



Contact

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613-923-2655

Kingston, ON

Education

Queen's University 2023

**Master's Candidate in Optical Materials
Specializing in Plasmonic Polarization
Conversion**

- Led projects on **Plasmonic Polarization Conversion**, enhancing understanding in optical materials.
- Excelled in **optics lab environments**, using state-of-the-art instruments and techniques.
- Developed novel methods in polarization, contributing to the field of **optical engineering**.

Queen's University 2019

B.Sc. Honours, Mathematical Physics

- Excelled in **mathematical modeling** and **quantitative analysis**, foundational for precision in optical engineering.
- Led research initiatives focused on **wave optics** and **light-matter interaction**, aligning with key principles in optical design.
- Demonstrated strong **problem-solving skills** in complex scenarios, essential for innovative solutions in **optical lab research**.

Expertise

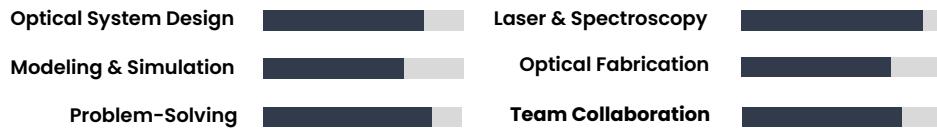
- Nd:YAG and Argon Gas Laser Operation
- Atomic Force Microscope Utilization
- CCD Spectrometer Expertise
- Polarimetric Analysis Proficiency
- Interference Lithography for Nanostructuring
- Python and Matlab Computational Modeling

Eoin Dawson

Optical Design Engineer

Dynamic and innovative Optical Design Engineer with a Master's degree in Optical Materials and extensive experience in optical lab environments. Proven expertise in plasmonic polarization conversion, laser operation, and nanostructured surface inscription. Strong background in mathematical frameworks of polarization, surface physics, and diffraction theory. Eager to contribute to a progressive lab environment as a key collaborator and team player.

Expertise and Skills



Experience

○ Masters Candidate Queen's University Kingston ON 2023

Optical Materials; Plasmonic Polarization Conversion

- Optics Lab Expertise:** Excelled in **optical instrument operation** (e.g., Nd:YAG Lasers, Atomic Force Microscopes), enhancing research precision.
- Innovative Fabrication:** Advanced **thin film technology** via **interference lithography**, boosting fabrication quality.
- Computational Modeling:** Proficient in **Python** and **Matlab** for optical simulations, improving system design accuracy.
- Optical Physics Theorist:** Strong in **polarization theory** and **Surface Plasmon Resonance**, applying complex concepts to lab projects.

○ Queen's University Kingston ON 2019 - 2022

Teaching Assistant

- Enhanced Student Learning:** Significantly improved student performance in Mathematical Physics through **innovative teaching methods**.
- Leadership in Academics:** Led group projects effectively, fostering **critical thinking** and **collaborative skills** among students.
- Curriculum Innovation:** Developed and updated course materials, aligning with the latest scientific developments.

○ Queen's University Kingston ON 2018

Optical Lab Researcher

- Advanced Research Execution:** Led **cutting-edge optical experiments**, significantly advancing **lab capabilities**.
- Laser Proficiency:** Mastered **Nd:YAG** and **Argon Gas lasers**, enhancing experiment accuracy.
- Instrument Expertise:** Operated **Atomic Force Microscope** and **CCD Spectrometers** for critical data acquisition.
- Innovative Thin Film Techniques:** Pioneered **spin coating methods** for **nanostructured surfaces**, setting new lab standards.

○ SPARQ Systems, Kingston ON 2015

Research & Development Assistant

- System Optimization:** Key role in **troubleshooting** and **enhancing optical systems**.
- Technical Proficiency:** Applied **Gaussian optics** and **laser knowledge** to improve system performance.
- Project Management:** Streamlined workflows for **enhanced project efficiency**.