

# Microbial Networks and Planetary Health: A Systems Approach to One Health

Venue: Annex Auditorium, Manipal School of Life Sciences, Manipal

Dates: 28-30 January 2026

| Date       | Time                   | Session  | Speakers  |
|------------|------------------------|--|---|
| 28-01-2026 | 02.30 PM –<br>03.15 PM | <b>Inauguration</b>  |   |
|            | 03.15 PM –<br>04.55 PM | <b>Antibiotic Resistance &amp; Host-Pathogen Interactions</b>  | <b>Chair: Dr. Stephen Kidd</b><br><b>Co-Chair: Dr. Shama Prasad</b> |
|            | 03.15 PM –<br>03.40 PM | Fluoroquinolone resistance in <i>Mycobacterium tuberculosis</i> : a new mechanism by succinylation of GyrB                       | Dr. Nagaraja, IISc, Bengaluru                                       |
|            | 03.40 PM –<br>04.05 PM | Identification of carbapenem resistance genes in <i>Mycobacterium tuberculosis</i>   | Dr. Raghunand Tirumalai, CCMB, Hyderabad                            |
|            | 04.05 PM –<br>04.30 PM | The CRISPR toolbox to investigate viral host interactions  | Dr. Michael Beard, The University of Adelaide, Australia            |
|            | 04.30 PM –<br>04.55 PM | Multi-omics discovery of microbial biomarkers for infection risk prediction in diabetes-related foot ulcers                      | Dr. Slade Jensen, Western Sydney University, Australia              |
|            | 04.55 PM –<br>05.10 PM | <b>TEA BREAK</b>   |   |
|            | 05.10 PM –<br>06.25 PM | <b>Microbial Interactions shaping One Health</b>   | <b>Chair: Dr. Michael Beard</b><br><b>Co-Chair: Dr. Vandana</b>     |
|            | 05.10 PM –<br>05.35 PM | Reimagining crop protection beyond chemicals: RNA-powered cleantech leading the future of One Health agriculture                 | Dr. Charith Raj Adkar, Université de Sherbrooke, Canada (Online)    |
|            | 05.35 PM –<br>06.00 PM | Relapsing bacterial infections and antibiotic tolerance – a phenotype from a combination of commensal and environmental bacteria | Dr. Stephen Kidd, The University of Adelaide, Australia             |
|            | 06.00 PM –<br>06.25 PM | Fungal endophytes; Are they mutualists or latent pathogens?  | Dr. T.S. Murali, MSLS, MAHE   |
| 29-01-2026 | 09.30AM –<br>11.10 AM  | <b>Microbes and Human Health – One Health Perspective – INSA/IUMS Special Session</b>  | <b>Chair: Dr. Nagaraja</b><br><b>Co-Chair: Dr. Mamatha Ballal</b>   |
|            | 09.30 AM –<br>09.55 AM | Identification of host factor directed novel antiviral molecules for HIV-1 therapeutic strategy                                  | Dr. Debashis Mitra, NCCS Pune                                       |
|            | 09.55 AM –<br>10.20 AM | Genomic Insights into <i>Salmonella enterica</i> Typhi isolates from food and humans in Northeast India                          | Dr. Ramamurthy, ICMR–NIRBI, Kolkata                                 |
|            | 10.20 AM –<br>10.45 AM | Gut microbiome dysbiosis and immune impairment in pulmonary tuberculosis   | Dr. Rup Lal, University of Delhi, Delhi                             |
|            | 10.45 AM –<br>11.10 AM | Tuberculosis: Challenges in elimination of Tuberculosis  | Dr. Yogendra Singh, University of Delhi, Delhi                      |

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| 11.10 AM –<br>11.30 AM | <b>TEA BREAK</b>  |  |
| 11.30 AM –<br>01.05 PM | <b>Microbial Pathogenesis</b>   | <b>Chair: Dr. Vishu Kumar</b><br><b>Co-Chair: Dr. Dinesh Upadhy</b>                |
| 11.30 AM –<br>11.55 AM | Extracellular Vesicles Structure and biosynthesis in fungi  | Dr. Guilham Janbon, Pasteur Institute, France                                      |
| 11.55 AM –<br>12.20 PM | Disabling mycotoxigenic fungi at multiple stages: Probiotic intervention  | Dr. Sreenivasa, University of Mysore, Mysuru                                       |
| 12.20 AM –<br>12.45 PM | Extracellular vesicles as double-edged sword in bacterial pathogenesis  | Dr. Karthik Subramanian, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram |
| 12.45 PM –<br>01.05 PM | Shutting down multiple communication systems in bacteria – A novel antimicrobial strategy                                 | Dr. Thirthankar Das, Western Sydney University, Australia                          |
| 01.05 PM –<br>02.00 PM | <b>LUNCH</b>  |  |
| 02.00 PM –<br>03.15 PM | <b>Plant Microbe Interactions</b>   | <b>Chair: Dr. Padmalatha Rai</b><br><b>Co-Chair: Dr. Vidhu Sankar Babu</b>         |
| 02.00 PM –<br>02.25 PM | Integrative omics-based discovery of key defense in a plant host: A study of <i>Ginger-Pythium myriotylum</i> pathosystem | Dr. Anish Kundu, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram         |
| 02.25 PM –<br>02.50 PM | Microbiome-based strategies to enhance nitrogen use efficiency in eggplant grown with reduced inputs                      | Dr. Laura Toppino, CREA, Italy (Online)  |
| 02.50 PM –<br>03.15 PM | Insights into plant-pathogen interactions across two distinct pathosystems  | Dr. Shweta Panchal, RV University, Bengaluru                                       |
| 03.15 PM –<br>03.30 PM | <b>TEA BREAK</b>  |  |
| 03.30 PM –<br>05.20 PM | <b>Translating One Health Framework</b>   | <b>Chair: Dr. Chiranjay</b><br><b>Co-Chair: Dr. Prakash Potty</b>                  |
| 03.30 PM –<br>03.55 PM | Operationalising One Health: Connecting the dots  | Dr. Adriana Milazzo, The University of Adelaide, Australia                         |
| 03.55 PM –<br>04.20 PM | One Health approach to food safety  | Dr. Iddya Karunasagar, NITTE, Mangalore  |
| 04.20 PM –<br>04.55 PM | Crop health challenges of agriculture in One Health Mission   | Dr. MK Naik  |
| 04.55 PM –<br>05.20 PM | Surface hygiene, cleaning and cleanliness verification and its contribution to a One Health approach to AMR               | Dr. Greg Whiteley, Western Sydney University, Australia                            |
| 05.20 PM –<br>06.30 PM | <b>POSTER SESSION</b>   |  |

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|------------|------------------------|---|---|
|            | 06.30 PM –<br>07.30 PM | Cultural Program – Followed by Dinner   |   |
| 30-01-2026 | 09.30 AM –<br>10.30 AM | <b>STUDENTS' PRESENTATIONS</b>  | <b>Chair: Dr. Michael Beard</b><br><b>Co-Chair: Dr. Manjunath Joshi</b>   |
|            | 10.30 AM –<br>10.50 AM | TEA BREAK   |   |
|            | 10.50 AM –<br>12.30 PM | <b>Microbial Systems-level approach</b>   | <b>Chair: Dr. Slade Jensen</b><br><b>Co-Chair: Dr. Budheshwar</b>         |
|            | 10.50 AM –<br>11.15 AM | Metabolic Control of Bacterial Cell Cycle Checkpoints   | Dr. Sunish Radhakrishnan, IISER Pune, Pune                                |
|            | 11.15 AM –<br>11.40 AM | Multimomics Approaches for One Health: Systems-Level Insights into Mycobacterial Pathogenesis and Clinical Differentiation                            | Dr. Keshav Prasad, NITTE, Mangalore                                       |
|            | 11.40 AM –<br>12.05 PM | Microbial co-occurrence network analysis as a systems approach  | Dr. Thomas Jeffries, Western Sydney University, Australia (Online)        |
|            | 12.05 PM –<br>12.30 PM | Digital Technology and Strategic Communication to Tackle AMR within a One Health paradigm   | Dr. Ankur Mutreja, PATH   |
|            | 12.30 PM –<br>02.00 PM | <b>LUNCH</b>  |   |
|            | 02.00 PM –<br>03.40 PM | <b>Microbial Genomics &amp; Regulatory Networks</b>   | <b>Chair: Dr. Sunish Radhakrishnan</b><br><b>Co-Chair: Dr. Bobby Paul</b> |
|            | 02.00 PM –<br>02.25 PM | Benchmarking long-read assembly tools and preprocessing strategies for bacterial genomes  | Dr. Satheesh Babu, Amrita VV, Coimbatore                                  |
|            | 02.25 PM –<br>02.50 PM | Innovations in One Health: From Multi-omics to Host-Pathogen Networks   | Dr. Yashwanth Subbannayya, University of Surrey, UK (Online)              |
|            | 02.50 PM –<br>03.15 PM | A diverse type of $\sigma_{54}$ dependent gene activation paradigm is essential for pathogenesis of Lyme disease pathogen <i>Borrelia burgdorferi</i> | Dr. Sajith Raghunandan, MSLS, MAHE  |
|            | 03.15 PM –<br>03.40 PM | Why do I love my home- Story of Salmonella inside Salmonella containing vacuole   | Dr. Dipshikha Chakravorty, IISc, Bengaluru (Online)                       |
|            | 03.45 PM –<br>04.15 PM | <b>Valedictory Program &amp; Prize distribution</b>   |   |
|            | 04.15 PM               | <b>HIGH TEA</b>   |   |

\*Tentative Schedule

**A special session by INSA Scientists and IUMS members**