

國立交通大學應用數學系

學術演講公告

主講人：Prof Yoichiro Mori (University of Minnesota)

講題：Modeling Osmotic Transmembrane Water Flow with
Moving Interfacial Membranes

時間：106 年 4 月 11 日(星期二) 下午 2:00 –3:00

地點：(光復校區) 科學一館 223 室

茶會：當天下午 1:30 (科學一館 205 室)

Abstract

Electrolyte and volume balance is fundamental to cell physiology, and its importance is increasingly recognized in cell movement and proliferation. After a review of cell volume control, we present a PDE model of cell volume and electrolyte balance in the presence of moving interfacial membranes. A unified treatment of electrodiffusion, osmosis and cell mechanics is made possible by requiring that the model satisfy an appropriate free energy identity. We then discuss our efforts in developing a computational method to solve the resulting equations, based on the immersed boundary method for fluid-structure interaction and cartesian grid embedded boundary method for solute diffusion. This work is a collaboration with Chun Liu, Bob Eisenberg and Lingxing Yao.

敬請公告 歡迎參加

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