaturated fatty acids, FADS and PPARG2 single-nucleotide polymorphisms are associated with plasma lipid profile in 9-month-old infants

Lotte Lauritzen (Denmark)

15:45–16:00

PS5.06 446717

Identification of v-ATPase as an intracellular lipid sensor in the heart

Jan FC. Glatz (The Netherlands)

PS6.06 447546

Efficacy of novel small-quantity lipid-based nutrient supplements in improving long-chain polyunsaturated fatty acid status in South African infants: A randomized, controlled trial

Cornelius Smuts (South Africa)

16:00–16:15

Coffee Break / Posters & Exhibits Premier 312–317

16:15–16:45

Omega-3 Research Award Premier 319–320

Dr. Michael Crawford, Imperial College, United Kingdom

PS7 Premier 319–320

NEUROSCIENCE

Co-Chair: Nicolas Bazan (United States of America) & Hung Wen (Kevin) Lin (United States of America)

PS8 Premier 318

INFLAMMATION AND ALLERGY

Co-Chairs: Philip Calder (United Kingdom) & Raza Shaikh (United States of America)

Premier 311

DSM SCIENCE AND TECHNOLOGY AWARD

Co-Chairs: Norman Salem, Jr. (United States of America) & Szabolcs Peter (Switzerland)

16:45–17:00

PS7.01 441812

Keynote: The elovanoids: a novel class of mediators that arise from elongated omega-3 fatty acids and target neuronal pro-homeostatic signaling hubs

Nicolas G. Bazan (United States of America)

PS8.01 441562

The Protective Effects of a Lipid Extract from Hard-Shelled Mussel (*Mytilus Coruscus*) on Intestinal Integrity after Lipopolysaccharide Challenge in Mice

Yi Wan (People's Republic of China)

1.

The regulation of tissue n-acyl ethanolamine and arachidonoylglycerol levels by diet, ischemia, n-acyl phosphatidylethanolamine-specific phospholipase D and fatty acid amide hydrolase

Lin Lin (Canada)

17:00–17:15

PS8.02 424624

Percent omega-3 in highly unsaturated fatty acids (HUFAs) is a predictor of disease outcomes in an environmental toxicant-triggered lupus mouse model

Kathryn Wierenga (United States of America)

2.

Cellular and Molecular Basis for Omega 3 Polyunsaturated Fatty Acid Regulation of Brown Adipose Tissue

Mandana Pahlavani (United States of America)

17:15–17:30

PS7.02 447228

Dietary deficiency of n-3 fatty acids and macular pigment carotenoids: Update on a nonhuman primate model of retinal aging and macular degeneration

Martha Neuringer (United States of America)

PS8.03 425506

Docosahexaenoic acid improves the decrement in antibody production of obese mice upon influenza infection through a mechanism mediated by 14-HDHA

Miranda J. Crouch (United States of America)

3.

N-3 Polyunsaturated Fatty Acids and Neuroinflammation in a Mouse Model of Alzheimer's Disease

Kathryn Hopperton (Canada)

17:30–17:45

PS7.03 429596

Polyunsaturated fatty acids tune microglial shaping of neuronal circuits in the developing brain

Agnes Nadjar (France)

PS8.04 441686

Docosahexaenoic Acid Consumption Prevents Toxicant-Triggered Ectopic Lymphoid Structure Development and Autoantibody Responses in Lupus-Prone Mice

James Pestka (United States of America)

4.

Docosahexaenoic acid lowers cardiac mitochondrial respiratory enzyme activity by replacing linoleic acid in the phospholipidome

E. Ross Pennington (United States of America)

17:45–18:00

PS7.04 448408

Effect of brain DHA status and exogenous synaptamide on injury outcome in a mouse model of repeated brain injury

Abhishek Desai (United States of America)

PS8.05 446023

Palmitoleic acid attenuated the high fat diet induced liver inflammation

Camila O. Souza (Brazil)

5.

Discussion and Q&A

18:00–18:15

PS7.05 427336

Palmitic acid methylation confers neuroprotection in cerebral ischemia

Hung Wen (Kevin) Lin (United States of America)

PS8.06 448127

Supplementing dams with both arachidonic and docosahexaenoic acid has beneficial effects on growth and immune development in offspring

Kevin Hadley (United States of America)

19:30–22:30

Young Investigators Social at The Mob Museum

07:00–08:30

Meet the Professors Breakfast (by invitation only) Premier 301–302

08:30–09:30

Plenary 3: Novel Pro-Resolving Mediators in Infectious Inflammation & Tissue Regeneration Premier 319–320

Prof. Charles N. Serhan, Ph.D., D.Sc., Harvard Medical School, United States of America

Uncontrolled inflammation is now known to be a component of ageing as well as many widely occurring chronic diseases such as arthritis, periodontal disease, asthma, cardiovascular diseases and neurodegenerative diseases. Using a systems approach with self-limited inflammatory infectious exudates to map tissue events, cell traffic and identification of protein and chemical mediators, we identified 3 structurally separate families of potent n-3 essential fatty acid-derived (EPA, DPA, DHA) novel mediators, termed resolvins, protectins and maresins that stimulate resolution of inflammation in vivo. Complete structural elucidation and total organic synthesis of these new molecules confirmed their functions in vivo in many animal disease models. Each member of this new super-family is chemically distinct and functions as a pro-resolving local mediator that controls the duration and magnitude of acute inflammatory responses with actions in pico- to nanogram range in animal disease models. The biosynthetic pathways and potent mediators from the resolvins, protectins and maresins bioactive metabolomes are coined specialized pro-resolving mediators (SPM). Mapping of these resolution circuits provides new avenues to probe the molecular basis of many widely occurring diseases (CN Serhan, Nature 2014, FJ 2017)1. This ISSFAL presentation shall focus on our recent advances in the biosynthesis and functions of specialized pro-resolving mediators (SPM), stereochemical assignments, total organic synthesis of new resolvins and resolvins-conjugates with actions in counter-regulation of pro-inflammatory cytokines (TNF α , IL-6), pro-inflammatory eicosanoids and tissue regeneration. SPM possess potent multi-pronged anti-inflammatory, pro-resolving, and anti-microbial actions in animal models. We use LC-MS-MS mediator-metabololipidomics to profile SPM in human tissues (serum, plasma, breast milk, adipose and brain) uncovering new pathways that stimulate tissue regeneration and bacterial clearance. Identification of SPM during inflammation-resolution indicates that resolution is an active programmed process challenging the old concept that resolution is a passive process where chemotactic molecules dilute and simply wane to resolve the local leukocyte exudates. Together these findings indicate that endogenous resolution pathways may underlie prevalent diseases associated with uncontrolled inflammation and open the potential for resolution-based physiology and pharmacology.

09:30–10:00

Coffee Break / Posters & Exhibits Premier 312–317

PS9 Premier 319–320

**CLINICAL NEUROSCIENCE
(PSYCHIATRY/MENTAL HEALTH)**

Co-Chairs: Captain Joseph Hibbeln (United States of America) & Kuan-Pin Su (Taiwan)

PS10 Premier 318

METABOLIC DISORDERS

Co-Chairs: Robert Block (United States of America) & Camilla Damsgaard (Denmark)

PS11 Premier 311

**PANEL ON THE OMEGA-6/
OMEGA-3 RATIO (Sponsored Session)**

Co-Chairs: Artemis Simopoulos (United States of America) & Jing Kang (United States of America)

10:00–10:15

PS9.01 453766

An fMRI study of reward related responses following 16 weeks of omega-3 supplementation in adults with ADHD: The Neuroimaging, Omega-3 and Reward in Adults with ADHD (NORAA) trial
Rachel Gow (United Kingdom)

PS10.01 438907

Efficacy of n-3 LCPUFAs in Non-Alcoholic Fatty Liver Disease (NAFLD): Data from two rodent studies
Noemi Tejera (United Kingdom)

PS11.01 497301

Genetic variants in the metabolism of omega-6 and omega-3 fatty acids: their role in the determination of nutritional requirements and chronic disease risk
Artemis Simopoulos (United States of America)

10:15–10:30

PS9.02 447867

Maternal fish consumption during pregnancy and smoking behavioral patterns
Joseph R. Hibbeln (United States of America)

PS10.02 426172

Molecular mechanisms involved in the reversal of hepatic steatosis (HE) by dietary supplementation with docosahexaenoic acid (DHA) plus hydroxytyrosol (HT) in mice fed a high-fat diet
Rodrigo Valenzuela (Chile)

10:30–10:45

PS9.03 447468

Results of Food2Learn: a double-blind, randomised, placebo-controlled krill oil supplementation study in adolescents with a low baseline Omega-3 Index
Inge SM. van der Wurff (The Netherlands)

PS10.03 447653

Dietary Fatty Acid Composition Drives Obesity-Associated Metabolic Disease
Jennifer Kaplan (United States of America)

PS11.02 430756

Dietary implications of a FADS1 regulatory genotype on PUFA synthesis and lipid profiles
Tom Brenna (United States of America)

10:45–11:00

PS9.04 416399

Dietary intake of fish and n-3 polyunsaturated fatty acids and risks of perinatal depression: The Japan Environment and Children's Study (JECS)
Kei Hamazaki (Japan)

PS10.04 422484

The effect of obesity on adipose tissue fatty acid composition and lipid mediators, and their response to chronic marine omega-3 fatty acid supplementation: The BIOCLAIMS
Helena Fisk (United Kingdom)

PS11.03 497294

The omega-6/omega-3 fatty acid imbalance is a critical risk factor for chronic disease
Jing Kang (United States of America)

11:00–11:15

PS9.05 423384

Eicosapentaenoic and docosahexaenoic acids have different effects on peripheral phospholipase A2 gene expressions in acute depressed patients
Kuan-Pin Su (Taiwan)

PS10.05 432956

PPARG and APOE polymorphisms modify associations between n-3 LCPUFA and plasma lipid profile and insulin in 8–11 year-old children
Camilla T. Damsgaard (Denmark)

TUESDAY, MAY 29

11:15–11:30

PS9.06 454584

Key considerations in Clinical Trials of Omega-3 for Child Behaviour and Learning: lessons from the 'Oxford-Durham' and 'Docosahexaenoic Acid Oxford Learning and Behaviour' Studies
Alex J. Richardson (United Kingdom)

PS10.06 432686

Partial replacement of dietary linoleic acid with α -linolenic acid or long chain n-3 polyunsaturated fatty acids prevents fructose-induced metabolic syndrome via attenuating adipose tissue inflammation and oxidative stress
Ahamed Ibrahim (India)

PS11.04 447660

Effects of alpha-linolenic acid and linoleic acid on inflammatory mediators in cultured endothelial cells
Ella Baker (United Kingdom)

11:30–12:00

ISSFAL Member Meeting *Premier 318*

12:00–13:30

Lunch / Posters & Exhibits *Premier 312–317*

13:30–14:30

Plenary 4: Beyond GWAS of Insulin Resistance: Translation of Genetic Association to Function *Premier 319–320*

Prof. Erik Ingelsson, Stanford University, United States of America

Recent advances in human genetics, high-throughput molecular profiling and gene editing technologies offer exciting opportunities for understanding of human disease. These methods can be used to discover novel mechanisms and drug targets, to validate potential targets and to understand the link from a genetic locus to downstream function. Building on this emerging body of work, we use a combination of tools in our lab to discover and characterize genes associated with insulin resistance, and to search for potential novel drug targets. In addition to following up loci that we and others have established using genome-wide association studies (GWAS), we also analyze phenotypes of individuals that carry gene-disrupting alleles (loss-of-function variants) in genes encoding novel or known drug targets to predict effects resulting from the candidate drugs targeting these genes or downstream pathways. Further, we combine this information with orthogonal data from large-scale -omics methods reflecting other aspects of the links between genotype and phenotype. Finally, we perform detailed mechanistic studies using CRISPR gene editing techniques to perturb candidate genes in human cell lines and mouse models to directly demonstrate gene function and to further understand underlying mechanisms.

PS12 *Premier 319–320*

GENETICS AND GENE EXPRESSION

Co-Chairs: Berthold Koletzko (Germany) & JohnPaul SanGiovanni (United States of America)

PS13 *Premier 318*

CANCER AND MICROBIOME

Co-Chairs: Robert Chapkin (United States of America) & Duo Li (People's Republic of China)

PS14 *Premier 311*

CLINICAL TRIAL METHODOLOGY: DESIGN & EXECUTION

Co-Chairs: Maria Makrides (Australia) & Susan Carlson (United States of America)

14:30–14:45

PS12.01 445011

Twelve novel genetic loci associated with plasma EPA and DHA
JohnPaul SanGiovanni (United States of America)

PS13.01 446309

Docosahexaenoic acid controls 5-Fluorouracil-mediated NLRP3 inflammasome activation in myeloid-derived suppressor cells
Adélie Dumont (France)

PS14.01 448493

Optimising trial designs for fatty acid intervention studies
Maria Makrides (Australia)

14:45–15:00

PS12.02 438834

Replication of a gene-diet interaction at CD36, NOS3 and PPARG in response to n-3 PUFA supplementation on blood lipids: a double-blind randomized controlled trial
Duo Li (People's Republic of China)

PS13.02 431627

Increased plasma membrane order associated with oncogenic Apc and Kras signaling promotes cell proliferation in colonocytes
Eunjoo Kim (United States of America)

15:00–15:15

PS12.03 421979

Homozygous Expression of Mutant ELOVL4 Leads to Seizures and Death in a Novel Animal Model of Very Long-Chain Fatty Acid Deficiency
Blake R. Hopiavuori (United States of America)

PS13.03 446306

Endogenous omega 3 fatty acids prevent gut microbiota dysbiosis, colon mucus layer thickness alteration and endoplasmic reticulum stress induced by high-fat high-sucrose diet
Quentin Escoula (France)

PS14.02 448694

Planning for success: Strategies for effective operationalization of a clinical trial protocol
Karen P. Best (Australia)

15:15–15:30

PS12.04 446931

Use of Pro-Resolving Bioactive Lipids to Address Aberrant Interplay among Organelles following Epigenetic Insult in Neuromuscular Disease
Patricia C. Kane (United States of America)

PS13.04 448444

Impact of steroid hormones on the expression of fatty acid desaturases and elongases in hormone-dependent carcinoma cell lines
Maroua Mbarik (Canada)

TUESDAY, MAY 29

15:30–15:45	PS12.05 446416 Methylome and transcriptome changes are related to the reduced proliferation and cell death induced by docosahexaenoic acid in Jurkat cells Jose Perez-Mojica (United Kingdom)	PS13.05 425057 Maternal n-3 polyunsaturated fatty acids diet during pregnancy decreases mammary cancer risk of female offspring Jiaomei Li (People's Republic of China)	PS14.03 443664 Keeping the Train on the Tracks: How to Efficiently Execute an Ongoing Clinical Trial Elizabeth Kerling (United States of America)
15:45–16:00		PS13.06 445888 Altered lipid composition of fat infiltrated skeletal muscle of cancer patients Amritpal S. Bhullar (Canada)	
16:00–16:30	Coffee Break / Posters & Exhibits Premier 312–317		
	PS15 Premier 319–320 ENDOCANNABINOID AND BIOACTIVE LIPIDS Co-Chairs: Anna Nicolaou (United Kingdom) & Bill Huang (United States of America)	PS16 Premier 318 RECEPTOR SIGNALING & BIOACTIVE LIPIDS Co-Chairs: Klaus Gawrisch (United States of America) & Simon Dylla (United Kingdom)	PS17 Premier 311 CLINICAL TRIAL METHODOLOGY: FATTY ACID BEST PRACTICES (SPONSORED WORKSHOP) Co-Chairs: Tom Brenna (United States of America) & Renate DeGroot (Netherlands)
16:30–16:45	PS15.01 497679 Keynote: Endocannabinoid Roles in Brain Function and Behavior David Lovinger (United States of America)	PS16.01 402430 Free fatty acid receptor 4 mediates the anti-osteoclastogenic effect of unsaturated fatty acids through β-arrestin 2 signalling pathways Abe Kasonga (South Africa)	PS17.01 497308 Factors that influence omega-3 long chain polyunsaturated fatty acid levels in human blood—A Systematic Literature Review Renate DeGroot (The Netherlands) Barbara J. Meyer (Australia)
16:45–17:00		PS16.02 448481 How does cholesterol modulate function of G protein-coupled membrane receptors? Klaus Gawrisch (United States of America)	
17:00–17:15	PS15.02 445961 Biosynthesis of N-docosahexaenoyl ethanolamine studied by mass spectrometry Michel Lagarde (France)	PS16.03 448506 Linoleic acid entering the brain is rapidly metabolized into oxidized metabolites that regulate neuronal signaling Ameer Taha (United States of America)	PS17.02 458484 ILSI Fatty Acid Best Practices Project: Introduction, Study Design and interpretation Melanie Plourde (Canada)
17:15–17:30	PS15.03 402430 Molecular mechanism of synaptamide-mediated GPR110 activation probed by in-cell crosslinking, mass spectrometry and structural modeling Bill Huang (United States of America)	PS16.04 445654 Modelling the Network of Eicosanoids in Human Skin Cells Megan Uttley (United Kingdom)	
17:30–17:45	PS15.04 447948 Dietary fatty acids augment tissue levels of endocannabinoids in n-acylphosphatidylethanolamine phospholipase D (NAPE-PLD) knockout mice Lin Lin (Canada)	PS16.05 446436 Discovering the influence of 15-Lipoxygenase and its Metabolites in Glioblastoma Growth and Migration/Invasion Matthew T. Ferreira (Brazil)	PS17.03 458484 FABP Laboratory Analysis and reporting Ken D. Stark (Canada)
17:45–18:00	PS15.05 447342 Chronic inflammatory arthritis drives system-wide changes in the circadian regulation of bioactive lipids Anna Nicolaou (United States of America)	PS16.06 433401 The novel lipid mediators, elovanoids, target telomerase signaling in human retinal pigment epithelial cells Surjyadipta Bhattacharjee (United States of America)	

TUESDAY, MAY 29

19:30–21:30

Special Interest Group Meetings

Challenges in lipid trafficking and metabolism Premier 304

Hosted by: Chuck Chen (United States of America), Blake Hopiavuori (United States of America) & Kevin Lin (United States of America)

A major challenge we face as lipid biologists, is the inability to accurately and reproducibly track lipids as they are trafficked intracellularly. Cellular membranes have unique lipid profiles, but for example, how do cells distinguish between a 26:0-containing (dihydro) ceramide and a 22:6n3-containing phosphatidylcholine? Are there unique chaperones for specific lipids? How are lipid molecules recognized by such chaperones? Is it based on the electron cloud signature of a specific lipid or purely structural configurations?

Similar to proteins, the objective of the Lipid Trafficking Interest Group is to target, track, and identify unique lipid molecules to better understand how lipids are involved in various pathological conditions. A better understanding of lipid biochemistry may be the key to understanding the most complicated human diseases. Come share your thoughts and ideas with us as we embark on this complicated yet exciting journey.

Lipidomics Special Interest Group Premier 308

Hosted by: Juan J. Aristizabal Henao (Canada), Alexander Sorokin (United States of America) & Yang Wang (People's Republic of China)

Lipidomics requires advanced expertise in lipid metabolism and analytical chemistry. Rapid changes in technology, such as mass spectrometry instruments and software to process the data add to the challenges in the field, particularly for graduate students. The use of lipidomics can provide unique insights into the various influences on lipid biology such as nutrition and genetics and help elucidate metabolic pathways in the study of health and disease. This session will provide a place where graduate students, young professionals and researchers can talk frankly about their experiences with lipidomics and some of the challenges they have encountered. The forum would be open, but could entail discussions on types of analytical approaches, sample preparation, challenges with quantitation, and identification of lipids species in untargeted analyses. In addition, the forum would be interested in discussions with individuals looking to make the leap from fatty acid composition type analyses to lipidomic analyses that identify the acyl/alkyl species of complex lipids in their naïve form.

Fatty acid balance in food oils and fats Premier 305

Hosted by: Patricia De Velasco (Brazil), Sally Draycott (Australia) & Ella Baker (United Kingdom)

Additional Participation: Dr. Xue Bing Xu (People's Republic of China) & Dr. Tom Brenna (United States of America)

Food oils derived primarily from vegetable sources constitute the majority of visible fats in the diet, and therefore form the base lipids driving human physiology. High linoleic acid seed oils for instance - soy, rapeseed/canola, sunflower, safflower – became a dominant oil source in the 20th century. The 21st century has seen transitions to oils modified for fatty acid content, notably high oleics with lower linoleic acid more consistent with common fruit oils such as olive and palm oils, as well as reductions in partially hydrogenated oils. Oil blending to achieve consumer acceptance and particular fatty acid compositions is widely practiced, especially in China. This new interest group will discuss nutritional issues around food oils aimed at identifying research topics arising with the contemporary and emerging knowledge of fatty acid metabolism, genetics of fatty acids, and at the interface of oil supply and production.

WEDNESDAY, MAY 30

Free day for delegates to explore Las Vegas and the surrounding areas

THURSDAY, MAY 31

07:00–08:30

Appreciation Breakfast (by invitation only) Premier 301–302

08:30–09:30

Plenary 5: Genome and Metagenome Interaction on Lipids Metabolism Premier 319–320

Prof. Jingyuan Fu, University Medical Centre Groningen, The Netherlands

The human gut microbiome plays a major role in the production of vitamins, enzymes, and other compounds that regulate our metabolic and immune systems. It can be considered as “the second human genome”, showing a remarkable interplay between host and microbes that has a major impact on our physiology. To study these complex interactions, we have built up LifeLines-DEEP, a multi-omics biobank that is part of LifeLines, a large population cohort study in the northern Netherlands. LifeLines-DEEP consists of 1,500 individuals (42% males, age range 18-81 years) for whom we have dietary, genetic, gut microbiome, immune and metabolic profiles. Our LifeLines-DEEP data show that the gut microbiome can be determined by host genetic factors as well as many other exogenous and intrinsic factors. Moreover, we conducted systematic host-microbe interactions analyses on 92 circulating proteins, 231 lipidomics traits and over 1000 plasma metabolites, 13 inflammatory markers, as well as faecal levels of five short-chain fatty acids. Our study has revealed enormous additive and interaction effects of the human genome and metagenome on the host's immune system, metabolism, circulating proteins, and diseases, thereby emphasizing the importance of both genome and metagenome in the development of personalized medicine.

09:30–10:00

Coffee Break / Posters & Exhibits Premier 312–317

PS18 Premier 319–320

DIETARY FATTY ACID INTAKE

Co-Chairs: Bernadette Delplanque (France) & Ken Stark (Canada)

PS19 Premier 318

LIPID METABOLISM 1

Co-Chairs: Robert Anderson (United States of America) & Jessica Ellis (United States of America)

PS20 Premier 311

LIPID THERAPEUTIC & PROTECTIVE POTENTIAL

Co-Chairs: Clemens Von Schacky (Germany) & Adina Michael-Titus (United Kingdom)

THURSDAY, MAY 31

10:00–10:15	PS18.01 438638 Dietary Intakes of Arachidonic Acid and Docosahexaenoic Acid and Relationship to Circulating Fatty acid Concentrations in Toddlers Angela M. Devlin (Canada)	PS19.01 448067 Decreased Very Long Chain Polyunsaturated Fatty Acids in Sperm Is Strongly Correlated with Lower Sperm Count and Motility Richard Brush (United States of America)	PS20.01 447587 Keynote: Therapeutic potential of omega-3 fatty acid-derived epoxyeicosanoids in cardiovascular and inflammatory diseases Wolf-Hagen Schunck (Germany)
10:15–10:30	PS18.02 447370 ELOVL2/5 Genetic Variants Interacting with Intake of DHA Modulate n-3 Polyunsaturated Fatty Acids in Han Chinese Breast Milk Lin Xie (People's Republic of China)	PS19.02 436176 Long-Chain Acyl-CoA synthetase 6 deficiency reduces brain docosahexaenoic acid, increases oxidative stress and microglia activation Jessica M. Ellis (United States of America)	
10:30–10:45	PS18.03 442505 Complete assess3: maternal Nutritionment of whole-body n-3 and n-6 PUFA synthesis–secretion kinetics and DHA turnover in a rodent model Adam H. Metherel (Canada)	PS19.03 445911 Depletion of Retinal Very Long Chain Fatty Acids Cause Age-Related Rod Photoreceptor Cells Dysfunction Martin-Paul G. Agbaga (United States of America)	PS20.02 443719 Identification of a Novel 20:4 n-3 -Derived 5-Lipoxygenase Product that Inhibits LTB4 Receptor-Dependant Human Neutrophil Activation and Chemotaxis Kristine Gagnon (Canada)
10:45–11:00	PS18.04 447950 High intake of dietary Linoleic Acid, compared to SFA or MUFA, limits accretion of preformed DHA to the brain of young rats Bernadette Delplanque (France)	PS19.04 443702 PUFA elongation and desaturation following activation of human T cells: ELOVL5 is responsible for fatty acid elongation Philippe-Pierre Robichaud (Canada)	PS20.03 428284 Plasma membrane lipid therapy: Disruption of oncogenic KRas nanoscale proteolipid composition by membrane targeted dietary bioactives (MTDB) Robert Chapkin (United States of America)
11:00–11:15	PS18.05 419332 Achieving a desirable Omega-3 Index with fish and supplements Kristina Jackson (United States of America)	PS19.05 445267 Differential effects of long-chain polyunsaturated fatty acids on lipid accumulation and adipokine secretion in mature 3T3-L1 adipocytes Ivy L. Mak (Canada)	PS20.04 447599 N-Docosahexaenoylethanolamine and Its Structural Analogue Enable Axon Regeneration after Optic Nerve Injury and Improve Visual Function Hee-Yong Kim (United States of America)
11:15–11:30			PS20.05 457366 Brain Neurodamage from Alcohol: PARP- and PLA2- Linked Neuroinflammation with Prevention by DHA Michael A. Collins (United States of America)
11:30–12:00	Alexander Leaf Award: Standing on the Shoulders of Giants: Great Women Role Models of My Career Dr. Maria Makrides, South Australian Health and Medical Research Institute & School of Medicine, The University of Adelaide, Australia <i>Premier 319–320</i>		
12:00–13:30	Posters & Exhibits <i>Premier 312–317</i> (Sandwiches available for purchase)		
13:30–14:30	Plenary 6: Omega-3 And Inflammatory Processes: From Membrane to Nucleus and From Bench to Bedside <i>Premier 319–320</i> Prof. Philip Calder, University of Southampton, United Kingdom Inflammation is a condition which contributes to a range of human diseases. Inflammation involves a multitude of cell types, chemical mediators, and interactions. Experimental studies suggest that some saturated fatty acids may directly trigger inflammation. Omega-6 (n-3) polyunsaturated fatty acids are precursors to some of the chemical mediators of inflammation like prostaglandins and leukotrienes. Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are omega-3 (n-3) fatty acids found in oily fish and fish oil supplements. EPA and DHA are able to partly inhibit a number of aspects of inflammation including leucocyte chemotaxis, adhesion molecule expression and leucocyte-endothelial adhesive interactions, production of eicosanoids like prostaglandins and leukotrienes from the n-6 fatty acid arachidonic acid, and production of inflammatory cytokines. In addition, EPA gives rise to eicosanoids that often have lower biological potency than those produced from arachidonic acid and EPA and DHA give rise to anti-inflammatory and inflammation resolving mediators called resolvins, protectins and maresins. Thus increasing abundance of n-3 fatty acids reduces inflammation and creates an environment favouring its resolution. Mechanisms underlying these actions of n-3 fatty acids include altered cell membrane phospholipid fatty acid composition, disruption of lipid rafts, inhibition of activation of the pro-inflammatory transcription factor nuclear factor kappa B so reducing expression of inflammatory genes, activation of the anti-inflammatory transcription factor peroxisome proliferator activated receptor and binding to the G protein coupled receptor GPR120. These mechanisms are interlinked, although the full extent of this is not yet elucidated. Animal experiments demonstrate benefit from n-3 fatty acids in a range of models of inflammatory conditions including arthritis, inflammatory bowel disease and endotoxemia. Human trials demonstrate benefit of oral n-3 fatty acids in some inflammatory diseases, with the strongest evidence in arthritis and some evidence in a number of other diseases. There is growing interest in whether these effects of n-3 fatty acids may be useful in the chronic low-grade inflammation that accompanies cardio-metabolic disease.		

THURSDAY, MAY 31

PS21 Premier 319–320

OXIDIZED LIPIDS

Co-Chairs: Art Spector (United States of America) & Chris Ramsden (United States of America)

PS22 Premier 318

LIPID METABOLISM 2: CLINICAL STUDIES

Co-Chairs: Trevor Mori (Australia) & Kei Hamazaki (Japan)

PS23 Premier 311

KETONEUTHERAPEUTICS

Co-Chairs: Stephen Cunnane (Canada) & Bruce Holub (Canada)

14:30–14:45

PS21.01 497681

Keynote: Increasing epoxides of polyunsaturated fatty acids blocks pain and resolves inflammation by modulating the ER stress axis

Bruce Hammock (United States of America)

PS22.01 421914

The Effect of n-3 Fatty Acids and Coenzyme Q10 Supplementation on Neutrophil Mediators of Inflammation Resolution, Leukotrienes and Myeloperoxidase in Chronic Kidney Disease

Trevor A. Mori (Australia)

PS23.01 446524

A new ketogenic formulation improves functional outcome and reduces tissue loss following traumatic brain injury

Adina T. Michael-Titus (United Kingdom)

14:45–15:00

PS22.02 436737

Bedtime Supplementation of EPA and DHA Eliminates the Night-Time Diurnal Nadirs of these n-3 PUFA

Philippa Jackson (United Kingdom)

PS23.02 497311

Feasibility and efficacy data from a ketogenic diet pilot intervention in Alzheimer's disease

Russell Swerdlow (United States of America)

15:00–15:15

PS21.02 447895

Systems approach for discovering linoleic acid derivatives that mediate pain and itch

Christopher Ramsden (United States of America)

PS22.03 448045

Circulating lipid mediators as modifiable prognostic markers for TBI recovery

Anthony Domenichiello (United States of America)

15:15–15:30

PS21.03 439761

Anti-inflammatory properties of alpha-linolenic acid and its oxylipins in classically activated macrophages

Samantha D. Pauls (Canada)

PS22.04 427649

Erythrocyte Omega-3 Fatty Acid Index in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: a pilot cohort study

Jesus Castro-Marrero (Spain)

PS23.03 497372

Ketones can rescue brain energy metabolism in older people: does this mean they can slow down Alzheimer's disease?

Stephen Cunnane (Canada)

15:30–15:45

PS21.04 434771

Oxylipin Effects of Aspirin in Adults With Diabetes Mellitus

Huiwen Xu (United States of America)

PS22.05 432763

Oily fish improves attention and well-being in children aged 8-9: The FiSK Junior randomized controlled trial

Marie N. Teisen (Denmark)

15:45–16:00

PS21.05 433664

Peroxydation of 4-F4-neuroprostanes induces neurotoxicity in human neuroblastoma cells (SH-SY5Y)

Jetty Chung-Yung Lee (Hong Kong)

PS22.06 419965

Curcumin enhances cholesterol-lowering potential of phytosterols in hypercholesterolemic individuals: a randomized controlled trial

Jessica Ferguson (Australia)

PS23.04 444301

Effects of Medium- and Long-chain Triacylglycerols on Lipid Metabolism and Gut Microbiota Composition in C57BL/6j Mice

Sheng Min Zhaou (People's Republic of China)

16:00–16:30

Coffee Break Premier Foyer

16:30–17:00

Special Plenary: Why Was Omega-3 Ignored for 50 Years? Premier 319–320

Art Spector, Professor Emeritus, NIAAA, National Institutes of Health, United States of America

George and Mildred Burr discovered that linoleic acid (18:2n-6) is an essential fatty acid for the rat, and in 1932 they found that linolenic acid (18:3n-3) also is essential. Their linoleic acid results were confirmed and generally accepted by the late 1930s, but other prominent laboratories could not confirm the essentiality of linolenic acid. Consequently, interest in omega-3 fatty acids de-clined, and most essential fatty acid research during the subsequent 40 years focused on linoleic acid and omega-6 fatty acid metabolism and function. Even the findings that EPA is a substrate for prostaglandin synthesis and DHA is required for normal brain development and optimum visual function generated only limited interest in omega-3 fatty acids. The breakthrough came when Dyerberg and colleagues observed a lower incidence of coronary artery disease in Greenland Eskimos consuming a diet rich in marine lipids and demonstrated in 1978 that this likely may be due in to the anti-thrombotic effect of EPA. The finding that EPA has a protective effect against coronary dis-ease stimulated widespread interest in omega-3 fatty acids in the 1980s and led to the present view that omega-3 fatty acids have important physiological functions and are essential fatty acids.

17:00–17:15

ISSFAL 2018 Closing Ceremony & 2020 Congress Preview Premier 319–320

19:30–23:30

Gala Dinner at the Hofbräuhaus (transportation is on your own)

PLENARY SPEAKER BIOGRAPHIES



SPECIAL PLENARY

ART SPECTOR

**THURSDAY,
MAY 31, 2018
16:30–17:00**

Professor Emeritus

NIAAA, National Institutes of Health
United States of America

Arthur A. Spector, M.D., is Emeritus Professor, Departments of Biochemistry and Internal Medicine, Carver College of Medicine, University of Iowa, and is currently affiliated with the Laboratory of Molecular Signaling, National Institute of Alcohol Abuse and Alcoholism (NIAAA), National Institutes of Health (NIH). He is an internationally recognized expert in lipid metabolism. Dr. Spector's research has contributed to our basic understanding of cellular fatty acid utilization, polyunsaturated fatty acid effects on tumor cells, fatty acid binding to albumin, fatty acid effects on membrane properties and function, endothelial fatty acid and eicosanoid metabolism, and the arachidonic acid metabolites formed by the cytochrome P450 pathway. His present interests concern the function of docosahexaenoic acid and its bioactive metabolites in the brain.

1 PROF. DAVID MANGELSDORF

University of Texas, Southwestern *United States of America*



Dr. David J. Mangelsdorf received his B.S. in Biology and Chemistry from Northern Arizona University in Flagstaff (1981) and his Ph.D. in Biochemistry from the University of Arizona in Tucson (1987). He did his postdoctoral studies at The Salk Institute for Biological Studies. Since 1993 he has been

at UT Southwestern, where he currently is Professor and Chair of the Department of Pharmacology, and an Investigator of the Howard Hughes Medical Institute. He holds the Alfred G. Gilman Distinguished Chair in Pharmacology and the Raymond and Ellen Willie Distinguished Chair in Molecular Neuropharmacology, in Honor of Harold B. Crasileck, Ph.D. He has been a member of the National Academy of Sciences and The Academy of Medicine, Engineering and Science of Texas since 2008.

2 PROF. SUSAN CARLSON

Kansas University Medical Center *United States of America*



Susan Carlson, PhD, received her bachelor's in home economics at Washington State University in 1969 and her doctorate in nutrition (minors in biochemistry and physiology) from Iowa State University in 1975. She had NICHD postdoctoral fellowships at the University of Wisconsin in the Dept. of Pathology (1975–1977) and at the University of South Florida in the Dept. of Pediatrics (1978–1979).

A faculty member in several medical school departments of pediatrics, mainly in divisions of newborn medicine from 1979–1997, Carlson rose through the ranks to professor in the Departments of Pediatrics, Obstetrics and Gynecology and Biochemistry at the University of Tennessee, Memphis. Her major research interest was on the effects of fatty acids that compose a large percent of brain membranes and found in human milk but not in vegetable oils typically used in the production of U.S. infant formulas.

Carlson moved to the University of Missouri Kansas City in 1997 and to the University of Kansas Medical Center in 1999. While at these institutions, she has continued intervention studies of docosahexaenoic acid (DHA) and arachidonic acid (AA) supplementation of infants and branched out into studies of DHA-supplemented pregnant women. The latter studies have been done in collaboration with the research team led by John Colombo,

PLENARY SPEAKER BIOGRAPHIES

PhD, at the University of Kansas through the *Maternal and Child Nutrition and Development Laboratory*.

Carlson and Colombo have been active in large clinical trials studying infant DHA supplementation and DHA administered to women entering their second trimester of pregnancy. The goal of these trials is to evaluate the effect of DHA provided pre- and postnatally on visual development and behavior of infants, toddlers and, eventually, preschoolers.

Her work having been recognized nationally and internationally, Carlson receives numerous invitations to conferences. In 2002, DHA and AA were added to U.S. infant formulas. In Nov. 2002, she was made an honorary member of the American Dietetic Association in recognition for her pioneering work in identifying DHA as a conditionally essential nutrient for developing infants. Carlson received the 2008 March of Dimes Agnes Higgins Award for outstanding achievement in the field of maternal-fetal nutrition at the American Public Health Association meeting in San Diego, October 2008.

Since 2002, Carlson has taken an active role in the education of U.S. pediatricians, obstetricians, nurses and dietitians about the roles of DHA in maternal and infant health. As part of her role, she has been involved nationally and internationally in evaluating the quality of evidence and establishing best practice guidelines for intake of DHA by infants and pregnant women.

3 PROF. CHARLES N. SERHAN, PH.D., D.SC.

Harvard Medical School *United States of America*



Charles is the Simon Gelman Professor of Anaesthesia (Biochemistry and Molecular Pharmacology) at Harvard Medical School, Professor of Oral Medicine, Infection and Immunity at HSDM, and Director of the Center for Experimental Therapeutics and Reperfusion

Injury at Brigham and Women's Hospital. He received a BS in biochemistry from Stony Brook University followed by a doctorate in experimental pathology and medical sciences from New York University School of Medicine. He was a visiting scientist and post-doctoral fellow at the Karolinska Institutet, Stockholm with Professor Bengt Samuelsson 1982 Nobel Laureate. In 1987, he joined the faculty at Harvard Medical School and received an honorary degree from Harvard University (1996).

He has received several awards including an NIH MERIT award (2000) and has delivered > 50 keynote and plenary lectures. Among these, 2008 William Harvey Outstanding Scientist Medal and AAAS Fellow in 2011. In 2010, he received the Society for Leukocyte Biology-Bonazinga Award, American College of Rheumatology Hench Award Lecture in 2011, and Mérieux 2013 Laureate. In 2016, he received the IUBMB Lecture Metal and the Ross Prize in Molecular Medicine. 2017 Lifetime Achievement Award, International Eicosanoid Research Foundation.

4 PROF. ERIK INGELSSON

Stanford University *United States of America*



Dr. Ingelsson obtained his MD (2000) and PhD (2005) at Uppsala University, Sweden. After internship, he did a residency in general medicine (2003–2006) and took up a postdoctoral research fellowship at the Framingham Heart Study (2006–2007). He moved to Karolinska Institutet (Stockholm, Sweden) in 2007 and was appointed Professor of Cardiovascular Epidemiology in 2010. From 2013–2016, he was a Professor of Molecular Epidemiology at Uppsala University. He was also a Visiting Professor at the Wellcome Trust Centre for Human Genetics at University of Oxford in 2012–2015. Since May 2016, he is Professor of Medicine at Stanford University.

His main area of interest is the link between metabolic disturbances, such as obesity and insulin resistance, and the development of subclinical and clinical cardiovascular disease. His research is translational and interdisciplinary, combining methods from the molecular epidemiology field—such as genomic, metabolomic, transcriptomic, epigenomic and proteomic profiling in large population-based studies—with in vivo and in vitro work to reach new insights into the pathophysiology of cardiovascular disease and related conditions, identification of new biomarkers for improved risk prediction, and discovery of novel targets for drug development.

He has had a leading role in many of the large efforts identifying new loci associated with cardiovascular and metabolic traits, and has extensive experience from research on biomarkers and -omics methods, including development and use of prediction metrics and Mendelian randomization. He has served as PI of numerous -omics efforts in several Swedish cohort studies, including ULSAM, PIVUS, TwinGene

and EpiHealth. Since 2014 and on, he has also built a team working with characterization of loci established in GWAS using different functional model systems. He has published over 230 peer-reviewed publications, of which >50 in journals with impact factor over 30. Before relocating to the U.S, he received many European research grants, and now after joining the Stanford faculty in May 2016, he has received his first NIH grants. He has won several prestigious awards and grants, such as the AHA Trudy Bush Fellowship for Cardiovascular Research in Women's Health, ERC starting grant, Wallenberg Academy Fellow and the Göran Gustafsson Prize in Medicine in 2015 (to the most successful medical researcher in Sweden under age 45).

On his spare time, he likes to spend time with his family (wife Maria, Hugo, 12 and Alice, 10 years old) and friends; enjoys cooking, but also eating nice food and wine; tries to make his daily running routine; and sings in choirs—amongst others, the San Francisco Symphony Chorus.

5 PROF. JINGYUAN FU

University Medical Centre Groningen *The Netherlands*



Dr. Jingyuan Fu is an associate professor of Bioinformatics in the University Medical Centre Groningen, the Netherlands. She studied Biochemistry (BSc) in China and then developed her scientific career in the fields of systems genetics and integrative genomics. In the Netherlands she gained an MSc in bioinformatics (with distinction) from Wageningen University in 2003 and a PhD cum laude from University of Groningen in 2007. In 2008, Fu joined the University Medical Centre Groningen as a post-doctoral researcher; she was appointed an associate professor in 2015. She has been awarded various funds for her research, including a VENI grant in 2009 and a VIDI in 2014 from the Netherlands Organization of Scientific Research (NWO).

Fu's research involves multi-dimensional "omics" integrative analysis towards a better understanding of the development of complex diseases, including their genetics, genomics, transcriptomics, and metabolomics. In recent years, her research has expanded to performing population-based gut microbiome analyses. These aim to unravel the host-microbe interactions in the human immune and metabolism systems and the microbiome's role in the development of metabolic disorders.

6 PROF. PHILIP CALDER

University of Southampton *United Kingdom*



Philip Calder is Professor of Nutritional Immunology within the Human Development and Health Academic Unit of the Faculty of Medicine at the University of Southampton in the UK. He has a PhD in Biochemistry from University of Auckland (New Zealand) and a DPhil

in Biochemistry from University of Oxford (UK). He is a Registered Nutritionist and a Fellow of both the Royal Society of Biology and the Association for Nutrition. He spent four years as a Nuffield Medical Fellow in the Department of Biochemistry at the University of Oxford (1987–1991) followed by four years as a Lecturer in Biochemistry in that same department (1991–1995). In 1995 he took Lectureship at University of Southampton where he was subsequently appointed to a Readership in Human Nutrition in 1998 and then to a Personal Chair in Nutritional Immunology in 2002. For over 25 years he has conducted research on the metabolism and functionality of fatty acids with an emphasis on the roles of omega-3 fatty acids in immunity, inflammation and cardiometabolic disease. He has received several awards for his work including the Sir David Cuthbertson Medal (1995), the Belgian Danone Institute Chair (2004), the Nutricia International Award (2007), the ESPEN Cuthbertson Lecture (2008), the Muriel Bell Award (2009), the Louisiana State University Chancellor's Award in Neuroscience and Medicine (2011), the Normann Medal from the German Society for Fat Science (2012), the Ralph Holman Lifetime Achievement Award from the American Oil Chemists' Society (2015), the British Association for Parenteral & Enteral Nutrition Pennington Lecture (2015), the British Nutrition Foundation Prize (2015) and the Danone International Prize for Nutrition (2016). He has served on many committees of professional societies, including the ISSFAL Board, and was President of ISSFAL 2009–2012. In 2016 he completed a three-year term as Chair of the Scientific Committee of the European Society for Clinical Nutrition and Metabolism (ESPEN) and started a three-year term as President of the Nutrition Society. Professor Calder was Editor-in-Chief of the British Journal of Nutrition from 2006 to 2013 and he is currently an Associate Editor of Clinical Science, Journal of Nutrition, Clinical Nutrition, Lipids, Annals of Nutrition and Metabolism and Nutrition Research. He is a member of the several other Editorial Boards of journals in the nutrition, clinical science and lipidology fields and is Co-Editor of the Lipid metabolism and therapy section of Current Opinion in Clinical Nutrition and Metabolic Care. Professor Calder has over 600 research publications (excluding abstracts), including over 260 peer-reviewed research papers and over 150 review articles in journals. His work has been cited over 22,000 times and he is listed by Thomson Reuters as a Highly Cited Researcher. He was Chair of the 2004 ISSFAL Congress held in Brighton.

KEYNOTE SPEAKER BIOGRAPHIES

PS2 PROF. ROBERT MURPHY

University of Colorado School of Medicine
United States of America



Robert C. Murphy, Professor, Department of Pharmacology, University of Colorado School of Medicine, Aurora, CO, graduated from the Massachusetts Institute of Technology with a Ph.D. in chemistry and is currently a University Distinguished Professor at the University of Colorado. He has worked in the area of mass spectrometry and eicosanoid biochemistry for over 40 years with much of his research activities centered on the use of mass spectrometry to studies of arachidonic acid biochemistry and formation of the biologically active leukotriene mediators. His interests also include the structural characterization of bioactive lipid products derived from the reaction of reactive oxygen species with cellular lipids. Over 500 peer-reviewed papers in scientific journals and several books concerning the mass spectrometry of lipids have been authored by him. He served as President of the American Society for Mass Spectrometry and is on the editorial boards of numerous scientific journals in biochemistry and mass spectrometry. He has received several awards including the Dean's Mentoring Award, the Faculty Excellence in Teaching Award, an NIH Merit Award, and the Eicosanoid Research Foundation Outstanding Achievement Award and was appointed as a University of Colorado Distinguished Professor. His most recent research programs focused on details of transcellular biosynthesis of leukotrienes, the formation of biologically active lipid products, the advancement of mass spectrometry in the area of lipidomics analysis, and the imaging of complex lipids in tissues.

PS7 PROF. NICOLAS G. BAZAN

Louisiana State University Medical Center
United States of America



Nicolas G. Bazan is a neuroscientist and eye researcher, author, educator, mentor, developer, music enthusiast, and art lover. His research focuses on neurodegenerative diseases, aiming to understand endogenous modulation of neuroinflammatory signaling and of cell survival using cellular, molecular, and disease models including lipidomics. His lifelong quest has been to pin down events amenable to translation to help people affected by stroke, Alzheimer's disease, pain, blindness, and other diseases. Nicolas G. Bazan was born in Los Sarmientos, Tucuman, Argentina on May 22, 1942. He received his MD from the University of Tucuman School of Medicine, Argentina (1965) and was a postdoctoral fellow at Columbia University's College of Physicians and Surgeons and Harvard Medical School (1965–1968). The research that he performed at Harvard was the basis for his Doctor in Medical Sciences thesis (University of Tucuman, 1971). He became the founding director of the LSUHSC Neuroscience Center of Excellence in 1989.

PS15 PROF. DAVID LOVINGER

Senior Investigator, National Institutes of Health
United States of America



Dr. Lovinger received a B.A. in Psychology from the University of Arizona in 1981 and a Ph.D. in Psychology from Northwestern University in 1987. At Northwestern, he worked with Dr. Aryeh Routtenberg studying the roles of Protein Kinase C and its substrate, the GAP-43/F1 protein, in hippocampal long-term potentiation. His postdoctoral research at the NIAAA focused on the effects of alcohol on ligand-gated ion channels. In 1991 Dr. Lovinger moved to the Vanderbilt University School of Medicine as an Assistant Professor, where in 1998 he rose to the rank of Professor. At Vanderbilt he was also the Deputy Director for Biomedical Science and the Director of the Neuro-science Core within the Kennedy Center. Dr. Lovinger joined the NIAAA in 2001 as a Senior Investigator and Chief of the Laboratory of Integrative Neuroscience. His laboratory is currently studying the modulation and plasticity of synaptic transmission at corticostriatal synapses and the mechanisms by which abused substances effect synaptic transmission.

PS20 DR. WOLF-HAGEN SCHUNCK

Max Delbrueck Center for Molecular Medicine
Germany



Wolf Schunck is head of the Eicosanoid Laboratory at the Max Delbrueck Center for Molecular Medicine in Berlin. After studying biochemistry at the Martin-Luther-University in Halle, his research has been mainly focused on the structure and function of cytochrome

P450 enzymes and their role in the formation of bioactive lipid mediators. Collaborating both with clinicians and chemists, he served as principal investigator of translational projects in cardiology and nephrology and supported the development and application of targeted lipidomics approaches. He has authored more than 100 papers, is an academic editor of PLOS One, and member of the Editorial Board of the Journal of Lipid Research. Wolf Schunck is co-founder and Board member of OMEICOS Therapeutics, Berlin, Germany, and its subsidiary OMEICOS Ophthalmics, Boston, Massachusetts—two start-up companies developing novel eicosanoid mimetics for the treatment of cardiovascular and eye diseases.

PS21 PROF. BRUCE HAMMOCK

Department of Entomology & UCD Comprehensive Cancer Center
Director, NIEHS-UCD Superfund Research Program
PI, NIH Biotechnology Training Program
United States of America



Professor Hammock has worked for over 35 years on the design of transition state inhibitors of α/β -hydrolase fold enzymes including the soluble epoxide hydrolase (sEH) and the use of these compounds in medicine. His laboratory was one of the first to develop metabolomics as a discipline, and the laboratory's ability to monitor prostaglandins and other eicosanoids associated with radiation damage and the action of epoxide hydrolase inhibitors complements the proposed work.

Dr. Hammock is committed to research and training. He has mentored 21 graduate students and 45 postdoctoral fellows in the past ten years, and his laboratory mentors 4–10 undergraduate students each year. He has trained over 200 graduate students, postdoctoral fellows, and visiting scientists in leadership positions around the world. Of note, Dr. Hammock's first student just won the ACS International Award in Pesticide Chemistry, and two of his students won the Kinsella Award (the top PHD graduate award in the largest college at UCD).

Dr. Hammock is currently mentoring a postdoctoral fellow who won this year's Judah Folkman award in angiogenesis from the American Cancer Society and several other postdoctoral fellows who were supported by a NCI T32. He has and continues to publish in cancer journals. He ran a T32 grant for 20 years and has had numerous graduate students in related areas. This laboratory is working on drugs for cancer pain in horses, dogs and cats and GMP drug is currently being made for clinical trials.

EARLY CAREER AWARD



DR. MOJGAN MASOODI

Nestlé Institute of Health Sciences, Switzerland

Monday, May 28, 2018 | 11:30–12:00

Mojgan Masoodi joined the Nestlé Institute of Health Sciences in 2012, and is currently leading its lipid biology group and state-of-the-art lipidomics platform to identify and characterize the mechanisms of action of bioactive lipids during dyslipidemia. The aim of her research is to develop new and innovative approaches for nutritional intervention that could improve lipid metabolism and potentially prevent the onset of many common diseases associated with dyslipidemia and unresolved inflammation. By combining observational clinical studies that monitor lipid metabolism during disease progress with *in vivo/in vitro* models that elucidate related mechanisms, Masoodi aims to draw a roadmap for successful lipid-based nutritional intervention.

In 2013, Masoodi was appointed Adjunct Professor at the University of Toronto (Department of Nutritional Sciences). She received her Pharm D. in Pharmaceutical Sciences and Drug Development in 2002 and then completed a PhD in lipid biochemistry and cell signalling. In 2006–2009, Masoodi continued her research on the effects of UV irradiation on erythema and skin lipid metabolism in humans with different skin types during a Research Fellowship funded by the Wellcome Trust. In 2009, she joined the Medical Research Council (MRC) in Cambridge, which is part of the School of Biological Sciences of the University of Cambridge. During her time with the MRC she investigated the role of bioactive lipids in the regulation of physiological processes associated with inflammation and dyslipidemia. Since 2004, Masoodi has built up extensive expertise in lipid metabolism, cell biology, clinical studies, and biological mass spectrometry. The multidisciplinary nature of her research has helped her identify crucial and novel project elements for investigation, and she has developed several collaborative projects with several research institutes, universities and hospitals worldwide, leading to several high-quality publications.

ALEXANDER LEAF AWARD

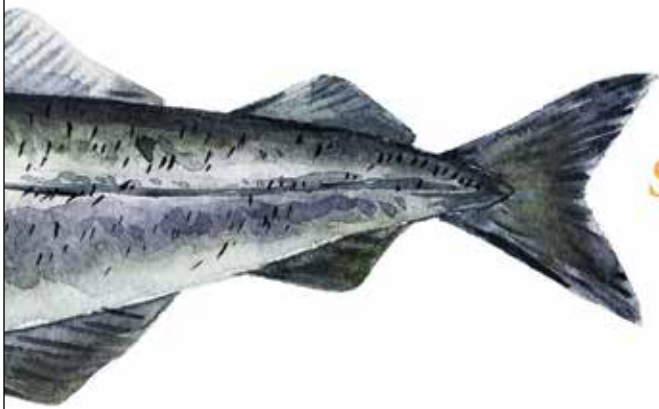
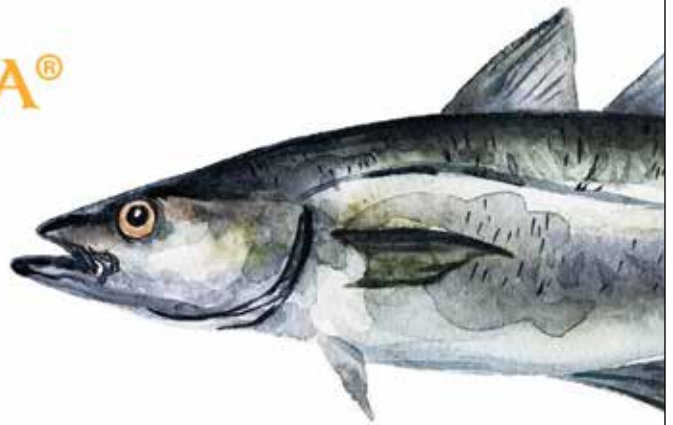


DR. MARIA MAKRIDES

**South Australian Health and Medical Research Institute & School of Medicine,
The University of Adelaide, Australia**

Thursday, May 31, 2018 | 11:30–12:00

Maria Makrides is the Theme Leader for Healthy Mothers, Babies and Children and Deputy Director at the South Australian Health and Medical Research Institute (SAHMRI), Adelaide, Australia. As a research dietitian, Maria is committed to improving the nutrition and health of mothers and their babies through the conduct and translation of high quality research. She has over 230 peer reviewed publications including in the prestigious journals the Lancet, the New England Journal of Medicine, the Journal of the American Medical Association and the British Medical Journal. Maria's group has conducted some of the key intervention trials involving omega-3 supplements in perinatal nutrition, and has been recognised with the award of two successive Centres of Research Excellence by the Australian National Health Medical Research Council (NHMRC) Centres: "Foods for Future Australians" (2012–2016) and "Targeted Nutrition to Improve Maternal and Child Health Outcomes" (2017–2022).



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