



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

Optical System Design	<div><div></div></div>	Laser & Spectroscopy	<div><div></div></div>
Modeling & Simulation	<div><div></div></div>	Optical Fabrication	<div><div></div></div>
Problem-Solving	<div><div></div></div>	Team Collaboration	<div><div></div></div>

Experience

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

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**.