

Joint Mathematics Meetings 2017
Presentations by REUF Alumni and Students

Wednesday, January 4, 2017

MAA Panel

[Refocusing Your Career: Making Time and Space](#)

8 a.m. – 9:20 a.m.,

- **Gizem Karaali (REUF 2009), Pomona College**

MAA General Contributed Paper Session on Graph Theory, I

[Counting cycles in the graphs of overlapping permutations](#)

8 a.m. - 10:55 a.m., Baker, Conference Level, Hyatt Regency

- **John Asplund (REUF 2016), Dalton State College**

MAA General Contributed Paper Session on Graph Theory, I

[Nordhaus-Gaddum bounds for the power domination number of a graph](#)

8:45 a.m., Baker, Conference Level, Hyatt Regency

- **Daniela Ferrero (REUF 2015), Texas State University**

MAA Panel

[Research Support Networks](#)

3:50 p.m. – 5:10 p.m., International 6, International Level, Marriott Marquis

MAA Session on Humanistic Mathematics, I

[Playing Nice in the Math Sandbox: Mathematics in Support of Digital Humanities](#)

4:15 p.m., Courtland, Conference Level, Hyatt Regency

- **Cindy Traub (REUF 2016), Washington University St. Louis**

MAA Session on Humanistic Mathematics, I

[Big, Small, and Nowhere at All: The Nature of Numbers – A Denison Seminar](#)

4:35 p.m., Courtland, Conference Level, Hyatt Regency

- **May Mei (REUF 2014), Denison University**

Thursday, January 5, 2017

AMS Special Session on RE(UF)search on Graphs and Matrices, II

All Day Thursday, Embassy E, International Tower, LL2, Hyatt Regency

- **Organized by: Mary Flagg (REUF 2015), Daniela Ferrero (REUF 2015), & Cheryl Grood (REUF 2012)**

AMS Special Session on Dynamical Systems, I

[Continuum Fibonacci Schrodinger Operators](#)

8 a.m., M301, Marquis Level, Marriott Marquis

- **May Mei (REUF 2014), Denison University**

AMS Contributed Paper Session on Undergraduate Research, II

Research Mentor: **Brian Wissman (REUF 2015), University of Hawaii at Hilo**

[Factorizations, elasticity, and Frobenius numbers of numerical monoids generated by a double arithmetic sequence](#)

8:30 a.m., International A, International Level, Marriott Marquis

- **Seneca Cox & Vanessa Aquirre, University of Hawaii at Hilo**

AMS Special Session on RE(UF)search on Graphs and Matrices, I

[Comparing the large scale structure of Cayley graphs of the group of integers.](#)

8:30 a.m. – 8:50 a.m., Embassy E, International Tower, LL2, Hyatt Regency

- **Violeta Vasilevska (REUF 2015), Utah Valley University**

AMS Special Session on RE(UF)search on Graphs and Matrices, I

[Numerical secondary terms for a conjecture of Cohen and Lenstra](#)

9 a.m., Embassy E, International Tower, LL2, Hyatt Regency

- **Cassie Williams (REUF 2014), James Madison University**

- AMS Special Session on Theory and Applications of Numerical Algebraic Geometry, I
[Improving solutions to fully nonlinear second order elliptic PDEs with numerical algebraic geometry endgame techniques](#)
 9 a.m. – 9:20 a.m., International 4, International Level, Marriott Marquis
 ○ **Job Collins (REUF 2016), West Texas A&M University**
- AMS Special Session on RE(UF)search on Graphs and Matrices, I
[Topological symmetry groups of Mobius ladders](#)
 9:30 a.m. – 9:50- a.m., Embassy E, International Tower, LL2, Hyatt Regency
 ○ **Emille Lawrence (REUF 2012), University of San Francisco**
- AMS Special Session on Discrete Structures in Number Theory, I
[Lattice point visibility on straight and curved lines of sight](#)
 10a.m. – 10:20 a.m., International 9, International Level, Marriott Marquis
 ○ **aBa Mbirika (REUF 2012), University of Wisconsin-Eau Claire**
- AMS Special Session on RE(UF)search on Graphs and Matrices, I
[Faster computation of zero forcing parameters](#)
 10:30 a.m., Embassy E, International Tower, LL2, Hyatt Regency
 ○ **Louis Deaett (REUF 2011), Quinnipiac University**
- MAA Session on Inquiry-Based Teaching and Learning, I
[Effect of Classroom Setup on Student Learning](#)
 11 a.m. – 11:15 a.m., Regency Ballroom V, Ballroom Level, Hyatt Regency
 ○ **Job Collins (REUF 2016), West Texas A&M University**
- MAA Session on Integrating Research into the Undergraduate Classroom
[Final Projects that Give a Taste of Research](#)
 11 a.m., L401 & L402, Lobby Level, Marriott Marquis
 ○ **Caroline Haddad (REUF 2014), SUNY Geneseo**
- AMS Special Session on RE(UF)search on Graphs and Matrices, I
[The relationship between k-forcing and k-power domination](#)
 11:30 a.m., Embassy E, International Tower, LL2, Hyatt Regency
 ○ **Daniela Ferrero (REUF 2015), Texas State University**
- AMS Special Session on RE(UF)search on Graphs and Matrices, II
[Coprime and prime labelings of ladder graphs and complete bipartite graphs](#)
 1 p.m. – 1:20 p.m., Embassy E, International Tower, LL2, Hyatt Regency
 ○ **aBa Mbirika (REUF 2012), University of Wisconsin-Eau Claire**
- AMS Special Session on RE(UF)search on Graphs and Matrices, II
[On matrices subordinate to a tree](#)
 2 p.m., Embassy E, International Tower, LL2, Hyatt Regency
 ○ **Ilya Spitkovsky (REUF 2011), College of William and Mary**
- AMS Special Session on RE(UF)search on Graphs and Matrices, II
[A tale of two matrices](#)
 2:30 p.m., Embassy E, International Tower, LL2, Hyatt Regency
 ○ **Stephan Garcia (REUF 2012), Pomona College**
- AMS Contributed Paper Session on Mathematical Logic, Order Theory, Algebraic Systems
[Graphical Properties of the Partially Ordered Set Derived from \$\text{Spec}\(\mathbb{Z}\[x\]\)_{\(0\)}\$](#)
 3 p.m. – 3:10 p.m., Greenbriar, Conference Level, Hyatt Regency
 ○ **Aihua Li (REUF 2008), Montclair State University**
- AMS Special Session on RE(UF)search on Graphs and Matrices, II
[Random Matrix Ensembles with Split Limiting Behavior](#)
 3 p.m. – 3:20 p.m., Embassy E, International Tower, LL2, Hyatt Regency
 ○ **Steven Miller (REUF 2014), Williams College**
- AMS Special Session on RE(UF)search on Graphs and Matrices, II
[Chutes, Ladders, and Markov Chains](#)
 3:30 p.m., Embassy E, International Tower, LL2, Hyatt Regency
 ○ **Jason Callahan (REUF 2013), St. Edward's University**

Friday, January 6, 2017

MAA Session on Revitalizing Complex Analysis

[If you believe in real numbers and matrices, then you believe in complex arithmetic!](#)

8:20 a.m., M304, Marquis Level, Marriott Marquis

- o **Stephan Garcia (REUF 2014), Pomona College**

AMS Special Session on ApREUF: Applied Research for Undergraduate Faculty

[Analysis of a Coupled, n-Patch Population Model with Ceiling Density Dependence](#)

1 p.m. M106 & M107, Marquis Level, Marriott Marquis

- o **Jason Callahan (REUF 2013), St. Edward's University**

MAA Panel

[Women and Scholarly Publishing](#)

1 p.m. – 2:20 p.m., International 5, International Level, Marriott Marquis

- o **Gizem Karaali (REUF 2009), Pomona College**

MAA Session on Inquiry-Based Teaching and Learning, III

[Unintended Consequences: How IBL experiences influence future teachers](#)

2:40 p.m., International 6, International Level, Marriott Marquis

- o **Cassie Williams (REUF 2014), James Madison University**

AMS Special Session on Operator Theory, Function Theory, and Models, I

[Operators and lattices](#)

3 p.m. International 4, International Level, Marriott Marquis

- o **Stephan Garcia (REUF 2014), Pomona College**

AMS Contributed Paper Session on Number Theory, III

Research Mentor: **Cassie Williams (REUF 2014), James Madison University**

[An exact product formula for abelian threefolds](#)

3:30 p.m., International 1, International Level, Marriott Marquis

- o Jonathan Gerhard, *James Madison University*

AMS Special Session on ApREUF: Applied Research for Undergraduate Faculty

[Modeling the Sub-Saharan African Disease Onchocerciasis, a Commutative Algebraist's Perspective](#)

4 p.m. – 4:20 p.m. M106 & M107, Marquis Level, Marriott Marquis

- o **Shelly Bouchat (REUF 2015), Indiana University of Pennsylvania**

AMS Special Session on ApREUF: Applied Research for Undergraduate Faculty

[Modeling the Progression of Alzheimer's Disease](#)

4:30 p.m., M106 & M107, Marquis Level, Marriott Marquis

- o **Ellen Swanson (REUF 2015), Centre College**

MAA Student Poster Session

4:30 p.m. – 6 p.m., Piedmont, Conference Level, Hyatt Regency

- o Research Mentor: **Aihua Li (REUF 2008)**: Giancarlo Labruna, Kateryna Kaplun, & Catherine Ruddy, *Montclair State University*
- o Research Mentor: **Eva Marie Strawbridge (REUF 2013)**: Faith Shaw, *James Madison University*
- o Research Mentor: **Ellen Swanson (REUF 2015)**: Kirsten Giesbrecht, *Centre College*
- o Research Mentor: **aBa Mbirika (REUF 2012)**: Jingtai Liu, Rita Post, & Ryan Stodola, *University of Wisconsin-Eau Claire*

AMS Special Session on ApREUF: Applied Research for Undergraduate Faculty

[Development and Analysis of a Worm-like Model](#)

5:30 p.m. – 5:50 p.m. M106 & M107, Marquis Level, Marriott Marquis

- o **Eva Marie Strawbridge (REUF 2013), James Madison University**

Saturday, January 7, 2017

AMS Special Session on Open and Accessible Problems for Undergraduate Research, I

[Past, Current, and Potential Interdisciplinary Undergraduate Research Problems in /math Biology](#)

8 a.m. – 8:20 a.m. International 4, International Level, Marriott Marquis

- o **Eva Marie Strawbridge (REUF 2013), James Madison University**

MAA General Contributed Paper Session on Applied Mathematics, III

[Incoherent Matrices for Compressed Sensing](#)

8:15 a.m., Piedmont, Conference Level, Hyatt Regency

- o **Ghan Bhatt (REUF 2012), Tennessee State University**

MAA Invited Paper Session on New Directions in Quantitative Literacy for General Education, in honor of Lynn Steen

[On Utilitarian and Aesthetic Goals of Mathematics Education: Quantitative Literacy and Humanistic Mathematics](#)

9:30 a.m. – 10 a.m., A706, Atrium Level, Marriott Marquis

- o **Gizem Karaali (REUF 2009), Pomona College**

MAA General Contributed Paper Session on Geometry

[3-Ellipses on Spheres](#)

10 a.m., Kennesaw, Conference Level, Hyatt Regency

- o **Alfredo Villanueva (REUF 2015), Savannah State University**

MAA Session on Intertwining Mathematics with Social Justice in the Classroom, I

[Authentic Messiness: Using data sourced from community-based partner organizations in an introductory level statistics course](#)

11:20 a.m. – 11:35 a.m., Piedmont, Conference Level, Hyatt Regency

- o **Phong Le (REUF 2016), Goucher College**

MAA Session on Women in Mathematics

[Engaging Women in Extracurricular Math Activities](#)

3:40 p.m. – 3:55 p.m., Courtland, Conference Level, Hyatt Regency

- o **Violeta Vasilevska (REUF 2015), Utah Valley University**

AMS Special Session on Graphs and Matrices, II

[Algebraic conditions induced by matrix patterns](#)

4 p.m., Embassy D, International Tower, LL2, Hyatt Regency

- o **Louis Deaett (REUF 2011), Quinnipiac University**

AMS Special Session on Graphs and Matrices, II

[Generalizations of the Strong Arnold Property and the inverse eigenvalue problem of a graph](#)

4:30 p.m., Embassy D, International Tower, LL2, Hyatt Regency

- o **Leslie Hogben, Iowa State University and American Institute of Mathematics**