

1106-VL-2352

**Farrah Sadre-Marandi\*** ([sadre@math.colostate.edu](mailto:sadre@math.colostate.edu)), Department of Mathematics, 1874  
Campus Delivery, Fort Collins, CO 80523-1874. *A Matlab Toolbox for Darcy Flow Computations.*

This talk presents a compact Matlab toolbox for solving the Darcy equation in modeling flow in porous media. The toolbox includes the newly developed weak Galerkin finite element methods (WGFEMs), the classical mixed finite element methods (MFEMs), and the discontinuous Galerkin finite element methods (DGFEMs). We demonstrate that WGFEMs are viable alternatives of MFEMs for Darcy flow computations. GUI design in the toolbox will be discussed also. (Received September 16, 2014)