

Webinar on Biofilm Biology & AMR: Challenges, Innovations & the Path Ahead

Date: 26 November 2025

Time: 3:00 PM – 5:00 PM

Organized by: Special Interest Group (SIG) on Biofilms in Clinical Settings & Their Control

In commemoration of Biofilm Week and World Antimicrobial Awareness Week, the Special Interest Group (SIG) on Biofilms in Clinical Settings & Their Control successfully organized a webinar titled "Biofilm Biology & AMR: Challenges, Innovations & the Path Ahead" on 26 November 2025. The webinar served as an important platform for researchers, academicians, healthcare professionals, and students to explore emerging trends and innovative strategies for addressing the growing challenge of biofilm-associated antimicrobial resistance (AMR).

The programme focused on the critical role of biofilms in persistent infections and antimicrobial resistance, highlighting the need for interdisciplinary research and novel therapeutic approaches. The webinar brought together renowned experts who shared their research findings and insights into innovative solutions aimed at combating resistant pathogens and reducing the global burden of AMR.

The first invited lecture was delivered by Dr. Chetana Baliga, DBT–Ramalingaswami Fellow and Faculty, Department of Biotechnology, Faculty of Life and Allied Health Sciences, Ramaiah University of Applied Sciences, Bengaluru, on the topic "Antimicrobial Peptides as Future Antibiotics: Structure–Function Studies and Rational Re-engineering." She provided an in-depth overview of antimicrobial peptides as promising next-generation therapeutics, emphasizing their structure–function relationships, mechanisms of action, and rational engineering strategies to overcome antimicrobial resistance.

The second expert lecture, "QS Interference in Aquaculture Pathogens," was presented by Dr. Pande Gde Sasmita, Associate Professor, Aquaculture Study Program, Faculty of Marine Science and Fisheries, Udayana University, Bali, Indonesia. His presentation explored quorum sensing (QS) mechanisms in aquaculture pathogens and demonstrated how QS interference can serve as an effective anti-virulence strategy to inhibit biofilm formation, reduce pathogenicity, and minimize dependence on conventional antibiotics in aquaculture systems.

The webinar concluded with an interactive discussion session, where participants engaged with the speakers on current challenges, future research opportunities, and translational applications in the field of biofilm biology and antimicrobial resistance. The event reinforced the importance of innovation, global collaboration, and interdisciplinary research in developing sustainable solutions to tackle biofilm-associated infections and AMR across both clinical and environmental settings.

The webinar successfully enhanced awareness of cutting-edge research in biofilm science while fostering scientific dialogue and collaboration among researchers and healthcare professionals committed to addressing one of the most pressing global public health challenges.