

Colloquium

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Generalized Metric Spaces and the Fixed Point Property

Banachs Contraction Mapping Principle is remarkable in its simplicity, yet it is perhaps the most widely applied fixed point theorem in all of analysis with special applications to the theory of differential and integral equations. Because the underlined space of this theorem is a metric space, the theory that developed following its publication is known as the metric fixed point theory. Over the last one hundred years, many people have tried to generalize the definition of a metric space. In this talk, we survey the most popular generalizations and we discuss the recent uptick on some generalizations and their impact on metric fixed point theory.