



Report on One Week Online Faculty Development Program

"Sustainable Approaches for Oleochemicals Production and Their Applications"

Duration: 13–17 April 2026

Jointly Organized by: Department of Oil Technology, Harcourt Butler Technical University (HBTU), Kanpur & Oil Technologists' Association of India (OTAI), Central Zone

Convenor: Dr. Vineeta Gautam, Assistant Professor, Department of Oil Technology, HBTU Kanpur

Co-Convenor: Mr. Gaurav Singh, Assistant Professor, Department of Oil Technology, HBTU Kanpur

The Department of Oil Technology, Harcourt Butler Technical University (HBTU), Kanpur, in collaboration with the Oil Technologists' Association of India (OTAI), Central Zone, successfully organized a One Week Online Faculty Development Program (FDP) on "Sustainable Approaches for Oleochemicals Production and Their Applications" from 13th to 17th April 2026. The programme was designed to enhance the knowledge of faculty members, researchers, industry professionals, and postgraduate students regarding recent developments in oleochemical technology, sustainable manufacturing, and industrial applications of oleochemicals. The primary objective of the FDP was to provide participants with a comprehensive understanding of the production, processing, and utilization of oleochemicals while highlighting sustainable and environmentally friendly alternatives to petrochemical-based products. The programme served as an excellent platform for interaction between academia and industry, enabling participants to learn from eminent experts working in research organizations, universities, and industries. The programme commenced on **13 April 2026** with an inaugural session followed by the keynote lecture delivered by **Prof. R. P. Singh**, who presented an overview of **oleochemicals and their industrial applications**. He discussed the growing importance of oleochemicals in diverse industrial sectors and emphasized their contribution to sustainable industrial development. The second lecture of the day was delivered by **Prof.**

Jyotsana Waghmare, who highlighted **oleochemicals as eco-friendly alternatives to petrochemicals**, focusing on renewable resources, green chemistry, and environmental sustainability. On **14 April 2026**, **Dr. Ajay Kumar Singh** delivered an insightful lecture on **recent advances and future trends in the oleochemical industry**, discussing technological innovations, market developments, and future opportunities. This was followed by a lecture by **Dr. Rajeev Churi**, who explained the applications of **oleochemicals in lubricants and oilfield chemicals**, emphasizing their role in improving lubricant performance and supporting sustainable industrial processes. The sessions on **15 April 2026** focused on industrial production and applications. **Mr. Vilas Kakade** explained the **industrial processes involved in fatty acid production**, utilization of by-products, and process optimization techniques. **Dr. Anurag Singh** delivered a lecture on the **role of oleochemicals in the food industry**, highlighting applications of edible oils, emulsifiers, specialty fats, food additives, and functional ingredients. On **16 April 2026**, **Dr. Sachin Kumar** discussed the **production technologies and industrial applications of fatty alcohols**, while **Dr. Pranava Chaudhari** presented an informative lecture on the **synthesis and industrial applications of fatty amines and fatty nitriles**, emphasizing their importance in surfactants, textile chemicals, agrochemicals, mining chemicals, and specialty products. The final day of the FDP, **17 April 2026**, featured two highly informative lectures. **Mr. Saurabh Srivastava** discussed **surfactants and detergents derived from oleochemicals**, highlighting sustainable detergent formulations and industrial applications. **Mr. Sanjay Kumar Singh** delivered the concluding technical lecture on the **role of oleochemicals in cosmetics and personal care products**, explaining the increasing demand for bio-based ingredients in the cosmetics industry and recent developments in formulation technologies. The programme concluded with a **Valedictory Function**, during which participants shared their feedback and appreciated the comprehensive coverage of emerging topics in oleochemical technology. Throughout the programme, participants actively interacted with the resource persons during question-and-answer sessions, enriching their understanding of current research trends, industrial challenges, sustainable manufacturing practices, and future opportunities in the oleochemical sector. The FDP effectively strengthened collaboration between academia and industry by bringing together experts from educational institutions and industrial organizations. The Faculty Development Program significantly enhanced participants' knowledge of renewable feedstocks, green processing technologies, fatty acids, fatty alcohols, fatty amines, surfactants, detergents,

lubricants, food applications, and personal care products. It also highlighted the role of oleochemicals in promoting sustainability, circular economy principles, and environmentally responsible industrial development. The programme successfully achieved its objective of updating faculty members and researchers with recent technological advancements while encouraging interdisciplinary research and industry-oriented learning. The Department of Oil Technology expresses its sincere gratitude to all distinguished speakers, participants, the **Oil Technologists' Association of India (Central Zone)**, and the organizing committee for their valuable contributions in making the Faculty Development Program a grand success. The FDP strengthened the academic environment of the Department by promoting continuous professional development, enhancing industry–academia interaction, and encouraging sustainable innovations in the field of oleochemical science and technology. The knowledge gained through the programme is expected to contribute significantly to teaching, research, curriculum development, and future collaborations in the rapidly growing oleochemical industry.

https://meet.google.com/zbk-cafc-ouz

Balram Vajrath Gadhe (Presenting, annotating)

OLEOCHEMICAL INNOVATION: KEY EMERGING TRENDS

1. SHIFT TOWARDS INCREASED & RENEWABLE FEEDSTOCKS

- ADDED & IMPROVED FEEDSTOCKS
- NEWER FEEDSTOCKS
- PLANTATION FEEDSTOCKS
- LOWER ENVIRONMENTAL FOOTPRINT
- SUSTAINABLE AND LOW-CARBON FOOTPRINT
- FASTER CONVERSION RATES

2. PROCESS INTENSIFICATION & ENZYMATIC ROUTES

- PROCESS INTENSIFICATION
- ENZYMATIC ROUTES
- LOWER ENERGY USE
- REDUCED WASTE
- IMPROVED PRODUCT PURITY

3. CIRCULAR ECONOMY & WASTE VALORIZATION

- WASTE VALORIZATION
- CIRCULAR ECONOMY
- GLOBAL SUSTAINABILITY ALIGNMENT
- BY-PRODUCT UTILIZATION

4. DIGITALIZATION & SMART PLANTS

- SMART PLANTS
- DIGITALIZATION
- REDUCED COSTS
- IMPROVED QUALITY
- SUSTAINABLE PRODUCTION

6:07 PM | zbk-cafc-ouz

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6:22 PM | zbk-cafc-ouz

Participants: Balram Vajrath, Dr. Rahul, Sanjay Tandon, SPARSH GUPTA, ASHWANI MAU, SUBHANKAR, NIKHI Khosla, 36 others, Head Oil Tech.

In-call messages:

- Continuous chat is turned off. Messages will not be saved for meeting participants when the call ends. You can pin a message to make it visible for people who join later.
- A.K.A. THOHAIL ALAM KHAN: Excellent Presentation Indeed...
- 6:22 PM: dear participants pls ask the questions. Please send a message to pin it.

6:22 PM | zbk-cafc-ouz

Vilas Kakade (Presenting, annotating)

VVF (India) Ltd. Talaja Plant

Subject : Industrial Process for Production of Fatty Acid and Utilization of By Products

Participants: Dr. SURB, SUBHANKAR, Dev Sank, 33 others.

