

RAYEHE SAMIMI

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OBJECTIVES

Highly trained and experienced Chemical and Biochemical Engineer with strong organizational skill, self-motivated and proactive, ability to attention to details, multi-tasking, problem solving ability and team work who is eager working in a fast-paced and industrial environment

KEY EXPERTISE

- ❖ Experience in running analytical and mechanical tests using DMA, Instron, Rheological devices, maintain and calibrating them
- ❖ Experience in testing thermomechanical and physical properties of composites, plastics, thermosets and thermoplastics
- ❖ Experience in Carbon fiber and Fiberglass curing process and mold production
- ❖ Good knowledge in Gel coat applications
- ❖ Good knowledge in TGA, DSC and density tests
- ❖ Experience in designing experiments, method development and validation of analytical methods for composite industry and the troubleshooting process of them
- ❖ Good knowledge of interpreting experimental or analytical results, data analysis and statistics to gain the optimal condition

WORK AND RESEARCH EXPERIENCE

- ❖ **Research Assistant**, Western University, London, Ontario **2017-Present**

- Conducted literature reviews, laboratory experiments
- Set up ramping technique for oven curing procedure
- Studied and optimized different thermomechanical and physical parameters for carbon fiber-epoxy resin curing process and the related glass fiber parts of the rowing shell using design of experiment method (DOE)
- Compared and verified the results with documented controlled values
- Worked with several mechanical testing devices such as DMA, DSC, Instron
- Worked with thermal properties testing machines of polymers such as DSC, TGA
- Conducted maintenance, calibration and installation of laboratory equipment such as DMA, Instron based on the instructions

- ❖ **Master's project and training**, Hudson Boat works, London, Ontario **2018**

- ✓ **Research and development** (Using ASTM, ISO standards and patents improving mechanical testing of polymers and prepregs)

- ✓ **Leading several meetings with their production managers**

- ❖ **Teaching Assistant**, Western University, London, Ontario **2017-present**

Undergraduate course: Chemistry Labratory (Leaching process, Batch liquid-liquid extraction techniques, Radial and linear heat conduction and combined convection and radiation)

- Provided guidance and mentoring to 4th year students in using DMA instrument
- Lectured tutorials, supervised laboratory experiments

- ❖ **Internship**, Aptus, Tehran, Iran **2015**

- ✓ **Research and development** (implementing research projects in the related fields)

- ✓ **Participate in process of mechanical testing of the Glass fiber parts**

- ❖ Proctor at King's college and Western university **2017-present**

TECHNICAL SKILLS

- ❖ **Technical:** Thermal analysis such as Differential Thermal Analysis (DTA), Differential Scanning Calorimetry (DSC), Thermogravimetric analysis (TGA); Mechanical analysis such as Dynamic Mechanical Analysis (DMA), Instron (Tensile, Flexural and Compression testing), Hardness vickers testing; Electron Microscope such as SEM,TEM; Optical Microscopy; X-Ray Diffraction and Fluorescence (XRD), X-Ray Photoelectron Spectroscopy; Spectroscopy such as UV-visible and IR; Operating tension , bending and impact test machines; Spectroscopy such as Mass Spectroscopy (MS)

- ❖ **Computer:** Hysys, Aspen, LabView, GraphPad Prism, MiniTab, R, Microsoft Office, Turbo Pascal Programming Language, MATLAB, AutoCAD, ORIGIN, Adobe Photoshop

CERTIFICATIONS

Safe campus community, Workplace Hazardous Materials Information System (WHMIS) training, General laboratory safety & hazardous waste management, Accessibility at Western (AODA) – accessibility in service and teaching, Supervisor Health and safety awareness, Engineering Shop Training

EDUCATIONAL BACKGROUND

- ❖ **Western Ontario**, London, Canada
M.Sc. in Chemical and Biochemical Engineering **2019**
- ❖ **Sharif University of Technology**, Tehran, Iran
B.Sc. in Materials Science and Engineering **2016**

SELECTED PEER-REVIEWED ARTICLES AND PUBLICATIONS

- ❖ M.S Dissertation and research about “**Enhanced Carbon Fiber-Epoxy Composites for Rowing Racing Shells**” under supervision of Dr. P.A. Charpentier **2019**
- ❖ Poster presentation at **Interamerican congress of Chemical Engineering incorporating the 68th Canadian chemical engineering conference** at Toronto, ON, Canada **2018**
- ❖ **Rayehe Samimi**, Hamid Reza Madaah Hosseini, (in preparation) “ Photocatalytic Activity of Nano Composite Fibroin/Nanoparticulate Titanium dioxide” **2017**
- ❖ **Rayehe Samimi**, Narges Johari, Hamid Reza Madaah Hosseini, “ Evaluation of photocatalytic behavior of silk fibroin / TiO₂ nanocomposite “ **published in ICNS6 proceedings** (6th international conference on nanostructures), March 2016, Kish, Iran **2016**
- ❖ Academic Project of “**Scrutiny Numerous Methods of Thermal Analysis (TGA, TMA, DSC, DTA)**” under supervision of Dr. Asgari **2015**
- ❖ Academic project of “**Polymer based Drip Tape Irrigation devices**” under supervision of Dr. Pircheraghi **2014**
- ❖ Brief research on the title of “**Polymeric Structure of Natural Rubber and it’s usages** “under supervision of Dr. Pircheraghi **2014**
- ❖ Academic project of “**Properties and Chemistry of Materials**” using Turbo Pascal Programming Language under supervision of Dr. Talebi **2013**

AWARDS AND SCHOLARSHIP

- ❖ Western Graduate Research Scholarship (WGRS), Western University **2017-2019**
- ❖ Ontario Centres of Excellence (OCE)
- ❖ Placed **TOP 0.5%** among 400000 competitors in the Iranian national university entrance exam KONKOOR-E-SARASARI) **2011**
- ❖ Considered as Talented Student and rank 1st at High School and Pre-university **2011**

VOLUNTEER EXPERIENCES & COMMUNITY SERVICES

- ❖ Volunteering for the fall preview day at Western university **2018**
- ❖ Member of the Iranian International community at Western University **2017**
- ❖ Member of Environmental Caring Center in Sharif University of Technology and participating in “Banding the use of disposable plastic cups and replacing them with disposal paper cups called as green cups society” **2014**

REFRECS AVAILABLE UPON REQUESTED