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Lorena Bociu*, lvbociu@ncsu.edu, and **Giovanna Guidoboni, Daniele Prada** and **Riccardo Sacco**. *Multiscale interface coupling between a poroelastic medium and a lumped circuit.*

Many applications in life science and engineering call for the use of multiscale interface coupling between PDEs and ODEs. The present work is focused on the case where the PDEs describe a poroelastic medium coupled with a lumped circuit including resistances, inductances and capacitances (RLC), in addition to sources of voltage and currents, and it is motivated by ocular tissue perfusion. To address the challenges brought by the multiscale coupling at the PDE/ODE interface, an energy-based operator splitting approach is proposed and compared with the fixed-point iterations methods. (Received August 16, 2020)