



## Summer school

# Digital Twins : New Horizons in Nuclear Reactor Design and Optimisation

August 23 to September 1, 2023  
Karlsruhe, Germany

### Program

**Opportunities in Developing Digital Twins for Existing and Future Nuclear Reactors** (4 h)

**Methods for Data Management and High-Performance Computing** (7 h)

**Computer-based Materials and Fuel Developments** (6 h)

**Advanced Methods in Nuclear Data and Reactor Physics** (6 h)

**High-Fidelity Nuclear Thermal-Hydraulics** (6 h)

**Nuclear Design and Licensing Using Multi-physics Modelling and Simulation** (5 h)

**Seminar - From Aerospace to Nuclear: the Benefits of Digital Twins** (2 h)

**Group activities** (6 h)

**Technical visits**

### Lecturers

Etienne Décossin (EDF) *FR*  
Nawal K. Prinja (Jacobs) *UK*

Ryan McClarren (Univ. Notre Dame) *US*  
Martin Frank (KIT HPC Center) *DE*  
Mark Asch (CNRS) *FR*

Luca Messina (CEA) *FR*, Petr Grigorev (AMU) *FR*  
Davide Pizzocri (Polimi) *IT*, Kyle Gamble (INL) *US*

Oscar Cabellos (UPM) *ES*  
Luca Fiorito (SCK-CEN) *BE*

Miguel Alfonso Mendez (VKI) *BE*  
Antoine Gerschenfeld (CEA) *FR*

Frédéric Bertrand (CEA) *FR*  
Vaihav Yadav (INL) *US*

*To be defined*

Application  
deadline  
20/05/23