General University Information

President: Joel Seligman
Dean of Graduate School: Margaret Kearney
University website: http://www.rochester.edu
Control: Private
Setting: Suburban
Total Faculty: 1,329
Total Graduate Faculty: Not separated.
Total number of Students: 6,046
Total number of Graduate Students: 3,424

Department Information
Department Chairman: Prof. Xi-Cheng Zhang, Chair
Department Contact: Kari Brick, Graduate Program Coordinator
Total full-time faculty: 20
Total number of full-time equivalent positions: 20
Full-Time Graduate Students: 116
First-Year Graduate Students: 42
Female First-Year Students: 10
Total Post Doctorates: 5

Department Address
The Institute of Optics, University of Rochester
275 Hutchison Road
Rochester, NY 14627
Phone: (585) 275-7720
Fax: (585) 276-1451
E-mail: gradadmissions@optics.rochester.edu
Website: http://www.optics.rochester.edu

ADMISSIONS

Admission Contact Information
Address admission inquiries to: Kari Brick, Graduate Coordinator, Optics Graduate Admissions Committee, University of Rochester, PO Box 270186, Rochester, NY 14627-0186.
Phone: (585) 275-7720
E-mail: gradadmissions@optics.rochester.edu
Admissions website: http://www.optics.rochester.edu

Application deadlines
Fall admission:
U.S. students: January 15
Int'l. students: January 15

Application fee
U.S. students: $60
Int'l. students: $60

Admissions information
For Fall of 2016:
Number of applicants: 294
Number admitted: 130
Number enrolled: 53

Admission requirements
Bachelor’s degree requirements: Bachelor’s degree in Physics or engineering is required.
Minimum undergraduate GPA: 3.0

GRE requirements
The GRE is required.
Mean GRE score range (25th–75th percentile): 1260-1420
The GRE is required for Ph.D. applicants and recommended for M.S. applicants.

Advanced GRE requirements
The Advanced GRE is not required.

TOEFL requirements
The TOEFL exam is required for students from non-English-speaking countries.
PBT score: 620
iBT score: 105

Other admissions information
Additional requirements: The average GPA for admitted M.S. students is 3.4/4.0. The average GPA for admitted Ph.D. students is 3.7/4.0. The average GRE scores for admitted students are 80th percentile in all categories.
The minimum accepted computer-based TOEFL score is 260.
IELTS is also accepted with a minimum score of 7.2.

TUITION

Tuition year 2016 - 2017:
Full-time students: $49,236 annual
Tuition is waived for Ph.D. students.
Credit hours per semester to be considered full-time: 12
Deferred tuition plan: Yes
Health insurance: Available at the cost of $2,460 per year.
Academic term: Semester
Number of first-year students who received full tuition waivers: 17
Number of first-year students who received partial tuition waivers: 34

Teaching Assistants, Research Assistants,
and Fellowships
Number of first-year
Teaching Assistants: 15
Fellowship students: 16

Average stipend per academic year
Teaching Assistant: $2,500
Research Assistant: $30,000
Fellowship student: $32,000
Ph.D. students perform TA duties during their second year in the program.

FINANCIAL AID

Loans
Loans are available for U.S. students.
Loans are not available for international students.
GAPSFA application required: No
FAFSA application required: Yes

For further information
Address financial aid inquiries to: Financial Aid Office.
Phone: (585) 275-3226
E-mail: elisabeth.carosa@rochester.edu
Financial aid website: http://www.enrollment.rochester.edu/financial

HOUSING

Availability of on-campus housing
Single students: Yes
Married students: Yes
New York U. of Rochester, Optics

For further information
Address housing inquiries to: University Apartments Office, 1351 Mt. Hope Avenue, Rochester, NY 14620.
Phone: (585) 275-5824
E-mail: uapts@reslife.rochester.edu
Housing aid website: http://www.rochester.edu/reslife

Table A—Faculty, Enrollments, and Degrees Granted

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>2015-2016 Faculty</th>
<th>Enroll Fall 2017</th>
<th>Number of Degrees Granted 2015-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optics</td>
<td>29</td>
<td>47</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Master’s</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Doctorate</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Terminal Master’s</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Doctorate</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>47</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Full-time Grad. Stud.</td>
<td>–</td>
<td>49</td>
<td>91</td>
</tr>
<tr>
<td>First-year Grad. Stud.</td>
<td>–</td>
<td>33</td>
<td>16</td>
</tr>
</tbody>
</table>

GRADUATE DEGREE REQUIREMENTS

Master’s: M.S. degrees require 30 hours of coursework, including 16 hours of required core courses. The M.S. degrees are normally completed in 9-12 months. A thesis-based M.S. degree is normally completed in 18-24 months. There are no residence or foreign language requirements. In a co-op program, students take the first semester of courses, work full-time for 12 months, and then return to campus for the final semester of classes.

Doctorate: General requirements: one year of full-time residence, 90 hours of graduate work (60 hours beyond the M.S.), two semesters of teaching assistantship, successful completion of a written preliminary examination and an oral qualifying examination, and completion and defense of a doctoral dissertation. There is no language requirement.

Thesis: Thesis may not be written in absentia.

SPECIAL EQUIPMENT, FACILITIES, OR PROGRAMS

Instruction is offered in optical instrumentation and design, quantum optics and electronics, laser engineering, optics of thin films, electro-optics, holography, interferometry, and most other areas of optical physics and engineering. Well-equipped laboratories allow student thesis research in such areas as ultrahigh-resolution dye laser spectroscopy, semiconductor lasers, optical physics, nonlinear optics, optical communications, fiber optics, imaging, nonlinear optics, diffractive optics, gradient index optics, interferometry, image processing, optical materials, and high-power laser physics. In addition to extensive facilities within the Institute, thesis research may be carried out at the Laboratory for Laser Energetics, the School of Medicine and Dentistry, and the Center for Visual Science. Joint projects applying optical techniques in all of these areas are currently under way.

Table B—Separately Budgeted Research Expenditures by Source of Support

<table>
<thead>
<tr>
<th>Source of Support</th>
<th>Departmental Research</th>
<th>Physics-related Research</th>
<th>Outside Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal government</td>
<td>$3,982,395</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State/local government</td>
<td>$243,153</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-profit organizations</td>
<td>$728,569</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business and industry</td>
<td>$3,124,260</td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
<td>$71,925</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$8,150,302</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Knox, Wayne, Ph.D., University of Rochester, 1983. Professor of Physics; Senior Scientist at the Laboratory for Laser Energetics. Ultrafast science and technology; telecommunications; optoelectronics.

Krauss, Todd, Ph.D., Cornell University, 1998. Chair and Professor, Department of Chemistry. *Chemical Physics, Nano Science and Technology, Optics.* Nanoscale materials and devices.


Stroud, Carlos R., Ph.D., Washington University, St. Louis, 1969. Professor of Physics. *Atomic, Molecular, & Optical Physics, Optics.* Quantum optics; short-pulse excitation of atoms and molecules.

Wicks, Gary, Ph.D., Cornell University, 1981. *Nano Science and Technology, Optics.* III–V semiconductors-epitaxial growth; optical properties; optical devices.

Associate Professor

Alonso, Miguel, Ph.D., University of Rochester, 1996. Chair, Graduate Admissions Committee. *Applied Mathematics, Optics.* Mathematical models for wave propagation; theory of partial coherence; connection between the ray and wave models.

Bentley, Julie, Ph.D., University of Rochester, 1995. *Optics.* Lens design.

Berger, Andrew, Ph.D., Massachusetts Institute of Technology. Associate Professor of Biomedical Engineering. *Medical, Health Physics, Optics.* Biomedical optics; Raman spectroscopy; optical analysis of blood and tissue.


Yoon, Geunyoung, Ph.D., Osaka University. *Medical, Health Physics, Optics.* Biomedical and visual optics; adaptive optics.

Zavislanski, James, Ph.D., University of Rochester, 1988. Associate Dean for Education and New Initiatives; Associate Professor of Biomedical Engineering; Associate Professor of Dermatology; Associate Professor of Ophthalmology. *Medical, Health Physics, Optics.* Optical engineering; medical optical instrumentation.

Assistant Professor

Ellis, Jonathan D., Ph.D., Delft University of Technology, 2010. Assistant Professor of Mechanical Engineering. *Optics.* High-precision optical metrology.

Lin, Qiang, Ph.D., University of Rochester, 2006. Assistant Professor of Electrical and Computer Engineering. *Electrical Engineering, Nano Science and Technology, Optics.* Nonlinear optics; quantum optics; nanoscopic photonic structures.

Vamivakas, Nick, Ph.D., Boston University, 2007. Assistant Professor of Quantum Physics. *Atomic, Molecular, & Optical Physics, Nano Science and Technology, Optics.* Solid-state quantum optics and information science; nanoscale optics-based sensing.

Research Associate Professor


DEPARTMENTAL RESEARCH SPECIALTIES AND STAFF

Theoretical


Experimental


View additional information about this department at www.gradschoolshopper.com