భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

INTERNATIONAL CONFERENCE ON CHEMISTRY FOR SUSTAINABILITY

ICCS 2025

International Conference on Chemistry for Sustainability
ICCS-2025

Organized by

Department of Chemistry, IIT Hyderabad

in association with

Greenko School of Sustainability, IIT Hyderabad

(13th -16th July 2025)

IN PURSUIT OF

INVENTION ✹ INNOVATION ✹ TECHNOLOGY FOR HUMANITY

Venue

Convention Center

Indian Institute of Technology Hyderabad

SCHEDULE FOR ICCS 2025

Day 1, July 13 2025

14:00 - 16:00	Welcome and Registration at CCE Foyer
Inauguration Session @ Auditorium 1	
16:00 – 16:30	Inauguration Journey of the department by HOD: Prof. Surendra Kumar Martha Chief Guest: Prof. Dr A. P. Dash, Director, HEMRL
	Session 1@ Auditorium 1
16:30 – 17:10	KS1: Prof. D. Srinivasa Reddy, Director CSIR-IICT
17:10 – 17:50	KS2: Prof. S. Venkata Mohan, Director, CSIR-NEERI
17:50 – 18:10	Tea Break
18:15 – 19:15	*Cultural Event @ Auditorium 1*
19:30 – 22:00	*Dinner at IGH*

Day 2, July 14 2025

	Session 2 @ Auditorium 1		
09:00 – 09:40	KS3: Prof. Kazunari Domen (online)		
09:40 – 10:20	KS4: Prof. A. K. Mishra		
10:20 – 10:50	*Tea Break and Photo Session*		
	Session 3A @ Auditorium 1	*Session 3B @ Auditorium 2*	*Session 3C @ Seminar Room 2*
10:50 – 11:20	IS: Prof Shashank Deep	IS: Prof. Kausik Ghosh	IS: Prof. K. C. Kumaraswamy
11:20 – 11:40	IS: Prof. Debasis Das	IS: Prof. Amarendra K. Singh	IS: Prof. Tirupati Barla
11:40 – 12:00	IS: Prof. Santanu Bhattacharya	IS: Prof. J. N. Behera	IS: Prof. Biplab Maji
12:00-12:05	*Buffer Time*	*Buffer Time*	*Buffer Time*
12:05 – 12:15	Address by Prof. B. S. Murty, Director IIT Hyderabad (online)		

	Session 4A @ Auditorium 1	*Session 4B @ Auditorium 2*	*Session 4C @ Seminar Room 2*
12:15 – 12:45	IS: Prof. Raja Sanmugam	IS: Prof. Subi George	IS: Prof. Mohammad Qureshi
12:45 – 13:05	IS: Prof. Supratik Sen Majumdar	IS: Prof. C.M. Nagaraja	IS: Prof. Chinmoy Ranjan
13:05 – 14:30	*Lunch @ IGH*		
	Session 5 @ Auditorium 1		
14:30 – 15:10	KS5: Prof. Sunil S. Bhagwat, Director, IISER Pune		
15:10 – 15:50	KS6: Prof. M. Ravikant, IIT Bombay		
15:50 – 18:00	Tea and Poster Session P1 - P120		
19:00 – 21:40	*Conference Dinner*		

Day 3, July 15 2025

	Session 6 @ Auditorium 1			
09:00 – 09:40	KS7: Prof. Shantanu Bhattacharya, Director, IISER Tirupati			
09:40 – 10:20	KS8: Prof. H. Ila, JNCASR			
10:20 – 10:40	*Tea Break*			
	Session 7A @ Auditorium 1	*Session 7B @ Auditorium 2*	*Session 7C @ Seminar Room 2*	*Session 7D @ Seminar Room 3*
10:40 – 11:10	IS: Prof. Lara Martinez	IS: Prof. Satish Patil	IS: Prof. Anil Kumar Saikia	IS: Prof. N. Lingaiah
11:10 – 11:30	IS: Prof. Kingsuk Mahata	IS: Mr Kolja Kuse	IS: Prof. Rajendra Goreti	IS: Prof. Vikram Singh
11:30 – 11:50	IS: Prof. Yashveer Singh	IS: Prof. Uttam Manna	IS: Prof. Namrata Rastogi	IS: Prof. Amrit Puzari
11:50 – 12:05	*Break*			
	Session 8A @ Auditorium 1	*Session 8B @ Auditorium 2*	*Session 8C @ Seminar Room 2*	*Session 8D @ Seminar Room 3*
12:05 – 12:35	IS: Prof. Debapratim Das	IS: Prof. Sabuj Kundu	IS: Prof. Swagata Dasgupta	IS: Prof. Vilas Pol

12:35 – 12:55	IS: Prof. D. Suryakala	IS: Prof. Jatish Kumar	IS: Prof. Chayan Das	IS: Dr. N Rajesh
12:55 – 13:05	ST: Dr. Agastya P Bhati	ST: Dr. Gonna Somu Naidu	ST: Dr. Sudakar Padmanaban	ST: Dr. Deepika Choudhari
13:05 – 14:30	*Lunch @ IGH*			
	Session 9A @ Auditorium 1	*Session 9B @ Auditorium 2*	*Session 9C @ Seminar Room 2*	*Session 9D @ Seminar room 3*
14:30 – 15:00	IS: Prof. B Raja Kumar	IS: Prof. Xin Tu (online)	IS: Prof. M. N. V. Prasad	IS: Prof. V. R. Pedireddi
15:00 – 15:20	IS: Prof. Padmabati Mondal	IS: Prof Animesh Das	IS: Prof. Chandankumar Appayee	IS: Prof. Arshad Aijaz
15:20 -15:40	IS: Prof. Suraj Kunnikuruvan	IS: Prof. Pavan K. Kancharala	IS: Prof. Krishna Reddy Nandipati	IS: Prof. Anil Kumar Paidi
15:40 – 16:00	IS: Prof. Sunandan Sarkar	IS: Dr Mrinmoy De	IS: Prof. Indrajit Sinha	IS: Prof. Saroj K. Sahoo
16:00 – 18:00	*Tea Break and Poster 121-240*			
	Session 10A @ Auditorium 1	*Session 10B @ Auditorium 2*	*Session 10C @ Seminar Room 2*	*Session 10D @ Seminar Room 3*
18:00 – 18:30	IS: Prof. Thomas Thundat	IS: Prof. Vivek Polshettiwar	IS: Prof. C V Ramana	IS: Prof. Jubaraj Bikash Baruah
18:30 – 18:50	IS: Prof. Raja Mitra	IS: Prof. Subhajit Roy Chowdhury	IS: Prof. Subrata Chattopadhyay	IS: Prof. Rajendra Kumar Konnidena
18:50 – 19:10	IS: Prof. Amlan K. Pal	IS: Prof. Rajendra Kurapati	IS: Prof. Sarthak Mandal	IS: Prof. Shareq Mohd Nazir
20:00 – 22:00	*Dinner and mixing session*			

Day 4, July 16 2025

	Session 11 @ Auditorium 1		
08:30 – 09:10	KS09: Prof. Eric Rivard, University of Alberta, Canada		
09:10 – 09:50	KS10: Prof. B. L. V. Prasad, Director, CENS		
09:50 – 10:30	KS11: Prof. Nand Kishore, IIT Bombay		
10:30 – 10:50	*Tea break*		
	Session 12A @ Auditorium 1	*Session 12B @ Auditorium 2*	*Session 12C @ Seminar Room 2*
10:50 – 11:20	IS: Prof. Chandan K. Jana	IS: Prof. Sundaram Singh	IS: Prof. R. Karvembu
11:20 – 11:40	IS: Prof. Umesh Pratap	IS: Prof. Chandan Mukherjee	IS: Prof. Niranjan Panda
11:40 – 12:00	IS: Prof. Katchala Nanaji	IS: *Prof Mrituanjay D Pandey*	IS: Prof. Satpal Singh Badsara
12:00 – 12:10	*Buffer Time*	*Buffer Time*	*Buffer Time*
	Session 13A @ Auditorium 1	*Session 13B @ Auditorium 2*	*Session 13C @ Seminar Room 2*
12:10 – 12:30	IS: Prof. Sanmugam Sangaraju	IS: Prof. Venkata Krishnan	IS: Prof. Osamu Tsutsumi
12:30 – 13:00	IS: Prof. Vasudevan Pillai Biju	IS: Prof. D. Basavaiah	TBA
13:00 – 13:20	IS: Prof. Subhas Samanta	IS: Prof. Prosenjit Daw	IS: Prof. Pratap Vishnoi
13:20 – 13:40	IS: Prof. Suvankar Dasgupta	IS: Prof. Veera Reddy Yatham	IS: Prof. Bhaskar Devu Mukri
13:40 – 15:00	*Lunch @ IGH*		
	Session 15 @ Auditorium 1		
15:00 – 15:40	KS12: Prof. S. S. V. Ramakumar		
15:40 – 16:20	Panel discussion		
16:20 – 16:40	Valedictory		
16:40	Tea Break/departure		

Speaker Name	Title of Talk
Dr. Agastya P Bhati	Accelerating Drug Discovery by Combining Artificial Intelligence and Physics-Based Methods
Prof. Amlan K. Pal	Transition Metal Complexes for Solar Energy Conversion and Solid-state Lighting
Prof. Amrendra K. Singh	Ru(II)-Protic-NHC Complexes for Catalysis Towards Circular Hydrogen Economy
Prof. Amrit Puzari	Biomass-derived sustainable heterogeneous catalyst for biodiesel production
Prof. Anil Kumar Paidi	Chemistry for Sustainable Sodium-Ion Battery Cathodes: Opportunities and Challenges
Prof. ANIL KUMAR SAIKIA	New Approaches towards N-heterocycle Synthesis
Prof. Animesh Das	Expanding the Scope of Boronic Acid Catalysis: New and Improved Reactivity
Prof. Arshad Aijaz	Single-Atom-Catalysts (SACs): Coupling with Second Metals
Prof. A. K. Mishra	The Use of Fluorescence Spectroscopy and Photophysics in Monitoring Organic Pollutants in Surface Water
Prof. Biju Vasudevan Pillai	Dynamic Excitons in Halide Perovskite Nanocrystals and Quantum Dots
Prof. Bhaskar Devu Mukrui	Transition Metal Dispersed/Substituted Metal Oxide Nanomaterials in Catalytic Organic Synthesis
Prof. Biplab Maji	Accessing sp 3-rich 3D Molecular Architecture via Visible Light Energy Transfer Catalysis
Prof. BLV Prasad	Molecular tools for manipulating the size, size distribution and alloy formation in metal nanoparticle systems
Prof. B. Rajakumar	Atmospheric oxidation of VOCs using absorption and emission spectroscopic techniques
Prof. Chayan Das	Development of Recyclable and Self-Healing Elastomeric Composites via Ferric–Carboxylate Dynamic Crosslinking
Prof. Chinmoy Ranjan	Operando Insights into high temperature electrolysis of CO2
Prof. C. M. Nagaraja	Strategic Design of Framework Materials for Chemical Fixation of Carbon Dioxide to Value-Added Chemicals
Prof. Chandan K. Jana	Iminium and Azonium Activated C-H Functionalization of Amines
Prof. Chandan Mukherjee	Development of Nanosphere-Confined Mn(II) and Fe(III)-Complexes-Based Functional and Organ-Selective Contrast Agents for Magnetic Resonance Imaging
Prof. Chandrakumar Appayee	Development of chiral bicyclic secondary amine organocatalyst and its applications
Prof. C. V. Ramana	Gold-Catalysis in Alkyne Functionalization for Total Synthesis

Prof. D. Suryakala	Studies of Adsorption Isotherms, Kinetics and Thermodynamic parameters for Trivalent Rare Earth Elements (La, Ce and Eu) using Nano Spinel Ferrites (CoFe2O4 and CuFe2O4)"
Prof. D. Srinivasa Reddy	Efforts in Drug Discovery through Natural Products and Process Development of APIs/KSMs through Sustainable Approaches
Prof. Debapratim Das	From Molecule to Material: The Journey of an Ultrashort Peptide
Prof. Debasis Das	A Metalloenzyme-Based Engineered Biocatalytic Platform for Efficient Hydrocarbon Production
Dr. Deepika Choudhari	Iron Remediation in Wastewater using Eco-Friendly Activated Carbon from Jatropha Husk
Prof. D. Basavaiah	TMSOTf mediated nucleophilic addition of nitriles to aryl aldehydes mimicking benzoin condensation reaction
Prof. Eric Rivard	Carbon Dioxide to Formate Reduction Guided by Fundamental Main Group Chemistry
Dr. Gonna Somu Naidu	A Rational Design of Ionizable lipids for Lung-Specific mRNA delivery
Prof. Goreti Rajendar	Synthesis for Structure Assignment of Abietane Diterpenoids
Prof. H. Ila	Novel Routes to Heterocycles via Transition- Metal Free, Electron Catalyzed Intramolecular C-Heteroatom Bond Formation
Prof. Indrajit Sinha	In-situ Fenton reaction use of H2O2 produced by photocatalysis
Prof. Jatish Kumar	Optically Active Nanomaterials: Towards Development of Chiral Light Emitting Materials
Prof. Jubaraj Bikash Baruah	Salts, metal complexes and composites : revamping of multicomponent systems for long-term utility for health care, fertilizers and energy
Prof. J. N. Behera	Inorganic Functional Materials for Sustainable Energy Conversion and Storage
Prof. Kingsuk Mahata	From Reversible H- to J-Aggregate Switching to Supramolecular Reassembly in the Excited State; the Utilities of Aldrone Condensation
Prof. K. C. Kumara Swamy	Allenylphosphonates, acetoxy allenoates, and related propargylic systems: A brief tour
Prof. Katchala Nanaji	Strained Ion-Pair Catalysis for Carbohydrate Chemistry and Beyond
Prof. Kaushik Ghosh	Toward Sustainable Innovation: Biomass-Derived Nanohybrids and Base-Metal Catalysts for Sensing, Imaging, and Green Synthesis
Prof. Kazunari Domen	Photocatalytic Production of Solar Hydrogen and Fuels from Water
Prof. Krishna Reddy Nandipati	Molecular electronic ring currents and their generation using circularly polarized light
Mr. Kolja Kuse	The building Evolution

Prof. Lara-Martinez	In Silico Engineering of Fluorescent DNA Probes
Prof. Mrinmoy De	Selective Antibacterial activity of Functionalized Nano-antibiotics
Prof. Mrituanjay D. Pandey	Structural and Interactional Complexity of Pseudopeptide-based chiroptical soft materials
Prof. M. N. V. Prasad	Phytoextraction and ecocatalysis, a novel approach of greener chemistry for sustainability
Prof. Mohammad Qureshi	Stimuli assisted diffusion dynamics in electrochemistry
Prof. M. Ravikant	Polyaromatic Hydrocarbons (PAHs) Embedded Porphyrinoids, Triphyrins (2.1.1) and Coordination Complexes of Open Chain Pyrrole Based Ligands
Prof. N. Lingaiah	Studies on Ce-Ni perovskite catalysts for bi-reforming of methane with CO2 to produce hydrogen-rich synthesis gas
Prof. Nand Kishore	Structure-Property-Energetics Relationships in Deriving Guidelines for Rational Drug Design and Drug Delivery Vehicles
Prof. Namrata Rastogi	Organophotoredox-mediated Sustainable Chemical Synthesis
Prof. Niranjan Panda	Thermally generated “Cation Pools” and Their Synthetic Applications
Prof. Osamu Tsutsumi	Mechanosensitive Photonic Films for Real-Time, Electronics-Free Visualization of Mechanical Stress
Prof. Padmabati Mondal	In search of photoswitchable drug for serotonin receptor
Prof. Pavan K. Kancharla	Accelerating Battery Production with Dry Electrode Technology: A Cost-Effective Approach
Prof. Pratap Vishnoi	Low-Dimensional Hybrid Halide Double Perovskites for Magnetic and Energy Applications
Prof. Prosenjit Daw	Sustainable Development of Renewable Hydrogen Production from Biomass-Derived Alcohols and Plastic Wastes using Bifunctional Ruthenium Catalyst
Prof. R. Karvembu	Niobium-based Catalytic Systems for Organic Transformations
Prof. Raja Mitra	Ligand-Controlled Catalytic Activity of Pd complexes
Prof. Rajendra Kumar Konidena	Narrowband Emissive Organic Emitters for Energy Efficient Organic Light Emitting Diodes
Prof. Rajendra Kurapati	Functionalization Dependent Biodegradation of 2D Materials: Impact on Immune Modulation and Applications
Prof. Raja Shanmugam	Stitching Tailor-Made Functional Polymers for Bio medicinal Applications
Prof. S.S.V. Ramakumar	Bioenergy enabled Decarbonization: Unlocking the Potential of Ligno-cellulosic biomasses
Prof. S Venkata Mohan	Circular Chemistry: Enabling Inclusive and Sustainable Design
Prof. Sabuj Kundu	Selective Functionalization using Methanol

Prof. Santanu Bhattacharyya	Unveiling the key factors of carbon and sulfur based molecular materials for photocatalytic solar energy conversions
Prof. Shantanu Bhattacharya	TBA
Prof. Saroj K. Sahoo	Green Synthesis of Cu-MOF (Copper-based Metal Organic Framework) from plant Extract
Prof. Sarthak Mandal	Development of a Flexible, Adhesive, Multifunctional and Free-Standing Carbon Electrode for High-Performance Sustainable Energy Generation Systems
Prof. Satpal Singh Badsara	Functionalization of Indolizine Frameworks via Electrochemical N-Centered Radical Translocation
Prof. Shareq Mohd Nazir	Using red mud in bioenergy conversion processes: a pathway for waste utilization and metal recovery
Prof. Sooraj Kunnikuruvan	Computational Insights for Enhancing HMF Yield for Biofuel Production and Controlling SEI Formation in Lithium Metal Batteries
Prof. Subhajit Roychowdhury	Evidence of Ferroelectric Distortions in Topological Crystalline Insulators via Transverse Thermoelectric Measurements
Prof. Subhas Samanta	Completely o-Phenylene Bridged Redox Active Aza Macrocycles and Their Transformations for Photocatalytic Applications.
Prof. Subrata Chattopadhyay	Nonconventional Fluorescent Functional Polymer Nanomaterials for Sensing Applications
Dr. Sudakar Padmanaban	Nitrogen oxyanion upcycling mediated by multifunctional metal catalysts
Prof. Sunandan Sarkar	Computational Insights into Photoinduced Charge Transfer at the CdSe Quantum Dot–Molecule Interface
Prof. Sundaram Singh	Photo-triggered Synthesis of Sulfonamide: A Sustainable Approach
Prof. Supratik Sen Mojumdar	Tryptophan-Scaffolded Copper Nanocluster: A Dual Probe for Heavy Metal Sensing and Drug Delivery
Prof. Suvankar Dasgupta	Tuning Responsiveness of Metastable and Bistable Rotaxanes for Achieving Selective and Sensitive Detection of Environmentally Relevant Analytes
Prof. Satish Patil	Exceeding the Shockley–Queisser limit in solar energy conversion with singlet fission
Prof. Shanmugam Sangaraju	Electrocatalysts Development for Energy-Environment Nexus
Prof. Shashank Deep	Modulating the aggregation of Superoxide Dismutase 1 (SOD1) with polyphenols
Prof. Subi George	Bio-inspired Designs for Dynamic and Complex Supramolecular Polymers
Prof. Sunil S. Bhagwat	Sustainability, Energy Resources and Chemical Industry
Prof. Swagata Dasgupta	Exploring protein nanoparticle interactions: Effects of protein corona formation
Prof. Thomos Thundat	Sensors and Sustainability

Prof. Thirupathi Barla	2-Keto-1,3-Indandione, a Versatile Ingredient for the Synthesis of Medicinally Important Carbocyclic and Heterocyclic Compounds
Prof. Umesh Pratap	Metalated Nitrogen-Rich Covalent Organic Frameworks for Versatile Heterogeneous Catalysis
Prof. Uttam Manna	Molecules to Materials for Functional Liquid Wettability
Prof. Veera Reddy Yatham	Unactivated Haloalkanes in C–C Bond Formation Reactions
Prof. Vikram Singh	Fabrication of high-value fluorescent nanomaterials from coal and its byproducts for versatile applications: Waste-to-Wealth Approach
Prof. Venkata Krishnan	Development of Efficient Heterogeneous Catalysts for Transfer Hydrogenation, Carbon Dioxide Conversion and Plastic Upcycling Reaction
Prof. Vilas Pol	Advances in Safer Quasi-Solid-State and Ultra-Low Temperature Lithium-Ion Batteries
Prof. Vivek Polshettiwar	Light, Electrons and Sustainable Chemistry
Prof. V. R. Pedireddi	B←N Mediated Boroxines: New Entities for Hydrogen-Bonded Open Frame Network Assemblies
Prof. Yashveer Singh	Biomaterials for bone tissue regeneration and biocatalytic applications
Prof. N. Rajesh	Leveraging the Importance of Sustainable Materials in Critical Metal Recovery and Environmental Remediation
Prof. Xin Tu	Plasma Electrification for Sustainable Production of Fuels and Chemicals

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