

**Massachusetts Institute of Technology**  
**Department of Physics**

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**Condensed Matter Theory Seminar**

" Topological superconductivity in Fe-based superconductors"

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**Abstract:** In this talk I will report our recent ARPES results on searching for topological superconductivity in Fe-based superconductors. We have obtained clear and strong ARPES evidence of 2D topological superconductivity on the surface of Fe(Te,Se) single crystals with  $T_c \sim 15\text{K}$ . Furthermore, Our ARPES results on Fe(Te,Se)/STO monolayer indicate that the 1D edge state of this monolayer materials may become high-temperature topological superconductor at a certain Te concentration. This intrinsic topological Fe(Te,Se) superconductor, which takes advantage of the natural surface/edge and interband superconducting coherence in the momentum space, may pave a new and exciting route for realizing topological superconductivity and Majorana fermions under higher temperature.

**12:00pm noon**  
**Friday, June 2, 2017**  
**Duboc Room (4-331)**