

Shanée Watson

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Education

Massachusetts Institute of Technology

Cambridge, MA

Candidate for Bachelor of Science in Chemical & Biological Engineering and Biology

June 2010

GPA: 4.1/5.0

Relevant Coursework: Chemical Engineering Thermodynamics, Fluid Dynamics, Transport Processes, Kinetics & Reactor Design, Biochemistry, Cell Biology, Molecular Biology

Industrial Experience

Syntroleum Corporation

Tulsa, OK

Chemical Engineering Intern

June 2009-August 2009

- ❖ Drafted a Premanufacture Notice (PMN) for a novel renewable diesel fuel to be produced at North America's first renewable, synthetic fuels plant. Presented draft to two Senior Process Engineers and the Senior Vice President of Business Development. Filed PMN with the Environmental Protection Agency.
- ❖ Inspected the Off-Gas Compressor skid for synthetic fuels plant. Identified mistakes made in fabrication.
- ❖ Compiled available data and created a Total Installed Cost Analysis for the renewable, synthetic fuels plant, to be continued as more cost data becomes available.

Charlesson LLC

Oklahoma City, OK

Summer Intern June

2008-August 2008

- ❖ Optimized and standardized in-house nanoparticle formulation. Assessed nanoparticle size with Dynamic Light Scattering using a Particle Size Analyzer.
- ❖ Investigated limits of nanoparticle drug encapsulation with a patented small molecule.
- ❖ Presented progress and findings to Senior Scientists in biweekly meetings.

ICx Nomadics

Stillwater, OK

Science Team Summer Intern

June 2007-August 2007

- ❖ Evaluated the performance of the Fido XT Explosives Detection System and a prototype of an attachment for the Fido XT System using many different stimuli.
- ❖ Measured degradation over time of the proprietary amplifying fluorescence polymer for the Fido System.
- ❖ Demonstrated the detection capabilities of the Fido XT System to potential customers.

Research Experience

MIT Undergraduate Research Opportunities Program

Cambridge, MA

Electrospinning Nanofibers for Peripheral Neuron Regeneration

October 2009-Present

Principle Investigator: Dr. Robert Langer; Direct Supervisor: Nathaniel Vacanti

- ❖ Assist in the investigation of drug release from electrospun nanofibers. Measure the concentration of drug released over time.
- ❖ Assist in the preparation of nanofibers using electrospinning technique.

Skills

Laboratory: Bioreactor operation, *E. coli* cell culture, lyophilizer operation, PCR, western blotting, agarose gel electrophoresis, SDS-PAGE, restriction endonuclease digestion, protein purification, manipulation of *C. elegans*

Language: Beginning French

Computer: Matlab, Microsoft Office, Adobe Acrobat Standard, Aspen Plus 7.1

Leadership Activities

MIT Baptist Student Fellowship

September 2006-Present

Vice President

September 2007-May 2009

- ❖ Organized events for visiting high school seniors and incoming freshman.
- ❖ Promoted good communication within the group.

Babysitting@MIT

March 2006-Present

Babysitting Coordinator

September 2008-Present

- ❖ Coordinate and schedule child care services for a group of 6-10 undergraduate babysitters.
- ❖ Provide child care for children of all ages for MIT organizations requesting child care services.

Associate Advisor for First-Year Students

August 2007-May 2009

- ❖ Guided a group of four students during their first year at MIT. Assisted with choosing courses, selecting a major, and handling depression and anxiety issues.
- ❖ Organized group events, such as dinner off-campus and mid-semester progress meetings