

第 123 回化学コロキウム

日時：平成 20 年 6 月 6 日(金) 15:00~17:00

場所：8号館 309号室

演者：Hsuan-Yi Chen 教授 (National Central Univ., Taiwan)

演題：Statistical mechanics of reversible non-covalent bonds: from single molecule experiment to cell adhesion

Abstract: Adhesion on subcellular scale is mediated by specific non-covalent molecular bond working cooperatively. Experimental studies on the adhesion molecules have been focusing on characterizing the strength of a single complex under external force, but little attention has paid to the cooperative effect in multiple parallel bonds. I shall begin with a discussion on the characteristics of single adhesion complex, including the rupture rate under weak and strong force, the effect of rebinding, and the interpretation of existing experimental data. After discussing single adhesion complex, I will show that by constructing the effective free energy of a cluster of parallel adhesion complexes, a system of multiple parallel bonds under external force can be studied by theoretical methods similar to those used for single adhesion complexes.

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