

ACS October 2009 Regular Meeting

October 15, 2009

7:00 pm

Education Center (ED) 1101
University of Southern Indiana

Speaker: Dr. Jonathon Wilker
Associate Professor of Chemistry
Purdue University

Title: Biomaterials at the Beach: Characterizing
and Mimicking Adhesives from Mussels and
Barnacles

Dinner: 5:30 pm at O'Charley's
5125 Pearl Drive
Evansville, IN 47712

RSVP for dinner by October 14th to Derek Lake
Derek.Lake@sabic-ip.com

Abstract

Mussels and barnacles are examples of the many marine organisms that affix themselves to surfaces by generation of glues and cements. These biological materials are produced by deposition of proteins onto surfaces and then cross-linking these proteins to provide the final, cured matrix. Our laboratory is characterizing this chemistry by working with live mussels, extracted protein, and synthetic peptide models. Along the way we have discovered that mussels make use of iron and oxygen chemistry to cure their glue. Here we will discuss our latest characterization insights. We will also present recent efforts to develop biomimetic materials by incorporating adhesion chemistry into synthetic polymers.