

# THE ENRICO FERMI INSTITUTE

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## Director

- Edward Blucher, Physics

## Professors

- Edward Blucher, Physics
- John Eric Carlstrom, Astronomy & Astrophysics
- Cheng Chin, Physics
- Fred Ciesla, Geophysical Sciences
- Juan Collar, Physics
- Nicolas Dauphas, Geophysical Sciences
- Andrew Davis, Geophysical Sciences
- Henry J. Frisch, Physics
- Luca Grandi, Physics
- Jeffrey A. Harvey, Physics
- Craig Hogan, Astronomy & Astrophysics
- Daniel E. Holz, Physics
- Wayne Hu, Astronomy & Astrophysics
- William Irvine, Physics
- Young Kee Kim, Physics
- Edward W. Kolb, Astronomy & Astrophysics
- Andrey Kravtsov, Astronomy & Astrophysics
- David Kutasov, Physics
- Emil J. Martinec, Physics
- Jeffrey McMahon, Astronomy & Astrophysics
- Sidney Nagel, Physics
- Paolo Privitera, Astronomy & Astrophysics
- Robert Rosner, Astronomy & Astrophysics
- Savdeep Sethi, Physics
- Melvyn Shochet, Physics
- Dam Thanh Son, Physics
- Abigail Vieregge, Physics
- Carlos Wagner, Physics
- Yau W. Wah, Physics
- Scott P. Wakely, Physics
- Robert M. Wald, Physics
- Liantao Wang, Physics
- Paul B. Wiegmann, Physics

## Associate Professors

- Damiano Caprioli, Astronomy & Astrophysics
- David W. Miller, Physics
- David Schmitz, Physics

## Assistant Professors

- Clay Córdova, Physics
- Karri DiPetrillo, Physics
- Keisuke Harigaya, Physics

## Part-Time Faculty

- Marcela Carena, Professor of Physics (part-time with Fermilab)
- Bonnie T. Fleming, Professor of Physics (part-time with Fermilab)

- Kwang-Je Kim, Professor of Physics (part-time with Argonne)
- Guy Savard, Professor of Physics (part-time with Argonne)

#### Emeritus Faculty

- Edward Anders, Chemistry
- Robert P. Geroch, Physics
- Lawrence Grossman, Geophysical Sciences
- Edward James Kibblewhite, Astronomy & Astrophysics
- ArieH Königl, Astronomy & Astrophysics
- Donald Q. Lamb, Astronomy & Astrophysics
- Stephan Meyer, Astronomy & Astrophysics and Physics
- Frank S. Merritt, Physics
- Takeshi Oka, Astronomy & Astrophysics and Chemistry
- Angela Olinto, Astronomy & Astrophysics
- Mark J. Oreglia, Physics
- James E. Pilcher, Physics
- Jonathan L. Rosner, Physics
- Michael S. Turner, Astronomy & Astrophysics
- Donald G. York, Astronomy & Astrophysics

The Enrico Fermi Institute (<http://efi.uchicago.edu/>) is a Physical Sciences unit of the University devoted to interdisciplinary research. It was founded shortly after the Second World War as the "Institute for Nuclear Studies" and is now named in honor of Enrico Fermi, who was one of the founders and a distinguished member of the Institute. All faculty members in the Institute hold joint appointments in one or more of the following departments: Physics (<http://physics.uchicago.edu/>), Astronomy and Astrophysics (<http://astro.uchicago.edu/>), Chemistry (<http://chemistry.uchicago.edu/>), Geophysical Sciences (<http://geosci.uchicago.edu/>), and Mathematics (<http://math.uchicago.edu/>). Graduate students and postdoctoral scholars working with these faculty members also hold appointments and perform their research in the Institute.

The experimental disciplines currently being pursued include: high-energy particle physics, high-energy astrophysics, studies of particles and fields in the solar system and in space, infrared and optical astronomy, nuclear cosmo-chemistry, geochemistry, scanning electron and proton microscopy, the dark energy search, and solar energy concentration. Theoretical studies include physics of elementary particles, quantum field theory, theoretical astrophysics and solar physics, plasma physics, cosmology, and general relativity.

The Enrico Fermi Institute provides engineering, technical and administrative support for the academic members and students. It includes a state-of-the-art electronics development group and facilities for mechanical design and construction, as well as computational equipment. Special resources include environmental test equipment, large-scale assembly facilities, computer aided design facilities, etc. This makes possible the design of complex instruments, and the in-house construction of detectors needed for experiments in the laboratory, with high-energy particle accelerators, on high-altitude balloons, and in space on satellites, deep space probes and the space shuttle. Most of the high-energy physics activity is focused on the Fermi National Accelerator Laboratory (<http://www.fnal.gov/>) ("Fermilab"), one hour's driving distance from the campus, but experiments are also planned and prepared for the LEP/LHC facility at CERN in Geneva, Switzerland. Offices and laboratories for faculty, students, and staff are located in two buildings: the Michelson Center for Physics (formerly Lab for Astrophysics and Space Research) and the Eckhardt Research Center. The Eckhardt Center, which replaces the Research Institutes building that stood at the corner of Ellis and 57th Street for more than 50 years, opened in autumn 2015, and is the new home of the Astronomy and Astrophysics Center. The Kavli Institute for Cosmological Research now also occupies space in the ERC. The Michelson Center for Physics, following a major renovation, is the new home of the Enrico Fermi Institute, the High-Energy/Particle Physics group, and the Kadanoff Center for Theoretical Physics, and stands at 933 East 56th Street.

The Enrico Fermi Institute annually awards Enrico Fermi, Robert R. McCormick, and Mafalda & Reinhard Oehme Postdoctoral Fellowships on a worldwide competitive basis to recent Ph.D. recipients in astronomy, chemistry, physics, or planetary sciences. In addition, the KCTP awards Leo Kadanoff Postdoctoral Fellowships to researchers in theoretical physics. The purpose of these fellowships is to enable young scientists to work either independently or in close association with present members of the Institute in areas of mutual interest. The intellectual life in the Institute is enhanced by frequent visitors, Visiting Scholars and Distinguished Visiting Professors. The Institute also sponsors a popular Saturday morning public lecture series in the autumn and spring quarters, The Arthur H. Compton Lectures.

Chicago Pile No. 1 (CP-1) was constructed in a makeshift laboratory under the grandstands of Stagg Field Stadium on the University of Chicago campus. It was here that Enrico Fermi and his colleagues achieved the first self-sustaining controlled release of nuclear energy on December 2, 1942. In 1965, the site was designated

a registered national historic landmark. The University celebrated the 75th-anniversary of this achievement in autumn 2017.

