

# DEPARTMENT OF PHYSICS AND ASTRONOMY

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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

Adsley, Philip, Assistant Professor  
Physics & Astronomy  
PHD, University of York, 2013

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

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

Belic, Milivoj R, Professor  
Physics & Astronomy  
PHD, The City University of New York, 1980

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

Borzenets, Ivan, Assistant Professor  
Physics & Astronomy  
PHD, Duke University, 2012

Bouhali, Othmane, Research Professor  
Physics & Astronomy  
PHD, Universite Libre de Bruxelles, Faculte des Sciences, 1999

Chin, Siu A, Professor  
Physics & Astronomy  
PHD, Stanford University, 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, Lauda 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

Holt, Nathan, Lecturer  
Physics & Astronomy  
PHD, Texas A&M University, 2016

Kamon, Teruki, Professor  
Physics & Astronomy  
PHD, University of Tsukuba, 1986

Kaya, Ali, Instructional Assistant Professor  
Physics & Astronomy  
PHD, Texas A&M University, 2001

Kelly, Kevin, Assistant Professor  
Physics & Astronomy  
PHD, Northwestern University, 2018

Kennicutt, Robert Charles, Professor  
Physics & Astronomy  
PHD, University of Washington, 1978

Khmelenko, Vladimir, Research Professor  
Physics & Astronomy  
PHD, Institute of Chemical Physics, 1984

Ko, Che-Ming, University Distinguished Professor  
Physics & Astronomy  
PHD, State University of New York at Stony Brook, 1973

Kocharovskaya, Olga A, Distinguished Professor  
Physics & Astronomy  
PHD, Institute of Applied Physics, Russian Academy of Sciences, 1986

Kocharovsky, Vitaly V, Professor  
Physics & Astronomy  
PHD, Institute of Applied Physics, Russian Academy of Sciences, 1986

Kolomenski, Alexandre, Research Professor  
Physics & Astronomy  
PHD, P N Lebedev Physics Institute of the Russian Academy of Sciences, 1980

Kordell, Michael, Lecturer  
Physics & Astronomy  
PHD, Wayne State Univ, 2017  
PHD, Wayne State University, 2017

Krolikowski, Wieslaw Z, Professor  
Physics & Astronomy  
PHD, Institute of Physics, Polish Academy of Sciences, 1988

Lee, David M, University Distinguished Professor  
Physics & Astronomy  
PHD, Yale University, 1959

Lyuksyutov, Igor F, Professor  
Physics & Astronomy  
PHD, Highest Attestation Commission at Ministry of Education and Science of Russian Federation, 1990

Macri, Lucas M, Professor  
Physics & Astronomy  
PHD, Harvard University, 2001

Mahapatra, Rupak K, Professor  
Physics & Astronomy  
PHD, University of Minnesota, 2000

Marshall, Jennifer L, Associate Professor  
Physics & Astronomy  
PHD, Ohio State University, 2006

May, Larry, Lecturer  
Physics & Astronomy  
PHD, Texas A&M University, 2015

McIntyre, Peter M, Professor  
Physics & Astronomy  
PHD, University of Chicago, 1973

Melconian, Daniel G, Professor  
Physics & Astronomy  
PHD, Simon Fraser University, 2006

Mioduszewski, Saskia, Professor  
Physics & Astronomy  
PHD, University of Tennessee, 1999

Mirabolfathi, Nader, Research Associate Professor  
Physics & Astronomy  
PHD, University of Paris XI, 2002

Naugle, Donald G, Professor  
Physics & Astronomy  
PHD, Texas A&M University, 1965

Nha, Hyon Cheol, Professor  
Physics & Astronomy  
PHD, Seoul National University, 2002

Nodurft, Dawson, Instructional Assistant Professor  
Physics & Astronomy  
PHD, Texas A&M University, 2019

Papovich, Casey J, Professor  
Physics & Astronomy  
PHD, Johns Hopkins University, 2002

Pokrovsky, Valery, Distinguished Professor  
Physics & Astronomy  
PHD, Tomsk State University, 1957

Pope, Christopher N, Distinguished Professor  
Physics & Astronomy  
PHD, University of Cambridge, 1980

Rapp, Ralf F, Professor  
Physics & Astronomy  
PHD, Rheinische Friedrich-Wilhelma University, Bonn, 1996

Rodriguez Nieva, Joaquin, Assistant Professor  
Physics & Astronomy  
PHD, Massachusetts Institute of Technology, 2016

Rogachev, Grigory V, Professor  
Physics & Astronomy  
PHD, National Research Centre, 1999

Ross Jr, Joseph H, Professor  
Physics & Astronomy  
PHD, University of Illinois at Urbana-Champaign, 1986

Safonov, Alexei N, Professor  
Physics & Astronomy  
PHD, University of Florida, 2001

Saslow, Wayne M, Professor  
Physics & Astronomy  
PHD, University of California at Irvine, 1968

Schuessler, Hans A, Professor  
Physics & Astronomy  
PHD, Universitat Heidelberg, 1964

Scully, Marlan O, Distinguished Professor  
Physics & Astronomy  
PHD, Yale University, 1966

Sezgin, Ergin, Professor  
Physics & Astronomy  
PHD, State University of New York at Stony Brook, 1980

Sokolov, Alexei V, Professor  
Physics & Astronomy  
PHD, Stanford University, 2001

Spilker, Justin, Assistant Professor  
Physics & Astronomy  
PHD, University of Arizona, 2017

Strigari, Louis E, Professor  
Physics & Astronomy  
PHD, Ohio State University, 2005

Suntzeff, Nicholas B, University Distinguished Professor and Regents  
Professor  
Physics & Astronomy  
PHD, University of California at Santa Cruz, 1980

Teizer, Winfried, Professor  
Physics & Astronomy  
PHD, University of Massachusetts - Amherst, 1998

Toback, David, Professor  
Physics & Astronomy  
PHD, University of Chicago, 1997

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

Tzortzakis, Stylianos, Professor  
Physics & Astronomy  
PHD, Ecole Polytechnique, France, 2001

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

Wu, Wenhao, Associate Professor  
Physics & Astronomy  
PHD, University of Chicago, 1992

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

Youngs, Michael, Lecturer  
Physics & Astronomy  
PHD, Michigan State University, 2013

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

## Minors

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