Fayette Klaassen PhD

Academic appointments

October 2024 – current
Postdoctoral Researcher, *Amsterdam Institute for Global Health Development, Amsterdam UMC*, Amsterdam, The Netherlands
Funded by Amsterdam UMC Postdoc Career Bridging Grant. Modeling effects of climate change on tuberculosis disease burden in sub-Saharan Africa.

April 2021–September 2024
Postdoctoral Research Fellow, *Harvard T.H. Chan School of Public Health, Harvard University*, Boston, USA
Developing Bayesian models to investigate, among others, the Covid-19 epidemic in US states and counties, and latent tuberculosis incidence in Brazil.

2022, April
Visiting researcher, *Department of Psychology, McGill University*, Montreal, Canada
Collaboration on N=1 multilevel research with Prof. M. Miočević

2019, Jan-Mar
Visiting researcher, *University of California, Irvine*, Irvine, USA
Three month collaboration with Prof. J. Rouder on Bayesian hypothesis testing for within-between subject experiments.

2015–2020
PhD candidate, *Department of Methodology and Statistics, Utrecht University*, Utrecht, The Netherlands
Funded by NWO Talent Grant 406-12-001. Conducting independent research for my dissertation, providing statistical consultations and teaching undergraduate and graduate courses in statistics and research methodology.

Degrees

2015-2020
PhD, *Methodology and Statistics*, Utrecht University, The Netherlands
Dissertation title: The Latest Update on Bayesian Informative Hypothesis Testing.
Advisors: Prof. H. Hoijtink and Prof. I. Klugkist.

2013–2015
MSc. *Cum Laude*, *Methodology and Statistics*, Utrecht University, The Netherlands
Methodology and Statistics for the Behavioural, Biomedical, and Social Sciences

2010–2013
BA *Cum Laude*, *Social Sciences*, Amsterdam University College, The Netherlands
Major: Psychology. Exchange semester at the Katholieke Universiteit Leuven.

Work experience

2020
Volunteer: Editorial board, *Milieucentrum Utrecht*, Utrecht, The Netherlands
Writing short articles about sustainability in Utrecht.

2014–2015
Research assistant, *Utrecht University*, Utrecht, The Netherlands
Assisting in research (data collection, interviews, analyzing and reporting results).

2014
Research assistant, *CITO*, Arnhem, The Netherlands
Developing R code to evaluate adaptive tests; analyzing test data to detect cheating.

2008–2014
Tutor, *Bijlesnetwerk*, Amsterdam and Utrecht, The Netherlands
Tutoring highschool students in mathematics, Latin, ancient Greek, Dutch and English.

2013 **Intern**, *Municipality of Amsterdam*, Amsterdam
Assisting in formulating the Poverty policy (Armoedebeleid) of the Municipality of Amsterdam., by doing background research, identifying useful initiatives, and some administrative tasks.

2011–2012 **Intern**, *Anglia Network Europe / MarocEd*, Casablanca, Morocco
Teaching a teacher training course and building an English education network in Morocco.

2011–2012 **Volunteer: Reading to children**, *VoorleesExpress*, Amsterdam
Reading storybooks to children with a migration background, to stimulate language development and joy for reading.

Grants and awards

2024 **Amsterdam UMC Postdoc Career Bridging Grant**, 125.000 euro
Salary and research costs for a postdoctoral appointment at the Amsterdam Institute for Global Health Development (AIGHD) at the Amsterdam UMC.

2017 **Education Incentive Fund**, 15.000 euro
Miočević, M., Aarts, E., **Klaassen, F.**, Lek, K.M., Mulder, K.T., Namesnik, K.T., Veen, D., Zondervan-Zwijnenburg, M.A.J. (2017).
Developing R Shiny applications for teaching purposes.

2017 **Citizen Science Award**, LERU Doctoral Summer School, 2.500CHF
Quinn, S., Lukeš, D., Jenkins, H., **Klaassen, F.**, Bisaga, I., Javan, R.R., Schinkelshoek, M.S., and Dulęba, A. (2017). *Lets WakeApp*

2017 **ETSS EJPT best paper of 2017 award**, Third place

2016 **Travel grant for the ISBA World Meeting**, $400

Publications

2024 **Klaassen, F**, Swartwood, NA, Chitwood, MA, Lopes, R, Haraguchi, M, Salomon, JA, Cohen, T, & Menzies, NA. (preprint). National- and state-level SARS-CoV-2 immunity trends from January 2020 to December 2023: a mathematical modeling analysis. doi:10.1101/2024.10.22.24315935

Lopes, R, Swartwood, NA, Lan, Y, Chitwood, MA, **Klaassen, F**, Salomon, JA, Menzies, NA, Warren, JL, Grubaugh, ND, & Cohen, T. (preprint). Quantifying the spatiotemporal dynamics of the first two epidemic waves of SARS-CoV-2 infections in the United States. hrefhttps://doi.org/10.1101/2025.01.08.24319433doi:10.1101/2025.01.08.24319433

Haraguchi, M, **Klaassen, F**, Cohen, T, Salomon, JA, & Menzies, NA. (preprint). Statistical relationship between wastewater data and case notifications for COVID-19 surveillance in the United States, 2020-2023: A Bayesian hierarchical model. doi:10.2196/preprints.68213

van Lieshout Titan, A, **Klaassen, F**, Pelissari, DM, de Barros Silva Junior, JN, Alves, K, Costa Alves, L, Sanches, M, Bartholomay, P, Costa Johansen, FD, Croda, J, Andrews, JR, Castro, MC, Cohen, T, Vuik, C, & Menzies, NA. (2024). Cost-effectiveness and health impact of screening and treatment of Mycobacterium tuberculosis infection among formerly incarcerated individuals in Brazil. *The Lancet Global Health, 12* (9), e1446 - e1455. doi:10.1016/S2214-109X(24)00221-3

James, LP, **Klaassen, F**, Sweeney, S, Furin, J, Franke, MF, Yaesoubi, R, Chesov, D, Ciobanu, N, Codreanu, A, Crudu, V, Cohen, T, & Menzies, NA. (2024). Impact and cost-effectiveness of the 6-month BPaLM regimen for rifampicin-resistant tuberculosis: a mathematical modeling analysis. *PloSMed, 21* (5):e1004401. doi:10.1371/journal.pmed.1004401

Lopes, R, Pham, K, **Klaassen, F**, Chitwood, MH, Hahn, AM, Redmond, S, Swartwood, NA, Salomon, JA, Menzies, NA, Cohen, T, & Grubaugh, ND. (2024). Combining genomic data and infection estimates to characterize the complex dynamics of SARS-CoV-2 Omicron variants in the United States. *Cell Rep, 43* (7):114451. doi:10.1016/j.celrep.2024.114451

Chen, NFH, Pham, K, Chaguza, C, Lopes, R, **Klaassen, F**, Weinberger, DM, Pitzer, VE, Warren, JL, Grubaugh, ND, & Hahn, AM. (preprint 2024). Escalating combinations of enhanced infectivity and immune escape define SARS-CoV-2 Omicron lineage replacement.medRxiv

2023 **Klaassen, F**, Holm, RH, Smith, T, Cohen, T, Bhatnagar, A, & Menzies, NA. (2023). Predictive power of wastewater for nowcasting infectious disease transmission: A retrospective case study of five sewershed areas in Louisville, Kentucky. *Environmental Research, 1* (240, pt 2):117395. doi:10.1016/j.envres.2023.117395

Klaassen, F, Chitwood, MH, Cohen, T, Pitzer, VE, Russi, M, Swartwood, NA, Salomon, JA & Menzies, NA. (2023). Changes in Population Immunity Against Infection and Severe Disease From Severe Acute Respiratory Syndrome Coronavirus 2 Omicron Variants in the United States Between December 2021 and November 2022. *Clinical Infectious Diseases, 77* (3) 355-361. *Editor's choice* doi:10.1093/cid/ciad210

Miočević, M, **Klaassen, F**, Moeyaert, M, & Geuke, G, (2023). Optimal practices for mediation analysis in ab single case experimental designs. *Journal of Experimental Education* (Online). doi:10.1080/00220973.2023.2243593

Klaassen, F, Chitwood, MH, Cohen, T, Pitzer, VE, Russi, M, Swartwood, NA, Salomon, JA & Menzies, NA. (2023). Population immunity to pre-Omicron and Omicron SARS-CoV-2 variants in US states and counties through December 1, 2021. *Clinical Infectious Diseases, 76*, 3. doi:10.1093/cid/ciac438

2022 Chitwood MH, Russi M, Gunasekera K, Havumaki J, **Klaassen. F**, Pitzer VE, Salomon JA, Swartwood NA, Warren JL, Weinberger DM, Cohen T, Menzies NA. Reconstructing the course of the COVID-19 epidemic over 2020 for US states and counties: results of a Bayesian evidence synthesis model. (2022). *PLOS Computational Biology, 18* (8). doi:10.1371/journal.pcbi.1010465

2021 De Mulder, HNM, Hakemulder, F, **Klaassen, F,** Junge, CMM., Hoijtink, H, & van Berkum, JJA .(2021). Figuring out what they feel: Exposure to eudaimonic narrative fiction is related to mentalizing ability. *Psychology of Aesthetics, Creativity, and the Arts. Advance online publication.*doi:10.1037/aca0000428

2020 Haaf, J, **Klaassen, F**, & Rouder, J. (preprint, 2020). A note on using systems of orders to capture theoretical constraint in psychological science. PsyRxiv

Miočević, M, **Klaassen, F**, Geuke, G, Moeyaert, M, & Maric, M. (2020). Using Bayesian methods to test mediators of intervention outcomes in single-case experimental designs. *Evidence-Based Communication Assessment and Intervention, 14* (1-2). doi:10.1080/17489539.2020.1732029

Klaassen, F (2020). Combining evidence over multiple individual analyses. In R Van de Schoot & M Miočević (Eds.), *Small sample size solutions: A guide for applied researchers and practitioners.* Routledge.

2019 **Klaassen, F**. (2019). BayesianPower: Sample size and power for comparing inequality constrained hypotheses. R package, version 0.1.6. CRAN

Kuiling, JME, **Klaassen, F** and Hagenaars, MA. (2019). The role of tonic immobility and control in the development of intrusive memories after experimental trauma. *Memory, 27*(6). doi:10.1080/09658211.2018.1564331

van der Ham, IJM, **Klaassen, F**, van Schie, K, and Cuperus, AA. (2019). Elapsed time estimates in virtual reality and the physical world: The role of arousal and emotional valence. *Computers in Human Behavior, 94.* doi:10.1016/j.chb.2019.01.005

2017 **Klaassen, F**, Zedelius, C, Veling, H, Aarts, H, and Hoijtink, H. (2017). All for One or Some for All? Evaluating Informative Hypotheses using Multiple $N = 1$ Studies. *Behavior Research Methods* doi:10.3758/s13428-017-0992-5

Hagenaars, MA, Holmes, EA, **Klaassen, F**, and Elzinga, B. (2017). Tetris and word game affect intrusive memories when applied after memory reactivation 4 days post analogue trauma. *European Journal of Psychotraumatology. 8* (Sup 1). *3rd place ETSS EJPT best paper of 2017 award.*

De Mulder, HNM, Hakemulder, F, van den Berghe, R, **Klaassen, F** and van Berkum, J. (2017). Effects of exposure to literary narrative fiction: From book smart to street smart? *Scientific Study of Literature, 7* (1), pp. 129-169.

Cuperus, AA, **Klaassen, F**, Hagenaars, MA, and Engelhard, IM. (2017). A virtual reality paradigm as an analogue to real-life trauma: Its effectiveness compared with the trauma film paradigm. *European Journal of Psychotraumatology. 8* (Sup 1). doi:10.1080/20008198.2017.1338106

Presentations, Invited talks, Posters

2023 Presentation abstract: Incorporating wastewater data to enhance predictive performance of infectious disease nowcasting. (**Klaassen, F**, Holm, RH, Smith, T, Cohen, T, Bhatnagar, A, and Menzies, NA, 2023). *Society for Medical Decision Making, Philadelphia, PA, USA.*

Poster abstract: Characterizing pathways to population immunity against SARS-CoV-2. (**Klaassen, F**, Chitwood, MH, Cohen, T, Pitzer, VE, Russi, M, Swartwood, NA, Salomon, JA and Menzies, NA, 2023). *Society for Medical Decision Making, Philadelphia, PA, USA.*

Presentation: Characterizing pathways to population immunity against SARS-CoV-2. (**Klaassen, F**, Chitwood, MH, Cohen, T, Pitzer, VE, Russi, M, Swartwood, NA, Salomon, JA and Menzies, NA, 2023). *Freeman-Seage Symposium, Harvard School of Public Health, Boston, MA, USA.*

2022   Invited talk: Using RStan for Bayesian statistics. (**Klaassen, F**, 2022). *Harvard Data Science Initiative R User Group, Boston, MA, USA.*

Invited talk: Bayesian hypothesis testing and modeling. (**Klaassen, F**, 2022). *McGill University, Montreal, Canada.*

2019   Presentation: Not everybody does. (**Klaassen, F**, Zedelius, C, Veling, H, Aarts, H, and Hoijtink, H, 2019). *International Multilevel Conference, Utrecht, The Netherlands.*

2018   Presentation: Bayesian hypothesis testing. (**Klaassen, F**, 2018). *IOPS, Cito, Arnhem, the Netherlands.*

Presentation: All for one or some for all? (**Klaassen, F**, Zedelius, C, Veling, H, Aarts, H, and Hoijtink, H, 2018). *DGPs, Frankfurt am Main, Germany.*

Invited talk: Updating Bayes Factors within a dataset. (**Klaassen, F**, Zedelius, C, Veling, H, Aarts, H, and Hoijtink, H, 2018). *A gentle introduction into Bayesian statistics, Graduate Summer School Small Sample Analysis, Utrecht, the Netherlands.*

Presentation: On reasons to use subjective Bayes. (**Klaassen, F** and Veen, D, 2018). *EAM Conference, Jena, Germany.*

Presentation: One for all or some for all? (**Klaassen, F**, Zedelius, C, Veling, H, Aarts, H, and Hoijtink, H, 2018). S^4 *(Small Sample Size Solutions, Utrecht, the Netherlands.*

2017   Presentation: Staying in the loop: Prior probabilities, Bayes factor, posterior probabilities. (**Klaassen, F**, 2017). *PSE (Perspectives on Scientific Error), Tilburg, the Netherlands.*

Presentation: Staying in the loop: Prior probabilities, Bayes factor, posterior probabilities. (**Klaassen, F**, 2017). *IMPS, Zürich, Switzerland.*

2016   Poster: The power of informative hypotheses. (**Klaassen, F**, Hoijtink, H and Gu, X, 2016). *ISBA World meeting, Sardinia, Italy.*

Poster: Sequential updating of Bayes factors for within subject analysis. (**Klaassen, F**, Zedelius, C, Veling, H, Aarts, H, and Hoijtink, H, 2016). *IOPS Summer conference, Enschede, the Netherlands.*

2015   Presentation: The power of informative hypotheses. (**Klaassen, F**, Hoijtink, H and Gu, X, 2015). *CSI (Constrained Statistical Inference), Otterlo, the Netherlands.*

2014   Presentation: Using online measures to examine the effects of scaffolding and feedback on learning. (Janssen, E, Soeters, N, Duijzer, C, Francot, R, **Klaassen, F**, Kroonenberg, M, van der Laan, N, van de Pol, J, & Leseman, P, 2014). *Earli SIG 6&7, Rotterdam, the Netherlands.*

Other output

2021-2024   **www.covidestim.org**
Maintained website with nowcast estimates of Covid-19 infections in the US, and associated GitHub infrastructure (link) and R package (link)

2022-2023   **Interviews and citations**
Interviews and citations of academic output in various news outlets (e.g., The New York Times (21-11-2023); News Medical Life Sciences (23-11-2022); Michigan Live (30-01-2022)

Professional development

2015–2023	**Completed (post)-graduate courses and certificates** - Introduction to Databases with SQL. Harvard Extension School. 4EC. (2023). - Writing an IMRAD manuscript; Writing Clearly and Concisely; CITI for Social and Behavioral Research Investigators; Data Security Training Course (2022) - LERU Graduate Summer School: Citizen Science, Zürich. July 10-14 2017. - IOPS certificate (Interuniversity Graduate School of Psychometrics and Sociometrics). 12 EC. (2015-2019). Generalized Latent Variable Modeling; Optimization and Numerical Methods; Statistical Learning; Meta-Analysis; What is Psychometrics; Statistical Consulting). - Teaching certificate from Utrecht University (2015-2019). - Professional workshops (2015-2018): Research Funding Days (2018); Storytelling for Science (2017); Academic writing in English (2016); How to create societal impact with your research? (2016); Research integrity (2015).
2023	**Organizer of lab writing sessions**, *Menzies Lab, HSPH*, Facilitating writing goals, feedback and sharing of tips and tricks.
2022-2023	**Organizer of postdoctoral peer-intervision sessions**, *HSPH*
2018	**Organizer and chair of symposium**, Applying subjective Bayes to real life data., EAM (European Association for Methodology) Conference, Jena, Germany. Organizing team: Klaassen, F, Lek, KM, Ni, H, Veen, D, and Winter, S, Zondervan-Zwijnenburg, MA.
2015–2018	**Representation**, *Utrecht University* - PhD-representative in the PhD council of the Faculty of Social Sciences. - PhD-representative for the Interuniversity Graduate School of Psychometrics and Sociometrics. - Member of the graduate Think Tank, stimulating collaboration between graduate students. - Member of the organizing committee of the 'Dare to cross-over' graduate conference. - Reviewer for *i.a.* Behavior research methods; Psychological Methods; European Journal of Research Methods in the Behavioral and Social Sciences.

Teaching Experience

Courses

2022	**Guest lecture: Bayesian hypothesis testing, Gibbs and Metropolis Hasting sampling**, *Bayesian statistics*, McGill University
2015–2019	**Bayesian Statistics**, *Research Master, Utrecht University* Lectures, practicals, grading and coordination of assignments
2018	**Multivariate Statistics**, *Research Master, Utrecht University* Lectures, practicals, grading and coordination of assignments
2015–2017	**Methoden, Technieken en Statistiek 3**, *Bachelor, Utrecht University* Seminars on critical evaluation of research methods
2015	**Methoden, Technieken en Statistiek 4**, *Bachelor, Utrecht University* Computer labs
2015–2016	**Advanced course on using Mplus**, *Graduate Summer School, Utrecht University* Computer practicals.
2014–2016	**Introduction to Structural Equation Modelling using Mplus**, *Graduate Summer School, Utrecht University* Computer practicals.

Supervision

2022-2024	**Undergratuate Research Internship** Co-supervised undergraduate research intern with Prof. N. Menzies. Advised on research project modeling TB infections using, among others, Bayesian microsimulation.
2017	**Bachelor Thesis** Bayesiaanse Evaluatie van Informatieve Hypotheses als Methode voor Replicatiebeoordeling.(*English translation: Bayesian evaluation of informative hypothesis as a method for evaluating replication studies.*) Co-supervised with Prof. H. Hoijtink.

2016   **Bachelor Thesis**
De toename van de kans op toevallige significante resultaten bij het toetsen van meerdere hypotheses. (*English translation: The increased probability of spurious significant effects in testing multiple hypotheses.*)
Co-supervised with Prof. H. Hoijtink.

Languages and software

Languages   Dutch (native); English (fluent); French, German and Spanish (active knowledge A1, passive knowledge A2-B1); Dutch supported with signs (Level 2); Kannada (beginner).

Software   Office, R, including rstan, rjags, Rcpp and R shiny, LaTeX en SPSS (advanced); SQLite3, Mplus, OpenBugs/WinBugs, HLM and Wordpress (medium).