



Colloquium Series



Parsing convergence with arbitrarily close and thresholds

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Abstract: Mathematicians tend to use the phrase “arbitrarily close” to mean something along the lines of “every neighborhood of a point intersects a set”. Taking the latter statement as a technical definition for arbitrarily close provides the kernel for an alternative development of classic concepts in real analysis such as supremum, completeness, closure, convergence and limits, connectedness, compactness, continuity, differentiation, integration and much more. The goal of this talk is to first introduce the concepts of “arbitrarily close” and “thresholds”, then show how they can be used to parse the notoriously difficult definition of convergence and limits for sequences. The talk will feature a round of Jeopardy! where the audience will be the players and, time permitting, a parsing of epsilon-delta continuity.

Keywords: Arbitrarily close, thresholds, convergence, limits for sequences, Jeopardy.

Wednesday, Sep. 14, 1:05 – 1:50 pm in 4-2-314