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Prof Joe Trapani

Executive Director Cancer Research
Peter MacCallum Cancer Centre Melbourne

“Perforin, Immunoregulatory functions and structure/function relations”

Monday 24 August 2015 12:00PM, AUDITORIUM

HOST: PROF DAVID THOMAS

Joe Trapani received his medical degree in 1977 and his PhD in 1985, from The University of Melbourne and The Royal Melbourne Hospital. He completed physician training (FRACP) in Rheumatology (1985) and received his PhD in the immunogenetics of HLA-associated disease, particularly B27-related arthropathy. Joe first became interested in how the immune system defends us against viruses and cancer while working as a post-doctoral fellow at the Sloan-Kettering Cancer Institute, New York where he worked in Bo Dupont's lab. Here, Professor Trapani discovered and characterised a number of the genes and proteins used by killer lymphocytes to eliminate virus-infected cells. He found that one protein (perforin) forms pores in the target cell and provides access for other proteins (granzymes) to enter and trigger cell death by causing apoptosis (programmed cell death). With his colleagues, Professor Trapani has also devised novel ways of harnessing the power of these killer lymphocytes and adapted their use to adoptive immunotherapy for various cancers. Joe's team has further identified a rare group of children with inherited defects of perforin function and shown that they are abnormally susceptible to leukaemia.

In 2011, Professor Trapani received a \$6.8 million award from the Wellcome Trust (UK), to lead a consortium of Australian, New Zealand and Chinese research teams, aiming to develop a new class of immune-suppressive drugs that protect transplanted bone marrow stem cells against immune destruction mediated by the pore-forming protein perforin.

Joe Trapani is Executive Director Cancer Research, Peter MacCallum Cancer Centre Melbourne, where he leads the Cancer Immunology Program. Professor Trapani's research interests include the immunopathology of viral and auto-immune diseases, apoptosis induction by cytotoxic lymphocytes and cancer immunotherapy, and he has authored more than 270 research papers, reviews and book chapters on these topics. Joe Trapani is also a member of the Executive (Board) and Chair of the Medical and Scientific Committee of the Cancer Council Victoria and of many peer-review bodies in academia and industry.