

### **Professor Sajeew John**

#### *Photonic Band Gap Materials: A New Frontier in Quantum and Nonlinear Optics*

Sajeew John is a professor of physics at the University of Toronto. He received his Bachelors degree in physics in 1979 from the Massachusetts Institute of Technology and his PhD in physics at Harvard University in 1984. His Ph.D. work at Harvard introduced the theory of classical wave localisation in disordered systems and in particular the localisation of light in strongly scattering dielectrics. From 1984 -1986 he was an NSERC postdoctoral fellow at the University of Pennsylvania as well as a laboratory consultant to the Corporate Research Science Laboratories of Exxon Research and Engineering from 1985-1989. From 1986-1989 he was an assistant professor of physics at Princeton University. While at Princeton, he co-invented (1987) the concept of photonic band gap materials. He was a laboratory consultant to Bell Communications Research (Red Bank, NJ) in 1989. In the fall of 1989 he joined the senior physics faculty at the University of Toronto. He is also a project leader for Photonics Research Ontario, a Canadian centre of excellence and is an associate member of the Canadian Institute for Advanced Research. His current research interests include light localisation, photonic band gap materials, applications of lasers in medicine, and high temperature superconductivity.

### **Professor Jeffrey Harris**

#### *Plasma Physics: Innovation in Energy and Industrial Technology*

Professor Jeffrey Harris is the Director of the National Plasma Fusion Research Facility and the Head of the Plasma Research Laboratory in the Research School of Physical Sciences and Engineering in the Institute of Advanced Studies at the Australian National University. He was born in the US and educated at the Massachusetts Institute of Technology (MIT) and the University of Wisconsin. His research interests have centred on the physics of ionised gases - plasmas - and the development of fusion energy technology to produce electricity using the reactions that power the sun and the stars. He has also worked on technological applications in digital signal processing and wireless communications. He came to the ANU in 1997 after nearly twenty years of research at the Oak Ridge National Laboratory, during which time he worked on international research projects in Russia, Japan and France.

### **Professor Roger Horn**

#### *Surfaces Cover Everything*

Roger Horn is Professor of Materials Science and Deputy Director of the Ian Wark Research Institute at the University of South Australia at Mawson Lakes, Adelaide. He was originally trained as a physicist, gaining a Bachelors degree from Monash University, in 1971, and a PhD from the University of Cambridge, in 1976. Following a post-doctoral fellowship working on the physics of liquid crystals at the Université de Paris-Sud at Orsay, Horn spent ten years at the Australian

National University in Canberra working on an area of colloid science involving measurements of forces acting between solid surfaces separated by very thin liquid films. After that he worked for five years at the US National Institute of Standards and Technology in Gaithersburg, Maryland, conducting research into the processing and mechanical properties of ceramic materials, before returning to Australia to take up his present position in 1992. There he continues his research into solid-solid, solid-liquid and liquid-liquid interfaces.

### **Professor Chris Greene**

#### *Photoionization of Light Atoms and Molecules: A Window into Few-body and Many-body Dynamics*

Chris H. Greene has held the position of Professor of Physics and Fellow of JILA at the University of Colorado since 1989. Prior to that he was on the physics department faculty at Louisiana State University from 1981 through 1988. Greene's undergraduate work was carried out at the University of Nebraska. His graduate research in theoretical atomic and molecular physics was guided by Ugo Fano at the University of Chicago, with the PhD degree awarded in 1980. The following year was spent in a postdoctoral stint with Richard Zare at Stanford University. Greene's current research interests include: multiple ionisation and fragmentation processes in few-electron atoms and simple molecules; photoionization of atoms and molecules throughout the periodic table; collisions between two or three ultracold atoms; theoretical description of Bose-Einstein condensates.

