Postdoc on Phase-field simulation of annealing of Alpha-Beta Ti alloys

Ref. BAP-2022-204

You will work at the Department of Materials Engineering of the KU Leuven (www.mtm.kuleuven.be). The Department is responsible for education, research and service to industry and society related to materials science and engineering. Both, the university KU Leuven and the Department of Materials Engineering are world-wide strongly positioned in the important rankings related to research, innovation and education.
You will work in the Nano- and Microstructure Design of Materials Research group (https://www.mtm.kuleuven.be/english/research/scalint/NMDM/nano-microstructure-design-materials). The group is lead by a group of professors and combines advanced experimental characterization with complex modeling techniques to engineer materials structure on the nano- and microscale.
Your main supervisor will be Professor Nele Moelans, internationally recognized expert in phase-field modeling and multi-component microstructures (https://scholar.google.be/citations?user=x_x0MmQAAAAJ&hl=nl)

https://www.mtm.kuleuven.be/english/research/scalint/NMDM/nano-microstructure-design-materials

Responsibilities

You will work as a postdoctoral researcher in a larger project on Process Simulation for Additive Manufacturing in collaboration with Siemens company, Haasrode, Belgium. Various research groups of KU Leuven, specialized in additive manufacturing, materials engineering and computer science, collaborate in the project. Your responsibility will be to develop, implement and apply a phase-field model simulating the alpha'(martensite)to alpha (hexagonal) + beta (krg) phase transformation in Ti64 alloys produced by additive manufacturing and the coarsening of the two-phase alpha + beta Ti64 grain structures. The postdoc is standard for 1 year, but, depending on the situation, it can possibly be extended with six more months on the same project.

Profile

We are looking for candidates with the following profiles

- Candidates should have recently obtained a PhD degree in Physics, Chemistry,Materials Science/Engineering with outstanding achievements
- Candidates should have a strong modeling and theoretical background in phase-field methods and metallurgy.
- Desirable:programming experience with MOOSE framework (https://mooseframework.inl.gov/modules/phase_field/index.html), FE, Python, experience with writing your own simulation codes.
- Language skills: ENGLISH: Excellent
- Candidates have to be hard working, enthusiastic and intelligent with a strong interest in understanding the fundamentals of materials behavior, as well as its implications for engineering applications. Candidates should also have a talent for conceiving modelling hypothesis and can realize them in a target-oriented manner.

Offer

What do we offer ?

- The opportunity to perform a postdoc at a highly ranked university (for early stage researchers after their PhD)
- International environment
- Guidance by leading scientists
- Contact with an important industrial partner
- Competitive fellowship, social security, and other benefits
- Expected starting of the working contract: To be discussed. The project has started. An early starting date is possible and preferred.

Interested?

For more information, contact prof. dr. ir. Nele Moelans, mail: nele.moelans@kuleuven.be.
We look forward to receiving your application until 20th April 2022. In case no suitable candidates are found, we reserve the right to re-open the call.

Applications must certainly contain

• An up-to-date CV, detailing work experience and research and academic achievements

• A cover letter exposing the candidate motivation for the fellowship

• At least two references (name of a former supervisor, professor or a manager with contact information)

You can apply for this job no later than April 20, 2022 via the online application tool (Bij publicatie komt hier automatisch de link naar de online sollicitatiepagina.)

KU Leuven seeks to foster an environment where all talents can flourish, regardless of gender, age, cultural background, nationality or impairments. If you have any questions relating to accessibility or support, please contact us at diversiteit.HR@kuleuven.be.