Department of Mathematical Sciences
The University of Texas at El Paso

Colloquium

Buthinah A. Bin Dehaish

King Abdul Aziz University / University of Texas at El Paso

Friday, November 16, 2012 at 3 pm in Bell Hall 143

Nonexpansive Iteration in Nonlinear Metric Spaces

The notion of asymptotic pointwise mappings was introduced by Kirk in 2003 and he employed ultrapower technique to prove some related fixed point results. In recent paper Kirk and Xu gave simple and elementary proofs for the existence of fixed points of asymptotic pointwise mappings without the use of ultrapowers. Shu in 1991 considered Mann modified iterations of asymptotically nonexpansive maps on a convex subset of a Banach space. Recently, Khan et al. have introduced and studied the convergence of a general iteration scheme of asymptotically quasi-nonexpansive maps in convex metric spaces and CAT(0) spaces; their scheme includes modified Mann iterations of Schu as a special case in Banach spaces.

In this talk, we investigate the existence of fixed point of a single and a family of asymptotic pointwise mappings defined on uniformly convex hyperbolic metric spaces. Moreover, we discuss behavior of the modified Mann iteration process associated with asymptotic pointwise mappings.

For further information, please contact Dr. Emil Schwab, eschwab@utep.edu
Refreshments will be served in front of the colloquium room,
15 minutes before the start of the colloquium.