

The members of the board of the CSMB express great sadness about the sudden passing away of Dr Tony Pawson. His career was exceptional and receiving the society senior investigator award in 1997 was only one of many distinctions. We regret the loss of a pillar of Canadian science.

Les membres du conseil de la SCBM expriment leur profonde tristesse suite au décès de Dr Tony Pawson. La carrière du Dr Pawson était exceptionnelle et le décernement du prix d'investigateur senior de la société en 1997 était juste une des multiples distinctions qu'il a reçues. Nous regrettons la perte d'un pilier de la science canadienne.

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***Tony Pawson – 2013 CNPN distinguished award in Proteomics research***

*Through his original identification of the archetypal protein interaction module, the SH2 domain, and his subsequent embracement of technologies for mapping protein interactions, Tony Pawson has played an essential and instrumental role in powering the successful wave of proteomics research and in nurturing the many outstanding proteomics scientists in Canada.*

Tony Pawson is inarguably one of Canada's most influential biomedical scientists and has contributed to several areas of research, notably through the publication of ~450 scientific manuscripts. Dr. Pawson made a radical discovery in the mid-1980s, which introduced an entirely new framework for understanding dynamic cell signaling in normal and disease states. He found that cytoplasmic tyrosine kinase oncoproteins have folded non-catalytic domains which are critical for their transforming activity. He went on to define the conserved SH2 domain, and to show that it controls the enzymatic properties of such tyrosine kinases, and their interactions with cellular targets. In a physiological setting, he showed that the autophosphorylation of receptor tyrosine kinases creates docking sites for the conserved SH2 domains of diverse cytoplasmic effectors. His discoveries were the nidus for the identification of a large family of interaction domains that control virtually every aspect of cellular function. His work established the multi-domain nature of regulatory proteins, revealed the general mechanisms underlying signaling from cell surface receptors and intracellular cues, and elucidated the predominant function of post-translational modifications. The present concepts that signaling networks are primarily formed through regulated protein-protein interactions, mediated by dedicated interaction domains, and that aberrant protein interactions are a fundamental cause of human disease, are directly attributable to Pawson's work. He has thereby uncovered a completely new and overarching principle of cellular organization, and has transformed and codified our understanding of protein regulation and function. Over the past decade, his pioneering findings that oncogenic tyrosine kinases toggle between active and inactive states, and that cellular pathways and networks are assembled through protein interactions, have underpinned rational design and mechanistic understanding of clinically important signal transduction inhibitors.

Throughout his work, Dr. Pawson has developed and applied cutting-edge technologies, primarily proteomics approaches. He authored some of the earliest studies of mammalian protein-protein interaction networks (e.g. for the 14-3-3 proteins and the WW domains), and devised clever ways to monitor bidirectional signaling events in mammalian cells. Sustained and active collaborations with mass spectrometry vendor AB SCIEX have enabled Dr. Pawson to build a pioneering laboratory dedicated to the development of novel tools in mass spectrometry and proteomics. The success of this collaboration is evidenced by multiple large grants (CFI, Genome Canada, Ontario Research Fund) in this area. Dr. Pawson continues to innovate, as evidenced by his recent coupling of affinity purification with selected reaction monitoring which enables him to accurately track signaling events downstream of receptor tyrosine kinases (Bisson, Nature Biotech, 2011; Zheng et al., Nature, 2013). He most recently expanded this type of approach to enable the monitoring of network rewiring in embryonic stem cells (Findlay, Cell, 2013).

The great impact of Prof. Pawson's numerous accomplishments on biomedical research has been acknowledged by multiple awards, including the Gairdner award, the Kyoto Prize in Basic Sciences and the Wolf Prize in Medicine. He is a member of the Order of Ontario, is an officer in the Order of Canada, and was appointed by Queen Elizabeth II to the Order of Companions of Honour.