Jonas Wallin

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Employment History

2020 – · · · · **Associate Professor,** Department of Statistics, Lund university.
2016 – 2020 **Assistant Professor,** Department of Statistics, Lund university.
2014 – 2016 **Postdoc,** Mathematical Statistics, Chalmers university of technology.

Education

2009 – 2014 **Ph.D., Lund University,** Mathematical Statistics
Thesis title: *Stochastic Models Involving Second Order Lévy Motions*

Research Publications

Journal Articles

1. D. Bolin and J. Wallin, "Local scale invariance and robustness of proper scoring rules," *Statistical Science*, vol. 1, no. 1, pp. 1–20, 2022.
2. A. Bukartas, J. Wallin, R. Finck, and C. Rääf, "Accuracy of a bayesian technique to estimate position and activity of orphan gamma-ray sources by mobile gamma spectrometry: Influence of imprecisions in positioning systems and computational approximations," *Plos one*, vol. 17, no. 6, e0268556, 2022.
3. F. Delmar, J. Wallin, and A. M. Nofal, "Modeling new-firm growth and survival with panel data using event magnitude regression," *Journal of Business Venturing*, vol. 37, no. 5, p. 106 245, 2022.
4. Z. Farooq, J. Rocklöv, J. Wallin, *et al.*, "Artificial intelligence to predict west nile virus outbreaks with eco-climatic drivers," *The Lancet Regional Health-Europe*, vol. 17, p. 100 370, 2022.
5. A. Bukartas, J. Wallin, R. Finck, and C. Rääf, "Bayesian algorithm to estimate position and activity of an orphan gamma source utilizing multiple detectors in a mobile gamma spectrometry system," *PloS one*, vol. 16, no. 1, e0245440, 2021.
6. L. M. McFetridge, Ö. Asar, and J. Wallin, "Robust joint modelling of longitudinal and survival data: Incorporating a time-varying degrees-of-freedom parameter," *Biometrical Journal*, vol. 63, no. 8, pp. 1587–1606, 2021.
7. J. Wallin, M. Bogdan, P. A. Szulc, R. Doerge, and D. O. Siegmund, "Ghost qtl and hotspots in experimental crosses: Novel approach for modeling polygenic effects," *Genetics*, vol. 217, no. 3, iyaa041, 2021.
8. Ö. Asar, D. Bolin, P. J. Diggle, and J. Wallin, "Linear mixed effects models for non-gaussian continuous repeated measurement data," *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, vol. 69, no. 5, pp. 1015–1065, 2020.
9. D. Bolin and J. Wallin, "Multivariate type g matérn stochastic partial differential equation random fields," *Journal of the Royal Statistical Society. Series B: Statistical Methodology*, vol. 82, no. 1, pp. 215–239, 2020.
10. M. T. Parente, J. Wallin, and B. Wohlmuth, "Generalized bounds for active subspaces," *Electronic Journal of Statistics*, vol. 14, no. 1, pp. 917–943, 2020.
11. D. Bolin, J. Wallin, and F. Lindgren, "Latent gaussian random field mixture models," *Computational Statistics & Data Analysis*, vol. 130, pp. 80–93, 2019.

12 A. Bukartas, R. Finck, J. Wallin, and C. Rääf, "A bayesian method to localize lost gamma sources," *Applied Radiation and Isotopes*, vol. 145, pp. 142–147, 2019.

13 B. Gunnarsson, J. Wallin, and J. Klingberg, "Predation by avian insectivores on caterpillars is linked to leaf damage on oak (quercus robur)," *Oecologia*, vol. 188, no. 3, pp. 733–741, 2018.

14 A. Hildeman, D. Bolin, J. Wallin, and J. B. Illian, "Level set cox processes," *Spatial statistics*, vol. 28, pp. 169–193, 2018.

15 J. Wallin and D. Bolin, "Efficient adaptive mcmc through precision estimation," *Journal of Computational and Graphical Statistics*, vol. 27, no. 4, pp. 887–897, 2018.

16 D. Bolin, A. Frigessi, P. Guttorp, *et al.*, "Calibrating regionally downscaled precipitation over norway through quantile-based approaches," *Advances in Statistical Climatology, Meteorology and Oceanography*, vol. 2, no. 1, pp. 39–47, 2016.

17 D. Bolin and J. Wallin, "Spatially adaptive covariance tapering," *Spatial Statistics*, vol. 18, pp. 163–178, 2016.

18 K. Johnsson, J. Wallin, and M. Fontes, "Bayesflow: Latent modeling of flow cytometry cell populations," *BMC bioinformatics*, vol. 17, no. 1, pp. 1–16, 2016.

19 R. Maghsood, P. Johannesson, and J. Wallin, "Detection of steering events using hidden markov models with multivariate observations," *International Journal of Vehicle Systems Modelling and Testing*, vol. 11, no. 4, pp. 313–329, 2016.

20 W. Mao, I. Rychlik, J. Wallin, and G. Storhaug, "Statistical models for the speed prediction of a container ship," *Ocean engineering*, vol. 126, pp. 152–162, 2016.

21 K. Podgórski and J. Wallin, "Convolution-invariant subclasses of generalized hyperbolic distributions," *Communications in Statistics-Theory and Methods*, vol. 45, no. 1, pp. 98–103, 2016.

22 S. I. Adalbjörnsson, J. Swärd, J. Wallin, and A. Jakobsson, "Estimating periodicities in symbolic sequences using sparse modeling," *IEEE Transactions on Signal Processing*, vol. 63, no. 8, pp. 2142–2150, 2015.

23 R. Maghsood, I. Rychlik, and J. Wallin, "Modeling extreme loads acting on steering components using driving events," *Probabilistic Engineering Mechanics*, vol. 41, pp. 13–20, 2015.

24 K. Podgórski, I. Rychlik, and J. Wallin, "Slepian models for moving averages driven by a non-gaussian noise," *Extremes*, vol. 18, pp. 665–695, 2015.

25 K. Podgórski and J. Wallin, "Maximizing leave-one-out likelihood for the location parameter of unbounded densities," *Annals of the Institute of Statistical Mathematics*, vol. 67, no. 1, pp. 19–38, 2015.

26 J. Wallin and D. Bolin, "Geostatistical modelling using non-gaussian matérn fields," *Scandinavian Journal of Statistics*, vol. 42, no. 3, pp. 872–890, 2015.

Conference Proceedings

1 J. Larsson and J. Wallin, "The hessian screening rule," in *Advances in Neural Information Processing Systems*, 2022. URL: https://openreview.net/forum?id=IpBjWtJp40j.

2 D. Bolin and J. Wallin, "Efficient methods for gaussian markov random fields under sparse linear constraints," in *Advances in Neural Information Processing Systems*, vol. 34, 2021, pp. 9882–9894. URL: https://proceedings.neurips.cc/paper/2021/file/51e6d6e679953c6311757004d8cbbba9-Paper.pdf.

3 J. Larsson, M. Bogdan, and J. Wallin, "The strong screening rule for slope," in *Advances in Neural Information Processing Systems*, H. Larochelle, M. Ranzato, R. Hadsell, M. Balcan, and H. Lin, Eds., vol. 33, Curran Associates, Inc., 2020, pp. 14 592–14 603. URL: https://proceedings.neurips.cc/paper/2020/file/a7d8ae4569120b5bec12e7b6e9648b86-Paper.pdf.

4 F. Delmar and J. Wallin, "Modelling new firm growth and survival: Some practical solutions," in *Academy of Management Proceedings*, Academy of Management Briarcliff Manor, NY 10510, vol. 2018, 2018, p. 13 215.

Supervision

Ph.D. students

2021 – Ivan Hejny, Department of Statistics, Lund university.
roll: supervisor

2019 – Yvette Baurne, Department of Statistics, Lund university.
roll: supervisor

2018 – Johan Larsson, Department of Statistics, Lund university.
roll: supervisor

2016 – 2021 Antanas Bukartas, Faculty of Medicine, Lund university.
roll: co-supervisor
thesis: **Assessment of mobile radiometry data in radiological emergencies using Bayesian statistical methods**

2014 – 2019 Anders Hildeman, Department of Mathematical Sciences, Chalmers,
roll: co-supervisor
thesis: **On flexible random field models for spatial statistics: Spatial mixture models and deformed SPDE models**

2014 – 2016 Roza Maghsood, Department of Mathematical Sciences, Chalmers,
roll: co-supervisor
thesis: **Hidden Markov models for detecting steering events and evaluating fatigue damage**

postdocs

2021 – Sandra Barman, Department of Statistics, Lund university.

Najmeh Abiri, Department of Statistics, Lund university.

Grants

2020 **Climate-AI-infection-REsponse (CLAIRE)**
roll: co-PI
amount: 6.989 million SEK
found body: Vinnova

Model selection for high dimensional data, with application towards genetics
roll: co-PI
amount: 3.2 million SEK
found body: Vetenskapsrådet

2018 **Statistics of entrepreneurship (STATENT)**
roll: PI
amount: 4.7 million SEK
found body: Vetenskapsrådet