Tatiana Abdelnaim

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Education

2021-Present **Ph.D in Mathematics**, *University of Oklahoma*
Advisor: Peter Patzt

2019-2021 **M.S. in Mathematics**, *American University of Beirut*
Advisor: Hazar Abu-Khuzam
Thesis Title: Structure of certain rings with conditions on nonperiodic elements and certain Von-Neumann Π-regular rings with prime centers

2015-2018 **B.S. in Mathematics**, *Lebanese University*

Research Papers

1. **Double Steinberg coinvariants for special linear groups**, with David Chan, Alexander Kupers, Robin J. Sroka, and Matthew Scalamandre, arxiv:2609.39991
2. **Codimensions one and two cohomology of Hecke congruence subgroups** (submitted), with Jeremy Miller, arXiv:2606.23519
3. **Top-dimensional rational cohomology of the congruence subgroup $\Gamma^{+}_{0,n}(p)$** (submitted), arXiv:2605.23526

Honors, Awards, and Fellowships

University of Oklahoma:

2026
- **MGSA Good Mentor Award**
- **Thomas J. Hill Graduate Fellowship in Mathematics**
- **T. Jay Thompson Scholarship Award**
- **Armstrong Memorial Scholarship Award**
- **SHS-OG&E Energy Corp Scholarship Award**
- **Dodge Family Completion Fellowship Award**
- **Dodge Family College of Arts and Sciences Travel Assistance Program**

2025
- **David and Judi Proctor Scholarship**
- **Robert Lee Loshbough Endowed Scholarship Fund**
- **Arts and Sciences - 31171**
- **Dodge Family College of Arts and Sciences Travel Assistance Program**

2024
- **Summer Graduate Fellowship**
- **Dodge Family College of Arts and Sciences Travel Assistance Program**

2023
- **Conrad and Ellen Masterson Fellowship in Mathematics**
- **Dodge Family College of Arts and Sciences Travel Assistance Program**

2022 **C. Eugene Springer Mathematics Scholarship**

2021-2025 **Fellowship from the Mathematics department**

2021-Present **Graduate Teaching Assistantship**

American University of Beirut:

2029-2021 **Graduate Assistantship**

Research Talks

Upcoming Talks

Jan. 2027 Algebra Seminar, University of California San Diego

Invited Talks

May 2026 **Cohomology of congruence subgroup** $\Gamma_{0,n}(p)$, *International Seminar on Quantization, Geometry, and Dynamics, University of Texas Rio Grande Valley (virtual)*

Apr. 2026 **Top-dimensional cohomology of congruence subgroup** $\Gamma_{0,n}(p)$, *Topology seminar, Purdue University*

Feb. 2026 **Top-dimensional cohomology of congruence subgroup** $\Gamma_{0,n}(p)$, *Topology seminar, University of Michigan*

Jul. 2025 **Double Steinberg Coinvariants**, *Scissors Congruence and K-theory Conference, University of Pennsylvania*

Contributed Talks

Aug. 2026 **Cohomology of Hecke congruence subgroups** (lightning talk), *Summer 2026 Wasatch Topology Conference, Utah*

Jun. 2026 **On the rational (co)homology of Hecke congruence subgroup**, *Topology Students Workshop, Vanderbilt University*

Oct. 2025 **Top-dimensional rational cohomology of the congruence subgroup** $\Gamma_{0,n}(p)$, *Geometry and Topology Seminar, University of Oklahoma*

Poster Presentations

Jan. 2027 **Rational (co)homology of Hecke congruence subgroups**, *AWM Graduate Student Poster Session; Joint Math Meeting; Chicago, IL*

Oct. 2025 **Top-dimensional rational cohomology of the congruence subgroup** $\Gamma_{0,n}(p)$, *Perspectives on the cohomology of general linear groups, University of Münster*

Expository Talks

Nov. 2025 **Borel–Serre duality**, *Student Topology Seminar, University of Oklahoma*

Nov. 2023 **High Dimensional Cohomology of Arithmetic Groups**, *The 2023 Binghamton University Graduate Combinatorics, Algebra, and Topology Conference, Binghamton University*

Dec. 2022 **Introduction to Spectral Sequences**, *Student Presentation Seminar, University of Oklahoma*

Teaching Experience

Instructor of Record:

SP26 **Differential & Integral Calculus II (HONORS)**, *University of Oklahoma*

FA25 **Functions and Modeling for Business, Life and Social Sciences. (large section $\sim$ 80 students)**, *University of Oklahoma*

SP24 **Calculus I for Business, Life and Social Sciences**, *University of Oklahoma*

FA23 **Functions and Modeling for Business, Life and Social Sciences.**, *University of Oklahoma*

SU23 **Calculus & Analytics Geometry IV**, *University of Oklahoma*

SP23 **Functions and Modeling for Business, Life and Social Sciences.**, *University of Oklahoma*

SU22 **Calculus & Analytics Geometry I**, *University of Oklahoma*

Discussion Leader:

SP25 **Differential & Integral Calculus II (HONORS)**, *University of Oklahoma*

FA24 **Differential & Integral Calculus II (HONORS)**, *University of Oklahoma*

FA22 **Differential & Integral Calculus I**, *University of Oklahoma*

SP22 **Calculus and Analytics Geometry I**, *University of Oklahoma*

Grader:

SP25 **Topology II**, *University of Oklahoma*

FA24 **Topology I**, *University of Oklahoma*

FA22 **Introduction to Analysis I**, *University of Oklahoma*

FA21 **Calculus & Analytics Geometry IV**, *University of Oklahoma*

FA21 **Differential & Integral Calculus III (HONORS)**, *University of Oklahoma*

FA20 **Rings & Modules I**, *American University of Beirut*

FA19, SP20 **Introduction to Analysis I**, *American University of Beirut*

Service and Outreach

University of oklahoma:

2025-2026 **Treasurer of the University of Oklahoma AWM Chapter**

Spring 2025 **Mentor, Directed Reading Program**, On the Proof of Abel and Ruffini

2024–2025
- **Graduate Student Senate**
- **Outreach of the University of Oklahoma AWM Chapter**
- **Co-organizer of the University of Oklahoma Graduate Math Fest** (an annual Graduate Student Conference at the University of Oklahoma)

2023-2024
- **Co-founder & President of the University of Oklahoma AWM Chapter**
- **Co-founder of the AWM Mentorship Program for undergraduate students**
- **Secretary of the Math Graduate Student Association**

2022-2023 **Member of the Graduate Advocacy Committee**

Conferences and Workshops attended

Jul. 2026	**Algebraic structures in topology**, *University of Puerto Rico, Río Piedras*
May. 2026	**Configuration spaces summer school**, *University of Michigan*
Jun. 2025	**Polylogarithms, homology of linear groups, and Steinberg modules**, *SwissMAP Research*, Station in Les Diablerets
May. 2025	**Summer school: Homological aspects of groups and their classifying spaces**, *SwissMAP Research*, Station in Les Diablerets
Feb. 2025	**Redbud Topology Conference Spring 2025**, *University of Arkansas*
Jul. 2024	**Collaborative Workshop in K-theory and Scissors Congruence**, *Vanderbilt University*
Oct. 2023	**The South Central Topology Conference II**, *New Mexico State University*
Oct. 2023	**Redbud Topology Conference Fall 2023**, *University of Arkansas*
Jul. 2023	**Stability in Topology, Arithmetic, and Representation Theory 2023**, *Purdue University*
Jun. 2023	**Master class : Homology of groups and functors**, *Université de Lille*
April 2023	**Redbud Topology Conference Spring 2023**, *University of Oklahoma*
Feb. 2023	**The South Central Topology Conference II**, *Texas State University*
Nov. 2022	**The 2022 Binghamton University Graduate Combinatorics, Algebra, and Topology Conference**, *Binghamton University*
Oct. 2022	**Redbud Topology Conference Fall 2022**, *University of Arkansas*
April 2022	**Texas-Oklahoma Representations and Automorphic forms XI**, *Oklahoma State University*