

Spencer Leslie

CONTACT INFORMATION	Boston College, Department of Mathematics	spencer.leslie@bc.edu spencerleslie.com
RESEARCH INTERESTS	Automorphic forms and representations, Trace formulas, periods of automorphic forms	
ACADEMIC POSITIONS	• Associate Professor, Boston College • From July 2026–Present • Assistant Professor, Boston College • July 2022–June 2026 • William W. Elliott Assistant Research Professor, Duke University, • Fall 2018– Spring 2022. • supported as an NSF Postdoctoral Fellow, Fall 2019–Spring 2022	
EDUCATION	Boston College , Chestnut Hill, MA Ph.D., Mathematics, May 2018 • Advisor: Solomon Friedberg M.S., Mathematics, August 2015 • Advisor: Solomon Friedberg Liberty University , Lynchburg, VA B.S., Mathematics , May 2013 • <i>Summa Cum Laude</i>	
PUBLICATIONS	• The endoscopic fundamental lemma for unitary Friedberg-Jacquet periods, Spencer Leslie, <i>Annals of Mathematics</i> (2) 201 (3), 551-645 (2025). • Modular forms of half-integral weight on exceptional groups, Spencer Leslie and Aaron Pollack, <i>Compositio Mathematica</i> 160 (2024), 657–707. • Harmonic analysis on certain spherical varieties, Jayce Getz, Chun-Hsien Hsu, and Spencer Leslie, <i>J. Eur. Math. Soc.</i> 27 (2025), no. 2, 433–541. • A fundamental lemma for the spherical Hecke algebra: The Jacquet-Rallis case, Spencer Leslie, <i>Journal of Number theory</i> Volume 243, 475-494, (2023). • On the stabilization of relative trace formulae: descent and the fundamental lemma, Spencer Leslie, <i>Advances in Mathematics</i>, Paper No. 108026, 68 pages (2021). • An analogue of the Grothendieck–Springer resolution for symmetric spaces, Spencer Leslie, <i>Algebra & Number Theory</i>, Vol. 15 (2021), No. 1, 69–107. • Resonant Mirković–Vilonen polytopes and formulas for highest weight characters, Spencer Leslie, <i>Selecta Mathematica New Ser.</i> vol. 25, article 41, 50 pages (2019).	

	• Parity sheaves and Smith theory, Spencer Leslie and Gus Lonergan, <i>J. für die Reine und Angew. Math.</i> (Crelle's Journal) vol. 2021, no. 777, 2021, pp. 49-87. • A generalized theta lifting, CAP representations, and Arthur parameters, Spencer Leslie, <i>Trans. Amer. Math. Soc.</i> 372 (2019), pp. 5069-5121.
SUBMITTED PREPRINTS	• Triple product L-functions and the fiber bundle method, • Jayce Getz, Miao (Pam) Gu, Chun-Hsien Hsu, and Spencer Leslie, • arxiv:2503.21648, 89 pages (2025). • Unitary Friedberg–Jacquet periods and their twists: Relative trace formulas, • Spencer Leslie, Jingwei Xiao, and Wei Zhang, • arxiv:2503.09664, 64 pages (2025). • Unitary Friedberg–Jacquet periods and their twists: Fundamental Lemmas, • Spencer Leslie, Jingwei Xiao, and Wei Zhang, • arxiv:2503.09500, 100 pages (2025). • Symmetric varieties for endoscopic groups, • Spencer Leslie, • arxiv:2401.09156, 120 pages (2024).
PAPERS IN PREPARATION	• A Poisson Summation formula for a family of Whittaker inductions, joint with Jayce Getz, Chun-Hsien Hsu, and Miao (Pam) Gu. • Unitary Friedberg–Jacquet periods and arithmetic fundamental lemmas, joint with Jingwei Xiao and Wei Zhang. • Endoscopy and the fundamental lemma for twisted unitary Friedberg–Jacquet varieties, joint with Thomas Hameister.
GRANTS	• NSF CAREER Grant DMS-2440741 2025-2030 • Total amount: \$449,711.00 • NSF Standard Grant DMS-2200852 2022-2025 • Total amount: \$161,716.00 • NSF Mathematical Sciences Postdoctoral Research Fellowship 2019-2022 • Total amount: \$150,000.00 • AMS–Simons Travel Grant 2018-2021 • Total amount: \$4,000.00
HONORS AND AWARDS	• Sloan Research Fellowship, Simons Foundation 2026-2028 • Total amount: \$75,000.00 • Von Neumann Fellowship, Institute for Advanced Study 2026-2027 • Pi Mu Epsilon mathematics honor society 2014

	• Wooldridge Merit Fellowship Award for Excellence in Mathematics 2013 • Mathematics Student of the Year: Liberty University, 2013
CONFERENCE ORGANIZATION	• AMS Special Session: Spring Sectional Meeting March 2026 • Session title: Automorphic Forms • co-organized with Solomon Friedberg, Omer Offen, Sug Woo Shin, and Wei Zhang. • 7th Nisyros conference on Automorphic representations & related topics July 2025 • Title: On Trace Formulas • co-organized with Raphael Beuzart-Plessis, Wee Teck Gan, and Yiannis Sakellaridis. • AMS Special Session: Spring Sectional Meeting April 2024 • Session title: Automorphic Forms and Trace Formulae • co-organized with Yiannis Sakellaridis and Ngo Bao Chau. • AMS Special Session: Fall Central Sectional Meeting October 2023 • Session title: Problems related to automorphic forms, with an eye toward computation • co-organized with Aaron Pollack. • AMS Special Session at Joint Math Meetings January 2023 • Session title: Automorphic Forms and Representation Theory • co-organized with Solomon Friedberg. • AMS Special Session: Virtual event Spring 2021 • Session title: Recent progress in Automorphic Representation Theory • co-organized with Tian An Wong.
PROFESSIONAL SERVICE	• NSF grant review panelist 2023 • Masterclass on Relative trace formulae, University of Copenhagen (August 22-26, 2022) • Program assistant for Jayce Getz • Held problem sessions for graduate students. • Arizona Winter School: Automorphic forms beyond $GL(2)$ Spring 2022 • Project Assistant: Modular forms on exceptional groups • Dissertation Defense Committee Member • Murilo Corato Zanarella (MIT) (Spring 2024) • Danielle Wang (MIT) (Spring 2024) • Reviewer for • MathReviews by the American Mathematical Society

- Zentralblatt MATH.

DEPARTMENTAL
AND UNIVERSITY
SERVICE

- **Morrissey College of Arts and Sciences Graduate Educational Policy Committee (BC)**, elected Spring 2025 2025-2028
- **First-year math graduate student seminar organizer (BC)** 2024-ongoing
- **Distinguished lecture series committee member (BC)** 2023-2024
- **BC-MIT Number theory seminar organizer** 2023-current
- **Number theory/representation theory seminar organizer (BC)** 2022-current
- **Association of Women in Mathematics mentor (Duke)** 2021- 2022
- **Honors senior thesis advisor** Fall 2020-Spring 2021
 - Lucas Fagan (Duke University)
 - Thesis title: *Schur Polynomials and Crystal Graphs*
- **Graduate Bootcamp Panel (Duke)** panelist August 2020
- **Number theory seminar (Duke)** Spring 2019-Fall 2021
- **Graduate assistant for mathematics instruction (BC)** Spring 2018
 - Held bi-weekly tutoring sessions for statistics students
 - coordinated with teaching faculty and Nursing department administration.
- **Mathematics graduate association president (BC)** Fall 2016-Spring 2017
- **Graduate student teaching mentor (BC)** Fall 2016
- **Prospective grad student committee member (BC)** Spring 2016

REFEREING

International Mathematics Research Notices, Documenta Mathematica, Compositio Mathematica, Canadian Journal of Mathematics, Annales scientifiques de l'École normale supérieure, Journal of Number Theory, Journal of Functional Analysis, Asterisque, Acta Mathematica, Memoirs of the AMS.

INVITED
LECTURES AND
WORKSHOPS

- **Relative Langlands and Arithmetic Conference**, invited conference speaker, CIRM, Marseille, France (February 23-27, 2026)
- **Workshop on the Relative Langlands Program**, Institute for Mathematical Sciences, National University of Singapore (December 18, 2025–January 17, 2026).
 - Invited to give 3–5 lectures during the Winter school component of the program.
- **Departmental colloquium lecture and seminar**, University of Minnesota, Minneapolis, MN (November 13–14, 2025).
 - Invited to give colloquium lecture to department

- also invited to speak in Arithmetic and Representation Theory seminar.
- **Automorphic Forms and Representation Theory: current trends**, invited speaker, Tulane University, New Orleans, Louisiana (October 5-6, 2025)
- **Eisenstein Series, Spaces of Automorphic Forms, and Applications**, invited speaker, Workshop at ESI, University of Vienna (September 1-5, 2025).
- **Nisyros Conference on Automorphic forms and related topics**, Nisyros, Greece (July 13, 2025–July 18, 2025).
 - Invited to give 2 lecture mini-course on my work in endoscopy,
 - A third talk on related joint work given by my collaborator Wei Zhang.
- **POSTECH–PMI Number Theory Seminar**, invited virtual lecture, (November 8, 2024)
- **Automorphic Forms and Arithmetic Seminar**, Columbia University, (September 6, 2024)
- **Harish-Chandra Lecture series: Applications to representation theory**, invited lecture in special year at Bhaskaracharya Pratishthana and IISER Pune, Pune, India (July 2024)
- **Summer School and Workshop on Relative Langlands Duality**, Summer school at University of Minnesota, Twin cities, MN (June 4-8, 2024)
- **Princeton–IAS number theory seminar**, Princeton, NJ (May 2, 2024)
- **Arithmetic Quantum Field Theory Conference**, invited conference speaker, Harvard CMSA, Cambridge, MA (March 26-29, 2024)
- **University of Chicago Number theory seminar**, University of Chicago, Chicago, IL (March 7, 2024)
- **Arithmetic intersection theory on Shimura varieties**, AIM workshop at Caltech, Pasadena, CA (January 8-12, 2024)
- **Lie Groups seminar**, MIT, Cambridge, MA (December 6, 2023)
- **Number theory seminar**, MIT, Cambridge, MA (November 7, 2023)
- **New connections between physics and number theory**, invited conference speaker, Pollica Physics Centre, Italy (June 5-16, 2023)
- **The Hitchin system, Langlands duality and mirror symmetry**, invited workshop speaker, Instituto de Ciencias Matemáticas, Madrid (April 24-29, 2023)
- **POSTECH-PMI Number Theory Seminar**, virtual lecture, (October 28, 2022)
- **Harvard Number Theory Seminar**, Harvard University, Cambridge, MA (November 2, 2022)
- **Basic functions, Orbital integrals, and Beyond endoscopy**, BIRS workshop,

Banff (November 15-19, 2021)

- **The Mathematics Colloquium at Rutgers-Newark**, Rutgers University-Newark, Newark, New Jersey (November 10, 2021)
- **Relative aspects of the Langlands program, L-functions, and Beyond endoscopy**, CIRM (May 26, 2021)
- **Ngô's geometric representation theory seminar**, University of Chicago (virtual) (April 8, 2021)
- **Automorphic project and research seminar**, research talk on relative endoscopy, (March 26, 2021)
- **Automorphic project and research seminar**, background talk on prestabilization (March 19, 2021)
- **Representations of Reductive groups seminar**, L'Institut de Mathématiques de Marseille, Marseille, France (February 25, 2021)
- **Algebraic Geometry–Representation Theory seminar**, Weizmann Institute of Science, Rehovot, Israel (October 14, 2020)
- **Hebrew University–Ben Gurion University Algebraic geometry/Number theory seminar**, Zoom lecture (April 27, 2020)
- **Group, Lie, and Number Theory seminar**, University of Michigan, Ann Arbor, Michigan (February 24, 2020).
- **Automorphic forms and Arithmetic seminar**, Columbia University, New York, New York (February 7, 2020).
- **BU–Keio University Workshop: Number theory**, Boston University, Boston, MA (June 24-28, 2019).
- **Recent Developments in Automorphic Forms**, University of Hawaii at Manoa in Honolulu, Hawaii (March 22-24, 2019).
- **Geometric methods in Representation Theory Seminar**, University of North Carolina, Chapel Hill, North Carolina (January 25, 2019).
- **Number Theory Seminar**, Duke University, Durham, North Carolina (November 14, 2018).
- **Automorphic forms on reductive groups and their covers: A conference in honour of Solomon Friedberg**, ETH Zürich, Switzerland (June 25-28, 2018).
- **Junior Number Theory Days**, Rutgers University-Newark, Newark, New Jersey (November 17-18, 2017).
- **Number Theory Seminar**, Duke University, Durham, North Carolina (October 11, 2017).
- **Representation Theory Seminar**, University of Massachusetts-Amherst, Amherst,

Mass. (October 2, 2017).

- **Invited Graduate Student Speaker**, Palmetto Number Theory Series (PANTS), University of Tennessee (Knoxville), Knoxville, Tennessee (September 16-17, 2017).
- **Special Session on Real-Analytic Automorphic Forms**, University of North Texas, Denton, Texas (September 9-10, 2017).
- **Number Theory Seminar**, National University of Singapore, Singapore (August 10-17, 2017).

MENTORING

- **Graduate students**
 - Siddharth Mahendrakar (Boston College) (estimated graduation: Spring 2026)
 - co-advised with Sol Friedberg
 - Yuzheng Yan (Boston College)
- **Postdoctoral researchers**
 - Thomas Hameister (Boston College) 2024-Present
- **PRUV Mentor for undergraduate research project (Duke)** Summer 2020
 - Met weekly with advanced undergraduate,
 - taught mini-courses in algebraic number theory and representation theory,
 - mentored computational and theoretical research project
- **Graduate student mentor: Chung-Ru Lee (Duke)** Fall 2018- Spring 2021
 - Meet weekly to discuss student's research
 - Provide advising support
- **Private weekly tutoring with advanced special-needs high school student** Fall 2016-Spring 2018

TEACHING EXPERIENCE

Boston College

MATH 8821 - Number theory I	Fall 2025
MATH 8885 - Topics in Representation theory	Spring 2024
MATH 1103 - Calculus II (two sections)	Fall 2023
MATH 2216 - Introduction to Abstract Mathematics	Spring 2023
MATH 2216 - Introduction to Abstract Mathematics	Fall 2022
MATH 1101 - Calculus I	Summer 2018
MATH 1004 - Finite Probability	Spring 2018
MATH 1180 - Principles of Statistics for the Health Sciences	Spring 2017
MATH 1180 - Principles of Statistics for the Health Sciences	Spring 2016

MATH 1100 - Calculus I	Fall 2015
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MATH 1101 - Calculus II	Spring 2015
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Duke University

MATH 218D- Linear algebra: with focus on applications	Fall 2021
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MATH 401- Abstract Algebra	Fall 2020
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MATH 216 - Linear algebra and Differential equations	Summer 2019
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MATH 222 - Advanced Multivariable Calculus	Spring 2019
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MATH 212 - Multivariable Calculus	Fall 2018
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