Kedlaya Receives PECASE Award

KIRAN KEDLAYA of the Massachusetts Institute of Technology has been chosen to receive a 2006 Presidential Early Career Award for Scientists and Engineers (PECASE) for his work in the mathematical sciences. He was one of fifty-eight young researchers to receive the award, the highest honor bestowed by the U.S. government on outstanding young scientists, mathematicians, and engineers who are in the early stages of establishing their independent research.

The recipients were selected from nominations made by eight participating federal agencies. Each awardee receives a five-year grant ranging from US$400,000 to nearly US$1 million to further his or her research and educational efforts.

—*From an NSF announcement*

Khare Wins Fermat Prize

CHANDRASHEKHAR KHARE of the University of Utah has been awarded the 2007 Fermat Prize for his proof, in collaboration with Jean-Pierre Wintenberger, of Serre's modularity conjecture in number theory.

The Fermat Prize, given every two years, recognizes outstanding research in the fields in which Pierre de Fermat made significant contributions: statements of variational principles, foundations of probability and analytical geometry, and number theory.

The prize carries a cash award of €20,000 (approximately US$29,300).

—*From a Université Paul Sabatier announcement*

Kutyniok Receives 2007 von Kaven Prize

GITTA KUTYNIOK of Princeton University has been selected to receive the 2007 von Kaven Prize in Mathematics for her outstanding work in the field of applied harmonic analysis. This prize is awarded by the von Kaven Foundation, which is administered by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation). Kutyniok, who was born in 1972 and is currently funded in the DFG's Heisenberg Program, received the prize at the Gauss Lecture, held by the Deutsche Mathematiker-Vereinigung (German Mathematical Society) in Marburg in November 2007. This is the third time the von Kaven Prize has been given. The prize includes a cash award of €10,000 (approximately US$14,000).

This year's winner of the von Kaven Prize is working on wavelets, curvelets, and something she herself developed called shearlets, which are systems of functions that can be useful in signal analysis. Her research has very tangible applications. For instance, the shearlets Kutyniok developed assist in the analysis of vast amounts of data. In particular, they can be used to detect the geometric properties of data volumes, for instance the direction of edges in images. This makes these functions useful for purposes such as analyzing data generated by tomography and other medical imaging techniques and for data compression of image formats such as JPEG. Working together with Canadian researchers, Kutyniok hopes to use shearlets to identify stable and efficient algorithms for the analysis of seismic signals generated by studies of the Earth's crust. She is also investigating the fundamental properties of function systems, as well as the mathematical modeling of sensor networks using the theory of fusion frames.

—*From a DFG announcement*

Lauret Awarded ICTP/IMU Ramanujan Prize

JORGE LAURET, professor of differential geometry at the Universidad Nacional de Córdoba, Argentina, has been awarded the 2007 Srinivasa Ramanujan Prize "in recognition of his outstanding contributions to differential geometry and group representation."

The prize is awarded annually by the Abdus Salam International Centre for Theoretical Physics (ICTP), and the prizewinner is selected by ICTP through a committee of five eminent mathematicians appointed in conjunction with the International Mathematical Union (IMU). The prize recognizes a researcher from a developing country who is less than forty-five years of age on December 31 of the year of the award and who has conducted outstanding research in a developing country. Funding for the US$10,000 cash award comes from the Niels Henrik Abel Memorial Fund through the participation of the International Mathematical Union.

—*Allyn Jackson*

Dani Receives TWAS Prize in Mathematics

TWAS, the Academy of Sciences for the Developing World, has announced the winners of the TWAS Prizes for 2007. Each winner will receive a US$10,000 check and be invited to lecture about his or her research at the academy's Silver Jubilee anniversary celebration, scheduled to take place in Mexico City November 10–13, 2008.

SHRIKRISHNA DANI, senior professor, School of Mathematics, Tata Institute of Fundamental Research, Mumbai, has been named the winner of the 2007 TWAS Prize in mathematics for his fundamental contributions to the study of unipotent flows on homogenous spaces of Lie groups. He has also made significant contributions to probability measures on Lie groups. Dani is also well known for his work on the behavior of orbits on homogenous space concerning, for example, closure, distribution,