

ANDREI PAVELESCU

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EDUCATION

PH.D. in Mathematics, University of Southern California,
Los Angeles, CA *Group Theory* May 2012
Master of Philosophy, Mathematics, University of Pennsylvania,
Philadelphia, PA *Algebraic Number Theory* May 2006
Master of Arts, Mathematics, Johns Hopkins University,
Baltimore, MD May 2003
Bachelor of Science, Mathematics, University of Bucharest,
Bucharest, Romania June 2002

WORK EXPERIENCE

Associate Professor, University of South Alabama
Mobile, AL 40 hours per week August 2022- Present
Assistant Professor, University of South Alabama
Mobile, AL 40 hours per week August 2015- August 2022
Visiting Assistant Professor, Oklahoma State University
Stillwater, OK 40 hours per week August 2012-May 2015
Teaching Assistant, University of Southern California
Los Angeles, CA 20 hours per week August 2007-May 2012
Teaching Assistant, University of Pennsylvania
Philadelphia, PA 20 hours per week September, 2003-May 2006
Teaching Assistant, Johns Hopkins University
Baltimore, MD 20 hours per week September 2002-May 2003

HONORS/AWARDS

- Alabama Space Grant Consortium – ALSGC November 2021-July 2022
- Summer Professional Development Award, University of South Alabama Summer 2021
- Alabama Space Grant Consortium – ALSGC November 2020-July 2021
- DMS 1702001 NSF Conference Grant 2017
- Merit Fellowship, University of Southern California Spring 2008
- Top-Off Fellowship, University of Southern California August 2007- August 2009
- “Good Teaching Award”, Department of Mathematics,
University of Pennsylvania Fall 2005

PUBLICATIONS - Graph Theory, Topology, Group Theory, Ring Theory

1. Andrei Pavelescu and Elena Pavelescu, Complements of Non-Separating Planar Graphs, *Algebraic & Geometric Topology*, accepted for publication, August 2022
2. Leonard Fowler, Gregory Li, Andrei Pavelescu, Complete minors in complements of non-separating planar graphs, *Involve*, accepted for publication, July 2022
3. Andrei Pavelescu and Elena Pavelescu, An infinite family of linklessly embeddable Tutte-4-connected graphs, *Graphs and Combinatorics* 38, 96 (2022).
4. Ramin Naimi, Andrei Pavelescu, Elena Pavelescu, New bounds on maximal linkless graphs, *Algebraic & Geometric Topology*, accepted for publication, January 2022
5. Ryan Odeneal and Andrei Pavelescu, Simple graphs of order 12 and minimum degree 6 contain K_6 minors, *Involve*, Vol. 13 (2020), No. 5, 829–843
6. Andrei Pavelescu and Elena Pavelescu, Hadwiger Numbers of Self-complementary Graphs, *Graphs and Combinatorics* 36, 865–876 (2020)
7. Andrei Pavelescu and Elena Pavelescu, The complement of a NIL graph with thirteen vertices is IL, *Algebraic & Geometric Topology* 20 (2020) 395–402
8. Ramin Naimi, Andrei Pavelescu, and Elena Pavelescu, Escher squares and lattice links, *Topology and its Applications* Vol. 256 (2019), 69 – 72
9. Feldvoss, Jörg, Lauren Grimley, Drew Lewis, Andrei Pavelescu, and Cornelius Pillen, eds. *Advances in Algebra: SRAC 2017*, Mobile, Alabama, USA, March 17-19. Vol. 277. Springer, 2019.
10. Andrei Pavelescu, Derangements in cosets of primitive permutation groups, *J. Group Theory* 18 (2015), no. 1, 143 – 154.
11. Andrei Pavelescu, Some Maximal Commutative Subrings of $M_n(D)$, *Communications in Algebra* Vol. 41 (2013), Iss. 8, 3032 – 3034

Submitted

1. Ryan Odeneal, Ramin Naimi, Andrei Pavelescu, Elena Pavelescu, The complement problem for linklessly embeddable graphs, <https://arXiv.2108.12946> (submitted)
2. Thomas Mattman, Ramin Naimi, Andrei Pavelescu, Elena Pavelescu, Intrinsically knotted graphs with linklessly embeddable simple minors, <https://arXiv.2111.08859>(submitted)

Work in progress

1. William Howton, Ryan Odeneal, Andrei Pavelescu, The Jørgensen Conjecture for graphs of order 13
2. Thomas Mattman, Ramin Naimi, Andrei Pavelescu, Elena Pavelescu, On the intrinsic knottedness of graphs and their complements
3. Gregory Li, Andrei Pavelescu, The Jørgensen Conjecture for graphs of order 14

SERVICE

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| Departmental Honors Program Development Committee | Spring 2021-Present |
| Co-organizer of the Mobile Math Circle | September 2020-Present |
| Member of the Editorial Board, Alabama Journal of Mathematics | February 2020-Present |
| Editor and reviewer, Alabama Journal of Mathematics | February 2020-Present |
| Co-organizer of the 2020 AACTM conference | February 2020 |
| Member/Chair of the Goldwater Scholarship Committee | August 2018-Present |
| Board Member of the AACTM (Vice President since February 2020) | January 2018-Present |
| Reviewer, International Transactions in Operational Research | January 2018-Present |
| Faculty Mentor for the Math Alliance | September 2017-Present |
| Co-organizer of the Southern Regional Algebra Conference | March 2107 |
| Co-organizer of a JMM 2017 Special Session | January 2017 |
| Member of the Faculty Senate, University of South Alabama (Faculty Salary and Benefits Committee, Faculty Handbook Committee) | May 2016-April 2019 |
| Reviewer, Mathematical Reviews | May 2016 -Present |
| Graduate Committee, Maths & Stats Department, | September 2016-Present |
| Curriculum Committee, Maths & Stats Department, | September 2015-August 2016 |
| High School Mathematics Contest Committee, OSU | 2013-2015 |
| Faculty Advisor for the Delta Kappa Epsilon chapter at OSU | 2013-2015 |

STUDENTS

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- Jonathan Herron, Master Student, January 2022-Present
 - Rebecca Clark, Daniel Hodgins, undergraduate students, May 2021-Present
 - Ryan Odeneal, Master Student, August 2019- May 2021
 - Gregory Li, William Howton, Leonard Fowler, Alabama School of Math and Science, undergraduate research May 2019-May 2021
 - Andrew Noel, Oklahoma State University, undergraduate thesis, May 2014

SELECTED TALKS

Gave over 35 invited research presentations at international, national, and local conferences.

- “Intrinsic properties of graphs and their complements”, Commutative Algebra and Combinatorics Seminar, The Institute of the Romanian Academy June 2022
- “Minor Minimal Intrinsically Knotted Graphs and the Colin de Verdière Invariant”, the 17th Chico Topology Conference April 2022
- “Searching for Minor Minimal Intrinsically Knotted Graphs”, the 71st AACTM meeting March 2022
- “Topological Properties of Graphs and Their Complements”, AMS Special Session for Developments in Spatial Graphs, Joint Mathematics Meetings January 2021
- “Topological Properties of Graphs and Their Complements”, The Trojan Math Seminar, Troy University September 2020

- “Topological Properties of Maximal Linklessly Embeddable Graphs”, 7th Annual Mississippi Discrete Math Workshop, University of Mississippi, October 2019
- “Intrinsic linking in (self complementary) graphs”, The 9th Congress of Romanian Mathematicians, Galati, Romania July 2019
- “The Complement of a Linklessly Embeddable Graph With at Least Thirteen Vertices is Intrinsically Linked”, 31st Cumberland Conference on Combinatorics, Graph Theory and Computing, University of Central Florida May 2019
- “Hadwiger numbers of self-complementary graphs”, AMS Sectional Meeting, Auburn University, Auburn, AL March 2019
- “Primitive Groups and Fixed Point Free Elements”, Colloquium, Georgia Southern University March 2017
- “The Proportion of Derangements in Cosets of Primitive Groups”, Commutative Algebra Seminar, The Institute of the Romanian Academy May 2016

CONFERENCES/WORKSHOPS ATTENDED

Attended over 40 conferences and workshops on topics including number theory, group theory, commutative algebra, topology, graph theory, and the mathematics of redistricting.

- The Southern Coalition for Social Justice’s Crowd Academy Workshop August 2020
- The 70th Annual Meeting of the AACTM (Alabama Association of College Teachers of Mathematics) February 2020
- Southern Regional Algebra Conference, UL Lafayette April 2019
- “Geometry of Redistricting”, University of Wisconsin, Madison October 2017
Trained as an expert court witness on gerrymandering
- AMS Joint Meetings, Atlanta, GA January 2017
- Finite Simple Groups: Thirty Years of the Atlas and Beyond, Princeton University, Princeton, NJ November 2015
- Simple Groups, Representations and Related Topics, University of Cambridge, Cambridge, United Kingdom July 2015
- Fall Red Bud Conference, University of Arkansas, Fayetteville, AR November 2014
- IAS/PCMI Summer School on Geometric Group Theory, Park City, UT July 2012
- Southwestern Group Theory Day, Tucson, AZ November 2011
- Southern California Number Theory Day, Irvine, CA October 2011
- Algebraic Properties of Profinite Groups, Oberwolfach, Germany June 2011

LANGUAGES

English, Italian, French, Romanian

SOFTWARE AND TEACHING ENVIRONMENTS

C++ CIS 210 Introduction to C++ Programming, Spring 2017 Audit

CSC 231 Introduction to Data Structures and Algorithms, Fall 2017 Grade: A

Maple, Matlab, Mathematica

Microsoft Office, Blackboard, Webassign, WeBWorK, My Lab Math

Wrote C++ code to find complete minors in large lists of graphs. Used Mathematica to parallel process and find large lists of linklessly embeddable graphs. Used Python code and the parallel processing capabilities of the Alabama Super Computer to produce lists of K_6 -minor free graphs.