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## Machine Optimization and Generation of Proteins

### **Abstract**

Machine learning can accelerate protein engineering by learning from information contained in all measured variants and using it to select variants that are likely to be improved. However, it still requires a starting point for optimization and several rounds of optimization. Generative machine learning models, which learn to sample valid protein sequences with desirable properties, have the potential to find starting points for function unknown in nature and to sample a higher diversity of sequences. In this seminar, he will present some successes and shortcomings of machine-learning guided protein engineering and new developments in building generative models of proteins.

### **Biography**

Dr. Kevin K. Yang is currently a senior researcher at Microsoft Research New England, working on machine learning to solve biological problems. He completed his PhD at Caltech in 2018 with Dr. Frances Arnold, who won the Nobel Prize in Chemistry in 2018. Kevin completed his undergraduate degree in Chemical Engineering with a minor in piano performance at The Ohio State University.

**Dr. Kevin K. Yang**

**Senior researcher**

**Microsoft Research New England**

**Friday, Nov 6, 2020, 12:30 PM**

**Join Zoom Meeting**

**Meeting ID: 952 5705 7889**

**Password: 020982**

