LAUREN WAGGONER

(714) 651-5382 | lwaggone@eng.ucsd.edu | www.linkedin.com/in/lauren-waggoner

PROFILE

Skilled technical problem solver with a background in project management and consulting searching for an engaging position at a pioneer company in the biomedical and pharmaceutical fields.

EDUCATION

University of California, San Diego: Jacobs School of Engineering

Master of Science: Nanoengineering — June 2018
Bachelor of Science: Nanoengineering — June 2014
Graduate GPA: 3.95

RESEARCH EXPERIENCE

Ester Kwon's Lab | UCSD Bioengineering Department — April 2018 – Present
Graduate Student Volunteer
Study of Functionalized Nanoparticle Interactions with Brain Cells:

- Dynamic Light Scattering and Zeta Potential characterization methods.
- Tecan plate reader.
- Tissue culture of Neuro-2a cell lines.
- Chemical surface functionalization of fluorescent nanoparticles.

Nanoengineering Senior Capstone Projects | UCSD — January 2014 – June 2014
Study of the Efficacy of Silver Nanoparticles, Nanowires, and Branched Nanowires in Antifouling Applications:

- Applications in creating anti-bacterial thin film coverings for medical devices.
- Used Turkevich method to synthesize colloidal silver nanoparticles; polyol method used to synthesize silver nanowires; water-based method used to synthesize silver branched nanowires.
- Used UV-VIS spectroscopy, scanning electron microscopy, and bright/dark field microscopy to characterize the size and geometry of the silver nanostructures.
- Used UV-VIS spectroscopy to characterize e. Coli bacterial growth

Fabrication of a Dielectrophoresis Chip to Separate Nanoparticles by Size:

- Applications for creating filters that can separate particles and cells in biological fluids.
- Designed chip using AutoCAD. Simulated electric field on chip design using COMSOL. Applied the electric field with a function generator.
- Tested the chip's efficacy as a filter using fluorescence microscopy.

Fabrication of Piezoelectric Device with Zinc Oxide Nanowires:

- Applications for creating mechanical motors that can power electrical devices within the body.
- Used function generator for electrical characterization of piezoelectric devices.
- Hydrothermal synthesis of zinc oxide nanowires. Optical microscopy with polarization lenses.

Fabrication of a Surface Plasmon Resonance Sensor Using Colloidal Gold and Silver Thin Films:

- Applications for creating extremely sensitive biochemical sensors.
- Used Turkevich method to synthesize colloidal gold and silver nanoparticles.
- Used UV-VIS spectroscopy and bright/dark filed optical microscopy to characterize the size and geometry of nanoparticles. Used Langmuir-Blodgett trough to create thin film monolayers.

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RELEVANT EXPERIENCE

Kronos | Irvine, CA October 2014 - July 2017

Solution Consultant

- Implemented and configured software solutions individually and in teams for more than 60 clients.
- Managed projects end to end by facilitating sales to service process, assessing client needs, creating project roadmaps, and leading configuration and implementation.
- Conducted trainings for groups of up to 100 people on implemented software.
- Consulted on business process and software integration and functionality.
- Experienced in Agile and Waterfall Methodologies.

RELEVANT COURSEWORK

- Bioengineering Design
- Bioengineering Statistics
- Fluid Mechanics
- Engineering Mathematics Series
- General Chemistry Series
- Chemistry Lab
- Intermolecular and Surface Forces
- Biochemical Principles of Nanoengineering
- Optical Microscopy and Spectroscopy
- Thermodynamics of Materials
- Advanced Biophotonics
- Nanoengineering and Synthesis Techniques
- Nanoscale Characterization
- Nanosystems Integration
- Nanomanufacturing
- Physical Principles of Nanoengineering
- Modeling of Nanoscale Systems
- Fabrication of Nanoengineering Systems
- Nanoengineering Systems Design
- Mechanics of Nanomaterials
- Biomedical Imaging
- 2D Materials
- DNA Nanotechnology
- Nanomedicine

SKILLS

- Analytical problem solving.
- Experimental design.
- Laboratory research experience.
- Knowledge and practice of lab safety procedures.
- Project management.
- Public speaking and training.
- Works well in teams or individually.
- Data analysis.
- Process optimization and troubleshooting.
- Written and oral communication.