UNIVERSITY OF TEXAS, DALLAS
PHYSICS DEPARTMENT
Richardson, Texas 75080-3021
http://www.utdallas.edu/physics/

General University Information
President: David E. Daniel
Dean of Graduate School: Austin J. Cunningham
University website: http://www.utdallas.edu/
Control: Public
Setting: Suburban
Total Faculty: 1,071
Total Graduate Faculty: 582
Total number of Students: 21,193
Total number of Graduate Students: 7,804

Department Information
Department Chairman: Robert Glosser, Head
Department Contact: Barbara Burbey, Graduate Support Assistant; Mail Station PHY 36
Total full-time faculty: 24
Total number of full-time equivalent positions: 24
Full-Time Graduate Students: 54
First-Year Graduate Students: 16
Female First-Year Students: 1
Total Post Doctorates: 6

Department Address
800 West Campbell Road
PHY 36
Richardson, TX 75080-3021
Phone: (972) 883-2835
Fax: (972) 883-2843
E-mail: bburbey@utdallas.edu
Website: http://www.utdallas.edu/physics/

ADMISSIONS

Admission Contact Information
Address admission inquiries to: Barbara Burbey, Graduate Support Assistant
Phone: (972) 883-2835
E-mail: bburbey@utdallas.edu
Admissions website: http://www.utdallas.edu/dept/physics

Application deadlines
Fall admission:
U.S. students: August 1
Int’l. students: May 1
Spring admission:
U.S. students: November 1
Int’l. students: September 1

Application fee
U.S. students: $50
Int’l. students: $100

Admissions information
For Fall of 2014:
Number of applicants: 76
Number admitted: 21
Number enrolled: 11

Admission requirements
Bachelor’s degree requirements: Bachelor’s degree in physics or a related field is required.
Minimum undergraduate GPA: 3.0

GRE requirements
The GRE is required.
Quantitative score: 155
Verbal score: 153
Mean GRE score range (25th–75th percentile): 310-325

Advanced GRE requirements
The Advanced GRE is required.
Minimum accepted Advanced GRE score: 650
Mean Advanced GRE score range (25th–75th percentile): 690-860

TOEFL requirements
The TOEFL exam is required for students from non-English-speaking countries.
ibt score: 80

Other admissions information
Additional requirements: Students must have a minimum of 155 on the quantitative and 153 on the verbal. Applicants with lower scores will be considered on an individual basis.
Undergraduate preparation assumed: The student applicant should have an undergraduate background that includes the following courses at the level indicated by texts referred to: mechanics at the level of Symon, Mechanics; electromagnetism at the level of Reitz and Milford, Foundations of Electromagnetic Theory; thermodynamics at the level of Kittel, Thermal Physics; quantum mechanics at the level of Griffiths, Introduction to Quantum Mechanics (chapters 1-4), some upper-division course(s) in modern physics, and atomic physics.

TUITION

Tuition year 2014–2015:
Tuition for in-state residents
Full-time students: $5,970 per semester
Part-time students: $1,343 per credit
Tuition for out-of-state residents
Full-time students: $10,803 per semester
Part-time students: $1,918 per credit
Tuition and fees are waived for Teaching Assistants and Research Assistants. International students pay $100.00/semester as a fee.
Credit hours per semester to be considered full-time: 9
Deferred tuition plan: Yes
Health insurance: Available at the cost of $1,859 per year.
Other academic fees: International student orientation fee (one-time assessment)$50.00
Academic term: Semester
Number of first-year students who received full tuition waivers: 11

Teaching Assistants, Research Assistants, and Fellowships

Number of first-year
Teaching Assistants: 11
Average stipend per academic year
Teaching Assistant: $21,600
Research Assistant: $21,600
Fellowship student: $25,000

FINANCIAL AID

Application deadlines
Fall admission:
U.S. students: March 15
U. of Texas, Dallas, Phys.

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: Barbara Burbey, Graduate Secretary, Mail Station PHY 36.
Phone: (972) 883-2835
E-mail: bburbey@utdallas.edu
Financial aid website: http://www.utdallas.edu/student/finaid/

HOUSING

Availability of on-campus housing
Single students: Yes
Married students: Yes

For further information
Address housing inquiries to: reslife@utdallas.edu or 972-883-5561.
Phone: (972)-883-5561
E-mail: reslife@utdallas.edu
Housing aid website: http://www.utdallas.edu/housing/

Table A—Faculty, Enrollments, and Degrees Granted

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>2013-14 Faculty</th>
<th>Enrollments</th>
<th>Number of Degrees Granted</th>
<th>2013-2014 (2009–14)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Master’s Doctorate</td>
<td>Master’s Terminal Master’s Doctorate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astrophysics</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>– (1) – (1) 3</td>
</tr>
<tr>
<td>Atmosphere, Space Physics, Cosmic Rays</td>
<td>4</td>
<td>1</td>
<td>3 (7)</td>
<td>– (1) – (1) (6)</td>
</tr>
<tr>
<td>Condensed Matter Physics</td>
<td>7</td>
<td>5</td>
<td>10 (3)</td>
<td>– (2) 2(10)</td>
</tr>
<tr>
<td>Cosmology &amp; String Theory</td>
<td>2</td>
<td>4</td>
<td>– (1)</td>
<td>– (1)</td>
</tr>
<tr>
<td>DNA; Imaging</td>
<td>2</td>
<td>7</td>
<td>2 (22)</td>
<td>– (1)</td>
</tr>
<tr>
<td>Fast Laser Spectroscopy</td>
<td>1</td>
<td>4</td>
<td>– (4)</td>
<td>– (1)</td>
</tr>
<tr>
<td>High Energy Physics</td>
<td>2</td>
<td>2</td>
<td>– (1)</td>
<td>– (1)</td>
</tr>
<tr>
<td>Low Temperature</td>
<td>2</td>
<td>2</td>
<td>– (2)</td>
<td>– –</td>
</tr>
<tr>
<td>Nano Science and Technology</td>
<td>1</td>
<td>4</td>
<td>– (5)</td>
<td>2(11)</td>
</tr>
<tr>
<td>Relativity &amp; Gravitation</td>
<td>1</td>
<td>2</td>
<td>– (1)</td>
<td>– (1)</td>
</tr>
<tr>
<td>Remote Sensing</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4(6) – (1)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>25</td>
<td>7</td>
<td>43 (33)</td>
<td>2(23) 6(26)</td>
</tr>
<tr>
<td><strong>Full-time Grad. Stud.</strong></td>
<td>52</td>
<td>2</td>
<td>56 – (1)</td>
<td>– –</td>
</tr>
<tr>
<td><strong>First-year Grad. Stud.</strong></td>
<td>17</td>
<td>1</td>
<td>16 – (1)</td>
<td>– –</td>
</tr>
</tbody>
</table>

**GRADUATE DEGREE REQUIREMENTS**

**Master’s**: For the M.S., all students must complete at least 30 hours of graduate physics courses, including a 12-hour “core.”
The degree is completed either by six hours of research, including a thesis, or by six hours of additional graduate courses.

**Doctorate**: The Ph.D. students must complete the 24-hour core, a minimum of 3 elective courses, 1 from within his/her area of specialization and 2 selected from different areas within the department plus whatever his/her committee requires. A Ph.D. candidate must pass, in the first year, a written qualifying exam that is presented twice each academic year. Once a dissertation topic has been selected and a faculty committee formed, the student presents a dissertation proposal to his/her committee for approval, presents a seminar, and is given an oral examination on the dissertation topic and related subjects. The student must then complete an acceptable dissertation and present a seminar. A successful defense of the dissertation concludes the requirements for the Ph.D. degree.

**Thesis**: Thesis may be written in absentia.

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>$4,326,278</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State/local government</td>
<td>$50,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-profit organizations</td>
<td>$104,318</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business and industry</td>
<td>$29,167</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>$22,283</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$4,532,046</td>
<td></td>
<td></td>
</tr>
</tbody>
</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>Atmosphere, Space Physics, Cosmic Rays</td>
<td>17</td>
<td>$2,376,000</td>
</tr>
<tr>
<td>Condensed Matter Physics</td>
<td>21</td>
<td>$1,644,333</td>
</tr>
<tr>
<td>Particles and Fields</td>
<td>5</td>
<td>$329,660</td>
</tr>
<tr>
<td>Relativity &amp; Gravitation</td>
<td>5</td>
<td>$179,052</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>48</td>
<td>$4,532,045</td>
</tr>
</tbody>
</table>

**FACULTY**

**Professor**

Anderson, Phillip C., Ph.D., University of Texas, Dallas, 1990. Graduate Advisor. Atmosphere, Space Physics, Cosmic Rays. Ionospheric and magnetospheric electrodynamics; space weather; space environment effects on human systems, properties of materials.

Cunningham, Augustine J., Ph.D., Queen’s Belfast University, 1969, Graduate Dean. Atomic, Molecular, & Optical Physics, Condensed Matter Physics, Solid State Physics. Ion–electron recombination processes; ion–molecule reactions; high-temperature and pressure gas kinetics; ultraviolet spectroscopy; plasma etching; e-beam lithography.

Glosser, Robert, Ph.D., University of Chicago, 1967. Head, Department of Physics. Condensed Matter Physics, Medical, Health Physics, Solid State Physics. Optical properties of solids and biological materials; Raman, modulation, and fluorescence spectroscopies.


United States: Geographic Listing of Graduate Programs

Texas


Kesden, Mustapha, Ph.D., Queen’s University, 2002. Astrophysics, Computational Physics, Cosmology & String Theory, Relativity & Gravitation. Classical and modern cosmology; relativity; gravitational lensing (cosmic shear); cosmological models; computer algebra systems applied to relativity.

King, Lindsay J., Ph.D., University of Manchester, 1995. Astronomy, Astrophysics, Computational Physics, Cosmology & String Theory, Relativity & Gravitation. Physical cosmology using tools such as gravitational lensing to understand dark matter and dark energy. Computational and theoretical work as well as observations with large telescopes.


Malko, Anton V., Ph.D., New Mexico State/Los Alamos National Labs, 2002. Applied Physics, Atomic, Molecular, & Optical Physics, Condensed Matter Physics, Nano Science and Technology, Optics. Femtosecond laser spectroscopy of Nanomaterials such as semiconductor quantum dots, wires, and wells; photoluminescence spectroscopy and microscopy; quantum optics; photoluminescence spectroscopy of single nanoparticles; solid-state physics; laser physics.


Chen, Xingang, Ph.D., Columbia University, 2003. Astrophysics, Cosmology & String Theory, Relativity & Gravitation. Early universe models; primordial density perturbations; cosmic microwave background and other large-scale structures; dark matter; and string cosmology.

Kesden, Michael H., Ph.D., California Institute of Technology, 2005. Astrophysics, Cosmology & String Theory, Relativity & Gravitation. Theoretical astrophysics and relativity; binary black hole formation, evolution, and merger; gravitational wave emission and detection; stellar tidal disruption by supermassive black holes; astrophysical probes of dark-matter dynamics; gravitational lensing of the cosmic microwave background.

Lumata, Lloyd L., Ph.D., Florida State University, 2008. Biophysics, Medical, Health Physics. Biomedical physics; biophysics; magnetic Resonance; nuclear magnetic resonance (NMR); electron paramagnetic resonance (EPR); magnetic resonance imaging (MRI); biomedical applications of dynamic nuclear polarization.


Professor Emeritus

Fenyves, Ervin J., Ph.D., University of Budapest, 1950. Nuclear Physics, Particles and Fields. Elementary particles; cosmic rays; gamma-ray astrophysics; gamma-ray and neutrino detectors.


Tinsley, Brian, Ph.D., University of Canterbury, 1963. Atmosphere, Space Physics, Cosmic Rays. Airglow; aurora; theoretical research in aeronomy; instrumentation for atmospheric spectroscopy.

Senior Lecturer


Rasmussen, Beatrice, M.S., University of Texas, Dallas, 1996. Atmosphere, Space Physics, Cosmic Rays, Biophysics, Computational Physics, Physics and other Science Education. A study on equatorial spread F in the Earth’s ionosphere.

DEPARTMENTAL RESEARCH SPECIALTIES AND STAFF

Theoretical

Astrophysics. Xingang Chen, Ishak-Boushaki, Kesden, King, Rindler.
Experimental


Relativity & Gravitation. Gravitational radiation; exact solutions of Einstein's field equations. Classical and modern cosmology; gravitational lensing (cosmic shear); cosmological models; computer algebra systems applied to relativity. Xingang Chen, Ishak-Boushaki, Kesden, King, MacAlevey, Rindler.

Remote Sensing for Atmospheric Physics. Computational and information systems to facilitate discovery and decision support in earth system science. Lary.

Atomic, Molecular, & Optical Physics. Malko.


Optics. Quantum and nonlinear optics; single and multiphoton emission processes; ultrafast laser spectroscopy. Glosser, Malko.

Particles and Fields. Charm, bottom, and $\tau$ decays at $e^+e^-$ colliders; simulation of fixed target detectors for $b$ physics. Fenyves, Izen, Lou.

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