



## CALL FOR LECTURERS

for

### FREDMANS SUMMER SCHOOL

#### Actinides Science and Innovative Nuclear Fuel Cycles

Venue: National Centre for Scientific Research "Demokritos", Athens, Greece

September 15 -19, 2025

The [FREDMANS project](#) (EC Grant Agreement 101060800) aims to increase safety and efficiency in both nuclear power generation and spent fuel recycling. The transition from oxide fuel to a denser fissile material with higher thermal conductivity, such as a nitride fuel, can increase both the operational safety and the economic impact of nuclear power. At the same time, a transition to a greener society in both the generation and use of electricity will drastically increase the consumption of finished materials.

The Summer School on *Actinide Science and Innovative Nuclear Fuel Cycles*, hosted by the National Center for Scientific Research "Demokritos" in Athens, Greece, between September 15 and 19, 2025, aims to provide students and young researchers with a series of lectures on the most important aspects of the fuel cycle associated with advanced nuclear systems, as well as on the results of the latest research in the field.

Therefore, the school curriculum includes the following lectures:

1. Nuclear Reactors and Fuel Fabrication
2. Advanced nuclear reactors
3. Chemical and Physical properties of Actinide fuel
4. Nuclear material synthesis: from powders to sintered pellets
5. UN fabrication techniques
6. Advanced fuel manufacturing
7. Accelerated fuel qualification
8. Nuclear fuel dissolution and partitioning
9. Fuel Source Term
10. Fuel modelling
11. Accident scenarios and Corium
12. Circular economy

To provide a high level of training, FREDMANS is launching a call for lecturers, with the aim of selecting renowned specialists to teach the above-mentioned subjects.

The selected lecturers will receive a lump sum of 750 euros for a 3-day stay or 1000 euros for a 5-day stay from the FREDMANS Travel Fund, to cover travel and accommodation expenses.

### Expected learning outcomes

The learning outcomes of the Summer School are:

- Learning about the chemical and physical properties of actinide fuel
- Learning about current/future reactor designs that are being developed worldwide
- Learning and understanding the fabrication processes of different types of nuclear fuels, with a focus on UN
- Understanding the processes of fuel recycling and separation, focusing on current and future technologies
- Understanding fuel qualification and how to accelerate it
- Understanding fuel performance and behavior and how to predict it
- Learning the term fuel source and understanding its relevance in the closed fuel cycle
- Working in a team to review various advanced fuel fabrication routes and to decide on the most suitable production routes and fuel types in general

### Expected audience:

The Summer School is mainly addressed to: **Students, Master students, PhD students and early stage researchers and it is limited to 30 trainees.**

### How to apply

Please fill in on line the Lecturers Application Form and **submit it via ENEN platform until July 31, 2025** (<http://apply.enen.eu/>)

### Selection Criteria

1. Relevance of professional experience to the subject of the lecture (maximum score 5)
2. Relevance of the content to the proposed learning objectives (maximum score 5)

**Applications can be submitted by 31 July 2025. Results of evaluation will be announced to the applicants by 15 August 2025.**