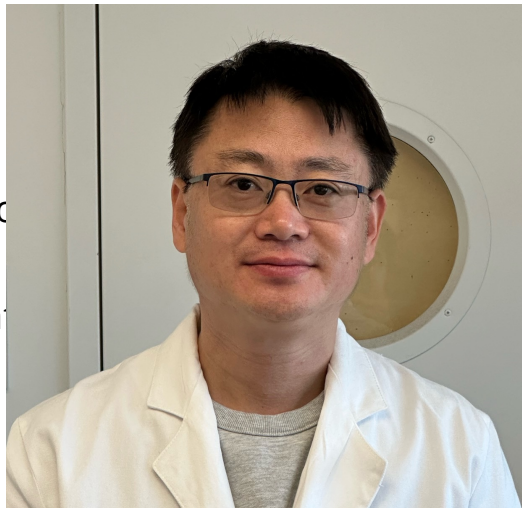
ACS Local Section
New York
Long Island Subsection

# Isoxazoles as Versatile Synthons & Iodine-mediated Reactions



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**Thursday, February 1, 2024**
6:45 PM via Zoom
(Registration required prior to event)
Click here to register

**Abstract:** The seminar presentation consists of two parts. The first part will discuss the synthetic applications of various transition metal-catalyzed cascade ring-opening and rearrangement reactions of isoxazole derivatives, including palladium-mediated tandem catalysis and iron-mediated reductive ring-opening and cascade reactions. A brief introduction of the research background will be covered, including late transition metal-catalyzed cascade reactions and transfer hydrogenation reactions. The application of the in-house aged *N*-methyl-2-pyrrolidone as an economic and efficient hydrogen donor will be highlighted in the first part.

In the second part, iodine-mediated interconversion of methyl homopropargyl ethers to α-iodo-γ-chloroketones as well as the carbon-nitrogen cross-coupling reaction between aldehydes and amides will be discussed. Background introduction to the synthesis of halogenated ketones as well as imide bonds will be discussed. An interesting electrotonic effect observed in the iodine-catalyzed carbon-nitrogen cross-coupling reaction will be covered. Specific attention will be paid to the intriguing C-C bond cleavage and formyl transfer reaction between electron-rich aromatic aldehydes and amides, which will highlight the second topic. Mechanistic studies on both the iodine-mediated functional group interconversion and the single electron transfer C-N cross coupling reaction will be discussed as well.

**Biography:** Yu Chen got his B.Sc. and M.S. degrees at Nankai University, China. He then pursued his Ph.D. degree at the University of Toronto with Professor Andrei Yudin and postdoctoral work at the Iowa State University with Professor Richard Larock. He started his independent career at Queens College — CUNY in August 2009. His research interest includes transition metal catalysis, iodine mediated functional group interconversion and oxidative couplings, asymmetric synthesis and catalysis, and heterocyclic chemistry.

*Presented by the Long Island Subsection of the American Chemical Society*