High Energy Density Science is the study of matter under extreme pressures and temperatures that is too dense to be described by usual plasma physics but is too hot to be described by usual condensed matter physics. This is realized in a range of situations, from the cores of planets, to inertial confinement fusion capsules, to ultra-fast laser pulses impinging on a solid. Efficient and accurate quantum treatments of correlated electron dynamics as well as ion dynamics of large systems are required. Experts will discuss recent developments and challenges in the computational simulation of such complex systems.

2.00 – 3.00:  
**Attila Cangi**  
**Sandia National Labs**

*Electronic Transport Properties of Warm Dense Matter from Time-Dependent Density Functional Theory*

3.15 – 4.15:  
**Michele Pavanello**  
**Rutgers University at Newark**

*Time-dependent density functional theory of molecules in liquids and at surfaces: many-body effects, broadening and enhancements*

4.30 – 5.30:  
**Aurora Pribram-Jones**  
**University of California, Merced**

*The interplay of temperature and interaction strength in density functional theory.*

Sponsored by the Initiative for the Theoretical Sciences, and by the CUNY doctoral programs in Chemistry and Physics. Please email nmaitra@hunter.cuny.edu for any questions