

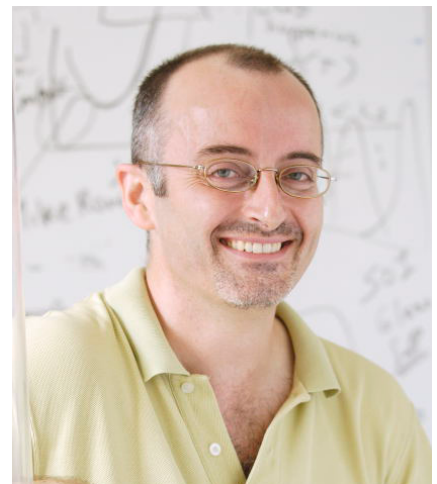


WELCOME TO THE NEW HEAD OF SCHOOL

Professor Clive Baldock, Professor of Medical Physics and previously the Director of the Institute of Medical Physics in the School of Physics, has taken over from Professor Anne Green as the Head, School of Physics. A graduate from the University of Sussex and the University of London in the UK, he moved to Australia in 1997 and commenced employment as Lecturer and then Senior Lecturer in Medical Physics in the Centre for Medical, Health and Environmental Physics, School of Physical Sciences, Queensland University of Technology in Brisbane leading the Radiotherapy Physics and Dosimetry Research Group. His research interests included

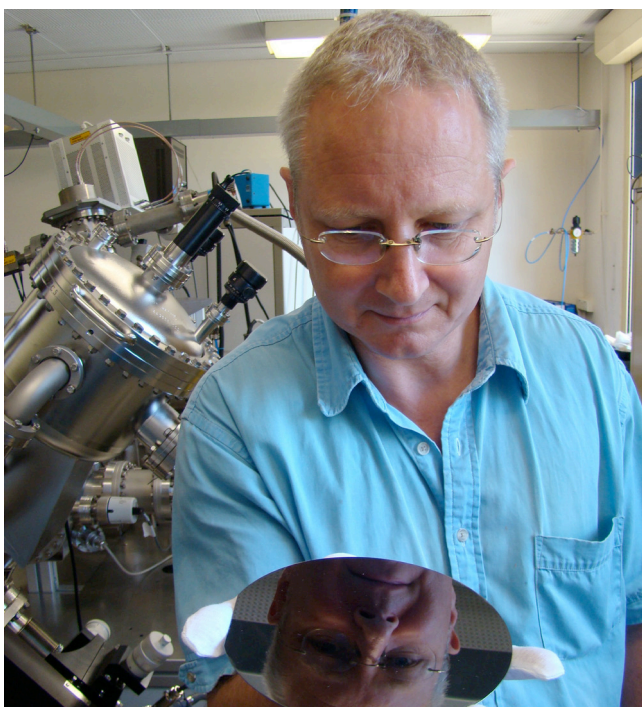
most aspects of radiation physics, radiotherapy physics, radiation therapy and dosimetry and medical imaging. He has published over 100 research papers.

In the School of Physics Prof. Baldock was responsible for initiating the introduction of the Master of Medical Physics and Master of Applied Nuclear Science degrees. Prof. Baldock is a Fellow of the Australasian College of Physical Sciences and Engineering in Medicine, a Fellow of the Australian Institute of Physics, a Fellow of the Institute of Physics in the UK and a Fellow of the Institute of Physical Sciences in Medicine also in the UK, a member of the American Association



of Physics in Medicine and a member of the International Society for Magnetic Resonance in Medicine.

Professor Green, an astrophysicist, is currently undertaking a six-month research sabbatical in Italy where she is studying the Northern Cross.



MULTIPLE WAVELENGTH LASERS

The ultra-small revolution has begun with the invention of a new laser that will allow light to be used on a computer chip. Assoc. Professor David Moss (seen left), a senior researcher within the School of Physics and his international team have developed a multiple wavelength laser on a silicon chip that produces light to process and transmit information and in doing so will speed up computing. "The on-chip light source will be key to enabling the simultaneous transmission of multiple data channels either on-chip or between chips in a single optical fibre, each at a different wavelength," says David, adding that this technology will ultimately provide the consumer with cheaper and faster computers.

CONTINUED OVERLEAF

MULTIPLE WAVELENGTH LASERS CONT

“Currently information on a chip is shuffled around using electronic signals over copper wires, or interconnects. We know that metal is prone to ‘choking’ on the bandwidth bottleneck.” David’s paper, “CMOS-Compatible Integrated Optical Hyper-Parametric Oscillator”, published

in January in Nature Photonics (concurrent with a report from Cornell University on a similar device), says using light for simultaneous multiple information processing is an important breakthrough.

Though multiple wavelength sources are already known, the team has developed them on a chip that, in principle, can not only be integrated with silicon computer chips (i.e. CMOS) but can be also fabricated using the same methods. The device, based on high index doped silica glass, is low loss and has a high degree of

manufacturability and design flexibility. This makes it an ideal integrated multiple wavelength source not just to improve computing power, but for a wide range of applications including telecommunications, high-precision broadband sensing and spectroscopy, metrology, molecular fingerprinting, optical clocks, and even attosecond physics. David is based within the Institute of Photonics and Optical Science (IPOS). For more information on optics and photonics research visit:

www.usyd.edu.au/ipos/

HONOURING EXCELLENCE

A TRIBUTE TO EMERITUS PROFESSOR HARRY MESSEL AC CBE

Thursday 20 May 2010 | 6.00PM – 8.00PM

The Great Hall, The University of Sydney

The Science Foundation for Physics honours founder, Emeritus Professor Harry Messel AC CBE, as he celebrates his 88th birthday in 2010. His contribution to science and technology within Australia has been significant. His passion and enthusiasm for physics knows no bounds. His vision for a science literate community and the encouragement of young people to pursue a career in science is inspired. As Head of the School of Physics at The University of Sydney Messel built SILLIAC – the first Australian-built computer, raised funds for physics

research and teaching, founded the Science Foundation for Physics (the first Foundation in Australia), understood the importance of science education and communication encouraging Year 11 and 12 students to pursue careers in science through the International Science School. Alumni and friends are invited to show their appreciation of Professor Harry Messel’s visionary contribution to science and technology within Australia at a gala reception to be held on Thursday 20 May in The Great Hall. RSVPs essential.



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SCIENCE FOUNDATION FOR PHYSICS COUNCIL MEMBER AWARDED



Past-President and long-time Council Member of the Science Foundation for Physics, Dr Peter Jones, was honoured with a Member of the Order of Australia (AM) on Australia Day (26 January). Dr Jones has made a significant contribution to technology within Australia and credits Emeritus Professors Harry

Messel AC CBE and John Bennett as positive influences in his choice of career. Jones worked on SILLIAC, a vacuum tube supercomputer, while still a student in the School of Physics in 1956. From there he started his own high-tech companies, twenty, in fact. He was awarded the AM for his service to the information technology industry, the promotion of internet-based communications networks and to science education. But don’t expect to find him blogging or on Facebook, “I leave that to my grandkids. It’s a whole other world out there now.”

NEW LOOK

You might have noticed Alumni Update has a new look. This fits in with the new look of the University of Sydney. It’s cleaner, leaner and easier to identify that we’re part of the University. Even the School of Physics and Science Foundation for Physics now fit in with the new style – check it out at:

sydney.edu.au/science/physics/

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