

THE DEPARTMENT OF MATHEMATICAL SCIENCES

Purdue University Fort Wayne

is pleased to present

Xin Dong

University of California, Irvine

Bergman Metric and Cauchy-Riemann Equation

Abstract

We will talk about curvature properties of the Bergman metric and estimates for the Cauchy-Riemann ($\bar{\partial}$) equations. We prove that on any bounded pseudoconvex domain in \mathbb{C}^n , the holomorphic sectional curvature of the Bergman metric is identically equal to a negative constant if and only if the domain is biholomorphic to the unit ball less a (possible) closed pluripolar subset. The completeness assumption in Lu's uniformization theorem is weakened to being an L_h^2 -domain of holomorphy, which yields another proof of a weaker Suita conjecture. Using the Bergman kernel and metric, we obtain sharp pointwise estimates for the $\bar{\partial}$ equations on Cartan classical domains, based on weighted L^2 estimates.

11:00 – Noon, Monday, September 16, 2019. Location: Kettler 218

<http://www.pfw.edu/departments/coas/depts/math/news/seminars.html>