

1145-65-2801      **Andreas C. Aristotelous\*** (aaristotel@wcupa.edu). *Energy Stable DG-FE Schemes For Diffuse Interface Models.*

Cahn-Hilliard type equations coupled with fluid flow inspired from modeling tumor growth, biofilms, wound healing and other complex biological processes will be introduced. Discontinuous Galerkin Finite Element Methods for the numerical solution of the equations will be presented. For the underline schemes: solvability, energy stability, convergence and error estimates will be established where possible. Simulation results will be provided. (Received September 25, 2018)