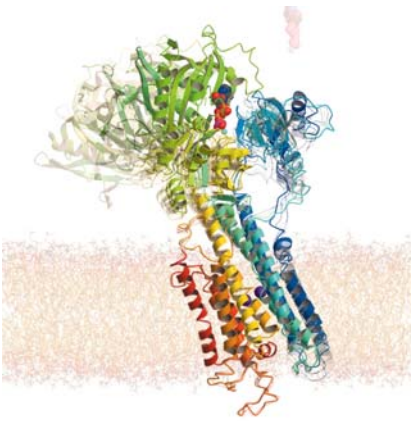

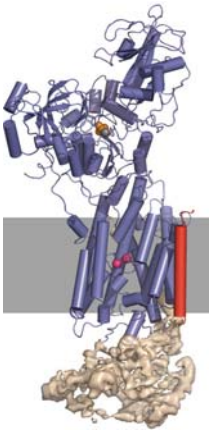

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International Conference on Biological Inorganic Chemistry, Ann Arbor, USA

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豐島教授是日本國家科學院院士以及美國國家科學院外籍院士，目前任職於 Institute of Molecular and Cellular Biosciences，University of Tokyo，並擔任美國加州大學柏克萊分校希區考克講座。本次講題針對肌漿膜上的 calcium pump，由冷凍電子顯微鏡到蛋白質單晶繞射，終至分子動態模擬的研究成果與歷程，作有系統的討論。

豐島教授於 1954 年出生於日本秋田。在他青少年時，即清楚顯示出對科學的強烈興趣。他 1973 進入東大物理系研讀，於 1978 選擇生物物理為未來研究方向，並在 1980 獲得碩士學位，旋即於 1983 年獲頒博士學位。獲得博士學位後，于東大擔任兩年研究助理後，赴美史丹佛大學進行博士後研究(1986-1988)，又在英國劍橋 MRC 擔任研究員(1988-1989)，之後回到日本服務，於 1989 年起，在理化學研究所(RIKEN)擔任 Frontier Research Project 的研究員。他在 1994 年受聘為東大教授，2005 獲選為美國國家科學院外籍院士，2007 年獲得美國國家講座，2008 年擔任美國加州大學柏克萊分校希區考克講座。

豐島教授精通數學與物理，是位非常傑出的生物物理學家。他的科學生涯由研究肌肉纖維與離子通道的電子顯微鏡學研究開始切入，得到先前科學界從未研究過的生物材料的原子級結構，再使用 X-ray 蛋白結晶學的技術，解出了 calcium-ATPase 在各種 transition states 下的結構。豐島教授的 calcium pump 研究發紉於 1989，他得到了鈣離子幫浦的首張影像，可以看到此幫浦分子在工作

運動中的近原子級細節，並解釋為何這個結構需要如此，也就是說嘗試解釋生物分子結構背後的物理意義。這些影像，在許多的期刊年曆中，被用來做為封面--因為其圖像的精準與美麗反映了生物物理中的和諧與優雅。