Dakota Seal

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Research Interests

I am a motivated, hardworking individual hoping to gain a deeper understanding about material science and its applications in various fields. Currently being employed by Micron, I have an interest in semiconductors and how to improve their efficiency but I also have a large interest in how material science and physics can be applied to renewable energy solutions.

Education

08/2014 – 05/2019 **Boise State University - Boise, ID**
Bachelor of Science in Applied Physics
Minor in Material Science and Applied Mathematics
Deans list with honors

Work Experience

11/2019 – Present **Metrology Engineer**, Micron - Boise, ID
- Assist Micron R&D teams by running silicon wafers and tests through proper fabrication process using knowledge of available tools and techniques.
- Statistically Analyze data using multiple reports to identify and recognize fabrication trends, and use these trends to predict future processes that can be improved upon.
- Find root cause solutions to area issues that are impacting overall fab performance and assist with resolution.
- Contribute to continuous safety, quality, and improvement efforts.
- Manage personal and assigned projects to better area quality.
- Occasionally work in clean room or electro-static discharge sensitive environment.
- Maintain strong working relationships with other groups to assure process alignment and maintain facility support.

07/2019 – 11/2019 **Water Resource Specialist I** , Idaho Power (Contracted)
- Participate in Idaho Power's cloud seeding program to provide additional water flow for hydroelectric projects.
- Perform field Work in teams with other resource specialists to ensure proper installation and execution of cloud seeding towers as well as other scientific instruments.
- Apply mechanical principles to manufacture needed resources and structures using shop equipment and mathematical skills.
- Install basic computer systems to towers and troubleshoot or modify AC/DC circuitry.
- Install and remove systems involving chemical solutions and gases. Monitor and regulate said systems to be at the correct pressures to ensure proper flow rates.
- Prioritize cost saving in day to day operations by ensuring maximum efficiency for travel between cloud seeding sights.
- Regularly lift over 50 pounds and scale towers upwards of 30ft.

10/2018 – 07/2019 **IT Client Services Intern**, Boise School District
- Diagnose and troubleshoot technical problems relating to computers, monitors, printers, projectors, and mobile devices.
- Install and set up technical devices for clients paying attention to specific configuration requirements.
- Utilize customer service and communication skills to communicate issues and resolutions with teachers and clients.
- Determine replacement, repair, or re-imaging of old or broken devices to assist in cost saving strategies and utilize resources appropriately.
- Collaborate with other IT specialists to troubleshoot and resolve technical problems and tasks.

— More work experience available upon request —

Research and Teaching Experience

05/2018 – 09/2018 **Tensile-strained Quantum Dots by MBE - Research**
Boise State University - Mentored by Dr. Paul Simmonds and Team
- Assist in the synthesis of tensile-strained quantum dots using molecular beam epitaxy technology.
- Gather and analyze experimental data using imaging methods such as atomic force microscopy.
- Present new findings in weekly meetings as well as report any essential data.
- Learn about the experimental setup, methodology, and applications of self assembled (111)-oriented tensile strained quantum dots by molecular beam epitaxy

08/2017 – 05/2019 **Adjunct Physics Lab Instructor**, Boise State University
- Instruct university level introductory physics with and without calculus (course number 211 and 111 respectively) to ensure students fully understand the fundamentals of physics.
- Lecture and demonstrate concepts such as kinematics, particle dynamics, statistics, energy, work, momentum and other classical concepts.
- Aid in the setup, use, dismantling,and organization of lab equipment.
- Utilize data recording software such as logger-pro and excel to obtain and analyze experimental data.
- Assist students with lab practices or questions regarding any physics concepts that may be hard to understand or apply.
- Assign and grade homework questions as well as comprehensive lab report write ups.

Skills

-Python	-Initiating Action	-OSHA/Safety Awareness
-MATLAB	-Analog/Digital Electronics	-Power Tools/Equipment
-LaTeX	-Communication	-Report Writing
-HTML5	-Adaptability	-Six Sigma
-Troubleshooting	-Problem-solving	-Innovation
-Data Collection/Analyzation	-Decision Making	-Work and Time Management
-Organization	-Microsoft Suite	-Collaboration

Relevant Coursework

Physics:
-PHYS 423 Physical Methods of Material Characterization
-PHYS 415 Solid State Physics
-PHYS 309/L Introductory Quantum Physics
-PHYS 432 Thermal Physics

Material Science:
-MSE 245/L Intro Materials Science & Eng
-MSE 308 Thermodynamics of Materials
-MSE 246 Materials for Society

Computing:
-MATH 365 Intro to Computational Math
-PHYS 325 Scientific Computing
-CS 111 Intro to Programming

Extracurricular Activities

I'm an individual with an interest in science, technology, and engineering but when I have free time I mostly spend it outdoors or trying to be active. I enjoy backpacking trips, running, bicycling, or riding my motorcycle during the summer. During the winter I am an avid skier and enjoy indoor rock climbing. When I am not out and about I try to keep myself busy with hobbies like playing guitar, building cribbage boards, or tinkering with amateur science projects (I've built cloud chambers, homemade rockets and fireworks, metal melters, and more).