International Conference on Redox Biology and its Implications in Health and Diseases (ICRB–IHD 2025)

Venue: CSIR–Indian Institute of Chemical Biology, Kolkata, India

Dates: December 3–5, 2025

Day 1 – December 3, 2025

Inaugural Session

Time	Session
09:00–09:30	Registration
09:30–09:35	Welcome Address
09:35–09:40	Introduction of Guests
09:40–09:45	Lighting of the Lamp
09:45–09:55	Director's Address
09:55–10:10	SFRR-India President Address
10:10–10:25	Chief guest address
10:25–10:30	Vote of Thanks

Keynote Lecture

Time	Speaker & Title
10:30–11:10	Prof. Sudeep Gupta, Tata Memorial Centre, Mumbai *Clinical and Translational Research in Breast and Gynecological Cancers*
11:10–11:30	Tea Break

Session 1: Oxidative Stress in Infection & Disease

Time	Speaker & Title
11:30–11:55	Prof. Amit Singh, Indian Institute of Science, Bengaluru *Bioenergetic Crosstalk Between Host and*

	Pathogen Mediates Drug Tolerance in Mycobacterium tuberculosis
11:55–12:20	Prof. Vikram Saini, AIIMS, New Delhi *Targeting Oxidative Stress Pathways in Tuberculosis as a Therapeutic Approach*
12:20–12:45	Dr. Damodar Gupta, INMAS-DRDO, New Delhi *Mitochondrial Dynamics Following High LET Radiation Exposures*
13:00–14:00	Lunch
14:00–15:00	Poster Session-1

Session 2: Cancer Signaling & Tumor Resistance

Time	Speaker & Title
15:00–15:25	Prof. Bushra Ateeq, IIT Kanpur *Unraveling Molecular Complexities in Cancer for Diagnostics and Therapeutic Interventions*
15:25–15:50	Dr. Pritha Ray, ACTREC–TMC, Mumbai *Therapeutic implications of distinct and differential modulation of oncogenic signalling pathways by mutants of p53 in chemoresistant Ovarian and Gastric cancer*
15:50–16:15	Prof. Rana P. Singh, Gautam Buddha University *Radiosensitization mechanisms of phytochemicals and their role in DNA damage response*
16:15–16:40	Dr. Rahul Checker, BARC, Mumbai *Mitochondrial ROS–Driven Proteotoxic Stress: Uncovering LONP1 and CLPP as Vulnerabilities in Triple-Negative Breast Cancer*
16:40–17:00	Tea Break

Young Investigator Awards

Time	Speaker & Title
17:00–17:15	YIA-1
17:15–17:30	YIA-2
17:30–17:45	YIA-3
17:45–18:00	YIA-4
18:00–18:15	YIA-5

Day 2 – December 4, 2025

Plenary Lecture

Time	Speaker & Title
09:00–09:40	Prof. Utpal Banerjee, UCLA, USA *Role of Metabolic activity and Redox balance in the Development of the preimplantation embryo*

Session 3: Neurobiology & Mitochondrial Quality Control

Time	Speaker & Title
09:45–10:10	Dr. Ellora Sen, NBRC, Manesar *Targeting the Metabolic–Redox Landscape of IDH-Mutant Gliomas for Therapeutic Gain*
10:10–10:35	Prof. Oishee Chakrabarti, SINP, Kolkata *Mitochondrial shape and size defines its function*
10:35–11:00	Dr. Piyali Mukherjee, Presidency University, Kolkata *ROS–PARP1 axis orchestrates HMGB1 nuclear exit and subsequent G2/M arrest in rotenone-induced neurotoxic stress*
11:00–11:25	Prof. Subhrajit Saha, University of Kansas, USA *Mitochondrial fate and metabolism in radiosensitivity of tissue stem cells*
11:25–11:45	Tea Break

Oral Presentations & Sponsor Talks

Time	Speaker & Title
11:45–11:55	OP-1
11:55–12:05	OP-2
12:05–12:15	OP-3
12:15–12:25	OP-4
12:25–12:35	OP-5
12:35–12:45	Sponsor Talk-1
12:45–12:55	Sponsor Talk-2
13:15–14:00	Lunch
14:00–15:00	Poster Session-2

Session 4: Redox-Mediated Epigenetic Regulation

Time	Speaker & Title
15:00–15:25	Prof. Sanjeev Shukla, IISER Bhopal *A Hypoxia-Induced Epigenetic-Splicing Axis Promotes Invasion in Breast Cancer*
15:25–15:50	Dr. Vijay P.S. Rawat, JNU, New Delhi *Epigenome Rewiring by TET DNA Demethylases: From Aberrant Isoforms in Leukemia to Novel Roles in Solid Tumors*
15:50–16:15	Dr. Sheetal Uppal, BARC, Mumbai *Switching the Gene Code: BRD4 Degradation Unlocks Radiosensitization Through Alternative Splicing in Breast Cancer*
16:15–16:40	Tea Break

Session 5: Redox Signaling and Free radical processes

Time	Speaker & Title
17:00–17:25	Prof. Md. Zahid Ashraf, Jamia Millia Islamia, New Delhi *Platelets-Monocyte Crosstalk Orchestrates thromboinflammation*
17:25–17:50	Prof. Suvro Chatterjee, Burdwan University *Dietary nitric oxide shields embryonic development from teratogenic assaults*
17:50–18:15	Dr. Sachin Kumar, CDRI, Lucknow *Nitric Oxide- Redox Signalling in Hematopoiesis and BM Regeneration*

Day 3 – December 5, 2025

Keynote Lecture

Time	Speaker & Title
09:00–09:45	Prof. Govindasamy Mugesh, IISc Bengaluru *Redox Biology vs Oxidative Stress: Catalytic Nanomaterials and Small-Molecule Strategies for Cellular Homeostasis*

Session 6: Radiation Oncology, Radio Immunotherapy & Immunometabolism

Time	Speaker & Title
09:45–10:10	Prof. Mansoor Ahmed, Albert Einstein College of Medicine, NY, USA *Redox Stress and Spatially Fractionated Radiotherapy: Synergizing Two Emerging Paradigms in Radiation Oncology*
10:10–10:35	Dr. Amit Srivastava, CSIR-IICB, Kolkata *The Role of Translesion DNA Synthesis in Chemoresistance and Its Potential as a Therapeutic Target*
10:35–11:00	Tea Break

Session 7: Redox Enzymes & Cancer Stress Responses

Time	Speaker & Title
11:00–11:25	Dr. Rahul Checker, BARC, Mumbai *Mitochondrial ROS–Driven Proteotoxic Stress: Uncovering LONP1 and CLPP as Vulnerabilities in Triple-Negative Breast Cancer*
11:25–11:50	To be announced

Session 8: AI/ML in Redox Biology & Medicine

Time	Speaker & Title
11:50–12:15	Dr. Pralay Mitra, IIT Kharagpur *AI/ML Applications in Redox Biology*
12:15–12:40	Prof. U. Deva Priyakumar, IIIT Hyderabad *Generative AI/ML Methods for Drug Discovery*

12:40–12:50	Sponsor Talk-3
12:50-13:00	Sponsor Talk-4
13:00 -14:00	Lunch
14:00 -15:00	Poster

Panel Discussion

Time	Speaker & Title
15:00–16:00	Emerging Directions in Redox Biology – From Fundamental Mechanisms to Translational Insights and AI/ML Applications
16:00–16:15	Tea Break

Valedictory Session

Time	Session
16:15–17:00	Awards, Guest Remarks, Closing Address, Vote of Thanks