

CURRICULUM VITAE

Name : Dr. Mihály Kovács
Year of birth : 1977
Address : Department of Differential Equations
Budapest University of Technology and Economics
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Education

2004 : PhD in Mathematics, Louisiana State University, Baton Rouge, USA
2002 : MSc in Mathematics, Louisiana State University, Baton Rouge, USA
2000 : MSc in Meteorology and German Technical Translation, Eötvös Loránd University, Budapest, Hungary

Positions

2021– : Professor, Budapest University of Technology and Economics, Faculty of Natural Sciences, Mathematics Institute, Department of Differential Equations, Hungary
2020– : Professor, Pázmány Péter Catholic University, Faculty of Information Technology and Bionics, Hungary
2019– 2020 : Associate Professor, Pázmány Péter Catholic University, Faculty of Information Technology and Bionics, Hungary
2016– 2019 : Senior Lecturer, Chalmers University of Technology and University of Gothenburg, Sweden
2016–2016 : Associate Professor, University of Otago, New Zealand
2010–2016 : Senior Lecturer, University of Otago, New Zealand
2006–2010 : Lecturer, University of Otago, New Zealand
2006–2008 : Postdoctoral Fellow, Chalmers University of Technology and University of Gothenburg, Sweden
2005–2006 : Postdoctoral Fellow, University of Otago, New Zealand
2004–2005 : Assistant Professor, University of Miskolc, Hungary

Scientific and academic qualifications

University Professor, appointed by the President of the Republic, 01.09.2020 (Decision No. KE 377/2020. (VIII. 30.)).

DSc of the Hungarian Academy of Sciences in mathematics, 25.10.2019. Title of the dissertation: "Weak convergence of Galerkin finite element approximations of stochastic evolutions with additive noise." The dissertation can be summarized as follows: It gives weak and strong error estimates for certain type of approximations of certain type of stochastic partial differential equations.

Habilitation at Pázmány Péter Catholic University, Faculty of Information Technology and Bionics, Roska Tamás Doctoral School of Sciences and Technology, 26.03.2019.

”Oavlönad Docent i matematik” (unpaid docent) of the University of Gothenburg, 07.06.2017. This qualification is roughly equivalent to a habilitation in mathematics at a Hungarian tertiary institution. For the rules and requirements for an unpaid docent see: <https://medarbetarportalen.gu.se/internt-science/docentur-lararanstallningar/>.

Research grants

Marsden Fund grant 18-UOO-143 of the Royal Society of New Zealand entitled ”Boundary conditions for non-local operators”, 2019 for 3 years, 680 000 NZD (approx. 415 000 EUR), co-principal investigator

Project grant no. 2017-04274 of the Swedish Research Council (VR) entitled ”Icke-lokala deterministiska och stokastiska differentialekvationer: analys och numerik” 2018 for 4 years, 2 800 000 SEK (approx 280 000 EUR), principal investigator

Marsden Fund grant UOO1418 of the Royal Society of New Zealand entitled ’Evolution equations with memory and random fluctuations”, 2014 for 3 years, 565 000 NZD (approx. 340 000 EUR), co-principal investigator

University of Otago Research Grant entitled ”Numerical methods for stochastic partial differential equations”, January 2010– March 2011, 6000 NZD (approx. 3600 EUR)

Postdoctoral grant No. 623-2005-5078 of the Swedish Research Council (VR), 2006 – 2008, 115 000 NZD (approx. 63 000 EUR) /year for 3 years, only 14 of these have been awarded across all fields of sciences/year

Awards and distinctions

Affiliated Professor, Chalmers University of Technology, Gothenburg, Sweden, 2021–2010 Early Career Award for Mathematical Research of the New Zealand Mathematical Society. This award was instituted in 2006 to reward early career New Zealand mathematicians and is awarded annually.

Scientific Award of the Miskolc Regional Committee of The Hungarian Academy of Sciences, 2004

Research group leadership

PPKE ITK, Jedlik Ányos Research Laboratory, Applied Mathematics Research Group, co-leader

Doctoral School membership

PPKE Roska Tamás Doctoral School of Sciences and Technology, core member

Editorial service

Associate editor, BIT Numerical Mathematics, 2019 –

Associate editor of SIAM/ASA Journal on Uncertainty Quantification, 2015 – 2020

Associate editor of EJQTDE, 2015 –

Professional memberships

Public body of the Hungarian Academy of Sciences, member

Refereeing service

Reviewer for various scholarly journals and conference proceedings: *Numerische Mathematik*, *SIAM Journal on Numerical Analysis*, *Mathematics of Computation*, *Journal of Computational Physics*, *Foundations of Computational Mathematics*, *Annals of Probability*, *Proceedings of the American Mathematical Society*, *Stochastic Processes and their Applications*, *Journal of Evolution Equations*, *Physica A*, *Proceedings of the Edinburgh Mathematical Society*, *Journal of Complexity*, *M2AN*, *Journal of Mathematical Analysis and Applications*, *Computers and Mathematics with Applications*, *Semigroup Forum*, *Applied Numerical Mathematics*, *IFAC 2008*, *Numerical Algorithms*, *Gazette of the AustMS.*, *Journal of Computational and Applied Mathematics*, *Nonlinear Analysis Series A*, *Electronic Journal of Qualitative Theory of Differential Equations*, *ANZIAM Journal*, *SPDEs: Analysis and Computations*, *Fractional Calculus and Applied Analysis*, *Numerical Methods for Partial Differential Equations*, *Journal of Applied Mathematics and Computing*, *International Journal of Computer Mathematics*, *Mathematics and Computers in Simulation*, *Journal of Scientific Computing*. I write 6-10 reports yearly on average.

Panel member of the mathematics panel of the National Research, Innovation and Development Office of Hungary, 2022

External reviewer for the Hong Kong Research Council, full proposal round, 2018, 2019, 2020

External reviewer for the Mathematics Evaluation panel of the Portuguese Foundation for Science and Technology, full proposal round, 2012 and 2014

Reviewer for the Mathematical Reviews of the American Mathematical Society, 2009-2012

External referee for the PhD thesis of Nicolas Döhring entitled "Regularity of Random Fields in Scales of Besov Spaces and generalized Sobolev Spaces", TU Kaiserslautern, Germany, 2015

Internal referee for the PhD thesis of Zahra Afsar entitled "Equilibrium States on Toeplitz Algebras", University of Otago, New Zealand

Referee for XXVII. OTDK

Conference organization

Organizer and co-chair of the mini-symposium "Numerical Methods for Nonlocal Problems" of the "27th Biennial Numerical Analysis Conference" June 27 - 30, 2017, University of Strathclyde, Glasgow, Scotland

Organizer and chair of the contributed session "Numerical Approximation of Stochastic Partial Differential Equations" at the European Meeting of Statisticians 2013, July 2013, Budapest, Hungary

Member of the organizing committee for the "2010 New Zealand Mathematics Colloquium", December 2010, University of Otago, Dunedin, New Zealand

Member of the organizing committee (treasurer) for the "ANZIAM 2010" conference, February 2010, Queenstown, New Zealand

Conference talks

◆ Plenary talks:

Plenary speaker at the Final Conference of the Priority Program 1324 "Mathematical methods for extracting quantifiable information from complex systems" of the German Research Foundation, November 24 - 28, 2014 Marburg, Germany

Plenary speaker at the 4th annual meeting of the Priority Program 1324 "Mathematical methods for extracting quantifiable information from complex systems" of the German Research Foundation, November 28 - 30, 2012 Eisenach, Germany

Plenary speaker at the "First Conference of PhD Students in Mathematics", 29 June - 2 July 2010, Bolyai Institute, University of Szeged, Hungary

Plenary speaker at the "Third Workshop on Random Dynamical Systems", November 18 - 20, 2009, University of Bielefeld, Germany

Keynote speaker at the "Workshop on Stochastic Partial Differential Equations", August 24 - 28, 2009, TU Darmstadt, Germany

◆ Invited talks:

Invited speaker at the minisymposium "Numerical Modeling for Sustainability" of the SIMAI 2025 conference, September 1 - 5, 2025, Trieste, Italy.

Invited speaker at the conference "Stochastic partial differential equations: Statistics meets numerics", June 2 - 6, 2025, Institut Mittag-Leffler, Stockholm, Sweden.

Invited speaker at the conference "Non-Local Dynamics", Alfréd Rényi Institute of Mathematics, April 23 - 25, 2025, Budapest, Hungary

Invited speaker at the conference "Numerical Analysis and Applications of SDEs", September 22 - 28, 2024, Bedlewo, Poland

Invited speaker at the conference "NUMDIFF17, (Minisymposium: Advances in the numerical approximation of S(P)DEs)" September 9 - 13, 2024, Halle (Saale), Germany

Invited speaker at the conference "SciCADE 2024 (MS13 Numerical and Data-driven Tools for Stochastic Delay and Nonlocal Equations)", July 15-19, 2024, Singapore

Invited speaker at the conference "12th Colloquium on the Qualitative Theory of Differential Equations", June 19-23, 2023, Bolyai Institute, Szeged, Hungary,

Invited speaker at the workshop "Nonlocal Operators and Markov Processes", March 20 - 24, 2023, Bedlewo Conference Center, Bedlewo, Poland

Invited speaker at the workshop "Numerical Analysis and Applications of SDEs", September 25 - October 1, 2022, Bedlewo Conference Center, Bedlewo, Poland

Invited speaker at the "6th Workshop on Stability and Discretization Issues in Differential Equations" June 7-10, 2022, ELTE, Budapest, Hungary

Invited speaker at the workshop "Deterministic and stochastic fractional differential equations and jump processes (FD2W01)", 21 February 21- 25, 2022, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK

Invited speaker at the "Monthly colloquium of the Mathematics Institute of the University of Potsdam", 16 June, 2021, Potsdam, Germany

Invited speaker at the online seminar series "Numerics for Evolutive Problems and Applications, NEPA2020" December 2020 - May 2021

Invited speaker at "11th Colloquium on the Qualitative Theory of Differential Equations", June 17-21, 2019, Bolyai Institute, Szeged, Hungary

Invited speaker at "Numerical Methods for SPDE: 20 Successful Years and Future Challenges", May 20-24, 2019, Institut Mittag-Leffler, Stockholm, Sweden

Invited speaker at the special session "Stochastic Computation and Complexity" of MCQMC 2018, July 1-6, 2018, Rennes, France

Invited speaker at the invited session IS25 "Numerical methods for SPDEs" of SPA 2018, June 11-15, 2018, Chalmers University of Technology/University of Gothenburg, Gothenburg, Sweden

Invited speaker at the mini-symposium "Numerical approximations and regularity of SPDEs" of the "Workshop on BSDEs and SPDEs", July 3-7, 2017, University of Edinburgh, Edinburgh, Scotland

Invited speaker at the mini-symposium "Numerical Methods for Nonlocal Problems" of the "27th Biennial Numerical Analysis Conference" June 27 - 30, 2017, University of Strathclyde, Glasgow, Scotland

Invited speaker at the special session "SPDEs: From Theory to Simulation" of Meeting of the Catalan, Spanish, Swedish Math Societies, June 12 - 15, 2017, Umea, Sweden

Invited speaker at "Numerics for Stochastic Partial Differential Equations and their Applications", December 12 - 16, 2016, Johann Radon Institute (RICAM), Linz, Austria

Invited speaker at "NASPDE 2016 (Numerical Analysis of Stochastic Partial Differential Equations)", September 6 - 7, 2016, Department of Mathematical Sciences, Chalmers University of Technology/University of Gothenburg, Gothenburg, Sweden

Invited speaker at the minisymposium on "Numerics and Optimal Control of SPDEs" at the 7th European Congress of Mathematics in 2016, July 18 - 22, Berlin, Germany

Invited speaker at the special session on "Stochastic Partial Differential Equations" at the "10th Seminar on Monte Carlo Methods (MCM2015)" July 6 - 10, 2015, Johannes Kepler Universität, Linz, Austria

Invited speaker at the "10th Colloquium on the Qualitative Theory of Differential Equations", July 1 - 4, 2015, Bolyai Institute, Szeged, Hungary

Invited speaker at the mini-symposium on "Numerical methods for fractional differential equations" at the "26th Biennial Numerical Analysis Conference", June 23 - 26, 2015, University of Strathclyde, Glasgow, Scotland

Invited speaker at the workshop "Advances in Numerical Methods for SPDEs", June 16 - 18, 2015, Institute Mittag-Leffler, Stockholm, Sweden

Invited speaker at the workshop "Nonlinear Evolution Equations: Analysis and Numerics", March 16 - 22, 2014, Oberwolfach Mathematical Research Institute, Germany

Invited speaker at the "Stochastic Computation Workshop", March 25 - 30, 2012, Annweiler, Germany

Invited speaker at the special session on Computational SPDEs at MCQMC'12, Sydney, Australia, February 13-17, 2012

Invited speaker at the "Hot topics workshop on Laplace transform methods and their applications", November 1-5, 2011, National Institute for Mathematical Sciences, Daejeon, Korea

Invited speaker at the workshop on "High-Dimensional Aspects of Stochastic Partial Differential Equations", Hausdorff Research Institute for Mathematics, August 8 - 12, 2011, Bonn, Germany

Invited speaker at the "Stochastic Computation Workshop", July 8 - 10, 2011, Budapest, Hungary

Invited speaker at the "9th Colloquium on the Qualitative Theory of Differential Equations", June 28 - July 1, 2011, Szeged, Hungary

◆ Other talks:

Workshop on Jump Processes, Dresden, Germany, February 2014
NZMS Colloquium 2010, Dunedin, New Zealand, December 2010
7th Australia New Zealand Mathematics Convention, Christchurch, New Zealand, December 2008
GLADE 2008 conference, Auckland, New Zealand, July 2008
FoCM'08 conference, Hong Kong, China, June 2008
Encounters between continuous and discrete mathematics, workshop, Heinrich-Fabri Institut, Blaubeuren, Germany, April 2008
Budapest-Tuebingen workshop on Evolution Equations, Dobogoko, Hungary, March 2007
International Symposium on Fractional Calculus, University of Otago, Dunedin, New Zealand, January 2006
Mathematics Colloquium, Massey University, Palmerston North, New Zealand, December 2005

Externally funded research visits

In all cases the host covered travel and accommodation costs.

Chalmers University of Technology (Gothenburg, Sweden), October 2019, 2 weeks
TU Kaiserslautern (Kaiserslautern, Germany), March 2016, 2 weeks
TU Kaiserslautern (Kaiserslautern, Germany), December 2014, 3 weeks
Chalmers University of Technology (Gothenburg, Sweden), November 2014, 3 weeks
Fellow of the Priority Program 1324 "Mathematical methods for extracting quantifiable information from complex systems" of the German Research Foundation, January-February 2014, 3 weeks, TU Dresden, Germany
Chalmers University of Technology (Gothenburg, Sweden), November 2013, 3 weeks
Fellow of the Priority Program 1324 "Mathematical methods for extracting quantifiable information from complex systems" of the German Research Foundation, November-December 2012, 5 weeks, TU Dresden, Germany
Université Paris - Est - Créteil (Paris, France), June 2011, 3 weeks
Chalmers University of Technology (Gothenburg, Sweden), May 2011, 3 weeks
University of Bielefeld (Bielefeld, Germany), November 2009, 1 week

Student Supervision

◆ Postdoctoral students:

Petru Cioica-Licht, 2016, University of Otago

◆ PhD students (https://doktori.hu/index.php?menuid=192&lang=HU&sz_ID=35735):

Molnár Gyula (joint supervision with Gábor Szedernényi), Pázmány Péter Catholic University, Faculty of Information Technology and Bionics, in progress, target completion date 2028.

Vághy Mihály András (joint supervision with Gábor Szederkényi), Pázmány Péter Catholic University, Faculty of Information Technology and Bionics, in progress, target completion date 2026.

Kristin Kirchner, PhD Mathematics, 2018, Chalmers University of Technology (joint supervision with Annika Lang and Stig Larsson).

Harish Sankaranarayanan (joint supervision with Boris Baeumer), PhD Mathematics, 2015, University of Otago.

Fredrik Lindgren (joint supervision with Stig Larsson), PhD Applied Mathematics, 2013, Chalmers University of Technology.

Contribution to the work of PhD students not under my supervision

Ali Mesforush (Chalmers), 1 joint published paper as part of his PhD thesis

Fardin Saedpanah (Chalmers), 1 joint published paper as part of his PhD thesis

Adam Andersson (Chalmers), 1 joint published paper as part of his PhD thesis

Andreas Petersson (Chalmers), 1 joint published paper as part of his PhD thesis, 2 further papers published

Monika Eisenmann (TU Berlin), 1 joint published paper as part of her PhD thesis, 1 further paper published

Erik Jansson (Chalmers), 1 joint paper published as part of his PhD thesis

Peer-reviewed publications

1. Fkirine, Mohamed; Kovács, Mihály; Sikolya, Eszter. On the strong Feller property of the heat equation on quantum graphs with Kirchhoff noise. *Semigroup Forum* 112 (2026), 48–78.
2. Laczkó, Csongor L.; Vághy, Mihály A.; Kovács, Mihály. A transferable PINN-based method for quantum graphs with unseen structure *IFAC Papersonline* 59 : 1 (2025), 67–72.
3. Kovács, Mihály; Vághy, Mihály A. Neumann-Neumann type domain decomposition of elliptic problems on metric graphs. *BIT* 65 (2025), no. 3, Paper No. 33. 25 pp.
4. Baeumer, Boris; Kovács, Mihály; Toniuzzi, Lorenzo. Boundary conditions for non-local one-sided pseudo-differential operators and the associated stochastic processes. *Dissertationes Mathematicae* 596 (2024), 1–124.
5. Bolin, David; Kovács, Mihály; Kumar, Vivek; Simas, Alexandre B. Regularity and numerical approximation of fractional elliptic differential equations on compact metric graphs. *Mathematics of Computation* 93 (2024), 2439–2472.
6. Pereira, M; Kulcsár, B; Lipták, Gy; Kovács, M; Szederkényi, G. The Traffic Reaction Model: A kinetic compartmental approach to road traffic modeling. *Transportation Research Part C-Emerging Technologies* 158 (2024), Paper: 104435 , 13 p.
7. Kovács, Mihály; Sikolya, Eszter. On the parabolic Cauchy problem for quantum graphs with vertex noise. *Electron. J. Probab.* 28 (2023), Paper No. 74, 20 pp.

8. Fahim, Kistosil; Hausenblas, Erika; Kovács, Mihály. Some approximation results for mild solutions of stochastic fractional order evolution equations driven by Gaussian noise. *Stochastics and Partial Differential Equations: Analysis and Computation* 11 (2023), 1044–1088.
9. Kovács, Mihály; Vághy, Mihály A. Nonlinear semigroups for nonlocal conservation laws. *Partial Differ. Equ. Appl.* 4 (2023), no.4, Paper No. 32, 26 pp.
10. Kovács, Mihály; Lang, Annika; Petersson, Andreas. Hilbert-Schmidt regularity of symmetric integral operators on bounded domains with applications to SPDE approximations. *Stoch. Anal. Appl.* 41 (2023), no. 3, 564–590.
11. Kovács, Mihály ; Lang, Annika; Petersson, Andreas. Approximation of SPDE covariance operators by finite elements: a semigroup approach. *IMA J. Numer. Anal.* 43 (2023), no. 3, 1324–357.
12. Vághy, Mihály A.; Kovács, Mihály; Szederkényi, Gábor. Kinetic discretization of one-dimensional nonlocal flow models. *IFAC Papersonline* 55:20 (2022) 67–72.
13. Jansson, Erik; Kovács, Mihály; Lang, Annika. Surface Finite Element Approximation of Spherical Whittle–Matérn Gaussian Random Fields. *SIAM Journal on Scientific Computing* 44 (2022), no. 2, A825– A842.
14. Baeumer, Boris; Kovács, Mihály; Parry, Matthew. A higher order resolvent-positive finite difference approximation for fractional derivatives on bounded domains. *Fractional Calculus and Applied Analysis* 25 (2022), no. 1, 299–319.
15. Eisenmann, Monika; Kovács, Mihály; Kruse, Raphael; Larsson; Stig. Error estimates of the backward Euler–Maruyama method for multi-valued stochastic differential equations. *BIT* 62 (2022), no. 3, 803–848.
16. Kovács, Mihály; Sikolya, Eszter. Corrigendum to “On the stochastic Allen-Cahn equation on networks with multiplicative noise” [*Electron. J. Qual. Theory Differ. Equ.* 2021, no. 7, 1–24]. *Electron. J. Qual. Theory Differ. Equ.* 52 (2021), 1–4.
17. Kovács, Mihály; Sikolya, Eszter. Stochastic reaction-diffusion equations on networks. *J. Evol. Equ.* 21 (2021), no. 4, 4213–4260.
18. Kovács, Mihály; Sikolya, Eszter. On the stochastic Allen-Cahn equation on networks with multiplicative noise. *Electron. J. Qual. Theory Differ. Equ.* 7 (2021), 1–24.
19. Kovács, Mihály; Lang, Annika; Petersson, Andreas. Weak convergence of fully discrete finite element approximations of semilinear hyperbolic SPDE with additive noise. *ESAIM-M2AN* 54 (2020), no. 6, 2199–2227.
20. Bolin, David; Kirchner, Kristin; Kovács, Mihály. Numerical solution of fractional elliptic stochastic PDEs with spatial white noise. *IMA J. Numer. Anal.* 40 (2020), no. 2, 1051–1073.
21. Kovács, Mihály; Larsson, Stig; Saedpanah, Fardin. Mittag-Leffler Euler integrator for a stochastic fractional order equation with additive noise. *SIAM J. Numer. Anal.* 58 (2020), no. 1, 66–85.
22. Eisenmann, Monika; Kovács, Mihály; Kruse, Raphael; Larsson, Stig. On a randomized backward Euler method for nonlinear evolution equations with time-irregular coefficients. *Found. Comput. Math.* 19 (2019), no. 6, 1387–1430.

23. Hausenblas, Erika; Kovács, Mihály. Global solutions to stochastic Volterra equations driven by Lévy noise. *Fract. Calc. Appl. Anal.* 21 (2018), no. 5, 1170–1202.
24. Bolin, David; Kirchner, Kristin; Kovács, Mihály. Weak convergence of Galerkin approximations for fractional elliptic stochastic PDEs with spatial white noise. *BIT* 58 (2018), no. 4, 881–906.
25. Furihata, Daisuke; Kovács, Mihály; Larsson, Stig; Lindgren, Fredrik. Strong convergence of a fully discrete finite element approximation of the stochastic Cahn-Hilliard equation. *SIAM J. Numer. Anal.* 56 (2018), no. 2, 708–731.
26. Kovács, Mihály; Larsson, Stig; Lindgren, Fredrik. On the discretisation in time of the stochastic Allen-Cahn equation. *Mathematische Nachrichten* 291 (2018), no. 5-6, 966–995.
27. Baeumer, Boris; Kovács, Mihály; Meerschaert, Mark M.; Sankaranarayanan, Harish. Boundary conditions for fractional diffusion. *J. Comput. and Appl. Math.* 336 (2018) 408–424.
28. Baeumer, Boris; Kovács, Mihály; Sankaranarayanan, Harish. Fractional partial differential equations with boundary conditions. *J. Differential Equations* 264 (2018), no. 2, 1377–1410.
29. Andersson, Adam; Kovács, Mihály; Larsson, Stig. Weak error analysis for semilinear stochastic Volterra equations with additive noise. *J. Math. Anal. Appl.* 437 (2016), no. 2, 1283–1304.
30. Baeumer, Boris; Kovács, Mihály; Meerschaert, Mark M.; Schilling, René L.; Straka, Peter. Reflected spectrally negative stable processes and their governing equations. *Trans. Amer. Math. Soc.* 368 (2016), no. 1, 227–248.
31. Kovács, Mihály; Lindner, Felix; Schilling, René L. Weak convergence of finite element approximations of linear stochastic evolution equations with additive Lévy noise. *SIAM/ASA J. Uncertain. Quantif.* 3 (2015), no. 1, 1159–1199.
32. Kovács, Mihály; Larsson, Stig; Lindgren, Fredrik. On the backward Euler approximation of the stochastic Allen-Cahn equation. *J. Appl. Probab.* 52 (2015), no. 2, 323–338.
33. Baeumer, Boris; Kovács, Mihály; Sankaranarayanan, Harish. Higher order Grünwald approximations of fractional derivatives and fractional powers of operators. *Trans. Amer. Math. Soc.* 367 (2015), no. 2, 813–834.
34. Baeumer, Boris; Geissert, Matthias; Kovács, Mihály. Existence, uniqueness and regularity for a class of semilinear stochastic Volterra equations with multiplicative noise. *J. Differential Equations* 258 (2015), no. 2, 535–554.
35. Kovács, Mihály; Larsson, Stig; Mesforush, Ali. Erratum: Finite element approximation of the Cahn-Hilliard-Cook equation [MR2854602]. *SIAM J. Numer. Anal.* 52 (2014), no. 5, 2594–2597.
36. Kovács, Mihály; Printems, Jacques. Strong order of convergence of a fully discrete approximation of a linear stochastic Volterra type evolution equation. *Math. Comp.* 83 (2014), no. 289, 2325–2346.

37. Kovács, Mihály; Printems, Jacques. Weak convergence of a fully discrete approximation of a linear stochastic evolution equation with a positive-type memory term. *J. Math. Anal. Appl.* 413 (2014), no. 2, 939–952.
38. Kovács, Mihály; Larsson, Stig; Urban, Karsten. On wavelet-Galerkin methods for semilinear parabolic equations with additive noise. *Monte Carlo and quasi-Monte Carlo methods 2012*, 481–499, Springer Proc. Math. Stat., 65, Springer, Heidelberg, 2013.
39. Kovács, Mihály; Larsson, Stig; Lindgren, Fredrik. Weak convergence of finite element approximations of linear stochastic evolution equations with additive noise II. Fully discrete schemes. *BIT* 53 (2013), no. 2, 497–525.
40. Baeumer, Boris; Kovács, Mihály. Approximating multivariate tempered stable processes. *J. Appl. Probab.* 49 (2012), no. 1, 167–183.
41. Kovács, Mihály; Larsson, Stig; Lindgren, Fredrik. Weak convergence of finite element approximations of linear stochastic evolution equations with additive noise. *BIT* 52 (2012), no. 1, 85–108.
42. Kovács, Mihály; Larsson, Stig; Mesforush, Ali. Finite element approximation of the Cahn-Hilliard-Cook equation. *SIAM J. Numer. Anal.* 49 (2011), no. 6, 2407–2429.
43. Kovács, Mihály; Lindgren, Fredrik; Larsson, Stig. Spatial approximation of stochastic convolutions. *J. Comput. Appl. Math.* 235 (2011), no. 12, 3554–3570.
44. Kovács, Mihály; Larsson, Stig; Saedpanah, Fardin. Finite element approximation of the linear stochastic wave equation with additive noise. *SIAM J. Numer. Anal.* 48 (2010), no. 2, 408–427.
45. Kovács, Mihály; Larsson, Stig; Lindgren, Fredrik. Strong convergence of the finite element method with truncated noise for semilinear parabolic stochastic equations with additive noise. *Numer. Algorithms* 53 (2010), no. 2-3, 309–320.
46. Geissert, Matthias; Kovács, Mihály; Larsson, Stig. Rate of weak convergence of the finite element method for the stochastic heat equation with additive noise. *BIT Numer. Math.* 49 (2009), no. 2, 343–356.
47. Baeumer, Boris; Haase, Markus; Kovács, Mihály. Unbounded functional calculus for bounded groups with applications. *J. Evol. Equ.* 9 (2009), no. 1, 171–195.
48. Baeumer, Boris; Kovács, Mihály; Meerschaert, Mark M. Numerical solutions for fractional reaction-diffusion equations. *Comput. Math. Appl.* 55 (2008), no. 10, 2212–2226.
49. Baeumer, Boris; Kovács, Mihály; Meerschaert, Mark M. Subordinated multiparameter groups of linear operators: properties via the transference principle. *Functional analysis and evolution equations*, 35–50, Birkhäuser, Basel, 2008.
50. Baeumer, Boris; Kovács, Mihály; Meerschaert, Mark M. Fractional reproduction-dispersal equations and heavy tail dispersal kernels. *Bull. Math. Biol.* 69 (2007), no. 7, 2281–2297.
51. Kovács, Mihály; Meerschaert, Mark M. Ultrafast subordinators and their hitting times. *Publ. Inst. Math. (Beograd) (N.S.)* 80(94) (2006), 193–206.

52. Kovács, Mihály; Neubrandner, Frank. On the inverse Laplace-Stieltjes transform of A-stable rational functions. *New Zealand J. Math.* 36 (2007), 41–56.
53. Kovács, Mihály. On the convergence of rational approximations of semigroups on intermediate spaces. *Math. Comp.* 76 (2007), no. 257, 273–286.
54. Kovács, Mihály. A remark on the norm of integer order Favard spaces. *Semigroup Forum* 71 (2005), no. 3, 462–470.
55. Kovács, Mihály. The maximum-norm of the restricted denominator approximations. *Comput. Math. Appl.* 50 (2005), no. 7, 1115–1123.
56. Kovács, Mihály. On positivity, shape, and norm-bound preservation of time-stepping methods for semigroups. *J. Math. Anal. Appl.* 304 (2005), no. 1, 115–136.
57. Faragó, István; Kovács, Mihály. On maximum norm contractivity of second order damped single step methods. *Calcolo* 40 (2003), no. 2, 91–108.
58. Szederkényi, Gábor; Kovács, Mihály; Hantos, M. Katalin. Reachability of nonlinear fed-batch fermentation processes. *Internat. J. Robust Nonlinear Control* 12 (2002), no. 12, 1109–1124.
59. Faragó, István; Kovács, Mihály. Ergodic Markov chains and their applications. (Hungarian) *Alkalmaz. Mat. Lapok* 20 (2000), no. 2, 149–164.
60. Faragó, István; Kovács, Mihály. Stochastic regular splitting and its application to the iterative methods. *Pure Math. Appl.* 11 (2000), no. 2, 219–230.

Number of independent citations according to Scopus

962

Hirsch index according to Scopus

19

Teaching Experience

Unless otherwise stated, the teaching language is English.

◆ I am currently the lecturer and course administrator for the following courses:

Numerical Analysis I, MSc in Computer Science Engineering, typical student number is 40 (PPKE ITK)

Numerical Analysis II, MSc in Computer Science Engineering, typical student number is 10 (PPKE ITK)

◆ I was the lecturer and course administrator for the following courses:

Differential Equations 2, BSc in Mechanical Engineering and Applied Mathematics, typical student number is 8 (TU Budapest, in Hungarian)

Introduction to Stochastic Partial Differential Equations, MSc/PhD in Mathematics and Physics, typical student number is 5 (TU Budapest)

MATH160/102 (Calculus I, first year). MATH160 is divided into two parts, Algebra (MATH101) and Calculus (MATH102). Typical student numbers are 250 in Semester 1 and 100 in Semester 2 (University of Otago, New Zealand)

MATH170/104 (Calculus II, first year). MATH170 is divided into two parts, Algebra (MATH103) and Calculus (MATH104). Typical student numbers are 100 (University of Otago)

MATH201 (Real Analysis, second year), typical student number is 40 (University of Otago)

MATH301 (Hilbert Spaces, third year), typical student number is 20 (University of Otago)

MATH302 (Complex Analysis, third year), typical student number is 25 (University of Otago)

MATH353 (Real Analysis, third year), typical student number is 20 (University of Otago)

MATHFA (Functional Analysis, honours year), typical student number is 4 (University of Otago)

MATH4MI (Measure and Integration, honours year), typical student number is 4 (University of Otago)

TMA632 Partial differential equations, project course (MSc), typical student number is 10 (Chalmers University of Technology and University of Gothenburg, Sweden)

MVE515 Computational Mathematics follow-up course, BSc in Civil Engineering, typical student number is 100 (Chalmers University of Technology)

TMA690 Partial differential equations, typical student number is 20 (Chalmers University of Technology)

Introduction to Stochastic PDEs (PhD), typical student number is 10 (Chalmers University of Technology and University of Gothenburg)

Partial differential equations for mechanical engineers, third year, typical student number is 10 (University of Miskolc, in Hungarian)

◆ PhD mini-courses:

Invited lecturer to deliver a mini course on the "Introduction to the modern theory of functional calculus for closed operators", January 2014, International Graduate College, TU Dresden, Germany

Invited lecturer to deliver a mini-course on "Infinite dimensional stochastic analysis" at the "Hot topics workshop on Laplace transform methods and their applications", November 1-5, 2011, National Institute for Mathematical Sciences, Daejeon, Korea

Invited lecturer to deliver a mini-course on "The semigroup approach for stochastic evolution equations and their finite element approximation", November 2009, International Graduate College, University of Bielefeld, Germany

◆ Essential contribution to course development:

Introduction to stochastic PDEs (PhD course), course design, 2022 TU Budapest: development of a previously non-existing course

Differential Equations 2, course design, 2022 TU Budapest, new outline and content

Numerical Analysis I, course design, 2019 PPKE ITK: new outline and content

Numerical Analysis II, course design, 2019 PPKE ITK: new outline and content

MVE515 (Computational Mathematics, follow-up course), course design, 2017 Chalmers: development of a previously non-existing course

MATH4MI (Measure and Integration), course design, 2012 Otago: development of a previously non-existing course

MATH4FA (Functional Analysis), course design, 2012 Otago: development of a previously non-existing course

Introduction to stochastic PDEs (PhD course), course design, 2008 Chalmers: development of a previously non-existing course

◆ Development of lecture notes and other supplementary teaching material:

Numerical Analysis I, lecture notes, 2020 PPKE ITK, 92 pages

Numerical Analysis II, lecture notes, 2019 PPKE ITK, 108 pages

MVE515 (Computational Mathematics, follow-up course), lecture notes, 2017 Chalmers, 33 pages

MATH201 (Real Analysis), lecture notes, 2015 Otago (with Iain Raeburn): 87 pages

MATH302 (Complex Analysis), lecture notes, 2015 Otago (with Boris Baeumer), 101 pages

MATH301 (Hilbert Spaces), lecture notes, 2013 Otago (with Astrid An Huef, Lisa Clark and Iain Raeburn), 55 pages

MATH353 (Real Analysis), lecture notes, 2012 Otago (with Iain Raeburn), 88 pages

Power Point presentations for MATH160/102 Calculus, 2010 Otago, 934 pages of ppt slides

Introduction to stochastic partial differential equations, lecture notes, 2008 Chalmers (with Stig Larsson), 106 pages

◆ MSc thesis supervision:

Vághy Mihály András, MSc in Computer Science Engineering, 2021, Pázmány Péter Catholic University.

Kristoffer Andersson, MSc in Engineering Mathematics, 2018, Chalmers University of Technology.

Viktor Blomquist, MSc in Engineering Mathematics and Computational Science, 2017, Chalmers University of Technology.

David Lidberg, MSc in Applied Physics, 2017, Chalmers University of Technology.

Aishajiang Abuding, MSc Applied Mathematics, 2007, Chalmers University of Technology.

Fredrik Lindgren, MSc Applied Mathematics, 2007, Chalmers University of Technology.

◆ BSc (with Honours) thesis supervision:

Calum Rickard, Honours first class, 2013 University of Otago.

Padarn Wilson, Honours first class, 2010, University of Otago.

◆ Hungarian National Student Research Competition supervision:

Vághy Mihály András, Informatics, first place, 35th OTDK, 2021

◆ Institutional Student Research Competition supervision::

Vághy Mihály András, Informatics, first place, Pázmány Péter Catholic University, 2021

Vághy Mihály András, Informatics, first place, Pázmány Péter Catholic University, 2020

◆ Teaching administration:

Director of Studies, First year mathematics, 2010 - 2016, University of Otago

◆ Successfully completed courses in tertiary education at the University of Gothenburg:

HPE101 (Teaching and Learning in Higher Education 1)

HPE102 (Teaching and Learning in Higher Education 2)

HPE201 (Supervision in Postgraduate Programmes)