

TOMISLAV ROVIS

**Samuel Latham Mitchill Professor
Department of Chemistry, Columbia University**



Thursday, November 9th

10:30am - 11:30am

Steele 006

“Redshifting Photoredox Catalysis”

Biography: Tomislav Rovis was born in Zagreb, Croatia, but was largely raised in Southern Ontario, Canada. Following his undergraduate studies at the University of Toronto, he earned his Ph.D. degree at the same institution in 1998 under the direction of Professor Mark Lautens. From 1998-2000, he was an NSERC postdoctoral fellow at Harvard University with Professor David A. Evans. In 2000, he began his independent career at Colorado State University and was promoted in 2005 to Associate Professor and in 2008 to Professor and John K. Stille Chair in Chemistry. His group's accomplishments have been recognized by a number of awards including an NSF CAREER and a Roche Excellence in Chemistry award. He has been named a GlaxoSmithKline Scholar, Amgen Young Investigator, Eli Lilly Grantee, Alfred P. Sloan Fellow, Monfort Professor at Colorado State University, Fellow of the American Association for the Advancement of Science, Katritzky Young Investigator in Heterocyclic Chemistry, and an Arthur C. Cope Scholar. In 2016, he moved to Columbia University where he is currently Samuel Latham Mitchill Professor of Chemistry.

Abstract: Visible light irradiation covers a range of wavelengths that corresponds to 40-70 kcal/mol of energy. While blue and purple light is most common and enabling, the use of these wavelengths has limitations with respect to substrate scope and material penetration. We have developed a suite of Os-based catalysts that undergo spin forbidden excitation directly to the triplet state in the deep red (DR) and near infrared (NIR) range, facilitating low energy excitation for photoredox catalysis. Catalyst discovery, synthetic applications and biological imaging will be discussed.