

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

Employment

Feb 2026– Visiting Graduate Researcher, 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: Developed a model to predict customer complaints using a large, imbalanced dataset ($n=100k$, $p=4000$) with the current and past state of mobile network indicators. Methods: weighted random forests and XGBoost; prototype under test at departure.
 - City Mobility Index: Developed a city-level Mobility Index for Argentine cities during COVID-19 using anonymized data from 250k subscribers. Methods: PCA and clustering; proof of concept delivered.
- Operations Consultant (2018–2020): Was part of a team designing and implementing a custom analytics-based mobile network monitoring solution. My tasks involved data analysis (SQL, descriptive stats, clustering), client reporting, and system monitoring/troubleshooting (SQL, Python, Linux).
- 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*.

The thesis was motivated by a real-world inverse problem, seismic wavelet estimation from large-scale images. The work was carried out in close collaboration with industry researchers at bp, and later alongside academic collaborators from UCLA and Indiana University Bloomington. The solution involved scalable Bayesian methodology, that we successfully tested on real seismic data. The methodology was then extended to inverse problems with Gaussian priors in general.

2018–2021 M.S. in Applied Statistics, National University of Córdoba, Argentina.
Advised by Monica Balzarini.
Thesis title: *Multicollinearity and Overfitting in Hierarchical Bayesian Models for Spatial Data. An application to Landscape-Scale Ecosystem Services Modeling.*

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

Research Visits

2024–2025 Visiting Graduate Researcher, Department of Biostatistics, Fielding School of Public Health, 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.

Visited bp's Research Center to collaborate on scalable Bayesian methods for seismic data analysis.

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. Co-organized the "Working Group in Statistical Sciences" seminar series, which included inviting PhD/postdoc speakers, scheduling and hosting talks.
- Apr 2020–Jul 2020 Student Volunteer, National University of Córdoba, Córdoba, Argentina. Contributed to weekly reports analyzing COVID-19 data for the Córdoba province as part of a departmental consultancy for the provincial government.

Other Skills

Languages English, Spanish, Norwegian, German.

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