Jonathan Sachs, Ph.D.
Department of Biomedical Engineering, University of Minnesota, Minneapolis, MN 55455.
jnsachs@umn.edu

With over 25 years of research experience, Dr. Jonathan Sachs received a Ph.D. in Biomedical Engineering from Johns Hopkins University, focusing on Molecular Dynamics Simulations of Membranes under the guidance of Dr. Thomas Woolf. After his Ph.D., Dr. Sachs performed postdoctoral research under the mentorship of Dr. Donald Engelman at Yale University, where he focused on the hydrophobic matching mechanism of lipid bilayers.

Dr. Sachs is now a tenured Professor in the Department of Biomedical Engineering at the University of Minnesota where his laboratory studies the biophysics of intrinsically disordered proteins (IDPs) and tumor necrosis factor receptors (TNFRs) and the applications of the fundamental understanding of these proteins in translational medicine and drug discovery. With more than 50 publications to his credit, Dr. Sachs currently focuses on (1) targeting the toxic IDP oligomers and aggregates formed by self-assembly of tau, alpha-synuclein or huntingtin proteins that are implicated in various neurodegenerative diseases, and (2) studying the structure-function relationship of TNFRs as well as discovery of small molecules that modulate the receptor function and their mechanisms of action.

Notable publications from Dr. Sachs’s lab that influenced the IDP and TNFR fields are:


Jonathan’s key advice to graduate students and postdocs is, “Networking is a major part of doing good science. Look for supportive mentors (not just your advisor) who have your best interests in mind always, but also foster supportive relationships with colleagues at your stage of career development. Be a resource, believe in your vision, and be honest. Always be eager to expand your toolkit: be agile as a scientist, don’t get bogged down, the field moves quickly and you should work hard to keep up on the literature.”

Check out the Sachs lab’s webpage: http://sachslab.umn.edu/

Dr. Chih Hung Lo obtained his Ph.D. in Biomedical Engineering from University of Minnesota in 2019 under the mentorship of Dr. Jonathan Sachs (advisor) and Dr. David Thomas (co-advisor). His doctoral thesis focused on the topic “Discovery of small molecule modulators of protein-protein interactions by FRET-based high-throughput screening and structure-based drug design”. After his Ph.D., Chih Hung conducted postdoctoral research focusing on mouse genetics in Alzheimer’s disease at Brigham and Women’s Hospital, Harvard Medical School.

With 6 years of research experience, Dr. Lo has 10 publications in renowned journals to his credit.