

**International Symposium on**  
**“Mitochondria, Cell Death, and Human Diseases”**  
 18-19 February, 2023  
 School of Life Sciences, Jawaharlal Nehru University (JNU), New Delhi, INDIA

Venue: Committee Hall, Convention Centre, JNU

| Start                           | End   | Session                             | Description       | Name                      | Details   | Title |
|---------------------------------|-------|-------------------------------------|-------------------|---------------------------|---|-------|
| <b>Day 1: 18 February, 2023</b> |       |                                     |                   |                           |   |       |
| 8:00                            | 9:00  | Registration/Helpdesk               |                   |                           |   |       |
|                                 |       | <b>Session 1: Inaugural Session</b> |                   |                           |   |       |
| 9:00                            | 9:10  |                                     | Welcome Address   | Prof. Rana P. Singh       | Convener of the Symposium, School of Life Sciences & Special Centre for Systems Medicine, JNU, New Delhi, India                             |       |
| 9:10                            | 9:15  |                                     | Address           | Prof. Supriya Chakraborty | Dean, School of Life Sciences, JNU, New Delhi, India  |       |
| 9:15                            | 9:25  |                                     | Address           | Prof. R.N.K. Bamezai      | Former Professor and Dean, SLS, JNU; Former VC, Shri Mata Vaishno Devi University, Jammu and Kashmir, India                                 |       |
| 9:25                            | 9:30  |                                     | Address           | Prof. Dhyan Chandra       | Roswell Park Comprehensive Cancer Center, Buffalo, New York, USA  |       |
| 09:30                           | 09:40 |                                     | Address           | Prof. Raymond B. Birge    | Department of Microbiology, Biochemistry, and Molecular Genetics, Rutgers School of Biomedical and Health Sciences, Newark, New Jersey, USA |       |
| 09:40                           | 09:55 |                                     | Inaugural Address | Prof. S.C. Garkoti        | Rector, JNU, New Delhi, India   |       |
| 09:55                           | 10:00 |                                     | Vote of Thanks    | Prof. Paulraj Rajamani    | School of Environmental Sciences, JNU, New Delhi, India   |       |

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|-------|-------|---|--------------------------|------------------------|---|--|
| 10:00 | 10:25 | Tea/Coffee Break  |                          |                        |   |  |
|       |       | <b>Session 2: Mitochondria and Cell Death as Therapeutic Vulnerabilities in Cancer</b><br><b>Chairs: Dr. Jerry Chipuk &amp; Prof. R.N.K Bamezai</b> |                          |                        |   |  |
| 10:25 | 11:15 |   | <b>Keynote Speaker 1</b> | Prof. Marcus E. Peter  | Tomas D. Spies Professor of Cancer Metabolism, Department of Medicine, Division Hematology/ Oncology, Member and Program Leader "Translational Research in Solid Tumors (TRIST)", Robert H. Lurie Comprehensive Cancer Center, Northwestern University, Feinberg School of Medicine, Chicago, Illinois, USA | The role of DISE/6mer seed toxicity in cancer and neurodegenerative diseases     |
| 11:15 | 11:40 |   | Speaker 2 (Plenary)      | Prof. Raymond B. Birge | Department of Microbiology, Biochemistry, and Molecular Genetics, Rutgers School of Biomedical and Health Sciences, Newark, New Jersey, USA   | Phosphatidylserine exposure, stress, and cell death: Immune regulation in cancer |
| 11:40 | 12:05 |   | Speaker 3 (Plenary)      | Prof. Dhyan Chandra    | Roswell Park Comprehensive Cancer Center, Buffalo, New York, USA  | The mitochondrial unfolded protein response in prostate cancer                   |
| 12:05 | 12:30 |   | Speaker 4 (Plenary)      | Prof. Pankaj K. Singh  | Department of Oncology Science, The University of Oklahoma College of Medicine, Oklahoma, USA   | Mitochondrial metabolism presents a therapeutic vulnerability in cancer          |

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| 12:30 | 12:55 |   | Speaker 5 | Prof. K. Thangaraj        | Centre for DNA Fingerprinting and Diagnostics (CDFD) Hyderabad, Telangana, India  | Dual genetic origin of neuromuscular disorders  |
| 12:55 | 13:50 | Lunch Break   |           |                           |   |   |
|       |       | <b>Session 3: Mitochondrial Biology and Genome</b><br><b>Chairs: Prof. Raymond B. Birge &amp; Prof. Dhyan Chandra</b> |           |                           |   |   |
| 13:50 | 14:15 |   | Speaker 6 | Prof. Sanjay V. Malhotra  | Knight Cancer Institute, Oregon Health & Science University, Portland, U.S.A.   | Targeting Guanylate Binding Protein 1 (GBP1) regulated modulation of proteasomal machinery for cancer treatment |
| 14:15 | 14:40 |   | Speaker 7 | Prof. Sathees C. Raghavan | Department of Biochemistry, Indian Institute of Science, Bangalore, India   | Identification of a novel function of Endonuclease G in mitochondrial genome instability                        |
| 14:40 | 15:05 |   | Speaker 8 | Prof. Benu Brata Das      | School of Biological Sciences, Indian Association for the Cultivation of Science Kolkata, India                                       | Trapped protein-DNA covalent complexes in the mitochondria and their role in human diseases                     |
| 15:05 | 15:25 |   | Speaker 9 | Dr. Subhrajit Saha        | Director of Basic Science Research Department of Radiation Oncology, The University of Kansas Medical Center Kansas City, Kansas, USA | Mitochondrial biology of radiation and other anti-cancer treatment  |
| 15:25 | 15:45 | Tea/Coffee Break  |           |                           |   |   |

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|       |       | <b>Session 4: Mitochondria in Senescence and Microenvironment</b><br><b>Chairs: Prof. Huang Ding &amp; Prof. Dhanasekaran Shanmugam</b>                              |            |                            |  |   |
| 15:45 | 16:10 |  | Speaker 10 | Prof. K. Satyamoorthy      | Department of Cell and Molecular Biology,<br>School of Life Sciences, MAHE, Manipal, India                                   | Relevance of mitochondrial<br>RNA:DNA hybrids during<br>senescence in breast cancer<br>cells  |
| 16:10 | 16:35 |  | Speaker 11 | Dr. Swasti<br>Raychaudhuri | CSIR- Centre for Cellular and Molecular<br>Biology Hyderabad, Telangana, India   | Inner mitochondrial membrane<br>microenvironment shapes up<br>the evolution of respiratory<br>complexes                                 |
| 16:35 | 16:55 | <b>Tea/Coffee Break</b>  |            |                            |  |   |
| 16:55 | 17:00 | <b>Session 5: Oral Presentations – Young Scientists Award Presentation</b><br><b>Chairs: Prof. Rakesh Tyagi, Prof. Suneel Kateriya and Dr. Vijay Pal Singh Rawat</b> |            |                            |  |   |
| 16:55 | 17:10 | Speaker 12<br>Faculty presentation – 1   |            | Dr. Meenakshi Tiwari       | Associate Professor, Department of<br>Pathology/Lab Medicine, All India Institute of<br>Medical Sciences-Patna, Bihar, India | Does autophagy modulation<br>serve as a potential target for<br>neurodegeneration caused by<br>mitochondrial oxidative stress?          |
| 17:10 | 17:25 | Speaker 13<br>Faculty presentation – 2   |            | Dr. Hem Chandra Jha        | Associate Professor, Department<br>of Biosciences and Biomedical Engineering,<br>IIT Indore, India                           | Gastric epithelial cells<br>infected with Helicobacter<br>pylori use the<br>oncoprotein Gankyrin to<br>escape the cell death<br>pathway |

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| 17:25 | 17:40 | Speaker 14<br>Faculty presentation – 3 | Dr. Sanjay Kumar      | Assistant Professor, Department of Life Science, Central University of South Bihar, Gaya, India   | Arsenic trioxide causes mitochondrial pathway of apoptosis in acute leukemia cells   |
| 17:40 | 17:55 | Speaker 15<br>Faculty presentation – 4 | Dr. Prasad Tammineni  | Assistant Professor, Department of Animal Biology, School of Life Sciences, University of Hyderabad, India  | Axonal mitochondria trafficking and distribution in tauopathy Neurons  |
| 17:55 | 18:10 | Speaker 16<br>Faculty presentation – 5 | Dr. Andrea E. Murmann | Research Associate Professor, Department of Medicine, Division Hematology/Oncology, Northwestern University, Feinberg School of Medicine Chicago, Illinois, USA | The length of uninterrupted CAG repeats in stem regions of repeat disease associated hairpins determines the amount of short CAG oligonucleotides that are toxic to cells through RNA interference |
| 18:10 | 18:25 | Speaker 17<br>Faculty presentation – 6 | Dr. Vijay Mohan       | Galgotias University, Greater Noida, India  | Metabolic reprogramming of cancer cells limits tumorigenesis   |
| 18:25 | 18:35 | Young Researcher – 1                   | Asha Devi Kushwaha    | Defence Institute of Physiology and Allied Sciences, DRDO   | Mitochondrial dysfunction due to altered MICU1 expression incurs myofiber transition in muscle cells under hypoxic stress  |
| 18:35 | 18:45 | Young Researcher - 2                   | Subhashni Sahu        | Regional Centre for Biotechnology   | Wnt Signaling Pathway in rhabdomyosarcoma (RMS)  |
| 18:45 | 18:55 | Young Researcher - 3                   | Mudassar Ali          | Shiv Nadar Institution of Eminence Deemed to be University, Greater Noida   | Elucidation of mitochondrial sub-compartment specific proteotoxic stress response in mammalian cells   |
| 18:55 | 19:05 | Young Researcher - 4                   | Dr. Sakshi Mishra     | Central Drug Research Institute (CSIR-CDRI), Lucknow, Uttar Pradesh, India  | Deoxynivalenol induces Drp-1-mediated mitochondrial fission and dysfunction, leading to autophagy in neuronal cells via  |

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|              |       |                      |                         |  | elevating intracellular ROS and Ca2+ levels.  |
| 19:05        | 19:15 | Young Researcher - 5 | Dr. Gorantla V Raghuram | Advanced Centre for Treatment, Research and Education in Cancer, Tata Memorial Centre Kharghar, Navi Mumbai, India | Cell-free chromatin particles released from dying cells inflict mitochondrial damage and ROS production in living cells |
| 19:15        | 21:00 | Dinner               |                         |  |   |
| End of Day 1 |       |                      |                         |  |   |

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| <b>Day 2: 19 February, 2023</b> |       |  |                      |                            |   |  |
| 8:00                            | 9:00  | Registration/Helpdesk  |                      |                            |   |  |
|                                 |       | <b>Session 6: Mitochondrial Bioenergetics, Metabolism, and Communications</b><br>Chairs: Prof. Sathees C. Raghavan & Prof. K. Satyamoorthy |                      |                            |   |  |
| 9:00                            | 9:25  |  | Speaker 18           | Dr. Dhanasekaran Shanmugam | Biochemical Sciences Division, CSIR-National Chemical Laboratory Pune, Maharashtra, India | Mitochondrial metabolism and atovaquone resistance in malaria parasites                                      |
| 09:25                           | 09:50 |  | Speaker 19 (Plenary) | Prof. Huangeng Ding        | Department of Biological Sciences, Louisiana State University, Louisiana, USA             | Electron transfer activity of the mitochondrial outer membrane protein mitoNEET                              |
| 09:50                           | 10:15 |  | Speaker 20 (Plenary) | Prof. Yidong Bai           | Department of Cell Systems and Anatomy, UT Health San Antonio, San Antonio, Texas, USA    | Remedy of mitochondrial dysfunction  |
| 10:15                           | 10:35 |  | Speaker 21           | Dr. Piya Ghose             | The University of Texas, Arlington, USA   | Mitochondria and the endoplasmic reticulum as opposing dynamic players in compartmentalized cell elimination |
| 10:35                           | 11:00 | Tea/Coffee Break   |                      |                            |   |  |

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| 11:00 | 11:20 |   | Speaker 22                | Dr. Sudipta Basu          | Department of Chemistry, IIT Gandhinagar, Gandhinagar, Gujarat, India   | Image and impair cellular powerhouse in cancer  |
| 11:20 | 11:40 |   | Speaker 23                | Dr. Lokendra Kumar Sharma | Department of Molecular Medicine & Biotechnology, Sanjay Gandhi Post Graduate Institute of Medical Science (SGPGIMS), Rae Bareilly Road, Lucknow, India | Mitochondrial regulation in cancer: learning beyond bioenergetics for prognosis and therapeutics        |
| 11:40 | 12:00 |   | Speaker 24                | Dr. Yamini Singh          | Defence Institute of Physiology and Allied Sciences, DRDO, Ministry of Defence, New Delhi, India  | The association of mitochondrial DNA mutations and metabolic alterations with COVID-19 disease severity |
| 12:00 | 15:00 | Poster Presentation (Dr. Pramod Kumar Gautam and Dr. Rakhee Yadav, AIIMS, New Delhi) & Lunch Break    |                           |                           |   |   |
|       |       | Session 7: Mitochondrial Biology and Human Diseases<br>Chairs: Prof. Ajay Saxena and Prof. Yidong Bai |                           |                           |   |   |
| 15:00 | 15:40 |   | <b>Keynote Speaker 25</b> | Dr. Jerry Chipuk          | Icahn School of Medicine at Mount Sinai, New York, USA  | Mitochondrial contributions to cancer: causes, consequences, and coincidence                            |
| 15:40 | 16:05 |   | Speaker 26                | Dr. P. Sundaresan         | Department of Genetics, Aravind Medical Research Foundation, Aravind Eye Hospital, Madurai, India   | Mutation profile and functional studies of neurodegenerative mitochondriopathy- LHON                    |
| 16:05 | 16:25 |   | Speaker 27                | Dr. Samit Guha            | Department of Chemistry, Organic Chemistry Section, Jadavpur University, Kolkata, India.  | Mitochondria targeted Imaging, labeling of specific proteins, and cellular dysfunction                  |



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| 16:25        | 16:45 |  | Speaker 28  | Dr. Neera Tewari Singh   | Department of Pharmacology and Toxicology, Michigan State University, East Lansing, USA | Role of mitochondria in the mechanism of toxicity from exposure to chemical threat agents               |
| 16:45        | 17:10 | Tea/Coffee Break   |   |  |   |   |
|              |       | Session 8: Panel Discussion & Valedictory Session<br>Chairs: Prof. Rana P. Singh & Prof. Dhyan Chandra |   |  |   |   |
| 17:10        | 18:10 |  | Panel Discussion<br>Chairs: Prof. Rana P. Singh and Prof. Dhyan Chandra | Prof. Marcus Peter, Prof. Raymond Birge, Prof. Jerry Chipuk, Prof. Yidong Bai, Prof. Savita Yadav, Prof. K. Satyamoorthy |   | Challenges and opportunities for targeting mitochondria and cell death in cancer control and management |
| 18:10        | 19:00 | Valedictory Lecture, Award Distribution, and Concluding Remarks<br>Prof. R.K. Kale                     |   |  |   |   |
| 19:00        | 21:00 | Dinner   |   |  |   |   |
| End of Day 2 |       |  |   |  |   |   |