

Personal details and date of CV

Last name: Tyni

First names: Teemu Kristian

ORCID: 0000-0001-6978-3646

Date of CV: May 26th, 2025.

Degrees

Doctor of Philosophy in Applied Mathematics (Pass with distinction, November 18th, 2018) from University of Oulu, Finland. Contact: Dean of the Faculty of Natural Sciences Maarit Järvenpää maarit.jarvenpaa@oulu.fi, Pentti Kaiteran katu 1, PL 8000, FI-90014 Oulun yliopisto.

Title of Docent, Subject: Inverse scattering and partial differential equations, Lappeenranta University of Technology, April 2025.

Current employment

Research Unit of Applied and Computational Mathematics, University of Oulu, Finland

Assistant Professor (tenure track), July 3rd, 2024 - July 2nd, 2028.

Visiting researcher at the University of Helsinki 2023–

Previous work experience

Dept. of Mathematics, University of Toronto, Canada

Post-doctoral fellow, August 2021 – June 2023.

Contact: Professor Spyros Alexakis

Dept. of Mathematics and Statistics, University of Helsinki, Finland

Post-doctoral researcher, 2019–2021.

Contact: Professor Matti Lassas

Dept. of Math. Sciences, University of Oulu, Finland

Post-doctoral researcher, 2018–2019.

PhD. student, 2015–2018.

Contact: Professor Valery Serov, Dr. Markus Harju

Sodankylä geophysical observatory, Finland

Researcher, 2014

Contact: Professor Lassi Roininen

Dept. of Physics, University of Oulu, Finland

Research assistant at electron spectroscopy group, 2013

Contact: Dr. Lauri Hautala

Research funding and grants

1. My research group is part of the FAME Flagship of Research Council of Finland with funding of 67600€ by Research Council of Finland and 43750€ by University of Oulu (2024–2027) <https://www.aka.fi/en/about-us/whats-new/press-releases/2023/research-council-of-finland-selects-four-new-finnish-flagships/>
2. My research group is part of the DREAM doctoral education pilot with funding of approximately 72250€/year for 3 years (2025–2027).
3. I was awarded 200000€ research project grant 2024–2026 by the Emil Aaltonen foundation (Emil Aaltosen säätiö) in 2023 <https://emilaaltonen.fi/projektiapurahat-2023/>
4. I received 32500€ personal research fund from the Emil Aaltonen foundation (Emil Aaltosen säätiö) in 2021

<https://emilaaltonen.fi/wp-content/uploads/2021/05/saajaluettelo.pdf>

5. I was awarded a four (4) year funding towards the completion of my PhD research in 2015 by Exactus (University of Oulu, Doctoral programme in Exact Sciences). The amount of funding corresponded to full salary for four years.

Research output

18 peer-reviewed scientific publications in journals, such as, SIAM Journal on Mathematical Analysis, Analysis and PDE, Journal of Differential Equations, and SIAM Journal on Imaging Sciences.

Research supervision and leadership experience

- Postdoc supervision: Valter Pohjola (January 2024-present)
- Doctoral education: 2 students. Suvi Takalahti 2024-present, Khaoula El Maddah 2025-present.
- Master's thesis supervision for MSc. Manu Holmberg, (co-supervisor with prof. Matti Lassas) completed in 2020

Teaching merits

Total 27 courses taught during years 2015-2025, including usual lecture courses, online courses, MOOCs, master's supervision, and tutoring. Largest course at University of Toronto (Calculus 1-2 MAT135 and MAT136) had a total of approx. 3500 students.

Awards and honours

I received the Finnish Inverse Prize (2000€) for my PhD work in 2018.

<https://www.fips.fi/fipsprize.php>

Other key academic merits, such as

1. I am an active referee for the journals: SIAM Journal on Applied Mathematics, Inverse Problems, Inverse Problems & Imaging, and Inverse Problems in Science & Engineering, among others.
2. Organizing conferences:
 - With prof. Hauptmann I am a main organizer of "Inverse Days, 2024" in Oulu.
 - I organized a minisymposium at the "Applied Inverse Problems AIP2023" conference at Göttingen, Germany, 2023.
<http://www.aip2023.com/program/>
 - I organized a minisymposium at the "Inverse Problems: Modeling and Simulations" conference at Malta, 2022.
<https://www.ipms-conference.org/ipms2022/m27>
 - I was part in organizing committee of the online conference "Inverse Problems and Nonlinearity", Helsinki 2020.
<https://www.jyu.fi/science/en/math/research/inverse-problems/inverse-problems-and-nonlinearity-2020>
 - I took significant part in the organizing committee of the conference "Inverse Days, 2017" in Oulu.

Scientific and societal impact

1. I am the treasurer of Finnish Inverse Problems Society
<https://www.fips.fi/governors.php>
2. In 2024 with S. Alexakis and A. Stinchcombe at U. Toronto we developed a new method for electrical impedance tomography (EIT), and published two manuscripts outlining the

methods. We demonstrated the effectiveness of our approach on two openly available EIT datasets by [Finnish Inverse Problems Society](#) and the [Kuopio Tomography Challenge 2023](#).

Other

For more information and most up-to-date list of publications, please see my webpage: <https://www.mv.helsinki.fi/home/tyniteem/>.