

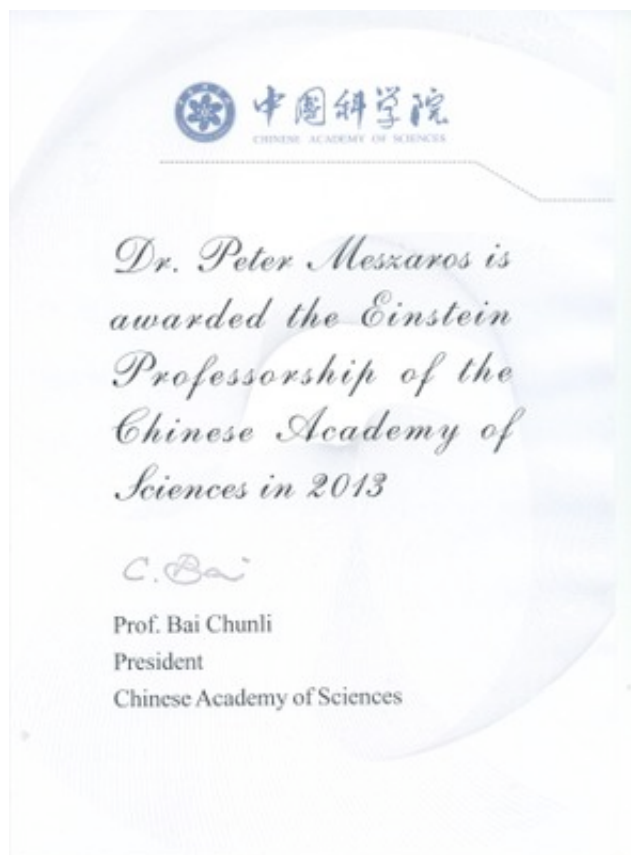
# Einstein Professorship Awarded to Péter Mészáros by the Chinese Academy



Péter Mészáros

30 October 2013 — The Chinese Academy of Sciences has honored **Péter Mészáros**, of Penn State University, by awarding him the 2013 Einstein Professorship. Mészáros, who is the Holder of the Eberly Family Chair in Astronomy and Astrophysics and a professor of physics at Penn State, was honored for his contributions to science during ceremonies from 17 to 27 October in China, where he gave a series of lectures at conferences in Shanghai and Nanjing.

Mészáros is the first recipient of the Einstein Professorship to be honored during ceremonies at the Chinese Academy of Sciences (CAS) Purple Mountain Observatory in Nanjing, which is revered for its role in the development of modern Chinese astronomy. Penn State records also indicate that Mészáros likely is the first Penn State faculty member to be honored with this award. As an Einstein Chair Professor, Mészáros will continue his ongoing research collaborations with researchers at the Chinese Academy of Sciences institutes.



The Einstein Professorship Program is a key initiative of the Chinese Academy of Sciences. Einstein Professorships are awarded each year to 20 distinguished international scientists who are actively working at the frontiers of science and technology. Those who receive the award will conduct lecture tours in China. The goals of the program are to strengthen science and technology links; to foster cooperation and exchange between Chinese Academy of Sciences scientists and the respective Einstein Professors and their laboratories; and to enhance the training of future generations of scientists in China.

Mészáros is highly regarded for his research on gamma-ray bursts, the most powerful type of explosion known in the universe. The research achievements of Mészáros that are lauded by the Chinese Academy of Sciences include his being a founder of the Gamma-ray Burst Standard Model, which predicts that gamma-ray bursts would exhibit X-ray and optical afterglows. This theoretical model, which was developed years before observational scientists had adequate tools to detect and study the predicted afterglow emissions, now is used worldwide to interpret the wavelengths of energy that race toward Earth from gamma-ray bursts that occur at locations throughout the universe.

Mészáros and his collaborators also developed the most widely accepted interpretation of gamma-ray bursts, known as the cosmological-fireball-shock scenario. His predictions of the properties of burst afterglows at X-ray and optical wavelengths were confirmed by observations made with the Beppo-SAX satellite in 1997. Since that time, scientists worldwide have studied more than 800 afterglows in detail. Astronomers are continuing to obtain an increasing number of new and precise afterglow detections, locations, and follow-up observations with observatories including NASA's orbiting Swift multi-wavelength space observatory, for which science and flight operations are controlled by Penn State from the University Park campus.

**中国科学院爱因斯坦讲席教授讲座**  
**CAS Einstein Professorship Lecture**

**The Highest Energy Cosmic Rays and Their Astrophysical Sources**

**Prof. Peter Meszaros**  
 Director, Center for Particle Astrophysics  
 Eberly Chair of Astronomy & Astrophysics  
 Pennsylvania State University

Fellow, American Academy of Arts and Sciences  
 Member, Hungarian Academy of Sciences

**Abstract:** I will review the earliest ideas and experiments on the nature of cosmic rays, and how these concepts and methods developed into the modern era of giant arrays such as the Auger observatory. I will then discuss the current searches for the astrophysical sources capable of accelerating the highest energy particles up to  $10^{20}$  eV.

Peter Meszaros教授现任美国宾夕法尼亚州立大学“粒子与引力天体物理中心”主任，Eberly讲席教授。他是伽马射线暴研究领域的理论奠基人，研究成果四次入选美国《Science》杂志评选出的年度全球10大科技进展，是该领域发表论文和引用最多的学者，2009年入选全球高引用学者之列。其发表SCI超过300篇，被引用超过2.2万次。Peter Meszaros教授还是国际高能天体物理领域（中子星、中微子、引力波等）和宇宙学领域的著名专家，宇宙学中有他名字命名的“Meszaros效应”。Peter Meszaros教授于2000年、2007年2度获得美国天文学会Rossi奖，2010年当选美国艺术与科学院院士和匈牙利科学院院士。

**Time:** 9:00 am October 25, Friday, 2013    **时间:** 10月25日上午9:00 (星期五)  
**Place:** Conference room #416, PMO    **地点:** 中科院紫金山天文台 416会议室  
 2 West Beijing Road, Nanjing    南京市北京西路2号

**Welcome! 欢迎广大老师同学踊跃参加!**

The Chinese Academy of Sciences also cited Mészáros for publishing the most papers in the field of gamma-ray-burst astronomy and for receiving the most citations in other research papers in this field. Listed as a frequently quoted scholar by the Thomson Reuter ISI Science Citation Index since 2009, Mészáros has published more than 350 Science Citation Index papers and has received over 24 thousand citation quotes.

Other research achievements by Mészáros include his research on the physics of magnetized neutron stars and his pioneering work on advection-dominated flows around black holes. In the field of cosmology, he is known for a model that he developed, now known as the "Mészáros Effect," which identified the physics that determines how structures of different masses in the early universe evolved into the galaxies and other objects that we see in our universe today.

In addition to being the lead of the science team for NASA's Swift satellite, Mészáros is a member of other large international observatory projects in Earth orbit and on the ground, including the Fermi Gamma-ray Space Telescope and the Astrophysical Multi-messenger Observatory Network (AMON), and he has been a member of the IceCube Cherenkov Neutrino Observatory in Antarctica.

Among the previous national and international honors that Mészáros has received for his contributions to high-energy astrophysics are his election as a Fellow of the American Academy of Arts and Sciences and his election as a member of the Hungarian Academy of Sciences, both in 2010. He is the author of two books, titled *The High Energy Universe*, published in 2010, and *High Energy Radiation from Magnetized Neutron Stars*, published in 1992.

Mészáros was honored with the Bruno Rossi Prize by the High Energy Astrophysics Division of the American Astronomical Society in 2007 as a member of the scientific team for NASA's Swift space observatory. He also was one of three astrophysicists awarded the Bruno Rossi Prize in 2000, along with colleagues Bohdan Paczynski of Princeton University and Sir Martin Rees of the Royal Observatories in England, for their development of the

## Gamma Ray Burst Standard Model.

He was honored with a John Simon Guggenheim Memorial Fellowship in 1999, with two Smithsonian Fellowships in 1982 and 1990, with an International Research and Exchanges Board Fellowship in 1986, and with a Royal Society Guest Fellowship in 1991. He also was co-recipient of the first prize of the Gravity Research Foundation in 1976.

Mészáros has been a member of the Institute for Advanced Study at Princeton University, the Kavli Institute for Theoretical Physics at the University of California in Santa Barbara, and the Hobby-Eberly Telescope board. He is a member of the science team for NASA's orbiting Swift space observatory. He also is a member of the director's board of the Institute for Gravitation and the Cosmos and Geometry and a member of the Center for Theoretical and Observational Cosmology at Penn State. He has served on numerous committees of NASA, the National Science Foundation, and the American Astronomical Society. He also has served as the chair of the Non-thermal Gamma-Ray Sources Program and the Ultra-High Energy Cosmic Rays, Neutrinos, and Photons Program, both at the Kavli Institute for Theoretical Physics at the University of California in Santa Barbara.

Mészáros received his master's degree in physics from the National University of Buenos Aires, Argentina in 1967, and his doctoral degree in astronomy from the University of California at Berkeley in 1972. After appointments as a research associate at Princeton University and a research fellow at the University of Cambridge in England, he was a staff scientist at the Max-Planck Institute for Astrophysics from 1975 to 1983. He joined the Penn State faculty as an associate professor in 1983, was promoted to professor in 1987, and was named distinguished professor in 2000. He served as head of the Department of Astronomy and Astrophysics from 1993 to 2003 and was named the Holder of the Eberly Family Chair in Astronomy and Astrophysics in 2005.

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## Contacts

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