

An International Conference to
Celebrate the Birthday of Shing-Tung Yau
August 27-September 1, 2008

SOLITON EQUATIONS AND SUBMANIFOLD GEOMETRY

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Abstract: Soliton equations arise naturally in submanifold geometry; for example as the Gauss-Codazzi Equations for submanifolds of constant sectional curvatures in space forms, or for conformally flat submanifolds in a sphere, or for flat Lagrangian submanifolds in a complex projective space. Thus techniques from soliton theory can often provide a unified approach for constructing infinitely many families of explicit examples of such submanifolds and for solving the Cauchy problem and describing the symmetries of these Gauss-Codazzi Equations.