

CURRICULUM VITAE : JO EIDSVIK

PERSONAL INFORMATION:

Name:	Jo Eidsvik 30 November, 1973 Norwegian. Married. Three children.
Postal Address:	Department of Mathematical Sciences, NTNU, 7491 Trondheim, Norway
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CURRENT AND PREVIOUS POSITIONS:

2013-Present: Professor, Department of Mathematical Sciences, NTNU.
2005-2013: Associate Professor, Department of Mathematical Sciences, NTNU.
2003-2007: Senior Geophysicist, Statoil Research Center, Trondheim, Norway. (Part-time 2005-2007)
1998-1999: Researcher, Norwegian Defense Research Establishment (FFI).

MOBILITY:

2014-2015: Visiting Professor (12 months), Energy Resources Engineering, Stanford Univ, California
2009-2010: Visiting Fellow (12 months), SAMSI project: Space-time analysis for environmental mapping, epidemiology and climate change, Duke Univ, North Carolina.
2001-2002: Visiting Researcher (12 months), Department of Statistics and Department of Geophysics, Stanford Univ, California.

EDUCATION:

2003, PhD: *Markov chain Monte Carlo algorithms and their applications to petroleum reservoir applications*, Department of Mathematical Sciences, NTNU.
1997, MSc: *Contributions to Monte Carlo filtering*, Department of Mathematical Sciences, University of Oslo.

PHD SUPERVISION:

- Spremic, M. '3D seismic inversion methods and uncertainty assessment'. **Expected defense June 2024**
- Beiser, F. 'Data assimilation for ocean drift forecasting'. **Expected defense Oct 2023**
- Ge, Y. 'Experimental designs for mapping oceanographic variables '. **Expected defense June 2023**
- Anyosa, S. 'Spatio-temporal modeling and methods for efficient monitoring in Earth science'. **Expected defense June 2022**
- Gineste, M. 'Seismic waveform inversion using the iterative ensemble Kalman smoother'. **Defense Oct 2020**
- Paglia, J. 'Statistical modeling for safer drilling operations'. **Defense June 2020**
- Skauvold, J. 'Ensemble-based data assimilation applied to geological process modeling'. **Defense Dec 2018**
- Lilleborge, M. 'Information measures in Bayesian networks'. **Defense Jan 2017.**
- Rezaie, J. 'A Bayesian inversion approach to filtering and decision making with applications to reservoir characterization'. **Defense Nov 2013.**
- Martinelli, G. 'Petroleum prospect exploration using Bayesian Networks'. **Defense Nov 2012.**
- Aune, E. 'Computation and modeling for high dimensional Gaussian distributions'. **Defense Nov 2012.**

CURRENT RESEARCH PROJECTS:

- 2020-2028: Center for Geophysical Forecasting (CGF), SFI, Norwegian Research Council
- 2020-2024: ML4ITS, Norwegian Research Council
- 2020-2023: HAVROM, Norwegian Research Council
- 2019-2024: Geophysics and Applied Mathematics for Exploration and Safe Production (GAMES), Research Council and Industry partners.
- 2019-2023: Maritime Autonomous Sampling and Control (MASCOT), Norwegian Research Council

TEACHING ACTIVITIES:

I have been teaching the following classes at NTNU:

- Statistics (BSc): 2006, 2008, 2011, 2012, 2013, 2015, 2016
- Industrial statistics (BSc) : 2005, 2006, 2007
- Stochastic modeling (BSc): 2016, 2017, 2018
- Spatial statistics (MSc): 2009, 2011
- Computational statistics (MSc): 2012, 2013
- Experts in team (MSc): 2007, 2017, 2018, 2019
- Spatio-temporal statistics and value of information analysis (PhD): 2016, 2019

- Advanced computational statistics (PhD): 2018, 2020

INSTITUTIONAL RESPONSIBILITIES:

- 2019-2020 - Head of statistics group, NTNU.
- 2015-2019 - Leader of the *Physics and Mathematics study program* at NTNU (~110 students/year).
- 2008-2014 - Leader of the MSc program in *Industrial Mathematics* at NTNU (~50 students/year).
- I have supervised 45 MSc students.
- PhD committees at NTNU, Univ of Oslo, Univ of Stavanger, Univ of Bergen, Australian National University, Stanford University.

PROFESSIONAL ACTIVITIES:

- Associate Editor of *Statistics and Computing* (2011-Present)
- Associate Editor of *Mathematical Geosciences* (2017-Present).
- Best paper award from *Mathematical Geosciences* for 'The value of information in spatial decision making' awarded in 2011.
- Runner-up / finalist award (2nd place) from the *Decision Analysis Society*, 2017, for the monograph 'Value of information in the Earth sciences'.
- Invited talks or short courses on spatial and computational statistics and value of information analysis the last 3 years: Maersk Oil, Copenhagen (2017), Centre du geostatistique, Fontainebleau (2017), EAGE workshop, Paris (2017), Jyvaskyla Summer School, Jyvaskyla (2017), Statoil, Bergen (2018), Statkraft, Trondheim (2018), Computational management science, Trondheim (2018), Hackathon, FORCE Stavanger (2018), Gullow conference, Lake Louise (2018), Mathematics Winter School, Geilo (2019), Probabilistic AI, Trondheim (2019), Seminar UTAD, Portugal (2020), Seminar at Univ of Glasgow (2020).
- Chairman conferences and workshops: Norwegian Statistical Meeting (Røros, 2011), Latent Gaussian models (Trondheim, 2012), Trondheim Statistics Symposium (Orkanger, 2017), Ocean Data Analytics, Trondheim, 2018), Petroleum Geostatistics (Florence, 2019).
- EAGE lecturer (2018-Present).
- Leader of the *Norwegian Statistical Association* (2011-2013).

PUBLICATION RECORD:

- I have written 50 journal papers on spatial and computational statistics and value of information analysis.

- H-index: 20 (Google scholar)

Monograph:

Eidsvik, J., Mukerji, T. and Bhattacharjya, D., **2015**, *Value of information in the earth sciences : Integrating spatial modeling and decision analysis*, Cambridge University Press.

Patent:

Bruun, B., Eidsvik, J., and Nyernes, E., **2010**, *Forming a geological model : 3D pos model* , GB patent (GB2467687). (Additionally accepted as US patent (US 8,442,770 B2) in 2013.)

Selected recent journal papers:

Gineste, M., Eidsvik, J. and Zheng, Y., **2020**, *Ensemble-based seismic inversion for a stratified medium*, *Geophysics*, 85(1), R29-R39.

Skauvold, J., Eidsvik, J., Van Leeuwen, P.J. and Amezcuca, J., **2019**, *A revised implicit equal-weights particle filter*, *Quarterly Journal of the Royal Meteorological Society*, 145(721), 1490-1502.

Fossum, T., Fragoso, G.M., Davies, E.J., Ullgren, J.E., Mendes, R., Johnsen, G., Ellingsen, I., Eidsvik, J., Ludvigsen, M. and Rajan, K., **2019**, *Towards adaptive robotic sampling of phytoplankton in the coastal ocean*, *Science Robotics*, 4, eaav3041.

Paglia, J., Eidsvik, J., Grøver, A. and Lothe, A., **2019**, *Statistical modeling for real-time pore pressure prediction from predrill analysis and well logs*, *Geophysics*, 84, ID1-ID12.

Skauvold, J. and Eidsvik, J., **2019**, *Parametric spatial covariance models in the ensemble Kalman filter*, *Spatial Statistics*, 29, 226-242.

Dutta, G., Mukerji, T. and Eidsvik, J., **2019**, *Value of information analysis for subsurface energy resources applications*, *Applied Energy*, 252, 113436.

Fossum, T., Eidsvik, J., Ellingsen, I., Alver, M.O., Fragosa, G.M., Johnsen, G., Mendes, R., Ludvigsen, M. and Rajan, K., **2018**, *Information-driven robotic sampling in the coastal ocean*, *Journal of Field Robotics*, 35, 1101-1121.

Eidsvik, J., Martinelli, G. and Bhattacharjya, D., **2018**, *Sequential information gathering schemes for spatial risk and decision analysis applications*, *Stochastic Environmental Research and Risk Analysis*, 32, 1163-1177.

Evangelou, E. and Eidsvik, J., **2017**, *The value of information for correlated GLMs*, *Journal of Statistical Planning and Inference*, 180, 30-48.

Lilleborge, M. and Eidsvik, J., **2017**, *Efficient designs for Bayesian Networks with sub-tree bounds*, *Statistics and Computing*, 27, 301-318.