Industrial Oil Products (IOP) Interest Area
Tentative Technical Program

This list of presentations is not final and subject to change.

Industrial Oil Products 2018 Session Planning Roundtable
Monday, May 1 at 12:45 pm

All meeting attendees are invited to attend Roundtable discussions and assist in developing the technical program for the 2018 AOCS Annual Meeting. AOCS and the Annual Meeting Program Committee greatly value your input! Division membership is not required to participate.

The presenter is the first author or otherwise indicated with an asterisk (*).

Monday Afternoon

BIO 1.1/IOP 1: Biorenewable Polymers
This session is sponsored in part by Soy 20/20
Chairs: Richard Ashby, USDA, ARS, ERRC, USA; and Rongpeng Wang, CVC Thermoset Specialties, USA

Strategic Planning of Polymeric Materials from Vegetable Oils. Zoran Petrovic, Pittsburg State University, USA

Sequential Liquefaction of Nicotiana tabacum Stems Biomass by Crude Polyhydric Alcohols for the Production of Polyols and Rigid Polyurethane Foams. Chiragkumar M. Patel¹, Jina R. Patel², Amitkumar A. Barot³, and Vijay K. Sinha¹, ¹Industrial Chemistry Department, V. P. & R. P. T. P. Science College, India; ²V. P. & R. P. T. P. Science College, India

The Effect of Monoglyceride Incorporation on the Solvent Absorption and Mechanical Properties of Glycerol-based Polymer Films. Prince G. Boakye¹, Kerby C. Jones³, Nicholas P. Latona³, Cheng Kung Liu³, Samuel A. Besong¹, Stephen E. Lumor³, and Victor T. Wyatt², ¹Delaware State University, USA; ²USDA, ARS, ERRC, USA; ³Dept. of Human Ecology, College of Agricultural Sciences, Delaware State University, USA

Fluorescence Emission and Catalyst Effect of Precious Metal Nanocomposites Based on Autoxidized Unsaturated Plant Oils/Fatty Acids. Baki Hazer, Bülent Ecevit University, Turkey

Reactivity and Structure-property Performance of Natural Oil Polyols in Polyurethanes. Ibrahim Sendijarevic, Troy Polymers, Inc., USA

Free Radical Polymerization of Monomers Based on Plant Oils. Zoriana Demchuk¹, Kyle Kingsley¹, Oleh Shevchuk¹, Ihor Tarnavchik¹, Vasylyna Kirianchuk², Ananiy Kohut², Stanislav Voronov², and Andriy Voronov*, ¹North Dakota State University, USA; ²Lviv Polytechnic National University, Ukraine
Synthesis of a New Generation Biopolyols from Canola and Other Plant Oils. Jonathan M. Curtis¹, Tolibjon S. Omonov², Ereddad Kharraz², Xiaohua Kong², and M. Hossein Tavassoli-Kafraji², ¹Dept. of Agricultural, Food and Nutritional Science, University of Alberta, Canada; ²University of Alberta, Canada

Synthesis and Characterization of Fatty Acid Modified Amines with Improved Water Barrier Properties. John H. Vergara¹, Yunze Tian², John J. La Scala³, Joshua M. Sadler³, and Giuseppe R. Palmese², ¹Drexel University Polymers, USA; ²Drexel University, USA; ³Army Research Laboratory, USA

Microwave-assisted Maleation of Tung Oil for Bio-based Products. Chengguo Liu¹, Zengshe Liu*², Brent H. Tisserat³, Rongpeng Wang⁴, Thomas Schuman⁵, Yonghong Zhou¹, and Lihong Hu¹, ¹Institute of Chemical Industry of Forestry Products, CAF, China; ²Food and Industrial Oil Research, NCAUR, ARS/USDA, USA; ³Function Food Research, NCAUR, ARS/USDA, USA; ⁴CVC Thermoset Specialties, USA; ⁵Dept. of Chemistry, Missouri University of Science and Technology, USA

Tuesday Morning

BIO 2.1/IOP 2: Biofuels

Recovery of Fatty Acids from Advanced Biofuels: Improvement in Acid Number and Value. Justice Asomaning and David C. Bressler, University of Alberta, Canada

Synthesis and Purification of Polyphenolic Branched-chain Fatty Acids with Natural Monophenols. Helen Ngo Lew¹, Zongcheng Yan², Karen Wagner¹, and Robert A. Moreau¹, ¹USDA, ARS, ERRC, USA; ²South China University of Technology, China

Animal Fatty Wastewater Sludge recovery by Acid-catalyzed Esterification into Fatty Acid Butyl Esters as Potential Biodiesel. Christopher Wallis¹, Muriel Cerny¹, Eric Lacroux*², and Zéphirin Mouloungui¹, ¹Laboratoire de Chimie Agro-Industrielle, France; ²Chimie Agro-Industrielle, France

Ionic Liquids Derived from Amino Acids for Catalytic Biodiesel Production. Jingbo Li and Zheng Guo, Aarhus University, Denmark

Grease Formulation Using Post-consumed Clothes: A Sustainable Approach. Amitkumar A. Barot¹, Chiragkumar M. Patel², Tirth M. Panchal³, Jigar V. Patel³, and Vijay K. Sinha², ¹V. P. & R. P. T. P. Science College, India; ²Industrial Chemistry Department, V. P. & R. P. T. P. Science College, India; ³Dept. of Industrial Chemistry, Institute of Science and Technology for Advanced Studies and Research, India


Process Development of a Sustainable Aromatic Hydrocarbons Derived from Camelina sativa. Randy L. Magliniao¹, Chazley J. Hulett², Eleazer P. Resurreccion², and Alexandra K. Jones³, ¹Advanced Fuel Center, Montana State University-Northern, USA; ²Montana State University-Northern, USA
**Tuesday Afternoon**

**IOP 3: Green Chemistry**

_Long Yu, South China University of Technology, China; and Andrew Myers, USA_

- **Lipid Profile of Oklahoma Native Microalgae Strains and Chemical Composition of the Bio-oil Produced by Pyrolysis of the Algal Biomass.** Nurhan Dunford, Oklahoma State University, USA
- **New Development of Starch-based Materials.** Long Yu, Xioayan Ge, and Ying Chen, South China University of Technology, China
- **Tung Oil Based Epoxidized Dicarboxylic Acid Dimethyl Ester as Green Primary Plasticizer and Auxiliary Thermal Stabilizer for Poly(vinyl chloride.** Mei Li, Shouhai Li, Jianling Xia, Chengxiang Ding, Mei Wang, Lina Xu, Xiaohua Yang, and Kun Huang*, Chinese Academy of Forestry, China
- **Synthesis and Characterization of Cardanol Based Epoxy/Amine System for Corrosion Prevention.** John J. La Scala¹, Giuseppe R. Palmese², and Emre Kinaci*², ¹Army Research Laboratory, USA; ²Drexel University, USA

**Wednesday Morning**

**IOP 4: New Uses of Glycerine**

_Chairs: Franck Dumeignil, Université de Lille, France; and Xiaofei Ye, University of Tennessee, USA_

- **Glycerol: A C3 Bio-based Platform Intermediates for Value-added Products.** Christophe Len, Université de Technologie de Compiegne, France
- **Overcoming Catalyst Deactivation in Glycerol Dehydration to Enable Sustainable Production of Acrolein and Acrylic Acid.** Shoujie Ren¹, Bin Zou¹, and Xiaofei P. Ye*², ¹Biosystems Engineering, University of Tennessee, USA; ²University of Tennessee, USA
New Catalytic Process for Highly Efficient Conversion of Glycerol to Allyl Alcohol. Yoshihiro Kon¹, Marcia Araque², Benjamin Katryniok², Takuya Nakashima¹, Joëlle Thuriot², Sébastien Paul², and Franck Dumeignil*³, ¹AIST, Japan; ²Unite de Catalyse et Chimie du Solide, Université de Lille, France; ³Université de Lille, France


Reactive Distillation: Exploring Process Intensification Routes for the Oil Products Industry. Tracy Benson and Obakore Agbroko, Lamar University, USA

Wednesday Afternoon

IOP 5: Oleochemicals
Chairs: Eric Cochran, Iowa State University, USA; and Guoqin Liu, South China University of Technology, China

Oleosomes: Isolation and Commercial Use of Nature’s Oil-storage Vesicles. James V. Gruber, Botaneco Inc., USA

Toughening Thermoset Resins Using Grafted Epoxidized Soybean Oil. Santosh K. Yadav¹, John J. La Scala², and Giuseppe R. Palmese*³, ¹Dept. of Chemical Engineering, Drexel University, USA; ²Army Research Laboratory, USA; ³Drexel University, USA

Structure Function Correlation of Bioplasticizers in PVC. Dharma R. Kodali, and Lucas J. Stolp, University of Minnesota, USA

Extraction, Fractionation, and Characterization of Waxes from Sorghum. Megan E. Hums¹, Jonathan L. Hoyt¹, Michael J. Powell¹, and Robert A. Moreau², ¹US Department of Agriculture, USA; ²USDA, ARS, ERRC, USA

Animal Fats as Oleochemicals: Nitrogen Containing Contaminants. Martin Mittelbach, Sigurd Schober, and Tamara Ruprecht, Institute of Chemistry, University of Graz, Austria

Application of Low Cost Ionic Liquids Analogues for Removal of Free Fatty Acid from Sludge Palm Oil. Adeeb Hayyan*¹, Shahidah N. Rashid², Maan Hayyan³, M. Y. Zulkifli³, and Mohd A. Hashim², ¹University of Malaya, Malaysia; ²University of Malaya Centre for Ionic Liquids (UMCiL), Kuala Lumpur, Malaysia; ³Institute of Halal Research University of Malaya, Malaysia

Solid Acid Catalysts for Esterification Reactions. Federica Zaccheria, Nicola Scotti, Rinaldo Psaro, and Nicoletta Ravasio*, CNR ISTM, Italy

An Investigation to Achieve Physical Consistency of Oleogels During Scale up. Sai S. Sagiri¹, Malick Samateh², and George John³, ¹Center for Discovery and Innovation, Dept. of Chemistry, The City College of New York, USA; ²The City College of New York & Ph.D. Program in Chemistry at Graduate Center, City University of New York, USA; ³The City College of New York, USA
As of March 14, 2017

**IOP-P: Industrial Oil Products Poster Session**
Chair: Tracy Benson, Lamar University, USA

**Dedicated Poster Session | Visit with the authors.**
Monday, May 1 • 5:00–6:30 pm

**Posters will be available for viewing from Monday at 7:30 am until Wednesday at 3:00 pm.**

- Preparation of 2-Monoacylglycerol Rich in DHA by Enzymatic Ethanolysis and Crystallization. Yu Zhang, Xiaosan Wang, Ruijie Liu, Qingzhe Jin, and Xingguo Wang, Jiangnan University, China


- The Benefits, Uses, and Future of Pine Chemistry for Lubricant Applications. Monica A. Ford, Eric J. Olivier, Nicholas Kob, and Aaron Engel, Ingevity, USA

- Evaluation of Octane Number Property of Renewable Hydrocarbons Synthesized from *Camelina sativa*. Randy L. Maglino1, Chazley J. Hulett*2, Eleazer P. Resurreccion2, and Alexandra K. Jones1, 1Advanced Fuel Center, Montana State University-Northern, USA; 2Montana State University Northern, USA

- High Oleic Algal Oil Polyurethanes. Olivera Bilic1, Zoran Petrovic2, Jian Hong1, and Scott Franklin3, 1Kansas Polymer Research Center/PSU, USA; 2Pittsburg State University, USA; 3Checkerspot, Inc., USA

- Starch-lipid Complexes for Aerogel Formation. Jim A. Kenar, Fred J. Eller, Frederick C. Felker, George F. Fanta, Michael A. Jackson, and Jeffrey A. Byars, USDA, ARS, NCAUR, USA

- Palm-based Mung Bean Cakes: Production via Blending Three Different Palm Fractions with Soybean Oil. Jun Jin1, Yinhui Ma2, Liyou Zheng3, Cheng Keat Ooi2, Xingguo Wang1, and Qingzhe Jin1, 1Jiangnan University, China; 2Palm Oil Research and Technical Service Institute of Malaysian Palm Oil Board, China; 3CAAS, China


- Starch Inclusion Complex to Emulsify Cedarwood Oil and Pressure Treat Wood. Fred J. Eller1, William Hay1, Grant Kirker2, and Mark Mankowski2, 1USDA, ARS, NCAUR, USA; 2USDA, FS, FPL, USA

- Edible Oleogels: Viable Alternative toward Healthier Solid Fat Food Products. D. Pulido1, Malick Samateh2, Sai S. Sagiri3, Nannette Hernandez1, Riliwan Sanni1, and George John4, 1Dept. of Chemistry & Center for Discovery and Innovation (CDI), The City College of New York, USA; 2The City College of New York & Ph.D. Program in Chemistry at Graduate Center, City University of New York, USA; 3Center for Discovery and Innovation, Dept. of Chemistry, The City College of New York, USA; 4The City College of New York, USA

- Studies on Modulating Aesthetic and Mechanical Properties of Molecular Gels. Riliwan Sanni2, Malick Samateh2, Sai S. Sagiri3, Raul Rivas4, and George John4, 1Dept. of Chemistry & Center for Discovery and Innovation (CDI), The City College of New York, USA; 2The City College of New York & Ph.D. Program in Chemistry at Graduate Center, City University of New York, USA; 3Center for Discovery and Innovation, Dept. of Chemistry, The City College of New York, USA; 4The City College of New York, USA
New Bis (Alkylthio) Fatty Acid Methyl Esters. Gerhard Knothe, USDA, ARS, NCAUR, USA

Synthesis and Characterization of Phosphonates from Methyl Linoleate and Vegetable Oils. Grigor Bantchev, Bio-oils Research Unit, NCAUR, ARS, USDA, USA