



UNIVERSITY OF MINNESOTA
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Department of Chemistry

Special Seminar

4 p.m. Friday, April 22 • 331 Smith Hall



Assistant Professor

Pavel Nagorny

Department of Chemistry
University of Michigan

Development of new catalytic methods for the synthesis of natural products

Research is focused on (i) design of new natural product-based agents for the treatment of human diseases; (ii) development of non-enzymatic catalytic processes for the regio- and stereoselective assembly of oligosaccharides and glycoconjugates; (iii) discovery of new organic transformations and processes that could improve the accessibility of bioactive natural products and therapeutic agents.

Website: <http://www.umich.edu/~nagornyp/>

Abstract

This seminar will focus on our recent progress in developing new catalytic transformations for the synthesis of natural products. Our group has long-term interests in discovering and utilizing catalyst-controlled variants of the transformations that are traditionally believed to proceed through highly reactive oxocarbenium ion intermediates, and we will present our recent studies on chiral catalyst-controlled stereoselective spiroketalization, regioselective acetalization and catalyst-controlled regio- and stereoselective glycosylation reactions. In addition, the development and use of tandem Michael/Aldol/Aldol reactions for the rapid assembly of polyoxygenated cardiac steroids 19-hydroxysarmentogenin and trewianin aglycone will be presented.

Host: Professor Joseph Topczewski