



Medicinal Chemistry and Drug Discovery & Development India

by Balu Balasubramanian

MCADDI 2024 Highlights the impact of this IUPAC cosponsored course in India's Growing Influence in Medicinal Chemistry and Drug Discovery

Medicinal Chemistry and Drug Discovery & Development India 2024 (MCADDI 2024), held from 22-27 September at Biocon Academy in Bangalore, brought together leading scientists, industry professionals, and academics for an intensive five-day program. The event was co-sponsored by the American Chemical Society (ACS) Division of Medicinal Chemistry (MEDI), ACS Publications, and the IUPAC Chemistry and Human Health Division. With close to 100 participants from the pharmaceutical and biotechnology sectors, the course provided in-depth training on the principles of medicinal chemistry and drug discovery. The event kicked off on September 22nd, with buzzing excitement as participants registered, received conference kits, and were welcomed by the Biocon Academy team.

The event highlighted the latest breakthroughs in drug

discovery, emphasizing India's expanding role in the global pharmaceutical industry. Compared to the inaugural MCADDI in 2013, this year's sessions featured a notable increase in homegrown clinical candidates presented during case history discussions, underscoring the significant progress made by India's research ecosystem.

"Seeing how this five-day course has contributed to strengthening the discovery research ecosystem in India is truly gratifying," said one of the CEOs of an Indian CDMO. One of the core objectives of this IUPAC project has been to promote awareness of medicinal chemistry and discovery research in developing countries, and it is encouraging to see those efforts yielding tangible results.

MCADDI 2024 demonstrated how such initiatives





are fostering innovation and nurturing scientific talent, further solidifying India's reputation as a key player in drug discovery and development.

Comprehensive Course Structure

MCADDI 2024 was designed for industrial and academic participants who are currently working in drug discovery and development. The course included 30 lectures on target identification and validation, lead optimization, drug metabolism and pharmacokinetics, molecular modelling, bio-isosteres, structure-based and AI-based drug design, drug-like properties, pharmaceuticals, discovery of biologics and other topics of interest, including novel modalities such as ADC, PROTAC, Molecular Glues, to drug discovery & development scientists. MCADDI 2024 also included several lectures on pharmaceutical development CMC topics including process optimization and development, biopharmaceuticals and analytical sciences. Case Histories exemplifying the integrated drug discovery and development were the true highlights of the course.

This mix of content ensured the program catered to both experienced professionals and newcomers in drug discovery.

The course was highly interactive, with networking sessions, Lunch & Learn, and discussions. Special sessions showcased real-world examples, offering participants practical insights into pharmaceutical challenges.



Distinguished Speakers and Industry Participation

Participants from top Indian pharma companies and CROs, including Syngene International Limited, Aurigene Oncology Limited, Jubilant Biosys Limited, Biocon, Bristol Myers Squibb, Sai Life Sciences Ltd, Sun Pharma, Aurigene Pharmaceutical Services Limited, JSS Academy of Higher Education & Research, Glenmark Pharmaceuticals, Schrödinger, and LAXAI Life Sciences attended the course.

Attendees had the chance to interact with a strong lineup of speakers from India and the USA: Thomas Prisinzano, Manjunath Ramarao, Vincent Stoll, Nicholas Meanwell, Mukul Jain, Bruce Ellsworth, H. Rachel Lagiakos, Rustom Mody, Nitin Damle, Sridhar Desikan, Martin Eastgate, Sandhya Mandlekar and Nagaraj Gowda.

Industry Partnerships and Engaging Activities

The week included Lunch and Learn sessions presented by Merck Life Sciences and Agilent Technologies, with state-of-the-art instruments on



display. Special booths from Syngene International, Biocon Academy, and Burkert were a focus of attention during the week.

MCADDI 2024 included a reception and dinner at The Oterra, Bangalore, on 26 September and a CEO Forum entitled “India Innovators and Innovation Enablers.” The forum featured industry leaders Akhil Ravi, CEO of Aurigene Pharmaceutical Services Limited, Murthy Chavali, CEO of Satya Pharma Innovations Private Limited, and Murali Ramachandra, CEO of Aurigene Oncology Limited, who shared their visions for India’s current and future role in the global biosciences landscape.

Networking, Celebrations, and Testimonials

Participants enjoyed a reception and dinner at The Oterra, Bangalore on 26 September, a fitting conclusion to a week of learning and collaboration. The event was praised for its seamless organization and impactful sessions.

Sarmistha Majumdar from Schrödinger remarked: “Thanks to Biocon Academy and Kiran Mazumdar Shaw for hosting MCADDI 2024. It was a great platform for professionals to gain a comprehensive view of the drug discovery process”.

Balu N. Balasubramanian, Strategic Pharma Innovation-Sourcing Center LLC, USA, commented: “MCADDI has evolved into a mature and impactful platform, paving the way for students, scientists, and CMOs alike. Biocon Academy’s exceptional coordination has made it a premier event in the biotech space.”

Vincent S. Stoll from AbbVie Inc. shared: “Attending the MCADDI Summit was a fantastic opportunity to engage with scientists and foster collaboration. This event truly enhances knowledge-sharing and networking for professionals and speakers alike.”

<https://iupac.org/project/2023-033-2-700/>

Solubility Phenomena and Related Equilibrium Processes

by Slobodan Gadžurić, Chair of ISSP21

The **21st International Symposium on Solubility Phenomena and Related Equilibrium Processes** (ISSP21) took place from 9-13 September 2024, in Novi Sad, Serbia. In the year when ISSP celebrates its 40th birthday since the first symposium in London, Ontario Canada in 1984, and 50 years of the Solubility data project, whose first meeting happened in Montreal, Canada in 1974, the conference was organized by the University of Novi Sad and chaired by Slobodan Gadžurić (University of Novi Sad, Serbia). The ISSP21 is a continuation of the successful IUPAC conference series, which brings together new results of our scientific work and presents and discusses new findings on various scientific and technological issues related to solubility phenomena and chemical equilibria.

The conference covered various scientific topics, including:

- Aqueous Solutions
- Biofuels
- Computer Assisted Equilibrium Calculation
- Deep Eutectic Solvents
- Environmental Equilibrium Processes and Applications
- Fluid Phase Equilibria
- Molten Salts
- Ionic Liquids
- Nuclear Wastes
- Solution Chemistry Complex Equilibria
- Solubility Phenomena in Pharmaceutical applications

The conference was attended by more than 60 registered participants from 17 countries worldwide. The invited speakers delivered 5 plenary and 8 keynote talks.

Plenary lectures:

- Ivo Leito, University of Tartu, Estonia – *Using the available pK_a data in non-aqueous solvents*
- Clara Magalhães, University of New South Wales, Australia – *Chemistry in Art and Art in Chemistry*
- Andrea Mele, Politecnico di Milano, Italy – *Thirty years of Ionic Liquids*
- Mirjana Minčeva, Technical University of Munich, Germany – *Exploring the Potential: Design Strategies and Applications of Deep Eutectic Solvents*