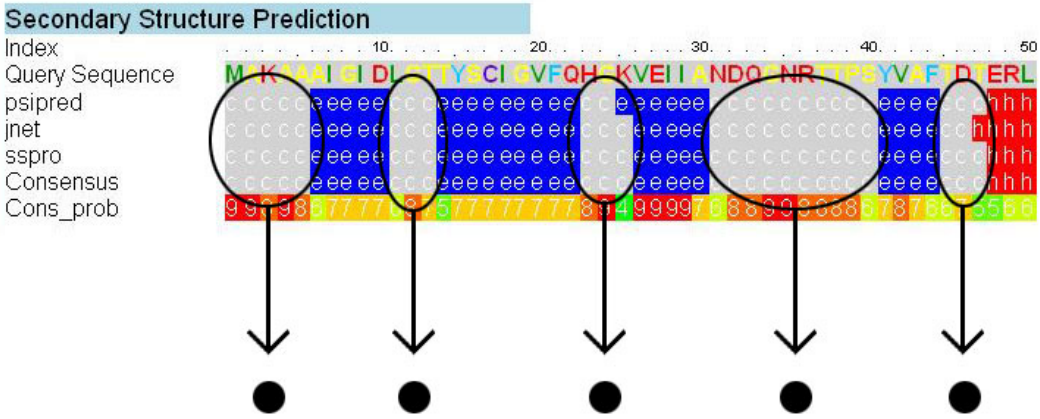
BCMB
Spring 2009 Seminar Series

Seminar Sponsored by:
Scalable Computing and Leading Edge Innovative Technologies (SCALE-IT)
The National Institute of Mathematical and Biological Synthesis (NIMBioS)

Dr. Debra Knisley
ETSU Professor of Mathematics

In addition to Dr. Knisley's professorship at ETSU, she was an NSF-sponsored researcher at the James H. Quillen College of Medicine's Department of Molecular Biology and Biochemistry (2005-2006) and held a New Directions Professorship at the Institute for Mathematics and Its Applications at the University of Minnesota (2007-2008) during the thematic year of the Mathematics of Molecular and Cellular Biology. Her work in discrete mathematical modeling of biomolecules includes graph-theoretic models of RNA, amino acids, and protein structures. A primary question that she and her collegues seek to answer is whether and to what degree are these structures combinatorially efficient. In particular,

- **Can measures of efficiency employed in computer network design be used to describe secondary RNA structures numerically?**
- **Can combinatorial optimization methods be seen in the packing of secondary structures in proteins?**
- **Does information theory offer a meaningful way to understand molecular communication?**



Wednesday, February 18, 2009 3:30-4:30 PM
Room M307 Walters Life Sciences
Refreshments will be served.
Hosts: Dr. Cynthia Peterson and Dr. Lou Gross

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