

## Personal details and date of CV

- Surname : Hannukainen
- First names: Antti Juhani
- Date of CV : June 3, 2025

## Degree

- **Doctor of Science (Technology), 2011, Aalto University** Research field: Computational Science and Engineering, Supplementary field: Theoretical and Applied Mechanics, Dissertation: [Finite Element Methods for Time-Harmonic Wave Equations](#), (Pass with distinction)
- **Master of Science (Technology), 2007, Helsinki University of Technology** Field of study: Electronics and Electrical Engineering, Major subject: Electromagnetics and Circuit Theory, Minor subject: Computational Science and Engineering, Master's thesis: Finite Element Methods for Maxwell's Equations (grade:Excellent).
- **Matriculation examination (2000), Kuninkaanhaan lukio, Pori .**

## Current employment

- **Associate Professor, Since fall 2022, Aalto University, Department of Mathematics and Systems Analysis**

## Previous work experience

- Assistant Professor II (Apulaisprofessori) (2019 - 2022), Aalto University, Department of Mathematics and Systems Analysis
- Assistant Professor I (Apulaisprofessori) (September 2014 - December 2018), Aalto University, Department of Mathematics and Systems Analysis
- Postdoctoral researcher (Tutkijatohtori) (November 2012 - August 2014), Aalto University, Department of Mathematics and Systems Analysis
- Doctoral student (Tutkijaopiskelija) (July 2008 - October 2011), Aalto University, Department of Mathematics and Systems Analysis
- Researcher (May 2008 - July 2008), RWTH Aachen, Center for Computational Engineering Science
- Research Assistant (Tutkimusapulainen) (May 2005 - May 2008), Part-time, Helsinki university of Technology, Department of Mathematics
- Teaching assistant (Tuntiopettaja), Part-Time, Helsinki university of Technology, Department of Mathematics, During Semesters : fall 2003, spring 2004, fall 2004, and spring 2005
- Trainee (Harjoittelija) (summers 2001 ja 2000) Outokumpu Poricopper Oy
- Conscription (Varusmiespalvelus), 6 months, (fall 2000)

## Career breaks

No Career breaks.

## Research funding and grants

- Academy of Finland, Center of Excellence in Inverse Modelling and Imaging, period January 2023 - December 2025, 220 930 eur
- Academy of Finland, Center of Excellence in Inverse Modelling and Imaging, period January 2021 - December 2022, 182 000 eur
- Academy of Finland, Center of Excellence in Inverse Modelling and Imaging, preiod January 2018 - December 2020, 227 000 eur.
- Aalto Science Institute, CEM3D - Thematic Research Program, September 2016 - August 2019,

150 000 eur.

- TEKES project 3305/31/2015 AccuSiM, January 2016 - December 2018, 102000 eur
- Postdoctoral researcher, Academy of Finland, September 2013 - August 2016. Ended in August 2014 due to the Assistant Professorship at Aalto University.
- Grant for postdoctoral visit to Vienna University of Technology, 18800 eur, Alfred Kordelin Foundation (February 2012 - January 2013)
- Grant for doctoral studies, 15000 eur and traveling grant, 1600 eur, Väisälä Foundation (August 2009 - August 2010)
- Grant for doctoral studies, 15000 eur, Väisälä Foundation , (August 2008 - August 2009).

## Research output

For relevant publications see the publication list.

## Research supervision and leadership experience

- I currently supervise the Ph.D Thesis of: Emma Kamutta, Jaakko Olkkonen, Vili Kohonen, Tarmo Kivioja, and Jaakko Kuusela.
- Three of my PhD have defended : Antti Autio (2025), Lauri Perkkiö (2020), Antti Ojalampi (2020), and Teemu Häkkinen (2019).
- I have supervised two postdoctoral resarchers: Dardan Klimenta and Joanna Bisch, and co-supervised Xiaotao Ren with Anouar Belachen as well as Hanz Zhen with Harri Hakula.
- I have supervised 14 master thesis.
- I have supervised 18 bachelor thesis.

## Teaching merits

### Pedagogical training:

- Three courses of pedagogical training at Aalto University: A! Peda Intro (fall 2015), Oppiminen ja opetus yliopistossa (fall 2017), and Supervision of master's thesis(spring 2020)

### Teaching experience as a faculty member:

- Aalto University, Lecturer (once a year since 2015-) Finite element method (under various course codes)
- Aalto University, Lecturer (fall 2015) MS-A0001 Matriisilaskenta (TFM)
- Aalto University, Lecturer (fall 2016-2019) Linear algebra (under various course codes)
- Aalto University, Lecturer (once a year since 2015-) Numerical matrix computations (under various course codes)

### Teaching experience as a post-doctoral researcher:

- Aalto University, Lecturer (fall 2011) Mat-1.3658 Special Course in Numerical Analysis
- Aalto University, Lecturer (spring 2011) Mat-1.3650 Finite element method I
- TU Vienna, Teaching assistant (fall 2013), Analysis I
- TU Vienna, Lecturer (fall 2012), Homogenization methods for PDEs

## Awards and honours

None recieved.

## Other key academic merits, such as

- Chair of Teaching Evaluation Committee SCITEC, Aalto University School of Science, (since fall 2023)
- Board member, Finnish Inverse Problems Society, (since 2022)

- Member of Organising committee, Suomen matematiikan päivät (2024)
- Director of the Masters Programme in mathematics and operations research, (during 2022)
- Member of the Local Organising committee, Inverse Days (2018)
- Organizer of Session on "Applied Mathematics" with Matti Lassas at 27th Nordic Congress of Mathematicians (2016)
- Member of Scientific committee, The Third BCAM Workshop on Computational Mathematics (2014)
- Organizer of Minisymposia, "Novel Methods for Time-Harmonic Wave Equations" together with Lothar Nannen, at MAFELAP (2013)
- Member of Scientific committee, International Conference on APPLICATIONS OF MATHEMATICS (2013)
- The Finnish Society of Computational Sciences, Secretary (2011)

**Opponent for the doctoral defences:** Jyrki Jauhiainen (UEF, 2022), Jussi Korpela (HUT, 2021), Alexey Kazarnikov (LUT, 2020), Ville Räisänen (TUT, 2015).

**Reviewer or pre-examiner of the doctoral thesis:** Moataz Alghamdi (KAUST, 2025), Antti Mikkonen (HUT, 2025).