Srivatsan Ramesh

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Summary

Diligent, persistent, and flexible Ph.D. student seeking an internship position in a material design, synthesis, and manufacturing environment beginning summer '20

Education

North Carolina State University, Raleigh, NC **CGPA-4.045/4.0**
Ph.D. in Chemical and Biomolecular Engineering *2017-Present*

Birla Institute of Technology and Science (BITS), Pilani, India **CGPA-4.0/4.0**
Bachelor of Engineering(Hons.), Chemical Engineering *2015*

Industry Experience

Royal Dutch Shell **Shell Technology Centre Bangalore, India**
Process Technologist *Aug 2015- June 2017*
Key Projects: Reactive Hazards Analysis of Alkylator Catalyst in Ethylbenzene Production Unit, Process Guide for PO Distillation Section, Proactive Technical Monitoring, Building and tuning the Aspen Model of PO Purification Section, Development Release of alternative catalyst for use in Alkylator section

Research Experience

Jan 2018 - present: **Self-repairing nonwovens using stimuli responsive hydrogels** (funded by the NWI)
Principal Investigators: Dr. Jan Genzer, Dr. Saad Khan, Dr. Stefano Menegatti, NCSU

- Working on synthesizing bio-mimetic smart fabrics that self-repair in the case of mechanical fracture mimicking the mechanism of blood clotting in the human body

Jan 2015 - June 2015: **Ceramic membrane testing for produced water treatment**, Royal Dutch Shell

- Optimized operating conditions of the pilot plant to attain repeatability and consistency of effective oil-water separation. Based on long term testing, cleaning strategies for the membranes were devised

Aug 2014 - Dec 2014: **Modelling Capacity Fade in Lithium Ion Batteries**

- Developed a kinetic model and anode dissolution model to successfully predict the model, rate constants for reaction across the SEI and energy of activation for various battery systems

Aug 2013 - Dec 2013: **Synthesis of Value Added bio-based filaments for 3D printing**

- Extensively conducted experiment work to synthesize bio-composites and bio-plastic formulations to be used as adhesives in tablets.

Publications

- Srivatsan Ramesh, K. Venkata Ratnam and Balaji Krishnamurthy, **An Empirical Rate Constant Based Model to Study Capacity Fading in Lithium Ion Batteries**, *International Journal of Electrochemistry*, (June 2015) doi:10.1155/2015/439015
- Srivatsan Ramesh and Balaji Krishnamurthy,**A Mathematical Model to Study Capacity Fading in Lithium Ion Batteries: Formation and Dissolution Reactions**, *Journal of the Electrochemical Society*, 162 (January 2015): A545-A552 doi: 10.1149/2.0221504jes

Skills

Skills: TEM, Rheology, Particle size analyzer, Fourier Transform Infrared Spectroscopy, H NMR Spectroscopy
Software Packages: Aspen Plus, MATLAB, AutoCAD, OSI PI ProcessBook, HSC Chemistry, LaTeX, Solidworks