

Curriculum Vitae - Rasmus Kristoffer Pedersen, Ph.D.



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Short presentation

Expert in mathematical modelling, in particular of biological systems, and analysis of epidemiological data, with a strong background in problem-oriented project-based work as well as general mathematics and physics.

I have a personal interest in communication of science and particularly mathematics, which I have worked with in my time as PostDoc (through science communication articles to the general public) my Ph.D. (through communication of mathematical results to medical professionals), my master thesis (through a mathematics-didactical study) and privately (through talks to the broader public about the topic of interactive visualizations)

Selected publications in peer-reviewed journals

- Friis, Martin-Bertelsen, [Pedersen](#), Nielsen, Krause, Andreasen & Vestergaard (2023) “COVID-19 mortality attenuated during widespread Omicron transmission, Denmark, 2020 to 2022.” *Eurosurveillance*, 28, 3
- Ingholt, Chen, Hildebrandt, [Pedersen](#), Simonsen (2022) “Temperate climate malaria in nineteenth century Denmark.” *BMC Infectious Diseases*, 22, 432
- [Pedersen](#), et al (2021) “Dose-dependent mathematical modeling of interferon- α -treatment for personalized treatment of myeloproliferative neoplasms” *Computational & Systems Oncology*, 1, 4
- [Pedersen](#), et al (2021) Mathematical modelling of the hematopoietic stem cell-niche system: Clonal dominance based on stem cell fitness. *Journal of Theoretical Biology*, 518
- [Pedersen](#), et al (2020). Data-driven Analysis of JAK2V617F Kinetics During Interferon-Alpha2 Treatment of Patients with Polycythemia Vera and Related Neoplasms. *Cancer Medicine*, 9(6)

Education

- Ph.D. in Mathematics - Roskilde University
“Mathematical Modelling of Myeloproliferative Neoplasms and Hematopoietic Stem Cells”
September 2017 - August 2020 *Thesis successfully defended November 20th, 2020*
- Cand. Scient. in Physics and Mathematics - Roskilde University
August 2015 - August 2017
- Bach. Scient. in Mathematics and Physics - Roskilde University
August 2011 - June 2014

Job experience

- PostDoc - PandemiX Center - Roskilde University February 2022 → April 2023
- Scientific Assistant - Roskilde University September 2021 → January 2022
- PostDoc - PandemiX Center - Roskilde University February 2021 → August 2021
- Scientific Assistant - Roskilde University September 2020 → January 2021
- Course teacher - Courses “*Optimisation and Computational Methods*”, “*Data Analysis and Statistics*”, “*Modelling populations and epidemics*” and “*Mathematical modelling and dynamical systems*”
Roskilde University Between 2018 and 2021
- Supervisor of a total of four bachelor-student-projects - Roskilde University Between 2017 and 2020
- Teaching Assistant - Courses “*BK2*”, “*Calculus*” & “*BK1*” - Roskilde University Between 2015 and 2017
- High School teacher - Roskilde Gymnasium Fall 2014 and Spring 2015
I had the sole responsibility for math education of the first year of two school classes.

Technical competencies

Python	■ ■ ■ ■ ■
MATLAB	■ ■ ■ ■ ■
L ^A T _E X	■ ■ ■ ■ ■
C#	■ □ □ □ □
Java	■ □ □ □ □
Web-development (HTML, Javascript, CSS)	■ ■ ■ □ □

Language competencies

Danish	C2 (Mother tongue)
English	C2
German	B1

Conference contributions and academic presentations

- ECMTB, 2022 - Contributed talk
Model-based approach for determining COVID-19 incidence for different testing intensities
- The second Nordic Biomathematics days, 2022 - Contributed talk
Mathematical Modelling of Myeloproliferative Neoplasms and Hematopoietic Stem Cells
- Statistics and Biomathematics seminar (Chalmers, Gothenburg), 2020 - Invited talk
Modelling hematopoietic stem cells and their interaction with the bone marrow micro-environment
- The first Nordic Biomathematics days, 2019 - Talk
Modelling hematopoietic stem cells and their interaction with the bone marrow micro-environment
- SMB, 2019 - Poster
Modelling the Dynamics of Hematopoietic Stem Cells
- SIAM Conference on Applications of Dynamical Systems, 2019 - Poster
Modelling the Dynamics of Hematopoietic Stem Cells
- ECMTB, 2018 - Poster
Modelling of Quiescent Stem Cells in Relation to Myeloproliferative Neoplasms

Selected examples of science communication to the public

- “Communicating Mathematics with Interactive Visualizations” August 2022
Talk at Studienfonds Community Conference, Bielefeld, Germany
- “Communicating Science and Mathematics with Interactive Visualizations” September 2021
Talk at DataViz CPH meetup
- “[Hvordan skal vi beregne overdødelighed?](#)” November 2022
(Eng: *How do we calculate excess mortality?*) Article for Videnskab.dk (in danish)
- “[Vender COVID-19 for alvor tilbage?](#)” June 2022
(Eng: *Is COVID-19 gone for good?*) Article for Videnskab.dk (in danish)
- “[Forskere: Omikron kan være den dominerende variant allerede onsdag](#)” December 2021
(Eng: *Researchers: Omicron could already be the dominating variant from Wednesday.*)
Article for Videnskab.dk (in danish)
- “[Tilbage til begyndelsen: Lav dine egne corona-kurver](#)” September 2021
(Eng: *Back to the start: Make your own COVID-19-curves*) Article for Videnskab.dk (in danish)
- “[Forstå usikkerhed i matematiske modeller med disse interaktive grafikker](#)” May 2021
(Eng: *Understand uncertainty in mathematical models with these interactive figures*)
Article for Videnskab.dk (in danish)
- “Interaktive visualisering til videnskabelig formidling” May 2020
(Eng: *Interactive visualizations for scientific dissemination*), Webinar, Danish Society of Engineers, IDA
- “Communicating science with p5.js - How interactive simulations and creative coding can make the complex relatable” January 2020
Talk at “Processing Community Day 2020”
- “The benefits of building and working with interactive simulations” October 2019
Interactive simulations for better model intuition” Blog post, “Mathematical Oncology” blog