

Martin Cramer Pedersen

CV

Information

Current address D304, H. C. Ørsted Institute, Niels Bohr Institute, University of Copenhagen
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Web <https://martincramerpetersen.github.io>

Date of birth November 7th, 1985

Academia

2019–2022 **Assistant professor**
Niels Bohr Institute, University of Copenhagen

2018–2019 **Postdoctoral fellow**
Niels Bohr Institute, University of Copenhagen. Supervisors: Jacob J. K. Kirkensgaard, Vanessa Robins (ANU) & Kell Mortensen

2017–2018 **Postdoctoral fellow**
Niels Bohr Institute, University of Copenhagen. Supervisor: Lise Arleth

2015–2017 **Postdoctoral fellow**
Department of Applied Mathematics, Australian National University. Supervisor: Stephen T. Hyde

2014–2015 **Postdoctoral fellow**
Niels Bohr Institute, University of Copenhagen. Supervisor: Lise Arleth

Education

2011–2014 **Ph.D.**
Niels Bohr Institute, University of Copenhagen. Supervisors: Kell Mortensen & Lise Arleth

2007–2009 **M.Sc., Mathematical physics**
Niels Bohr Institute, University of Copenhagen. Thesis supervisor: Charlotte Fløe Kristjansen

2004–2007 **B.Sc., Mathematical physics**
Niels Bohr Institute & Department of Mathematical Sciences, University of Copenhagen. Thesis supervisor: Anders Sørensen

Scientific areas of interest

Physics X-ray and neutron science, scattering physics and theory, structural soft matter and biophysics, small-angle X-ray and neutron scattering, protein structure and morphology

Applied mathematics Persistent homology, applied and computational topology, applied and computational geometry, non-euclidean geometry, combinatorial group theory, mathematical crystallography, tiling theory

Materials science Periodic networks and reticular nets, soft matter materials science, molecular dynamics, liquid crystals, quasicrystals, crystallisation dynamics

Computer science High-performance computing, general purpose GPU, optimization problems, word automata, visualization methods

Grants and funding

- 2019–2020 **Faculty of Science, University of Copenhagen - approx. €20.000**
Funding for Ph.D.-school and long-term visit by Stephen Hyde with co-applicant Jacob Kirkensgaard
- 2018 **The Villum Foundation, Villum Experiment Grant - approx. €200.000**
Funding for two years as assistant professor at the Niels Bohr Institute, UCPH
- 2017 **NVidia Academic GPU Seeding Grant - approx. €2.000**
NVidia GeForce Titan XP GPU
- 2015 **The Carlsberg Foundation, Internationalisation Fellowship - approx. €50.000**
Co-funding for a second year as postdoctoral fellow at Department of Applied Mathematics, ANU
- 2015 **The Stjepan Marcelja endowment fund - approx. €10.000**
Co-funding for a second year as postdoctoral fellow at Department of Applied Mathematics, ANU
- 2014 **The Carlsberg Foundation, Internationalisation Fellowship - approx. €50.000**
Funding for one year as postdoctoral fellow at Department of Applied Mathematics, ANU

Lectures, invitations, and organization

- 2022 **Geometry and Topology in Contemporary Materials Science III**
Organizer and lecturer, Ph.D. school at University of Copenhagen
- 2021 **25th General Assembly and Congress of the International Union of Crystallography**
Invited speaker, Conference in Prague, <https://seafire.erda.dk/seafire/f/d865fc32bc/>
- 2019 **AMS Special Session on Crystallographic and Highly Symmetric Patterns**
Invited speaker, Conference at University of Florida, Gainesville
- 2018 **Hot Topics: Shape and Structure of Materials**
Invited speaker, Conference at University of California, Berkeley
- 2017 **Geometry and Topology in Contemporary Materials Science II**
Co-organizer and lecturer, Ph.D. school at University of Copenhagen
- 2013 **Third Annual Niels Bohr International Academy Workshop on ESS Science**
Invited speaker, Workshop at University of Copenhagen

IT and computer science

Mathematics	Mathematica, Matlab/Octave, GAP, Maple, CGAL, SymPy
Web	HTML5, CSS3, JavaScript
Languages	Python, C, C++, OpenCL, Bash, Fortran
Graphics	Inkscape, PyMol, Gnuplot, SideFX Houdini, VMD, ImageJ/Fiji
Development	Subversion, Git
Simulations	HooMD-blue, Lammmps, Quantum ESPRESSO, Phaistos, McStas, McXtrace

Community, appointments, and publishing

- 2021– **Mathematical Reviews database/MathSciNet**
Reviewer, American Mathematical Society
- 2020–2022 **The Lundbeck Foundation Brainstruc Project**
Member of steering committee, University of Copenhagen and Aarhus University, Denmark
- 2020– **College 8 for Evaluation of Proposals for Neutron Scattering at ILL**
Subcommittee member, Institute Laue-Langevin, Grenoble, France
- 2018– **Peer reviewer**
Soft Matter, Royal Society of Chemistry
Acta Crystallographica A, International Union of Crystallography
IUCrJ, International Union of Crystallography
ACS Materials Au, American Chemical Society
Journal of Physical Chemistry B, American Chemical Society