

# advanced pulsed laser deposition of complex oxides.

3-DAY PLD COURSE

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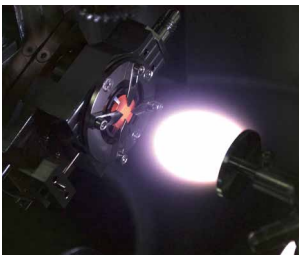
Demcon TSST organises an annual course in collaboration with Coherent, STAIB, the Inorganic Materials Science (IMS) group and the MESA+ Institute for Nanotechnology from the University of Twente. Goal of the course is to obtain an understanding of the scientific and technological background of Pulsed Laser Deposition (PLD) controlled by high pressure RHEED, including hands-on training.

### Participants will obtain

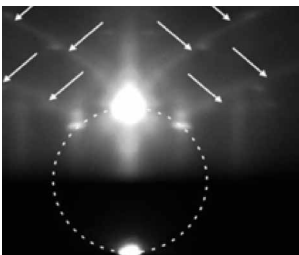
Understanding of the fundamental and technological background of thin film growth and growth parameter optimisation in pulsed laser deposition controlled by high pressure RHEED. Experimental skills regarding all relevant facets of a typical pulsed laser deposition growth experiment, including substrate treatment, optics and laser spot alignment, target preparation and optimisation of RHEED parameters in a typical growth experiment.

## DATES

Wednesday June 11th 2025 till  
Friday June 13th 2025.



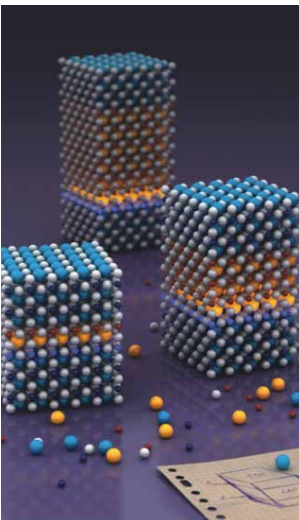
Pulsed Laser Deposition has made a tremendous progress during the last decades in the fabrication of (complex) materials, including oxide thin films. The development of high pressure RHEED has lead to an improved control over single crystal surface termination and growth on atomic level, as well as new growth manipulation techniques like pulsed laser interval deposition. At present, highly epitaxial growth and atomically sharp interfaces are achieved in the growth of complex oxide heterostructures.



### Working methods

The course will be conducted in English and is divided into three main sections:

- **Theory:**  
participants are given profound introductions to the theoretical background of RHEED controlled thin film growth with PLD.
- **Hands-on training:**  
the knowledge is deepened during hands-on training on state-of-the art PLD systems.
- **Topics of interest:**  
the course concludes with an open discussion on topics submitted by the participants.



### Course content

- Principles of PLD including plasma plume characteristics and growth kinetics.
- Thin film growth experiment, preparation, oxide substrate treatment, including chemical etching and heat treatment of perovskite substrates.
- Principles of high-pressure RHEED, filament exchange, e-beam optimization, RHEED intensity measurements during thin film growth experiments.

### INCLUDED

- All lunches and dinners
- Overnight stay in hotel from Tuesday June 10th till Friday June 13th
- Social event

Costs: €2.500,- (excl. VAT)

For information and registration, please contact us at [tsst@demcon.com](mailto:tsst@demcon.com)

Partners:

