

In-house Symposium 2022

 **tifr**
HYDERABAD

September 15 -17



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Talks
Posters
Discussions



SCHEDULE

Tata Institute of Fundamental Research					
Hyderabad					
In-house Symposium					
15-17 Sep 2022					
Day 1: September 15, 2022					
09:00 - 11:00 Hrs Chair: Purnima Jain	11:00 - 11:30 Hrs	11:30 - 13:30 Hrs Chair: Purnati Khuntia	13:30 - 14:30 Hrs	14:30 - 16:00 Hrs	16:00 - 18:00 Hrs Chair: Krishna Rao D
Chaitanya Kumar Suddapalli	Tea	Mustansir Barma	Conference Lunch - 1	Poster Session 1	Raghunathan Ramakrishnan
Prashant Kumar Singh		Mrinal Srivastava			Pramodh Vallurupalli
Subhasish Dutta Gupta		Aneesh T Veetil			Jagannath Mondal
Subodh R Shenoy		Ullas S Kolthur			Pabitra K Nayak
Day 2: September 16, 2022					
09:00 - 11:00 Hrs Chair: Deepa S	11:00 - 11:30 Hrs	11:30 - 13:00 Hrs Chair: Anusheela Chatterjee	13:00 - 14:00 Hrs	14:00 - 15:30 Hrs	15:30 - 17:30 Hrs Chair: Abdul Wasim
Monika Vig	Tea	P K Madhu	Break	Poster Session 2 + High Tea	Kabir Ramola
Tamal Das		Kaustubh R Mote			Smarajit Karmakar
Anand T Vaidya		Vipin Agarwal			Prasad Perlekar
Kanchan Garai					M Krishnamurthy
Day 3: September 17, 2022					
09:00 - 11:00 Hrs Chair: Tejaswinee Gangber	11:00 - 11:30 Hrs	11:30 - 13:30 Hrs Chair: Divya A G	13:30 - 15:00 Hrs	15:00 - 17:30 Hrs Chair: Abhisek Kar	
Soumya Ghosh	Tea	Adish Dani	Special Conference Lunch - 3	Pranav R Shirhatti	
Ritesh Haldar		Aprotim Mazumder		Anukul Jana	
Kalyaneswar Mandal		Manish Jaiswal		T N Narayanan	
Karthik V Raman		Saroj Kumar Nandi		V Chandrasekhar	
				Concluding remarks and poster awards	

TALKS

Sl. No.	Name	Title
1	Adish Dani	Sensory and Synapse Biology Lab
2	Anand T Vaidya	Deciphering the Molecular Details of Cristae Architecture
3	Aneesh T Veetil	Imaging and therapeutic modulation of microglial cells in the brain
4	Anukul Jana	Redox Processes in Low-Valent Low-Coordinate Main-Group Compounds
5	Aprotim Mazumder	Learning from cell-level heterogeneity: DNA damage responses and gene expression on a cell-by-cell basis in the context of chromatin
6	Chaitanya Kumar Suddapalli	Versatile Light
7	Jagannath Mondal	Simulating molecular recognition by folded versus disordered protein
8	Kabir Ramola	Athermal Elasticity: From Crystalline to Amorphous Packings
9	Kalyaneswar Mandal	Reciprocally chiral recognition to stop malaria parasite entry into red blood cells
10	Kanchan Garai	Single molecule investigation of protein aggregation
11	Karthik V Raman	Understanding of Interfacial phenomena arising from Magnetic proximity effects
12	Kaustubh R Mote	Protein dynamics at 100 kHz magic angle spinning
13	M Krishnamurthy	Converting a liquid drop to a mini-accelerator
14	Manish Jaiswal	Adaptive/maladaptive metabolic signalling in responses to mitochondrial stress in development and disease
15	Monika Vig	SNAPing and SNAREing Ion Channel Pore Subunits For Functional Assembly
16	Mrinal Srivastava	Molecular programming of replication dynamics, timing and patterns
17	Mustansir Barma	Aggregation, fragmentation and condensation
18	P K Madhu	Spin echoes in NMR towards better structural information.
19	Pabitra Nayak	The rise of soft semiconductor
20	Pramodh Vallurupalli	Exploring the Free Energy of Surface of Proteins using CEST NMR Experiments

Sl. No.	Faculty	Title
21	Pranav R Shirhatti	Microscopy using atomic beams
22	Prasad Perlekar	Bioconvection in vertical channels: a dynamical systems study
23	Prashant Kumar Singh	Prospects of relativistic light-matter interactions
24	Raghunathan Ramakrishnan	How many stable crystal structures of carbon are there?
25	Ritesh Halder	Bottom-up membrane design strategies for chemical separation
26	Saroj Kumar Nandi	Phase separation in biological systems
27	Smarajit Karmakar	Enhanced Dynamical Heterogeneity in Active Glass-forming Liquids
28	Soumya Ghosh	Dipole moment fluctuations of water molecules near metal-water interface
29	Subhasish Dutta Gupta	Spin-photonics in off-axis tilted optical systems
30	Subodh R Shenoy	How diverging entropy barriers can close off pathways to equilibrium after a quench
31	T N Narayanan	Engineering Atomic Layers Towards Energy and Electronic Applications: Our Recent Progress
32	Tamal Das	Cell and Tissue Mechanics in Collective Dynamics of Biological Cells
33	Ullas Kolthur	Plasticity & memory of mechanisms that encode diet-dependent physiological fitness: from emergent systems to malnutrition
34	V Chandrasekhar	Mono- and tetranuclear Lanthanide complexes: Synthesis, Structure and Magnetism
35	Vipin Agarwal	Mechanism of selective polarization exchange amongst chemically similar and distinct protons during weak rf irradiation at fast magic angle spinning

POSTERS

Sl. No.	Name	Title of the Poster
1	Abdul Wasim	Using integrative modelling and dimensionality reduction techniques to explore the different cell stages of E. coli
2	Abhisek Kar	Rationally designed biologically active heterochiral peptides with enhanced proteolytic stability
3	Alfia Saini	Mic19 - A redox-dependent regulator of mitochondrial cristae dynamics?
4	Amar Kumar	Photo-Rechargeable Stable Metal Ion Batteries
5	Aravind H	An unbiased genetic screen reveals Myc is a regulator of Stress Induced Mitochondrial Biogenesis
6	Arko Guha	Understanding the origin and functioning of Mitochondria by 'looking' at the ancient protein Mic60
7	Ayan Das	Secondary Alcohols as a Source of Carbenes for the Synthesis of Carbene-Transition Metal Complexes
8	Basil T	Spatial heterogeneity of metabolism associated with the stages of epithelial contact inhibition of proliferation
9	Bhupendra Dhandekar	Reconciling GTP recognition and Conformational Plasticity of GTPase
10	Bijoy Dey	Manipulating spin states of mono and multi nuclear FeII/FeIII complexes
11	Brijesh Kumar Patel	Counter-Anion Effect On Doping Of Organic Semiconductors Having Deep Homo Level
12	Darshika Bohra	Role of HP1 Isoforms and Phase Separation in Heterochromatin DNA Damage Responses
13	Debajyoti De	Progress towards the structure of a transiently formed intermediate state of a protein using NMR spectroscopy
14	Debarati Sarkar	Glassy Dynamics Of Deformable Objects
15	Devakinandan G V S	Single cell transcriptomic analysis of the mouse vomeronasal neuroepithelium.
16	Dhrisya Sathyan	Development of a tool for spatio-temporal control of Phosphatidylserine.
17	George Kurian K K	Atomic magnetometry and its applications

Sl. No.	Name	Title of the Poster
18	Harsha Sharma and/or Deepti Ranjan Pradhan	Development of tools to detect inorganic polyphosphates in Drosophila
19	Janmey Jay Panda	Determination of material properties using photonics Spin Hall effect.
20	Karan Bansal	Understanding the role of chromatin factors in regulating UV-DNA damage response
21	Mahaprasad Soumitri Ranjan Sahu	Characterization of Aggregation of tau protein using ensemble and single-molecule fluorescence techniques
22	Mohammad Sahil	Reconciling Cytochrome P450cam with Novel 3site State
23	Monoj Adhikari	Emergent Length Scales of Plasticity in Metallic Glasses
24	Mrudula Nikam	Double Frequency Selective REDOR
25	Muntaish Bashir	Tentative Title: Exploring Spatiotemporal Regulation Of Origin Activation And Firing During Mammalian Chromosomal Replication Through Systemic Modulation Of Replisome
26	Nandana Pal Chowdhury	CO ₂ adsorption on Au(111): Impact of electronic polarization
27	Neelima Sharma	F box and autophagy
28	Nicolas Chrysochos	N-Heterocyclic Derived Twisted Push-Pull Alkenes
29	Nihar Pradeep Khandave	Studying fast exchange process by CEST NMR
30	Nirjharini Saha	Oncogene-induced Replication Stress
31	Padmanabha Bose	In the way towards a greener future
32	Palash Bera	In-silico modelling of collective dynamics of bacteria and bacterial chromosomal loci.
33	Payal chaubey	Engineering immune cells for targeted phagocytosis using small molecules
34	Pikaso Latua, Swathi V C	Chemical biology strategies for functional imaging of macrophages and microglia
35	Piyush Daga	Matrix stiffening induces perinuclear mitochondrial localization that determines stem cell fate

Sl. No.	Name	Title of the Poster
36	Pragyan Parimita Parida	Understanding actin dynamics using ParM as a model system.
37	Pratibha Malik	Accelerated molecular diffusion in the oriented nanochannels of MOF thin film
38	Praver Gupta	Nuclear morphodynamics guide competitive elimination of pre-cancerous mutants from Epithelia
39	Preeti Yadav	structural characterization of alpha-synuclein LLPS
40	Priyanka Saha	Thiophene Based Kekulé Diradicaloids with Acyclic-Diamino/Monoamino Carbene End Cap
41	Purnati Khuntia	Golgi dynamics in Epithelial wound healing and tissue development
42	Purnima Jain	Effect of concentration fluctuations in Active Polar Fluids
43	Raheel Hammad	Band Gap Engineering of Li_xMoS_2
44	Rajesh Kotcherlakota, Firdaus Ahmed	Catalytic complement-erasers as a strategy to prevent neurodegeneration
45	Rajit Narayanan C	E2 ubiquitin conjugase Bendless is essential for PINK1-Park activity to regulate Mitofusin under mitochondrial stress
46	Rakesh Mahato	Inner mitochondrial membrane proteins/MICOS10 subcomplex purification and crystallization
47	Ramapada Dolai	Carbodicarbenes and their Conjugate Acids: Synthons for Organic Electron Donors and Organic Radicals
48	Ramy A R	Interfacial synthesis of bilayer covalent organic frameworks
49	Rashmi Priya	Phases of liquid crystals
50	Rishabh Sharma	Glasses Under Tension
51	Rituraj Marwaha	Lysosomes integrate mechanochemical signals to instruct leader cell emergence during collective cell migration.
52	Roshan Maharana	Athermal fluctuations in three dimensional disordered crystals
53	Sahil Ahlawat	Experimental methods for rapid de novo structure determination of proteins
54	Saptarnab Ganguly	Investigating gut metabolism and physiology as a consequence of nutritional perturbations and hepatic inputs

Sl. No.	Name	Title of the Poster
55	Satyaki Sasmal	Exploring topological physics in quantum materials
56	Saurabh Chandra Kandpal	Thermochemistry of Elementary Reactions in Low-Temperature Combustion
57	Saurabh Kumar Singh	Design and development of diagnostic tools for quantum state specific studies
58	Shantam Yagnik	Connecting DNA damage responses to nuclear mechanics in living cells
59	Shubham Gupta	Thianthrene based radical cation as efficient p-type dopant for electronic application
60	Simran Rawal	Role of Endoplasmic Reticulum structure in guiding the mode of cell migration at different wound curvature
61	Sinjini Ghosh	Investigating the structural and functional reorganization of the nucleolus in response to ribosomal DNA damage
62	SK Yasir Hosen	Life Without Polyphosphates
63	Snigdha Sau	Facets of Translesion Synthesis
64	Sonali	Enhancement of electron emission from laser droplet interaction
65	Sougandh KM	RF magnetometry to study spin-polarised xenon
66	Sourav Das Adhikari	Abeta42-lipid interaction leads to biomolecular condensate formation
67	Sreejith Raran-Kurussi	A comparison between MBP- and NT* as N-terminal fusion partner for recombinant protein production in E. coli
68	Srishti Priya	Metabolism and Splicing
69	Sritama Datta	Investigating the Role of t-SNAREs in Store-Operated Calcium Entry
70	Stephy Jose	Active? Why does it matter?
71	Subba Rao MMV	Segmental isotope labelling of Alpha-synuclein using protein trans-splicing
72	Subhadip Jana	Air and moisture stable para- and ortho-quinodimethane derivatives derived from bis-N-heterocyclic olefins
73	Subhodeep Dey	Enhanced short time peak in Four-point Dynamic Susceptibility of Dense Active Glass forming liquid

Sl. No.	Name	Title of the Poster
74	Subhrajyoti Dolai	Investigation of amyloid beta-lipid condensate using TIRF microscopy
75	Suman	Skyrmion physics in Cr ₂ Te ₃ /metal-phthalocyanine system
76	Sunayana Sarkar	DYKR1A maintains cell size through regulation of the mTORC1 pathway
77	Surajit Chakraborty	Non-Phononic Vibrations of Isolated Glass Droplets
78	Susmita Kundu	Gas separation using heterostructure MOF membranes
79	Sushreeta Chakraborty	Optical tools for studying single-cell immunometabolism in the brain
80	Suwendu Panda	Catalytic selectivity control in a continuous flow process by diffusion length modulation
81	Tanmoy Maity	Impact of Functionality Gradient on Molecular Diffusion in Quasi-Epitaxial Oriented Nanochannels
82	Tejender Singh	Thermodynamic vs Kinetic Preferences in Nickel Catalysed C-O Bond Cleavage in Aryl / Alkyl ethers: A Computational Insight
83	Ved Prakash Tiwari	Studying Multistate Conformational Exchange of Proteins Using a Double Resonance CEST Experiment: An application to T4-lysozyme Folding
84	Vinoth Kumar V	Structural differences between Apolipoprotein E isoforms and its effect on neurodegeneration
85	Vishal Malik	Tertiary structural stabilization of proteins using non-canonical long range disulfide bonds
86	Puneet Pareek	Crossover from Stretched Exponential to Power Law in Glassy Systems
87	Anoop Mutneja	Rods as a Measuring Tape of Length Scales in Supercooled Liquids