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**Scanning tunneling microscopy across a superconductor/topological insulator interface**

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In this talk, I will present scanning tunneling microscopy data of a  $\text{Bi}_2\text{Se}_3$  crystal with superconducting PbBi islands deposited on the surface. Local density of states measurements show induced superconductivity in the topological surface state with a coherence length of order 540 nm. At energies above the gap, the density of states exhibits oscillations due to scattering caused by a non-uniform order parameter. Strikingly, spectra taken on the superconductor side of the interface show Dirac-cone-like behavior suggesting an inverse proximity effect—that is topological states induced onto the superconductor.

**Biography**

Stuart Tessmer completed his PhD in 1995 at the University of Illinois at Urbana-Champaign. He studied as a Post-doc at the Massachusetts Institute of Technology from 1995-1998. At Michigan State University, he specialized in experimental condensed matter physics and is currently the Physics Department Associate Chair & Undergraduate Program Director.

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