Hayden Hunter

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Education

Advancement to PhD Candidacy, University of Florida
Spring 2022

Expected time of graduation
Spring 2024

Masters of Science in Mathematics, summa cum laude, University of Florida, Gainesville, FL.
August 2019-May 2022

Bachelors of Arts in Mathematics, summa cum laude, University of South Florida, Tampa, FL
August 2015-December 2018

Awards and Scholarships

Chat Yin Ho Scholarship Award - $2,000
April 2023

Bright Futures, Awarded by the State of Florida
August 2015 - December 2018

Research Experience for Undergrads (REU), University of South Florida
Summer 2018

Talks

1. **"On Higher Dimensional Milnor Frames"** - Symmetry and Geometry in South Florida - *February 2024*

2. **"On Higher Dimensional Milnor Frames"** - UF/FSU Topology and Geometry Meeting - *November 2023.*

3. **"On Higher Dimensional Milnor Frames"** - Geometry and Topology Seminar, University of Oklahoma, Norman, OK - *April 2023.*

4. **"On Higher Dimensional Milnor Frames"** - AMS Southeastern Sectionals, Atlanta, GA - *March 2023.*

5. **"On Higher Dimensional Milnor Frames "** - Topology and Dynamics Seminar, University of Florida, Gainesville, FL - *February 2023.*

6. **"A Brief Introduction to Differential Geometry and Minimal Surfaces"** - Graduate Seminar Series, University of South Florida, Tampa, FL - *June 2020.*

7. **"Subgraph Removal of 4-Regular Graphs and Changes in Genus Ranges"** - Fiftieth Southeastern International Conference on Combinatorics, Graph Theory, and Computing (SEICCGTC), Boca Raton, FL - *March 2019*

8. **"Subgraph Removal of 4-Regular Graphs and Changes in Genus Ranges"** - Suncoast Regional FL-MAA Meeting, USF St. Petersburg, St. Petersburg, FL - *December 2018*

Graduate Student Topology Seminar at the University of Florida

9. **"Uniqueness of Ricci Nilsolitons"** - *January 2023*

   An introduction to Ricci Solitons on nilpotent Lie Groups following Lauret's paper *"Ricci soliton homogeneous nilmanifolds".*

10. **"Classification of Simply Connected Lie Groups with One Left-Invariant Metric up to Isometry and Scaling"** - *October 2022*

    "Degenerations of Lie Algebras and geometry of Lie Groups".

11. **"Curvatures of Lie Groups"** - *November 2021*

    A talk on Milnor's *"Curvature of Left Invariant Metrics on Lie groups".*

12. **"A Proof of Jordan Curve Theorem using Kurwatowski's Theorem of Planar Graphs"**-*March 2020*

    A proof of Jordan Curve Theorem through the use of planar graphs.

Papers

"On Higher Dimensional Milnor Frames". https://arxiv.org/abs/2303.07132[math.DG] V3. (2023) [Accepted for publication on the Journal of Lie Theory]

(With Natasa Jonoska & Masahico Saito) *"Changes in Genus Ranges of 4-Regular Graphs by Insertions of Certain Subgraphs"*. Congressus Numerantium 232 (2019) pp.165-188. https://par.nsf.gov/servlets/purl/10274715

Courses Taken

Summer 2023 - MAT7980 - Doctoral Research

Spring 2023 - MAT6932 - Geometric Analysis II

Spring 2023 - MAT7980 - Doctoral Research

Fall 2022 - MAS6331 - Algebra I

Fall 2022 - MAS6331 - Algebra I

Fall 2022 - MAT6932 - Geometric Analysis

Fall 2022 - MAT7980 - Doctoral Research

Summer 2022 - MAT7980 - Doctoral Research

Spring 2022 - MAT7979 - Advanced Research

Spring 2022 - MTG6257 - Differential Geometry II

Spring 2022 - MTG7397 - Spectral Sequences and Topological K-Theory

Fall 2021 - MAP6456 - Partial Differential Equations I

Fall 2021 - MTG6256 - Differential Geometry I

Fall 2021 - MTG7396 - Higher Homotopy Theory

Summer 2021 - MAT 6905 - Differential Geometry with Dr. Luca Di Cerbo

Spring 2021 - MAA6407 - Complex Analysis II

Spring 2021 - MAA6617 - Analysis II

Spring 2021 - MTG6347 - Topology II

Fall 2020 - MAA6406 - Complex Analysis I

Fall 2020 - MAA6616 - Analysis I

Fall 2020 - MTG6346 - Topology I

Summer 2020 - MAT6905 - Category Theory with Dr. Richard Cre

Spring 2020 - MAA5229 - Modern Analysis II

Spring 2020 - MAS5312 - Intro Algebra II

Spring 2020 - MTG5317 - Intro Topology II

Fall 2019 - MAA5228 - Modern Analysis I

Fall 2019 - MAS5311 - Intro Algebra I

Fall 2019 - MTG5316 - Intro Topology I

Overall GPA: *4.0*

Other

Infinite Edge Learning Center/Tutoring - *August 2017 - June 2018*
Tutored mathematics to Middle/High Schoolers. Subjects varied from Algebra I to Vector Calculus.

Academic Success Center at USF/Tutoring - *August 2016 - December 2018*
Tutored Mathematics to undergraduate students. Subjects varied from Calculus I - Calculus III as well as Physics I and II.

CRLA Certified Tutor Training I and II