

# CNASC Seminar

## Speaker

**Leigh Herman,  
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**Tuesday, May 21, 2019  
1pm, SN2041**

**Deformations of Black Hole Horizons from Physical Interactions**

### **Abstract:**

Black Holes have pushed our imagination in terms of their geometry, their physical interactions with space and matter that surrounds them and even their unique ability to push our search of quantum gravitational interactions. However, when we do have a physical interaction with a black hole, how exactly does the geometry of the black hole horizon react? Intuitively we would expect a connection between physical interactions and the geometry of the Black Hole but how deep is such a connection? This talk will cover a discussion of the Painleve-Gullstrand (3+1) foliation of the background space-time and introduce different sources to investigate the horizon deformations. This discussion of perturbative sources will cover their expression in terms of spherical harmonics and consistent, stable numerical simulations.