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**Susanne Brenner, Lina Ma, Minah Oh\*** (ohmx@jmu.edu), **Li-yeng Sung** and **Kening Wang**. *P1 Finite Element Methods for Elliptic Optimal Control Problems*.

In this talk, I will talk about P1 finite element methods for two elliptic state-constrained optimal control problems. One is the elliptic state-constrained distributed optimal control problem with Neumann boundary conditions on general polygonal domains. The other is the weighted elliptic optimal control problem arising from the axisymmetric elliptic state-constrained distributed optimal control problem with Dirichlet boundary conditions after performing dimension reduction. (Received September 13, 2019)