UNSW SYDNEY | Australia's Global University

School of Medical Sciences

Seminar Series

Wednesday 13 April 2022
3:00 – 4:00pm MS Teams

Professor Peter Gunning
School of Medical Sciences UNSW

'Targeting the actin cytoskeleton for new therapeutic strategies'

Professor Peter Gunning is a world leader in the field of the actin cytoskeleton and has defined an underlying principle that governs the composition and mechanism of actin filament functions in animal cells. All organisms assemble multiple types of linear actin filaments that are involved in many diverse cellular functions. How these diverse functions are achieved has been a major question in the field of cell biology. He discovered that actin filament diversification in animal cells occurs through the use of tropomyosin isoforms that form co-polymers with actin and serve as gatekeepers to directly regulate proteins that interact with actin. His research career has been devoted to studying tropomyosins of which there are over 40 isoforms in humans.

The impact of his work has been extensive and long lasting. He has generated the most comprehensive set of tropomyosin isoform-specific antibodies which are distributed by Sigma-Merck-Millipore, and knock-in, knock-out and overexpressing mouse models. He discovered that tropomyosins are druggable and developed the first anti-tropomyosin compound, TR100, also distributed by Sigma-Merck-Millipore. Total citations of his publications are over 17,400 with 42 publications cited at least 100 times and has an H-index of 68 (Google Scholar, March 2022). He was awarded the President's Medal of the Australian and New Zealand Society of Cell and Developmental Biology in 2021.
Since his move to UNSW in 2008 he has served as the Presiding Member of the UNSW Animal Ethics Committee (2009-2013), Deputy Dean (Research) Faculty of Medicine (2013-2015), Acting Dean Faculty of Medicine (2017) and Head of the School of Medical Sciences (2015-2019).
In 2018 he together with Prof Edna Hardeman established the company TroBio Therapeutics to develop and commercialise drugs that target tropomyosin isoforms in a range of human indications. He was awarded a CRC-P grant from the Department of Industry, Science, Energy and Innovation to develop anti-tropomyosin drugs that target cancers.

He served as Chair of the Division of Research at the Children's Hospital at Westmead and was President of the Australian Society for Biochemistry and Molecular Biology. His recognition of the importance of engagement with industry led to the formation of Bio-Link, a company initially supported by the NSW Government to facilitate the recognition and commercialisation of IP in NSW-based institutions. He played a lead role in the Cancer Institute NSW as an architect of the Research Funding Programs, served as the Chair of the Cancer Research Advisory Committee and subsequently as a member of the Board of the Cancer Institute.

SoMS Seminar Co-convenors

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