Mats Julius Stensrud

MD Dr.philos

Personal details

Address Chemin de l'Ochettaz 3, 1025 Saint Sulpice, Vaud, Switzerland

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Current job

Sep 2020- **Tenure-Track Assistant Professor of Statistics**, *Chair of Biostatistics, Dep. of Mathematics*, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland.
Statistical Methodology, Causal Inference, Medicine and Epidemiology.

Work experience

2018-2020 **Fulbright scholar and Kolokotrones fellow**, *Dep. of Epidemiology*, Harvard School of Public Health, USA.
Causal Inference, Longitudinal data. Statistical methodology

2018 **Residency**, *Dep. of Medicine*, Diakonhjemmet Hospital, Oslo, Norway.
50% position March-September 2018. Clinical training in internal medicine (LIS 2)

2018 **Postdoctoral fellow**, *Dep. of Biostatistics*, University of Oslo, Norway.
50% position. Causal Inference, Survival analysis, Epidemiologic methods

2016-2018 **Intern**, *Dep. of Medicine and Dep. of Surgery*, Diakonhjemmet Hospital, Oslo.
100% position. Clinical training in internal medicine and general surgery (LIS 1 / Turnus)

Education

2016 **MD**, *Medical Doctor*, University of Oslo, Norway.

2015 **Dr.philos**, *Neuroscience*, University of Oslo, Norway.
Dissertation: Non-classical release of classical neurotransmitters

2014 **MSc**, *Applied Statistics*, University of Oxford, United Kingdom.
Best achievements in the MSc program

2013 **BSc**, *Mathematics*, University of Oslo, Norway.

Teaching

2021 **MATH-336 (Randomization and Causation)**, *Department of Mathematics*, EPFL.
3rd year BSc course.

2021 **MATH-449 (Biostatistics)**, *Department of Mathematics*, EPFL.
1st year MSc course.

2020-2021 **MF9570 (Causal Inference)**, *Department of Biostatistics*, University of Oslo.
PhD course. 7 hours of lectures on mediation analysis and causal mechanisms.

2019-2020 **HT194 (Clinical Epidemiology)**, *Harvard Medical School*, Harvard University.
Teaching assistant for Prof. Miguel Hernán.

2019 **EPI207 (Advanced Epidemiologic Methods)**, *Harvard School of Public Health*, Harvard University.
Teaching assistant for Prof. James Robins.

2017 **HEL8020 (Causal inference)**, *Faculty of Medicine*, University of Tromsø, Norway.
Lecturing PhD-students and researchers causal inference methods for Health Registry Data.

2015 **MF9490 (Statistics)**, *Faculty of Medicine*, University of Oslo, Norway.
Lecturing statistics for PhD students in the Laboratory animal handling course.

2014-2016 **MED1100 (Statistics)**, *Faculty of Medicine*, University of Oslo, Norway.
Classroom teaching. Introduction to statistics for 1st year MD students.

Fellowships and grants

2022- **SNSF Research Grant**, *Dep. of Mathematics*, EPFL.
820'182 CHF. Causal Inference when resources are limited

2019-2020 **Kolokotrones Fellow**, *Dep. of Epidemiology*, Harvard University.
Causal Inference

2018-2019 **Fulbright Research Scholar**, *Dep. of Epidemiology*, Harvard University.
Causal Inference

2018 **Unger Vetlesen Scholarship**, *Dep. of Epidemiology*, Harvard University.

2015 **Eckbo Legat**, *Dep. of Statistics*, University of Oxford.

2014 **Jansen Scholarship**, *Dep. of Statistics*, University of Oxford.

2013 **Norway Oxford Scholarship**, *Dep. of Statistics*, University of Oxford.
Awarded to one Norwegian annually

2013 **Senior Scholarship**, *Dep. of Statistics*, University of Oxford.
For excellent academic records

2012, 2014 **Sønneland Scholarship**, *Faculty of Medicine*, University of Oslo.

2011 **Apeland Viking Scholarship**, University of Wisconsin-Madison.
Studies in Health Communication. Awarded to one Norwegian annually

2009 **Fulbright Scholarship for Outstanding European Students**, Drexel University.
Social science and American history

Awards

2018 **Rothman Prize (Runner Up)**.
Runner up for best article in Epidemiology in 2018.

2018 **Statistical Excellence Award for Early-Career Writing (Runner Up)**.
Runner up for best article in 2018 (Joint with Morten Valberg).

2018 **Best Paper Award**, *Norwegian Epidemiological Association*.
Inequality in cancer risk suggest bad genes rather than bad luck, Nature Communications.

2018 **Candidate at the Lindau Nobel Laureate Meeting**.
The Norwegian participant in the 68th Lindau Nobel meeting with 39 Nobel Laureates.

2014 **Gutierrez-Toscano Prize**, *Dep. of Statistics*, University of Oxford.
I obtained the best achievements in the MSc program in Applied Statistics.

Selected talks

2022 **Statistics Seminar**, *Invited*, University of Waterloo, Canada.

2022 **Swiss Statistics Seminar**, *Invited*, Bern, Switzerland.

2021 **Centre for Statistical Methodology Series**, *Invited*, London School of Hygiene and Tropical Medicine, London, UK.

2021 **Online Causal Inference Meeting**, *Invited discussant*, Stanford (online), USA.

2021 **CMStatistics 2020**, *Invited*, London (online), UK.
Causal inference when resources are constrained

2021 **Biostatistics Seminar at the Karolinska Institute**, *Invited*, Stockholm, Sweden (Online).
Causal effects conditional on post-treatment events

2021 **The 2021 Pacific Causal Inference Conference** , *Invited*, Beijing (online),China.
Causal inference when resources are limited

2021 **Society of Epidemiologic Research**, *Contributed*, San Diego (online),USA.
Non-discriminatory allocation of limited health resources

2021 **JGH Epidemiology Seminar 2021**, *Invited*, (online), Montreal.
Causal inference in settings with competing events and truncation by death

2021 **Biometrischen Kolloquium 2021**, *Invited*, (online), Germany.
Causal inference Under Resource Constraints

2020 **CMStatistics 2020**, *Invited*, London (online), UK.
New estimands for causal inference conditional on post-treatment variables

2020 **Society of Epidemiologic Research**, *Contributed*, Boston (online),USA.
New estimands for conditional causal effects

2020 **Center for Statistics - Adolphe Quetelet Seminar Series**, *Invited*, University of Ghent, Belgium.
Causal reasoning in settings with competing events and truncation by death

2020 **Seminar in Probability Theory and Statistics**, *Invited*, University of Basel, Switzerland.
New estimands for causal inference conditional on a post-treatment event

2020 **Biostatistics seminar**, *Invited*, University of Geneva, Switzerland.
Causal Inference Conditional on a Post-Treatment Variable

2020 **Joint Statistical Meeting**, *Contributed*, Philadelphia, USA.
Causal Inference Conditional on a Post-Treatment Event

2020 **European Causal Inference Meeting**, *Contributed*, Oslo, Norway (Online due to COVID-19).
Conditional Separable Effects

2020 **Boston University Causal Inference Seminar**, *Invited*, Boston University, USA.
The separable effects: New estimands for causal inference in time-to-event settings

2019 **Causal Inference Reading Group**, *Invited*, University of Pennsylvania, USA.
Separable Effects

2019 **Ulm Mathematical Colloquium**, *Invited*, Ulm, Germany.
Causal Inference in Continuous Time

2019 **Society of Epidemiologic Research**, *Invited*, Minneapolis, USA.
Separable effects: new estimands for causal inference in competing risk settings

2019 **Lifetime Data Science: Foundations and Frontiers**, *Invited*, Pittsburgh, USA.
New Estimands for Causal Inference in the Presence of Competing Risks

2019 **Biostatistics group meeting, Harvard Pilgrim Health Care Institute**, *Invited*, Boston, USA.
Separable effects for competing risks settings.

2019 **Atlantic Causal Inference Conference**, *Contributed*, Montreal, Canada.
Causal inference in the presence of competing risks

2019 **European Causal Inference Meeting**, *Contributed*, Bremen, Germany.
Separable effects: New estimands for causal inference in competing risk settings

2018 **European Causal Inference Meeting**, *Contributed*, Florence, Italy.
Marginal structural models for survival analysis in continuous time: Theoretically appealing and practically feasible

2017 **Causal Inference for Longitudinal Data**, *Invited*, Columbia University, USA.

2017 **Workshop on Causal Inference in Health Registry Research**, *Invited*, Oslo, Norway.

2016 **Biostatistics seminar**, *Invited*, Oslo, Norway.

2016 **NordStat, The Nordic Statistical Meeting**, *Invited*, Copenhagen, Denmark.

2016 **Bergen Biostatistical Seminar**, *Invited*, Bergen, Norway.

2015 **Instrumental Variables and Causal Inference**, *Invited*, Copenhagen, Denmark.

Postdoc supervision

2022- **Anders Huitfeldt**, *Department of Mathematics*, EPFL, Switzerland.
Causal inference in medicine

2021- **Aaron Sarvet**, *Department of Mathematics*, EPFL, Switzerland.
Theory and methods for causal inference with limited resources

2020-2021 **Pål Christie Ryalen**, *Department of Mathematics*, EPFL, Switzerland.
Theory and methods for survival analysis

PhD supervision

2020- **Matias Janvin**, *Department of Mathematics*, EPFL, Switzerland.
PhD student, research on causal inference methods (main supervisor).

2021- **Amit Sawant**, *Department of Mathematics*, EPFL, Switzerland.
PhD student, the EPFL GIboal leaders program (main supervisor).

2020- **Niklas Nyboe Maltzahn**, *Department of Mathematics*, EPFL, Switzerland.
visiting PhD student, research on estimation in continuous time multistate models (co-supervisor). Thesis defended September 14th 2021.

2020-2021 **Aaron Sarvet**, *Harvard School of Public Health*, Harvard University, USA.
Co-advisor and committee member

2017-2019 **Pål Christie Ryalen**, *Faculty of Medicine*, University of Oslo, Norway.
PhD in biostatistics (co-supervisor). Thesis defended September 5th 2019.

Editorial boards

- Journal of the Royal Statistical Society - Series A (JRSS-A) from January 2022

Peer review service 2017-2021

- Journal of the American Statistical Association (2021)
- PNAS (2021)
- Biometrika (2019, 2020, 2021,2022)
- Statistical Science (2020, 2021)
- Epidemiology (2018, 2019, 2020, 2021,2022)
- Annals of Internal Medicine (2018, 2019, 2020, 2021), awarded top grade reviewer.
- British Medical Journal (BMJ) (2018, 2021)
- Annals of Applied Statistics (2017, 2021)
- Biometrics (2020, 2021)
- Lifetime Data Analysis (2020,2021)
- European Journal of Epidemiology (2020, 2021)
- American Journal of Epidemiology (2019, 2020)
- Scandinavian Journal of Statistics (2019, 2020)
- Statistics in Medicine (2019)
- Biometrical Journal (2018)

Other professional activities

2021 **Causal report for Armasuisse**, *Report on Causality Research*, Switzerland.

2021 **Joint Statistical Meeting (JSM)**, *Contributed Session Organizer Causal Inference When Resources Are Limited*, USA (Virtual due to COVID-19).

2021 **Conference on Uncertainty in Artificial Intelligence (UAI)**, *Senior Program Committee Member*, USA (Virtual due to COVID-19).

2021 **Research Council**, *Grant reviewer*, Israel.

2020 **Conference on Uncertainty in Artificial Intelligence (UAI)**, *Program Committee*, Vancouver (Virtual due to COVID-19).

2019-2020 **Kolokotrones Symposium on Data Science**, *Organizer of monthly seminars*, Harvard School of Public Health.

2017-2018 **Medical Research Council**, *Grant reviewer*, United Kingdom.

A: Peer-reviewed publications

[1] **Stensrud, M. J.**, Robins, J. M., Sarvet, A., Tchetgen, E. J. T., Young, J. G., "Conditional separable effects". In: *Journal of the American Statistical Associaton, Theory & Methods (accepted)* (2022).

[2] **Stensrud, M. J.**, Dukes, O., "Translating questions to estimands in randomized clinical trials with intercurrent events". In: *Statistics in Medicine (accepted)* (2022).

[3] Sarvet, A. L., **Stensrud, M. J.,** "Without Commitment to an Ontology, There Could Be No Causal Inference". In: *Epidemiology* 33.3 (2022), pp. 372–378.

[4] Martinussen, T., **Stensrud, M. J.,** "Estimation of separable direct and indirect effects in continuous time". In: *Biometrics* (2021).

[5] **Stensrud, M. J.**, Hernán, M. A., Tchetgen Tchetgen, E. J., Robins, J. M., Didelez, V., Young, J. G., "A generalized theory of separable effects in competing event settings". In: *Lifetime Data Analysis* (2021), pp. 1–44.

[6] **Stensrud, M. J.**, Young, J. G., Martinussen, T., "Discussion on "Causal mediation of semicompeting risks" by Yen-Tsung Huang". In: *Biometrics* (2021).

[7] Didelez, V., **Stensrud, M. J.,** "On the logic of collapsibility for causal effect measures". In: *Biometrical Journal* (2021).

[8] Ryalen, P. C., Møller, B., Laache, C., **Stensrud, M. J.**, Røysland, K., "Prognosis of cancer survivors: estimation based on differential equations". In: *Biostatistics* (2021).

[9] Young, J. G., **Stensrud, M. J.,** "Identified versus interesting causal effects in fertility trials and other settings with competing or truncation events". In: *Epidemiology* (2021).

[10] Aris, I. M., Sarvet, A. L., **Stensrud, M. J.**, Neugebauer, R., Li, L.-J., Hivert, M.-F., Oken, E., Young, J. G., "Separating Algorithms from Questions and Causal Inference with Unmeasured Exposures: An Application to Birth Cohort Studies of Early BMI Rebound". In: *American Journal of Epidemiology* (2021).

[11] Accorsi, E. K., Qiu, X., Rumpler, E., Kennedy-Shaffer, L., Kahn, R., Joshi, K., Goldstein, E., **Stensrud, M. J.**, Niehus, R., Cevik, M., "How to detect and reduce potential sources of biases in studies of SARS-CoV-2 and COVID-19". In: *European Journal of Epidemiology* (2021), pp. 1–18.

[12] Wanis, K. N., Sarvet, A., Ruffolo, L. I., Levstik, M. A., Tomiyama, K., Al-Judaibi, B. M., **Stensrud, M. J.**, Hernandez-Alejandro, R., "Estimating the effect of increasing utilization of living donor liver transplantation using observational data". In: *Transplant International* (2021).

[13] **Stensrud, M. J.**, Young, J. G., Didelez, V., Robins, J. M., Hernán, M. A., "Separable Effects for Causal Inference in the Presence of Competing Events". In: *Journal of the American Statistical Associaton, Theory & Methods* (2020).

[14] **Stensrud, M. J.**, Hernan, M. A., "Why Test for Proportional Hazards?" In: *JAMA* (2020).

[15] Young, J. G., **Stensrud, M. J.**, Tchetgen Tchetgen, E. J., Hernán, M. A., "A causal framework for classical statistical estimands in failure-time settings with competing events". In: *Statistics in Medicine* (2020). DOI: 10.1002/sim.8471.

[16] Sarvet, A. L., Wanis, K. N., **Stensrud, M. J.**, Hernán, M. A., "A graphical description of partial exchangeability". In: *Epidemiology* (2020).

[17] Chiu, Y.-H., **Stensrud, M. J.**, Dahabreh, I. J., Rinaudo, P., Diamond, M. P., Hsu, J., Hernández-Díaz, S., Hernán, M. A., "The effect of prenatal treatments on offspring events in the presence of competing events: an application to a randomized trial of fertility therapies." In: *Epidemiology* (2020).

[18] **Stensrud, M. J.**, Røysland, K., Ryalen, P. C., "On null hypotheses in survival analysis". In: *Biometrics* (2019).

[19] **Stensrud, M. J.**, Røysland, K., Ryalen, P. C., "Sufficient cause interaction for time-to-event outcomes". In: *Epidemiology* (2019).

[20] Ryalen, P. C., **Stensrud, M. J.**, Røysland, K., "The additive hazard estimator is consistent for continuous-time marginal structural models". In: *Lifetime data analysis* (2019), pp. 1–28.

[21] Huitfeldt, A., Swanson, S. A., **Stensrud, M. J.**, Suzuki, E., "Effect heterogeneity and variable selection for standardizing causal effects to a target population". In: *European journal of epidemiology* (2019), pp. 1–11.

[22] Huitfeldt, A., **Stensrud, M. J.**, Suzuki, E., "On the collapsibility of measures of effect in the counterfactual causal framework". In: *Emerging themes in epidemiology* 16.1 (2019), p. 1.

[23] Aalen, O. O., **Stensrud, M. J.**, Didelez, V., Daniel, R., Røysland, K., Strohmaier, S., "Time-dependent mediators in survival analysis: Modeling direct and indirect effects with the additive hazards model". In: *Biometrical Journal* (2019).

[24] Wanis, K., Sarvet, A., **Stensrud, M. J.**, Hernán, M. A., "A graphical description of partial exchangeability". In: *Epidemiology* (2020).

[25] **Stensrud, M. J.**, Aalen, J. M., Aalen, O. O., Valberg, M., "Limitations of hazard ratios in clinical trials". In: *European Heart Journal* (2018), ehy770.

[26] **Stensrud, M. J.**, Valberg, M., "Preventing cancer: Mere rhetoric or a promising plan?" In: *Significance* (2018).

[27] Ryalen, P. C., **Stensrud, M. J.**, Røysland, K., "Transforming cumulative hazard estimates". In: *Biometrika* (2018). DOI: 10.1093/biomet/asy035.

[28] Ryalen, P. C., **Stensrud, M. J.**, Fosså, S., Røysland, K., "Causal inference in continuous time: an example on prostate cancer therapy". In: *Biostatistics* (2018).

[29] **Stensrud, M. J.**, Strohmaier, S., Valberg, M., Aalen, O. O., "Can chance cause cancer? A causal consideration". In: *European Journal of Cancer* 75 (2017), pp. 83–85.

[30] Valberg, M., **Stensrud, M. J.**, Aalen, O. O., "The surprising implications of familial association in disease risk". In: *BMC public health* 18.1 (2018), p. 135.

[31] Aalen, O. O., Gran, J. M., Røysland, K., **Stensrud, M. J.**, Strohmaier, S., "Feedback and Mediation in Causal Inference Illustrated by Stochastic Process Models". In: *Scandinavian Journal of Statistics* 45.1 (2018), pp. 62–86.

[32] **Stensrud, M. J.**, Valberg, M., "Inequality in genetic cancer risk suggests bad genes rather than bad luck". In: *Nature Communications* 8.1 (2017), p. 1165.

[33] **Stensrud, M. J.**, Valberg, M., Aalen, O. O., "Can Collider Bias Explain Paradoxical Associations?" In: *Epidemiology* 28.4 (2017), e39–e40.

[34] **Stensrud, M. J.**, Strohmaier, S., "Diastolic hypotension due to intensive blood pressure therapy: Is it harmful?" In: *Atherosclerosis* 265 (2017), pp. 29–34.

[35] **Stensrud, M. J.**, Valberg, M., Røysland, K., Aalen, O. O., "Exploring Selection Bias by Causal Frailty Models". In: *Epidemiology* 28.3 (2017), pp. 379–386.

[36] Tangerud, Å., Potapenko, I., Skjerven, H. K., **Stensrud, M. J.,** "Radiologic evaluation of lumps in the male breast". In: *Acta Radiologica* 57.7 (2016), pp. 809–814.

[37] **Stensrud, M. J.**, Sogn, C. J., Gundersen, V., "Immunogold characteristics of VGLUT3-positive GABAergic nerve terminals suggest corelease of glutamate". In: *Journal of Comparative Neurology* 523.18 (2015), pp. 2698–2713.

[38] **Stensrud, M. J.**, Puchades, M., Gundersen, V., "GABA is localized in dopaminergic synaptic vesicles in the rodent striatum". In: *Brain Structure and Function* 219.6 (2014), pp. 1901–1912.

[39] **Stensrud, M. J.**, Chaudhry, F., Leergaard, T., Bjaalie, J., Gundersen, V., "Vesicular glutamate transporter-3 in the rodent brain: Vesicular colocalization with vesicular γ-aminobutyric acid transporter". In: *Journal of Comparative Neurology* 521.13 (2013), pp. 3042–3056.

B: Preprint articles with original content

[1] **Stensrud, M. J.**, Sarvet, A. L., "Optimal regimes for algorithm-assisted human decision-making". In: *arXiv preprint arXiv:2203.03020* (2022).

[2] **Stensrud, M. J.**, Smith, L. H., "Identification of vaccine effects when exposure status is unknown". In: (2021). arXiv: `2111.11548 [stat.ME]`.

[3] Sarvet, A. L., Wanis, K. N., Young, J., Hernandez-Alejandro, R., Hernán, M. A., **Stensrud, M. J.,** "Causal inference with limited resources: proportionally-representative interventions". In: *arXiv preprint arXiv:2002.11846* (2020).

Department service at EPFL

2022 **Hiring committee member**, *Statistical consultant.*, Department of Mathematics.

2021-2022 **Hiring committee member**, *Bernoulli Instructor in Analysis and Statistics*, Department of Mathematics.

2020- **Working committee member**, *Designing a new EPFL Master in Statistics*, Department of Mathematics.

2020- **Msc admission committee**, *Msc in Mathematics*, Department of Mathematics.