Guillermina Senn

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guillerminasenn.github.io

Research interests: Computational statistics; scalable Monte Carlo methods; uncertainty quantification.

Employment

Feb 2026– Visiting Graduate Researcher, Department of Statistics, Indiana University Bloomington, USA.
Postdoctoral work on scalable Monte Carlo methods and theory, advised by Nathan Glatt-Holtz.

2015–2021 Several roles, Nokia, Córdoba, Argentina.

- Data Scientist (2020–2021): Applied statistics and ML to operational problems in mobile networks within an international team. Example projects: Customer complaint prediction; human mobility indicator development based on mobile data.
- Analytics Consultant (2018–2020): Was part of a team designing and implementing a custom analytics-based mobile network monitoring solution. My tasks involved data analysis of large datasets, client reporting, and system monitoring/troubleshooting.
- Engineer (2015–2018): Performed software and hardware maintenance on mobile network equipment.

Education

2022–present Ph.D. in Mathematical Sciences, NTNU, Trondheim, Norway.
Advised by Håkon Tjelmeland. Thesis defense in August 2026.
Dissertation: *Scalable Markov Chain Monte Carlo for Bayesian Inverse Problems with Gaussian Priors*.

2018–2021 M.S. in Applied Statistics, National University of Córdoba, Argentina.

2009–2016 Telecommunications Engineering, National Defense University, Córdoba, Argentina.

Research Visits

2024–2025 Visiting Graduate Researcher, Department of Biostatistics, University of California, Los Angeles.
Worked on scalable Monte Carlo methods for high-dimensional inverse problems.

Dec 2024 Visiting Graduate Researcher, Department of Statistics, Indiana University Bloomington.

Jan 2024 Visitor, bp's Research Center, London.

Publications

Published

- Senn, G., N. Glatt-Holtz, G. Carigi, A. Holbrook, and H. Tjelmeland, (2026) *Multiproposal Elliptical Slice Sampling*. Submitted to *UAI 2026*.
- Senn, G., H. Tjelmeland, N. Glatt-Holtz, M. Walker, and A. Holbrook (2026) *Bayesian Semi-Blind Deconvolution at Scale*. *arXiv*.
- Senn, G., M. Walker, and H. Tjelmeland (2025). *Scalable Bayesian seismic wavelet estimation. Geophysical Prospecting*.

In preparation

- Carigi, G., N. E. Glatt-Holtz, C. F. Mondaini, and G. Senn (2026). *On the Mixing Properties of Some Preconditioned Multiproposal Markov Chain Monte Carlo Algorithms*.

Presentations

I=Invited talk; C=contributed talk; P=poster

Conferences

- 2026. *Multiproposal Elliptical Slice Sampling*. SIAM UQ. Minneapolis, USA. (I)
- 2025. *Scalable Bayesian seismic wavelet estimation.* Lofoten Seminar in Applied Geophysics. (C)
- 2025. *Scalable MCMC for Bayesian blind deconvolution.* BayesComp, Singapore. (P)
- 2024. *Spatial Bayesian seismic wavelet estimation from seismic volumes and well data.* Geostats, Ponta Delgada, Azores. (C)

Seminars

- 2025. *Scalable Bayesian seismic wavelet estimation.* SINTEF Industri, Trondheim. (I)
- 2024. *Bayesian seismic wavelet and subsurface estimation via Gibbs sampling on a cyclic domain.* Department of Statistics, Indiana University Bloomington. (I)

Teaching Experience

- Fall 2025. TMA4115 Mathematics 3 (Linear Algebra). NTNU. Substitute instructor.
- Fall 2025. ISTX1001 Industrial Statistics. NTNU. TA.
- Fall 2024. TMA4240 Statistics. NTNU. TA.
- Fall 2024, Fall 2023, Fall 2022. ST1201/ST6201 Statistical Methods. NTNU. TA with teaching responsibilities.

- Spring 2024, Spring 2023. TMA4300 Computer Intensive Statistical Methods. NTNU. TA.
- Spring 2022. TMA4255 Applied Statistics. NTNU. TA and exercise sessions instructor.

Service

2023–2025 Seminar co-organizer, Department of Mathematical Sciences, NTNU, Trondheim.

Other Skills

Languages English, Spanish, Norwegian, German.

Computing Python, R, SQL, bash scripting, Linux, HPC, Git.