Researchers in Professor VanVeller's group aim to develop tools to interrogate, understand and manipulate the interactions that occur between biomolecules. Synthetic chemistry and the development of new methods underpin all aspects of their research, and they apply the principles of chemistry toward the precise molecular-level design and engineering of these systems.

Professor VanVeller received his Bachelor of Science degree in chemistry from McMaster University (Canada), and his doctorate from the Massachusetts Institute of Technology. He then moved to the University of Wisconsin–Madison as a Canadian Institutes of Health Research Post-doctoral Fellow. He joined the faculty at Iowa State University in 2014.

Information:
https://z.umn.edu/VanVellerBrett

Surfing the excited state energy surface towards new applications in photochemistry and biomedicine

Professor Brett VanVeller
Department of Chemistry
Iowa State University

We present recent work on the study and application of environmentally sensitive excited states. Our central hypothesis is that environmentally sensitive deactivation of the molecular excited state can be used to selectively turn a photo-deprotection reaction ON and OFF. Because photochemistry is a zero-sum competition of the rates of different excited state processes, the manipulation of those rates by the environment selects which pathway is dominant. We discuss applications in material synthesis, biomedical diagnostics and peptide chemistry.

Host: Professor William Pomerantz
Visit: chem.umn.edu/chemistry-events for a schedule of upcoming seminars.