The Australian Institute of Physics
Tasmanian Branch

UTAS

Lasers in medicine and public health

Professor Jim Piper
Macquarie University, Sydney

Tuesday, November 16, 2010, 6:00 PM
Physics Lecture Theatre 1
Sandy Bay Campus, University of Tasmania

ABSTRACT:
Professor Jim Piper has extensive and wide-ranging expertise in the development of laser sources and laser techniques for applications in medicine and public health. In this lecture he will review key developments of laser science and technology in the first 10 years and discuss how light interacts with living tissue and organisms, as a basis for understanding important laser applications in medicine. A number of laser therapies will be described, including laser surgery, laser vascular surgery, dermatology and cosmetic surgery, laser ophthalmology and even laser dentistry. Finally, a range of laser diagnostics related to medicine and public health will be introduced, with a focus on flow cytometry and recent developments in rapid pathogen detection. The talk is suitable for a general audience.

SPEAKER PROFILE:
After completing his BSc(Hons) and PhD (in Atomic Physics) at Otago University, New Zealand, Jim Piper worked as a Postdoctoral Research Fellow in Laser Physics at Oxford University (1971-75). He joined the staff of Macquarie University, Sydney in 1975 and was appointed as Professor in Physics in 1984. He was Director of the Australian Research Council Special Research Centre for Lasers and Applications from 1988 to 1996, and Dean of Information and Communications Sciences at Macquarie University from 1997 to 2002, before taking up the position of Deputy Vice-Chancellor (Research) in 2003. He has had substantial experience with the Australian Research Council, including Research Training and Careers, and National and International Cooperation Committees. Jim Piper has been author or co-author of over 260 refereed journal articles and full-length conference proceedings, and has supervised to completion more than 30 PhD students. He is inventor or co-inventor of 12 awarded patents, and has had substantial experience in commercialisation of research-derived IP including by way of licensing and start-up companies. As Deputy Vice-Chancellor (Research) he has overall responsibility for strategy, policy and management of Macquarie's Research, Higher Degree Research and Commercialisation programs.

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