

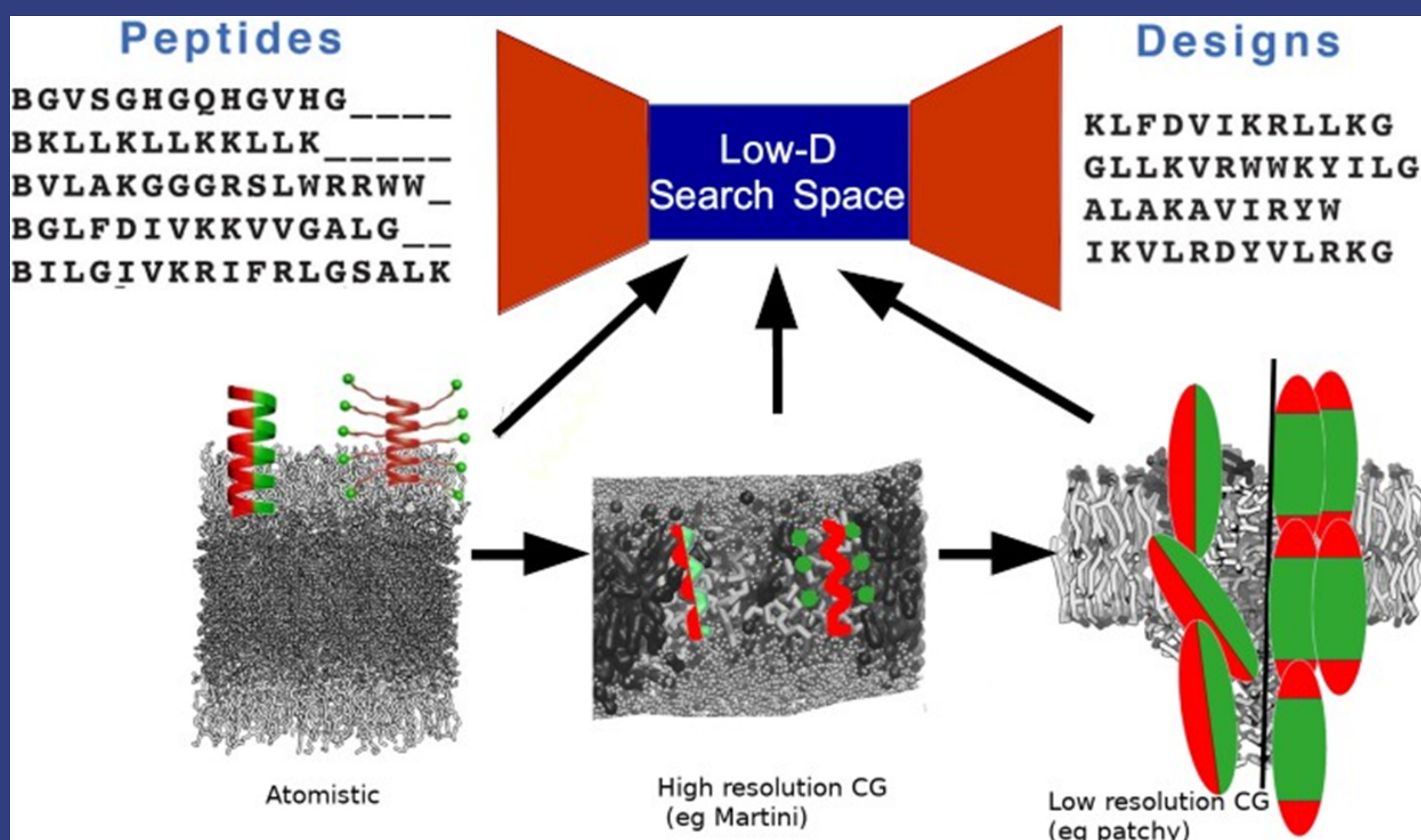


COLLOQUIUM SEMINAR SERIES

NOTHING IS A STRAIGHT LINE: SOLVING NON-LINEAR BIOPHYSICAL PROBLEMS (INCLUDING LIFE)



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Physicists enjoy simplicity; there is a reason that the spherical cow in a vacuum is a running joke. And simplicity can be very important in making progress on complex problems. If there is some way to reduce the number of considerations in a problem from thousands even to hundreds, it is often a much easier problem to solve. But how do you know what's important? There is no one single, straight answer. I will talk today about some of the tactics I take towards problems—in my science, in my career, and in my mental health. I will introduce you to techniques such as multi-scale molecular dynamics simulations, deep learning, and dimensionality reduction, in the context of one of my lab's major areas: the design of small proteins (antimicrobial peptides or AMPs) that can destroy bacteria. I will also describe some of our early results in probing and describing search spaces for AMPs and assessing the molecular properties of an unusual beta-sheet-forming AMP. Along the way, I will describe my own career trajectory and some advice I have for younger scientists from all backgrounds (but spoilers! my favorite piece of advice is to ignore any advice that isn't right for you.)

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featuring

Dr. Ré Mansbach

Wednesday, November 30, 2022 | 3:30pm

Location: CCT2150