



# SEMINAR *Program*

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## *University of Minnesota*

*SPECIAL SEMINAR*

*Professor William Scott*

*“Catalysis and Structure of the Hammerhead Ribozyme”*

Wednesday, August 15, 2007

11:00 a.m.

231 Smith Hall

Host: Darrin M. York

Refreshments will be served prior to seminar

Professor Scott is an Associate Professor in the Department of Chemistry and Biochemistry and the Center for the Molecular Biology of RNA, University of California at Santa Cruz

<http://xanana.ucsc.edu/scottlab/>

Since the discovery that RNA can be an enzyme, a fundamental question has emerged: How does an RNA molecule fold up into a precise three-dimensional structure capable of catalyzing a chemical reaction? This problem is interesting not only from the point of view of living organisms, but also in terms of trying to understand how a pre-biotic "RNA World" populated by ribozymes, as evolutionary precursors of today's protein enzymes found in all living organisms, might have functioned. The first ribozyme structure to be elucidated was that of the hammerhead RNA, a small self-cleaving RNA. Currently we are attempting to understand the catalytic mechanism of this RNA, and to elucidate the structures of several other catalytic RNAs as well as various structural genomic and other non-coding RNAs. A recently published example is the crystal structure of the s2m RNA from the SARS virus 3'-UTR.

**Selected publications:**

Science 315: 1549-1553 (2007).

Cell 126: 309-320 (2006).

Nature 437: 1187-1191 (2005)