1067-65-1771 **Bernardo Cockburn**, **Bo Dong*** (bdong@math.drexel.edu), **Johnny Guzman**, **Marco Restelli** and **Riccardo Sacco**. *A Hybridizable Discontinuous Galerkin Method for Steady-State Convection-Diffusion-Reaction Problems.*

we propose a novel discontinuous Galerkin method for convection-diffusion-reaction problems, characterized by three main properties. The first is that the method is hybridizable; this renders it efficiently implementable and competitive with the main existing methods for these problems. The second is that, when the method uses polynomial approximations of the same degree for both the total flux and the scalar variable, optimal convergence properties are obtained for both variables; this is in sharp contrast with all other discontinuous methods for this problem. The third is that the method exhibits superconvergence properties of the approximation to the scalar variable; this allows us to postprocess the approximation in an element-by-element fashion to obtain another approximation to the scalar variable which converges faster than the original one. (Received September 21, 2010)