CHANDAN KUMAR

Post Doctoral Fellow

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Jamshedpur, India chandan-kumar2020

PUBLICATIONS

Journal Articles

- Kumar, C., & Srivastava, S. (2022a). Effect of monovalent and divalent salt on lipid-nanoclay composite layer at the air-water interface. (under preparation).
- Kumar, C., & Srivastava, S. (2022b). Structural and dynamical studies of lipid-nanoclay composite layer at the air-water interface. Communicated.
- Kumar, C., & Viswanath, P. (2019). Metallophthalocyanine-enriched langmuir-schaefer multilayers of poly (vinylidene fluoride)-based nanocomposites. *Journal of Applied Polymer Science*, *136*(31), 47818.
- Samajdar, R. N., Kumar, C., Viswanath, P., & Bhattacharyya, A. J. (2019). Studying hemoglobin and a bare metal–porphyrin complex immobilized on functionalized silicon surfaces using synchrotron x-ray reflectivity. *The Journal of Physical Chemistry B*, *123*(35), 7492–7503.
- Shukla, G., Kumar, C., & Angappane, S. (2019). Structural properties and wettability of tio_2 nanorods. *physica status solidi (b)*, *256*(11), 1900032.
- Kumar, C., & Viswanath, P. (2017a). Solvent driven polymorphism in langmuir and langmuir schaefer film of poly (vinylidene fluoride). *European Polymer Journal*, *86*, 132–142.
- Kumar, C., & Viswanath, P. (2017b). Structure, morphology and wettability studies on langmuir-schaefer multilayer of poly (vinylidene fluoride)/poly (methyl methacrylate) blends. *European Polymer Journal*, *96*, 97–110.
- Kumar, C., & Viswanath, P. (2016). Dilatational rheology studies on a semicrystalline ferroelectric copolymer at the air–water interface. *RSC advances*, *6*(20), 16673–16678.

PROFESSIONAL EXPERIENCES

Post Doctoral Fellow
Indian Insitute of Technology Bombay
Apr 2019 – Ongoing Mumbai, India

Provisional Research Associate
Centre for Nano and Soft Matter Sciences
Nov 2018 – Mar 2019 Bengaluru, India

Senior Research Fellow
Centre for Nano and Soft Matter Sciences
Oct 2014 – Oct 2018 Bengaluru, India

Junior Research Fellow
Centre for Nano and Soft Matter Sciences
Sep 2012 – Sep 2014 Bengaluru, India

ABOUT ME

Motivated research professional with 3+ years of experience. Dynamic self-starter with excellent team building skills. Ability to handle high-pressure situations and meet deadlines

RESEARCH INTERESTS

- Biomolecules Interactions
- Colloidal Gels and Glasses
- Self Assembly of Molecules
- Surface and Bulk Rheology
- Langmuir Monolayer

HANDS ON EXPERIENCE

- Langmuir Blodgett Trough
- Spin Coater
- Thermal Evaporation
- Dynamic Light Scattering
- Optical Microscope
- Single Wavelength Null Imaging Ellipsometry
- Interfacial Shear Rheometer
- Dynamic Shear Rheometer
- Atomic Force Microscopy
- X-ray Diffractometer
- Fourier Transform Infrared Spectrometer
- UV-Vis Spectrophotometer
- Differential Scanning Calorimeter
- Contact Angle Meter
- Semiconductor Characterization System
- Probe Station

EDUCATION

Ph.D. Physics
Mangalore University
2019

Thesis title: Thin Films of Ferroelectric Polymers, Blends and Composites at Interfaces

M.Sc. Physics
Karunya Institute of Technology and Sciences
2012

Project title: Surface Modification of MWCNT with ZnO by Sol-Gel Method

WORKSHOPS AND CONFERENCES

Workshop on Micro & Nano Fabrication
Indian Institute of Kanpur
16-20th March 2015 Kanpur, India

Impact of solvent polarity on poly(vinylidene fluoride) films at air-water and air-solid interface
Iconsat 2016, IISER Pune
29th Feb-2nd March, 2016 Pune, India

Solvent aided formation of polar and non-polar phases of Poly(vinylidene fluoride) multilayer at the air-solid interface
ICTAM-AFM 10, Delhi University
7-11th November, 2016 Delhi, India

Surface morphology, and wettability of poly(vinylidene fluoride)/poly(methyl methacrylate) film prepared by Langmuir Schaefer method
Workshop on Advances in Nano and Soft Materials between CeNS-Manipal University
27-28th June, 2017 Bengaluru, India

Crystallization, surface morphology, and wettability of poly(vinylidene fluoride)/poly(methyl methacrylate) film prepared by Langmuir Schaefer method
EAS8, CSIR-NIIST, Thiruvananthapuram
20-22th September, 2017 Thiruvananthpuram, India

IEEE Nanotechnology Summer School 2018
IISC Bengaluru
16-20th July, 2018 Bengaluru, India

Density Functional Theory for Heterogeneous Catalysis
Indian Institute of Technology Guwahati
6-11th August, 2018 Guwahati, India

Assembly of anisotropic nanoparticles and lipid bilayer composite at the air-water interface
Compflu 2019, IISER Bhopal
5-7th December, 2019 Bhopal, India

Self-assembly of anisotropic nanoparticles-lipid bilayer composite at the air-water interface
SYMPHY 2020, Indian Institute of Technology Bombay
17-18th Oct, 2020 Mumbai, India

Glass to gel transition in confined monolayer
Compflu 2020, Indian Institute of Technology Bombay
10-12th Dec, 2020 Mumbai, India

Effect of monovalent salt on lipid-nanoclay composite layer at the air-water interface
e-SMYIM 2021, Indian Institute of Technology Bombay
14-16th Oct, 2021 Mumbai, India

Effects of monovalent salt on structure and dynamics of lipid-nanoclay composite layer at the air-water interface
Compflu 2021, Indian Institute of Gandhinagar
12-15th Dec, 2021 Gujrat, India

LANGUAGES

Hindi
English

COMPUTER SKILLS

Python | Matlab | Microsoft office | LaTeX

STRENGTHS

Calm | Positive | Hardworking | Persistent and loyal | Creative thinking | Multitasking | Collaboration skills | Problem Solving | Writing skills | Organizational Skills

REFEREES

Prof. Sunita Srivastava
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