

# EVENT SPEAKERS

Hugo Doyle, Head of Experimental Physics  
**An Introduction to Experimental Platforms and Diagnostics at First Light Fusion**



First Light Fusion is an inertial fusion energy research company based near Oxford in the UK. Having recently had our 10 year anniversary we have grown from a University spin out to a 50 person company. I will present an introduction to our 14 MA pulsed power launcher and 2 MJ two stage gas gun facilities along with a typical experimental setup. Sample data will be shown focussing on characterisation of projectile state and shock transport in materials.



Steve Ivancic, Scientist  
**Streak Camera Usage at LLE: Past, Present and Future**



Streak cameras are used extensively throughout the Omega Laser Facility at University of Rochester's Laboratory for Laser Energetics in order to diagnose complex experiments in High Energy Density Physics. Over the past forty years, increased requirements from the scientific community and the laser facility have pressed LLE to innovate streak camera development with new designs and greater calibration capabilities. In this presentation, we will review some of the historical instruments and developments of the streak camera program at LLE, current usage of the thirty or so cameras in current use on OMEGA, and finally look at future of the streak camera program.



Erik Brambrink, Scientist  
**The HED Instrument at European XFEL**



With the recent installation of two high power laser drivers, the HED instrument at the European XFEL will offer unique capabilities to study extreme states of matter. The European XFEL delivers X-ray bursts with up to 2 mJ of pulse energy, fs pulse duration and photon energies up to 25 keV. This allows in-situ studies of highly transient states using various x-ray diagnostics such as diffraction, scattering and imaging. The two recently installed laser drivers are a 400 TW/25 fs short pulse laser and a 100 J/ns laser both running at 10 Hz enabling high repetition rate experiments for experiments requiring signal integration due to low scattering cross sections. The combination of these laser drivers with the intense x-ray source opens allows studying matter at extreme pressures, transformation at high deformation rates, high field physics and warm dense matter.



Suzanne Ali, Staff Scientist  
**Overview of Materials Experiments Using the NIF Ramp Compression Platform**

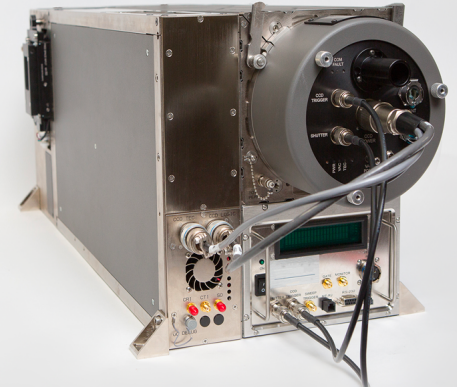


Dynamic compression experiments are one of our vital tools for improving our understanding of material properties under extreme conditions, and I will be presenting on the development and status of the Ramp Compression Campaign on the National Ignition Facility. Obtaining high-precision, accurate ramp-compression data on materials under extreme conditions requires a well-validated platform. To date, we have addressed key issues in the development of ramp compression on the NIF: we have demonstrated the ability to ramp-compress metals to high pressure, including copper to ~23 TPa, we have developed analysis tools and experimental design predictive capability, and we have performed cross-platform equation of state (EOS) experiments validating the NIF platform.



# Streak Camera Imaging & Fast Physics Workshop

May 19th at 9am PDT/12pm EDT/5pm BST  
hosted by Sydor Technologies



Join us for a free 90 minute meeting of the minds as scientists from leading facilities engage with participants in a discussion of current research initiatives, implementations of high speed diagnostics, and key instrumentation developments that will be critical to the future of ultra-fast imaging.

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