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**Pablo Seleson\***, ICES, The University of Texas at Austin, 201 East 24th St. Stop C0200, Austin, TX 78712, and **Max Gunzburger** and **Michael L Parks**. *Mathematical Modeling and Analysis of Interface Problems for Nonlocal Diffusion*.

This talk focuses on modeling and analysis of interface problems for systems characterized by nonlocal diffusion processes. Comparisons to classical local interface problems, involving partial differential equations, and extensions to coupled local/nonlocal systems will be presented. Numerical simulations demonstrating different features of these kinds of systems will be provided. (Received September 25, 2012)