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**Hyesuk Lee\***, hkle@clmson.edu, and **Hemanta Kunwar**. *High order time discretization for the coupled system of fluid and a poroelastic structure.*

Computational algorithms for the generalized Stokes-Biot coupled system are proposed for the interaction of a free fluid with a poroelastic structure. The talk is focused on decoupling and time discretization schemes that allow the fluid and the poroelastic structure computed independently using a common stress force along the interface. This approach is based on an operator equation, where the operator measures violation of some interface conditions. Computational algorithms are discussed and numerical results are provided to validate the accuracy and efficiency of the proposed algorithms. (Received January 28, 2019)