Meeting: 1003, Atlanta, Georgia, IONEL, AMS Invited Address

1003-53-2   **Eleny Ionel***, University of Wisconsin, Department of Mathematics, 480 Lincoln Drive, Madison WI 53706. *Embedded curves and Gromov-Witten invariants.*

Roughly speaking, for a symplectic manifold, the Gromov invariants count the number of pseudoholomorphic curves it has. I will describe current joint work with Tom Parker which, building on the work of Taubes, uses analysis to give a geometric account of holomorphic curves, their covers and their bifurcations in six dimensions. The resulting picture is related to several recent conjectures about the structure of Gromov invariants of Calabi-Yau 3-folds. I will discuss these conjectures, some of them coming from string theory, and how they relate to four dimensional results. (Received March 22, 2004)