

Mini-course on “Theoretical and Computational Methods in Plasma Physics”

June 22-23, 2019

DoubleTree by Hilton Hotel at the Entrance to Universal, Orlando, Florida

Room: Space Coast I

Saturday, June 22

8:00–8:45 am	<i>Breakfast</i>
8:45–9:00 am	Introduction Arati Dasgupta (NRL)
9:00–10:00 am	Understanding and using non-LTE atomic and radiation kinetics for plasma Howard Scott (LLNL)
10:00–11:00 am	Modeling non-LTE plasmas for X-ray Spectroscopy Nicholas Ouart (NRL)
11:00–11:20 am	<i>Break with snacks</i>
11:20 am–12:20 pm	Quantum Mechanical Simulations of Warm, Dense Matter Lee Collins (LANL)
12:20–1:30 pm	<i>Lunch break</i>
1:30–2:30 pm	Hydrodynamics Simulation of High Energy Density Plasmas Radha Bahukutumbi (LLE)
2:30–3:30 pm	Hall Physics in HED Plasmas Charles Seyler (Cornell U.)
3:30–3:45 pm	<i>Break with snacks</i>
3:45–4:45 pm	Deep Learning: techniques for practitioners in the plasma sciences Brian Spears (LLNL)
4:45–5:45 pm	Computational Methods for Modeling Vacuum Electronic and High-Power Microwave Devices Simon Cooke (NRL)
7:30–9:30 pm	<i>Dinner</i>

Sunday, June 23

7:40–8:30 am	<i>Breakfast</i>
8:30–8:45 am	Day two introduction Arati Dasgupta (NRL)
8:45–9:45 am	A tutorial on HEDP modeling with FLASH: How to design and interpret laboratory experiments using numerical simulations Petros Tzeferacos (U. Chicago)
9:45–10:45 am	PIC Methods and Results in Plasma Simulations Dale Welch (Voss Scientific)
10:45–11:00 am	<i>Break with snacks</i>
11:00–12:00 pm	Microscale to Nanoscale Gas Breakdown: From Paschen’s Law to Schrödinger’s Equation Allen Garner (Purdue U.)
12:00–12:15 pm	Closing Remarks Arati Dasgupta (NRL)