



2nd FREDMANS TRAINING SESSION

HANDS ON TRAINING ON UN FABRICATION AND CHARACTERISATION

Venue: Chalmers University, Kemivägen 4, Gothenburg, Sweden

27 – 31 January 2025

FREDMANS project (<https://enen.eu/index.php/portfolio/fredmans-project/>) aims to implement an education and training programme in the field of nuclear fuels that complements the research-development activities it addresses. Young scientists with relevant theoretical and, above all, practical knowledge will be trained in the E&T programme answering the needs for skills and abilities in the field of nuclear fuels, combining theoretical courses with hands-on training sessions, thus ensuring the transfer of the valuable experience gained by the specialists with outstanding competencies in this field.

Topics:

The 5-day hands on training session, organized by CHALMERS and KTH under the FREDMANS Project, will be consisting of a mixture of lectures and practical laboratory exercises:

- Introduction to radiation protection and lab safety to obtain laboratory admission
- Lectures on actinide chemistry, actinide nitride synthesis techniques and nitride fuel properties
- Practical tasks will focus on:
 - Fabrication of Uranium precursor material by the internal gelation technique
 - Nitride synthesis from precursor material by carbothermic reduction
 - Material characterization (X-ray diffraction, electron microscopy and elemental analysis)

Expected audience:

This course is mainly addressed to: **Master students, PhD students, young researchers.**

Due to the hands-on activities and on-site availabilities, the audience is limited to **maximum 12 trainees.**

To cover the cost for travel and accommodation, selected candidates are entitled to apply for the FREDMANS Travel Fund, which consists of a lump sum of 1000 EUR for a 5-day training event.

Venue

**Chalmers University,
Kemivägen 4, Gothenburg
Sweden**

Lecturers:

(the list of lecturers is not necessarily exhaustive)

Mikael Jolkkonen, KTH - Sweden

Marcus Hedberg, CHALMERS, Sweden

Stefan Allard, CHALMERS, Sweden

Christian Ekberg, CHALMERS, Sweden

Structure:

Day 1: Introductory radiation protection lectures and practical introduction

Day 2: Lectures on course topics

Day 3: First day of practical laboratory exercises

Day 4: Second day of practical laboratory exercises

Day 5: Course finalization and closure

Scientific visits:

Chalmers dedicated actinide chemistry laboratories (Chalmers)

Chalmers material analysis laboratory (CMAL, Chalmers)

How to apply

Please fill in the Application Form (download here) and submit it via ENEN platform **until November 25, 2024** (<http://apply.enen.eu/>)

Selection Criteria

1. Existing background and experience in the scope of the course (maximum score 5)
2. Training motivation, benefits, and impact of the mobility action on the nuclear career of the applicant (maximum score 5)
3. Benefits for the EU workforce (maximum score 5)

The candidates who passed the evaluation will be noticed by e-mail by December 15, 2024.