

# Friday 4<sup>th</sup> May at 2pm – Debye Lecture Theatre

Custom Scientific Laser Systems with up to 10 Petawatt Peak Power

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National Energetics

National Energetics is developing high intensity lasers from few tens of Terawatts to 10 Petawatts for scientific applications. These are CPA laser systems based on classic Ti:Sapphire as well as mixed glass, using novel technology for augmented repetition rate at kJ level. Moreover, NE is also providing full remote controls system integrated with the infrastructure.

The presentation will focus on the 10 PW (1500J in 150 fs at 1 shot/minute) laser under construction for ELI-Beamlines. This is a hybrid system with a high contrast OPCPA front-end (4J@5Hz) with spectral shaping capabilities followed by Nd doped-glass amplification for high output energy with split-disk, liquid-cooled technology.

Characteristics of high temporal contrast hybrid system based on short pulse OPCA and classic Ti:Sa amplifiers at 800 nm will also be presented.

