UNIVERSITY OF RHODE ISLAND
Department of Chemistry
SEMINAR

3:00 P.M., Monday, March 4, 2024
Room 105 – Beaupre Center

Prof. Vince Rotello

University of Massachusetts Amherst

Bioorthogonal nanozymes: Harnessing the power of transition metal catalysis for in situ therapeutic generation

HOST

Lorenzo Mosca and Fang Wang
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Bioorthogonal nanozymes: Harnessing the power of transition metal catalysis for *in situ* therapeutic generation

Prof. Vincent M. Rotello
University of Massachusetts Amherst

We are developing nanocatalysts whose structure and function mimic those of enzymes. These ‘nanozymes’ use hydrophobic monolayers on gold nanoparticles and inside polymers to encapsulate transition metal catalysts (TMCs). Encapsulation both protects the TMC and controls access to the ‘TMC ‘active site’. In our research we are employing these nanozymes to perform bioorthogonal chemistry in living systems, providing access to new modalities for biomedical applications. We will discuss the engineering of these systems to replicate key enzymatic properties, as well as applications of nanozymes as therapeutic and imaging agents.