

PhD opportunity

Multiphysics modeling of cathode materials

We are searching a PhD researcher in the field of multiphysics modeling of cathode materials. The aim of the project is the development of a single crystal continuum model for cathode materials used in Lithium-ion batteries.

The work will be done in the framework of a Baekeland-mandaat in cooperation with Umicore. Financial support for 6 months is guaranteed to write a competitive proposal and perform preliminary research.

The successful candidate should have

- a master degree in engineering or physics with a focus on materials science, mechanical engineering, or numerical modeling
- knowledge in materials science, phase transformation, thermodynamics, and solid mechanics
- practical experience in programming

and ideally knowledge in one or more of the following fields

- dislocation theory
- materials for energy storage
- numerical methods
- Fortran, Python/numpy, or Julia
- electrochemistry

We offer support for writing the proposal and perform preliminary research. In case of a successful proposal (funding rate is approximately 50%), the PhD candidate has financial support for 4 years and will work on the campus Arenberg of KU Leuven in the Nano- and microstructure design of materials group under supervision of Prof. Nele Moelans and Prof. Martin Diehl in close collaboration with researchers from Umicore.

Interested candidates should contact

- Prof. Martin Diehl: martin.diehl@kuleuven.be
- Prof. Nele Moelans: nele.moelans@kuleuven.be
- Dr. Duancheng Ma: duancheng.ma@eu.umicore.com

in case of questions or directly apply with motivation letter, transcript of records, and CV.

Further information can be found on the following links:

- [Baekeland-mandaat](#)
- [Umicore](#)
- [PhD@KU Leuven](#)
- [Nano- and microstructure design of materials](#)