Svala Sverrisdóttir

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EDUCATION

University of California at Berkeley   *2022-present*

Doctorate of Philosophy, United States of America

Currently undertaking a Doctorate of Philosophy in the Department of Mathematics at UC Berkeley. Advised by Bernd Sturmfels, with focus on computational algebraic geometry, combinatorics and commutative algebra.

University of Iceland   *2019 - 2022*

Bachelor of Science, Iceland

Graduated with a B.S. degree in mathematics with focus on applied mathematics in June 2022. My GPA is 9.95/10, first class grade with distinction.

RESEARCH

Exploring Ground and Excited States via Single Reference Coupled-Cluster Theory and Algebraic Geometry (with Fabian Faulstich), 39pp, submitted to *Journal of Chemical Theory and Computation*. (arXiv)

Coupled Cluster Degree of the Grassmannian (with Viktoriia Borovik and Bernd Sturmfels), 13pp, to appear in *Journal of Symbolic Computation*. (arXiv)

Algebraic Varieties in Quantum Chemistry (with Fabian Faulstich and Bernd Sturmfels), 25pp, to appear in *Foundations of Computational Mathematics*. (arXiv)

Four-Dimensional Lie Algebras Revisited (with Laurent Manivel and Bernd Sturmfels) *Journal of Lie Theory* **33** (2023) 703-712. (arXiv)

ACHIEVEMENTS AND AWARDS

Chancellors Fellowship   *Fall 2022*

One semester fellowship from the University of California, Berkeley.

Sigurður Helgason Award Fund   *Fall 2021*

The Professor Sigurdur Helgason Award Fund awards annually the top student(s) in the mathematics department at the University of Iceland, typically from the graduating class.

RESEARCH TALKS

Toric degenerations arising from quantum chemistry Oberseminar Algebra/ Discr. Math at University of Osnabrück.   *June 12th 2024*

Algebraic varieties arising from quantum chemistry Optimization Techniques in Quantum Chemistry workshop at RWTH Aachen university.   *June 6th 2024*

Toric degenerations arising from quantum chemistry Seminar on Nonlinear Algebra at MPI for Mathematics in the Sciences, Leipzig.   *May 28th 2024*

CC degree of the Grassmannian Special session on Research in Combinatorics by Early Career Mathematicians at the AMS sectional meeting at SFSU, San Francisco.   *May 4th 2024*

CC degree of the Grassmannian UC Berkeley Combinatorics Seminar, Berkeley.   *Feb. 14th 2024*

Four-Dimensional Lie Algebras Revisited Oberseminar Algebra/ Discr. Math at University of Osnabrück.   *July 4th 2023*

Four-Dimensional Lie Algebras Revisited Algebraic Geometry and Combinatorics Mini-Conference at SFSU, San Francisco.   *March 3rd 2023*

Teaching and Other Experience

Graduate Student Instructor at UC Berkeley   *2023 - present*

- Spring 2024: Math 113, Introduction to Abstract Algebra.
- Fall 2023: Math 54, Linear Algebra and Differential Equations.
- Spring 2023: Math 54, Linear Algebra and Differential Equations.

Internship at PayAnalytics   *2020 - 2022*

Full-time internship during summers, part-time with school. Main responsabilites included programming for the front-, back- ends, and statistical reporting for clients.

Undergraduate Student Instructor at the University of Iceland   *2020-2021*

- Fall 2021: Honors Linear Algebra
- Spring 2021: Probability and Statistics.
- Fall 2020: Mathematical Analysis I.

Technical Skills and Interests

Languages: English (fluent), Icelandic (fluent), Danish (conversational)

Programming: Julia, Macaulay2, Sage, Java, Python, HTML, Javascript, CSS