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| <b>REGISTRATION @ LHC Foyer: 10:00 Onwards</b>                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>High Tea @ LHC: 11:30</b>                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Inaugural Function @ LHC – 002: 12:00-12:30</b>                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Lunch @ LHC: 12:50-14:00</b>                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Parallel Oral Sessions A1 and A2: 14:00-17:50</b>                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Session A1: Nanomaterials @ LHC – 002</b><br>Chair: Mithun Radhakrishna, <i>IIT Gandhinagar</i><br>Chair: Guruswamy Kumarswamy, <i>CSIR-NCL Pune</i>                                                                                           | <b>Session A2: Soft Matter in Industry @ LHC – 003</b><br>Chair: Ravi Palaparthi, <i>Anagha Consultants LLC</i><br>Chair: Siva Rama Krishna Perala, <i>Unilever</i>                                                                                                                                                                                                                  |
| <b>(14:00-14:20)</b>                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Talk # A1-1:</b><br>Synthesis, Characterization and Physicochemical Properties of Ultra-Small ( $r < 2$ nm), Digestively Ripened Copper Oxide Quantum Dots.<br><b>Bhusankar Talluri</b> , Prasad Edamana, and Tiju Thomas; <i>IIT Madras</i> . | <b>Talk # A2-1:</b><br>Opportunities and Challenges for Indian Industry-Academia Joint Collaboration involving Complex Fluids and Soft Matter.<br><b>Amit Biswas</b> ; <i>Dr. Reddy's Laboratories, Hyderabad</i>                                                                                                                                                                    |
| <b>(14:20-14:40)</b>                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Talk # A1-2</b><br>Plasmofluidic Assembly of Colloids.<br><b>G V Pavan Kumar</b> ; <i>IISER Pune</i> .                                                                                                                                         | <b>Talk # A2-2</b><br>A Droplet Microfluidic Platform for Single Cell Capture, Analysis and Retrieval.<br><b>Ashwin Lal</b> ; <i>Shilps Sciences</i>                                                                                                                                                                                                                                 |
| <b>(14:40-15:00)</b>                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Talk # A1-3</b><br>Label-free Upconverting-film Platform for Ultra-Sensitive and Selective As-III Detection.<br>Suman Duhan, Kedar Sahoo, Sudhir Kumar Singh, and <b>Manoj Kumar</b> ; <i>Thapar University, Patiala; IIT (BHU) Varanasi</i> . | <b>Talk # A2-3</b><br>Advanced Characterization Technologies: Enabling Robust Product Design of Complex Generics.<br><b>Atanu Sengupta</b> ; <i>Dr. Reddy's Laboratories, Hyderabad</i>                                                                                                                                                                                              |
| <b>(15:00-15:20)</b>                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Talk # A1-4</b><br>Tuning Ultrastability and Crystallinity in Vapor Deposited Nanostructured Polymers.<br><b>Mithun Chowdhury</b> ; <i>IIT Bombay</i> .                                                                                        | <b>Talk # A2-4</b><br>A hydrogel-sensor array for multiplexed immunodiagnostics at the point-of-care.<br><b>Dhananjaya Dendukuri</b> ; <i>Achira Labs, Bangalore</i>                                                                                                                                                                                                                 |
| <b>Poster session – I: Nanomaterials (15: 20 – 16:30) @ LHC Foyer</b><br><b>Tea Break</b>                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>(16:30 – 16:50)</b>                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Talk # A1-5</b><br>Graphene Oxide Based Gels and Thin Films.<br><b>Prachi Thareja</b> , Abhijeet Ojha, and Sai Geetha Reddy; <i>IIT Gandhinagar</i>                                                                                            | <b>Talk # A2-5</b><br>Continuous Mixing Technology: Process Design with Discrete Element Method (DEM) Simulations.<br>Peter Toson, Eva Siegmann, Martina Trogrlic, Dalibor Jajcevic, Johannes Khinast, <b>Pankaj Doshi</b> , Daniel Blackwood, and Mary T. Am Ende; <i>Research Center Pharmaceutical Engineering GmbH, Austria; Worldwide R &amp; D, Pfizer Inc. Groton CT, USA</i> |
| <b>(16:50 – 17:10)</b>                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Talk # A1-6</b><br>Photoactive Coordination Polymers as Smart Energy Material.<br><b>Saravanan Pichiah</b> , and Rajalingam Thangavel; <i>IIT (ISM) Dhanbad</i>                                                                                | <b>Talk # A2-6</b><br>In-Silico Skin Model: A Platform for Design and Testing of Nanomaterials.<br><b>Rakesh Gupta</b> , and Beena Rai; <i>TRDDC, TCS Research, Pune</i>                                                                                                                                                                                                             |

**DETAILED PROGRAM SCHEDULE****DAY – 1: December 06, 2018**

| <i>Session A1: Nanomaterials @ LHC – 002<br/>(Continued)</i>                                                                                                                         | <i>Session A2: Soft Matter in Industry @ LHC – 003<br/>(Continued)</i>                                                           |
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| <b>(17:10 – 17:30)</b>                                                                                                                                                               |                                                                                                                                  |
| <b>Talk # A1-7</b><br>Paper Based Biosensors for Early Detection of Oral Cancer from Salivary Biomarkers.<br><b>Subhadeep Mitra</b> , S. Sivakumar, and A. Sharma; <i>IIT Kanpur</i> | <b>Talk # A2-7</b><br>Graphene - An Exponential Technology.<br><b>Srinivasan Duraiswamy</b> ; <i>Reliance Industries Limited</i> |
| <b>(17:30 – 17:50)</b>                                                                                                                                                               |                                                                                                                                  |
| <b>Talk # A1-8</b><br>Use of Nanoemulsions to Improve Algal Growth Rate.<br>Harshita Nigam, Anushree Malik and <b>Vikram Singh</b> , <i>IIT Delhi</i>                                |                                                                                                                                  |
| <b>Day – 1 Program Ends</b>                                                                                                                                                          |                                                                                                                                  |

| <b>Parallel Oral Sessions B1 and B2: 09:00-12:50</b>                                                                                                                                             |                                                                                                                                                                                                                                                                                        |
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| <b>Session B1: Multiphase Flows @ LHC – 002</b><br>Chair: Anugrah Singh, <i>IIT Guwahati</i><br>Chair: Sumana Ghosh, <i>IIT Roorkee</i>                                                          | <b>Session B2: Instabilities &amp; Transitions @ LHC – 003</b><br>Chair: Anubhab Roy, <i>IIT Madras</i><br>Chair: Premananda Bera, <i>IIT Roorkee</i>                                                                                                                                  |
| <b>(09:00 – 09:20)</b>                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |
| <b>Talk # B1-1</b><br>Numerical Study of Thin-Liquid-Film Flow Over a Horizontal Cylinder Using VOF.<br>Chinu Routa, and <b>Akhilesh Kumar Sahu</b> , <i>NIT Rourkela</i>                        | <b>Talk # B2-1</b><br>Global Stability Analysis of Flow Past a Square Cylinder with Slip Walls.<br><b>A. Sameen</b> ; <i>IIT Madras</i>                                                                                                                                                |
| <b>(09:20 – 09:40)</b>                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |
| <b>Talk # B1-2</b><br>Hydraulic Jumps and Drops across Obstacles.<br>M. Dhar, <b>Gargi Das</b> , and P. K. Das; <i>IIT Kharagpur</i>                                                             | <b>Talk # B2-2</b><br>Elasto-Inertial Transition in Pipe Flow of Polymer Solutions.<br><b>Devranjan Samanta</b> ; <i>IIT Ropar</i>                                                                                                                                                     |
| <b>(09:40 – 10:00)</b>                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |
| <b>Talk # B1-3</b><br>Interaction of a Pair of Ferro-fluid Drops in a Rotating Magnetic Field.<br><b>James Feng</b> ; <i>The University of British Columbia</i>                                  | <b>Talk # B2-3</b><br>Instability of a Tear-Film with Inhomogeneous Concentration and Viscosity Profiles.<br>Mohar Dey, Atul Vivek, <b>Harish Dixit</b> , Ashutosh Richhariya, and James Feng; <i>The University of British Columbia, ISRO, IIT Hyderabad, LV Prasad Eye Institute</i> |
| <b>(10:00 – 10:20)</b>                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |
| <b>Talk # B1-4</b><br>Spatio-Temporal Structures of Pressure Swirl and Air-Blast Sprays.<br><b>Mahesh Panchagnula</b> ; <i>IIT Madras</i>                                                        | <b>Talk # B2-4</b><br>Sliding Instability of Draining Fluid Films.<br><b>Jason Picardo</b> , Georg Dietze, Ranga Narayanan; <i>ICTS-TIFR; Univ. Paris Sud; University of Florida</i>                                                                                                   |
| <b>Poster session – II: Multiphase Flow, and Instabilities &amp; Transitions: (10: 20 – 11:30) @ LHC Foyer</b><br><b>Tea Break</b>                                                               |                                                                                                                                                                                                                                                                                        |
| <b>(11: 30 – 11:50)</b>                                                                                                                                                                          |                                                                                                                                                                                                                                                                                        |
| <b>Talk # B1-5</b><br>Fluidization of binary mixtures.<br>Chhotelal Shah K, Srinivas Seethamraju, and <b>Manaswita Bose</b> ; <i>IIT Bombay</i>                                                  | <b>Talk # B2-5</b><br>Break-Up of Radially Expanding Liquid Sheet.<br><b>Mahesh Tirumkudulu</b> , and Nayanika Majumdar; <i>IIT Bombay</i>                                                                                                                                             |
| <b>(11:50 – 12:10)</b>                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |
| <b>Talk # B1-6</b><br>Simultaneous Two Phase Dynamics in Particle- Laden Turbulent Flows.<br>Pradeep Muramulla, <b>Partha Sarathi Goswami</b> , and V Kumaran; <i>IIT Bombay, IISc Bangalore</i> | <b>Talk # B2-6</b><br>Structural Bifurcation Analysis of Unsteady Flow Separation from Shear Flow Past Circular Cylinder at Low Reynolds Number.<br>Atendra Kumar and <b>Rajendra K Ray</b> ; <i>IIT Mandi</i>                                                                         |
| <b>(12:10 – 12:30)</b>                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |
| <b>Talk # B1-7</b><br>Energy Spectra of 2D Buoyancy Driven Bubbly Flows.<br><b>Prasad Perlekar</b> , Vikash Pandey, and Rashmi Ramadugu; <i>TIFR Hyderabad</i>                                   | <b>Talk # B2-7</b><br>Insights into Stability of Single and Multiphase Flows.<br><b>S. Pushpavanam</b> ; <i>IIT Madras</i>                                                                                                                                                             |
| <b>(12:30 – 12:50)</b>                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |
| <b>Talk # B1-8</b><br>Hydrodynamics of Channel-Size Bubbles in Gas-Liquid Flow in Capillaries.<br>Sadhana Kumari, and <b>Raghvendra Gupta</b> ; <i>IIT Guwahati</i>                              | <b>Talk # B2-8</b><br>Transitions to Different Types of Turbulence in a Soft-Walled Channel.<br><b>V Kumaran</b> , and Sagar Srinivas; <i>IISc Bangalore</i>                                                                                                                           |

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| <b>Lunch @ LHC: 12:50 – 14:00</b>                                                                                                                                                                              |                                                                                                                                                                                                                                      |
| <b>Parallel Oral Sessions C1 and C2: 14:00-17:50</b>                                                                                                                                                           |                                                                                                                                                                                                                                      |
| <b>Session C1: Granular Matter @ LHC – 002</b><br>Chair: Anshu Anand, <i>IIT Roorkee</i><br>Chair: Tejas Murthy, <i>IISc Bangalore</i>                                                                         | <b>Session C2: Microfluidics @ LHC – 003</b><br>Chair: Arup Kumar Das, <i>IIT Roorkee</i><br>Chair: Supreet Singh Bahga, <i>IIT Delhi</i>                                                                                            |
| <b>(14:00 – 14:20)</b>                                                                                                                                                                                         |                                                                                                                                                                                                                                      |
| <b>Talk # C1-1:</b><br>Granular Rheology at High Inertial Numbers.<br><b>Anurag Tripathi</b> , Mahesh Prasad, Arijit Chakraborty, and Satyabrata Patro; <i>IIT Kanpur</i>                                      | <b>Talk # C2-1:</b><br>Formation of Hydrogel Beads in Microchannel Designed by 3 DP Technology.<br><b>Abhinav Raut</b> , Rama Shankar Verma, and S. Pushpavanam; <i>IIT Madras</i>                                                   |
| <b>(14:20 – 14:40)</b>                                                                                                                                                                                         |                                                                                                                                                                                                                                      |
| <b>Talk # C1-2</b><br>Effect of Strain Rate Variation on Energy Redistribution During Commintion.<br><b>Arghya Das</b> , and Soukat Kumar Das; <i>IIT Kanpur</i>                                               | <b>Talk # C2-2</b><br>Towards an Understanding of Electrohydrodynamic and Non-Newtonian Effects in T-Junction Microfluidic Devices.<br><b>Amit Gupta</b> , R. Singh, and Venu Gopal Agarwal; <i>IIT Delhi</i>                        |
| <b>(14:40 – 15:00)</b>                                                                                                                                                                                         |                                                                                                                                                                                                                                      |
| <b>Talk # C1-3</b><br>Rheology of Steady Dense Cohesionless Granular Flows.<br><b>Ashish Bhateja</b> , and Devang V. Khakhar; <i>IIT Goa; IIT Bombay</i>                                                       | <b>Talk # C2-3</b><br>RNA Extraction from Single Cells using Electrical Lysis and Electrophoresis.<br><b>Hirofumi Shintaku</b> ; <i>RIKEN Cluster for Pioneering Research</i>                                                        |
| <b>(15:00 – 15:20)</b>                                                                                                                                                                                         |                                                                                                                                                                                                                                      |
| <b>Talk # C1-4</b><br>Discrete Element Method Simulation of Projectile Impacts into a Granular Bed.<br>Punyashlok Panda, and <b>Dhiraj V. Patil</b> ; <i>IIT Dharwad</i>                                       | <b>Talk # C2-4</b><br>A Novel Co-Flow Microfluidic Device to Generate Hipes.<br>Ajmera Sanketh Kumar, Archit Agarwal, <b>Rattandeep Singh</b> , and Supreet Singh Bahga; <i>IIT Delhi</i>                                            |
| <b>Poster session – III: Granular Matter, Microfluidics, and Transport Processes: (15: 20 – 16:30) @ LHC Foyer; Tea Break</b>                                                                                  |                                                                                                                                                                                                                                      |
| <b>Session B1: Multiphase Flow @ LHC – 002</b><br>(Additional half session)                                                                                                                                    | <b>Session C2: Microfluidics @ LHC – 003</b><br>(Continued)                                                                                                                                                                          |
| <b>(16:30 – 16:50)</b>                                                                                                                                                                                         |                                                                                                                                                                                                                                      |
| <b>Talk # B1-9</b><br>Gravity-Driven Droplet Dynamics over Inverted Heterogeneous Substrates.<br><b>Rajagopal Vellingiri</b> ; <i>BITS Goa</i>                                                                 | <b>Talk # C2-5</b><br>Study of Transient Electrokinetic Flows.<br>Himadri S. Basu, Supreet S. Bahga, and <b>Sasidhar Kondaraju</b> ; <i>IIT Bhubaneswar; IIT Delhi</i>                                                               |
| <b>(16:50 – 17:10)</b>                                                                                                                                                                                         |                                                                                                                                                                                                                                      |
| <b>Talk # B1-10</b><br>Study of a Mono-Dispersed and Binary Gas-Solid Conical Fluidized Bed using Radioactive Particle Tracking Technique.<br>Lipika Kalo, and <b>Rajesh K. Upadhyay</b> ; <i>IIT Guwahati</i> | <b>Talk # C2-6</b><br>Effects of Fluid-Structure-Interaction and Surface Heterogeneity on the Electrophoresis of Finite Sized Microparticles.<br><b>Shirsendu Mitra</b> , Abir Ghosh and Dipankar Bandyopadhyay; <i>IIT Guwahati</i> |

**DETAILED PROGRAM SCHEDULE****DAY – 2: December 07, 2018**

| Session B1: Multiphase Flow @ LHC – 002<br>(Continued)                                                                                                                                                           |  | Session C2: Microfluidics @ LHC – 003<br>(Continued)                                                                                                                                                                       |  |
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| (17:10 – 17:30)                                                                                                                                                                                                  |  |                                                                                                                                                                                                                            |  |
| <b>Talk # B1-11</b><br>A Generalised Mathieu Equation for Inviscid, Free and Parametrically Forced Capillary Oscillations.<br><b>Ratul Dasgupta</b> , Sagar Patankar and Palas Kumar Farsoiya; <i>IIT Bombay</i> |  | <b>Talk # C2-7</b><br>Hydrodynamic Resistance due to Polymer-Induced Elastic Turbulence in Microfluidic Serpentine Flows.<br><b>Siddhartha Gupta</b> , Neelamegam Raju and Siva A. Vanapalli; <i>Texas Tech University</i> |  |
| (17:30 – 17:50)                                                                                                                                                                                                  |  |                                                                                                                                                                                                                            |  |
| <b>Talk # B1-12</b><br>Controlled Generation of Segmented Gas-Liquid-Liquid Flow in Millichannels.<br>V. M. Rajesh and <b>Vivek V. Buwa</b> ; <i>IIT Delhi</i>                                                   |  | <b>Talk # C2-8</b><br>Interfacial Phenomena in Microfluidics.<br><b>Ashis Sen</b> ; <i>IIT Madras</i>                                                                                                                      |  |
| Industry Workshop @ LHC – 002<br>(18:00 – 20:00)                                                                                                                                                                 |  |                                                                                                                                                                                                                            |  |
| Banquet Dinner @ Community Center<br>(20:00 – 22:00)                                                                                                                                                             |  |                                                                                                                                                                                                                            |  |
| Day – 2 Program Ends                                                                                                                                                                                             |  |                                                                                                                                                                                                                            |  |

| Parallel Oral Sessions D1, D2, and D3: 09:00-12:50                                                                                                                                                                                |                                                                                                                                                                                                                                |                                                                                                                                                                                                                   |
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| <b>Session D1: Soft Condensed Matter @ LHC – 002</b><br>Chair: Ananya Debnath, <i>IIT Jodhpur</i><br>Chair: Arindam Kundagrami, <i>IISER Kolkata</i>                                                                              | <b>Session D2: Colloids &amp; Interfaces @ LHC – 003</b><br>Chair: A.V. Anil Kumar, <i>NISER Bhubaneswar</i><br>Chair: Sri Siva Kumar, <i>IIT Kanpur</i>                                                                       | <b>Session D3: Biological Materials @ LHC – 004</b><br>Chair: Abhijit Majumder, <i>IIT Bombay</i><br>Chair: Praveen Vemula, <i>inStem Bangalore</i>                                                               |
| (09:00 – 09:20)                                                                                                                                                                                                                   |                                                                                                                                                                                                                                |                                                                                                                                                                                                                   |
| <b>Talk # D1-1</b><br>Counter-intuitive Adsorption Behaviour of Ions on Charged Surface.<br>Sai Adapa and <b>Ateeque Malani</b> ; <i>IIT Bombay</i>                                                                               | <b>Talk # D2-1</b><br>Design & Experimental Validation of Ultra Low Hydrate Adhesion Surface.<br><b>Arindam Das</b> , Taylor A. Franham, Srinivas B. Subramanyam, Kripa K. Varanasi; <i>IIT Goa, MIT Cambridge</i>             | <b>Talk # D3-1</b><br>Repulsive Interaction Induces Fibrillization in Amylin Protein.<br>S. Khatun, K. Shikha, A. Ganguly, N. Pawar & <b>Amar Nath Gupta</b> ; <i>IIT Kharagpur</i>                               |
| (09:20 – 09:40)                                                                                                                                                                                                                   |                                                                                                                                                                                                                                |                                                                                                                                                                                                                   |
| <b>Talk # D1-2</b><br>Phase Transitions in 2-Dimensional Bent-Core Nematics.<br><b>B. Kamala Latha</b> , Surajit Dhara and V. S. S. Sastry; <i>University of Hyderabad</i>                                                        | <b>Talk # D2-2</b><br>Desiccation Cracks in Colloidal Films: Role of External Fields.<br>Hisayama, Madivala Basavaraj and <b>Dillip Satapathy</b> ; <i>IIT Madras</i>                                                          | <b>Talk # D3-2</b><br>Bacterial Chromosome Organization: Special Crosslinks, Confinement by Cell Wall and Molecular Crowders play Pivotal Roles.<br><b>Apratim Chatterji</b> and Tejal Agarwal; <i>IISER Pune</i> |
| (09:40 – 10:00)                                                                                                                                                                                                                   |                                                                                                                                                                                                                                |                                                                                                                                                                                                                   |
| <b>Talk # D1-3</b><br>Correlations Between Short and Long-Time Relaxation in Colloidal Supercooled Liquids and Glasses.<br><b>Chandan Kumar</b> , Xiaoguang Ma, Piotr Habdas and Arjun G. Yodh; <i>University of Pennsylvania</i> | <b>Talk # D2-3</b><br>Mechanism of Inhibition of Amyloid Beta Fibrillation using Charged Nanoparticles.<br><b>Ethayraja Mani</b> ; <i>IIT Madras</i>                                                                           | <b>Talk # D3-3</b><br>Learning from the Bugs: A Primer on Microbial Colloids.<br><b>Anupam Sengupta</b> ; <i>University of Luxembourg</i>                                                                         |
| (10:00 – 10:20)                                                                                                                                                                                                                   |                                                                                                                                                                                                                                |                                                                                                                                                                                                                   |
| <b>Talk # D1-4</b><br>Role of Fluctuations of measured quantities to understand soft matter dynamics.<br><b>Debjani Bagchi</b> ; <i>MSU Baroda</i>                                                                                | <b>Talk # D2-4</b><br>Bioactive Liquid Crystal Droplets.<br>Naveen Kumar P.M. and <b>Kamendra Sharma</b> ; <i>IIT Bombay</i>                                                                                                   | <b>Talk # D3-4</b><br>The Gram Positive Bacterial Cell Wall as a Composite Structure.<br><b>Garima Rani</b> and Issan Patri; <i>Chennai Mathematical Institute</i>                                                |
| <b>Poster session – IV: Soft Condensed Matter and Colloids &amp; Interfaces: (10: 20 – 11:30) @ LHC Foyer</b><br><b>Tea Break</b>                                                                                                 |                                                                                                                                                                                                                                |                                                                                                                                                                                                                   |
| (11: 30 – 11:50)                                                                                                                                                                                                                  |                                                                                                                                                                                                                                |                                                                                                                                                                                                                   |
| <b>Talk # D1-5</b><br>Mesoscale Mechanics of Polydisperse Calcium-Silicate-Hydrates Gel.<br>Ravinder, Rajesh Kumar and <b>N. M. Anoop Krishnan</b> ; <i>IIT Delhi</i>                                                             | <b>Talk # D2-5</b><br>How Solid-Liquid Interfacial Fluctuations Affect the Behavior of Nanodroplets on Crystalline Surfaces?<br>Ashu Gupta, Shubham Chouksey, Utkarsh Saxena and <b>Kaustubh Rane</b> ; <i>IIT Gandhinagar</i> | <b>Talk # D3-5</b><br>How to shape an organelle?<br><b>Madan Rao</b> ; <i>NCBS, Bangalore</i>                                                                                                                     |

# DETAILED PROGRAM SCHEDULE

DAY – 3: December 08, 2018

| <i>Session D1: Soft Condensed Matter @ LHC – 002 (Continued)</i>                                                                                                                             | <i>Session D2: Colloids &amp; Interfaces @ LHC – 003 (Continued)</i>                                                                                                                                                         | <i>Session D3: Biological Materials @ LHC – 004 (Continued)</i>                                                                                                                                                |
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| <b>(11:50 – 12:10)</b>                                                                                                                                                                       |                                                                                                                                                                                                                              |                                                                                                                                                                                                                |
| <b>Talk # D1-6</b><br>Chemotaxis of Ciliated Microorganisms.<br><b>P. Sekhar Burada</b> and Ruma Maity; <i>IIT Kharagpur</i>                                                                 | <b>Talk # D2-6</b><br>Tuning the Crystal Morphology of Anisotropic Particles in Presence of a Non-Ionic Surfactant.<br>Hiya Goswami and <b>Jyoti Seth</b> ; <i>IIT Bombay</i>                                                | <b>Talk # D3-6</b><br>Microbial Assemblies: A Candidate for COMPFLU Deliberations?<br><b>Janhavi Raut</b> ; <i>Unilever R &amp; D, Bangalore</i>                                                               |
| <b>(12:10 – 12:30)</b>                                                                                                                                                                       |                                                                                                                                                                                                                              |                                                                                                                                                                                                                |
| <b>Talk # D1-7</b><br>Solvent Triggered Biopolymer Thin Films: Mechanism & Applications.<br><b>Pijush Ghosh</b> ; <i>IIT Madras</i>                                                          | <b>Talk # D2-7</b><br>Surface Oscillations of a Sub-Rayleigh Charged Drop Levitated in a Quadrupole Trap.<br><b>Neha Gawande</b> , Mohit Singh and Rochish Thaokar; <i>IIT Bombay</i>                                        | <b>Talk # D3-7</b><br>Physics of Living Cells.<br><b>Nisha Pawar</b> and Matthias Weiss; <i>IIT Kharagpur, University of Bayreuth</i>                                                                          |
| <b>(12:30 – 12:50)</b>                                                                                                                                                                       |                                                                                                                                                                                                                              |                                                                                                                                                                                                                |
| <b>Talk # D1-8</b><br>Modelling Complex Soft and Biomaterials.<br><b>Prabal Maiti</b> ; <i>IISc Bangalore</i>                                                                                | <b>Talk # D2-8</b><br>Chemical and Hydrodynamic Interactions Determine the Collective Dynamics of Active Colloids.<br><b>Rajesh Singh</b> , R Adhikari and M.E. Cates; <i>University of Cambridge</i>                        | <b>Talk # D3-8</b><br>Interaction of an Antimicrobial Peptide with Phospholipid Membranes: Evidence of Pore Formation.<br><b>Sanat Karmakar</b> , Pabitra Maity and Animesh Halder; <i>Jadavpur University</i> |
| <b>Lunch @ LHC: 12:50 – 14:00</b>                                                                                                                                                            |                                                                                                                                                                                                                              |                                                                                                                                                                                                                |
| <b>Parallel Oral Sessions D1, D2, and E1: 14:00-15:20</b>                                                                                                                                    |                                                                                                                                                                                                                              |                                                                                                                                                                                                                |
| <i>Session D1: Soft Condensed Matter @ LHC – 002 (Continued)</i><br>Chair: Ananya Debnath, <i>IIT Jodhpur</i><br>Chair: Arindam Kundagrami, <i>IISER Kolkata</i>                             | <i>Session D2: Colloids &amp; Interfaces @ LHC – 003 (Continued)</i><br>Chair: A.V. Anil Kumar, <i>NISER Bhubaneswar</i><br>Chair: Sri Siva Kumar, <i>IIT Kanpur</i>                                                         | <i>Session E1: Rheology @ LHC – 004</i><br>Chair: Anand Mohan, <i>IIT Hyderabad</i><br>Chair: Jyoti Seth, <i>IIT Bombay</i>                                                                                    |
| <b>(14: 00 – 14:20)</b>                                                                                                                                                                      |                                                                                                                                                                                                                              |                                                                                                                                                                                                                |
| <b>Talk # D1-9</b><br>Anomalous Glassy Relaxation and its Relation to Local Structure in Phase Separated Systems.<br>Anna Varughese, Jalim Singh and <b>Prasanth Jose</b> ; <i>IIT Mandi</i> | <b>Talk # D2-9</b><br>On-Chip Colloidal Assembly using AC Electrokinetics: Toward Single Cell Analysis.<br>Meenal Goel, Pragya Swami, Akshay Singh, Ashwin Bhola, Abhishek Verma and <b>Shalini Gupta</b> ; <i>IIT Delhi</i> | <b>Talk # E1-1</b><br>Rheology of Pluronic-Hyaluronic Acid Thermoreversible Gelling Systems.<br>Koduvayur A. Ramya and <b>Abhijit Deshpande</b> ; <i>IIT Madras</i>                                            |
| <b>(14: 20 – 14:40)</b>                                                                                                                                                                      |                                                                                                                                                                                                                              |                                                                                                                                                                                                                |
| <b>Talk # D1-10</b><br>Hydrated Ionic Liquids: A Novel Class of Solvents in Long-term DNA Stability.<br><b>Sanjib Senapati</b> ; <i>IIT Madras</i>                                           | <b>Talk # D2-10</b><br>Use of Surface-Active Colloids to Suppress Wettability-Directed Interfacial Dynamics.<br>Shantharama and <b>Sreeram K. Kalpathy</b> ; <i>IIT Madras</i>                                               | <b>Talk # E1-2</b><br>Anomalous Rheology of Star Telechelic Poly(lactide Ionomer).<br><b>Amruta Kulkarni</b> , A. Lele, Pragati Sharma and Suman Chakrabarty; <i>Reliance Industries, IISER Pune</i>           |

| (14: 40 – 15:00)                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |
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| <b>Talk # D1-11</b><br>Decoupling of Self Diffusion from Viscosity of Supercooled Water: Role of Translational Jump-diffusion.<br><b>Snehasis Daschakraborty</b> , Shivam Deuby and Vikas Dubey; <i>IIT Patna</i> | <b>Talk # D2-11</b><br>A Method to Predict Two-Rate Adsorption Kinetics using Dynamic Interfacial Tension Measurements.<br><b>Sumit Tripathi</b> ; <i>College of Engineering Pune</i>                                                                                           | <b>Talk # E1-3</b><br>Microstructure and Rheology of Shear-thinning and Shear-Thickening Suspensions.<br>Ajeeth Prabhu and <b>Anugrah Singh</b> ; <i>IIT Guwahati</i>                                                                                                           |
| (15: 00 – 15:20)                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |
| <b>Talk # D1-12</b><br>Active Filaments Underflow in a Confined Medium.<br><b>Sunil P. Singh</b> , <i>IISER Bhopal</i>                                                                                            | <b>Talk # D2-12</b><br>Lanthanide-Doped Colloidal Luminescent Nanocrystals: Light Emitting and Detection Applications.<br><b>Venkataramanan Mahalingam</b> ; <i>IISER Kolkata</i>                                                                                               | <b>Talk # E1-4</b><br>Liquid-Liquid Interface Capillary Breakup Extensional Rheometry.<br><b>Naveen Reddy</b> , S. Formenti, K. Verbeke, C. Mitrias, P. Anderson, F. Vangosa and C. Clasen; <i>University of Hasselt; Katholieke Universiteit Leuven; Politecnico di Milano</i> |
| <b>Poster session – V: Biological Materials and Rheology: (15: 20 – 16:30) @ LHC Foyer</b><br><b>Tea Break</b>                                                                                                    |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |
| <b>Parallel Oral Sessions D3 and E1: (16:30-17:50)</b>                                                                                                                                                            |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |
| <b>Session D3: Biological Materials @ LHC – 002</b><br>Chair: Abhijit Majumder, <i>IIT Bombay</i><br>Chair: P. Vemula, <i>inStem Bangalore</i>                                                                    |                                                                                                                                                                                                                                                                                 | <b>Session E1: Rheology @ LHC – 004</b><br>Chair: Anand Mohan, <i>IIT Hyderabad</i><br>Chair: Jyoti Seth, <i>IIT Bombay</i>                                                                                                                                                     |
| (16:30 – 16:50)                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |
| <b>Talk # D3-9:</b><br>Natural Biopolymer: Science to Engineering.<br>Debaprasad Shee and <b>Saptarshi Majumdar</b> ; <i>IIT Hyderabad</i>                                                                        | <b>Talk # E1-5:</b><br>Using Mechanical Measures to Understand the Differences in Sensory Perception of Potato Chips.<br><b>Omkar Deshmukh</b> , Sushil Dhital, Sandra Olarte Mantilla, Heather Smyth, Stefan Baier, Jason Stokes; <i>The University of Queensland; PepsiCo</i> |                                                                                                                                                                                                                                                                                 |
| (16:50 – 17:10)                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |
| <b>Talk # D3-10</b><br>Using Multiscale Simulations to Understand the Effect of Mutations on the Speed of Kinesin Motors.<br>Nashit Jalal, Atul Sharma and <b>Kaustubh Rane</b> ; <i>IIT Gandhinagar</i>          | <b>Talk # E1-6</b><br>A Non-Local, Higher-Gradient Model for Granular Flows.<br><b>Prabhu Nott</b> ; <i>IISc Bangalore</i>                                                                                                                                                      |                                                                                                                                                                                                                                                                                 |
| (17:10 – 17:30)                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |
| <b>Talk # D3-11</b><br>Effect of Pres-Stressing on Fracture of Soft Solid by Hypodermic Needle.<br><b>Susmita Das</b> ; <i>NIT Calicut</i>                                                                        | <b>Talk # E1-7</b><br>Rheology of Oil-Water Interface Undergoing Spontaneous Emulsification.<br>Ekta Sharma, Rochish Thaokar and <b>Vinay Juvekar</b> ; <i>IIT Bombay</i>                                                                                                       |                                                                                                                                                                                                                                                                                 |
| (17:30 – 17:50)                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |
| <b>Talk # D3-12</b><br>Cells in Microgels: 3D Printed Microtissues and Single Cell Migration.<br><b>Tapomoy Bhattacharjee</b> and Thomas Angelini; <i>Princeton University; University of Florida</i>             | <b>Talk # E1-8</b><br>Anomalous Flow Behaviour in Strongly Thixotropic Fluids.<br><b>Yogesh Joshi</b> ; <i>IIT Kanpur</i>                                                                                                                                                       |                                                                                                                                                                                                                                                                                 |
| <b>Day – 3 Program Ends</b>                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |



| Parallel Oral Sessions B1 and B2: 09:00-12:50                                                                                                                                                                       |                                                                                                                                                                                                                                              |
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| <b>Session F1: Polymers @ LHC – 002</b><br>Chair: Abhijit Despande, <i>IIT Madras</i><br>Chair: Pratyush Dayal, <i>IIT Gandhinagar</i>                                                                              | <b>Session F2: Computational Methods @ LHC – 003</b><br>Chair: Gaurav Tomar, <i>IISc Bangalore</i><br>Chair: Jayant Singh, <i>IIT Kanpur</i>                                                                                                 |
| (09:00 – 09:20)                                                                                                                                                                                                     |                                                                                                                                                                                                                                              |
| <b>Talk # F1-1</b><br>Kinetics of Conformational Changes in Polyelectrolyte Systems.<br>Swati Sen, Soumik Mitra and <b>Arindam Kundagrami</b> ; <i>IISER Kolkata</i>                                                | <b>Talk # F2-1</b><br>Thermodynamics, Kinetics and Solution Structure Ensemble of Small Therapeutic Proteins Using Metadynamics.<br><b>Gaurav Goel</b> and Anurag Rathore; <i>IIT Delhi</i>                                                  |
| (09:20 – 09:40)                                                                                                                                                                                                     |                                                                                                                                                                                                                                              |
| <b>Talk # F1-2</b><br>Crystallization of Binary Polymer Blends.<br><b>Ashok Kumar Dasmahapatra</b> ; <i>IIT Guwahati</i>                                                                                            | <b>Talk # F2-2</b><br>Effect of Molecular Weight on Blend Compatibility: A Study using Multiscale Molecular Dynamics Simulation.<br>Sushanta Kumar Sethi, Manjinder Singh and <b>Gaurav Manik</b> ; <i>IIT Roorkee</i>                       |
| (09:40 – 10:00)                                                                                                                                                                                                     |                                                                                                                                                                                                                                              |
| <b>Talk # F1-3</b><br><i>Why are Ice Templated Inorganic-Polymer Hybrids Flexible?</i><br><b>Guruswamy Kumaraswamy</b> and Karthika S.; <i>CSIR - NCL Pune</i>                                                      | <b>Talk # F2-3</b><br>Atomistic Simulation Methods to Probe Slow Biophysical Processes.<br><b>Harish Vashisth</b> ; <i>University of New Hampshire</i>                                                                                       |
| (10:00 – 10:20)                                                                                                                                                                                                     |                                                                                                                                                                                                                                              |
| <b>Talk # F1-4</b><br>Entropy Driven Surface Segregation in Polymer-Colloid Mixture-Role of Confinement and Chain Flexibility.<br>Spand Mehta, Rajesh Pavan and <b>Mithun Radhakrishna</b> ; <i>IIT Gandhinagar</i> | <b>Talk # F2-4</b><br>Interface Capturing Simulations of Bubble Collapse and Jetting in Complex Fluids.<br><b>Ratnesh Shukla</b> ; <i>IISc Bangalore</i>                                                                                     |
| <b>Poster session – VI: Polymers and Computational Methods: 10: 20 – 11:30 @ LHC Foyer</b><br><b>Tea Break</b>                                                                                                      |                                                                                                                                                                                                                                              |
| (11:30 – 11:50)                                                                                                                                                                                                     |                                                                                                                                                                                                                                              |
| <b>Talk # F1-5</b><br>Intermolecular Association in the in-situ formed Physically Cross-linked Poly (vinyl alcohol) Cryogels.<br><b>Nidhi Joshi</b> and Yogesh M. Joshi; <i>IIT Kanpur</i>                          | <b>Talk # F2-5</b><br>Boundary Integral Method For Extreme Property Ratios in Droplet Electrohydrodynamics.<br><b>Rochish Thaokar</b> , Shivraj Deshmukh and Neha Gawande; <i>IIT Bombay</i>                                                 |
| (11:50 – 12:10)                                                                                                                                                                                                     |                                                                                                                                                                                                                                              |
| <b>Talk # F1-6</b><br>The Structure and Dynamics of Polymer Nanocomposites.<br><b>Rahul Mangal</b> ; <i>IIT Kanpur</i>                                                                                              | <b>Talk # F2-6</b><br>Molecular Dice.<br><b>Santosh Ansumali</b> ; <i>JNCASR Bangalore</i>                                                                                                                                                   |
| (12:10 – 12:30)                                                                                                                                                                                                     |                                                                                                                                                                                                                                              |
| <b>Talk # F1-7</b><br>Polymer-grafted Nanoparticle Membranes with Controllable Free-Volume.<br><b>Sanat Kumar</b> , <i>Columbia University, New York</i>                                                            | <b>Talk # F2-7</b><br>A Physics-Motivated Unified Effective Model for Flows Over Rough, Porous and Poroelastic Walls.<br><b>Sudhakar Yogaraj</b> , Ugis Lacis and Shervin Bagheri; <i>IIT Goa; KTH Royal Institute of Technology, Sweden</i> |

| (12:30 – 12:50)                                                                                                                                                                                                            |                                                                                                                                                                                                                                  |
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| <b>Talk # F1-8</b><br>Is there a Fundamental Difference Between Equilibrium and Out of Equilibrium Dynamics in a Glass-Former?<br><b>Shiladitya Sengupta</b> , H. Tong and H. Tanaka;<br><i>University of Tokyo, Japan</i> | <b>Talk # F2-8</b><br>Molecular Modelling Insights of Deep Eutectic Mixtures as Media for Extractive and Thermal Applications.<br>Mood Mohan, Pyarimohan Dehury, Rupesh Verma and<br><b>Tamal Banerjee</b> ; <i>IIT Guwahati</i> |
| Lunch @ LHC: 12:50 – 14:00                                                                                                                                                                                                 |                                                                                                                                                                                                                                  |
| COMPFLU – 2018 Ends                                                                                                                                                                                                        |                                                                                                                                                                                                                                  |