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Message from the Chair

Dear Colleague,

The blur of sunshine, warmth, and a chance to take a breather — better known as summer — draws quickly to a close. The start of the school year and autumn is once again upon us. We hope you were able to enjoy the 2022 AOCS Annual Meeting & Expo in Atlanta, Georgia, USA, earlier this May. The <u>call for papers</u> for the April 30–May 3, 2023 meeting in Denver, Colorado, USA, is open now! <u>IOP has several great sessions in the works</u>, and we really hope to hear from you all about your latest and greatest achievements.

As you know, the IOP division's purpose is "to provide a forum for the exchange and dissemination of information, and to promote contact and collaboration among professionals involved in research, development, engineering, marketing, and testing of industrial products from fats and oils." I truly appreciate the willingness of IOP members to step up and serve on award committees, chair technical sessions, and provide technical expertise in the area of industrial applications of oils and fats. We encourage you to continue to be engaged, as well as invite your colleagues who may have an interest in industrial oil products to get involved in our division.

As always, feel free to contact any of the Executive Steering Committee members if you have ideas on how to improve our division and make it stronger.

Sincerely,

Eric Cochran IOP Chair Iowa State University, USA

Division officers

Chair

Eric Cochran Iowa State University, USA ecochran@iastate.edu Vice Chair Brajendra (BK) Sharma, Ph.D. USDA-ARS, EERC, USA brajendra.sharma@usda.gov

Secretary-Treasurer and Newsletter Editor Majher I. Sarker, PhD USDA-ARS, USA <u>majher.sarker@usda.gov</u>

Renew your AOCS membership



Thank you for being a part of the AOCS community! AOCS will continue to be your resource for learning about new technologies and creating collaborations. As an AOCS member, you have access to member benefits such as AOCS journals, INFORM magazine, and discounts to AOCS meetings and educational courses to help you on your professional journey.

Renew your 2023 membership today.

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Submit nominations for the Industrial Oil Products Division Early Career Travel Grant



If you know of a scientist in the early stages of their professional career, please consider nominating them for an <u>Industrial Oil Products Division Early Career Travel Grant</u>. The deadline is **December 18, 2022**.

If you have questions about the IOP division Awards, please email awards@aocs.org or Lucas Censi, AOCS Member Relations Specialist, at lucas.censi@aocs.org.

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Submit your research for the 2023 AOCS Annual Meeting & Expo



If you missed the hybrid 2022 AOCS Annual Meeting & Expo, then you definitely should make plans to attend the 2023 AOCS Annual Meeting & Expo, which will be held from April 30–May 3, 2023, at the Colorado Convention Center in Denver, Colorado, USA. The Call for Papers for the 2023 meeting is open now and will close on **January 13, 2023**. Please consider submitting an abstract and presenting your research in an IOP division session.

We will have the following sessions in 2023:

- Biorenewable polymers (Joint session with the Biotechnology division)
- Biofuels (Joint session with the Processing division)
- · Green chemistry and oleochemicals
- · Valorization of glycerol and fatty acid esters
- New crops for oils/feedstock engineering (Joint session with the Biotechnology division).
- General industrial oil products
- · Industrial oil products poster session

Although session chair/co-chairs have already been identified for the upcoming annual meeting, if you are interested in serving in these capacities in the future or have an idea for a new session, please contact <u>B.K. Sharma</u>.

Submit your abstract

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2022 AOCS Annual Meeting & Expo Highlights

The 2022 AOCS Annual Meeting & Expo marked another successful event for the IOP division. We hosted a poster session and the following oral sessions:

- Biofuels
- · Green chemistry and oleochemicals
- · New uses of glycerine
- Biorenewable polymers
- New crops for oils/ feedstock engineering
- · General industrial oil products

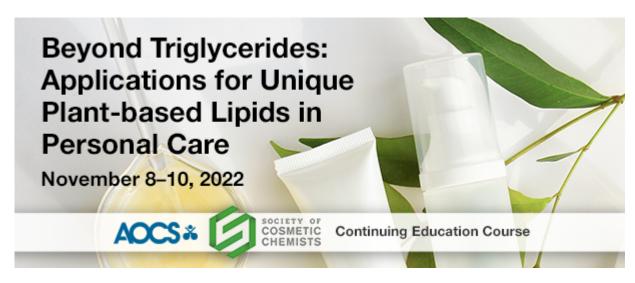
There was an excellent mix of academic, government, and industrial presenters across all the sessions.

The student award was also recognized during the meeting.

The <u>IOP division Student Excellent Award</u> was won by Tsutomu Chida, Tohoku University, Japan, and presented a talk titled "Process design for efficient production from glycerol into high-value chemicals" in the session on New uses of glycerine.

The <u>Industrial Oil Products Division Early Career Travel Grant</u> was awarded to Dr. Adeeb Hayyan, University of Malaya, Malaysia, who presented a talk on oil extraction using n-hexane and novel co-solvent called deep eutectic solvents (DESs), in the General industrial oil products session, and Dr. Daniel Dodoo, University of Pablo de Olavide, Spain, presented a talk on, "Oil produced from Ghana cocoa bean for potential industrial applications" in the General industrial oil products session.





Discover new tools for improved formulations November 8-10, 2022 | 9 a.m.-11 a.m. CST (Chicago, USA; UTC-05)

The AOCS Continuing Education Program is offering 'Beyond triglycerides: Applications for unique plant-based lipids in personal care' — a new online course.

Taught by returning instructor Benjamin Schwartz, Senior Personal Care Application Specialist at AAK USA Inc., this course will cover:

- Lipophilic components present in the plant tissues of feedstocks used for many industrially produced oils and fats
- How customer desires and expectations are impacting the personal care industry
- The value of using the unsaponifiable (non-triglyceride) fraction of plant oils and fats in cosmetic formulations and how they can produce the desired performance characteristics of numerous personal care products

Register today to participate in this innovative three-day course.

Register today

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Explore AOCS news and resources

Watch the spring IOP division Midweek Mixer

A highlight of the IOP division's 2022 activities is the IOP division Midweek Mixer, which was held online on March 7, 2022. Panelists Timothy W. Abraham (Cargill Inc.), Tim Ulmasov (CoverCress Inc.), Zoran Petrovic (Kansas Polymer Research Center, Pittsburg State University), Franck Dumeignil (University of Lille, France), Robert Moreau (Retired USDA-ARS), Robert Dunn (USDA ARS NCAUR), and Nacú Hernández (SoyLei Innovations, LLC) discussed their career trajectories and answered questions from attendees.



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Stay informed with INFORM magazine

Fish heads, fish heads: For bio-surfactant production

In this study, researchers developed a technology of using fish waste to grow microbes for industrial-scale production of biosurfactant.

Read the article.

Three paths forward for sustainable palm oil

Palm oil has become the most consumed oil in food industry where global consumption exceeds 70 million metric tons. In this article, three ways have been discussed for ensuring sustainable production of palm oil to meet future demand of palm oil.

Read the article.



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Journal of the American Oil Chemists' Society (JAOCS) articles

Quality characteristics and volatile compounds of oil extracted from njangsa seed

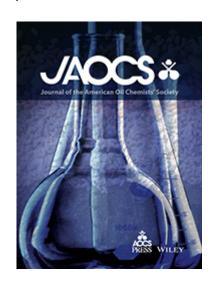
Characteristic analysis of njangsa seed oil extracted by two different extraction methods (Enzyme-assisted extraction Vs Hexane extraction) has been performed. In extracts, differences were observed in the type, number and quantity of volatile compounds because of different extraction techniques.

Read the article.

Evaluation of plant-based oils for production of offset printing ink

The biobased, environmentally friendly and self-drying offset printing inks were produced from natural pine resin and different plant-based oils including; flaxseed oil, pomegranate seed oil, plum kernel oil, and grape seed oil. The printability analysis of the developed inks suggested the potential usage of aforementioned seed oils in bio-based ink formulation.

Read the article.



Journal of Surfactants and Detergents (JSD) article

Production of surface-active sophorolipid biosurfactant and crude oil degradability by novel Rhodotorula mucilaginosa strain SKF2

In this present study, a unique yeast strain has been identified which has the ability to degrade crude oil and also produce surface-active sophorolipid biosurfactant.

Read the article.



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<u>AOCS Webinars</u> are your opportunity to connect with researchers, industry experts and thought-leaders from across the globe. Invest an hour of your day and be inspired. AOCS members have exclusive access to the <u>AOCS Member Webinar Library</u> to watch past webinars.

Past webinar of interest

Explore the benefits of hot solvent extractions and improve your laboratory workflow

Presenter: Corey Letizio, VELP Sales Manager | Paola Ornaghi, VELP Analytical Department Manager

This webinar was sponsored by VELP Scientifica Inc.

This webinar explored the benefits of hot solvent extraction and how the VELP SER 158 supports analytical laboratories to improve their productivity and free up operators' time thanks to the VELP Ermes Cloud connection.

View on demand.

Tips and tricks for troubleshooting common HPLC/UHPLC challenges

Presenter: Egidijus Machtejevas, Merck KGaA Darmstadt Germany, Sr. Technical Advisor, Analytical Chromatography Workflows

While every high-performance liquid chromatography (HPLC) or ultrahigh performance liquid chromatography (UHPLC) experiment and system is unique, these forms of analysis are prone to a few common problems that impact performance and results. You may find bad capillary connections that lead to large dead/dwell volumes, improper buffer selection, or errors during mobile phase preparation. Any of these issues can cause a lot of frustration. This webinar provided a straightforward guide to avoiding these potential pitfalls and troubleshooting errors as they come up.

View on demand.

Enhancing cosmetic and therapeutic ingredient development through fermentation technologies

Presenter: Dr. James (Vince) Gruber, Director of New Technologies at Jeen and BotanicalsPlus

This webinar was co-sponsored by the <u>Society of Cosmetic Chemists (SCC)</u> and the <u>Society for Industrial Microbiology and Biotechnology (SIMB)</u>.

Various microorganisms have found favor as engines of fermentation in the development of personal care ingredients. Ingredients based on adaptogenic plants, marine-sourced plants, superfruits and legumes have been advanced and improved to a new level of potency and potential. These have been combined with the benefits of biofermentation using the fermenting microorganisms saccharomyces, lactobacillus and galactomyces to harness new beneficial ingredients for skin and scalp care. This webinar introduced the ideas around use of fermentation to develop ingredients for cosmetics and skin care.

View on demand.

High-oleic oil of yeast as potential feedstock for biodiesel production from lignocellulosic pentoses

Presenters: Dr. Mahesh Balwant Khot, Postdoctoral Researcher, Biotechnology Centre of the University of Concepcion

This webinar explained how oleaginous yeast may provide unique platforms for the sustainable production of biodiesel — helpful in transitioning to a low-carbon economy. Its benefits are due to some advantages over their plant and algal counterparts such as no competition with food production, ability to grow in conventional bioreactors, rapid growth rates and more. The webinar outlined Dr. Khot's research that evaluates the biomass of the yeast strain newly isolated from the degraded wood in the Chilean rainforest to produce biodiesel based on its lipid content and fatty acid profile.

View on demand.

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IOP member initiative

Please encourage your colleagues to get involved in the IOP division! We want to make sure that we are effectively reaching the oil and fats community, and the best way to do that is through our current membership – you included! Annual dues are only \$15.

Contact AOCS membership for more information.

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Share your thoughts

The IOP division leadership would greatly appreciate your input! Are there certain things you would like to see in the newsletter? Do you have an idea for a technical session? Is there a potential sponsor that you think would be a good fit for IOP? What ideas do you have to enhance the effectiveness of the division?

Send your ideas to Newsletter Editor Majher Sarker.

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