The Department of Chemical and Biomolecular Engineering at The Johns Hopkins University

Presents

The 2008 John C. and Florence W. Holtz Lecture Wednesday, March 5, 2008

3:00 P.M. Seminar	Mergenthaler Hall Room 111
Refreshments to follow	Maryland Hall Room 109

Carol K. Hall

Department of Chemical and Biomolecular Engineering North Carolina State University

Thermodynamic and Kinetic Origins of Alzheimer's and Related Diseases: a Chemical Engineer's Perspective

The pathological hallmark of more than twenty neurodegenerative diseases, like Alzheimer's, Parkinson's and the prion diseases, is the presence within the brain of plaques containing ordered protein aggregates called fibrils. It is not yet known why these structures form in some individuals and not in others, or whether the plaques are toxic or Nature's way of sequestering toxic species. Dr. Hall will describe current thinking on the scientific underpinnings for this phenomenon, and her computational efforts to contribute to our knowledge of how and why proteins assemble into fibrils.