

# Elina Charatsidou MSc

Physicist & Nuclear Engineer

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## EXPERIENCE

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### MSc Thesis Supervisor

Dec. 2022 – Jun. 2023

KTH Royal Institute of Technology | Stockholm, Sweden

Supervisor of Master's [thesis](#) in Nuclear Engineering at KTH, providing guidance and mentorship to students in their research and thesis projects.

### Teaching Assistant

Oct. 2022 - Present

KTH Royal Institute of Technology | Stockholm, Sweden

Teaching assistant in the Nuclear Fuel Cycle and Carbon Dioxide Neutral Energy and Transport System courses at KTH.

### Workgroups Manager at the Ph.D. Chapter Board of Directors

Jul. 2022 – Jul. 2023

KTH Royal Institute of Technology | Stockholm, Sweden

The workgroups manager is responsible for the coordination and communication of the working groups that might arise within the chapter. The workgroups manager represents the chapter at the Equality Committee at KTH, and coordinates communication between the board and the working groups.

### PAD Ph.D.

Jan. 2022 - Present

KTH Royal Institute of Technology | Stockholm, Sweden

Ph.D. Student Representative for the Department of Physics at KTH. Participating during department and division management meetings, as well as organize and participate in educational workshops and social events.

### Newsletter Editor

May 2020 - Present

KTH Royal Institute of Technology | Stockholm, Sweden

Editorial work for the newsletter of the School of Science, KTH. Performing interviews with university staff, students and alumni, planning monthly topics of discussion, writing and editing articles, formatting the appearance of the newsletters via web page design.

### Master Thesis

Jan. 2020 - June 2020

Westinghouse Electric Company | Västerås, Sweden

- Thesis Title: A machine learning approach to the nuclear fuel fabrication process ([link](#)).

### Key Accomplishments:

- Innovative implementation of deep machine learning algorithms in the nuclear energy industry.
- Reducing human error during fabrication of nuclear fuel in the company.
- Increase fuel utilisation by optimising important parameters.

### International Student Ambassador & Mentor for students with disabilities

Sept 2018 - June 2020

KTH Royal Institute of Technology | Stockholm, Sweden

- Ambassador's duties: Providing support and information to international students interested in applying for

master's studies at KTH. Mentor's duties: Mentoring students with special needs, by organizing their schedule, study plan, and extracurricular activities.

Key Accomplishments:

- Supported international students applying for master's studies at KTH and mentored students with disabilities.
- Increased student enrollment from visited countries and universities.
- Maintained a positive relationship between students with disabilities and their university environment through schedule planning and regular meetings.

**Tutor** Oct. 2014 - Jan. 2017

Private Courses | Thessaloniki, Greece

Teaching Physics, Mathematics, Chemistry, and Biology to middle school and high school students.

Key Accomplishments:

- Enhancing students' knowledge and assisting with homework tasks in physics, maths, chemistry & biology.
- Preparing senior high school students for the Greek national (Pan-Hellenic) exams, with outstanding results.

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## EDUCATION

### Ph.D. Physics and Nuclear Engineering

Doctoral Degree | KTH Royal Institute of Technology | Stockholm, Sweden Jan. 2021 - Present

- Fabrication, Characterization, Degradation of Thermophysical Properties & Multi-scale simulations of UN fuel for LFR within the [SUNRISE](#) Centre.

### MSc Nuclear Energy Engineering

Master's degree | KTH Royal Institute of Technology | Stockholm, Sweden Aug. 2018 - June 2020

- 2-year master's program in Nuclear Energy Engineering
- 120 credits

### BSc Physics

Bachelor's degree | AUPh Aristotle University of Thessaloniki | Thessaloniki, Greece Sept. 2013 - July 2017

- 4-year bachelor's degree in physics with a specialization in nuclear physics.
- GPA: 8.35/10.00

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## CONFERENCES & SCHOOLS

### ICONE30 2023 30th International Conference on Nuclear Engineering

Conference | Kyoto, Japan 22 May 2023 - 26 May 2023

- Participation in a form of oral presentation on the subject of 'Separate Effect Testing of UN: Thermal Conductivity & Proton Irradiation Studies'.

### ESNMS 2022 European School on Nuclear Materials Science

School | IESC, Corsica, France 7 Nov. 2022 - 11 Nov. 2022

- Presentations on multi-scale modelling and characterization of materials phenomena in the nuclear materials science by world-leading European scientists in topics ranging from advanced electronic structure theory to continuum modelling, as well as sophisticated experimental characterization in all types of nuclear materials (structural (metallic and ceramics), functional and fuel materials).
- Group project and presentation on 'Experiment-oriented modelling: How can theory and modelling be used to improve experimental techniques for nuclear materials characterisation?'.

### **CET 2022 Converging Energy Technologies - SMRs**

Conference | Oskarshamn, Sweden

21 Sept. 2022 - 23 Sept. 2022

- Participation and organization assistance in the conference, which was co-organized by KTH and the Nuclear Engineering Division.

### **Modelling, Experimentation & Validation, MeV Summer School 2022 on Accelerated Fuel Qualification**

Summer School | Oak Ridge National Laboratory (ORNL), Tennessee, USA

18 Jul. 2022 - 29 Jul. 2022

- Lectures from invited speakers on experimental design, light water reactor (LWR) sustainability, accident tolerant fuels (ATFs), nuclear fuel cycle, additive manufacturing, space technologies, advanced reactors and fusion.
- Group project and presentation on 'Correlation between seismic activity and damage to fuel cladding of ELSY lead-cooled fast reactors containing uranium nitride'.

### **GeDiMIRT Gender Dimension in Physics and Math-Intensive Research and Teaching**

Conference | Lund, Sweden

21 Jun. 2022 - 23 Jun. 2022

- The conference was organized in the frame of the GENERA Network and was a starting point in tackling the challenge of integrating sex and gender analysis into STEM research and help defining a convincing approach to get into the mindset that a diversity and gender perspective must be present in these fields of science since teaching, defining research topics, performing research and its application are (wo)man-made.

### **TMS 2022 Annual Meeting & Exhibition, The Minerals, Metals & Materials Society**

Conference | Anaheim, California, USA

27 Feb. 2022 - 3 Mar. 2022

- Participation in a form of oral presentation on the subject of 'Thermal Conductivity Degradation by Solid Fission Products: Machine Learning Coupled with First Principles Model'.

### **Frederic Joliot / Otto Hahn Summer School on Nuclear Reactors, Physics, Fuels, and Systems KIT & CEA**

Summer School | Karlsruhe, Germany

21 Aug. 2019 - 31 Aug. 2019

- Introduction to current work conducted in the nuclear industry, existing and new applications of nuclear physics, and introduction to new reactor designs.
- Group assignments and projects to avoid excessive complexity in the nuclear industry.

### **2019 Elements of the Back end of the Nuclear Fuel Cycle: Geological Storage of Nuclear Spent Fuel**

Summer School | Oskarshamn, Sweden

8 June 2019 - 20 June 2019

- Joint course by the Royal Institute of Technology-KTH, Nova-Oskarshamn, SKB, the European EMINE program and INSPIRE cooperation.
- Group assignments and projects work on public acceptance, as well as permanent fuel repository.

### **28th Annual Symposium Hellenic Nuclear Physics Society, Aristotle University of Thessaloniki, Physics Department**

Conference | Thessaloniki, Greece

31 May 2019 - 1 June 2019

- Representative of the Nuclear Energy Engineering Master's Program at KTH. Presentation conducted regarding the above-mentioned program as well as the EMINE (European Master's in Nuclear Engineering) program.

### **CEA/INSTN - ISIS Reactor Training Course | Saclay, Paris, France**

4 Dec 2018 - 7 Dec 2018

- Representative of the Nuclear Energy Engineering Master's Program at KTH. Presentation conducted regarding the above-mentioned program as well as the EMINE (European Master's in Nuclear Engineering) program.

- Training Course in the ISIS reactor, for students from the Nuclear Energy Engineering Master's Program at KTH, within the course of Nuclear Reactor Physics.

**11th JINR Spring School 2018** | Borovets, Sofia, Bulgaria 15 May 2018 - 18 May 2018

- Participation in the 11th Spring School 2018 JINR conference related to Nuclear Physics developments, organized by scientists from JINR in Dubna, Russia.

**10th JINR Spring School 2018** | Borovets, Sofia, Bulgaria 16 May 2017 - 19 May 2017

- Participation in the 10th Spring School 2017 JINR conference related to Nuclear Physics developments, organized by scientists from JINR in Dubna, Russia.

## SKILLS

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### Languages:

Greek   Native   Proficient	Swedish   Intermediate   B1	German   Basic
Russian   Native   Proficient	Ukrainian   Basic	
English   Proficient	French   Basic	

**Programming Skills:** Python, Machine Learning, VASP DFT, ATAT SQS, MCNP, Matlab/Simulink, Serpent, Apros, Mathematica, OriginLAB, MS Office

**Operational Systems:** Windows | Linux | iOS | Android | MacOS

## CERTIFICATES

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**CPR Certificate** Acquired 17 May 2022

- Trained and certified in CPR and first aid for infants, children, and adults.

**Driving License** 27 Sept. 2017 - 27 Sept. 2032

- Category: B