

TWAS annual Prize Award 2004

TWAS, the academy of sciences for the developing world, has announced its 2004 prize winners. The annual TWAS Prizes, awarded in eight fields of scientific research, rank among the highest scientific accolades given to scientists in developing countries. Each TWAS Prize carries a cash award of US\$ 10,000.

Agricultural Sciences: Mohammad J. Malakouti, Faculty of Agriculture, Tarbiat Modarres University, Tehran – for his innovative approaches to fertilizer application and for improving N:P:K ratios from 100:85:03 to 100:45:23 plus 2 per cent micronutrients.

Biology: Jorge Kalil, School of Medicine, University of São Paulo, Brazil – for his fundamental contributions to the understanding of how infectious agents trigger and maintain human auto-immune diseases.

Chemistry: Miguel Angel Blesa, National University of General San Martín, San Martín, Argentina – for his work on inorganic (metal oxides) in aqueous environ-

ments: mechanisms of dissolution and reprecipitation, adsorption and desorption, and catalysed reactions at the solid: water interface.

Earth Sciences: Adolpho José Melfi, University of São Paulo, Brazil – for his outstanding work in rock alteration, surface geochemistry and tropical soils.

Engineering Sciences: Aizhen Li, Shanghai Institute of Microsystems and Technology, Chinese Academy of Sciences, China – for her pioneering contributions to the growth and characterization of hetero-junction semi-conductor microstructures for electronic and photonic devices, in particular for achieving artificial nano-quantum structures by molecular beam epitaxy (MBE).

Mathematics: Yiming Long, Nankai Institute of Mathematics, Nankai University, Tianjin, China – for his fundamental contributions to Hamiltonian dynamics, in particular for establishing the index iteration theory for symplectic paths and deep

studies on periodic solution orbits of Hamiltonian systems.

Medical Sciences: Shiv Kumar Sarin, Department of Gastroenterology, G. P. Pant Hospital, New Delhi, India – for his work in significantly enhancing our understanding of the pathophysiology and haemodynamics of non-cirrhotic portal hypertension, and classification and management of gastric varices, and for his introduction of band ligation for primary prophylaxis of variceal bleeding that entirely changed the concept of the management of portal hypertension.

Physics: Spenta R. Wadia, Department of Theoretical Physics, Tata Institute of Fundamental Research Mumbai, India – for his significant contributions to non-perturbative-quantum field theory and string theory, in particular (i) in the use of the large N limit; (ii) two-dimensional gravity and non-critical string theory; and (iii) the treatment of black holes in string theory.

AMS Rossby medal for Shukla

Jagadish Shukla of the Climate Dynamics Program at George Mason University and President of the Institute of Global Environment and Society is a recipient of the 2005 Carl-Gustaf Rossby Research Medal of the American Meteorological Society.

The Rossby Medal is presented to individuals on the basis of outstanding contributions to the understanding of the structure or behaviour of the atmosphere. The award,

in the form of a medallion, represents the highest honour that the Society can bestow upon an atmospheric scientist. Shukla is being recognized for 'fundamental contributions and inspired leadership in understanding the variability and predictability of the climate system on seasonal to interannual time scales'.

Shukla received his Ph D from Banaras Hindu University, India and his Sc D from

the Massachusetts Institute of Technology, USA. He has received the Walker Gold Medal of the Indian Meteorological Society and the Exceptional Scientific Achievement Medal of the National Aeronautics and Space Administration. He is a Fellow of the American Meteorological Society, a Fellow of the Indian Meteorological Society and an Associate Fellow of the Third World Academy of Sciences.

R. A. Mashelkar takes over as President of INSA

Raghu Nath Anant Mashelkar, took over as the President of Indian National Science Academy (INSA) on 28 December 2004 at the 70th Annual General Meeting of INSA held at Chennai.

Mashelkar holds a Ph D degree from Bombay University. He has occupied various academic positions in Europe and USA including that of a Visiting Professor

at Technical University of Denmark and at University of Delaware. He joined the National Chemical Laboratory (NCL), Pune in 1976 and headed the Chemical Engineering Division from October 1978 until he took over as the Director of the laboratory in 1989. Mashelkar is currently the Director General of CSIR. He has over 235 research publications to his credit in non-Newto-

nian fluid mechanics, gel science and polymer reaction engineering.

Mashelkar is one of only three Indian engineers to have been elected as a Fellow of Royal Society (FRS), London. He is also Foreign Fellow of US National Academy of Engineering.