

Northern Great Plains Lipid Conference: An International Conference Coalescing the Lipid Scientists in the Northern Great Plains

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Published online: 13 April 2016
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For years, groups at the University of North Dakota and at the University of Manitoba have discussed having a conference broadly covering topics related to lipids, but focused on nutrition and lipid biochemistry. But like many great ideas, too many items were on too many lists of too many people to make this a reality. Fast forward to discussions that started in 2014 between a number of faculty leading lipid biochemistry laboratories at the University of Manitoba and lead scientists at the Grand Forks Human Nutrition Laboratory, Agriculture Research Service, U.S. Department of Agriculture. Unlike previous efforts, these discussions persisted and started with the idea that several labs would get together and have a small meeting in which various projects would be discussed and the potential for collaborations assessed. However, with the Canadian Nutrition Society holding its 2015 meeting in Winnipeg, the option to expand this meeting involving only select institutions and laboratories into a much larger effort was seized upon and the founders invited me to join this process. Through our efforts, the “Northern Great Plains Lipid Conference” was born and the first meeting was held at St. John’s College at the University of Manitoba May 31 and June 1, 2015.

In this issue of *Lipids* you will see the proceedings from this meeting. Some of these papers are full research articles, while others are timely, topical reviews focused on lipid biochemistry and metabolism. The unique format of this first meeting has been maintained and expanded for the 2016 meeting hosted by the University of North Dakota

and the Grand Forks Human Nutrition Laboratory, June 11–12, 2016. One key element of our format is that it is focused on giving students an opportunity to hear leading scientist discuss topics on lipids, while also giving them an option to orally present their work at an international meeting in a highly collaborative environment.

The 2015 meeting opened with the *Lipids School* and the topic was “A Look at Fundamentals” where I discussed multiple different techniques in lipid biochemistry, from extraction systems to colorimetric assays. After a short break, we had a session on *Lipids and Health*, with AOCs member Peter Jones giving a plenary lecture entitled “Dietary Lipids and Chronic Disease: What does the available evidence tell us?” This was followed by selected oral presentations from submitted abstracts from the faculty. After lunch, we continued the clinical nutrition theme with a session on *Developing Dietary Guidelines for Lipids*. This session was anchored by three plenary speakers; AOCs member Susan Raatz giving a talk entitled “Processes involved in setting the U.S. dietary guidelines for lipids”, which was followed by Maya Villeneuve discussing the Canadian perspective on lipid dietary guidelines in her talk entitled “The Canadian perspective on dietary recommendations for lipids”. These two talks were followed by AOCs member Matthew Picklo giving a talk entitled “Where are the gaps in the literature?” These talks all worked very well in giving details regarding how each nation viewed recommendations on dietary lipids, followed by a very good talk focused on what is known compared to what are myths in the field, which these myths really demonstrate what are gaps in our knowledge regarding lipid metabolism.

This session was followed by a session giving graduate students an opportunity to give 15 min oral presentations. Following the oral presentations, there was an opportunity to view posters in a formal manner, although from the

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onset of the meeting, all of the posters were up and clearly viewed and discussed throughout the day during breaks. Such a format really made this a student-focused meeting with every effort made to give students an opportunity to discuss their research in multiple formats, a critical part of their training that is often overlooked at meetings. This is yet another manner in which the Northern Great Plains Lipids Conference is a student friendly conference focused on fostering opportunities for presentations and interactions with all of the speakers in a less formal environment.

After a robust barbeque at the Richardson Centre for Functional Foods and Nutraceuticals where the musical prowess of Peter Jones was clearly on display, we adjourned for the evening. The next day, the first session *Recent Advances in Lipid Metabolism and Signaling Pathways* featured Richard Bazinet giving a plenary lecture on brain n-3 fatty acid metabolism highlighted by a robust discussion on the rapid metabolism of EPA in the brain. Following this plenary lecture, graduate students and trainees gave talks and after a short break, a session entitled *Dietary Lipids and Clinical Outcome* started, which featured AOCS member Carla Taylor's plenary talk entitled "New approaches to determining the efficacy of dietary lipids in clinical settings." Again, this second session of the day included graduate student talks on topics consistent with the session theme. After lunch we ended the meeting with breakout sessions focused on translational research in lipids and one on signaling and lipidomics. These breakout sessions gave all participants a choice to enter into discussions amongst participants regarding the two themes.

The 2016 meeting will be held at the School of Medicine and Health Sciences at the University of North Dakota, June 11–12, 2016 and features a slightly different format that is focused on four themes: Mass Spectrometry Techniques for Lipids, Plant Lipid Biochemistry, Lipids in Clinical Nutrition, and Lipid Signaling and Metabolism. Two sessions will be held each day anchored by

exceptional plenary lecturers and three talks chosen from the abstracts. The first day opens with the Lipids School focused on mass spectrometry in lipid analysis and as a tool to assess lipids in disease. The Lipids School is followed by the Mass Spectrometry session with the plenary speaker being Xianlin Han from Sanford-Burnham-Prebys Medical Research Institute. In the afternoon, the session is focused on Plant Lipid Biochemistry and the plenary speaker is Edgar Cahoon from the University of Nebraska, followed by a session for oral presentations by graduate students and trainees. The evening brings a social and dinner at a local micro-brewery in downtown Grand Forks. The second day opens with a poster session followed by a morning session on Lipids in Clinical Nutrition featuring a plenary lecture by William Rizzo from the University of Nebraska Medical Center. Following lunch, the session on Lipid Signaling and Metabolism is anchored by a plenary lecture by Doug Mashek from the University of Minnesota. Consistent with our student oriented meeting format, the last session will feature oral presentations by students and trainees.

For more details on this meeting and to register, go to <http://www.und.edu/conference-services/lipid-conference> and the price is only \$50 per student/trainee and \$100 for principle investigators. This price includes all of the meals and is tremendously offset by the generous support from the Grand Forks Human Nutrition Laboratory, ARS, USDA and from the Department of Biomedical Sciences and the Office of the Vice-President of Research and Economic Development at the University of North Dakota. We look forward to another robust conference filled with a great mix of discussion and fun, all while giving opportunities to graduate students and trainees for oral presentations and one-on-one discussion with leading lipid scientists.

Similar to 2015, *Lipids* will be publishing the proceedings and we look forward to a long term commitment to this effort to coalesce the lipid research community in the Northern Great Plains. See you in Grand Forks!