

International Conference
‘Biology Beyond Boundaries: Mitochondrial Insights, Computational Breakthroughs, and Clinical Transformations’
(29th -31st January 2024)

Department of Biotechnology, Savitribai Phule Pune University, Pune
Venue: Geology Auditorium, and Research Park Foundation (RPF) Hall 1 & Hall 2

Day 1: 29th January 2024

| | | | | | | |
|---|------------|--|---|------------|--|--|
| 8:00 | 9:00 | Breakfast | | | | |
| 8:00 | 10:00 | Registration/Helpdesk | | | | |
| Inaugural Session (Geology Hall) | | | | | | |
| 10:00 | 11:15 | Inaugural Ceremony | Inaugural Address: Hon’ble VC, SPPU Chief – Guest Talk: Dr. Soumya Swaminathan (Geology Hall) Guest-of-Honor: Dr. Cyrus S. Poonawalla (Geology Hall) | | | |
| 11:15 | 11:30 | Hi Tea | | | | |
| Session 1: Bacterial Vaccines and Future Pandemic Management | | | Session 1: Mitochondrial Transfer, Genetics, and Cancer Therapeutics | | | |
| Start | End | Venue I (Geology) Chair: Prof. Bhushan Patwardhan | Start | End | Venue II (RPF 1) Chair: Prof. Raosaheb Kale | Venue III (RPF 2) Chair: Prof. Dileep Deobagkar |
| 11:20 | 12:00 | Dr. Patrick Duffy | 11:20 | 11:45 | Prof. Rana Pratap Singh | Prof. Sheela Godbole |
| | | | 11:45 | 12:10 | Prof. Gopal C. Kundu | Prof. Yogesh Shouche |
| 12:30 | 13:00 | Prof. Peter Sebo (Virtual) | 12:10 | 12:35 | Prof. Sagar Sen Gupta | Prof. Puran Singh Sijwali |
| | | | 12:35 | 13:00 | Prof. Vivek Mittal | Dr. Dhanasekaran Shanmugam |
| 13:00 | 14:00 | Lunch break | | | | |
| Session 2: Next Gen Vaccines | | | Session 2: Metabolic Reprogramming and Life-Style Diseases | | | Venue III (RPF 2) |
| Start | End | Venue I (Geology) Chair: Dr. Shekhar Mande | Start | End | Venue II (RPF 1) Chair: Prof. Pandit Vidyasagar | |
| 14:00 | 14:40 | Prof. V. Nagaraja | 14:00 | 14:25 | Prof. H. A. Nagarajaram | |
| 14:40 | 15:20 | Prof. Adrian Hill (Virtual) | 14:25 | 14:50 | Prof. Alokchandra Bharati | |
| 15:20 | 16:00 | Dr. Filip Dubovsky | 14:50 | 15:15 | Dr. Sharmila Bapat | |
| | | | 15:15 | 15:40 | Dr. Jomon Joseph | |
| | | | 15:40 | 16:05 | Prof. B. M. Mallick | |

| 16:05 | | 16:20 | | Tea/Coffee break/Networking Session | | | | |
|---|-------|--|----------------------|-------------------------------------|---|-------------------------------|-------|--|
| Session 3: Viral Disease Diagnostics and Prevention | | | Scientific Session 3 | | | Industry Expo / Presentations | | |
| Start | End | Venue I (Geology) Chair: Prof. Dr. Sheela Godbole | Start | End | Venue II (RPF 1) Chair: Prof. Ameeta RaviKumar | Start | End | Venue III (RPF 2) |
| 16:20 | 16:50 | Dr. Amita Gupta (Virtual) | 16:20 | 16:45 | Dr. Swasti Raychaudhuri | 16:20 | 18:00 | 1. Dr. José Castillo Quantoom (Virtual) 2. PharmNXT 3. Cytiva |
| 16:50 | 17:25 | Dr. Barney Graham (Virtual) | 16:45 | 17:00 | Dr. Satyandra Singh | | | |
| 17:25 | 18:05 | Dr. Elizabeth Unger (Virtual) | 17:00 | 17:15 | Prof. Balaprasad Ankamwar | | | |
| | | | 17:15 | 17:30 | Prof. Ramesh Bhonde | | | |
| | | | 17:30 | 17:45 | Dr. Akhank Jain | | | |
| | | | 17:45 | 18:00 | | | | |
| 18:05 | 19:00 | Poster Session I | | | | | | |
| 19:00 | 20:00 | Cultural program (Namdeo Hall, SPPU Campus) | | | | | | |
| 20:00 | 21:30 | Dinner (Geology Department) | | | | | | |
| ----- End of Day 1 ----- | | | | | | | | |

Day 2: 30th January 2024

| 8:00 | | 9:00 | | Breakfast and Registration | | | | |
|--|-------|---|--|--|--|-------------------|--|--|
| 9:00 | | 9:45 | | Keynote Address II: Dr. Douglas Wallace (Virtual – Venue I - Geology Hall) | | | | |
| 9:45 | | 9:50 | | Break For Sessions | | | | |
| Session 4: Mitochondrial Proteostasis, Biology, and Human Diseases | | | Session 4: Mitochondrial dysfunction in Cancer | | | | | |
| Start | End | Venue I (Geology) Chair: Prof. Dhyan Chandra | Start | End | Venue II (RPF 1) Chair: Prof. Natasha Kyprianou | Venue III (RPF 2) | | |
| 9:50 | 10:15 | Dr. Dhanendra Tomar | 9:50 | 10:15 | Dr. Mahitosh Mandal | | | |
| 10:15 | 10:40 | Dr. Subhrajit Saha | 10:15 | 10:40 | Prof. Cole Haynes (Virtual) | | | |
| 10:40 | 11:05 | Dr. Michael Wangler | 10:40 | 11:05 | Prof. Doris Germain (Virtual) | | | |
| 11:05 | 11:30 | Dr. Neera Tewari-Singh | 11:05 | 11:30 | Prof. Keshav Singh (Virtual) | | | |
| 11:30 | 11:45 | Tea/Coffee Break | | | | | | |

| Session 5: Mitochondrial Stress Response, Calcium Homeostasis, and Human Diseases | | | Session 5: Chemotherapeutics in Cancer | | | | |
|---|-------|--|--|-------|---|-------------------|--|
| Start | End | Venue I (Geology) Chair: Prof. Rana P Singh | Start | End | Venue II (RPF 1) Chair: Dr. Neera Tewari-Singh | | |
| 11:45 | 12:10 | Prof. Jerry Chipuk | 11:45 | 12:10 | Dr. Manas Santra | | |
| 12:10 | 12:35 | Prof. Dhyan Chandra | 12:10 | 12:35 | Dr. Lokendra Sharma | | |
| 12:35 | 13:00 | Dr. Pooja Jadiya | 12:35 | 13:00 | Dr. Kundan Sengupta | | |
| 13:00 | 14:00 | Lunch break | | | | | |
| 14:00 | 15:00 | Poster Session II | | | | | |
| Scientific Session 6 | | | Session 6: Oral Presentations | | | | |
| Start | End | Venue I (Geology) Chair: Prof. Jerry Chipuk | Start | End | Venue II (RPF 1) Examiners: | Venue III (RPF 2) | |
| 15:00 | 15:45 | Prof. Stefan H. E. Kaufmann (Virtual) | 15:00 | 17:00 | (Competition Sessions) (5 Young Investigator Talks) and 5 Oral Presentations) | | |
| 15:45 | 16:10 | Dr. Sudipta Basu | | | | | |
| 16:10 | 16:35 | Dr. Natasha Kyprianou | | | | | |
| 16:35 | 17:00 | Dr. Richa Rikhy | | | | | |
| 17:00 | 17:15 | Tea/Coffee break (Sponsors Stall Visit) | | | | | |
| 17:15 | 18:00 | Dr. Robert Bollinger (Virtual) (Geology Hall) | | | | | |
| 18:00 | 19:00 | Break for Dinner | | | | | |
| 19:00 | 21:30 | Banquet Dinner | | | | | |
| ----- End of Day 2 ----- | | | | | | | |

Day 3: 31th January 2024

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|---|------------|--|--|------------|--|--------------------------|
| 8:00 | 9:00 | Breakfast/Registration | | | | |
| 9:00 | 9:45 | Keynote Address | Keynote Address III: Dr. Raymond Birge (Venue I - Geology Hall) | | | |
| Scientific Session 7 | | | Session 7: Oral Presentations | | | |
| Start | End | Venue I (Geology) Chair: Dr. Sheela Godbole | Start | End | Venue II (RPF 1) Examiners: | Venue III (RPF 2) |
| 9:45 | 10:30 | Prof. Mike McCune (Virtual) | 9:00 | 9:25 | Dr. Nagireddy Putluri | |
| 10:30 | 11:15 | Dr. Robert Seder | 9:25 | 12:00 | (Competition Sessions) <i>10 Oral Presentations</i> | |
| 11:15 | 11:45 | Dr. Leander Grode (Virtual) | | | | |
| 11:45 | 12:10 | Prof. K. Thangaraj | | | | |
| 12:10 | 12:30 | Tea/Coffee Break | | | | |
| 12:30 | 13:30 | Poster Session III | | | | |
| 13:30 | 14:30 | Lunch break | | | | |
| 14:30 | 16:00 | Panel Discussion | | | | |
| <p>Chairs: Prof. Rajesh Gacche, Prof. Raymond Birge, and Prof. Dhyan Chandra</p> <p>Panelists: Dr. Umesh Shaligram, Dr. Shekhar Mande, Dr. Bhushan Patwardhan, Dr. Jerry Chipuk, Dr. R. P. Singh, Dr. K. Thangaraj, Dr. Sheela Godbole, Dr. Deepti Deobagkar, Dr. Majima, Dr. Shubhrajit Saha,</p> | | | | | | |
| 16:00 | 17:00 | Prize Distribution and Valedictory Function, Vote of Thanks Chief-Guest: Dr Umesh Shaligram | | | | |
| 17:00 | 17:30 | Hi Tea | | | | |
| ----- End of Day 3 ----- | | | | | | |

Title of the Talks/ Time / Venue

Date: 29/01/2024

| Speaker Name | Title of the Talk | Time | | Venue |
|-------------------------|--|-------|-------|-------------------|
| | | Start | End | |
| Dr. Soumya Swaminathan | Chief-Guest Talk - Can Science solve societal challenges? | 09:30 | 10:15 | Venue I (Geology) |
| Dr. Amel Kaara | Mitochondrial Medicine Clinical update: The landscape in 2024 | 10:30 | 11:15 | Venue I (Geology) |
| Prof. Peter Sebo | Whooping cough - from molecular mechanisms to vaccines | 11:20 | 12:00 | Venue I (Geology) |
| Dr. Umesh Shaligram | Future Pandemic Preparedness | 12:00 | 12:30 | Venue I (Geology) |
| Prof. V. Nagaraja | Multipronged epigenetic maneuvering by Mtb impacts host gene expression-an emerging strategy by the pathogen | 12:30 | 13:00 | Venue I (Geology) |
| Dr. Patrick Duffy | Malaria Vaccines: Building on Success | 14:00 | 14:40 | Venue I (Geology) |
| Prof. Adrian Hill | Translational Research in Academia: Malaria Vaccines as an Example | 14:40 | 15:20 | Venue I (Geology) |
| Dr. Filip Dubovsky | Advances in Nanoparticle Vaccines | 15:20 | 16:00 | Venue I (Geology) |
| Dr. Amita Gupta | RePORT India: Advancing insights for combating tuberculosis | 16:20 | 16:50 | Venue I (Geology) |
| Dr. Barney Graham | RSV Vaccine Development: A Precedent for Structure-based Antigen Design | 16:50 | 17:25 | Venue I (Geology) |
| Dr. Elizabeth Unger | Role of the Laboratory in Human Papillomavirus (HPV) Public Health and Research | 17:25 | 18:05 | Venue I (Geology) |
| Prof. Rana Pratap Singh | Role of Mitochondrial Exchange in Development of Chemotherapy Resistance in Cancer | 11:20 | 11:45 | Venue II (RPF 1) |
| Prof. Gopal C. Kundu | Therapeutic Potential of Osteopontin, a Chemokine like Protein in Breast and other Cancers | 11:45 | 12:10 | Venue II (RPF 1) |
| Prof. Sagar Sen Gupta | Translational research possibilities for mitochondrial disorders | 12:10 | 12:35 | Venue II (RPF 1) |
| Prof. Vivek Mittal | Copper-mediated metabolic reprogramming in breast cancer metastasis. | 12:35 | 13:00 | Venue II (RPF 1) |
| Prof. H. A. Nagarajaram | ML Models for Predicting Pre-Term Births | 14:00 | 14:25 | Venue II (RPF 1) |

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|----------------------------|--|-------|-------|-------------------|
| Prof. Alokchandra Bharati | Evaluating Circulating Tumor Cells (CTCs) in Cervical Cancer Using 'Omics' Approach | 14:25 | 14:50 | Venue II (RPF 1) |
| Dr. Sharmila Bapat | Neoantigens from non-canonical transcripts | 14:50 | 15:15 | Venue II (RPF 1) |
| Dr. Jomon Joseph | Regulation of ER-mitochondria contact sites and their functions by a nucleoporin | 15:15 | 15:40 | Venue II (RPF 1) |
| Prof. B. M. Mallick | REM Sleep protects the brain from neurodegeneration | 15:40 | 16:05 | Venue II (RPF 1) |
| Dr. Swasti Raychaudhuri | Assembly of respiratory complexes – control via import | 16:20 | 16:45 | Venue II (RPF 1) |
| Dr. Satyandra Singh | Polarization of Cancer stem cell markers during Epithelial to Mesenchymal Transition in Oral Squamous Cell Carcinoma | 16:45 | 17:00 | Venue II (RPF 1) |
| Prof. Balaprasad Ankamwar | SERS Emerging as a Rapid Detection Tool for Biological Specimens | 17:00 | 17:15 | Venue II (RPF 1) |
| Prof. Ramesh Bhonde | Three dimensions of stem cell research | 17:15 | 17:30 | Venue II (RPF 1) |
| Dr. Aklank Jain | LINC00324/miR-493-5p/MAPK1 axis promotes metastasis of esophageal squamous cell carcinoma | 17:30 | 17:45 | Venue II (RPF 1) |
| Prof. Sheela Godbole | COVID-19 Pandemic and strategies for future pandemic preparedness- a review of ICMR activities | 11:20 | 11:45 | Venue III (RPF 2) |
| Prof. Yogesh Shouche | Microbiome based predictions, diagnosis and therapies for metabolic disorders | 11:45 | 12:10 | Venue III (RPF 2) |
| Prof. Puran Singh Sijwali | Plasmodium falciparum contains functional SCF and CRL4 ubiquitin E3 ligases, and CRL4 is critical for cell division and membrane integrity | 12:10 | 12:35 | Venue III (RPF 2) |
| Dr. Dhanasekaran Shanmugam | Mitochondrial genetic variation and buparvaquone drug resistance in Theileria parasites | 12:35 | 13:00 | Venue III (RPF 2) |

Date: 30/01/2024

| Name | Title | Time | | Venue |
|---------------------|--|-------|-------|-------------------|
| | | Start | End | |
| Dr. Douglas Wallace | Mitochondrial medicine in the pandemic era | 09:00 | 09:45 | Venue I (Geology) |
| Dr. Dhanendra Tomar | The Calcium Code: Unveiling Mitochondrial Calcium Regulation | 09:50 | 10:15 | Venue I (Geology) |

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|-----------------------------|---|-------|-------|-------------------|
| Dr. Subhrajit Saha | Mitochondria in intestinal stem cell homeostasis and repair | 10:15 | 10:40 | Venue I (Geology) |
| Dr. Michael Wangler | Modeling new disease-causing pathogenic variants from rare disease in the mitochondrial and peroxisomal fission factor DNM1L in <i>Drosophila melanogaster</i> | 10:40 | 11:05 | Venue I (Geology) |
| Dr. Neera Tewari-Singh | Effect of environmental chemicals on skin and ocular inflammatory diseases: Computational biology applications to identify mechanisms and interventions | 11:05 | 11:30 | Venue I (Geology) |
| Prof. Jerry Chipuk | Oncogenic BRAF Activates the ATF5-Dependent Mitochondrial Unfolded Protein Response To Dynamically Control Mitochondrial Function and Senescence In Early Disease | 11:45 | 12:10 | Venue I (Geology) |
| Prof. Dhyan Chandra | The mitochondrial unfolded protein response in prostate cancer | 12:10 | 12:35 | Venue I (Geology) |
| Dr. Pooja Jadiya | Mitochondrial Calcium Nexus: Unmasking Alzheimer's Molecular Enigma | 12:35 | 13:00 | Venue I (Geology) |
| Prof. Stefan H. E. Kaufmann | Tuberculosis: From Basic Research to Clinical Application | 15:00 | 15:45 | Venue I (Geology) |
| Dr. Sudipta Basu | Gold-Nanoheater-Mediated Targeting of Powerhouse in Cancer for Next-Generation Chemo-Photothermal Therapy | 15:45 | 16:10 | Venue I (Geology) |
| Dr. Natasha Kyprianou | Harnessing therapeutic vulnerability in prostate cancer phenotype via anoikis. | 16:10 | 16:35 | Venue I (Geology) |
| Dr. Richa Rikhy | Mitochondrial fusion in neural stem cell differentiation in <i>Drosophila</i> development | 16:35 | 17:00 | Venue I (Geology) |
| Dr. Robert Bollinger | Three Decades of Biology Beyond Boundaries: Pune's Contribution to Global Infectious Diseases Research | 17:15 | 17:50 | Venue I (Geology) |
| Dr. Mahitosh Mandal | Multi-nucleated cells use ROS to induce breast cancer chemoresistance in vitro and in vivo | 09:50 | 10:15 | Venue II (RPF 1) |
| Prof. Cole Haynes | The mitochondrial UPR, mitochondrial disease and aging | 10:15 | 10:40 | Venue II (RPF 1) |
| Prof. Doris Germain | Mitochondrial genetics and the susceptibility to post-partum breast cancer | 10:40 | 11:05 | Venue II (RPF 1) |
| Prof. Keshav Singh | Mitochondria as Epigenetic Regulators of Aging | 11:05 | 11:30 | Venue II (RPF 1) |

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| Dr. Manas Santra | Unwinding the LOVE-HATE relationship between FBXO31 and γ H2AX in DNA damage response: Implication in cancer chemotherapeutics | 11:45 | 12:10 | Venue II (RPF 1) |
| Dr. Lokendra Sharma | Role of mitochondrial quality control in stemness and therapeutic resistance of glioblastoma | 12:10 | 12:35 | Venue II (RPF 1) |
| Dr. Kundan Sengupta | Role of nuclear lamins in regulating chromosomal stability in cancer cells | 12:35 | 13:00 | Venue II (RPF 1) |

Date: 31/01/2024

| Name | Title | Time | | Venue |
|-----------------------|---|-------|-------|-------------------|
| | | Start | End | |
| Dr. Raymond Birge | Phosphatidylserine exposure and efferocytosis: Harnessing cell death pathways for therapeutic intervention | 09:00 | 09:45 | Venue I (Geology) |
| Prof. Mike McCune | Bringing affordable, accessible, and acceptable cures for HIV and sickle cell disease to all parts of the world | 09:45 | 10:30 | Venue I (Geology) |
| Dr. Robert Seder | Scientific and Clinical Development of Monoclonal Antibodies to Prevent Malaria | 10:30 | 11:15 | Venue I (Geology) |
| Dr. Leander Gorde | VPM1002 – a novel tuberculosis vaccine | 11:15 | 11:45 | Venue I (Geology) |
| Prof. K. Thangaraj | Exploring mitochondrial diseases: a multifaceted approach | 11:45 | 12:10 | Venue I (Geology) |
| Dr. Nagireddy Putluri | Metabolic Detours in Bladder Cancer: Biological and Therapeutic Implications | 09:00 | 09:25 | Venue II (RPF 1) |