Curriculum Vitae - Michael S. Ackermann

Virginia Tech
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Education

Virginia Tech

Ph.D. in Mathematics May 2027 (expected)
Advisors: Serkan Gugercin and Steffen W. R. Werner

M.S. in Mathematics May 2022
Thesis: *Frequency-Domain Learning of Dynamical Systems from Time-Domain Data*
Advisor: Serkan Gugercin

B.S. in Mathematics May 2020
Concentration: Applied Computational Mathematics

Professional experience

Year-round intern	Sandia National Laboratories, Fall 2025 - Spring 2026
Computer Science Research Institute internship	Sandia National Laboratories, Summer 2025 and Summer 2026
Data Science Intern	Socially Determined, Summer 2022
Graduate Research Assistant	Virginia Tech, multiple semesters
Graduate Teaching Assistant	Virginia Tech, multiple semesters

Publications

[1] Michael S. Ackermann, Linus Balicki, Serkan Gugercin, and Steffen W. R. Werner. "A refined nonlinear least-squares method for the rational approximation problem". In: *Research in the Mathematical Sciences* 13.4 (2026), p. 82. DOI: 10.1007/s40687-026-00668-1.

[2] Michael S. Ackermann, Victor Ion Gosea, Serkan Gugercin, and Steffen W. R. Werner. "Second-Order AAA Algorithms for Structured Data-Driven Modeling". In: *Advances in Computational Mathematics* 52.5 (2026), p. 76. DOI: 10.1007/s10444-026-10347-y.

[3] Michael S. Ackermann, Sean Reiter, and Lloyd N. Trefethen. "L^2 and L^∞ rational approximation on the unit disk". In: *Research in the Mathematical Sciences* 13.3 (2026). DOI: 10.1007/s40687-026-00650-x.

[4] Michael S. Ackermann and Serkan Gugercin. "Time-domain iterative rational Krylov method". In: *SIAM Journal on Scientific Computing* 47.3 (2025), A1628–A1651. DOI: 10.1137/24M1678167.

[5] Michael S. Ackermann and Serkan Gugercin. "Frequency-based reduced models from purely time-domain data via data informativity". In: *SIAM Journal on Scientific Computing* 47.2 (2025), A1225–A1250. DOI: 10.1137/23M1624130.

[6] Michael S. Ackermann, Pavel Bochev, and Denis Ridzal. "Towards a reduced model for hyperbolic partial differential equations". Technical report SAND2025-14267O. 3-16. Albuquerque, New Mexico: The Computer Science Research Institute at Sandia National Laboratories, 2025.

Awards

- Lee R. Steeneck and Regina Aultice Steeneck Graduate Scholarship, August 2026. Scholarship is awarded by the Department of Mathematics for one year, total amount awarded is $6,500
- Simons Dissertation Fellowship in Mathematics, *Certified modeling of structured and nonlinear dynamical systems using Hardy measures*, September 2025. Fellowship is for two years, total amount awarded is $38,400
- Lee R. Steeneck and Regina Aultice Steeneck Graduate Scholarship, June 2025. Scholarship is awarded by the Department of Mathematics for one year, total amount awarded is $6,300
- Travel grant to attend Householder Symposium XXII, Ithaca, New York, 2025
- Travel grant to attend ICERM Workshop on Computational Learning for Model Reduction, Providence, Rhode Island, 2025
- Travel grant to attend Model Reduction and Surrogate Modeling (MORe2024), La Jolla, California, 2024
- Travel grant to attend Young Mathematicians in Model Order Reduction Conference, University of Stuttgart, 2024

External Presentations

1. Young Mathematicians in Model Order Reduction Conference, Virginia Tech, Blacksburg, Virginia, 2026
2. 27th Conference of the International Linear Algebra Society, Virginia Tech, Blacksburg, Virginia, 2026 (invited minisymposium talk)
3. Sayas Numerics Day, University of Maryland, College Park, Maryland, 2026
4. Association of Women in Mathematics symposium on mathematical excellence, Virginia Tech, Blacksburg, Virginia, 2026
5. Joint Mathematics Meetings, Washington, D. C., 2026 (invited minisymposium talk)
6. Householder Symposium XXII, Ithaca, New York, 2025 (poster)
7. Challenges, Opportunities, and New Horizons in Rational Approximation, Banff International Research Station, Alberta, Canada, 2025 (invited talk)
8. ICERM Workshop on Computational Learning for Model Reduction, Providence, Rhode Island, 2025 (invited poster)
9. SIAM Modeling and Data Science, Atlanta, GA, 2024 (poster)
10. Model Reduction and Surrogate Modeling (MORe2024), La Jolla, California, 2024
11. Young Mathematicians in Model Order Reduction Conference, University of Stuttgart, 2024
12. Mid-Atlantic Numerical Analysis Day, Temple University, 2023
13. SIAM Computational Sciences and Engineering, Amsterdam, Netherlands, 2023 (invited minisymposium talk)
14. SIAM Modeling and Data Science, San Diego, CA, 2022 (invited poster)

Internal Seminar Presentations

1. Applied Numerical Analysis Seminar, Virginia Tech, Spring 2026
2. Applied Numerical Analysis Seminar, Virginia Tech, Fall 2025
3. Applied Numerical Analysis Seminar, Virginia Tech, Fall 2024
4. Applied Numerical Analysis Seminar, Virginia Tech, Fall 2023
5. Applied Numerical Analysis Seminar, Virginia Tech, Spring 2022
6. Applied Numerical Analysis Seminar, Virginia Tech, Fall 2021

7. Applied Numerical Analysis Seminar, Virginia Tech, Spring 2021

Teaching experience

- MATH 2114: Introduction to Linear Algebra
- MATH 1225: Calculus of a Single Variable
- CMDA 4864: Computational Modeling and Data Analytics Capstone (Project coach)

Synergistic activities

Virginia Tech SIAM Student Chapter Leadership	Vice President	2022, 2025
	President	2023
	Treasurer	2024
Mathematics Department Graduate Student Organization	Board Member	2025
Mathematics Department Directed Reading Program	Mentor	Fall 2024
Virginia Tech Graduate and Professional Student Senate	Travel Fund Application Reviewer	Fall 2024
Mathematics Department Applied Numerical Analysis Seminar	Organizer and Moderator	Fall 2023

Conference Organization

- Chair of organizing committee for the conference: Fifth Annual Young Mathematicians in Model Order Reduction, Virginia Tech, May 25-29, 2026. Co-organizers: Michael S. Ackermann, Sam Bender, Jordan Jackson, Reetish Padhi, Sean Reiter, and Cankat Tilki