

List of publications

Frank van der Meulen

December 29, 2025

CONTENTS

1	Statistical inference for stochastic processes	1
2	Deconvolution, decompounding, denoising, censoring...	3
3	Applied statistics	4
4	Outreach	5
5	Phd-thesis	5

All papers are peer reviewed, except papers marked by a \square .

1 STATISTICAL INFERENCE FOR STOCHASTIC PROCESSES

1. F.H. VAN DER MEULEN AND S. SOMMER (2025) *Backward Filtering Forward Guiding*. To appear in Journal of Machine Learning Research.
2. M.A. CORSTANJE, F.H. VAN DER MEULEN, M. SCHAUER AND S. SOMMER (2025) *Simulating conditioned diffusions on manifolds*. Accepted for publication in Bernoulli.
3. G. YANG, F.H. VAN DER MEULEN AND S. SOMMER (2025) *Neural guided diffusion bridges*. ICML 2025.
4. M.A. CORSTANJE AND F.H. VAN DER MEULEN (2025) *Guided simulation of conditioned chemical reaction networks*. Statistical Inference for Stochastic Processes **28**(8).
5. T. PIEPER-SETHMACHER, F.H. VAN DER MEULEN AND A.W. VAN DER VAART (2025) *On a class of exponential changes of measure for stochastic PDEs*, Stochastic Processes and their Applications **185**, 1–19.
6. D. BELOMESTNY, F.H. VAN DER MEULEN, AND P. SPREIJ (2023), *Nonparametric Bayesian inference for stochastic processes with piecewise constant priors*, Mathematics of Risk 2022 MATRIX Annals, Editors: David R. Wood, Jan de Gier, Cheryl E. Praeger, Terence Tao. MATRIX Book Series, Springer.
7. J. BIERKENS, S. GRAZZI, F.H. VAN DER MEULEN AND M. SCHAUER (2023) *Sticky PDMP samplers for sparse and local inference problems*, Statistics and Computing **33**(1), article nr 8.

8. M.A. CORSTANJE, F.H. VAN DER MEULEN AND M. SCHAUER (2023) *Conditioning continuous-time Markov processes by guiding*, Stochastics, **95**(6), 963–996.
9. S. GUGUSHVILI, F.H. VAN DER MEULEN, M. SCHAUER AND P. SPREIJ (2022), *Nonparametric Bayesian volatility learning under microstructure noise*, Japanese Journal of Statistics and Data Science **6**(1), 551–571.
10. A. ARNAUDON, F.H. VAN DER MEULEN, M.R. SCHAUER AND S. SOMMER (2022), *Diffusion bridges for stochastic Hamiltonian systems and Shape Evolutions*, SIAM Journal on Imaging Sciences (SIMS), **15**(1), 293–323.
11. S. SOMMER, M. SCHAUER AND F.H. VAN DER MEULEN *Stochastic flows and shape bridges* (2021). In Statistics of Stochastic Differential Equations on Manifolds and Stratified Spaces (hybrid meeting), number 48 in Oberwolfach Reports, Mathematisches Forschungsinstitut Oberwolfach, 2021. doi: 10.4171/OWR/2021/48. □
12. M. MIDER, M.R. SCHAUER AND F.H. VAN DER MEULEN (2021) *Continuous-discrete smoothing of diffusions*, Electronic Journal of Statistics **15**, 4295–4342.
13. J. BIERKENS, S. GRAZZI, F.H. VAN DER MEULEN AND M. SCHAUER (2021) *A piecewise deterministic Monte Carlo method for diffusion bridges*, Statistics and Computing **31**(3).
14. J. BIERKENS, F.H. VAN DER MEULEN AND M.R. SCHAUER (2020) *Simulation of elliptic and hypo-elliptic conditional diffusions*, Advances in Applied Probability **52**, 173–212.
15. F.H. VAN DER MEULEN, M. SCHAUER, S. GRAZZI, S. DANISCH AND M. MIDER (2020) *Bayesian inference for SDE models: a case study for an excitable stochastic-dynamical model*, Nextjournal <https://nextjournal.com/Lobatto/FitzHugh-Nagumo>. □
16. F.H. VAN DER MEULEN AND M.R. SCHAUER (2017) *Bayesian estimation of incompletely observed diffusions*, Stochastics **90**(5), 641–662.
17. F.H. VAN DER MEULEN AND M.R. SCHAUER (2017) *Bayesian estimation of discretely observed multi-dimensional diffusion processes using guided proposals*, Electronic Journal of Statistics **11**(1), 2358–2396.
18. M.R. SCHAUER, F.H. VAN DER MEULEN AND J.H. VAN ZANTEN (2017) *Guided proposals for simulating multi-dimensional diffusion bridges*, Bernoulli **23**(4A), 2917–2950.
19. F.H. VAN DER MEULEN, M.R. SCHAUER AND J.H. VAN ZANTEN (2014) *Reversible jump MCMC for nonparametric drift estimation for diffusion processes*, Computational Statistics and Data Analysis **71**, 615–632.
20. F.H. VAN DER MEULEN, M.R. SCHAUER, J. VAN WAAIJ (2017) *Adaptive nonparametric drift estimation for diffusion processes using Faber-Schauder expansions*, Statistical Inference for Stochastic Processes **21**(3), 603–628.
21. S. GUGUSHVILI, F.H. VAN DER MEULEN, M.R. SCHAUER AND P. SPREIJ (2020) *Nonparametric Bayesian estimation of a Holder continuous diffusion coefficient*, Brazilian Journal of Probability and Statistics **34**(3), 537–579.
22. S. GUGUSHVILI, F.H. VAN DER MEULEN, M.R. SCHAUER AND P. SPREIJ (2020) *Fast and scalable non-parametric Bayesian inference for Poisson point processes*, researchers.one, corresponding code is on zenodo <https://zenodo.org/record/1215901#.Wtg3N9NuZTY>.

23. S. GUGUSHVILI, F.H. VAN DER MEULEN, M.R. SCHAUER AND P. SPREIJ (2018) *Nonparametric Bayesian volatility estimation*, MATRIX Annals, Editors: David R. Wood, Jan de Gier, Cheryl E. Praeger, Terence Tao. MATRIX Book Series, Vol 2, Springer.
24. S. GUGUSHVILI, F.H. VAN DER MEULEN AND P.J. SPREIJ (2018) *A non-parametric Bayesian approach to decompounding from high frequency data*. Statistical Inference for Stochastic Processes **21**, 53–79.
25. S. GUGUSHVILI, S., P. SPREIJ AND F.H. VAN DER MEULEN (2015) *Non-parametric Bayesian inference for multi-dimensional compound Poisson processes*, Modern Stochastics: Theory and Applications **2**(1), 1–15.
26. F.H. VAN DER MEULEN AND J.H. VAN ZANTEN (2013) *Consistent nonparametric Bayesian inference for discretely observed scalar diffusions*, Bernoulli **19**(1), 44–63.
27. F.H. VAN DER MEULEN, A.W. VAN DER VAART AND J.H. VAN ZANTEN (2006) *Convergence rates of posterior distributions for Brownian semimartingale models*, Bernoulli **12**(5), 863–888.
28. G. JONGBLOED AND F.H. VAN DER MEULEN (2006) *Parametric estimation for subordinators and induced OU-processes*, Scandinavian Journal of Statistics **33**(4), 825–847.
29. G. JONGBLOED, F.H. VAN DER MEULEN AND A.W. VAN DER VAART (2005) *Nonparametric inference for Lévy driven Ornstein-Uhlenbeck processes*, Bernoulli **11**(5), 759–791.

2 DECONVOLUTION, DECOMPOUNDING, DENOISING, CENSORING...

1. G. JONGBLOED, F.H. VAN DER MEULEN AND L. PANG (2022) *Bayesian nonparametric estimation in the current status continuous mark model*, Scandinavian Journal of Statistics **49**(3), 1329–1352.
2. G. JONGBLOED, F.H. VAN DER MEULEN AND L. PANG (2021) *Nonparametric Bayesian estimation of a concave distribution function with mixed interval censored data*, Brazilian Journal of Probability and Statistics **35**(3), 544–568.
3. G. JONGBLOED, F.H. VAN DER MEULEN AND L. PANG (2021) *Bayesian estimation of a decreasing density*, Brazilian Journal of Probability and Statistics **35**(2), 392–420.
4. S. GUGUSHVILI, E. MARIUCCI AND F.H. VAN DER MEULEN (2020) *Decompounding discrete distributions: a non-parametric Bayesian approach*, Scandinavian Journal of Statistics **47**(2), 464–492.
5. S. GUGUSHVILI, F.H. VAN DER MEULEN, M.R. SCHAUER AND P. SPREIJ (2019) *Bayesian wavelet de-noising with the Caravan prior*, ESAIM Probability and Statistics **23**, 947–978.
6. G. JONGBLOED, G. AND F.H. VAN DER MEULEN (2009) *Estimating a concave distribution function from data corrupted with additive noise*, Annals of Statistics **37**(2), 782–815.

3 APPLIED STATISTICS

1. M. REIJNE, F.H. VAN DER MEULEN, F.C.T. VAN DER HELM AND A.L. SCHWAB (2025) *A model based on cyclist fall experiments which predicts the maximum allowable handlebar disturbance from which a cyclist can recover balance*, Accident Analysis and Prevention **221**, article nr 108159, 1–12.
2. R. HINDRIKS, F.H. VAN DER MEULEN, M. VAN PUTTEN AND P. TEWARIE (2025) *Unraveling high-order interactions in electrophysiological brain signals using elliptical distributions: Moving beyond the Gaussian approximation*. Journal of Physics: Complexity **6**(2), 1–15.
3. L. GOMAZ, B. VAN TRIGT, F. VAN DER MEULEN AND D.J. VEEGER (2025) *Predicting elbow load based on individual pelvis and trunk (inter)segmental rotations in fastball pitching*, Sports Biomechanics **24**(11), 3296–3311.
4. L. GOMAZ, D.J. VEEGER, E. VAN DER GRAAFF, B. VAN TRIGT AND F.H. VAN DER MEULEN (2021) *Individualised Ball Speed Prediction in Baseball Pitching based on IMU Data*, Sensors **21**(22), article nr 7442.
5. R.B. HAGEMAN, F.H. VAN DER MEULEN, A. ROUHAN AND M.L. KAMINSKI (2022) *Improved Risk-Based Inspection planning through in-service Hull Structure Monitoring of FPSO hulls*, Marine Structures **81**, 1–19.
6. L. MÉSZÁROS, F.H. VAN DER MEULEN, G. JONGBLOED AND G. EL SARAFY (2021) *Climate change induced uncertainties in Phytoplankton spring bloom dynamics*, Frontiers in Marine Science **8**, article nr 669951.
7. L. MÉSZÁROS, F.H. VAN DER MEULEN, G. JONGBLOED AND G. EL SARAFY (2021) *A stochastic climate generator to complement existing climate change scenarios*, Stochastic Environmental Research and Risk Assessment (SERRA) **35**, 719–736.
8. K. HARTMAN, A. WITTICH, J.J. CAI, F.H. VAN DER MEULEN AND J.M.N. AZEVEDO (2016) *Estimating the age of Risso's dolphins (*Grampus griseus*) based on skin appearance*, Journal of Mammalogy **97**(2), 490–502.
9. F.H. VAN DER MEULEN, S. LUCA, G. OVERAL, A. DI BUCCHIANICO AND G. JONGBLOED (2014) *Modeling a water purification process for quality monitoring*, Proceedings of the 98th Study Group Mathematics with Industry, 36–54. □
10. F.H. VAN DER MEULEN, R. HAGEMAN (2013) *Fatigue Predictions using Statistical Inference within the Monitas II Project*, Proceedings of the Twenty-third International Offshore and Polar Engineering, 463–471. □
11. L.S.G.L. WAUBEN, W.M.U. VAN GREVENSTEIN, R.H.M. GOOSSENS, F.H. VAN DER MEULEN AND J.F. LANGE (2011) *Operative notes do not reflect reality in laparoscopic cholecystectomy*, The British journal of surgery. **98**(10), 1431–1436.
12. F.H. VAN DER MEULEN, M.B. VERMAAT AND P. WILLEMS (2010) *Case Study: An application of Logistic Regression in a Six Sigma project in Healthcare*, Quality Engineering **23**, 113–124.

13. F.H. VAN DER MEULEN, H. DE KONING AND J. DE MAST (2009) *Non-repeatable gauge R&R studies assuming temporal or patterned object variation*, Journal of Quality Technology 41(4), 1–14.
14. M.B. VERMAAT, F.H. VAN DER MEULEN AND R.J.M.M. DOES (2008) *Asymptotic Behaviour of the Variance of the EWMA Statistic for Autoregressive Processes*, Statistics and Probability Letters 78(12), 1673–1682.
15. H.J.J. RAMAKER, E.N.M. VAN SPRANG, J.A. WESTERHUIS, S.P. GORDEN, F.H. VAN DER MEULEN AND A.K. SMILDE (2006) *Performance assessment and improvement of control charts for statistical batch process monitoring*, Statistica Neerlandica 60(3), 339–360.

4 OUTREACH

1. F.H. VAN DER MEULEN (2025) *Statistiek: het onzichtbare zichtbaar maken*. Nieuw Archief voor Wiskunde 26(2), 109–117. □
2. A. DI BUCCHIANICO, L. IAPICHINO, N. LITVAK, F.H. VAN DER MEULEN AND R. WEHRENS (2018) *Mathematics for Big Data*, Nieuw Archief voor wiskunde, 282–287. Reprinted in “The Best Writing on Mathematics 2019”. □
3. N. LITVAK AND F.H. VAN DER MEULEN (2015) *Networks & Big Data*, Nieuw Archief voor Wiskunde 5(2), 138–139. □
4. G. JONGBLOED AND F.H. VAN DER MEULEN (2011) *Geurproef niet meer in gebruik in strafzaken (in dutch)*, Stator, pages 38-43. □
5. F.H. VAN DER MEULEN (2021) *Een uitnodiging tot data science met R* (on my website, in dutch). □
6. F.H. VAN DER MEULEN AND M.R. SCHAUER (2017) *On residual and guided proposals for diffusion bridge simulation*. □

5 PHD-THESIS

F.H. VAN DER MEULEN (2005) *Statistical estimation for Levy driven OU-processes and Brownian semimartingales*, Phd-thesis, Vrije Universiteit Amsterdam. □