

# PROFESSIONAL SCIENCE MASTER'S IN NATURAL SCIENCES, MICROSCOPE IMAGING TECHNOLOGY SPECIALIZATION

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The Professional Science Master's (PSM) in Natural Sciences, Microscope Imaging Technology Specialization program prepares graduate students for employment as microscopists or managers of light microscope cores in academic, government or private sector businesses, or in research laboratories. Students gain the scientific, business, and communication skills required to be competitive for management jobs in these positions. Students learn how to analyze images, automate data collection and analysis, deal with large data sets, and interface between bioscientists and engineers for experimental design, selecting the optimal imaging system, and in data acquisition and interpretation. Students also obtain skills for business management and operation.

The PSM in Natural Sciences, Microscope Imaging Technology Specialization is an affiliated Professional Science Master's (PSM) degree. Affiliation is administered by the Commission on Affiliation of PSM Programs (<https://www.professionalsciencemasters.org/>) (formerly named PSM National Office) to ensure a strong and distinctive PSM brand. The PSM is designed for students who are seeking a graduate degree in science or mathematics and understand the need for developing workplace skills valued by top employers.

Students interested in graduate work should refer to the Graduate and Professional Bulletin (<http://catalog.colostate.edu/general-catalog/graduate-bulletin/>).

## Learning Objectives

Upon successful completion of this program, students will be able to understand:

1. The basic principles of light and its detection.
2. Engineering principles of optical design and imaging systems.
3. Molecular and cell biological methods for making/expressing tagged molecules.
4. Operation and applications of various microscope systems.
5. Acquisition, automation, data storage, and analysis of imaging data.
6. How to integrate this knowledge and communicate in a business setting.