1126-65-99   **Noel J Walkington*** (`noelw@andrew.cmu.edu`), Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213. *Numerical Approximation of Multiphase Flows in Porous Media.*

This talk will review the structure of mathematical models of geophysical flows involving multiple components undergoing phase transitions essential for the development of stable numerical schemes. Simulations of these problems only model the gross properties of these flows since a precise description of the physical system is neither available nor computationally tractable. In this context mathematics provides an essential foundation to facilitate the integration of phenomenology and physical intuition with computational algorithms so that codes inherit essential physical properties of the underlying problem. (Received January 06, 2017)