

Title: On Strongly Minimal Kähler Surfaces in C^3

Speaker: Bogdan Suceavă

In the schedule Saturday, at 4:00 pm.

Abstract: Pursuing an idea motivated by a question of S.-S. Chern from 1968 on the existence of intrinsic Riemannian obstructions to minimality [Chern, S.-S.: Minimal submanifolds in a Riemannian manifold (1968)], an important study of the very idea of curvature was deepened after 1993 by B.-Y. Chen, then by other authors. In the last two decades, B.-Y. Chen's fundamental inequalities have been investigated by many authors in the context of various geometric structures. In this work, we start by presenting B.-Y. Chen's fundamental inequality for Kähler submanifolds in complex space forms, and we recall why the case of Kähler surfaces in C^3 satisfying $scal(p) = 4 \inf \sec(\pi^r)$ appears naturally and is important. We focus our study on the question of finding further examples of strongly minimal Kähler surfaces, as the question of a classification of these geometric objects is still open.