Intense Laser Systems

5 DAYS (35H)

Ref. LSL-07en

OBJECTIVES

- Understand basic principles of intense laser systems
- Master theoretical models and relevant computer simulations
- At training's end, being able to design and correctly size an intense laser project

PUBLIC

- Users and designers of Intense laser systems
- Teachers, scholars and instructors
- Graduate students

TOPICS

- Intense laser system architecture
- Laser source (Oscillators)
- Amplification, beam handling and focusing
- Non Linear Optics: Frequency conversion and laser tunability
- Laser diagnostics and Beam management

METHODS AND EDUCATION TOOLS

- Theoretical background
- Practice and Lab
- Computation and simulations

TRAINING SESSION CHAIR

Pr Eric CORMIER – Bordeaux University, CELIA – Scientific Director of Pyla

PROGRAMME

- Laser Architecture
  - Laser parameters
  - Which laser for a given application?
  - Complex systems
- Laser source (oscillators)
  - Principles
  - Laser materials and oscillating modes (temporal)
  - Cavity effects and pumping schemes, benefits of diode pumping scheme
- Amplification, beam handling and focusing
  - Amplification strategies and techniques
  - Constraints: gain management, thermal issues and pumping sources
  - Beam cleaning and smoothing, optical isolation
  - Focalisation
- Non Linear Optics: Frequency conversion and laser tunability
  - Non linear optics principles
  - Principle of widely tunable laser sources
  - Frequency doubling and frequency mixing
  - Non linear effects in beam propagation
  - Recent applications of NLO
- Laser diagnostics and beam management
  - Spatio-temporal metrology
  - Spatio-temporal control
- Labs
- Simulations and codes

+ D'INFOS

- Venue :Bordeaux University
- Dates : contact us
- Registration fee : 2 280 € HT