

2005 Kenneth G. Hancock Memorial Student Award

Anindya Ghosh, under the guidance of Professor Terry Collins at Carnegie Mellon University, was selected for the design, synthesis and application of green catalytic oxidation systems using Fe-tetraamido macrocyclic ligand (Fe-TAML®) activators and hydrogen peroxide. The Fe-TAML®/hydrogen peroxide system behaves like peroxidases, oxidizing many organic molecules, and offering a cleaner and safer method for a number of industrial processes, including wastewater treatment, pulp and paper bleaching, and laundry applications. Anindya's research included the elucidation of mechanism details and decomposition routes of the Fe-TAML® activators, the design and synthesis of novel Fe-TAML® complexes, and the application of Fe-TAML® activators as oxidation catalysts. Anindya demonstrated, for the first time, that ferric iron [Fe(III)] is able to activate dioxygen via coordination chemistry in a homogeneous solution. In addition, Anindya's work provided new understanding of how TAML® catalysts degrade under acidic pH. By following Professor Collins' iterative design approach, Anindya was able to synthesize modified Fe-TAML® activators that successfully oxidize organic molecules in acidic regimes. Anindya also contributed to studies on the catalytic decomposition of chlorophenols and other organic pollutants by the Fe-TAML®/hydrogen peroxide system.

**American Chemical Society
Division of Environmental Chemistry
Student Awards Committee**

Fall Meeting 2005

1. There were 7 applicants for the Graduate Student Paper Award. Manuscripts were sent out for review in January. Thanks to the following reviewers: Namgoo Kang, Pamela Rice, Sadika Baladi, Chris Pepper, Kevin Johnson, Audra Morse, and Andrew Jackson.

Each manuscript received at least 2 reviews. Based on the average scores and reviewer comments, I sent letters to Kalyani Martinelango, David Cwiertny, Lorien Fono, Karlin Danielsen, and Chanlan Chun indicating that they were the 2005 winners. The Award Symposium is scheduled for Tuesday afternoon followed by the Division dinner at which the award presentations will be made. Karlin Danielsen was scheduled to give birth around the time of the meeting, so she is unable to attend.

2. The 2006 award announcements will be mailed in September.

Todd Anderson