DEPARTMENT OF PHYSICS AND ASTRONOMY

Physics seeks to understand the fundamental workings of nature, from the constituents of matter deep within the nuclei of atoms, to the most distant galaxies of our expanding universe, to everyday phenomena of emergent complexity, self-organization and chaos. The resulting basic physical knowledge provides a firm foundation for innovations and is often the driving force of advanced technology. Computers, global positioning systems (GPS), the internet, lasers, magnetic resonance imaging (MRI) and other medical diagnostic tools, and space flight, along with many others, were all made possible by key advances in physics.

Physicists have a curiosity that thrives on the challenge of solving problems. Consistent with this, the physics program at Texas A&M strives to teach analytical thinking and quantitative problem-solving skills. This enables students to work productively in physics, in areas closely related to physics, and in a wide variety of areas outside of physics proper. Physicists can be found in almost any discipline that requires complex problem-solving skills. Some engage in cutting-edge research to increase our basic knowledge of the universe. Some apply new-found knowledge to make practical advances in the fields of computer science, medical science, and engineering. Still, others use their knowledge to advocate, advise, inform, instruct and administrate as lawyers, consultants, journalists/writers, teachers, and managers.

The Department of Physics and Astronomy offers two undergraduate degree programs, a Bachelor of Arts and a Bachelor of Science, as well as minors in Astrophysics and Physics. The Bachelor of Science degree includes tracks in Astrophysics, Business, Computational Science, Materials Physics, Physics and Mathematics Teaching, and Physical Science Teaching, in addition to a no-track option. The Department of Physics and Astronomy also offers Master of Science degrees in Astronomy and Physics, and Doctor of Philosophy degrees in Applied Physics, Astronomy, and Physics.

The faculty members of the department carry out theoretical and experimental research in the areas of astronomy and astrophysics, atomic, molecular and optical physics, computational physics, cosmology, high-energy and elementary particle physics, condensed matter physics and materials science, nuclear physics, quantum optics, and physics education. During the course of their undergraduate experience at Texas A&M, Physics majors have the opportunity to work with faculty in all of these areas.

Faculty

Abanov, Artem G, Associate Professor
Physics & Astronomy
PHD, Texas A&M University, 1998

Agnolet, Glenn, Professor
Physics & Astronomy
PHD, Cornell University, 1983

Akimov, Alexey, Associate Professor
Physics & Astronomy
PHD, Moscow Institute of Technology, 2003

Allen, Roland E, Professor
Physics & Astronomy
PHD, The University of Texas at Austin, 1969

Bassichis, William H, Professor
Physics & Astronomy
PHD, Case Western Reserve University, 1963

Becker, Katrin, Professor
Physics & Astronomy
PHD, University of Bonn, 1994

Belyanin, Alexey A, Professor
Physics & Astronomy
PHD, Institute of Applied Physics Russian Academy of Sciences, 1995

Chin, Siu A, Professor
Physics & Astronomy
PHD, Massachusetts Institute of Technology, 1975

Depoy, Darren L, Professor
Physics & Astronomy
PHD, University of Hawaii at Manoa, 1987

Dutta, Bhaskar, Professor
Physics & Astronomy
PHD, Oklahoma State University, 1995

Erukhimova, Tatiana L, Instructional Professor
Physics & Astronomy
PHD, Institute of Applied Physics, Russian Academy of Sciences, 1999

Eusebi, Ricardo, Professor
Physics & Astronomy
PHD, University of Rochester, 2006

Finkelstein, Alexander, Professor
Physics & Astronomy
PHD, Landau Institute for Theoretical Physics, 1972

Ford, Albert L, Professor
Physics & Astronomy
PHD, The University of Texas at Austin, 1972

Fries, Rainer J, Professor
Physics & Astronomy
PHD, University of Regensburg, Germany, 2001

Fry, Edward S, Distinguished Professor
Physics & Astronomy
PHD, University of Michigan, 1969

Gagliardi, Carl A, Professor
Physics & Astronomy
PHD, Princeton University, 1982

Holt, Jeremy W, Assistant Professor
Physics & Astronomy
PHD, Stony Brook University, 2008

Kamon, Teruki, Professor
Physics & Astronomy
PHD, University of Tsukuba, 1986
<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Affiliation</th>
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<tbody>
<tr>
<td>Kennicutt, Robert Charles</td>
<td>Professor, University of Washington, 1978</td>
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<tr>
<td>Khmelenko, Vladimir</td>
<td>Research Professor, Institute of Chemical Physics, 1984</td>
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<td>Ko, Che-Ming</td>
<td>University Distinguished Professor, State University of New York at Stony Brook, 1973</td>
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<td>Kocharovskaya, Olga A</td>
<td>Distinguished Professor, Institute of Applied Physics, Russian Academy of Sciences, 1986</td>
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<td>Kocharovsky, Vitaly V</td>
<td>Professor, Institute of Applied Physics, Russian Academy of Sciences, 1986</td>
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<tr>
<td>Kolomenski, Alexandre</td>
<td>Research Professor, P N Lebedev Physics Institute of the Russian Academy of Sciences, 1980</td>
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<td>Lee, David M</td>
<td>University Distinguished Professor, Yale University, 1959</td>
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<td>Macri, Lucas M</td>
<td>Professor, Harvard University, 2001</td>
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<td>Mahapatra, Rupak K</td>
<td>Professor, University of Minnesota, 2000</td>
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<td>Marshall, Jennifer L</td>
<td>Associate Professor, Ohio State University, 2006</td>
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<td>McIntyre, Peter M</td>
<td>Professor, University of Chicago, 1973</td>
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<td>Melconian, Daniel G</td>
<td>Professor, Simon Fraser University, 2006</td>
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<td>Mioduszewski, Saskia</td>
<td>Professor, University of Tennessee, 1999</td>
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<td>Mirabolfathi, Nader</td>
<td>Research Associate Professor, University of Paris XI, 2002</td>
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<tr>
<td>Naugle, Donald G</td>
<td>Professor, Texas A&amp;M University, 1965</td>
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<td>Nodurft, Dawson</td>
<td>Instructional Assistant Professor, Texas A&amp;M University, 2019</td>
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<td>Papovich, Casey J</td>
<td>Professor, Johns Hopkins University, 2002</td>
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<td>Pokrovsky, Valery V</td>
<td>Distinguished Professor, Tomsk State University, 1957</td>
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<td>Pope, Christopher N</td>
<td>Distinguished Professor, University of Cambridge, 1980</td>
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<td>Rapp, Ralf F</td>
<td>Professor, Rheinische Friedrich-Wilhelma University, Bonn, 1996</td>
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<tr>
<td>Rogachev, Grigory V</td>
<td>Professor, National Research Centre, 1999</td>
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<td>Ross Jr, Joseph H</td>
<td>Professor, University of Illinois at Urbana-Champaign, 1986</td>
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<td>Safonov, Alexei N</td>
<td>Professor, University of Florida, 2001</td>
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<td>Saslow, Wayne M</td>
<td>Professor, University of California at Irvine, 1968</td>
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<td>Schuessler, Hans A</td>
<td>Professor, Universitat Heidelberg, 1964</td>
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<td>Scully, Marlan O</td>
<td>Distinguished Professor, Yale University, 1966</td>
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<tr>
<td>Sezgin, Ergin</td>
<td>Professor, State University of New York at Stony Brook, 1980</td>
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<td>Sokolov, Alexei V</td>
<td>Professor, Stanford University, 2001</td>
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<td>Strigari, Louis E</td>
<td>Associate Professor, Ohio State University, 2005</td>
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<tr>
<td>Sunzeff, Nicholas B</td>
<td>University Distinguished Professor and Regents Professor, University of California at Santa Cruz, 1980</td>
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<td>Teizer, Winfried</td>
<td>Professor, University of Massachusetts - Amherst, 1998</td>
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</table>
Toback, David, Professor
Physics & Astronomy
PHD, University of Chicago, 1997

Tribble, Robert E, Senior Professor
Physics & Astronomy
PHD, Princeton University, 1973

Walsh, Jonelle L, Assistant Professor
Physics & Astronomy
PHD, University of California at Irvine, 2011

Wang, Lifan, Professor
Physics & Astronomy
PHD, University of Science and Technology of China, 1993

Weimer, Michael B, Professor
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PHD, California Institute of Technology, 1986

Welch, George R, Professor
Physics & Astronomy
PHD, Massachusetts Institute of Technology, 1989

Wu, Wenhao, Associate Professor
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PHD, University of Chicago, 1992

Xu, Shenglong, Research Assistant Professor
Physics & Astronomy
PHD, Univ of California, San Diego, 2017

Zheltikov, Alexey M, Professor
Physics & Astronomy
PHD, Lomonosov Moscow State University, 1990

Zubairy, Muhammad S, University Distinguished Professor
Physics & Astronomy
PHD, University of Rochester, 1979

### Majors

- Bachelor of Arts in Physics ([link](http://catalog.tamu.edu/undergraduate/arts-and-sciences/physics-astronomy/physics-ba/))
- Bachelor of Science in Physics ([link](http://catalog.tamu.edu/undergraduate/arts-and-sciences/physics-astronomy/physics-bs/))
- Bachelor of Science in Physics, Astrophysics Track ([link](http://catalog.tamu.edu/undergraduate/arts-and-sciences/physics-astronomy/physics-bs-astrophysics-track/))
- Bachelor of Science in Physics, Business Track ([link](http://catalog.tamu.edu/undergraduate/arts-and-sciences/physics-astronomy/physics-bs-business-track/))
- Bachelor of Science in Physics, Computational Science Track ([link](http://catalog.tamu.edu/undergraduate/arts-and-sciences/physics-astronomy/physics-bs-computational-science-track/))
- Bachelor of Science in Physics, Materials Physics Track ([link](http://catalog.tamu.edu/undergraduate/arts-and-sciences/physics-astronomy/physics-bs-materials-physics-track/))
- Bachelor of Science in Physics, Physical Science Teaching Track ([link](http://catalog.tamu.edu/undergraduate/arts-and-sciences/physics-astronomy/physics-bs-physical-science-teaching-track/))

### Minors

- Astrophysics Minor ([link](http://catalog.tamu.edu/undergraduate/arts-and-sciences/physics-astronomy/astrophysics-minor/))
- Physics Minor ([link](http://catalog.tamu.edu/undergraduate/arts-and-sciences/physics-astronomy/physics-minor/))