IMAGING SCIENCE IS MORE THAN MEETS THE EYE
CREATE SYSTEMS THAT CAPTURE, ANALYZE, AND OPTIMIZE IMAGES

At the Chester F. Carlson Center for Imaging Science you will explore systems that answer fundamental scientific questions, monitor our environment, aid in medical research, contribute to safety and security, and provide access to information at our fingertips.

In your first year, you begin with the Innovative Freshman Experience, designing and building a fully-functional non-conventional imaging system with other first-year students. Collaborating as a team using the resources of RIT and beyond, you and your classmates will manage a project from basic concept through multiple design reviews, finishing with a demonstration for thousands at the annual Imagine RIT Innovation+Creativity Festival.

As a senior, you will complete a research project investigating an imaging science problem of interest to you. Through this experience, as well as specialized courses such as geometrical and physical optics, vision and psychophysics, fundamentals of color science, image processing and computer vision, imaging detectors, imaging systems analysis, and an elective track of your choosing, you’ll develop an end-to-end understanding of imaging systems and the skills for success beyond graduation.

KEY FEATURES

- Multidisciplinary Science
  Imaging science is a multidisciplinary field for students with an interest in applying math, physics, computing, and imaging to increase our understanding of the world.

- Hands-On Experience
  Research projects and classroom experiences focus on real-world applications and are mentored and taught by faculty who are active in research and consulting.

- Learn and Earn
  Imaging science students offset their expenses through program-specific scholarships, undergraduate research positions, NSF-funded research experiences for undergraduates, and cooperative education.

- Research Environment
  Teams of undergraduate and graduate students, faculty and research scientists, share specialized labs and equipment in diverse aspects of imaging science from LiDAR for remote sensing to wearable eye trackers for vision research.

- Job Placement
  RIT imaging science graduates enjoy a 99 percent placement rate. Students find specialized work designing, building, testing, and producing imaging hardware and software for a broad range of commercial and government agencies. BS graduates typically earn more than $70,000.

Learn more at cis.rit.edu
UNDERGRADUATE PROGRAM IN IMAGING SCIENCE

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FULBRIGHT SCHOLAR
Rose Rustowicz from Amherst, New York, is a 2015 graduate of the BS in imaging science program. She was awarded a Fulbright Fellowship to work with a University of Iceland research team to conduct remote sensing of the Hekla volcano.

“I was looking for something different. Imaging Science sounded like the perfect blend of math, science, and engineering, but with more of a focus on the science aspect – perfect for my interests.”

Rose studied abroad in New Zealand, participated in co-op at Ball Aerospace, and as a member of a team of sophomores, funded by a Carlson Center for Imaging Science micro-grant, designed and demonstrated a “3-D Volumetric Display” at Imagine RIT, winning the “Most Innovative Exhibit,” award sponsored by Paychex.

PROJECT EXAMPLES

INNOVATIVE FRESHMAN EXPERIENCE
• Tracking the Hands to Unlock Secrets of the Mind
• Solving Ancient Mysteries with Thermal Imaging
• Video at the Speed of Light (image on front)
• Intelligent Telepresence: Immersive Living Room Capture System
• “X-Ray Vision” with a Multi-Camera Array
• 3D Imaging for Medical Applications
• Interactive Digital Images: The Dome (image above)

SENIOR RESEARCH
• Calibration of Unmanned Aerial System (UAS) Imagery
• Thermal Sensors in Ground Based Fire Research
• Fabrication and Development of an Economic Ground Scanning LiDAR
• Analysis of Spectral Properties of Granular Materials Using the Goniometer at RIT (GRIT)
• Remotely Accessible Microscope for Imaging Biological Samples
• Colorimetric Analysis Using Mobile Devices
• Low-cost Multispectral Imaging System for Imaging Historic Documents
• Gaps in Circumstellar Disks Formed by Planets
• Convolutional Neural Networks for Gaze Redirection