



**EPFL**

**THEOS**  
THEORY AND SIMULATION  
OF MATERIALS

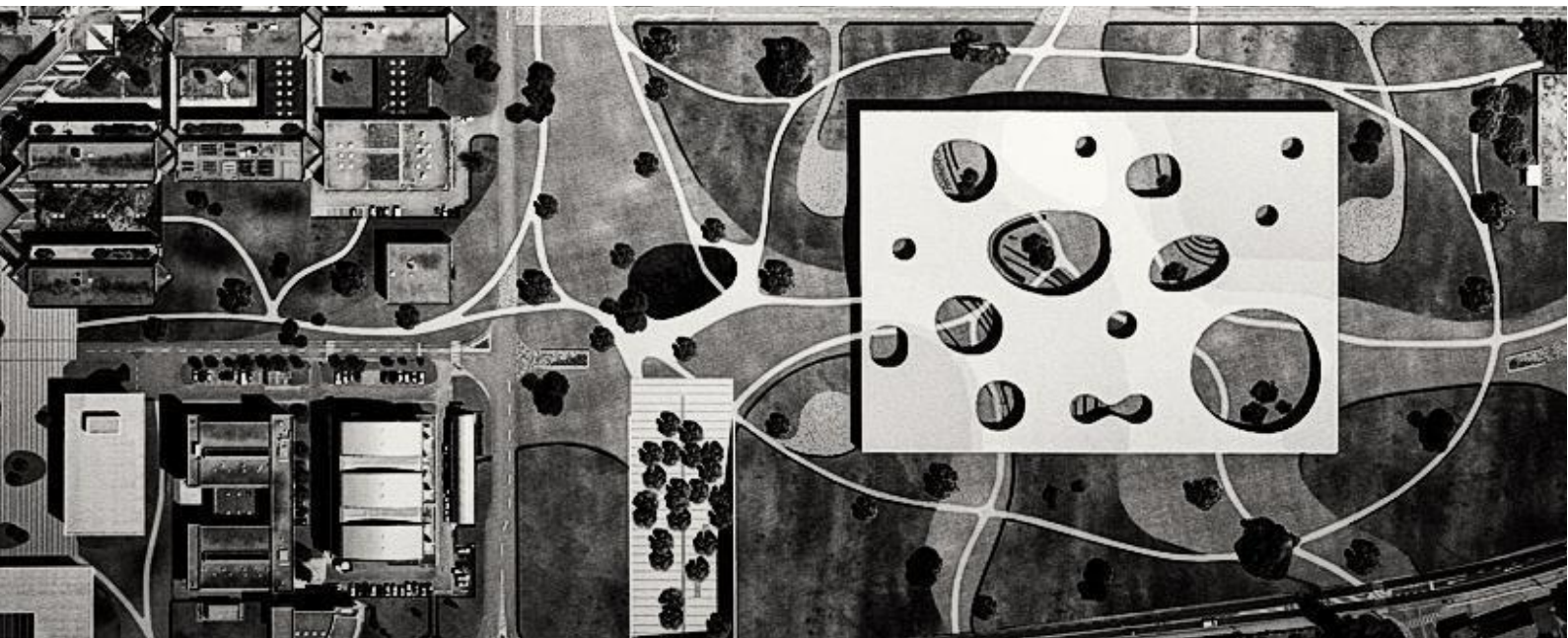
**MARVEL**  
NATIONAL CENTRE OF COMPETENCE IN RESEARCH

## **POST-DOC / SOFTWARE ENGINEER FOR THE BIG-MAP DIGITAL INFRASTRUCTURE (THEOS & MARVEL, EPFL)**

A position for a post-doc/software engineer is available at the École Polytechnique Fédérale de Lausanne (Lausanne, Switzerland) in the [group of Prof. Nicola Marzari](#). The position is supported by the new H2020 project [BIG-MAP](#) (Battery Interface Genome – Materials Accelerated Platform, part of the [Battery 2030+](#) initiative). The position is renewable yearly and funded for up to 3 years; it can also be extended to a fourth year upon availability of funding.

Outstanding candidates are sought with strong programming abilities, preferably with a background in physics/chemistry/materials or engineering/computer science. Candidates should be comfortable with project management and a diverse collaboration environment with teams across Europe.

The position will contribute to the development of the data and simulation infrastructure of BIG-MAP, and to the capabilities for automated simulations and data analytics. Core objectives will be automated data archiving (through the [Materials Cloud ARCHIVE](#)) and integration and dissemination of these data capabilities with simulation capabilities (through [AiiDA](#), deployed on local workstations, Materials Cloud WORK, Kubernetes clusters, European Open Science Cloud, and commercial providers such as AWS or Azure). The position will be embedded in the [AiiDA](#) and [Materials Cloud](#) teams.





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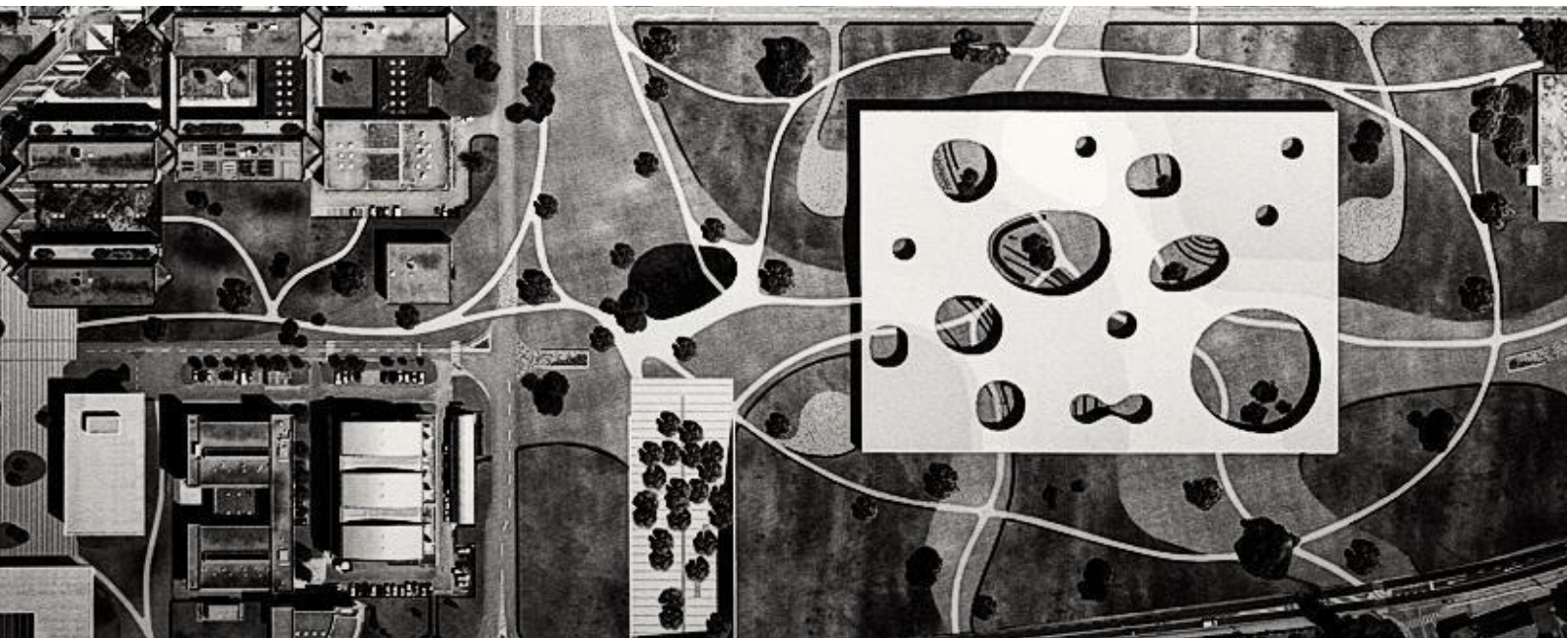
Natural synergies will be present with the Swiss National Centre [MARVEL](#) on Computational Design and Discovery of Novel Materials, the H2020 [MaX Centre of Excellence](#) on Materials Design at the eXascale, and the [OPTIMADE](#) consortium. Close collaborations with other efforts from the European Commission, such as the [Materials Modelling Marketplace](#), [Intersect](#), [DOME 4.0](#), [NFFA](#), NEP and OpenModel can be envisioned, as well as synergies with some of our industrial partners.

### Requirements:

- A PhD in the physical sciences (physics, chemistry, or materials), engineering, or computer science. Alternatively, a MSc with a tangible and proven track record in these domains
- Strong programming skills (Python a plus)
- Knowledge of front-end web technologies (JavaScript, TypeScript, HTML, CSS, jQuery, Bootstrap)
- Strong organizational skills, including the ability to work independently managing complex projects involving multiple partners from academia and industry in a highly collaborative environment

### Other desirable skills:

- Knowledge of RESTful services
- Experience with Docker, Kubernetes, Dokku and Ansible
- Experience with at least one front-end JS/TS framework or library (e.g. AngularJS, React)





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- Experience with database systems and technologies (SQL/NoSQL)
- Familiarity with state-of-the-art software development methods: version control, testing, continuous integration (ideally in a collaborative environment)
- Experience with AiiDA/AiiDALab

**The work environment:** The successful candidates will join the group of Nicola Marzari ([Theory and Simulation of Materials](#)) at the [École Polytechnique Fédérale de Lausanne](#) (EPFL), located in Switzerland on the shores of Lake Geneva and in close proximity to the Swiss and French Alps. This multidisciplinary group is at the forefront in the development and application of materials simulations, and leads the pan-Swiss materials consortium [MARVEL](#), a 12-year federal initiative created in 2014 whose aim is to accelerate materials' design and discovery. Outstanding computing facilities are available on-site and at [CSCS](#).

**Applications:** Candidates should submit 1) a full CV (ideally including BA/MSc transcripts), 2) contact information for two to four references and 3) a cover letter of intent. These documents should be emailed simultaneously to [nicola.marzari@epfl.ch](mailto:nicola.marzari@epfl.ch) and [valeria.granata@epfl.ch](mailto:valeria.granata@epfl.ch) as a single email with one PDF attachment, with the exact text "BIG-MAP post-doc/software engineer" in the subject line. Shortlisted candidates will be contacted individually for initial interviews, first via video conferencing.

Applications will be reviewed continuously and should be received by **June 30 2021** for best consideration; the position will remain open until filled. The contract is renewable every year (as required by EPFL) up to a maximum of 4 years, upon mutual satisfaction. Gross salaries for a freshly minted Ph.D. start at 83'600 CHF/year (~76'500 EUR/year); social benefits (unemployment, pension) are also provided.

