



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY



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IFSC-2023

Indo-French Seminar on Catalysis for Sustainability

School of Chemistry, IISER-Thiruvananthapuram

Aryabhata Lecture Hall Complex

Day 1: December 10, 2023

12h00 - 13h30	Registration
13h50 - 13h55	Opening Remarks by Prof. Rinaldo Poli, Convener, IFSC-2023
13h55 - 14h00	Lighting of Lamp
14h00 - 14h05	Welcome Address by Prof. Jarugu Narasimha Moorthy, Director, IISER Thiruvananthapuram
14h05 - 14h15	Address by Prof. Nitin Seth, Director, Indo-French Centre for the Promotion of Advanced Research (IFCPAR/CEFIPRA), New Delhi
Session I Chair: Prof. Rinaldo Poli, LCC-CNRS, Toulouse, France	
14h20 - 14h50 (IL-1)	Prof. Pierre H. Dixneuf, University of Rennes, France Catalysis: A Key for Green Access to Polypyridines, Fused Heterocycles, and Phosphines via C-H bond Functionalization
14h50 - 15h20 (IL-2)	Dr. Thibault Cantat, CEA, University Paris Saclay Formic Acid and CO as Key 'Power Molecules' in the Catalytic Conversion of CO ₂ to Chemicals
15h20 - 15h50 (IL-3)	Prof. Joyanta Choudhury, IISER Bhopal 'Catalytic' NADP+/NADPH Cofactor Analogues
15h50 - 16h20 (IL-4)	Dr. Anant R. Kapdi, ICT, Mumbai (AJOC Lecture) π -Acceptor Caged Phosphine Ligands: Exploration of Novel Catalytic Reactivity and Mechanism
16h20-16h45 Coffee Break	
Session II Chair: Prof. Gurunath Ramanathan, IIT Kanpur	
16h50 - 17h20 (IL-5)	Prof. Jagadeesh Rajenahally, LIKAT, Rostock, Germany Catalysis for Sustainable and Circular Chemistry
17h20 - 17h50 (IL-6)	Dr. Eric Manoury, LCC-CNRS, Toulouse, France Polymer Nanoreactors for Aqueous Biphasic Catalysis
17h50 - 18h10 (SL-1)	Prof. Venkata Krishnan, IIT Mandi Green Chemistry and Heterogeneous Catalysis to Achieve Sustainable Development Goals
18h10 - 18h30 (SL-2)	Dr. Dharmaraja Allimuthu, IIT Kanpur Redox Modulator Iron Complexes Triggering Apoptosis in Cancer Cells
19h30-22h00 Dinner	
Note: IL = Invited Talk (30 min, 27+3), SL = Short Talk (20 min, 17+3) FL = Flash Talk (5 min, no questions allowed)	





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Day 2: December 11, 2023

Session III Chair: Prof. Ajay Venugopal, IISER Thiruvananthapuram	
9h00 - 9h30 (IL-7)	Prof. Rinaldo Poli, LCC-CNRS, Toulouse, France Switchable Ring-opening/Organometallic-radical Polymerization: Towards Recyclable Vinyl Polymers
9h30 - 10h00 (IL-8)	Prof. Nitin T. Patil, IISER Bhopal Alkene Functionalizations under Ligand-Enabled Au(I)/Au(III) Redox Catalysis
10h00 - 10h30 (IL-9)	Prof. Dmitry S. Perekalin, INEOS, Russia Rhodium Complexes with Planar-chiral Cyclopentadienyl Ligands as Catalysts for Regio- and Stereo-selective C-H Activation Reactions
10h30 - 11h00 (IL-10)	Dr. Christian Bruneau, Université de Rennes Site-selectivity in Ruthenium-catalyzed C-H bond Activation Around Cyclic Amides
11h00-11h25 Coffee Break	
Session IV Chair: Prof. Jagadeesh Rajenahally, LIKAT, Rostock, Germany	
11h30 - 12h00 (IL-11)	Prof. Vivek Polshettiwar, TIFR, Mumbai Plasmonic Black Gold: Harnessing Hot Electrons for Solar Energy Harvesting and Catalysis
12h00 - 12h30 (IL-12)	Prof. Philippe Marion, Solvay Research & Innovation, France Sustainable Chemistry from Renewable Resources – The Strategy of Solvay
12h30 - 12h50 (SL-3)	Prof. Kuntal Manna, IIT Delhi Selective Methane Oxidation to Acetic Acid using Molecular Oxygen over a Metal-Organic Framework-Supported Copper Catalyst
12h50 - 13h10 (SL-4)	Dr. Suresh Raju, RWTH, Aachen, Germany Circular Foam: Chemical Recycling of Rigid Polyurethane Foams
13h10-14h30 Lunch Break	
Session V Chair: Dr. Anne Nijs, EIC, EJOC, Wiley, Germany	
14h30 - 15h00 (IL-13)	Prof. Magnus Rueping, KAUST Catalysis for C-C and C-heteroatom Bond-forming Reactions
15h00 - 15h30 (IL-14)	Dr. K. O. Xavier, Dy. General Manager (Catalyst), IOCL Role of Catalysts to Handle Challenges of Refineries in an Era of Energy Transition
15h30 - 16h00 (IL-15)	Prof. Emmanuelle Schulz, Université Paris-Saclay (EJOC Lecture) Homogeneous Supported Catalysis for (Industrial) Applications in Cross-coupling Reactions
16h00 - 16h30 (IL-16)	Prof. Anjali Patel, Maharaja Sayajirao University of Baroda, Gujarat Hydrogenation of Some Bioplatfrom Molecules Over Tailored Polyoxometalates





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16h30-16h50 Flash Talk I	
16h35 - 16h40 (FL-1)	Dr. Thirumanavelan Gandhi, VIT Vellore Transition-metal-catalyzed C(sp ²)-H functionalization of Phthalazinones
16h40 - 16h45 (FL-2)	Dr. Debayan Sarkar, IIT Indore Catalytic Dearomatisations (CRDs) to Visible Light Dearomatisations (VDRs)
16h45 - 16h50 (FL-3)	Dr. Charles Beromeo Bheeter, VIT Vellore Heterogenous Non-noble Metal Catalysts for Transfer Hydrogenation of Various Functional Group Derivatives
16h50 - 16h55 (FL-4)	Dr. Gnanamani Elumalai, IIT Roorkee Direct Decarboxylative C-N and C-O Bond Formation Reactions in Water Microdroplets
17h00-18h30 Poster Session with Coffee	
19h30-22h00 Dinner	

Note: IL = Invited Talk (30 minute)

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Day 3: December 12, 2023

Session VI Chair : Prof. Basker Sundararaju, IIT Kanpur	
9h00 - 9h30 (IL-17)	Prof. Debabrata Maiti, IIT Bombay En-Lightening C-H Functionalization
9h30 - 10h00 (IL-18)	Prof. Corinne Gosmini, CNRS, France An Efficient Catalyst for Cross-Coupling Reaction: The Cobalt
10h00 - 10h30 (IL-19)	Prof. Hideki Yorimitsu, Kyoto University, Japan Aromatic Metamorphosis
10h30 - 11h00 (IL-20)	Prof. Bing-Feng Shi, Zhejiang University, China Transition Metal-Catalyzed Enantioselective C-H Functionalization
11h00-11h25 Coffee Break	
Session VII Chair: Dr. Subrata Kundu, IISER Thiruvananthapuram	
11h30 - 12h00 (IL-21)	Prof. Sayam Sen Gupta, IISER Kolkata Catalyst Development for Sustainable Oxidation Reactions
12h00 - 12h30 (IL-22)	Prof. Vincent Ritleng, Université de Strasbourg, France Polydopamine-coated Polyurethane Foams as a Versatile Catalytic Support: Illustration with a Pd-functionalized Foam and its Application as a Highly Reusable Catalyst in a "dip-and-play" Mode for Selective Alkyne Semi-Hydrogenation and Aerobic Suzuki Coupling
12h30 - 12h50 (SL-5)	Dr. Apparao Draksharapu, IIT Kanpur High Valent Nickel Species: Synthesis and Characterization
12h50 - 13h10 (SL-6)	Prof. Ramasamy Mayilmurugan, IIT Bhilai Bioinspired Aromatic Hydroxylation: Role of Redox-Active Metals
13h10-14h30 Lunch Break	
Session VIII Chair: Prof. Gokulnath Sabapathi, IISER Thiruvananthapuram	
14h30 - 15h00 (IL-23)	Prof. Jean-Luc Renaud, Sorbonne University, France From Reduction to Alkylation: A Journey with Iron Complexes
15h00 - 15h30 (IL-24)	Prof. Samir H. Chikkali, CSIR-NCL Pune Iron-catalyzed Hydrosilylation, Alkoxylation and Tandem Hydrosilylative-Alkoxylation
15h30 - 16h00 (IL-25)	Dr. Stéphane Bellemin-Laponnaz, Université de Strasbourg, France Nonlinear Behaviour and the Limits of Mechanistic Understanding in Asymmetric Catalysis





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16h00-16h20 Flash Talk II	
16h00 - 16h05 (FL-5)	Dr. Ganesh Venkataraman, IIT Kharagpur Nickel (0) Catalyzed Reductive Coupling of Aldehydes and Alkynes Over the Benchtop
16h05 - 16h10 (FL-6)	Dr. Lisa Roy, ICT Mumbai-IOC Odisha Harnessing Non-covalent Interaction in Catalysis
16h10 - 16h15 (FL-7)	Dr. Sudipta Roy, IISER Tirupati Carbene-Supported Monoatomic Phosphorus Anion: An Excellent Ligand for Stabilization of Coinage Metal Nano-Clusters Exhibiting Thermally Activated Delayed Fluorescence; A Novel Photocatalyst at the Doorstep
16h15 - 16h20 (FL-8)	Dr. Sankaralingam Aromatic Hydroxylations Catalysed by Nickel(II) Complexes of Pentadentate Ligands
16h30-18h00 Poster Session with Coffee	
18h15-19h45 Cultural Program	
20h00-22h00 - Dinner	

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Day 4: December 13, 2023

Session IX Chair: Dr. Dharmaraja Allimuthu, IIT Kanpur	
8h50 - 9h20 (IL-27)	Prof. Masilamani Jeganmohan, IIT Madras Transition Metal-Catalyzed Allylic and Benzylic C-H Functionalization Reactions
9h20 - 9h50 (IL-28)	Prof. Jean-Baptiste Sortais, LCC-CNRS, Toulouse, France Molecular Defined Manganese Catalysts for Hydrogenation Reactions
9h50 - 10h20 (IL-29)	Prof. Santanu Mukherjee, IISc Bangalore Breaking Symmetry: Challenges & Opportunities
10h20 - 10h50 (IL-30)	Prof. Rambabu Chegondi, CSIR-IICT, Hyderabad Enantioselective Copper-Catalyzed Reductive Coupling of Alkoxy-allenes
10h50-11h15 Coffee Break	
Session X Chair: Prof. Ramesh Rasappan, IISER Thiruvananthapuram	
11h20 - 11h50 (IL-31)	Prof. Jarugu Narasimha Moorthy, IISER TVM Oxidations with IBX: Progression to Heterogeneous Catalysis
11h50 - 12h20 (IL-32)	Prof. Akkattu T. Biju, IISc Bangalore N-Heterocyclic Carbene (NHC)-Catalyzed Synthesis of C-N, C-O and N-N Axially Chiral Molecules
12h20 - 12h40 (SL-7)	Prof. Gurunath Ramanathan, IIT Kanpur A Tale of Two Enzymes: Iron Catalysis in Enzymes that Break the C-N bond
12h40 - 13h00 (SL-8)	Dr. Durga Prasad Hari, IISc Bangalore Photocatalyzed Dowd-Beckwith Radical-Polar Crossover Reaction for the Synthesis of Medium-Sized Carbocyclic Compounds
13h00-14h10 Lunch Break	
Session XI Chair: Dr. Kushwaha, AJOC-Wiley, India	
14h15 - 14h45 (IL-33)	Prof. Chidambaram Gunanathan, NISER Bhubaneswar Sustainable Catalysis Enabled by Metal-Ligand Cooperation
14h45 - 15h15 (IL-34)	Prof. Biplab Maji, IISER Kolkata Visible-Light-Fueled Catalysis Involving Energy and Electron Transfer
15h15 - 15h35 (SL-9)	Dr. Emma Eley Introducing RSC Sustainability and related RSC journals
15h35 - 15h55 (SL-10)	Dr. Indranil Chatterjee, IIT Ropar Generation of N-Centered Radicals Under Visible Light Photoredox Catalysis





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15h55-16h20 Flash Talk III	
16h00 - 16h05 (FL-9)	Dr. Nilanjana Majumdar, CDRI Lucknow Enantioselective Ring Opening of Vinyl Aziridines Using ppm-level Iridium Catalysis
16h05 - 16h10 (FL-10)	Dr. Basudev Sahoo, IISER TVM Catalytic C-C Bond Functionalization of Aliphatic Ketones
16h10 - 16h15 (FL-11)	Dr. Barla Thirupathi, IISER Berhampur Sustainable Synthetic Approaches to Spirocycles, Pentafulvenes, and Spiropyrrrolines from 1, 3-Indanediones
16h15 - 16h40 Coffee Break	
Session XII Chair: Dr. Srinivas Dharavath, IIT Kanpur	
16h45 - 17h15 (IL-35)	Dr. Rémy Tuloup, L'Oreal research and Innovation, France Responsible Cosmetic Ingredients: Opening a New Area of Abundant Minerals
17h15 - 17h45 (SL-11)	Prof. Thomas J. Colacot, MilliporeSigma, Germany Newly Developed Pd Catalysts for Challenging Csp ² -Csp ² , Csp ² -Csp ³ and C-N Coupling for API Synthesis
17h45-18h30 Concluding Session (Poster Prize Distribution/Vote of Thanks)	
19h30-22h00 Dinner	



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