GENERAL UNIVERSITY INFORMATION
President: Dennis Assanis
Dean of Graduate School: Ann Ardis
University website: http://www.udel.edu
Control: Public
Setting: Suburban
Total Faculty: 1,207
Total number of Students: 22,852
Total number of Graduate Students: 3,752

DEPARTMENT INFORMATION
Department Chairman: Prof. Edmund Nowak, Chair
Department Contact: Maura Perkins, Academic Support Coordinator
Total full-time faculty: 35
Total number of full-time equivalent positions: 33
Full-Time Graduate Students: 77
First-Year Graduate Students: 15
Female First-Year Students: 3
Total Post Doctorates: 12

ADMISSIONS
Address admission inquiries to: Chair of Graduate Admissions Committee
Phone: (302) 831-1995
Fax: (302) 831-1637
E-mail: physics@physics.udel.edu
Website: http://web.physics.udel.edu

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

Application fee
U.S. students: $75  Int'l. students: $75

Admissions information
For Fall of 2016:
Number of applicants: 99
Number admitted: 38
Number enrolled: 15

Admission requirements
Bachelor's degree requirements: Admission to either the M.S. or Ph.D. program requires a Bachelor's degree in Physics or a closely related field.
Minimum undergraduate GPA: 3.2

GRE requirements
The GRE is required.
Quantitative score: 160
Mean GRE score range (25th–75th percentile): 313-326
GRE scores are on new scale

Advanced GRE requirements
The Advanced GRE is required.
Minimum accepted Advanced GRE score: 650
Mean Advanced GRE score range (25th–75th percentile): 670-850

TOEFL requirements
The TOEFL exam is required for students from non-English-speaking countries.
PBT score: 600
iBT score: 100
IELTS score of 7.0 is acceptable in place of TOEFL.

Other admissions information
Additional requirements: Advanced GRE score expected for financial aid consideration.
Undergraduate preparation assumed: Electricity and Magnetism, Classical Mechanics, Quantum Mechanics, Thermodynamics.

TUITION
Tuition year 2016–17:
Tuition for in-state residents
Full-time students: $15,480 per semester
Part-time students: $1,720 per credit
Tuition for out-of-state residents
Full-time students: $15,480 per semester
Part-time students: $1,720 per credit
Teaching and Research Assistant tuition is waived.
Credit hours per semester to be considered full-time: 6
Deferred tuition plan: Yes
Health insurance: Available at the cost of $200 per year.
Other academic fees: $454 (Health Service) per year.
Academic term: Semester
Number of first-year students who received full tuition waivers: 14

Teaching Assistants, Research Assistants, and Fellowships
Number of first-year
Teaching Assistants: 14
Average stipend per academic year
Teaching Assistant: $26,800
Research Assistant: $26,800

FINANCIAL AID
Application deadlines
Fall admission:
U.S. students: February 15  Int'l. students: February 15

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

For further information
Address financial aid inquiries to: Chair Graduate Admissions Committee
E-mail: physics@physics.udel.edu
U. of Delaware, Phys. & Astr.

**HOUSING**

**Availability of on-campus housing**

_Single students:_ Yes

_Married students:_ Yes

_For further information_


_Phone:_ 302-831-4663

_E-mail:_ reslife-housing@udel.edu

_Housing aid website:_ http://www1.udel.edu/reslife/resources/students/grad.html

**Table A—Faculty, Enrollments, and Degrees Granted**

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>2016–2017 Faculty</th>
<th>Enrollments</th>
<th>Number of Degrees Granted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2016-17 Fall</td>
<td>2015-2016</td>
<td></td>
</tr>
<tr>
<td>Master’s</td>
<td>Doctorate</td>
<td>Terminal</td>
<td>Doctorate</td>
</tr>
<tr>
<td>Astrophysics</td>
<td>8</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Physics, Cosmic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics, Condensed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>4</td>
<td>6</td>
<td>–</td>
</tr>
<tr>
<td>Atomic, Molecular, &amp; Optical Physics</td>
<td>7</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Biophysics</td>
<td>1</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Condensed Matter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condensed Matter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condensed Matter</td>
<td>9</td>
<td>27</td>
<td>1(3)</td>
</tr>
<tr>
<td>Condensed Matter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condensed Matter</td>
<td>6</td>
<td>8</td>
<td>–</td>
</tr>
<tr>
<td>Non-specialized</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-specialized</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total**

| Full-time Grad. Stud. | 35 | 84 | 2(7) | 1(12) | 13(40) |
| First-year Grad. Stud. | – | 84 | – | – | – |

**GRADUATE DEGREE REQUIREMENTS**

_Master’s:_ Twenty-four credit hours of classroom courses plus six credits of M.S. thesis. Thirty credit hours for M.S. without thesis.

_Doctorate:_ Thirty credit hours of classroom courses, passing the Ph.D. written and oral candidacy exam, Ph.D. thesis. Students entering the program with a Master’s degree may follow the Ph.D. fast track which has a reduced course requirement of 12 credit hours.

_Thesis:_ Thesis may be written in absentia.

**SPECIAL EQUIPMENT, FACILITIES, OR PROGRAMS**

The Department of Physics and Astronomy is housed in Sharp Laboratory, which has its own library, machine and electronics shops, as well as research and teaching laboratories, classrooms, and office space. The condensed matter and material science programs have in house scanning and transmission microscopes, a variety of magnetometers, X-ray diffractometers, differential scanning calorimeters, thin-film deposition systems and cryogenic facilities, and make use of accelerator based facilities for X-ray and neutron scattering. The atomic and molecular physics laboratories include femtosecond and high-power pulsed lasers for non-linear optical studies and high resolution multiphoton spectroscopy. The astro-particle physics programs include high-altitude balloon flights and high-energy cosmic ray and neutrino experiments in Antarctica (ICECUBE and Anita). Space physics programs maintain a world-wide network of neutron monitors and are involved with MMS, the Magnetosphere Multiscale mission, and multispacecraft missions such as Cluster-2, to study the magnetosphere and the solar wind. Opportunities are available for participation in several NASA missions: ACE, The Spitzer infrared telescope, the Chandra X-ray satellite and the Hubble Space Telescope. UD is the lead institution for the Whole Earth Telescope (WET). Further programs on campus are the Institute for Energy Conversion and the Center for Composite Materials.

**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 Outside Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal government</td>
<td>$4,221,008.49</td>
<td></td>
</tr>
<tr>
<td>State/local government</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-profit organizations</td>
<td>$14,444.46</td>
<td></td>
</tr>
<tr>
<td>Business and industry</td>
<td>$989,153.47</td>
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</tr>
<tr>
<td>Other</td>
<td>$797,170</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$5,901,776.42</td>
<td></td>
</tr>
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</table>

**Table C—Separately Budgeted Research Expenditures by Research Specialty**

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>No. of Grants</th>
<th>Expenditures ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Astrophysics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astronomy</td>
<td>6</td>
<td>$127,931.01</td>
</tr>
<tr>
<td>Astrophysics</td>
<td>12</td>
<td>$712,449.77</td>
</tr>
<tr>
<td><strong>Atmosphere, Space Physics, Cosmic Rays</strong></td>
<td>18</td>
<td>$1,432,158.11</td>
</tr>
<tr>
<td><strong>Atomic, Molecular, &amp; Optical Physics</strong></td>
<td>17</td>
<td>$1,061,320.03</td>
</tr>
<tr>
<td>Condensed Matter</td>
<td>21</td>
<td>$1,538,841.58</td>
</tr>
<tr>
<td>High Energy Physics</td>
<td>3</td>
<td>$311,064.61</td>
</tr>
<tr>
<td>Condensed Matter</td>
<td>6</td>
<td>$718,011.31</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>83</td>
<td>$5,901,776.42</td>
</tr>
</tbody>
</table>

**FACULTY**

_Professor_


_Chiu_, Siu-Tat, Ph.D., Princeton University, 1972. _Condensed Matter Physics_. Theoretical condensed matter physics; low-dimensional and amorphous materials; nanomagnetism.

_Evenson_, Paul A., Ph.D., University of Chicago, 1972. _Atmosphere, Space Physics, Cosmic Rays_. Space physics; solar and cosmic-ray studies.

_Gaisser_, Thomas K., Ph.D., Brown University, 1967. _Particles and Fields_. Particle astrophysics; neutrino astronomy.

_Gizis_, John, Ph.D., California Institute of Technology, 1998. _Astrophysics_. Astronomy; subdwarfs; brown dwarfs.

_Hadjipanayis_, George C., Ph.D., University of Manitoba, 1979. _Condensed Matter Physics_. Experimental condensed matter and materials physics; magnetism; nanocrystalline materials.

_MacDonald_, James, Ph.D., University of Cambridge, 1979. _Astrophysics_. Astronomy and astrophysics; white dwarfs; cataclysmic variables.

_Matthaeus_, William H., Ph.D., College of William and Mary, 1979. _Astrophysics, Atmosphere, Space Physics, Cosmic Rays_. Space physics; plasma physics; turbulence theory; computational physics.

_Mullan_, Dermott J., Ph.D., University of Maryland, 1969. _Astrophysics_. Astronomy; solar and stellar physics.

_Nikolic_, Branimir, Ph.D., Stony Brook University, 2000. Graduate Program Director. _Condensed Matter Physics_. Theoretical and computational condensed matter physics; nonequilibrium many-body theory; quantum transport; spintronics; nanoelectronics; thermoelectrics.
United States: Geographic Listing of Graduate Programs

Delaware


Owocki, Stanley P., Ph.D., University of Colorado, 1982. Astrophysics. Computational astrophysics; stellar winds; stellar magnetospheres.

Safronova, Marianna, Ph.D., University of Notre Dame, 2001. Atomic, Molecular, & Optical Physics. Quantum computing with neutral atoms; Rydberg atoms.

Seckel, David, Ph.D., University of Washington, 1983. Particles and Fields. Particle astrophysics; cosmology.


Walker, Barry, Ph.D., Stony Brook University, 1996. Atomic, Molecular, & Optical Physics. Light-matter interactions; optical physics.


Associate Professor


Assistant Professor


DEPARTMENTAL RESEARCH SPECIALTIES AND STAFF

Theoretical

Astrophysics. Dodson-Robinson, MacDonald, Matthaeus, Mulian, Owocki, Shay.

Atmosphere, Space Physics, Cosmic Rays. Gaisser, Matthaeus, Seckel, Shay, Stanev.

Atomic, Molecular, & Optical Physics. Lyman, Morgan, Safronova, Szalewicz, Walker.

Biophysics. Lyman.

Condensed Matter Physics. Chui, Nikolic.

Particles and Fields. Barr, Gaisser, Seckel, Shafi, Stanev.

Experimental

Astrophysics. Gizis, Holder, Petit, Provencal, Shipman.

Atmosphere, Space Physics, Cosmic Rays. Evenson, Gaisser, Holder, Maruca.

Atomic, Molecular, & Optical Physics. DeCamp, Gundlach, Walker.


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