General University Information
President: M. Duane Nellis
Dean of Graduate School: Mark Sheridan
University website: http://www.ttu.edu/
Control: Public
Setting: Rural
Total Faculty: 2,944
Total Graduate Faculty: 1,389
Total number of Students: 32,440
Total number of Graduate Students: 5,661

Department Information
Department Chairman: Prof. Nural Akchurin, Chair
Department Contact: Andrea Westbrook, Senior Business Assistant
Total full-time faculty: 21
Full-Time Graduate Students: 69
First-Year Graduate Students: 22
Female First-Year Students: 11
Total Post Doctorates: 12

Department Address
Box 41051
Lubbock, TX 79409
Phone: (806) 834-416
Fax: (806) 742-1182
E-mail: Andrea.Westbrook@ttu.edu
Website: http://www.phys.ttu.edu

ADMISSIONS

Admission Contact Information
Address admission inquiries to: Prof. Mahdi Sanati, Graduate Recruiter, Department of Physics.
Phone: (806) 834-6169
E-mail: m.sanati@ttu.edu
Admissions website: http://www.phys.ttu.edu/grad_study.html

Application deadlines
Fall admission:
U.S. students: March 1
Int’l. students: January 15
Spring admission:
U.S. students: October 1
Int’l. students: June 15

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

Admissions information
For Fall of 2015:
Number of applicants: 55
Number admitted: 16
Number enrolled: 16

Admission requirements
Bachelor’s degree requirements: Bachelors degree in Physics is required for admission to the graduate programs in Physics.
For students with a Bachelor’s degree in a related field, undergraduate leveling may be required.
Minimum undergraduate GPA: 3.0

GRE requirements
The GRE is required.
Quantitative score: 155
Verbal score: 152

Analytical score: 3.0
Mean GRE score range (25th–75th percentile): 307-321

Advanced GRE requirements
The Advanced GRE is recommended.

TOEFL requirements
The TOEFL exam is required for students from non-English-speaking countries.
PBT score: 550
iBT score: 79

Other admissions information
Additional requirements: For the past several years, the average General GRE scores were verbal-152; quantitative-155; total-307. A minimum GRE total score of 307 is required to obtain financial support from the department. The IELTS score of 6.5 or better is also accepted. All new foreign teaching assistants are required to pass an English workshop administered by the University.

TUITION

Tuition year 2015–16:
Tuition for in-state residents
Full-time students: $9,017 annual
Part-time students: $501 per credit
Tuition for out-of-state residents
Full-time students: $17,569 annual
Part-time students: $976 per credit
Health insurance cost is not included.
Credit hours per semester to be considered full-time: 9
Deferred tuition plan: Yes
Health insurance: Available at the cost of 2,450 per year.
Academic term: Semester
Number of first-year students who received partial tuition waivers: 15

Teaching Assistants, Research Assistants, and Fellowships
Number of first-year Teaching Assistants: 15
Average stipend per academic year
Teaching Assistant: $15,693
Research Assistant: $15,693
Fellowship student: $15,693
Stipend is higher for students with M.S. degree and those who have passed the Ph.D. Qualifying Exam.

FINANCIAL AID

Application deadlines
Fall admission:
U.S. students: March 1
Int’l. students: March 1
Spring admission:
U.S. students: October 1
Int’l. students: October 1

Loans
Loans are available for U.S. students.
Loans are not available for international students.
GAPSFAS application required: Yes
FAFSA application required: Yes
HOUSING

Availability of on-campus housing

Single students: Yes
Married students: No

For further information
Address housing inquiries to: University Student Housing, Wiggins Complex, 3211 18th Street, Box 41141, Lubbock, TX 79409.
Phone: (806) 742.2661
E-mail: housing@ttu.edu
Housing aid website: http://housing.ttu.edu/

Table A—Faculty, Enrollments, and Degrees Granted

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Astrophysics</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Atomic, Molecular, &amp; Optical Physics</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Biophysics</td>
<td>1</td>
<td>2</td>
<td>- (7)</td>
<td>-</td>
<td>- (9)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Condensed Matter</td>
<td>6</td>
<td>7</td>
<td>10</td>
<td>7 (25)</td>
<td>2 (8)</td>
<td>1 (3)</td>
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<tr>
<td>High Energy Physics</td>
<td>5</td>
<td>2</td>
<td>(2)</td>
<td>-</td>
<td>- (3)</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Physics and other</td>
<td>2</td>
<td>-</td>
<td>- (3)</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Science Education</td>
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<tr>
<td>Total</td>
<td>21</td>
<td>7</td>
<td>15</td>
<td>9 (39)</td>
<td>-</td>
<td>3 (17)</td>
<td>-</td>
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<tr>
<td>Full-time Grad. Stud.</td>
<td>14</td>
<td>55</td>
<td>-</td>
<td>-</td>
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<tr>
<td>First-year Grad. Stud.</td>
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<td>15</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</table>

GRADUATE DEGREE REQUIREMENTS

Master’s: The M.S. with Thesis requires a minimum of 24 hours of graduate course work and 6 hours of thesis with a minimum GPA of 3.0. A thesis based on a research problem and a final oral exam over the research problem are required.

Doctorate: A minimum of 60 hours beyond the B.S. degree plus 12 hours of dissertation with a minimum GPA of 3.0. A minimum of 3 years of graduate study beyond the B.S. degree with 1 year of residence beyond the M.S. degree or equivalent is required. After completing the core courses, typically after one year, all candidates must pass the Prelim Qualifying Exam (a written and oral exam over the core curriculum). A dissertation on an original research project and an oral defense of the dissertation are required. Ph.D. degrees with either physics or applied physics options are offered. A specialization in chemical physics, in cooperation with the Department of Chemistry and Biochemistry, is also available.

Other Degrees: Dissertation may be written in absentia.

SPECIAL EQUIPMENT, FACILITIES, OR PROGRAMS

Program in experimental particle physics: J. Fred Bucy and Odetta Greer Bucy Chair in Physics, Dr. Richard Wigmans.

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>
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<tbody>
<tr>
<td>Federal government</td>
<td>$2,154,954</td>
<td>$2,002,875</td>
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<tr>
<td>State/local government</td>
<td>$2,855,954</td>
<td></td>
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<tr>
<td>Non-profit organizations</td>
<td>$744,000</td>
<td></td>
</tr>
<tr>
<td>Business and industry</td>
<td>$160,000</td>
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<td>Total</td>
<td>$2,314,954</td>
<td>$2,002,875</td>
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Table C—Separately Budgeted Research Expenditures by Research Specialty

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>No. of Grants</th>
<th>Expenditures ($)</th>
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</thead>
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<tr>
<td>Astrophysics</td>
<td>4</td>
<td>$1,000,357</td>
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<tr>
<td>Biophysics</td>
<td>1</td>
<td>$245,686</td>
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<td>Condensed Matter Physics</td>
<td>7</td>
<td>$865,911</td>
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<td>Particles and Fields</td>
<td>3</td>
<td>$744,000</td>
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<td>Total</td>
<td>15</td>
<td>$2,856,954</td>
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FACULTY

Distinguished University Professor


Chair Professor


Professor


Huang, Juyang, Ph.D., State University of New York at Buffalo, 1987. Biophysics. Experimental and theoretical membrane biophysics; liposome technology; drug delivery; biochip; fluorescence microscopy; X-ray diffraction; Monte Carlo simulations.


Associate Professor

Gibson, Thomas L., Ph.D., Oklahoma, 1982. Quantum collision theory; low-energy positron-molecule collisions; concurrent computational techniques; Monte Carlo simulations.

Glab, Wallace L., Ph.D., University of Illinois at Urbana-Champaign, 1984. Undergraduate advisor. Experimental atomic and molecular physics; laser spectroscopy of excited
states of atoms and molecules; multiphoton ionization and photoelectron spectroscopy of small molecules.


Lamp, C. David, Ph.D., University of Missouri, Columbia, 1984. Condensed Matter Physics, Materials Science and Other Science Education. Experimental solid state physics; uniaxial stress transient spectroscopy; semiconductor materials; materials science; physics education; science teaching for secondary school teachers.


Assistant Professor

Corsi, Alessandra, Ph.D., Sapienza University, 2007. Astrophysics. Gamma-ray bursts, Supernovae, LIGO data analysis.

Sand, David, Ph.D., California Institute of Technology, 2005. Astrophysics. Dwarf galaxies, supernovae, time domain astrophysics, and resolved stellar populations.

Professor Emeritus

Borst, Walter L., Ph.D., University of California, Berkeley, 1968.

Hatfield, Lynn L., Ph.D., Arkansas, 1966.

Lichti, Roger L., Ph.D., University of Illinois, 1972.

Thomas, Henry C., Ph.D., Vanderbilt University, 1950.

Research Professor


Distinguished Adjunct Professor


Adjunct Professor


Cheng, Kwan Hon, Ph.D., University of Waterloo, 1983. Experimental biophysics; time-resolved fluorescence spectroscopy; membranes; nuclear magnetic resonance imaging; biochips.

Holtz, Mark W., Ph.D., Virginia Polytechnic Institute, 1987. Materials Physics, nanoscience, optical properties of condensed matter; semiconductors, epitaxy.


Quitevis, Edward L., Ph.D., Harvard University, 1981. Joint Professor. Ultrafast spectroscopy; nonlinear optics; photophysics; molecular aggregates; membranes and micelles; liquids. (Chemistry.)

Adjunct Associate Professor


DEPARTMENTAL RESEARCH SPECIALTIES AND STAFF

Theoretical

 Applies Physics. New and renewable energy sources; power conversion systems for space use. Photoconductive switch simulations. Duncan, Lodhi.


Atomic, Molecular, & Optical Physics. Theory of vibration-rotation fine structure and intramolecular forces. Low-energy electron-molecule collisions; Computational techniques. Gibson, Glab.

Biophysics. Cell membranes; cholesterol domains; multibody interactions; anomalous diffusion; Monte Carlo and dynamic simulations. Cheng, Huang.


Physics and other Science Education. Assessment, student understanding of Quantum Mechanics and Modern Physics, curriculum development, comparison of students taught traditionally and non-traditionally, science training for secondary school teachers. Lamp, Thacker.

Relativity & Gravitation. Gravitational wave emission, binary black holes. Owen.

Experimental


Astrophysics. The astrophysics group at Texas Tech has a variety of streams of research on extreme environment astrophysics. We pursue observations which are multi-wavelength (spanning the range from radio through TeV) and multi-messenger (with a strong level of participation in LIGO). We have strong efforts in supernovae, gamma-ray bursts, studies of compact objects, and studies of the lowest density stellar populations – ultrafaint dwarf galaxies – as well as the highest density stellar populations – globular clusters. Corsi, Maccarone, Owen, Sand.


Biophysics. Molecular spectroscopy of membranes; quantitative magnetic resonance imaging; membrane electrophysiology,
Liposome technology; fluorescence microscopy; X-ray diffraction; drug delivery system; biochip conformal radiation dosimetry. Cheng, Huang.


High Energy Physics. Compact Muon Solenoid (CMS); experiment at CERN; Advanced research and development in calorimetry and other particle detectors; Massive data analyses and development of novel algorithms for particle identification in collider experiments. Akchurin, Kunori, Lee, Volobouev, Wigmans.


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