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PIMS Lethbridge Analysis Seminar Series

Wednesday - October 5, 2016
12:00 - 12:50 pm
UHall D632

BANACH-STONE THEOREM ON ISOMETRIES ON FUNCTION SPACES

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Let X and Y be compact Hausdorff topological spaces. The space C(X) of all real-valued functions on X with the supremum norm $\|f\| = \sup_{x\in X} |f(x)|$ is a fundamental example in functional analysis. The classical Banach-Stone Theorem states that any linear isometry T from $C(X)$ onto $C(Y)$ has the form $Tf = g \cdot (f \circ \varphi)$, where $\varphi : Y \to X$ is an onto homeomorphism and g is a function in $C(Y)$ such that $|g| = 1$. Extensions of this result abound. In this talk, I will discuss a characterization of linear isometries between certain subspaces of Banach-space valued spaces of continuous functions. The result is motivated by some prior results on isometries between some spaces of vector-valued differentiable functions.

This talk is based on on-going joint work with and Ya-shu Wang (National Chung Hsing U, Taiwan) and Ngai-Ching Wong (National Sun Yat-sen University, Taiwan)