

# Center For Neutrino Physics Seminar

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*High Energy Neutrinos From the Tidal Disruption of Stars*

Wednesday, April 5th, 2017

4:00pm - 5:00pm

304 Robeson Hall

A star that transits too close to a supermassive black hole is destroyed by the black hole's strong tidal forces. The star's debris are then accreted onto the black hole, thus producing a luminous flare. To date, more than 60 candidate tidal disruption events (TDE) have been observed. In the past few years, X-ray observations have established that some extreme TDE produce relativistic jets, which could accelerate cosmic rays to extremely high energy. I discuss the production of high energy neutrinos in these TDE-generated jets, and show that the diffuse flux of these neutrinos could be detectable, and could explain part of the flux observed by the IceCube neutrino detector at 0.1-1 PeV energy.