MATHEMATICS COLLOQUIUM

Wave-breaking equations, peakons, and their properties

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Abstract: In the past few decades in water wave theory, there has been considerable interest in equations that model breaking waves. The best known example is the Camassa-Holm equation, which exhibits wave-breaking behaviour for a large class of initial data and also possesses exact travelling wave solutions having a peak. These solutions, called peakons, are not classical solutions but instead are weak or distributional solutions. Recent work has uncovered a large family of equations that are similar to the Camassa-Holm equation and that possess single and multi peakon solutions. However, the nonlinearities which can occur in these equations are much stronger than the nonlinearity in the Camassa-Holm equation, and this has opened up several interesting questions about peakons and wave-breaking phenomena in general. These questions, and some possible answers, will be discussed in this talk.

Date: **Thursday, March 9, 2017**
Time: 12:15pm - 1:30pm
Place: MAGC 1.302

Refreshments will be served at 12:10pm
For further information, or for special accommodations contact Dr. Zhijun Qiao via email at zhijun.qiao@utrgv.edu or at 956-665-3406