

# Deep Learning and Computations of PDEs.

1st, October 2020

Abstract: Deep neural networks are rapidly emerging as a key tool in enhancing computations of PDEs. In this talk, we survey recent developments in my research group on two related themes. First, we use supervised learning to approximate observables for PDEs efficiently with applications to UQ and PDE constrained optimization. Second, we discuss recently introduced physics informed neural networks (PINNs) as an efficient discretization tool for both forward as well as inverse problems for certain classes of PDEs.