

Workshop: Wonders of Broken Integrability

Events for:

Monday, October 2nd - Friday, October 6th

Monday, October 2nd

Tuesday, October 3rd

1:00pm **SCGP Weekly Talk: Paul Fendley (Oxford) - SCGP 102**

Title: Preserving Quantum Coherence

Abstract: Considerable effort is being made to develop new methods of preserving quantum coherence, i.e. enabling quantum effects to be maintained for times long enough to exploit them for computations. I will survey three such methods, all involving deep mathematics. One is to find systems where topological invariants such as Chern number protect certain quantum properties. Another is to exploit integrability, where the presence of many conserved quantities strongly constrains the dynamics. Still another is prethermalisation, where a recent theorem shows there is always an almost-conserved charge in systems where the dominant term in the Hamiltonian has integer eigenvalues. I will explain a specific example that combines aspects of all three: quantum spin chains with an edge strong zero mode.

Wednesday, October 4th

Thursday, October 5th

6:00pm **Banquet - Hilton Garden Inn Stony Brook**

Friday, October 6th