Profile of an Early-Career Researcher

William Pomerantz, PhD

Assistant Professor
University of Minnesota
Minneapolis, MN
Research Group Site

Prof. William Pomerantz is an Assistant Professor of Chemistry at the University of Minnesota. He obtained a Bachelor's degree in chemistry from Ithaca College in 2002. From 2002-2003, he studied under Professor François Diederich and Professor Emeritus Jack Dunitz at the Swiss Federal Institute of Technology, (ETH, Zürich) under a Seydel/Fulbright Fellowship. With the guidance of Prof. Samuel Gellman and Prof. Nick Abbott, he graduated with his Ph.D. in chemistry from the University of Wisconsin-Madison in 2008, where he worked on biophysical studies of rationally designed β-peptides and their higher-ordered assemblies. From 2009-2012, he studied molecular interactions of transcription factor complexes on an NIH NRSA postdoctoral fellowship with Prof. Anna Mapp at the University of Michigan. He started his independent lab at the University of Minnesota in 2012.

Prof. Pomerantz's research program develops new chemistry- and structure-based discovery approaches to study protein-protein interactions (PPIs) implicated in cancer and heart disease. His lab applies NMR and MRI to visualize biomolecular interactions and uses novel small molecules to perturb protein function. His recent focus is in the area of fragment-based ligand discovery applied to the field of epigenetics. One method developed in his lab employs metabolic labeling of proteins with fluorinated amino acids for use in protein-based 19F NMR small molecule screens. His lab uses ^{19}F NMR to determine how a molecule interacts at a protein surface to inform the use of chemistry to design new molecules with more potent activity. His lab recently used this approach to discover the first small molecule inhibitors of BPTF (Bromodomain PHD Finger Transcription Factor) to understand its role in regulating transcription in cancer, and is currently following up on the role of this protein in regulating the oncogenic protein, c-Myc.

His lab's research and educational goals have been recognized by an NSF CAREER award, Cottrell Research Scholar Award, and a recent designation as a "rising star in chemical biology" by the International Chemical Biology Society. His laboratory's research using 19F NMR has attracted attention in both academic and industrial settings, leading to collaborations with researchers at the University of Minnesota, the Moffitt Cancer Center, Cold Spring Harbor, Eli Lilly, and others. Prof. Pomerantz is an author of 31 research articles. His lab has attracted funding from the National Institutes of Health, the National Science Foundation, the Research Corporation, the American Cancer Society, the Sidney Kimmel Cancer foundation, the Masonic Cancer Center, the American Heart Association, and Eli Lilly.