NYU Shanghai Physics

Undergraduate Studies

2019 Shanghai Edition

NYU Shanghai invites applications to its Bachelor of Science program in Physics for students who have completed high school and are passionate about pursuing a career in physics. The program offers a comprehensive education in the field of physics, with opportunities for research and collaboration with faculty members. Students benefit from small class sizes and personalized attention, allowing them to explore their interests and develop a strong foundation in the subject. The program includes coursework in areas such as classical mechanics, electromagnetism, quantum mechanics, and modern physics research. Students are provided with opportunities for internships, research projects, and involvement in ongoing research activities. The emphasis on interdisciplinary study prepares students for careers in academia, industry, or government.

Graduate Training

NYU Shanghai offers exceptional opportunities for graduate study in physics. Students enrolled in the Master’s Program can choose from a wide range of research areas, including condensed matter physics, quantum information, and astrophysics. The program is designed to provide a solid foundation in physics while allowing students to specialize in their areas of interest. The PhD program offers advanced training in research and scholarship, with opportunities for collaboration with leading international research groups. Students are encouraged to participate in cutting-edge research projects and to present their findings at conferences and workshops. The program's focus on interdisciplinary research prepares students for careers in academia, industry, or government.

Research

NYU-ECNU Institute of Physics at NYU Shanghai

As an internationally renowned center for research and collaboration, the NYU-ECNU Institute of Physics at NYU Shanghai is dedicated to advancing the frontiers of knowledge in science and technology. Located in the heart of Shanghai, the Institute offers a unique environment for interdisciplinary research, bringing together scientists from NYU and East China Normal University (ECNU) to explore cutting-edge research topics across a wide range of disciplines. The Institute is guided by its mission of fostering US-Chinese scientific collaborations, and includes a regular seminar series, and a variety of conferences and workshops to stimulate collaboration between researchers from NYU and ECNU, as well as from other institutions around the world. The Institute currently invites applications for both visiting and renewable contract positions. For more information, see the NYU-ECNU Institute of Physics at NYU Shanghai webpage.
Successful applicants will receive financial support from NYU Shanghai.

At the end of the program, a presentation and a project summary are required.

Students are matched to faculty primarily on the basis of their background preparation and areas of interest. They work either directly with faculty or with postdoctoral fellows or with graduate students as appropriate. Each student conducts a research project under the direction of his or her mentor.

Students apply for positions in a 3-month summer program with a flexible starting date. During the program, students will have the opportunity to actively participate in research projects under the mentorship of a professor who is active at the forefront of his or her field of physics.

The NYU-ECNU Institute of Physics at NYU Shanghai provides a number of research experiences for students everywhere. One such program is the NYU Shanghai Summer Undergraduate Research Experience Program in Physics (SRPP). SRPP is designed to foster entry into physics research-centered careers for highly motivated undergraduate students with a strong interest in physics or related scientific discipline.

Student Internship Opportunities: SRPP

Faculty Advisors

Tim Byrnes | Research NYU Shanghai

Jinzi Mac Huang | Research NYU Shanghai

Hanghui Chen | Research NYU Shanghai

Pilkyung Moon | Research NYU Shanghai

Professor Byrnes' research interests are in quantum information technologies, condensed matter physics, and theoretical studies of solid-on-solid phase transitions (organisms swimming, walking and flying), geophysical fluids (thermal convection, continental dynamics), solid-on-solid friction, and self-organized phenomena at different scales.

Hanghui Chen is an Assistant Professor of Physics at NYU Shanghai. Prior to joining NYU Shanghai, he was a postdoctoral fellow at the University of California. He holds a Ph.D. from Yale University and a B.S. from Peking University.

Research Interests:
- ultra-cold quantum gases
- quantum measurement theories
- quantum state tomography
- quantum computation

Pilkyung Moon is Assistant Professor of Physics at NYU Shanghai. He is also a co-PI at the Center of Quantum and Topological Physics at NYU Shanghai. Prior to joining NYU Shanghai, he worked as a postdoc at the aerospace lab of Tohoku University. He holds a Ph.D. from Seoul National University.

Research Interests:
- Topological quantum many-body systems
- Quantum transport
- Heavy fermion physics
- Topological quantum phases

Jun Zhang is a Professor of Physics and Mathematics at NYU Shanghai and at NYU's campus in New York City. Since 2001 he has been the Co-Director of the Applied Math Laboratory in the Courant Institute of Mathematical Sciences.

Research Interests:
- Quantum many-body systems
- Quantum information
- Topological states of matter
- Topological quantum field theory

Education:
- B.S., Materials Science and Engineering, Seoul National University, 2001
- Ph.D., Theoretical Physics, Niels Bohr Institute, University of Copenhagen, 2008
- Postdoc, Washington University in St. Louis, 2008-2010
- Postdoc, Harvard University, 2010-2012
- Associate Director, NYU-ECNU Institute of Physics at NYU Shanghai
- Global Network Assistant Professor, New York University

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