

Astronomical and mathematical physics awards go to chaos and X-ray leaders

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The American Institute of Physics (AIP) announces the winners of the 2008 Dannie Heineman Prizes for Astrophysics and for Mathematical Physics. The mathematical physics prize goes to Mitchell Feigenbaum of Rockefeller University “For developing the theory of deterministic chaos, especially the universal character of period doubling, and for the profound influence of these discoveries on our understanding of nonlinear phenomena in physics.”

The astrophysics prize goes to Andrew C. Fabian of the Institute of Astronomy at the University of Cambridge. The citation says that his “innovative and influential work in the field of X-ray astronomy has spanned a wide range of topics, including rotation of massive black holes, the X-ray background, hot gas in rich clusters, and non-thermal emission from accretion disks.”

The Mathematical Physics Prize is awarded on behalf of the Heineman Foundation by the AIP and the American Physical Society (APS) and will be presented to Dr. Feigenbaum at the 2008 April APS meeting. The award consists of a certificate and \$7500. The Astrophysics Prize is awarded by the AIP and the American Astronomical Society (AAS) and will be presented at a future AAS meeting. Again the award consists of a certificate and \$7500.

Mitchell J. Feigenbaum received a B.E.E. from C.C.N.Y. in 1964, and a Ph.D. in theoretical high energy physics under F. Low at MIT in 1970. Afterwards he worked at Cornell (1970-72), VPI (1972-74), Los Alamos

(1974-82), Cornell again (1982-86), and as Toyota Professor at Rockefeller University (1986-present). Since 1996 he has been Director of the Center for Studies in Physics and Biology. He has been a visiting member of The Institute for Advanced Studies and I.H.E.S. Feigenbaum's most widely known work is in nonlinear dynamics.

His unanticipated discovery of the scaling theory of the "onset of chaos" spawned new directions in mathematics, and moved dynamical systems into the world of physics. His more recent work includes research on fluids, and various studies of vision. During the 90's he worked on cartography. Feigenbaum is a Fellow of the APS, and a member of the National Academy of Sciences and the American Academy of Arts and Sciences. He received the Lawrence Award, 1982; a MacArthur Foundation Award, 1986; and the Wolf Prize in Physics, 1986, among other prizes and prize lectures.

Andrew Fabian, born 20 February 1948), attended King's College London and later received a PhD from the University College London (1972). He worked for one year at the Mullard Space Science Laboratory (MSSL) before moving on to Cambridge, where he has worked ever since. Fabian is a Royal Society Research Professor at the Institute of Astronomy, Cambridge, and Vice-Master of Darwin College at Cambridge. He is a Fellow of the Royal Society and is Editor-in-Chief of the astronomy journal *Monthly Notices of the Royal Astronomical Society* and has won the Bruno Rossi Prize. Author of over 700 refereed articles (77 of which have received at least 100 citations), he is head of the X-ray astronomy group at the Institute of Astronomy.

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