Michal Pešta

Curriculum Vitae

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Personal Details

Date of Birth	12th of November, 1982
Place of Birth	Liptovský Mikuláš, Slovakia
Citizenship	Czech Republic & Slovak Republic

Academic Career

2020 **Doc. (Associate Professor) in Probability and Mathematical Statistics**, *Faculty of Mathematics and Physics*, Charles University, Czech Republic.

2011 **RNDr. (doctor of natural science) in Probability and Mathematical Statistics**, *Faculty of Mathematics and Physics*, Charles University, Czech Republic.

2006–2010 **Ph.D. in Probability and Mathematical Statistics**, *Faculty of Mathematics and Physics*, Charles University, Czech Republic.

2006–2007 **M.Sc. in Biostatistics with distinction**, *Faculty of Sciences, Centrum for Statistics*, University of Hasselt, Belgium.

2001–2006 **Mgr. in Probability, Mathematical Statistics and Econometrics with distinction**, *Faculty of Mathematics and Physics*, Charles University, Czech Republic.

Professional Experience

2021–present **Associate Professor**, *Charles University*, Faculty of Mathematics and Physics.
Department of Probability and Mathematical Statistics

2011–2020 **Assistant Professor**, *Charles University*, Faculty of Mathematics and Physics.
Department of Probability and Mathematical Statistics

2010–2011 **Non-life Actuary**, *Generali PPF Holding B.V.*, Prague.
Actuary, non-life risk and valuation

2009–2010 **Head Statistician and Analyst**, *T. G. Masaryk Water Research Institute*, Prague.
Statistical analyses of bio-hydrological data

2007–2009 **Teaching Assistant**, *Charles University*, Faculty of Mathematics and Physics.
Junior Lecturer of probability and mathematical statistics for master students

2007 **Statistician**, *Healthcare Department of Belgium's National Institute for Health and Disability Insurance RIZIV/INAMI*, Brussels, Belgium.

International Research Stays

Jul 2022 **University of Alberta**, *Department of Mathematical and Statistical Sciences*.
Cooperation with Prof. Ivan Mizera

Dec 2016–Feb 2017 **Technische Universität Dresden**, *School of Transportation*.
Cooperation with Prof. Ostap Okhrin

Mar 2013–Jun 2013 **Humboldt-Universität zu Berlin**, *School of Business and Economics*.
Cooperation with Prof. Wolfgang K. Härdle and Prof. Ostap Okhrin

Oct 2008–Nov 2008 **Universität Hamburg**, *Faculty of Mathematics, Informatics and Natural Sciences*.
Cooperation with Prof. Natalie Neumeyer

Sep 2006–Sep 2007 **Universiteit Hasselt**, *Faculty of Sciences*.
Erasmus programme in biostatistics

Jul 2006–Aug 2006 **Humboldt-Universität zu Berlin**, *School of Business and Economics*.
Cooperation with Prof. Wolfgang K. Härdle and Dr. Zdeněk Hlávka

Awards

2022	Best paper award (one of top five); awarded by the Vice-Dean of the School of Mathematics, Faculty of Mathematics and Physics, Charles University
2018	Teaching evaluation award, summer semester 17/18 (course Probability for Financial Mathematics); awarded by the Dean of the Faculty of Mathematics and Physics, Charles University
2016	Bernard Bolzano Foundation in Mathematics Award; awarded by Charles University, Faculty of Mathematics and Physics
2010	Best student talk, Conference on Resampling Methods and High Dimensional Data, College Station, Texas, USA; awarded by Texas A&M University
2008	ROBUST 2008 Student's best paper competition, Pribylina, Slovakia; awarded by MathWorks
2006	1st place in Student scientific competition 'SVOČ', category: Probability, mathematical statistics, econometrics and financial mathematics; Bratislava, Slovakia
2001	Bronze olympic medal, 33rd International chemistry olympiad, Bombay, India

Languages

fluent	English (spoken & written), Czech (spoken & written), Slovak (mother tongue)
fair	German (spoken & written)

Editorial Board

Comput. Stat.	Computational Statistics
JDSSV	Journal of Data Science, Statistics, and Visualisation
Stat. Pap.	Statistical Papers

Reviewer for Journals

Journal of Econometrics, Journal of Business & Economic Statistics, Journal of the American Statistical Association, Journal of the Royal Statistical Society (Series B), Journal of Risk and Financial Management, Insurance Mathematics and Economics, ASTIN Bulletin, Journal of Time Series Analysis, Risks, Journal of Multivariate Analysis, Communications in Statistics – Simulation and Computation, Communications in Statistics – Theory and Methods, Computational Statistics, IEEE Transactions on Signal Processing, Entropy, Journal of Computational and Applied Mathematics, Journal of Statistical Planning and Inference, Kybernetika, Mathematics, PLOS ONE, Scandinavian Journal of Statistics, Statistical Papers, Statistics, Statistics and Probability Letters, Sequential Analysis, Statistics and Economy Journal

Grants

2023–2025	Lead Agency grant GAČR 23-06461K (team member) of the Czech Science Foundation
2023–2025	Standard grant GAČR 23-05737S (team member) of the Czech Science Foundation
2022–2025	Lead Agency grant GAČR 22-01639K (team member) of the Czech Science Foundation
2021–2024	Standard grant GAČR 21-13323S (principal researcher) of the Czech Science Foundation
2021–2023	Standard grant GAČR 21-10768S (team member) of the Czech Science Foundation
2018–2020	Junior grant GAČR 18-01781Y (principal researcher) of the Czech Science Foundation
2018–2020	Junior grant GAČR 18-00522Y (team member) of the Czech Science Foundation
2015–2017	Junior grant GAČR 15-04774Y (team member) of the Czech Science Foundation
2013–2015	Postdoc grant GAČR 13-12994P (principal researcher) of the Czech Science Foundation
2012-2017	IAP Research Network P7/06 (team member) of the Belgian State (Belgian Science Policy)
2011–2018	Excellence grant P402/12/G097 DYME (team member) of the Czech Science Foundation
2009–2010	Student grant GAUK 49809 (team member) of the Grant Agency of Charles University
2007	Student grant GAUK 138707 (principal researcher) of the Grant Agency of Charles University

Top Ten Recent Publications

2025 Pešta, M., Peštová, B., and Romaňák, M. Tensor changepoint detection and eigenbootstrap. *Journal of Time Series Analysis*, doi.org/10.1111/jtsa.12846

2025 Hudecová, Š. and Pešta, M. Copula hurdle GARCH models for multivariate non-negative time series. *Statistical Papers*, 66:87

2025 Janoušek, J. and Pešta, M. Bagging and regression trees in individual claims reserving. *Statistical Papers*, 66:89

2025 Hudecová, Š. and Pešta, M. Hurdle GARCH models for nonnegative time series. *Statistica Neerlandica*, 79(1):e12349

2025 Kirch, C., Lahiri, S., Binder, H., Brannath, W., Cribben, C., Dette, H., Doebler, P., Feng, O., Gandy, A., Greven, S., Hammer, B., Harmeling, S., Hotz, T., Kauermann, G., Krause, J., Krempl, G., Nieto-Reyes, A., Okhrin, O., Ombao, H., Pein, F., Pešta, M., Politis, D., Qin, L.-X., Rainforth, T., Rauhut, H, Reeve, H., Salinas, D., Schmidt-Hieber, J., Scott, C., Segers, J., Spiliopoulou, M., Wilhelm, A., Wilms, I., Yu, Y., Lederer, J. Challenges and opportunities for statistics in the era of data science. *Harvard Data Science Review*, 7(2)

2024 Hudecová, Š. and Pešta, M. Quasi-likelihood estimation in volatility models for semi-continuous time series. *Journal of Time Series Analysis*, 45(6):859–883

2023 Ciuperca, G., Maciak, M., and Pešta, M. Real-time changepoint detection in a nonlinear expectile model. *Metrika*, 87(2):105–131

2022 Maciak, M., Mizera, I., and Pešta, M. Functional profile techniques for claims reserving. *ASTIN Bulletin*, 52(2):449–482

2021 Maciak, M., Okhrin, O., and Pešta, M. Infinitely stochastic micro reserving. *Insurance: Mathematics and Economics*, 100(2021):30–58

2020 Pešta, M. and Wendler, M. Nuisance-parameter-free changepoint detection in non-stationary series. *TEST*, 29(2):379–408

Publishing Experience

WoS 587 citations (464 without self-citations), H-index = 15

Invited Talks

Dec 2024 17th Computational and Methodological Statistics (CMStatistics 2024), London, UK; title: Changing Intensities

Sep 2024 ROBUST 2024 Workshop, Bardejov, Slovakia; title: Changing intensities and band bootstrap

Aug 2024 Design of Experiments and Mixed Models at the Crossroads, Banff Centre, Canada; title: Mastering chess psychology

Jun 2024 Research Seminar of WU Vienna, Institute for Statistics and Mathematics, Vienna, Austria; title: Semi-continuous time series for sparse data with volatility clustering

May 2024 25th Conference of the Romanian Society of Probability and Statistics, Timișoara, Romania; title: Semi-continuous time series for sparse data with volatility clustering

Dec 2023 16th Computational and Methodological Statistics (CMStatistics 2023), Berlin, Germany; title: Regime changes and unsupervised learning

Aug 2023 6th International Conference on Econometrics and Statistics (EcoSta 2023), Tokyo, Japan; title: Regime changes, I-phenomena, and unsupervised learning

Jun 2023 Workshop on Challenges for statistics in the era of data science, Hannover, Germany; title: Justified stochastic transduction prediction

Dec 2022 15th Computational and Methodological Statistics (CMStatistics 2022), London, UK; title: Semi-continuous time series for sparse data with volatility clustering

Nov 2022 Statistical Workshop of Palacky University Olomouc, Stříbrnice, Czech Republic; title: Mikro predpovedanie

Jul 2022 5th ICSA-Canada Chapter Symposium – Statistics: From Data to Knowledge, Banff Centre, Canada; title: Infinitely stochastic micro reserving

Jun 2022 5th International Conference on Econometrics and Statistics (EcoSta 2022), Kyoto, Japan; title: Infinitely stochastic micro reserving

Dec 2021 14th Computational and Methodological Statistics (CMStatistics 2021), London, UK; title: Infinitely stochastic micro reserving

Oct 2020 Mathematisches Forschungsinstitut Oberwolfach (MFO, Oberwolfach Research Institute for Mathematics), Oberwolfach, Germany; title: Stochastic point processes in micro forecasting

Apr 2020 Research seminar on Insurance Mathematics and Stochastic Finance, ETH Zurich, Switzerland; title: Infinitely Stochastic Micro Forecasting (online)

Dec 2019 13th Computational and Methodological Statistics (CMStatistics 2019), London, UK; title: Micro forecasting

Jul 2019 Workshop Change Point Detection: Limit Theorems, Algorithms, and Applications in Life Sciences, Greifswald, Germany; title: Nuisance parameters free changepoint detection in non-stationary series

Jun 2019 3rd International Conference on Econometrics and Statistics (EcoSta 2019), Taichung, Taiwan; title: Nuisance parameters free changepoint detection in non-stationary series

Aug 2018 Seminar of the Institute of Mathematics and Computer Science (University of Greifswald), Greifswald, Germany; title: Block bootstrap for abrupt change in mean avoiding variance estimation

Dec 2017 10th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2017), London, UK; title: Change point analysis in panel data without boundary issue

Nov 2016 Statistical Workshop of Palacky University Olomouc, Chrastice, Czech Republic; title: Change point estimation in panel data without boundary issue

Nov 2015 Statistical Workshop of Palacky University Olomouc, Pusté Žibřidovice, Czech Republic; title: Testing structural changes in panel data with small fixed panel size and bootstrap

Oct 2015 Workshop on Shape Constrained Inference, Leiden (Lorentz Center), The Netherlands; title: Isotonic regression in Sobolev spaces

Apr 2013 Mathematical Statistics Seminar of Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany; title: Asymptotic consistency and inconsistency of the chain ladder

May 2012 Statistical Methods for Financial Data III, Graz, Austria; title: Asymptotics versus bootstrapping in errors-in-variables models with dependent errors

Apr 2009 Statistical Seminar of Comenius University in Bratislava, Bratislava, Slovakia; title: Total least squares and residual bootstrapping

Conference Committee Memberships

Aug 2025 Organization and Program Committee, 7th Workshop on Goodness-Of-Fit, Change-Point and Related Problems – GOFCP 2025, Prague, Czechia

Sep 2024 Organization and Program Committee, Robust Workshop – ROBUST 2024, Bardejov, Slovakia

May 2024 Scientific Committee, 8th International Conference on Probability and Statistics – PROBASTAT 2024, Smolenice, Slovakia

Sep 2019 Organization and Program Committee, Analytical Methods in Statistics – AMISTAT 2019, Liberec

Nov 2015 Organization and Program Committee, Analytical Methods in Statistics – AMISTAT 2015, Prague

Competition Organization

Since 2015 Students' Competition SVOČ in Mathematics and Computer Sciences at Charles University, Faculty of Mathematics and Physics – Sections: Theory of Probability and Mathematical Statistics; Econometrics and Financial Mathematics

Participation in Grant Evaluation Panel

2021—2024 The Czech Science Foundation (GAČR), Panel 402, member

Teaching Experiences

Since 2007 Lectures and exercises on data science, probability, mathematical statistics, statistical software, financial and insurance mathematics, econometrics

Supervised Theses

PhD	0 defended, 4 in progress
Rigorous	2 defended
Master	33 defended, 3 in progress
Bachelor	31 defended, 4 in progress

Society Memberships

Since 2014	Czech Society of Actuaries
Since 2006	Czech Statistical Society

Scientific Identifiers

ORCID	0000-0001-5311-0797
ResearcherID	C-9467-2017
Scopus ID	55322148000
Google Scholar	Michal Pesta

Research Interests

My first master thesis from statistics dealt with nonparametric regression techniques in Sobolev spaces. During my PhD studies, my interest shifted to stochastic errors-in-variables models with focus on the total least squares estimation, weak dependences, and bootstrap methods. The biostatistic knowledge obtained during my second master studies (in Belgium) was utilized in analyzing various kinds of bio-hydro-ecological data for a water research institute and cancer data for an institute of pathophysiology. Afterwards, I got in touch with actuarial issues in an insurance company. Finally, I have started to work as an Assistant Professor and, consequently, as an Associate Professor at Charles University, where my area of research interests consists mainly of changepoint analysis, bootstrap methods, time series and panel data, actuarial risk valuation, stochastic claims reserving, random effects modeling, weak dependency, and measurement errors models.

Miscellany

Member of the Academic senate Charles University, Faculty of Mathematics and Physics, February 2017–January 2020

Prague, October 1, 2025