



# COLLOQUIUM

Hakan Doga, PhD

Postdoctoral Researcher

IBM Quantum

Overview of Quantum Computing

**Friday Oct. 13th at 4:00pm in \*\*WH 401\*\***

*Bio:* Dr. Hakan Doga is a mathematician whose research interests include quantum algorithm development and implementation, quantum error mitigation and mapping interesting problems to quantum algorithms. He received his master's degree from Central European University in Budapest, Hungary in association with Alfred Renyi Institute of Mathematics. He continued his career as a PhD student at University at Buffalo, SUNY working on low-dimensional topology, knot theory and topological data analysis. He worked as a Visiting Assistant Professor at Denison University in Granville, OH. Currently, Dr. Doga is a postdoctoral researcher at IBM Quantum, working on several projects on quantum computing applications in healthcare and life sciences with the researchers at the Cleveland Clinic.

*Abstract:* This lecture will provide a general overview of quantum computing, define some fundamental concepts with an emphasis on the mathematical model for quantum computing. I will conclude the lecture by presenting a project that I am working on that explores the use of quantum computing for protein conformation prediction problem. This is a joint research project with the Cleveland Clinic.