Welcome to the Gestwicki Laboratory!

Protein homeostasis is the balance of protein synthesis, folding and degradation. We are interested in how molecular chaperones, such as Hsp70 and Hsp90, work together to maintain this delicate equilibrium. This goal is important because protein homeostasis is dramatically disrupted in many diseases, especially neurodegeneration and cancer. Our approach is to create small molecules that disrupt (or promote) interactions between chaperones. Using these chemical probes, we perturb protein-protein interactions and learn how the chaperone network is "wired". These studies have taken us into many exciting areas and revealed a number of unexpected drug targets. Please see the Publications section for a list of our recent work and check out the People section to see the diverse, dedicated team we have assembled around these ideas.