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CHEMISTRY SEMINAR 291

Exploring the Role of Protein Conformational Dynamics in Molecular Recognition using NMR

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Date: 5/3/19
Time: 1:30 PM
Location: COB1 267

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ABSTRACT

Proteins often bind small molecules modulators or substrates with dynamic substructures. Knowing how the internal motions of these substructures change upon substrate binding can help guide inhibitor design. NMR spectroscopy is an attractive means for identifying these changes, as it can profile sequence-specific changes over a broad time scale. Accordingly, this presentation will discuss our NMR studies of bacterial proteins supporting resistance to beta-lactam antibiotics. While our findings are still restricted mainly to the protein backbone, they suggest enhanced protein flexibility can amplify antibiotic resistance.

BIO:

Biography

2010-present
Associate Professor, University of Notre Dame
2010-present
Concurrent Associate Professor, Department of Physics, University of Notre Dame
2003-2010
Assistant Professor, University of Notre Dame
1994-2003
Senior Investigator, Structural Biology and Biophysics, Vertex Pharmaceuticals
1993-1994
Postdoctoral Fellow, ETH-Zürich, Switzerland
1993
Ph.D. in Molecular Biophysics, University of Michigan
1987
B.S. in Applied and Engineering Physics, Cornell University

Selected Awards

2011
Edmund P. Joyce Award for Excellence in Undergraduate Teaching
1993-1994
Damon Runyon-Walter Winchell Cancer Research Fund Postdoctoral Fellowship
1989-1991
Molecular Biophysics Predoctoral Training Fellowship