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: 19,727
Total number of Graduate Students: 7,300

Department Information
Department Chairman: Robert Glosser, Head
Department Contact: Barbara Burbey, Graduate Support Assistant
Total full-time faculty: 20
Total number of full-time equivalent positions: 20
Full-Time Graduate Students: 67
First-Year Graduate Students: 12
Female First-Year Students: 4
Total Post Doctorates: 6

Department Address
800 West Campbell Road
EC 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 2013:
Number of applicants: 63
Number admitted: 21

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 recommended. Will be required for fall 2014 applicants.

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: It is assumed that the student has 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 2013-14:
Tuition for in-state residents
Full-time students: $6,382 per semester
Part-time students: $1,343 per credit
Tuition for out-of-state residents
Full-time students: $11,549 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.
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: 12

Teaching Assistants, Research Assistants, and Fellowships
Number of first-year students
Teaching Assistants: 11
Research Assistants: 2
Fellowship students: 1
Average stipend per academic year
Teaching Assistant: $17,000
Research Assistant: $20,400
Fellowship student: $25,000

FINANCIAL AID

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

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

For further information
Address: reslife@utdallas.edu.
Phone: (972)-883-2835
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>No. of Degrees Granted 2012-13 (2008-13)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Master's</td>
</tr>
<tr>
<td>Applied Physics</td>
<td>1</td>
</tr>
<tr>
<td>Astrophysics</td>
<td>2</td>
</tr>
<tr>
<td>Atmosphere, Space Physics, Cosmic Rays</td>
<td>4</td>
</tr>
<tr>
<td>Atomic, Molecular, &amp; Optical Physics</td>
<td>1</td>
</tr>
<tr>
<td>Computational Physics</td>
<td>1</td>
</tr>
<tr>
<td>Condensed Matter Physics</td>
<td>4</td>
</tr>
<tr>
<td>High Energy Physics</td>
<td>2</td>
</tr>
<tr>
<td>Relativity &amp; Gravitation</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
</tr>
<tr>
<td>First-year Grad. Stud.</td>
<td>17</td>
</tr>
<tr>
<td></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 hrs 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 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 Outside Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal government</td>
<td>$5,596,433</td>
<td></td>
</tr>
<tr>
<td>State/local government</td>
<td>$60,000</td>
<td></td>
</tr>
<tr>
<td>Non-profit organizations</td>
<td>$51,740</td>
<td></td>
</tr>
<tr>
<td>Business and industry</td>
<td>$27,222</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$5,725,395</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>20</td>
<td>$3,668,466</td>
</tr>
<tr>
<td>Condensed Matter Physics</td>
<td>20</td>
<td>$1,594,188</td>
</tr>
<tr>
<td>Particles and Fields</td>
<td>3</td>
<td>$344,807</td>
</tr>
<tr>
<td>Relativity &amp; Gravitation</td>
<td>2</td>
<td>$117,934</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>$5,725,395</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.


Associate Professor


Ishak-Boushaki, 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.


Zhang, Chuanwei, Ph.D., The University of Texas, Austin, 2005. *Atomic, Molecular, & Optical Physics, Computational Physics, Condensed Matter Physics, Low Temperature Physics, Materials Science, Metallurgy, Nano Science and Technology, Nonlinear Dynamics and Complex Systems, Solid State Physics, Theoretical Physics*. Topological superfluids, superconductors and insulators; ultra-cold atomic gases; quantum computation; graphene.

Assistant Professor


Malko, Anton V., Ph.D., New Mexico State/Los Alamos National Labs, 2002. *Applied 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.


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

MacAlevey, Paul J., Ph.D., University of Texas, Dallas, 1996. *Physics and other Science Education, Relativity & Gravitation*.

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


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. Ishak-Boushaki, King, MacAlevey, Rindler.


Experimental


emitting electrochemical cells and electrochemical biosensors with DNA-modified electrodes. Cunningham, Glosser, Lee, Malko, Salamon, Slinker, Zakhidov, Zhang.


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