

**SPRING 2023  
CHEMISTRY  
SEMINAR SERIES**



**DR. TIANNING DIAO**

*Department of Chemistry*

*New York University,  
New York, NY*

**HOST:  
DR. PROKOPCHUK**

**ALL THOSE  
INTERESTED ARE  
WELCOME TO ATTEND**

**“Nickel-Mediated Radical Pathways and  
Applications to Organic Synthesis”**

**Friday, February 3, 2023, 11:30 AM  
Life Science Center II, Room 130**

**Abstract:** Reactions involving organic radical intermediates have been traditionally regarded as overly reactive and unselective. Nickel complexes can reversibly coordinate to radicals and modulate the reactivity and control the selectivity of reactions involving radical intermediates. Our mechanistic studies answer fundamental questions, such as "how do nickel complexes initiate radical formation from various precursors", "how do radicals interact with nickel complexes", and "How do ligands serve to stabilize open-shell intermediates and facilitate catalytic reactions?" Mechanistic insight has enabled us to develop novel catalytic methods for synthesizing noncanonical peptides and carbohydrates that are critical to drug discovery.

**Biographical Sketch:** Tianning Diao is an Associate Professor of Chemistry. She received her Ph.D. in Chemistry from the University of Wisconsin–Madison in 2012 and conducted postdoctoral research at Princeton University from 2012 to 2014. Since joining the faculty of NYU in 2014, she has focused on understanding the mechanism of nickel-catalyzed cross-coupling reactions and developing new methods to address challenges in organic synthesis of sustainable energy conversion. Diao is a recipient of the NSF-CAREER award (2016), Sloan Research Fellowship (2018) Chinese-American Chemistry Professors Association Distinguished Junior Faculty Award (2018), Organometallics Distinguished Author Award (2018), Camille-Dreyfus Teacher-Scholar Award (2019), and the Cope Scholar Award (2023).

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