

# Vaidotas Characiejus

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**Research interests** Functional and high-dimensional time series, functional data, spectral analysis, nonlinear time series, change point detection, covariance estimation, long-range dependence, asymptotic theory in statistics.

**Professional experience** *Assistant Professor* July 2021 –  
University of Southern Denmark, Denmark

*Visiting Assistant Professor* September 2019 – June 2021  
University of California, Davis, USA

*Postdoctoral Researcher* February 2017 – August 2019  
Université libre de Bruxelles, Belgium  
Advisor: Professor Dr. Siegfried Hörmann

*Postdoctoral Researcher* September 2015 – January 2017  
Ruhr-Universität Bochum, Germany  
Advisor: Professor Dr. Herold Dehling

*Junior Researcher* March 2015 – August 2015  
*Specialist* December 2014 – February 2015  
Vilnius University, Lithuania

*Junior Researcher* March 2012 – December 2014  
Vilnius University, Lithuania  
Research project “Concrete functional calculus and probability theory: new methods and their applications”

**Education** *PhD in Mathematics*  
Vilnius University, Lithuania, February 2015  
Thesis title: Asymptotic Behaviour of Long Memory Functional Linear Processes  
Supervisor: Professor Habil. Dr. Alfredas Račkauskas

*MSc in Statistics*  
Vilnius University, Lithuania, January 2010  
Thesis title: Functional AR(1) Models with Random Coefficients  
Supervisor: Professor Habil. Dr. Alfredas Račkauskas

*BSc in Economics*  
Vilnius University, Lithuania, June 2008

## Publications

### *Submitted*

8. Vaidotas Characiejus, Piotr Kokoszka, and Xiangdong Meng. Estimation of the long-run variance of nonlinear time series with an application to change point analysis. *Preprint*.

### *Published*

7. Clément Cerovecki, Vaidotas Characiejus, and Siegfried Hörmann. The Maximum of the Periodogram of a Sequence of Functional Data. *Journal of the American Statistical Association*, 118(544):2712–2720, 2023. *Preprint*.
6. Anne van Delft, Vaidotas Characiejus, and Holger Dette. A nonparametric test for stationarity in functional time series. *Statistica Sinica*, 31(3):1375–1395, July 2021. *Preprint*.
5. Vaidotas Characiejus and Gregory Rice. A general white noise test based on kernel lag-window estimates of the spectral density operator. *Econometrics and Statistics*, 13:175–196, January 2020. *Preprint*.
4. Pramita Bagchi, Vaidotas Characiejus, and Holger Dette. A simple test for white noise in functional time series. *Journal of Time Series Analysis*, 39(1):54–74, January 2018. *Preprint*.
3. Vaidotas Characiejus and Alfredas Račkauskas. Weak law of large numbers for linear processes. *Acta Mathematica Hungarica*, 149(1):215–232, June 2016. *Preprint*.
2. Vaidotas Characiejus and Alfredas Račkauskas. Operator self-similar processes and functional central limit theorems. *Stochastic Processes and their Applications*, 124(8):2605–2627, August 2014. *Preprint*.
1. Vaidotas Characiejus and Alfredas Račkauskas. The central limit theorem for a sequence of random processes with space-varying long memory. *Lithuanian Mathematical Journal*, 53(2):149–160, April 2013. *Preprint*.

## Talks and posters

### *Invited talks*

The A&E seminar of the Department of Economics, Universidad Carlos III de Madrid (UC3M), Madrid, Spain, September 11, 2023 (invited by Nazarii Salish).

The 29th Nordic Conference in Mathematical Statistics, NORDSTAT 2023, Gothenburg, Sweden, 19 – 22 June 2023 (invited by Helle Sørensen).

IMADA Talks, the University of Southern Denmark, Denmark, 14 April 2023 (invited by Peter Bækgaard Von Lehnburg).

The 15th International Conference of the ERCIM WG on Computational and Methodological Statistics, London, United Kingdom, 17 – 19 December 2022 (invited by Siegfried Hörmann).

The 24th International Conference on Computational Statistics, Bologna, Italy, 23 – 26 August 2022 (invited by Matteo Farnè).

The seminar of the Data Science and Statistics group at the University of Southern Denmark, Denmark, 19 December 2021 (invited by Arthur Zimek).

The 13th International Conference of the ERCIM WG on Computational and Methodological Statistics, Virtual Conference, 19 – 21 December 2020 (invited by Xinghao Qiao).

Statistics Seminar Series at the Department of Statistics at the University of California, Davis, USA, 28 May 2020 (invited by Shizhe Chen).

The Final CRoNoS Meeting and the 2nd Workshop on Multivariate Data Analysis and Software, Limassol, Cyprus, 14 – 16 April 2019 (invited by Frédéric Ferraty).

The 4th Conference of the International Society for Nonparametric Statistics, Salerno, Italy, 11 – 15 June 2018 (invited by Matthew Reimherr).

The econometrics seminar of Vilnius University, Vilnius, Lithuania, 22 December 2017 (invited by Alfredas Račkauskas).

The joint statistics seminar of KU Leuven, Leuven, Belgium, 28 September 2017 (invited by Irène Gijbels).

The XXXIV. International Seminar on Stability Problems for Stochastic Models, Debrecen, Hungary, 25 – 29 August 2017 (invited by Siegfried Hörmann).

The joint Université libre de Bruxelles and Université catholique de Louvain seminar, Louvain-la-Neuve, Belgium, 10 March 2017 (invited by Siegfried Hörmann).

The weekly seminar of the Research Training Group 2131, Ruhr-Universität Bochum, Germany, 1 February 2016 (invited by Peter Eichelsbacher).

The seminar of the research group Mathematics XII: Probability Theory and its Applications, Ruhr-Universität Bochum, Germany, 3 July 2015 (invited by Herold Dehling).

#### *Contributed talks*

The 26th Annual Meeting of the Royal Statistical Society of Belgium, Ovipat, Belgium, 17 – 19 October 2018.

The 12th German Probability and Statistics Days, Ruhr-Universität Bochum, Germany, 1 – 4 March 2016.

The 3rd Lithuanian Young Mathematicians Meeting, Kaunas University of Technology, Lithuania, 2 January 2015.

The 11th International Vilnius Conference on Probability Theory and Mathe-

mathematical Statistics, Vilnius University, Lithuania, 30 June – 4 July 2014.

The 54th Conference of the Lithuanian Mathematical Society, Lithuanian University of Educational Sciences, Lithuania, 19 – 20 June 2013.

The 3rd Young Researchers in Mathematics Conference, University of Bristol, United Kingdom, 2 – 4 April 2012.

#### *Posters*

The evaluation meeting of the Research Training Group 2131 *High-dimensional Phenomena in Probability – Fluctuations and Discontinuity*, Ruhr-Universität Bochum, Germany, 5 – 6 June 2019 (invited by Peter Eichelsbacher).

The 4th International Workshop on Functional and Operatorial Statistics, A Coruña, Spain, 15 – 17 June 2017.

#### **Student supervision**

Bachelor's projects

- Lucas Brandt Kettner (2023)
- Jesper Kjær Olsen (2023)
- Josefine Eljaskov Schlossarek (2022)

Master's theses

- Oliver Christopher Rønberg Pedersen (2022–2023, co-supervised with Marco Chiarandini)
- Oliver Robstad (2023)
- Frederik Lykke Petersen (2022, co-supervised with Birgit Debrabant)
- Mathias Østergaard Hansen (2022)

#### **Teaching experience**

University of Southern Denmark, Denmark (language of instruction: English)

- *ST821: Time Series* (the instructor of the graduate course);
- *ST522/ST816: Computational Statistics* (the instructor of the undergraduate course);
- *DS826/ST819: Multivariate Regression Analysis* (the instructor of the graduate course).

University of California, Davis, USA

- *STA 106 Applied Statistical Methods: Analysis of Variance* (the instructor of the undergraduate course);
- *STA 131C Introduction to Mathematical Statistics* (the instructor of the undergraduate course);
- *STA 141A Fundamentals of Statistical Data Science* (the instructor of the undergraduate course);
- *STA 209 Optimization for Big Data Analytics* (the instructor of the graduate course).

Ruhr-Universität Bochum, Germany (language of instruction: English)

- *Mathematical statistics* (the teaching assistant of the undergraduate course);
- *Numerical methods and stochastics* (one of the two instructors of the graduate course);
- *Probability theory and statistics* (the teaching assistant of the undergraduate course).

Vilnius University, Lithuania (language of instruction: Lithuanian)

- *Mathematical analysis* (the teaching assistant of the undergraduate course);
- *Statistics* (the teaching assistant of the undergraduate course).

**Professional activities**

Referee for *Statistics and Probability Letters*, *Bernoulli*, *Lithuanian Mathematical Journal*, *Journal of Multivariate Analysis*, *Journal of Statistical Planning and Inference*, *Annals of Statistics*, *Journal of the American Statistical Association*, *Electronic Journal of Statistics*, *Journal of Theoretical Probability*, *Statistical Inference for Stochastic Processes*, *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*.

Reviewer for *Mathematical Reviews*.

Associated member of the Research Training Group 2131 *High-dimensional Phenomena in Probability – Fluctuations and Discontinuity*, 2015-2017.

**Professional training**

Lecturer training programme at the University of Southern Denmark (nearly completed).

**Achievements**

Scholarship of the Research Council of Lithuania awarded for PhD students in science actively conducting research, 2014.

3rd place at the International Econometric Team Competition held at Vilnius University, Lithuania, 2008.

**Computer skills**

Julia, R, Python, L<sup>A</sup>T<sub>E</sub>X, HTML.

**Languages**

Lithuanian (mother tongue), English (fluent), Danish (PD3), French (basic knowledge), German (basic knowledge).