

# Stefan Franssen, Ph.D.

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🌐 <http://sempf1992.github.io/>



Postdoc studying frequentist properties of Bayesian Methods.

## Employment History

- Oct 2025 – Sept 2028 📌 **Glasstone fellow**, Statistics department, University of Oxford.
- Oct 2024 – April 2025 📌 **Postdoctoral research assistant**, Ceremade, Dauphine.
- Feb 2023 – Sept 2024 📌 **Postdoctoral research assistant**, Statistics department, University of Oxford.
- June 2021 – Dec 2022 📌 **PhD candidate**, Delft Institute of Applied Mathematics, Delft University of Technology.
- Oct 2018 – May 2021 📌 **PhD candidate**, Mathematical Institute, Leiden University.

## Education

- Sept 2015 – Aug 2018 📌 **M.sc. Mathematical sciences**, Utrecht University.  
Thesis title: *Topics in Bayesian nonparametrics*.
- Aug 2012 – Aug 2015 📌 **Bsc Mathematics**, Utrecht University.

## Awards and Achievements

- 2021 📌 **Best Student/Postdoc Contributed Paper Award**, (ISBA 2021 world meeting).

## Research Publications

### Articles and preprints

- 1 **S. E. M. P. Franssen**. *The Bernstein-von Mises Theorem for Finite Mixtures*. Manuscript in preparation.
- 2 **S. E. M. P. Franssen**. *The Posterior Distribution, Consistency and Uncertainty Quantification for General Stick-Breaking Processes*. Manuscript in preparation.
- 3 **Stefan Franssen**, Jeanne Nguyen, and Aad van der Vaart. *The Bernstein-von Mises Theorem for Semiparametric Mixtures*. Nov. 2024. 🔗 DOI: 10.48550/arXiv.2412.00219. arXiv: 2412.00219 [math].
- 4 **S. E. M. P. Franssen** and A. W. van der Vaart. *Empirical and Full Bayes Estimation of the Type of a Pitman-Yor Process*. Aug. 2022. 🔗 DOI: 10.48550/arXiv.2208.14255. arXiv: 2208.14255 [math].
- 5 **S. E. M. P. Franssen** and A. W. van der Vaart. “Bernstein-von Mises Theorem for the Pitman-Yor Process of Nonnegative Type”. In: *Electronic Journal of Statistics* 16.2 (Jan. 2022), pp. 5779–5811. ISSN: 1935-7524, 1935-7524. 🔗 DOI: 10.1214/22-EJS2077.
- 6 **Stefan Franssen** and Botond Szabó. *Frequentist Coverage Guarantees of Empirical Bayesian Uncertainty Quantification Using Deep Neural Network Regression*. Apr. 2022. 🔗 DOI: 10.48550/arXiv.2204.12735. arXiv: 2204.12735 [math].

### Books and Chapters

- 1 **Stefan Franssen**. *When Is Subjective Objective Enough? Frequentist Guarantees for Bayesian Methods*. ISBN: 78-94-6384-455-0.
- 2 **S. E. M. P. Franssen**. “Topic in Bayesian Nonparametrics”. Master Thesis. MA thesis. 2018.

## Teaching

Fall 2024	■ <b>Supervision Masters Internship</b> , Supervisor of Remi Calvet, University of Oxford.
Fall 2021	■ <b>Cluster Calculus</b> , TA/Lecturer, TU Delft.
	■ <b>Calculus for Nanobiology</b> , TA/Lecturer, TU Delft.
Spring 2021	■ <b>Supervision Masters thesis</b> , Supervisor of Maxime Casara, Leiden University.
Fall 2020	■ <b>Introduction Mathematical statistics</b> , Chat moderator, Forum moderator, Leiden University.
Fall 2019	■ <b>Modelling and Simulations</b> , Write lecture notes, exercises and exam materials, Leiden University.
	■ <b>Quantative Research methods</b> , TA, Leiden University College.
Spring 2019	■ <b>Statistics</b> Lecturer, Leiden University College.

## Services

Feb 2023 – Sept 2024	■ <b>Organiser Bayesian reading group Oxford</b> together with Paul Rosa.
June 2022	■ <b>Discussant</b> at O'Bayes22.
Sept 2019 – Aug 2022	■ <b>Organiser Reading group Mathematical Statistics</b> at Leiden University and Delft University of Technology.
May 2021	■ <b>MFO video moderator</b> , Obverwolfach, Foundations of Bayesian Inference for Complex statistical models.
various	■ <b>Reviewer</b> Annales de l'institut Henri Poincaré, Bernoulli, Electronic Journal of Statistics.

## Talks

### Bernstein-von Mises for Semiparametric mixtures

May 2024	■ <b>Talk</b> , Bayesian reading group, Oxford
	■ <b>Talk</b> , Departmental seminar, Barcelona
March 2024	■ <b>Talk</b> , SMSA, Delft
June 2023	■ <b>Poster</b> , CIRM, Marseille.
Jan 2023	■ <b>Talk</b> , TU Delft.
June 2022	■ <b>Contributed Talk</b> , BAYSM, Montreal.
April 2022	■ <b>Talk</b> , Bayesian reading group, Oxford.

### The Bernstein-von Mises theorem of estimating the type of a Pitman-Yor process

April 2023	■ <b>talk</b> , Bayesian reading group, Oxford.
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### Consistency and uncertainty quantification for species sampling processes

January 2024	■ <b>Talk</b> Bayesian reading group, Oxford
April 2022	■ <b>Contributed talk</b> , BNP networking event, Nicosia.

### The Bernstein-von Mises theorem for Pitman-yor processes of nonnegative type

July 2021	■ <b>Contributed talk</b> , ISBA, Kunming.
Nov 2020	■ <b>Contributed talk</b> , BAYSM:O, Kunming.
Aug 2020	■ <b>Contributed talk</b> , Bernoulli-IMS One world symposium.
May 2019	■ <b>Talk</b> , Bayes Club, Leiden.


## Talks (continued)

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June 2019     **Poster**, BNP12, Oxford.

### **Frequentist coverage guarantees of Empirical Bayesian uncertainty quantification of DNN Regression**

Oct 2021     **Contributed Talk**, CIRM, Marseille.

June 2021     **Invited Talk**, EcoSta, HongKong.

Aug 2020     **Contributed Talk**, Bernoulli-IMS One world symposium.

May 2020     **Talk**, Mathematical and statistical challenges in Uncertainty quantification, Cambridge.

### **Introduction to Bayesian Nonparametric theory**

May 2021     **Talk** LIACS, Leiden.

## Seminar talks

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2023 - 2024     **Reading group Bayesian statistics**, several presentations.

Summer 2023     **Reading group Semiparametric statistics**, several presentations.

Sept 2019 - Aug 2022     **Reading group Mathematical statistics**, several presentations


Sept 2019 - May 2021     **Reading group Causal inference**, Peters et. al chapter 9.


Feb 2020 - May 2021     **Statistics for astronomy**, several presentations.

Oct 2020 - April 2021     **Oxbridge Reading group Bayesian nonparametrics**, Several presentations.


## Skills

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Languages     Strong reading, writing and speaking competencies for English, Dutch.

Coding     Python, R, SQL, C#,  $\LaTeX$

Web Dev     HTML, CSS, JavaScript.

Misc.     Academic research, teaching,  $\LaTeX$  typesetting and publishing.

## References

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Available on Request