

Curriculum Vitae

February, 2026

NAME Peter Alexander Hästö
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CURRENT POSITIONS

Professor of Mathematics, University of Helsinki ('24 –)
Responsible for mathematics studies in Swedish
Vice-director, Doctoral Program in Science
National Matriculation Examination Board ('13 – '27*)
Chairman ('25 – '27), Vice-chair ('22 – '24) and member ('13–'21) of the board
Head of mathematics section ('15 – '21)

PREVIOUS WORK EXPERIENCE

Professor of Mathematics, University of Turku ('14 – '15*, '15 – '23)
Director of studies, mathematics teacher education
Professor of Mathematics, University of Oulu ('06 – '14; '14 – '19*)
Director of studies, mathematics teacher education (10 yrs)
Head (1.5 yrs) and deputy-head (3 yrs) of department; vice-dean of faculty (1 yr)
Director, OuLUMA centre (8 yrs)
Junior Research Fellow, Research Council of Finland/University of Helsinki ('05, $\frac{1}{2}$ yr)
Post-doctoral Fellow, Norwegian University of Science and Technology ('04 – '05)
Visiting Assistant Professor, University of Michigan ('03 – '04)
Psychologist intern, Järvenpää Addiction Hospital ('03, $\frac{1}{3}$ yr)
Researcher trainee, University of Helsinki ('99 – '03)

EDUCATION

B.ADM.SC. '21 University of Eastern Finland
Administrative Law (3/5); Minor: Economics (5/5)
M.PHIL. '09 Clare Hall, University of Cambridge
Education
M.PSY. '07 & B.PSY. '02 University of Helsinki
Psychology (4/5); Minors: Research Methods (5/5), Cognitive Science (5/5)
PH.D. '03 University of Helsinki
Thesis: The Apollonian metric and bilipschitz mappings (mcla), Advisor: Matti Vuorinen
M.SC. '99 & B.SC. '98 University of Helsinki
Mathematics (3/3); Minors: Computer Science (3/3), Theoretical Physics (3/3), Physics (3/3)
International Baccalaureate '97 (42/45) Matlidents gymnasium

HIGHLIGHTS

Elected member of Svenska Tekniska Vetenskapsakademin i Finland (Apr '25)
Highest cited mathematician world-wide in PhD 2003-cohort (Jan '25)
Country Representative to the [International Commission on Mathematics Instruction](#) ('22 –)
Paper [8] awarded best article of the year 2022 by Korean Mathematical Society; [E1] shortlisted for best article 2017–19 in Nordic Studies in Mathematics Education
[CMFT 2013 Young Researcher Award](#) (Jun '13)
[Väisälä Price](#), Finnish Academy of Science and Letters (Dec '10)
National mathematics competition: 1st place, '97; IMO: bronze medal, '97, participant, '96

*part-time

EXTERNAL FUNDING

Swedish Research Council	110 000 e	co-PI	'26 – '28
Magnus Ehrnrooth Foundation	170 000 e	PI	'25 – '27
Finnish National Agency of Education (4 grants)	1 446 909 e	board member	'20 – '26
Finnish National Agency of Education	850 000 e	co-leader	'18 – '19
Ministry of Education and Culture	5 000 000 e	co-leader	'14 – '19
European Social Fund (2 grants)	754 650 e	leader	'09 – '13
INTAS	120 000 e	co-leader	'07 – '08
Research Council of Finland (2 grants)	1 302 400 e	co-PI	'07 – '14
The Emil Aaltonen Foundation	190 000 e	co-PI	'07 – '09
Research Council of Finland	156 090 e	PI	'05 – '08
Other grants	~210 000 e	PI/leader	'97 – '24

PUBLICATIONS

available at www.problemsolving.fi/pp/

108 articles in journals (2 submitted)

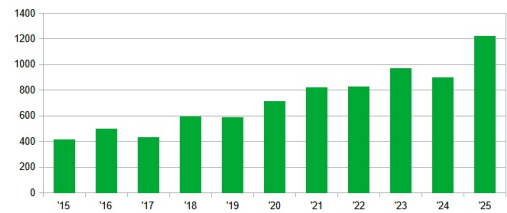
2 books 9 articles in proceedings

67 co-authors from 18 countries

MathSciNet: 5616 cit. by 2198 authors; [most cited mathematician in '03 cohort](#)

Web of Science: 6582 cit.; H-index 32

Google Scholar: 11 074 cit.; H-index 46



Citation per year (Google Scholar)

Books

1. **Lebesgue and Sobolev Spaces with Variable Exponents**, Lecture Notes in Mathematics 2017, Springer-Verlag, Berlin, 2011, x+502 pp. w/ Diening, Harjulehto, Růžička
#3 most cited book from 2011 (*MathSciNet*)
2. **Orlicz Spaces and Generalized Orlicz Spaces**, Lecture Notes in Mathematics 2236, Springer, Cham, 2019, x+168 pp. w/ Harjulehto
#4 most cited book from 2019 (*MathSciNet*)

Selected recent mathematical papers

1. The maximal operator on Musielak–Orlicz spaces, **J. Funct. Anal.** 269 (2015), no. 2, 4038–4048.
2. Hölder regularity of quasiminimizers under generalized growth conditions, **Calc. Var. Partial Differential Equations** 56 (2017), article 22. w/ Harjulehto, Toivanen
3. Extrapolation and interpolation in generalized Orlicz spaces, **Trans. Amer. Math. Soc.** 370 (2018), no. 6, 4323–4349. w/ Cruz-Uribe
4. Hölder continuity of quasiminimizers and ω -minimizers of functionals with generalized Orlicz growth, **Ann. Sc. Norm. Super. Pisa Cl. Sci.** XXII (2021), no. 2, 549–582. w/ Harjulehto, Lee
5. The weak Harnack inequality for unbounded supersolutions of equations with generalized Orlicz growth, **J. Differential Equations** 275 (2021), 790–814. w/ Benyaiche, Harjulehto, Karppinen
6. Exploring mathematical flexibility in three countries, **Int. J. STEM Education** 9 (2022), article 4. w/ Star, Tuomela, Joglar Prieto, Palkki, Abánades, Pejlare, Jiang, Li, Liu
7. A proof of Hall's conjecture on length of ray images under starlike mappings of order α , **Ann. Fenn. Math.** 47 (2022), no. 1, 335–349 w/ Ponnusamy
8. Maximal regularity for local minimizers of non-autonomous functionals, **J. Eur. Math. Soc. (JEMS)** 24 (2022), no. 4, 1285–1334. w/ Ok
9. Regularity theory for non-autonomous partial differential equations without Uhlenbeck structure, **Arch. Rat. Mech. Anal.** 245 (2022), no. 3, 1401–1436. w/ Ok
10. Bounded variation spaces with generalized Orlicz growth related to image denoising, **Math. Z.** 310 (2025), article 26. w/ Eleuteri, Harjulehto

SCIENTIFIC PRESENCE

International academic experience

Longer stays (5 years in total): Vienna; Barcelona (Autónoma); Ann Arbor; Trondheim; Cambridge

Shorter visits (23 weeks in total): Austin; Freiburg; Chennai (IIT Madras); Cincinnati; Linköping; Lissabon (UNL); Madrid (University Carlos III); Hiroshima; Seoul (SNU&Kyung Hee University); Boston (Harvard University)

Invitation to online seminar talks: California State University, Fullerton; University of Warsaw; Charles University, Prague; University of Aveiro

Invited talks at international conferences

- 1–17. Seventeen invited talks 2003–2013 in New Zealand, USA (MI & IN), India, Spain, Romania, Czech Republic, Finland, Mexico, Germany, Spain, Poland (2), China, Serbia
17. Recent Advances in Variable Exponent Spaces and Non-linear Problems, at the *Joint meeting of the American, European, and Portuguese mathematical societies*, Porto, Portugal (Jun '15)
18. *Workshop Nonstandard Growth Analysis and its Applications 2017*, Warsaw, Poland (Mar '17)
19. *3rd International E-Conference on Mathematical Advances and Applications*, Istanbul, Turkey (June '20; online)
20. *Nordic ISAAC Workshop in Analysis and Mathematical Physics 2020*, Växjö, Sweden (Aug '20; online)
21. *4th International E-Conference on Mathematical Advances and Applications*, Istanbul, Turkey (May '21; online)
22. *International Online Conference on Applied Mathematics (IOCAM 22)*, Morocco (June '22)
23. *Nonuniformly elliptic problems*, Warsaw, Poland (Sept '22)
24. *Conférence Internationale de Mathématiques et Applications*, Morocco (Dec '22; online)
25. *6th International Hybrid Conference on Mathematical Advances and Applications*, Istanbul, Turkey (May '23)
26. *Lavrentiev's phenomenon, approximation, and regularity*, Warsaw, Poland (Nov '23)
27. *International Conference on Special Functions, Analytic Functions, Metrics and Quasiconformality (ICSAMY)*, Indore, India (Dec '24)
28. *Novel methods of PDEs and function spaces*, Warsaw, Poland (Jun '25)
29. *16th Romanian-Finnish Analysis Seminar*, Alba Iulia, Romania (Jun '25)
30. *1st International Itinerant Congress on Advanced Mathematics (IICAM'2025)*, Errachidia, Morocco (Oct '25)

Conference organizing

Organizing committee chair (3) and member (2) of conferences 2005–2009 in Cambridge, Helsinki, Oulu and Trondheim.

Variable exponent analysis, Oulu, o/c chair (Jun '10)

Function spaces, PDE and image processing, Oulu, o/c chair (Jun '12)

MALU tutkimuspäivät, Oulu, o/c chair (Sept '14)

International Conference on Complex Analysis and Related Topics, Bucharest, o/c member (Jun '16)

Nonstandard growth phenomena, Turku, o/c chair (Aug '17)

15th Romanian-Finnish Analysis Seminar, Turku, o/c chair (Jun '19)

10th FSDONA, Turku, o/c chair (Jun '19)

11th FSDONA, Germany, o/c member (Sept '24)

16th Romanian-Finnish Analysis Seminar, Alba Iulia, Romania, o/c member (Jun '25)

49th Conference of the International Group for the Psychology of Mathematics Education (PME 49), Helsinki, Finland, o/c member (Jul '26)

Professional service

External reviewer for Adjunct Professorship (docent) of Heli Tuominen, U. Jyväskylä (Aug '09); Mikko Parviainen, U. Jyväskylä (Nov '11); Antti Rasila, U. Vaasa (May '13); Jorma Joutsenlahti, U. Tampere (Mar '18); Lasse Eronen, U. Eastern Finland (Feb '21)

External reviewer, Professor of Mathematics Education, University of Helsinki (Sept '09)

External reviewer, Professor of Mathematics, Technical University of Chemnitz (Jan '19)

External hiring committee member, Professor of Applied Mathematics, Åbo Akademi ('21–'22)

External reviewer, Professor of Mathematics Education, Åbo Akademi University (Jan '23)

Editorial board member of *Nonlinear Anal. TMA* ('17–'20)

Ann. Funct. Anal. ('24–)

Guest editor of a special issue in *Complex Anal. Oper. Theory* '09–'10 and '16–'17

Int. J. Differ. Equ. '11–'12

Math. Reports (Romania) '13 and '20–'21

FMSERA annual conference proceedings '14 and '15

Nordic Studies in Mathematics Education '18–'19

Math. Methods Appl. Sci. '20–'21

Referee of ≈ 230 articles, e.g. for *Acta Math.*, *Adv. Math.*, *Calc. Var. PDE*, *Comput. Math. Appl.*, *Electron. J. Combin.*, *J. Fourier Anal. Appl.*, *J. Funct. Anal.*, *J. Math. Psych.*, *J. Number Theory*, *J. Numer. Cognition*, *Math. Ann.*, *Math. Z.*, *Trans. Amer. Math. Soc.*

Referee of grant application for the Czech Academy of Sciences '05, '08

the Georgia National Science Foundation '07

the National Science Center, Poland '14, '17

the German Research Foundation (DFG) '16, '17, '24

POSTGRADUATE TRAINING

Main adviser of

Út V. Lě (PhD 2011, Oulu)

N.N. (PhD 2015, Oulu)

Arttu Karppinen (PhD 2020, Turku)

Riikka Palkki (PhD 2022, Oulu)

Debangana Baruah (PhD 2022, Turku)

Shemunyenge Hamukwaya (PhD 2023, Turku)

Dimitri Tuomela (PhD 2025, Oulu)

Hopea Talvitähti (PhD 2026e, Turku)

Vertti Hietanen (PhD 2027e, Helsinki)

Emilia Aaltonen (PhD 2029e, Helsinki)

Mikyoung Lee (Post-doc, 2017–19, Turku)

Assisting adviser of

Heikki Hakkarainen (PhD 2011, Oulu)

Matti Nuortio (PhD 2011, Oulu)

Lauri Berkovits (PhD 2011, Oulu)

Parantap Shukla (PhD 2012, Oulu)

Marjut Sulkakoski (PhD 2016, Oulu)

Oona Laakso (PhD 2021, Turku)

Rahim Kargar (PhD 2024, Turku)

Hong Yue (Post-doc, 2008–09, Oulu)

Experience as a dissertation pre-examiner and opponent

Opponent at the PhD defenses of Antti Rasila (May '05); Riku Klén (Mar '09); Gendi Wang (Aug '13); Ville Tengval (Nov '14)

Pre-examiner of PhD theses of Barkat Ali Bhayo (Apr '11); Xiaohui Zhang (May '13); Tri Quach (May '15)

University and national doctoral programs

Board member, Finnish Grad School of Mathematics, Physics and Chemistry Education ('06 – '11)

Board member, National Grad School in Mathematical Analysis and its Applications ('07 – '13)

Deputy chair, Doctoral Committee of Human Sciences, University of Oulu ('11 – '13)

Chair, Doctoral Committee of Technology and Natural Sciences, University of Oulu ('14)

Director, Doctoral Program in Mathematics and Statistics, University of Helsinki ('24 – '25)

Vice-director, Doctoral Program in Science, University of Helsinki ('26 – '29)

TEACHING

Undergraduate mathematics courses taught

Matrix theory and linear algebra	Michigan	'03
Analyysi II	Oulu	'06, '07
Analyysi I	Oulu	'10
Mathematics & technology	Oulu	'11
Sarjat & integraalit	Oulu	'11', '12, '14, '15
Usean muuttujan funktiot I	Turku	'14, '15
Usean muuttujan funktiot II	Turku	'15
Applied analysis	Turku	'20
Integralkalkyl	Helsinki	'24, '25, '26
Serier	Helsinki	'24, '25, '26
Gränsvärden	Helsinki	'24
Differentialkalkyl	Helsinki	'25

Mathematics teacher education courses taught

Aineenopettajien erikoistyö	Oulu	'06, '07, '08, '10
Matemaattinen ongelmanratkaisu	Oulu	'09, '10, '13, '14, '15
Ohjelmointi matematiikan opetuksessa	Turku	'15, '16
Ohjelmointi matematiikan opetuksessa	Oulu	'16
Opettajalinjan ohjauskurssi	Turku	'17, '18, '19
Matemaattinen ongelmanratkaisu ja ohjelmointi	Turku	'18, '19
Matematiikan demonstraatiokurssi	Turku	'20, '22
Matemaattinen ongelmanratkaisu (kaksikielinen)	Helsinki	'24, '25

Graduate mathematics courses taught

Advanced problem solving	NTNU	'05
Topics in analysis	Helsinki	'05
Analyysi III	Oulu	'06, '07
Topics in analysis (Computational fluid dynamics, Mathematical psychology, Function spaces, Calculus of variations and image processing)	Oulu	'06, '07, '08, '09
Abstract measure theory, Modern real analysis	Oulu	'11, '12
Measure and integration	Turku	'16
Real analysis I	Turku	'16, '20, '22
Real analysis II	Turku	'19, '20
Topics in analysis	Turku	'16, '17, '18

Master's theses

≈ 142 supervised M.Sc. theses as main adviser

Co-organizer of Master's thesis seminar, Turku ('16 – '23)

Teacher continued professional development courses and activities organized

Tutkiva oppiminen*, 42 teachers, '13 – '14

[Joustava yhtälönratkaisu](#)[†], ~100 teachers, '14 – '16

[Vahvuutta lukukäsitteeseen, ymmärrystä yhtälönratkaisuun](#)[†], ~250 teachers, '17 – '19

[Geometria ja ohjelmointia](#)*, ~40 teachers, '17 – '18

[Joustavaan matematiikkaan MOOC](#)*, 8000+ teachers, '18 – '26 (co-organizer)

[Jouheva joustavuus podcast](#), 6 episodes, 709 downloads, '20 – '21 (host and producer)

*Funded by the Finnish National Agency for Education

[†]Funded by the Ministry of Education, LUMA-Suomi project

Invited talks at teachers' professional meetings

- 1–7. Six talks 2008–16 in Helsinki, Jyväskylä, Kemi (2), Oulu, Suomussalmi, Stockholm
8. Suomen Lähilukioyhdistyksen XXI kehittämisseminaari, Pyhäjoki, 2017
9. MAOL syyskoulutusäivät, Turku, 2017
10. Finlandssvenska fysik- och kemidagarna, Helsingfors, 2017
11. Uudistuva pedagogiikka ja ylioppilaskoe, Helsinki, 2017
12. HELIUM-seminarie (fortbidning för matematiklärarna i gymnasiet), Jakobstad, 2018
13. Matematiklyft, Helsingfors, 2018
14. Matematiikan ainetiimikokous, Tampere, 2019
15. MAOL syyskoulutuspäivät, Rovaniemi, 2019
16. VESO koulutus, Vantaa, 2022
17. Integraalipäivät, Tampere, 2022
18. Matte ämneslärarträff och fortbildning, Åbo, 2023

Teaching material produced

www.problemsolving.fi/materials/

1. Advanced Problem Solving (2 cr, intermediate course), 2005 w/ Helvik, Malinnikova
2. Analyysi 1 (8 cr, intermediate course), 2009 revision
3. Analyysi 2 (8 cr, intermediate course), 2007 revision
4. Analyysi 3 (10 cr, advanced course), 2007 revision
5. Sarjat ja integraalit (6 cr, intermediate course), 2011 revision
6. Joustava yhtälönratkaisu -materiaali (teacher CPD), 2019 w/ Kostama, Palkki, Tuomela *et al.*
7. Geometria ja ohjelmointi (teacher CPD), 2019 w/ Klén *et al.*
8. Lukion pitkän matematiikan opettajan käsikirja (10 cr, advanced course), ongoing
w/ Ernvall-Hytönen, Harjulehto, Klén, Koskenoja, Salmi, Törmä

Selected recent publications on education (5 out of 12)

www.problemsolving.fi/pp/

- E1. Relationship between mathematical flexibility and success in national examinations, *Eur. J. Sci. Math. Education* **7** (2019), no. 1, 1–13. w/ Palkki, J. Star and D. Tuomela
- E2. Finnish students' flexibility and its relation to speed and technical skill in equation solving, *NO-MAD – Nordic Studies in Mathematics Education* **24** (2019), no. 3-4, 43–58. w/ Palkki
- E3. Exploring mathematical flexibility in three countries, *Int. J. STEM Ed.* **9** (2022), article 4.
w/ Star, Tuomela, Joglar Prieto, Palkki, Abánades, Pejlare, Jiang, Li, Liu
- E4. Which one is the “best”: a cross-national comparative study of students' strategy evaluation in equation solving, *Int. J. Sci. Math. Ed.* **21** (2023), no. 4, 1127–1151.
w/ Jiang, Star, Li, Liu, Tuomela, Joglar Prieto, Palkki, Abánades, Pejlare
- E5. Strategic flexibility in university mathematics, *Notices Amer. Math. Soc.* **71** (2024), no. 7, 917–923.
w/ Star

PARTICIPATION IN PROFESSIONAL DEVELOPMENT COURSES AND WORKSHOPS

University Pedagogy (Helsinki, '03; 7.5 cr)

Research and Development in Exams and Evaluation (NTNU, '04 – '05; ~3 cr)

Portfoliokoulutus [Portfoliotraining] (Oulu, '06; 9 cr)

OPS–HOPS koulutus [Curriculum and study plan training] (Oulu/Kuopio, '06; 6 cr)

Quality Assurance Experts (Oulu, '08 – '09; 15 cr)

Recent short workshops ('21 –)

University Industry Innovation Network Conference

Entrepreneurship at universities and at the University of Turku

Moninaisuutta korkeakouluihin 1 & 2 [Diversity for universities 1 & 2]

GENERAL SKILLS

Data processing and IT-skills

(Computer science was joint major in B.Sc., 72 cr completed with grade 5/5.)

Expert in programming – for data processing as well as software and web development (e.g. BASIC, C, C++, Pascal, SQL, MATLAB, Python, HTML5/CSS, JavaScript/Node.js)

Expert in professional writing (L^AT_EX)

Advanced level in data analysis and visualization for R&D (SPSS, MATLAB, Excel)

Advanced level in standard office programs (Word, Excel, Powerpoint)

Well-versed in web and research analytics (Google analytics&scholar, Web of Knowledge, Scopus)

Well-versed in social media (Facebook, WordPress, Youtube, Anchor)

Well-versed in distance-learning solutions (Moodle, ViLLE, Zoom, Teams, Google docs)

Proficient in AI, deep learning and big data (Keras)

Language proficiency

Native or Bilingual Proficiency: Swedish – English – Finnish

Full Professional Proficiency: German – Spanish – French – Catalan

Minimum Professional Proficiency: Italian – Dutch

OTHER ORGANIZATIONAL ACTIVITIES AND POSITIONS OF TRUST

University of Turku, Collegiate Council	alternate member ('22 – '23)
———, Subject Teacher Education Committee	chair ('21 – '23)
University of Oulu, Board of Teacher Education	chair ('14), member ('11 – '13)
———, Teaching Council	member ('10 – '14)
———, Graduate School	board member ('14)
———, Doctoral Programme Committee on Technology and Science	chair ('14)
———, Doctoral Programme Committee on Human Science	vice-chair ('11 – '13)
———, OuLUMA centre	director ('07 – '15)
University of Helsinki, Senate	alternate member ('00, $\frac{1}{2}$ yrs)
———, Doctoral Program in Mathematics and Statistics, DOMAST	director ('24–'25)
———, Doctoral Program in Sciences, DOMAST	vice-director ('26–'29)
Faculty of Science (Oulu)	acting vice-dean ('10 – '13; 10 mo)
———, Faculty Council	member ('09 – '15)
———, Teaching Council	vice-chair ('10 – '13)
Department of Mathematical Sciences (Oulu)	head ('14 – '15), deputy head ('10 – '13)
———, Department Board	member ('06 – '14)
———, Teaching Committee	chair ('07 – '11)
International Commission on Mathematics Instruction	Country Representative ('16 & '22 –)
Finnish Commission on Mathematics Instruction	chair ('22 –), member ('06 – '22)
Finnish Education Evaluation Centre, 2020 math assessment	steering group member ('19 – '20)
LUMA Centre Finland	board vice-chair ('13 – '15)
National mathematics and science teacher education standards committee	chair ('15 – '17)
Finnish Mathematics and Science Education Research Association	board member ('14 – '16)
Nordic University-level Mathematics Team-competition	o/c chair ('07 – '10), member ('11 – '12)
Finnish Mathematics Contest for University Students	o/c (co)chair ('01 – '03)