

Biomedical Discussion Group

Lecture: “Mussel Power: Defining the Essentials for Translation to Technology”

Thursday August 13, 2015

3:30 – 4:30 pm

Engineering 6 (E6) Room 2024

[Dr. J. Herbert Waite](#), PhD, Professor of Biochemistry

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University of California, Santa Barbara (UCSB)

Abstract:

There are huge economic incentives for engineering practical adhesives that perform well in the presence of salt water and on oxidized, corroded or fouled surfaces. Mussels routinely make adhesive bonds underwater, so some of us are looking to these organisms for innovative design strategies. Biomimetic efforts all need to come to terms with a critical question: How much biological insight is necessary to make a high-performance, synthetic version? In the case of wet adhesion, the answer is “quite a bit”, and this will be showcased using the catechol-rich adhesive proteins isolated from the mussel. Catechols are wonderfully versatile groups for interfacial interactions with minerals and metal oxides– but only if their redox tendencies are under stringent local control. Mussels appear to be masters of redox control.

Biosketch:

Dr. Waite received his A.B. from Harvard University in 1971; Ph.D. in Biochemistry from Duke University in 1976; he worked as a Postdoctoral fellow at the University of Copenhagen and among other institutions. Then he became a professor at the University of Delaware in the Chemistry and Marine Studies programs for 12 years before moving to UCSB in 1998. Dr. Waite was elected a Fellow of the American Association for the Advancement of Science in 2009 and is co-leader of IRG-1 for the new Materials Research Science & Engineering Center (MRSEC) at UCSB. Dr. Waite also currently serves as the Vice Chair of the Biomolecular Science & Engineering Graduate Program (BMSE), which is much favored by graduate students desiring to work at the interface between science and engineering.

If you are interested in meeting with Dr. Waite, please email [Dr. Ting Tsui](#).

Event is FREE – please RSVP via EventBrite

Coffee/cookies will be available

Pay parking available in lots B or N ([map](#))

*Hosted by the Department of Chemical Engineering and co-sponsored by
The Centre for Bioengineering and Biotechnology (CBB)*

