Applied Mathematics and Mathematical Physics Seminar

* Monday, 27 April 2015, 3:30 pm.

**Speaker:** Zhijun Qiao  
(Department of Mathematics, The University of Texas Pan-American, Edinburg, TX)

**Place:** McLean Hall Rm. 242.1

**Title:** A synthetical two-component model with peakon solutions  
(Joint work with RG Zhou and Baoqiang Xia)

**Abstract:**  
A generalized two-component model with peakon solutions is proposed. It allows an arbitrary function to be involved in, and, it reduces to some existing integrable peakon. The generalized two-component system is shown to possess a Lax pair and infinitely many conservation laws. Bi-Hamiltonian structures and peakon interactions are discussed in detail for typical representative equations of the generalized system. In particular, a new type of $N$-peakon solution, which is not in the traveling wave type, is obtained from the generalized system.