

CURRICULUM VITAE 2023

Amanda Tucker

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EDUCATION	<p>Massachusetts Institute of Technology B.S. in Mathematics with Computer Science</p> <p>University of California, San Diego M.A. in Pure Mathematics Ph.D. in Mathematics</p>	<p>2003</p> <p>2004</p> <p>2009</p>
RESEARCH	<p>Algebraic and Analytic Number Theory: Statistics of number fields, explicit class field theory, Stark Conjectures, L-functions, Hilbert’s 12th problem. Dissertation <i>Groups of Special Units</i>, under Professor H. Stark</p>	<p>2009</p>
AWARDS AND GRANTS	<p>(with Eva Goedhart and Kevin McGown) Conferences and Workshops in the Mathematical Sciences NSF Grant, West Coast Number Theory Conference, DMS-1646760.</p> <p>AMS Epsilon Grant for GirlsGetMath@Rochester</p> <p>MAA Tensor Grant for GirlsGetMath@Rochester</p> <p>Course development grant to support a student to help develop workshops for Math 143</p> <p>SUNY Geneseo Teaching Award</p> <p>Pearson’s “One Teacher” Award</p> <p>Lehmer Prize for Best Talk at West Coast Number Theory Conference</p> <p>NSF/MAA PIC Math Undergraduate research grant</p> <p>Selected to develop and teach Big Data course in Edgar Fellows Honors Program</p> <p>SUNY Geneseo Research Travel Grant</p> <p>AWM Travel Grant</p> <p>UCSD Mathematics Department Outstanding TA Award</p> <p>GAANN Fellow</p> <p>NSF Graduate Fellowship honorable mention</p>	<p>2016-2019</p> <p>2017, 2018, 2019</p> <p>2017</p> <p>2016</p> <p>2015</p> <p>2015</p> <p>2014</p> <p>2014</p> <p>2014</p> <p>2013-2014</p> <p>2010</p> <p>2008</p> <p>2003-2009</p> <p>2003</p>
APPOINTMENTS	<p>Assistant Professor (non-tenure-track) and Assistant Director of Undergraduate Studies, University of Rochester Teach undergraduate courses, advise undergraduates, oversee graduate teaching, and various other administrative duties.</p> <p>Assistant Director of Undergraduate Studies, University of Rochester Teach undergraduate courses, advise undergraduates, oversee graduate teaching, and various other administrative duties.</p> <p>Visiting Assistant Professor, SUNY Geneseo Taught calculus, linear algebra, differential equations, intro to proofs, big data.</p> <p>Visiting Assistant Professor, University of Rochester Taught calculus, abstract algebra, number theory, cryptography, math for non-majors.</p> <p>Visiting Assistant Professor, Williams College Taught calculus, modular forms, discrete mathematics.</p> <p>Associate Instructor, University of California, San Diego Taught precalculus, linear algebra, differential equations.</p> <p>Teaching Assistant, University of California, San Diego Taught calculus, discrete math, linear algebra, abstract algebra, number theory.</p> <p>Teaching Assistant, Institute for Advanced Study, Princeton Taught zeta functions of graphs under Professor A. Terras at the Women and Mathematics Program.</p>	<p>2017-present</p> <p>2015-2017</p> <p>2013-2015</p> <p>2010-2013</p> <p>2009-2010</p> <p>2007-2009</p> <p>2004-2008</p> <p>2006</p>

PUBLICATIONS	<p>Counting quintic fields with genus number one, with Kevin J. McGown and Frank Thorne. to appear in Mathematics Research Letters. Available at https://arxiv.org/abs/2006.12991</p> <p>Statistics of genus numbers of cubic fields, with Kevin J. McGown. to appear in Annales de l'Institut Fourier Available at https://arxiv.org/abs/1611.07088</p> <p>Consecutive Integers and the Collatz Conjecture with SUNY Geneseo student Marcus Elia, INTEGERS</p> <p>Symmetries of rational functions arising in Ecalle's study of multiple zeta values with A. Salerno and D. Schindler, Women in Numbers Europe - Volume 2 of the Association for Women in Mathematics Series, pp 153 - 166</p> <p>Roots of Modular Units, Ramanujan J., 32, pp 465–470</p> <p>Groups of Special Units, thesis</p>	<p>2020</p> <p>2022</p> <p>2015</p> <p>2014</p> <p>2013</p> <p>2009</p>
SELECTED TALKS	<p>Lessons learned while directing GirlsGetMath@Rochester, JMM Special Session: Mathematical Outreach: Engagement Opportunities and Best Practices</p> <p>The statistics of the genus numbers of cubic fields, Boston University Number theory seminar</p> <p>The statistics of the genus numbers of cubic fields, Invited talk in number theory session of the Mathematical Congress of the Americas</p> <p>Multiple Zeta Values and the Real Numbers, CSU Chico REU talk</p> <p>The statistics of the genus numbers of cubic fields, University of Warwick Arithmetic Statistics and the Cohen-Lenstra Heuristics Workshop</p> <p>The arithmetic statistics of number fields, CU Boulder Number theory seminar</p> <p>Roots of modular forms, University of Michigan, Ann Arbor Automorphic Forms Workshop</p> <p>Multiple zeta values, Pacific Grove, CA West Coast Number Theory Conference</p> <p>Hurwitz zeta functions, Hausdorff Center for Mathematics, Bonn, Germany Enfant/Elefant conference</p> <p>Multiple zeta values, University of Binghamton Invited talk about my research on multiple zeta values</p> <p>Explicit Class Field Theory, CNTA XI Contributed talk about my research</p> <p>Explicit Class Field Theory, Brown University Invited algebra and number theory seminar about my research</p> <p>Explicit Class Field Theory, University of California, Santa Barbara Invited colloquium about explicit class field theory</p> <p>Almost Abelian Extensions, Five Colleges Number Theory Seminar Invited talk about the maximal almost abelian extension of an imaginary quadratic base field</p> <p>Almost Abelian Extensions, AMS Sectional Meeting, Boca Raton Invited talk about the maximal almost abelian extension of an imaginary quadratic base field</p>	<p>2021</p> <p>2017</p> <p>2017</p> <p>2017</p> <p>2016</p> <p>2016</p> <p>2015</p> <p>2014</p> <p>2014</p> <p>2013</p> <p>2010</p> <p>2010</p> <p>2010</p> <p>2009</p> <p>2009</p>

Groups of Special Units, University of Georgia 2009
Invited number theory seminar about my thesis research

CONFERENCE ORGANIZATION

West Coast Number Theory Conference 2015 - 2019
On organizational committee, funded by NSF grant DMS-1646760.

COMMUNITY AND OUTREACH

Founding Director, GirlsGetMath@Rochester 2016 - present
Director of summer day program for high school girls at University of Rochester.

Co-Organizer, GirlsGetMath@ICERM 2014 - 2016
Co-lead a one-week summer day program for high school girls at ICERM.

Head Counselor, Research Mentor, Board President, PROMYS Program 2002-2004 and
2009 - present
Involved with all aspects of summer program for talented high school students,
from head counselor, to research mentor to webmaster to alumni liaison.
Involved with many aspects of PROMYS Foundation, including fundraising and
development of fellowships for underprivileged/minority students; currently President.

Flower City Math Girls 2014 - 2016
Founded Flower City Math Girls, a club designed to attract talented math students
in the Rochester area to meet each other and be exposed to the wide world of mathematics
while still in high school.

SELECTED CONFERENCES AND SCHOLARLY ACTIVITIES

ESI Workshop “Local-Global Principles and Arithmetic Statistics”(NLB20) 2020, postponed

Visiting Scholar at Microsoft Research, New England 2014
Worked on irrationality of certain multiple zeta values with H. Cohn

Women in Numbers - Europe Workshop 2013
Worked on the Salerno-Schneps project about multiple zeta values

Arizona Winter School - Stark-Heegner Points 2011
Worked on the Dasgupta-Greenberg project about Shintani zeta-functions

UNDERGRADUATE RESEARCH

University of Rochester 2020-2021
Benjamin Kuehnert (honors thesis) *Algorithms for Galois Theory*

University of Rochester 2019-2020
Xin Lu (honors thesis) *On NP-intermediate, Isomorphism problems, and Polynomial Hierarchy*

University of Rochester 2017-2018
Shir Maimon (honors thesis) *Elliptic curves cryptography and quantum computing'*

SUNY Geneseo 2013 - 2015
Worked with Marcus Elia on the Collatz conjecture.
He won a Geneseo STEM summer research grant and several travel grants, as well as
a speaking award at MathFest in Portland, Summer 2014. Resulted in published paper.

MAA/PIC Math 2014
Worked with Amy Walters, Jacob Goldberg, Michael Ramsey, Gabrielle Angeloro,
Lisa Rosenberg on a project joint with an industry partner, Resource Refocus, LLC.

University of Rochester 2012-2013
Worked with Daniel Sieburth and Jake Goritski on rational distance sets.

SERVICE TO THE DEPARTMENT

University of Rochester

2015-present

GRE preparation and review sessions (2015 - present)
Undergraduate major advisor (2015 - present)
Undergraduate committee (2015 - present)
TA assignments committee (2015 - present)
Standing member of Undergraduate research committee (2020 - 2021)
Undergraduate research committee (2019 - 2020)
Faculty mentor to undergraduate math club (2015 - 2020)
Curriculum committee (2015 - 2020)
SUMS committee (2016 - 2020)
Publicity committee (2016 - 2018)

SUNY Geneseo

2013-2015

Graduate committee
Colloquium committee
GRE preparation and review sessions
Calculus II working group
Advising for transfer students
Involved in Supplemental Instruction, an academic support program that is a service of the Academic Opportunities Office.

SKILLS

Experienced with WeBWorK.
Python, Sage, HTML/markdown, MATLAB, Mathematica, Spanish, Dutch and German.

REFERENCES

Mark Herman

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Harold Stark

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