

# Matúš Maciak

## Curriculum Vitae

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### Personal Details

Date of Birth	20th of June, 1982	Citizenship	Slovak Republic
Place of Birth	Poprad, Slovakia	Residency	Czech Republic

### Education History

- 2011 **RNDr. (doctor of natural science) in Probability and Mathematical Statistics**, Faculty of Mathematics and Physics, Charles University, Czech Republic.
- 2006–2011 **Ph.D. in Probability and Mathematical Statistics**, Faculty of Mathematics and Physics, Charles University, Czech Republic.
- 2007–2008 **M.Sc. in Biostatistics**, Centrum for Statistics, Hasselt University, Belgium.
- 2001–2006 **Mgr. (master degree) in Probability, Mathematical Statistics and Econometrics**, Faculty of Mathematics and Physics, Charles University, Czech Republic.

### Final Theses & Supervisors

- PhD. Thesis **Flexibility, Robustness, and Discontinuity in Nonparametric Regression Approaches**  
Supervisor Prof. RNDr. Marie Hušková, DrSc., Charles University (2011)
- Rigorous Thesis **Flexibility, Robustness, and Discontinuity in Nonparametric Regression Approaches**  
Supervisor Prof. RNDr. Marie Hušková, DrSc., Charles University (2011)
- Master (MSc.) **Spline models with change-points applied to seroprevalence data**  
Supervisor Prof. Dr. Marc Aerts & Prof. Dr. Niel Hens, University of Hasselt, Belgium (2008)
- Master (Mgr.) **Additive Regression Models with Regression Splines**  
Supervisor Doc. Petr Volf, CSc., UTIA, Czech Academy of Sciences (2006)

### Research Stays (long)

- 09/2012–12/2013 **University of Alberta**, Faculty of Sciences, Edmonton, Canada.  
Post Doc Fellow (1.5 years)
- 09/2007–09/2008 **Universiteit Hasselt**, Faculty of Sciences, Hasselt, Belgium.  
Erasmus master programme in Biostatistics (1 year)

### Research Stays (short)

- 07/2020–09/2020 **Technische Universität Dresden**, School of Transportation, Dresden, Germany.  
Scientific collaboration with Prof. Ostap Okhrin (2 months)
- 08/2018–09/2018 **University of Alberta**, Faculty of Sciences, Edmonton, Canada.  
Scientific collaboration with Prof. Ivan Mizera & Prof. Linglong Kong (1 month)
- 05/2007–05/2007 **Universität Hamburg**, Faculty of Mathematics, Hamburg, Germany.  
Scientific collaboration with Prof. Natalie Neymeyer (1 month)

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## Professional Experience

- 2015–present **Research Assistant**, *Charles University*, Faculty of Mathematics and Physics.  
Department of Probability and Mathematical Statistics
- 2014–2015 **Research Assistant**, *Czech University of Life Sciences Prague*.  
Department of Genetics and Breeding
- 2010–2013 **Data Analyst and Statistician**, *T.G. Masaryk Water Research Institute*, Prague.  
Department of Applied Ecology
- 2010–2014 **Online Administrator**, *Petit Press: SME Newspapers*, Bratislava, Slovakia.  
Major leading print/online news agency in Slovak Republic
- 2007–2009 **Teaching Assistant**, *Charles University*, Faculty of Mathematics and Physics.  
Department of Probability and Mathematical Statistics

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## Research Grants (principal investigator)

- 2021–2023 **Advanced Econometric Models for Option Pricing II – AdEMOP2**.  
Grant number: GAČR 21-10768S
- 2018–2020 **Advanced Econometric Models for Option Pricing – AdEMOP**.  
Grant number: GAČR 18-00522Y
- 2019–2021 **Functional Changepoint Detection I and II**.  
Strategic partnership with Universitaet zu Koeln and Charles University
- 2017–2018 **Change-point Estimation in Quantile Regression**.  
Grant number: 7AMB17FR030; Provided by MŠMT Czech Republic

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## Research Grants (team member)

- 2021–2023 **Micro Forecasting and Regime Switching in Econometrics – MiFRSe**.  
Team member; Grant number: GAČR 21-13323S
- 2018–2020 **Dynamic and granular loss reserving with copulae – DaGLoRCo**.  
Team member; Grant number: GAČR 18-01781Y
- 2010–2011 **Metodické řízení monitoringu a hodnocení stavu útvarů povrchových vod tekoucích**.  
Team member; Grant provider: State Environmental Fund of the Czech Republic

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## Invited talks (selection)

- Universities & Institutions **McGill**, Montreal, CA; **University of Cologne** and **University of Hamburg**, Germany; **University of British Columbia**, Vancouver, CA; **University of Alberta**, Edmonton, CA; **Slovak Academy of Sciences**, Slovakia; **European Commission Joint Research Centre**, Italy; **Scottish Environmental Protection Agency**, Edinburg, Scotland; **Ernst & Young**, Czech Republic
- Conferences & Workshops **CMStatistics 2021**, London; **SASA 2021**, Stellenbosch, South Africa; **EcoSta 2021**, Hongkong; **STAT-ML 2020: Statistics of Machine Learning**, Czech Republic; **EcoSta 2019**, Taiwan; **CMStatistics 2019**, London; **Changepoint Workshop 2019**, Germany; **EcoSta 2018**, Hongkong; **Robustness Theory and Methodology Workshop 2016**, BIRS, Canada; **IMS New Researchers Conference 2013**, Montreal, Canada

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## Professional Collaboration (selection)

- Econometrics & Insurance **Boston Consulting Group**, Czech Republic; **Generali Česká Pojišťovna**, Czech Republic; **Ernst & Young**, Czech Republic; **ETP Slovakia**, Slovakia;
- Medicine & Pharmacology **Mayo Clinic**, Rochester, USA; **F.D. Roosevelt Hospital**, Slovakia; **Central Military Hospital**, Slovakia; **Motol University Hospital**, Czech Republic;
- Biology & Ecology **European Commission Joint Research Centre**, Italy; **Scottish Environment Protection Agency**, Ireland; **Bundesministerium für Land- und Forstwirtschaft**, Austria;
- Technology & Industry **Škoda Auto**, Czech Republic; **České Dráhy Railway Company**, Czech Republic; **T. G. Masaryk Water Research Institute**, Czech Republic;

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## Scientific Activities (selection)

Elected member	Academic Senate of the Faculty of Mathematics and Physics in 2017 – 2020, European Regional Committee (ERC) of the Bernoulli Society in 2019 – 2020
Organizer	Invited session organizer for CMStatistics 2020 – 2022 and EcoSta 2018 – 2022; Organizing committee member for AMISTAT 2019, AMISTAT 2015, EYSM 2015, SSC 2013, PragueStoch 2010, ICORS 2010
Reviewer	ASTIN Bulletin, Journal of Statistical Planning and Inference, Canadian Journal of Statistics, Journal of Computational and Applied Mathematics, Computational Statistics and Data Analysis, Scandinavian Journal of Statistics, Multivariate Statistics, Computational Statistics, Statistics, Kybernetika, Metrika, Biometrics, Statistics, Applied Mathematics and Statistics, Statistical Papers, Biometrics, and others
Editor	AMISTAT Springer Proceedings in Mathematics and Statistics 2019, AMISTAT Springer Proceedings in Mathematics and Statistics 2015

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## Research Keywords (selection)

big data, dependent structures, machine learning, statistical learning, atomic pursuit  
nonparametric regression, smoothness, change-points and structural breaks, robustness  
sparsity, regularization, variable selection, lasso, weak dependence, bootstrap  
empirical econometrics, derivative trading, volatility estimation, option pricing

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## Publication Activity

WoS	23 publications with 116 citations (without auto-citations   136 in total)	<b>h-index: 7</b>
Scopus	25 publications with 115 citations (without auto-citations   142 in total)	<b>h-index: 7</b>

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## Supervised Theses

Master	5 defended, 1 in progress
Bachelor	7 defended, 6 in progress

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## Personal Skills

Programming	SAS, R, S-Plus, SPSS, Matlab, Mathematica, PHP, html, WealthLab, T <sub>E</sub> X, L <sup>A</sup> T <sub>E</sub> X
Memberships	Bernoulli Society, Czech National Group of the International Society for Clinical Biostatistics, Czech Statistical Society, Alpine Club of Canada, National Geographic Society
Interests	Wedding and coverage photography, mountaineering, sport activities, publications

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## Languages

fluent	English (spoken & written), Czech (spoken & written), Slovak (mother tongue)
fair	German (spoken and written)
in progress	Spanish (beginner)

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## Scientific Identifiers

ResearcherID	D-7836-2016
Scopus ID	55376734200
Orchid ID	0000-0002-9414-2151