Research employee – Building energy simulation and scientific software development

VIA is one of Denmark's largest educational institutions. Through education, applied research, and innovation, VIA collaborates closely with private and public partners to create solutions with real societal impact.
You will be applying for a position in the Research Centre for the Built Environment, Climate and Water Technology at VIA University College. The centre conducts applied research at the intersection of the built environment, climate adaptation, and water and energy systems. We collaborate closely with municipalities, utilities, and private companies to develop, test, and implement future-proof technologies.

About the position

We are seeking a research employee with strong skills in **building energy simulation, scientific computing, and software development** to advance our *fast load estimator*: a tool for calculating hourly heating and cooling demand profiles for Danish buildings.
The tool combines state-of-the-art building simulation using **EnergyPlus** with Danish building and climate data. Our ambition is to enable efficient, reproducible calculations for **thousands of buildings**, supporting research and planning of future heating and cooling systems, including ambient temperature shallow geothermal district heating and cooling.
A central challenge is to combine reliable building physics with computational efficiency. You will help develop the simulation workflows and software architecture needed to move from individual building simulations to large-scale building stock assessments.

Responsibilities

- Develop and extend the fast load estimator to generate **hourly heating and cooling demand profiles** for Danish buildings.
- Develop automated workflows for creating, running, and processing **EnergyPlus simulations** using Danish building and climate data.
- Translate building information, including the **Danish Building Register (BBR) data**, into simulation inputs through documented assumptions and building archetypes.
- Design and implement **modular software architecture**, with clear interfaces between data processing, building models, simulation execution, and results.
- Develop **parallel simulation workflows**, including task scheduling, resource management, error handling, and recovery of failed simulations.
- Assess computational bottlenecks and develop strategies for scaling calculations to large building populations, including reusable simulation results.
- Validate and calibrate the model against measured energy consumption in Danish buildings, accounting for weather conditions, occupancy, and building operation, to improve the reliability of estimated hourly heating and cooling demand profiles.
- Contribute to scientific publications, project deliverables, software documentation, and collaboration with research and industry partners.

Qualifications

We are looking for a candidate with:

- A relevant master's degree or PhD in **engineering, physics, computer science, building science**, or a closely related field.
- Strong programming skills in **Python** and experience developing maintainable scientific software.
- A good understanding of **software architecture, parallel computing, and computational performance**.

•Experience with **building energy simulation**, preferably EnergyPlus, and an understanding of building physics, thermal comfort, and heating and cooling demand.
•Experience processing large datasets and designing reproducible computational workflows.
•The ability to work independently and contribute effectively to an interdisciplinary research team.
•Excellent written and spoken English.

Experience with Danish building data, geospatial data processing, high-performance or cloud computing or workflow orchestration is an advantage.

We offer

•The opportunity to develop a research tool connecting **building physics, scientific computing, and energy planning at scale**.
•A role with substantial responsibility for technical development and software design.
•Collaboration with researchers and industry partners working on sustainable heating and cooling.
•An applied research environment within VIA University College's award-winning Renewable Energy programme

Application process (mandatory)

Applications must be submitted no later than November 22th.

Please include:

•CV
•Short application letter (motivation and relevant qualifications)
•Diplomas and relevant documentation (if applicable)

Interviews are expected to be conducted shortly after the deadline.

Contact

For further information about the position, please contact:

Head of Research Programme Søren Erbs Poulsen
VIA University College
Email: soeb**@via.dk**

Workplace and terms of employment

•**Workplace:** VIA University College, Campus Horsens, Denmark
•**On-site presence required:** This is **not a remote position**
•**Employment conditions:** According to relevant collective agreements and local arrangements
•**Duration:** 1.12.2026 - 31.11.2027

Depending on your educational background, employment will be governed either by the applicable overenskomst for akademikere i staten or by the fællesoverenskomsten for LC/CO10 and the organisationsaftalen for undervisere på erhvervsakademier og professionshøjskoler.

The place of employment is VIA University College, Horsens Campus. However, duties and days on duty may be expected at other locations, when relevant.

The appointment is made in accordance with the Staff Regulations for the education programmes diplomingeniøruddannelsen og eksportingeniøruddannelsen:
Cirkulære om stillingsstruktur ved diplomingeniøruddannelsen og eksportingeniøruddannelsen | Regler, aftaler og cirkulærer

WE are VIA

VIA is one of Denmark's largest educational institutions, with locations throughout the Central Denmark Region. We educate and provide continuing education for teachers, nurses, engineers, designers and many more. We develop our programmes in close collaboration with practice. We are a workplace that offers flexibility, freedom, and strong

opportunities for development. If you are curious about what it's like to work at VIA, you can read some of our stories here.
At VIA, we value competence and talent in all its forms. We believe in the strength of diversity and welcome everyone, regardless of gender, age, ethnicity, or background. We therefore encourage everyone to apply for the position and become part of an inclusive community.
Read more about VIA University College at ***http://www.via.dk/***
Read information about the use of personal data in connection with recruitment at this link: ***https://via.career.emply.com/persondatapolitik***

Læs mere om VIA University College på www.via.dk
Læs information om anvendelse af personoplysninger i forbindelse med rekruttering på dette link:https://via.career.emply.com/persondatapolitik