

Jakob Hærvig

Associate Professor

 jakobhaervig.com  LinkedIn  GitHub

FOCUSING ON

Computational Fluid Dynamics (CFD), Data reduction techniques, OpenFOAM, Workflow automation, CI/CD, Scientific coding, Python

EXPERIENCE

2026 - now	Member of DeiC e-ressource committe (Danish e-infrastructure Consortium)
2022 - now	Associate Professor, AAU Energy, Aalborg University
2022 - now	Member of steering committee, DaCES (Danish Centre for Energy Storage)
2020 - 2024	Research Group Leader of Multiphase Flows and Heat transfer, AAU Energy, Aalborg University
2019 - now	Board member, DANSIS (The Danish Society for Industrial Fluid Dynamics)
2018 - 2022	Assistant Professor, AAU Energy, Aalborg University
2014 - 2017	PhD Student, AAU Energy, Aalborg University Focus was on fluid dynamics using computational methods. The adhesive behaviour of small micron-sized particles in turbulent flows was investigated by coupling the Discrete Element Method (DEM) to Large Eddy Simulations (LES) using the open-source software LIGGGHTS, CFDEM and OpenFOAM.
2016 - 2016	Visiting Researcher, Technical University Munich, Germany
2013 - 2013	Trainee, Grundfos Holding A/S, Bjerringbro, Denmark

EDUCATION

2023	Project Leadership and Management, CBS HD2, Copenhagen Business School, Copenhagen, Denmark.
2019	Adjunct Pedagogy, AAU Learning Lab, Aalborg, Denmark. Thesis title: Motivation-Focused Group Facilitation
2014 - 2017	PhD in Fluid Dynamics, Aalborg University Thesis title: On the Adhesive Behaviour of Micron-sized particles in Turbulent Flow - A Numerical Study Coupling the Discrete Element Method and Large Eddy Simulations (https://vbn.aau.dk/ws/portalfiles/portal/268165886/PHD_Jakob_Haervig_rettet_E_.pdf)
2012 - 2014	MSc in Thermal Energy and Process Engineering, Aalborg University Thesis title: Extending the Existing Modelling Framework for Non-Spherical Particles to Include Flat Plates in Free Fall (https://vbn.aau.dk/ws/portalfiles/portal/214692689/masterThesis.pdf)

GRANTS

2026	EPOSAM - Educational Platform for Open Source Software Applications in Fluid Mechanics - Funding agency: Erasmus+ KA220-VET - Project period: 01 January 2027 to 31 December 2029 - Role: Project partner
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2024	Danish participation in IEA ES Task 44 - Power-to-Heat and heat integrated Carnot Batteries for ZeroCarbon (industrial) heat supply - Funding agency: The Energy Technology and Demonstration Programme (EUDP) - Project period: 01 March 2024 to 1 March 2027 - Role: Project partner
2023	CFD simulations of fully-resolved jet break-up for agriculture use - Funding agency: Danish e-infrastructure Cooperation (DeiC) - HPC system: Supercomputer LUMI - Project period: 01 January 2024 to 31 December 2024 - Role: Principal investigator
2022	DNS studies on frictional drag reduction of ships using air bubbles - Funding agency: Danish e-infrastructure Cooperation (DeiC) - HPC system: Supercomputer LUMI - Project period: 15 March 2022 to 31 August 2022 - Role: Principal investigator
2022	A simulation framework for developing energy storage in stones - Funding agency: Energy Cluster Denmark (ECD) - Collaborating partners: Roskilde University, Stiesdal Storage Technologies A/S, Stormning APS - Project period: 1 June 2022 to 31 December 2022 - Role: Principal investigator
2020	2020 DUO-India Professor Fellowship - Funding agency: ASEM DUO - Project period: 15 March 2022 to 15 April 2022

TEACHING

PhD course: "Open-source Computational Fluid Dynamics Course"

- More info at opensourcecfdcourse.dk (<https://opensourcecfdcourse.dk/>)
- Interactive course slides available at <https://slides.opensourcecfdcourse.dk/> (<https://slides.opensourcecfdcourse.dk/>)

MSc course: "Fluid Mechanics"

- Interactive course slides available at <https://slides.jakobhaervig.com/> (<https://slides.jakobhaervig.com/>)

BSc course: "Heat transfer"

- Interactive course slides available at <https://slides.jakobhaervig.com/> (<https://slides.jakobhaervig.com/>)

OpenFOAM Days

- Two full days of OpenFOAM for all students at AAU.

COMPUTING

- *Favourite operating systems:* Debian/Ubuntu
- *Favourite tools for Computational Fluid Dynamics:* OpenFOAM, blockMesh, snappyHexMesh, Salome, LIGGGHTS, CFDEM
- *Favourite programming language:* Python (numpy, numba, scipy, matplotlib), bash scripting, MATLAB
- *Favourite workflow includes:* Docker, Git, GitHub and GitHub actions for CI/CD pipelines, virtual environments
- *Favourite presentation software:* Slides (e.g. these <https://slides.jakobhaervig.com/> (<https://slides.jakobhaervig.com/>))

OPEN-SOURCE PROJECTS

- OpenTerrace (<https://openterrace.github.io/openterrace-python/>) (creator, maintainer)
- Guide: OpenFOAM with WSL/Linux (<https://github.com/jakobhaervig/openfoam-installer>) (creator, maintainer)
- Guide: OpenFOAM with Docker (<https://github.com/jakobhaervig/openfoam-dockerfiles>) (creator, maintainer)
- Guide: OpenFOAM setup with VS Code (<https://github.com/jakobhaervig/openfoam-docker-vscode-workflow>) (creator, maintainer)
- Guide: OpenFOAM on LUMI (<https://github.com/jakobhaervig/openfoam-lumi-hpc-installation>) (creator, maintainer)
- QMK firmware (https://github.com/qmk/qmk_firmware) (contributor)

AWARDS

2024	Supervised thesis awarded "Best Fluid Mechanics Thesis" in Denmark by DANSIS
2020	Voted best teacher of the autumn semester by students, Study Board of Energy, Aalborg University, Denmark
2018	Supervised thesis awarded "Best Fluid Mechanics Thesis" in Denmark by DANSIS
2014	Best thesis award, Energy Sponsor Programme, Aalborg University, Denmark

PUBLICATIONS

Up-to-date list of publications at Google Scholar

(<https://scholar.google.dk/citations?user=vHh6K4AAAAAJ&hl>)

PEER-REVIEWING FOR JOURNALS

- Nature
- Journal of Fluid Mechanics
- International Journal of Heat and Mass Transfer
- International Communications in Heat and Mass Transfer
- Powder Technology

PERSONAL INTERESTS

- Running 5000 m (still chasing that old 2012 PB that just won't quit)
- Bouldering
- Fine art landscape photography
- Scientific coding
- Messing around with fibers, high transmission rates and a secure TrueNAS server

Last updated: 2026-09-15