

# Curriculum vitae

## Personal details

Name: Helske, Jouni Veikko Taneli (previously Lehtonen)

ORCID: 0000-0001-7130-793X

Year of birth: 1983

Nationality: Finnish

Date of CV: 2.11.2021

## Degrees

9/12/2015      PhD in Statistics, University of Jyväskylä, Finland

25/8/2010      MSc in Statistics, University of Jyväskylä, Finland

28/7/2010      BSc in Statistics, University of Jyväskylä, Finland

## Current employment

1/9/2020–present      **Senior Researcher (yliopistotutkija)**  
Department of Mathematics and Statistics, University of Jyväskylä, **Finland**

## Previous work experience

1/9/2019–31/8/2019      **Postdoctoral Researcher**  
Department of Mathematics and Statistics, University of Jyväskylä, **Finland**

16/10/2017–31/8/2019      **Postdoctoral Researcher in Visual Analytics**  
Department of Science and Technology, Linköping University, **Sweden**

1/1/2016–15/10/2017      **Postdoctoral Researcher**  
Department of Mathematics and Statistics, University of Jyväskylä, **Finland**

1/9/2010 –31/12/2015      **Doctoral Student**  
Department of Mathematics and Statistics, University of Jyväskylä, **Finland**

1/6/2010 –31/8/2010      **Research Assistant**  
Department of Signal Processing, Tampere University of Technology, **Finland**

## International research visits:

9/2016–7/2017      Department of Statistics, University of Oxford, **United Kingdom**

9–10/2017      Department of Information Technology, Uppsala University, **Sweden**

## Career breaks

1/10/2013–31/8/2014      Parental leave between October 2013 and August 2014.

## Research funding and grants

2020	Academy of Finland: <b>Project funding for a consortium project</b> : Towards well-informed decisions: Predicting long-term effects of policy reforms on life trajectories (PREDLIFE) (9/2020–8/2024). Decision numbers 331816 and 331817. Consortium PI Satu Helske (University of Turku) 280,000€ <b>Subconsortium-PI</b> Jouni Helske (University of Jyväskylä) 280,000€
2013	Emil Aaltonen Foundation: <b>Personal scholarship</b> for full-time doctoral studies. 25000€
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## Research output

Since 2010 I have **authored 14 peer-reviewed, 3 non-peer-reviewed scientific articles or book chapters**, and have 3 papers currently under review.

In addition to these, I have **produced nine R statistical software packages** currently at The Comprehensive R Archive Network (CRAN) as a result of my research, most notably the R packages KFAS, seqHMM, and bssm for exponential family state space modelling, multivariate hidden Markov modelling, and Bayesian non-Gaussian state space modelling respectively. These nine packages have thousands of downloads per month: <https://www.jyu.fi/science/en/maths/research/infrastructure/r-packages-created-at-the-department>

## Research supervision and leadership experience

- I am the main supervisor of Tiia-Maria Pasanen who started her PhD studies in statistics in August 2020 at the University of Jyväskylä.
- I am the co-supervisor (main supervisor until March 2021, as originally planned) of Lauri Valkonen who started his PhD studies in statistics in August 2020 at the University of Jyväskylä.
- I was the unofficial co-advisor of statistics PhD student Gurjinder Mohan at Oxford University in 2016-2017.
- I lead the statistics subproject of the Academy Finland project PREDLIFE employing postdoctoral researcher Santtu Tikka.

## Teaching merits

- Lecturer in Statistical inference 1. University of Jyväskylä, 2021.
- Lecturer in Bayesian statistics 1. University of Jyväskylä, 2020 and 2021.
- Lecturer in Generalized linear models 2. University of Jyväskylä, 2020.
- Lecturer in R programming. University of Jyväskylä, 2x2012, 2013, 2014, 2015.
- A guest lecture on Computationally efficient state space modelling in Graduate Lecture series (in English). University of Oxford (23 February 2017).
- A lecture on state state space models in Time series analysis. University of Jyväskylä, 2015.
- Organizer of Book seminar of Statistical Programming in C++ and R (in English). University of Jyväskylä, 2013.
- Lab supervision in Stochastic simulation (in English). University of Jyväskylä, 2016.
- Lab supervision in Basics in statistics 1, University of Jyväskylä, 2008, 2010, 2011.
- Lab supervision in Sampling methods, University of Jyväskylä, 2011.

- Lab supervision in Advanced course in statistics, University of Jyväskylä, 2010.
- Lab supervision in Basic course in statistics, University of Jyväskylä, 2008.

### **Patents, inventions, awards and honours**

2016            Longitudinal Data Analysis Contest Award, LaCOSA II Conference, Lausanne, Switzerland.  
 2015            Best poster award, UseR! 2015 Conference, Aalborg, Denmark.

### **Other key scientific or academic merits**

Reviewer for

- Australian & New Zealand Journal of Statistics, Industrial & Engineering Chemistry Research, Stat, Stochastic Environmental Research and Risk Assessment, Sensors, Applied Computational Intelligence and Soft Computing, Mathematical and Computational Applications, Mathematics, R Journal, Journal of Statistical Software, and CHI 2022 conference.

Member of the organizing committee for

- Novel approaches to numerical challenges related to environmental monitoring, 2015, Jyväskylä, Finland.
- Statistical Days 2013, 2013, Jyväskylä, Finland.
- Seminar on Current Doctoral Research in Biostatistics, Statistics and Related Areas, 2011, Helsinki, Finland.

## **14. Scientific and societal impact**

- 2016-2018 I provided statistical consultancy for the Finnish Environment Institute on project SAVE which studied the effects of gypsum in agriculture.
- I have collected open access data for assessing the effects of visualization on statistical inference, available at <https://github.com/helske/statvis>.
- Codes for reproducing the analysis of my recent and upcoming publications are available online at [github.com/helske](https://github.com/helske).