Rishabh Shah

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EDUCATION

Master of Science in Materials Science & Engineering **May 2019**
University of Florida, Gainesville, FL
GPA: 3.44
Relevant Coursework: Synthesis & Characterization of Semiconductor Materials, Advanced Electronic Materials Processing, Survey of Materials Analysis Techniques, Diffusion Kinetics & Transport Phenomena, Energy Storage, Material Thermodynamics, Advanced Materials Principles, X-ray Methods for Materials Characterization

Bachelor of Engineering in Chemical Engineering **May 2017**
University of Mumbai, Mumbai, India
Relevant coursework: Process Dynamics & Control, Modelling, Simulation & Optimization, Process Engineering, Advanced Materials, Nanotechnology, Engineering Chemistry, Project Engineering & Entrepreneurship Management

TECHNICAL SKILLS

Programming: MATLAB, Microsoft Office, RStudio, SPC
Manufacturing/Fabrication: Design of Experiment (DOE) principles, Photolithography, Dry & Wet Etching, Reactive Ion Etching (RIE), PVD, APCVD, LPCVD, PECVD, ALD, RTP, CMP, Ion Implantation
Characterization: 4-point probe, C-V profiling, SEM, DSC, RC, FTIR

ACADEMIC PROJECTS

Semiconductor Device Fabrication Laboratory **August 2018 – December 2018**
Nanoscale Research Facility (NRF), University of Florida

- Fabricated MOS diodes and MEMS devices in a clean room using techniques such as thermal oxidation, etching, photolithography, sputtering, PECVD.
- Characterized P-N junction diodes & MEMS devices using techniques such as 4-point probe, C-V profiling, SEM.
- Analyzed properties of the photolithography process such as thickness of photoresist (AZ1512), soft bake time, exposure time and dosage, mask alignment and development time for generation of optimal patterns.
- Performed wet etching using BOE and doped the silicon wafer with phosphorus using SOG. Implemented wire bonding to interconnect the diode and its packaging.

Manufacture of Resorcinol **August 2016 – May 2017**
Department of Chemical Engineering, University of Mumbai

- Determined the most efficient and economic process based on factors such as cost and materials availability.
- Performed a HAZOP to identify potential hazards and operability problems that might occur during the process.

PROFESSIONAL EXPERIENCE

SABIC Innovative Plastics, Mount Vernon, Indiana **May 2018 – August 2018**
Technology Intern – Rheology and Thermal Characterization of Polymers

- Evaluated the UL 94 dripping behavior of various grades of commercially available polymers, such as ULTEM™ (polyetherimide) and LEXAN™ (polycarbonate) resins; as well as, developmental products.
- Measured the extensional viscosity of resins using an extensional viscosity fixture (EVF) on TA Instruments ARES-G2 rheometer to analyze the effect of branching.
- Delivered a rheological analysis report correlating the flame-resistant performance with the flow properties of specific polymer resins.
- Collaborated on an ongoing project – High Temperature Extensional Rheology of Linear, Branched and Hyper-Branched Polyetherimides, which resulted in a 20% improvement in the flow characteristics.

Anupam Rasayan India Limited, Surat **June 2016 – July 2016**
Process Engineering Intern

- Measured the glass transition temperature; as well as, the reaction enthalpy of different chemical compounds using a Differential Scanning Calorimeter (DSC) to examine crystallization and fusion reactions.
- Calculated the energy dissipation of reactions at laboratory scale using a Reaction Calorimeter (RC) to troubleshoot scalability and safety issues.

CERTIFICATIONS

- Coursera: Experimentation for Improvement; License No: U5WMBM3A8GB5 **February 2019 – Present**