PhD Research Fellows in Advanced Powder Production and Characterization

About the position

Two 100 % positions are available at the University of Agder (UiA), Faculty of Engineering and Science as PhD Research Fellows, affiliated to the Department of Engineering Sciences, for a period of three years. The positions are located, at the present, at Campus Grimstad. The starting date is negotiable with the Faculty.

The PhD research will be part of an R&D project between industrial partners Elkem and Arendals Fossekompani, and research partners IFE, SINTEF Materials, Norwegian University of Science and Technology (NTNU) and UiA. The PhD work will be a close collaboration between UiA and NTNU with supervision and experimental support from both universities.

The PhD-program is a three-year collaboration program between the universities with a coursework section and a doctoral thesis. Some of the recommended courses may be offered by universities outside Norway to secure involvement of the best experts in the field. After finalizing of the work, the successful candidates will defend their theses at University of Agder. It is intended that the candidates will receive their PhD degree from both UiA and NTNU.

Responsibilities

The Materials Research Group at UiA is expanding the research related to powder production for additive manufacturing and 3D-printing. The group has extensive cooperation with industry and academic research partners within the field, and their laboratories are well equipped with modern scanning electron microscope, atomic force microscope and mechanical testing machines. They also have access to industrial laboratories at their partner’s facilities, as well as laboratories at other academic institutions actively involved in the PhD program. Their research is focused on sustainable solutions to technological challenges.

Silicon-based materials are important engineering materials which are now evolving towards the additive manufacturing field. The candidates will do research on material powder production and characterization using state-of-the-art equipment. Advanced additive manufacturing is the main application for the produced powders.

**PhD position #1: Atomization of silicon-based materials.** Atomization is a process transforming a liquid melt phase into solid particles by employing an atomizer nozzle.

**PhD position #2: Plasma reactor processing of silicon-based materials.** Material with irregular shapes and sizes can be transformed by plasma spheroidization into a powder with spherical shapes and controlled size distributions.

In both positions experimental work will be at a relatively large scale suitable for industrialization scale-up. Process modelling and optimization, including characterization of production batches of particles will be the focus of the research for the candidates.

Please indicate in your application if you are interested in position #1 (atomization of silicon-based materials), position #2 (plasma reactor processing of silicon-based materials), or both.

Required qualifications

- Master’s degree or equivalent higher degree in materials science/technology, solid state physics or chemistry. Applicants who are in the process of finishing their master’s thesis are also welcome to apply.
- Applicants with documented experience in the field of powder technology, and a master’s degree from a northern European institution will be preferred due to the industrial relevance of the work.
- Good knowledge in materials science and powder technology.
- English proficiency, both written and oral. Please check this website to see if an English test is required.

The purpose of the fellowships is basic/advanced research training leading to the successful completion of a PhD degree. The chosen candidates must be approved by the PPCE committee at the Faculty of Engineering and Science at UiA in order to obtain admission to the PhD study program at the university. See complete admission requirements at UiA's PhD programme at the Faculty of Engineering and Science, specialisation in Information and Communication Technology.

Further provisions relating to the positions as PhD Research Fellows can be found in the Regulations Concerning Terms and Conditions of Employment for the post of Post-Doctoral Research Fellow, Research Fellow, Research Assistant and Resident.

Desired qualifications

- Experience with laboratory work for powder production and characterization.
- Documented knowledge in use of scanning electron microscopy and/or atomic force microscopy.
Personal qualities

- Quick learner, motivated and dedicated to research
- Strong analytical, experimental and measurement skills
- Team player, and be able to work independently depending upon the situations
- Good communication and documentation skills

Personal qualities and suitability for the positions will be emphasised.

We offer

- Professional development in a large, exciting and socially influential organisation
- A positive, inclusive and diverse working environment
- Modern facilities and a comprehensive set of welfare offers
- Membership of the Norwegian Public Service Pension Fund

More about working at UiA.

The positions are remunerated according to the State Salary Scale, salary plan 17.515, code 1017 PhD Research Fellow, NOK 479 600 gross salary per year. A compulsory pension contribution to the Norwegian Public Service Pension Fund is deducted from the pay according to current statutory provisions.

General information

A good working environment is characterised by its diversity. We therefore encourage all qualified candidates to apply for the position, irrespective of gender, age, disability or cultural background. The University of Agder is an IW (Inclusive Workplace).

Women are strongly encouraged to apply for the positions.

The successful applicants will have rights and obligations in accordance with the current regulations for the position, and organisational changes and changes in the duties and responsibilities of the positions must be expected. The engagements are to be made in accordance with the regulations in force concerning the acts relating to Control of the Export of Strategic Goods, Services and Technology. Appointment is made by the University of Agder's Appointments Committee for Teaching and Research Positions.

Short-listed applicants will be invited for interviews. With the applicants' permission, UiA will also conduct a reference check before appointment. Read more about the employment process.

In accordance with the Freedom of Information Act § 25 (2), applicants may request that they are not identified in the open list of applicants. The University, however, reserves the right to publish the names of applicants. Applicants will be advised of the University's intention to exercise this right.

Application

The application and any necessary information about education and experience (including diplomas and certificates) are to be sent electronically. Use the link "Apply for this job".

The following documentation must be uploaded electronically:

- Certificates (with grades) and Diploma
- Updated CV (incl. academic work experience and R&D projects, as well as a list of these)
- List of publications (if any or link to Google Scholar)
- A description of the applicant's research interests, the background for the research questions that the applicant wishes to work, and an initial project plan (preliminary, not very descriptive)
- References - 2 (details with name, designation, email and contact number)
- Summary of Master's thesis (abstract, 1 or 2 pages)
- Any other relevant documentation

The applicant is fully responsible for submitting complete digital documentation before the closing date. All documentation must be available in a Scandinavian language or English.

Application deadline: 13.03.20

Contact

For questions about the position:

- Professor Tor Oskar Sætre, tel. +47 37233137, e-mail: tor.satre@uia.no
- Assistant Head of Department Tom Viggo Nilsen, tel. +47 37233255, e-mail: tom.v.nilsen@uia.no

For questions about the application process:

- HR Advisor Nina Rønningen, tel. +47 38 14 20 16, e-mail: nina.ronningen@uia.no
- Higher Executive Officer Lise Askbo Fylkesnes, tel. +47 37 23 31 25, e-mail: lise.a.fylkesnes@uia.no

University of Agder

Jobbnorge-ID: 183349, Søknadsfrist: 13. mars 2020