SEED 2023 Call Summary

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What does Systems and Engineering Science Doctorate (SEED) programme offer?

The SEED programme offers a versatile scholar programme to **13 Doctoral Candidates** (DC) in research and innovation in engineering fields relevant to addressing global challenges, such as climate change, water conservation and sustainable value creation. The fields of study and research are software engineering, chemical engineering, industrial engineering & management (IEM), computational engineering, applied mathematics and technical physics.

The doctoral candidates (DC) will have **two specifically designed secondments** during the programme. The secondment scheme builds on each DC having an academic secondment in a European or international university of high standing and excellence and a non-academic secondment in industry in Finland.

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The research themes are:

- Novel tools for improving resource efficiency of sludge treatment
- Metal recovery by 3D-printed porous structures and their use as catalysts
- Open science community technologies for environmental measuring
- Optimized fuels from carbon neutral circular economy
- Collaborative working capital management in low carbon products and technologies
- Study of defects in lithium and sodium-ion batteries
- Uncertainty quantification and parameter identification in electric motors
- Systemic design and innovation in waste management
- Urban socio-digital innovations for better air quality
- Managing industrial facilities towards lower emissions
- Novel industrial processes for bioeconomy
- 'Innovate to zero' – New value constellations through zero-waste manufacturing and smart recycling
- Machine learning in forecasting and allocation of distributed energy resources

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Who can apply?

The SEED programme is equally open to all DC candidates of all nationalities, following the general MSCA mobility requirements. To be eligible to apply for the position, the doctoral candidate must:

- have completed an applicable higher university degree, for example Master's degree (M.Sc. or equivalent) in a relevant field. Field requirements are detailed in the Guide for Applicants available at the SEED website.

- be a researcher, who at the deadline of the recruitment call is not in possession of a doctoral degree.

- have fluent English communication skills, proven by an English language test TOEFL iBT with the minimum score of 92 with no section below 20 or a similar test (a full list of the accepted tests will be provided in the Guide for Applicants).

- fulfil the geographic mobility requirement. The SEED programme follows the general MSCA mobility requirement where the candidate may not have resided or carried out their main activity (work, studies, etc.) in Finland for more than 12 months in the 3 years immediately before the call deadline.

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When to apply?

The call for applications opens on **1 March 2023** and closes on **30 April 2023**, at midnight, Finnish local time (UTC +2 h).

How to apply?

Candidates will send their applications and required documents via a dedicated electronic recruiting system within the application period. The link to online application form can be found on the Call for application announcement. The required documents include:

- A **curriculum vitae**

- **Certificates/diplomas**: scanned electronic copies of diplomas and transcripts of the records of relevant previous degrees and certificate of the English language test. If the original documents are not in English, Finnish or Swedish, each document must be accompanied by an official certified translation into English or Finnish.

- **Motivation letter**: a separate document describing the candidate's motivation as a researcher also highlighting past achievements (max 1 page, A4).

- **Research proposal:** (max. two pages A4) which should refer to a research theme with primary supervisor and available secondments presented in the call. After the selection, the successful applicants will refine their research plans together with the supervisors.

- Names and contact information of two **referees**

- List of scientific publications (optional)

Selection timeline

The SEED programme follows The European Charter for Researchers and The Code of Conduct for the Recruitment of Researchers. We employ a detailed selection process. The selection process comprises four main stages and will last approximately 10 weeks. **The candidates will be notified about the selection outcome in July 2023.**

What does the funding cover?

In Finland, doctoral studies take four years. To cover the whole 48 months of studies, we are offering a 12+36-month full-time employment contract.

LUT follows the national university salary system (YPJ). The typical gross annual starting salary for a doctoral candidate is approximately 30 800 euros (plus a holiday bonus in accordance with the collective agreement).

Travel allowance for one DC will cover the expenses (travel, accommodation and daily allowances) during the secondments, which are max. 16 months, and at least 1 conference attendance.

SEED Doctoral Candidate

Starting date: 1 September 2023

Funding period: 12+36 months (1+3 years)

Location: The job is based in Lappeenranta or Lahti, Finland.

Secondments: 2 mandatory secondments, academic secondment (10-12 months) in a European or international university of high standing and excellence and a non-academic secondment (4-6 months) in industry in Finland.

Information & Contacts

See the SEED webpage for additional detailed information on the SEED programme: https://www.lut.fi/en/seed

SEED Management Team: LUT.SEED@lut.fi