

Special Lecture Series

All welcome



Walter and Eliza Hall Institute

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www.wehi.edu.au

Understanding the inner workings of ATP synthase using Cryo-EM



Dr Meghna Sobti

Senior Research Officer
Victor Chang Cardiac Research Institute

The F_1F_0 ATP synthase rotary generator produces the majority of cellular energy. We have used cryo-Electron Microscopy combined with functional assays and mutations to examine *E. coli* ATP synthase under a range of biologically relevant conditions. These methods elucidate the role of regulatory subunits along with the importance of torsional flexibility between components that control the efficiency of the enzyme.

Dr Meghna Sobti completed her Bachelor of Science (Microbiology) and Master of Science (Biotechnology) in Delhi, India. She, thereafter, worked in a United Nations funded research institute (International Center for Genetic Engineering and Biotechnology) developing low cost protocols for production of pharmaceutically relevant proteins. She then moved to Australia in 2005 to pursue her PhD at Macquarie University, under the supervision of A/Prof. Bridget Mabbutt, examining structure and function of RNA binding proteins. She joined Victor Chang Cardiac Research Institute as a postdoc with Dr Daniela Stock and has continued as Senior Research Officer in Dr Alastair Stewart's lab. Her main goal has been to understand the working of one of the crucial metabolic enzymes, the ATP synthase, functions by elucidating three-dimensional structure of the intact proton translocating complex using Cryo-EM under different biologically relevant conditions. She has published several papers in the field, enhancing knowledge of the biology and working of this molecular machine.

Tuesday 15 December 2020, 12 – 1pm

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Including Q&A session

Host: Dr Onisha Patel, ACRF Chemical Biology division