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| PERSONAL INFORMATION | PRANAV SUDERSAN |
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| ../../Documents/Documents%20Scan/passport-photo.jpg | Vaishakha-21, Gate#6, Anushaktinagar, Mumbai - 400094, Maharashtra, India |
| (+91) 9066915706 |
| [pranavsudersan@gmail.com](mailto:pranavsudersan@gmail.com) |
| Skype pranav.sudersan |
| Sex Male | Date of birth 08/12/1992 | Nationality Indian |

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| EDUCATION |  |

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| 2010 – 2015 | Master of Technology & Bachelor of Technology (Dual Degree)  *Chemical Engineering, Indian Institute of Technology (IIT) Bombay, India* |  |
| Overall CGPA: 7.85/10 Project CGPA: 9.5/10 | |
| *Master’s Thesis*: **Preparation and Characterization of Sugar-Oil Microemulsion Glasses**  *Guide: Prof. Jyoti R. Seth* | |
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| CONFERENCES |  |

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| 1. **“Unusual self-assembly behaviour of polyelectrolytes”**;  *Oral conference presentation*   **Annual European Rheology Conference 2018, Sorrento - Italy** |

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| RESEARCH PROJECTS |  |

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| Aug’18 – Nov’18 | Dynamics of Interfacial Tension between Oil and Aqueous Solutions |
| *Guide: Prof. S. S. Bhagwat, ICT Mumbai* |
| * Soap solutions show a dynamic change in interfacial tension with water. This is a result of adsorption dynamics of surfactant to oil-water interface. Dynamic interfacial tension was measured using Drop Volume Method. A setup was prepared for measurement of various soap formulations. The dynamic behaviour was characterized using Rosen’s model and was used to assess soap performance. |
| Apr’17 – July’18 | Unusual Self-Assembly of Polyelectrolytes |
| *Guide: Prof. Kamendra Sharma, Prof. Jyoti R. Seth, IIT Bombay* |
| * Polyelectrolytes in dilute and low pH regime are observed to self-assemble into fibril structures. This unusual like-charged attraction between chains controlling self-assembly is investigated theoretically by Poisson-Boltzman and Manning’s condensation theories. A model based on mean-field approach is developed in MATLAB to construct phase diagrams of polyelectrolyte solution system. Regions of lamellar, spherical and cylindrical aggregate structures are identified for a range of model parameters. |
| Oct’16 – July’18 | Synthesis of Interpenetrating Polymer Network (IPN) |
| *Guide: Prof. Jyoti R. Seth, IIT Bombay* |
| * A novel method was developed to synthesize IPN using sugar microemulsion as a template. Unlike conventional methods, the devised method is universal in nature which can be applied for any combination of polymer pairs with a wider composition range. The bicontinuous domain size of the IPN nanostructure can also be controlled. The dual polymer nano-domains were characterized by analysing SEM/EDS elemental mapping with ImageJ. The method is currently being patented. |
| Jan’14 – Jul’15 | Preparation and Characterization of Sugar-Oil Microemulsion Glass |
| *Master’s Thesis | Guide: Prof. Jyoti R. Seth, IIT Bombay* |
| * Phase behaviour of novel solid state microemulsions based on sugar and oil mixtures was investigated. The method was optimized by better design of dehydration setups to prepare dry glassy microemulsions. The microemulsion morphology and physical properties were characterized using SEM, SANS, DSC and Rheology. Subsequently, nanoporous polymers were also prepared. |

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| WORK EXPERIENCE |  |

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| Aug’18 – Nov’18 | Project Assistant |
|  | *Chemical Engineering Department, ICT Mumbai, India* |
|  | ▪ Tasks: Prepare experimental setup for Drop Volume method, perform dynamic IFT measurements of various soap samples.  ▪ Projects: Dynamic Interfacial Tension measurements of coconut oil- soap solutions  ▪ Skills developed: Interfacial Science, Experimental design, Data collection and analysis |
| Oct’16 – July’18 | Research Associate |
| *Chemical Engineering Department, IIT Bombay, India* |
| * Tasks: Performed fundamental and application-based research projects in the field of interfacial sciences, polymer chemistry and self-assembly. The projects involved both experimental and theoretical studies. * Skills developed: Experiment design, Mathematical modelling, MATLAB programming * Projects: 1. Unusual Self-Assembly of Polyelectrolytes   2. Synthesis of Interpenetrating Polymer Network |
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| Jul’15 – Sep’16 | Business Data Analyst |
| *HSBC, Bangalore, India* |
| * Tasks: Develop automated reports from raw banking databases and perform statistical data analysis to identify regulatory anomalies in product sales * Skills developed: Statistical Analysis, VBA/MS Excel programming, Team management * Projects: Sales Suitability Regulatory Project, Non-Banking Financial Institution Transaction Analysis |
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| RESEARCH SKILLS & INTERESTS |  |

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| Research Interests  Characterization Skills  Software Skills | * Self-assembly, Interfacial Dynamics, Microemulsions * Nanostructured materials, Polymer Synthesis, Polyelectrolytes * Interfacial Tensiometry, SEM, DSC, FTIR, DLS, Rheometry, Osmometry, Microscopy, SANS * **Coding** : Python, MATLAB, C++, VBA, SAS, SQL * **Scientific**  : ImageJ, Surface Evolver * **Documentation** : Origin, LATEX, MS Office, OpenOffice |

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| ADDITIONAL INFORMATION |  |

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| IELTS - 2016 | CEFR Level | OVERALL BAND | Listening | Reading | SPEAKING | | WRITING |
| C1 | 8 | 8.5 | 8.5 | 7 | | 7 |
| GRE - 2017 | ToTAL | | VERBAL REASONING | QUANTITATIVE REASONING | | ANALYTICAL WRITING | |
| 326/340 | | 156/170 | 170/170 | | 4.5/6 | | |

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| Teaching Experience  Scholastic  Language skills  Extra-curricular | * Worked as a Teaching Assistant in two undergraduate courses, IIT-Bombay [2014-2015] * Student Exchange Program to Global Indian International School, Singapore [2009] * Selected for National Level Junior Science/Math Olympiad conducted by HBCSE [2006] * Elementary German Language Proficiency *(currently pursuing)* [2018] * Elementary Japanese Language Proficiency; completed 50 hrs module [2013] * 3rd position in National level Musical Band Event ’Mantra’ in Mood Indigo [2013] * 1st place in Keyboard competition in All-India Inter AEES youth festival [2007] |