

Two Theoretical Physicists Share Cosmology Prize

At the Smithsonian Institution in Washington, DC, this month, **Alan Guth** and **Andrei Linde** are receiving the 2004 Cosmology Prize of the Peter Gruber Foundation. This annual award recognizes scientists who have made groundbreaking contributions in cosmology. The prize is sponsored jointly by the foundation, which is based in St. Thomas, US Virgin Islands, and the International Astronomical Union in Paris. Guth and Linde are each receiving a gold medal and will split the purse of \$200 000.

DONNA COVENEY, MIT



Guth



Linde

The prize honors Guth, Victor F. Weisskopf Professor of Physics and Margaret MacVicar Faculty Fellow at MIT, and Linde, professor of physics at Stanford University, for “their development of fundamental ideas of cosmic inflation, which has been one of the dominant themes of cosmology for more than two decades.” The citation adds that “the original concept of inflation and its many variations, including chaotic inflation, proposed and developed by Guth and Linde, have led to a revolution in our approach to studying cosmology and to understanding the history of the universe.”

Inflationary theory describes the early stages of the universe and its structure. Although models of inflationary cosmology were considered in the 1970s by other scientists, in 1981, Guth “pulled the ideas together and pointed out the cosmological problems solved by inflation,” says the citation. He and others, though, recognized some shortcomings in his model. One year later, Linde, in the Soviet Union, improved on Guth’s proposal by providing a model he called new inflation.

He went on to propound other promising versions of inflationary theory, such as the chaotic inflationary universe scenario and the theory of eternal chaotic inflation. Guth and Linde’s original ideas, spanning more than 20 years, says foundation chair Peter Gruber, “have profoundly changed the field of cosmology.”

AIP Gemant Award Goes to Friedman

The American Institute of Physics has named **Alan Friedman**, director of the New York Hall of Science, as the winner of its 2004 Andrew W. Gemant Award.

AIP is honoring Friedman for his “efforts to make science understandable to a large audience and for his vision and leadership within the museum community.” According to the citation, his “understanding and love of physics inform his creative work and have insured that physics has become more deeply embedded into human culture.” The institute also noted that his work has “earned him the reputation of being one of the most knowledgeable and thoughtful practitioners of informal science education.”



Friedman

Zeki Wins King Faisal Science Prize

The King Faisal Foundation in Riyadh, Saudi Arabia, announced in January that **Semir Zeki** is the winner of this year’s King Faisal International Prize for Science (Biology). He received a certificate that is handwritten in Diwani calligraphy, a gold medal, and a cash prize of 750 000 Saudi Arabia riyals (about \$200 000).

Zeki, professor of neurobiology at University College London, was honored for his work on the organization of the visual brain. His contributions, said the citation, have had a “tremendous impact on the biology of vision.” The citation added that Zeki was “the first to show that the visual brain con-

sists of different areas that are functionally specialized to process and perceive different attributes of the visual scene.” His subsequent studies have revealed that “the visual brain perceives different attributes such as motion and color at different times, leading to the now widely accepted theory of temporal asynchrony in vision, which maintains that the visual consciousness consists of many different micro-consciousnesses that are distributed in space and time.”

The King Faisal International Prize for Science was first awarded in 1984. Science prizes rotate annually; next year’s topic will be physics.

Killeen Is AGU’s President-Elect

The American Geophysical Union has a new president-elect: **Timothy Killeen**, director of the National Center for Atmospheric Research in Boulder, Colorado, and a senior scientist at its High Altitude Observatory. He becomes president-elect on 1 July, and in 2006 will succeed **John A. Orcutt** (Scripps Institution of Oceanography), who becomes president this year.

Killeen has a BS in physics and astronomy (1972) and a PhD in atomic and molecular physics (1975), both from University College London. He was at the University of Michigan, Ann Arbor, for more than 20 years, first as a researcher and professor of atmospheric, oceanic, and space sciences and then as director of the university’s space physics research laboratory and associate vice-president for research. In 1992, he was a visiting senior scientist at NASA’s Goddard Space Flight Center in Greenbelt, Maryland.

Killeen says he is “honored to have been nominated and elected to serve the AGU,” which, he says, is “the preeminent professional society representing more than 40 000 geoscientists worldwide.” He adds that “the next several years will be both challenging and exciting as we learn more about how the Earth system



Killeen

UCAR

functions and, in particular, how human activities affect that system in profound ways.”

Other AGU officers elected include **Terry E. Tullis** (Brown University), who was reelected as general secretary, and **Anny A. Cazenave** (Laboratoire d'Études en Géophysique et Océanographie Spatiales et Centre National d'Études Spatiales), who was reelected as international secretary. Both candidates were unopposed.

Sargent Is New Vice President for AAS

On 2 June 2004, **Wallace L. W. Sargent**, Ira S. Bowen Professor of Astronomy at Caltech, will take office as vice president of the American Astronomical Society.

Sargent attended the University of Manchester in the UK, where he earned a BSc in physics in 1956, an



Sargent

MSc in theoretical astrophysics in 1957, and his PhD, also in theoretical astrophysics, in 1959. After completing his PhD, he became a research fellow at Caltech. Between 1966 and 1981, he worked his way up in Caltech's division of physics, mathematics, and astronomy, from assistant professor to the named professorship he now holds. He was a member of the staff at Owens Valley Radio Observatory from 1978 to 1988 and director of the Palomar Observatory from 1997 to 2000.

Sargent says one of the primary functions of the AAS vice president is “to help organize the scientific content of the meetings.” He says he will “maintain a high scientific standard, giving prominence to all fields of astronomy.” A strong advocate of diversity, he adds that “women and minority speakers are particularly important as role models.”

AAS also elected a new secretary, **John A. Graham**, a staff member in the Department of Terrestrial Magnetism of the Carnegie Institution of Washington; he was AAS vice president from 1984 to 1986. **Jill Bechtold** (University of Arizona), **Karen S. Bjorkman** (University of Toledo, in Ohio), and **Alan M. Title** (Lockheed Martin Advance Technology Center) were elected to three-year terms as councilors, and **Melissa McGrath** (Space Telescope Science

Institute) and **Lee G. Mundy** (University of Maryland, College Park) became members of the nominating committee.

In Brief

Jack Wilson, who had been serving as the interim president of the University of Massachusetts since last August, was named president of the system in March. He is a past chair of the American Physical Society's forum on education, was an executive officer with the American Association of Physics Teachers, and was on the governing board of the American Institute of Physics. Wilson was instrumental in AIP's move from New York to College Park, Maryland, and made the preliminary political and legal arrangements for the creation of a tax-exempt American Center for Physics.

Next month, **Viola Vogel** and her research group will move to ETH Zürich to establish a new institute for biologically oriented materials. There, researchers will study the engineering principles of biological nanosystems to inspire new technologies, from tissue engineering to biomedical therapies. Vogel is a professor in the department of bioengineering and an adjunct professor in the physics department at the University of Washington, Seattle.

Michael Atiyah and **Isadore M. Singer** jointly received the Abel Prize for 2004 from the Norwegian Academy of Science and Letters at a ceremony last month at the University Aula in Oslo, Norway. This is only the second time this international mathematics prize has been given. The pair were honored for their “discovery and proof of the index theorem, bringing together topology, geometry, and analysis, and their outstanding role in building new bridges between mathematics and theoretical physics.” Atiyah, who retired in 1997 as master of Trinity College, University of Cambridge, is an honorary professor in the School of Mathematics at the University of Edinburgh. Singer is an Institute Professor in the mathematics department at MIT. The two shared the cash prize of 6 million kroner (about \$861 000).

After 20 years as editor of the *Astronomical Journal*, **Paul Hodge**, professor of astronomy at the University of Washington, Seattle, is leaving that post to spend more time on research. His successor will be **John S.**

Gallagher III, professor of astronomy at the University of Wisconsin–Madison. The transition of editorial offices from Seattle to Madison will be finalized by the time Hodge's term as editor is completed in December 2004.

Next month, **Douglas Durian** and **Andrea Liu** will join the University of Pennsylvania as professors in the department of physics and astronomy. Currently at UCLA, Durian is a professor of physics and Liu is a professor in UCLA's department of chemistry and biochemistry.

Pallab Bhattacharya, James R. Mellor Professor of Engineering and a professor of electrical engineering and computer science at the University of Michigan, Ann Arbor, joined the staff of the *Journal of Physics D: Applied Physics* on 1 January 2004 as the publication's editor-in-chief. He succeeds outgoing editor **Allister Ferguson**, who had held the position since January 1998. Ferguson is a professor of photonics at the University of Strathclyde in Glasgow, Scotland.

The American Mathematical Society and the Society for Industrial and Applied Mathematics awarded the 2004 Norbert Wiener Prize in Applied Mathematics to **James Sethian** at the joint AMS-SIAM meeting in Phoenix, Arizona, in January. Sethian, professor of mathematics at the University of California, Berkeley, was honored for his “seminal work on the computer representation of the motion of curves, surfaces, interfaces, and wavefronts, and for his brilliant applications of mathematical and computational ideas to problems in science and engineering.”

Susan Ginsberg joined the US Department of Homeland Security in December as the senior policy adviser to the science and technology directorate. Ginsberg, who has a background in materials science and planetary studies, had previously been a senior science-policy fellow in the American Physical Society's office of public affairs.

Obituaries

Cornelis Marius Braams

Cornelis Marius “Kees” Braams, a fusion pioneer and emeritus professor in plasma physics at Utrecht University, died in De Heeg, the Netherlands, on 29 July 2003, follow-