

Open-closed Deligne-Mumford Field Theories

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This talk will report on joint work with Dr Amanda Hirschi, in which we construct an open-closed Deligne Mumford Field Theory (DMFT) associated to a Lagrangian submanifold of a symplectic manifold. An open-closed DMFT is a field theory associated to Riemann surfaces both with and without boundary, and is closely related to an open-closed Topological Conformal Field Theory (TCFT). The existence of (open-closed) TCFT's associated to symplectic manifolds was predicted 30 years ago, but a mathematical construction has been lacking. The construction of such a TCFT is the first step in proving that homological mirror symmetry implies enumerative mirror symmetry in all genus.