

Curriculum Vitae

NAME Peter Alexander Hästö
BIRTHDATE April 15, 1978
CITIZENSHIP Finland
E-MAIL peter.hasto@utu.fi
URL <http://cc.oulu.fi/~phasto/>

CURRENT POSITION

Professor of Mathematics, University of Turku (Aug '14 –)
director of studies, mathematics teacher education
Professor of Mathematics, University of Oulu (Jan '06 – Aug '15; *part-time*, Sept '15 –)
Docent of Mathematics, University of Helsinki (Mar '04 –)

PREVIOUS WORK EXPERIENCE

Junior Research Fellow, Academy of Finland (University of Helsinki; Sep '05 – Dec '05)
Post-doctoral Fellow, Norwegian University of Science and Technology (Jul '04 – Aug '05)
Visiting Assistant Professor, University of Michigan (Sep '03 – Jun '04)
Psychologist intern, Järvenpää Addiction Hospital (Apr – Jul '03)
Researcher trainee, University of Helsinki (Mar '99 – Jun '03)

EDUCATION

University of Eastern Finland, Law School ('15 –)
ongoing, 143 cr completed
University of Cambridge, Faculty of Education ('08 – '09)
Master of Philosophy, '09
Universitat Autònoma de Barcelona, Department of Psychology (exchange student; '01 – '02)
University of Helsinki, Department of Psychology ('99 – '07)
Master of Psychology, '07
Bachelor of Psychology, '02
Universität Wien, Department of Mathematics (exchange student; '99 – '00)
University of Helsinki, Department of Mathematics ('97 – '03)
Doctor of Philosophy, '03
Master of Science, '99
Bachelor of Science, '98
Mattilidens gymnasium ('94 – '97)
International Baccalaureate, '97

HONORS AND AWARDS

CMFT 2013 Young Researcher Award (June '13)
Foundations' Professor Pool grant (Aug '12 – Sep '13)
Väisälä Price, Finnish Academy of Science and Letters (Dec '10)
Gehring Finland Post-doctoral Fellowship (Sep '03 – Jun '04)
Research scholarship, Finnish Academy of Science and Letters (Jan – Dec '01)
Research scholarship, Österreichischer akademischer Austauschdienst (Oct '99 – Jun '00)
International Mathematical Olympiad, Argentina '97 (bronze medal) and India '96
National Mathematics Competition, Finland '97, 1st place

EXTERNAL FUNDING

Ministry of Education and Culture	5 000 000 e	leader of math subproject	'14 – '19
European Social Fund	354 650 e	project leader	'12 – '13
Academy of Finland	960 000 e	co-principal investigator	'11 – '14
European Social Fund	400 000 e	project leader	'09 – '11
INTAS	120 000 e	leader of the Finnish team	'07 – '08
Academy of Finland	342 400 e	co-principal investigator	'07 – '10
The Emil Aaltonen Foundation	190 000 e	co-principal investigator	'07 – '09
Academy of Finland	156 090 e	principal investigator	'05 – '08
Other grants	~170 000 e	principal investigator	'97 – '16

PUBLICATIONS

82 articles in international refereed journals (+5 submitted)

1 book, published by Springer Verlag

8 articles in international refereed conference proceedings

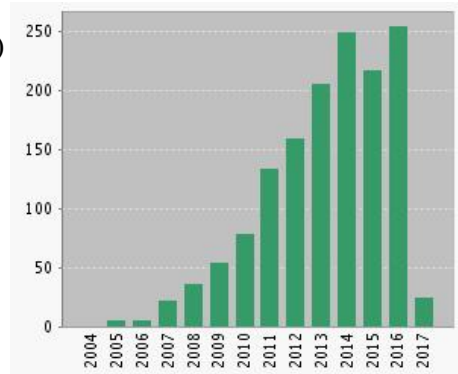
4 HiCi publications according to ISI

~50 co-authors from ~10 countries

1770 cit. by 740 authors according to MathSciNet

2206 cit. according to ISI "cited ref search" (H-index 23)

3588 cit. according to Google Scholar (H-index 31)



Book

Citation per year/ISI "basic search"

1. **Lebesgue and Sobolev Spaces with Variable Exponents**, Lecture Notes in Mathematics 2017, Springer-Verlag, Berlin, 2011, x+502 pp, (with L. DIENING, P. HARJULEHTO and M. RŮŽIČKA).

Selected recent papers (10 out of 95)

1. Minimizers of the variable exponent, non-uniformly convex Dirichlet energy, **J. Math. Pures Appl.** (9) 89 (2008), no. 2, 174–197 (with P. HARJULEHTO and V. LATVALA).
2. Spaces of variable integrability and differentiability, **J. Funct. Anal.** 256 (2009), no. 6, 1731–1768 (with L. DIENING and S. ROUDENKO).
3. Local-to-global results in variable exponent spaces, **Math. Res. Letters** 16 (2009), no. 2, 263–278.
4. Besov spaces with variable smoothness and integrability, **J. Funct. Anal.** 258 (2010), no. 5, 1628–1655 (with A. ALMEIDA).
5. Mappings of finite distortion and PDE with nonstandard growth, **Int. Math. Res. Not. IMRN** (2010), 1940–1965 (with T. ADAMOWICZ).
6. Strong minimum principle for quasisuperminimizers of non-standard growth, **Ann. Inst. H. Poincaré Anal. Non Linéaire** 28 (2011), no. 5, 731–742 (with P. HARJULEHTO, V. LATVALA and O. TOIVANEN).
7. Riesz and Wolff potentials and elliptic equations in variable exponent weak Lebesgue spaces, **Ann. Mat. Pura Appl.** 194 (2015) no. 2, 405–424 (with A. ALMEIDA, P. HARJULEHTO and T. LUKKARI).
8. Point-wise behavior of the Geman–McClure and the Herbert–Leahy image restoration models, **Inverse Probl. Imaging** 9 (2015), no. 3, 835–851 (with P. HARJULEHTO and J. TIROLA).
9. The maximal operator on Musielak–Orlicz spaces, **J. Funct. Anal.** 269 (2015), no. 2, 4038–4048.
10. Extrapolation and interpolation in generalized Orlicz spaces, **Trans. Amer. Math. Soc.**, to appear (with D. CRUZ-URIBE)

STUDENTS

As first/only supervisor

Út V. Lě (PhD 2011, Oulu)
N.N. (PhD 2015, Oulu)
Riikka Palkki (PhD 2018 exp, Oulu)
Dimitri Tuomela (PhD 2019 exp, Oulu)
Debangana Baruah (PhD 2019 exp, Turku)
Shemunyenge Hamukwaya (PhD 2020 exp,
Turku)
≈ 60 Master's theses

As second supervisor

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)

SCIENTIFIC PRESENCE

Invited talks at international conferences

- 1.–7. Seven invited talks 2003–2007 in New Zealand, USA (MI & IN), India, Spain, Romania.
8. *Spring School on Analysis 2009*, Paseky, Czech Republic (June '09). (four lectures)
9. *International Conference on Complex Analysis and Related Topics—The 12th Romanian-Finnish Seminar*, Turku, Finland (Aug '09).
10. *Workshop on PDE's and Applications*, Mexico City, Mexico (May '11).
11. *Function Spaces, Differential Operators, and Nonlinear Analysis*, Tabarz, Germany (Sept '11).
12. *Function Spaces, Weights, and Variable Exponent Analysis*, Barcelona, Spain (Sept '11).
13. *International Conference on Complex Analysis and Related Topics*, Ploiesti, Romania (June '12).
14. *Calculus of Variations and PDEs*, Szczawnica, Poland (July '12).
15. *Computational Methods and Function Theory 2013*, Shantou, China (June '13).
16. *Conference on Geometric Function Theory*, Belgrade, Serbia (Oct '13).
17. *Research meeting in Variable exponent theory and applications*, Warsaw, Poland (Oct '14).
18. Recent Advances in Variable Exponent Spaces and Non-linear Problems, session at the *Joint meeting of the American, European, and Portuguese mathematical societies*, Porto, Portugal (Jun '15).
19. *Workshop Nonstandard Growth Analysis and its Applications 2017*, Warsaw, Poland (Mar '17).

Professional service

Official Opponent at the PhD defenses of Antti Rasila (May '05); Riku Klén (Mar '09); Gendi Wang (Aug '13); Ville Tengval (Nov '14)
Examiner of PhD theses of Barkat Ali Bhayo (Apr '11); Xiaohui Zhang (May '13); Tri Quach (May '15)
Examiner of PhL theses of Riku Klén (Mar '07); Markus Hartikainen (Apr '08); Satu Sallinen (Nov '09); Barkat Ali Bhayo (May '10)
External reviewer for Adjunct Professorship (docent) of Heli Tuominen, University of Jyväskylä (Aug '09); Mikko Parviainen, University of Jyväskylä (Nov '11); Antti Rasila, University of Vaasa (May '13)
External reviewer for a professorship in Mathematics Education at the University of Helsinki (Sept '09)
Guest editor of a special issue in *Complex Anal. Oper. Theory* '09–'10, '16–'17
Int. J. Differ. Equ. '11–'12
Math. Reports (Romania) '13
FMSERA annual conference proceedings '15 & '16

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

Member of the jury, Nevanlinna Prize for Best Dissertation in Mathematics, '07

Referee of 117 articles, e.g. for *Acta Math.*, *Adv. Math.*, *Calc. Var. PDE*, *Comput. Math. Appl.*,
Electron. J. Combin., *J. Differential Equations*, *J. Fourier Anal. Appl.*, *J. Funct. Anal.*, *J. Math.*
Psych., *J. Number Theory*, *Math. Ann.*, *Math. Z.*, *Nonlinearity*, *Trans. Amer. Math. Soc.*

Reviewer for Mathematical Reviews: 65 reviews; Zentralblatt: 14 reviews

TEACHING

Courses taught

Matrix Theory and Linear Algebra (MATH 419)	Michigan	'03
Advanced Problem Solving	NTNU	'05
Topics in Analysis	Helsinki	'05
Analysis III	Oulu	'06, '07
Aineenopettajien erikoistyö (with Marko Leinonen)	Oulu	'06, '07, '08, '10
Analysis II	Oulu	'06, '07
Computational Fluid Dynamics	Oulu	'06
Mathematical Psychology	Oulu	'07
Function Spaces	Oulu	'08
Mathematical Problem Solving	Oulu	'09, '10, '13, '14, '15
Calculus of Variations and Image Processing	Oulu	'09
Analysis I	Oulu	'10
Mathematics & Technology	Oulu	'11
Abstract measure theory	Oulu	'11
Sarjat & integraalit	Oulu	'11', '12, '14, '15
Modern Real Analysis	Oulu	'12
Functions of several variables I	Turku	'14, '15
Functions of several variables II	Turku	'15
Programming in mathematics teaching	Turku	'15, '16
Programming in mathematics teaching	Oulu	'16
Measure and integration	Turku	'16
Real analysis	Turku	'16
Topics in Analysis	Turku,	'16
Opettajalinjan ohjauskurssi	Turku	'17

Invited talks at teachers' professional meetings

Valtakunnallinen matematiikan opetuksen päivä, Helsinki 2012

MAOL syyskoulutusäivät, Jyväskylä 2013

Opekatti, Suomussalmi 2013

Mattebro, Stockholm, Sweden, 2013

MAOL syyskoulutusäivät, Oulu 2016

Professional development course participation

Course in *University Pedagogy* (University of Helsinki, Spring '03; 7.5 ECTS)

Teaching Mathematics seminar (University of Michigan, '03 – '04)

Research and Development in Exams and Evaluation workshop (NTNU, Nov '04; Feb '05)

Portfoliokoulutus (University of Oulu, Mar '06 – Oct '06; 9 ECTS)

OPS–HOPS koulutus (Universities of Oulu/Kuopio, Sept '06 – Dec '06; 6 ECTS)

Quality assurance experts (University of Oulu, '08 – '09; 15 ECTS)

Publications

1. Peer-assessment in mathematics at NTNU, *Relating Practice and Research in Mathematics Education* (NORMA 05, Trondheim, Norway, 2005), 469–473, Tapir Press, Trondheim, Norway, 2007 (with K. HAG).
2. Innovative thinking in Mathematics degree programs? *Akateeminen ops ja hops oppimisen laatutekijöinä* (H. Alaniska, K. Alha, M. Ansela and T. Haapaniemi, eds.), 51–61, University of Oulu Press, Oulu, 2007.
3. Facilitating deep subject matter knowledge in prospective secondary school teachers, *Psychology of Mathematics Education* (Thessaloniki, Greece, 2009), poster.
4. Matematiikan didaktiikkaa tutkimuksen valossa — kohti kansainvälisyyttä [Mathematical didactics in the light of research — toward internationalism], *Ainedidaktiikka tutkimuskohteena ja tiedonalana* (eds. A. Kallioniemi and A. Virta), 2012, 250–271, Jyväskylä : Finnish Educational Research Association (with H. KRZYWACKI, A. LAINE, and M. S. HANNULA).
5. Development and awareness of function understanding in first year university students, *Proceedings of the Eight Congress of the European Society for Research in Mathematics Education* (eds. B. Ubuz, C. Haser, M. Mariotti), 2013, 2366-2375, Ankara, Turkey: European Society for Research in Mathematics Education (with O. HYVÄRINEN and T. VEDENJUOKSU).
6. Promoting exploratory teaching in mathematics: a design experiment on a CPD course for teachers *LUMAT 3* (2015), no. 6 (with H. HEIKKINEN, V. KANGAS, and M. LEINONEN).

ORGANIZATIONAL ACTIVITIES AND POSITIONS OF TRUST

University Senate (University of Helsinki), alternate member (5 months; '00)

University Teaching Council, member ('10 – '14)

University Board of Teacher Education, chair ('14), member ('11 – '13)

Vice-Dean of the Faculty of Science (10 months; '10 – '13)

Faculty Council/Board, member ('09 – '15)

Doctoral Committee of Human Sciences, deputy chair ('11 – '13)

Doctoral Committee of Technology and Natural Sciences, chair ('14)

Head of the department ('14 – '15; 20 months)

Deputy Head of the department ('10 – '13; 3 years)

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

Graduate School in Mathematical Analysis and its Applications, board member ('07 – '13)

National Matriculation Examination Board, head of mathematics ('15 –); member ('13 – '14); auxiliary member ('10 – '12)

LUMA Centre Finland, vice-chair of the board ('13 – '15)

National standard's committee for mathematics and science teacher education, chair ('15 –)

Finnish Mathematics Contest for University Students, o/c (co)chair ('01 – '03)

Nordic university-level mathematics team-competition NMC, o/c chair ('07 – '10), member ('11 – '12)

Workshop on PDE and Harmonic Analysis, Trondheim, o/c member (Jun '05)

National Science and Mathematics days (LUMA päivät), Oulu, o/c chair (Apr '07)

Function Spaces, Differential Operators and Nonlinear Analysis (FSDONA), Helsinki, o/c member (Aug '08)

FSDONA Workshop, Helsinki, o/c co-chair (Aug '08)

Kaleidoscope, Cambridge, o/c chair (Jun '09)

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)

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

INTERNATIONALITY

Long term academic visits

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

Medium term academic visits

Austin; Freiburg; Chennai (IIT); Cincinnati; Linköping; Lissabon (UNL); Madrid (University Carlos III); Hiroshima (20 weeks in total)

Language skills

Swedish (mother tongue), English (fluent), Finnish (fluent), German (very good), Spanish (good), French (reading: very good, expression: fair), Catalan (reading: good), Italian (reading: good), Dutch (reading: fair), Korean (basics)