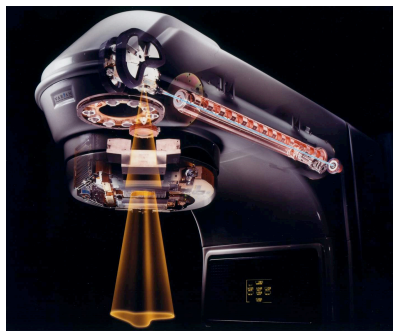


Winter Public Lecture Series in Physics
in honour of Alexander and Leicester McAulay



Medical Physics,
Advancements in Radiation Oncology
and the Royal Hobart Hospital
Redevelopment

Dr Steven Wallace
Chief Physicist, Royal Hobart Hospital

Wednesday, 18 July 2012, 8:00 PM
Physics Lecture Theatre 1, Sandy Bay Campus, University of Tasmania

ABSTRACT:

Although cancer is a disease that can afflict a person of any age, the prevalence is skewed to later age groups. As Australia's population both grows and shifts demographically, greater cancer treatment services will be required, including in Tasmania. Medical Physicists are fulfilling a key role in the expansion and ongoing delivery of such services across the nation, and within the state.

A Medical Physicist specialises in the application of the concepts and methods of physics to the diagnosis and treatment of human disease. Another way of looking at it is the medical physicist forms a bridge between fast evolving medical technology (and its use of physics principles) to more "mainstream" clinical professions.

This talk will take a quick look through the Medical Physics Disciplines of Therapy, Diagnostic Imaging, Medical Nuclear and Medical Health, before focussing on the author's specialty – Therapy - and the dramatic advances that have occurred over the past decade in linear accelerator technology and computer optimisation of treatment. We will then look at work underway at Royal Hobart Hospital to expand on our current service provision, bring Tasmania recent advancements in therapy and imaging technologies (sometimes combined!), and how we will use these technologies to implement world leading cancer treatment techniques.

SPEAKER PROFILE:

Steven Wallace is dual certified in clinical Radiation Oncology Physics by the ACPSEM and the US ABR in addition to being certified in Medical Dosimetry by the US MDCB. He is a full member of the ACPSEM, AAPM and ASTRO. Steven is the Chief Radiation Oncology Medical Physicist at Royal Hobart Hospital (RHH) and is overseeing much of the redevelopment of the Radiation Oncology department at RHH. This includes design and construction of a third "bunker" to house a state-of-the-art linear accelerator being installed in September this year.

Prior to moving (back) to Hobart, Steven was Chief Physicist at Providence Alaska Medical Centre in Anchorage Alaska (2007-2010), leading the commissioning of a new comprehensive Radiation Oncology facility after accomplishing the same (2002-2006) at Redding Cancer Treatment Centre, Redding California.

Steven completed his PhD at the University of Wollongong (1992-1995) developing patient CT based Monte Carlo radiation transport treatment planning for cancer therapy, and whilst doing so being presented two AIP awards for outstanding postgraduate research. Prior to this, Steven completed his undergraduate studies at the University of New South Wales (1987-1991). He was presented with numerous awards spanning both theoretical and experimental physics, including the AIP award for highest aggregate in level III physics, best overall performance in the physics honours course and the head of school prize for best honours thesis researching "Magnetic Resonance Imaging (MRI) of clinical (blood) flow" culminating in Steven being awarded the University Medal.

Steven was also fortunate enough to be selected to be a winter expeditioner with the 1999 Australian National Antarctic Research Expedition (ANARE) Atmospheric and Space Physics team, residing at Casey Station Antarctica for 17 months.

This is the first lecture in this year's Winter Public Lecture Series in Physics. The series started in 2002 and is held in honour of Alexander and Leicester McAulay, two renowned Physics professors, who were inspiring teachers and did significant research at the University of Tasmania during the early years.

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