

Title: Explicit Schoen surfaces

Abstract:

Chad Schoen (2007) used deformations to construct a family of smooth complex algebraic surfaces  $S$  with invariants  $\chi = 2, q = 4$  and  $K^2 = 16$  with some remarkable properties. Then C. Ciliberto, M. Mendes Lopes and X. Roulleau (2015) showed that the canonical map of  $S$  is a double covering of a degree 8 surface  $X \subset \mathbb{P}^4$  with 40 double points. In this talk I will explain how to construct the Schoen surfaces explicitly, by computing equations for the surfaces  $X$ . There is an interesting connection to the classical Segre cubic and Igusa quartic threefolds.

This is joint work with Xavier Roulleau and Alessandra Sarti.