Claudia He Yun

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Curriculum Vitae

Brown University
Box 1917,151 Thayer Street
Providence, RI 02912

EDUCATION

Brown University, Providence, RI
Ph.D. student. Advisor: Melody Chan.
Sep 2017 - present

Smith College, Northampton, MA
B.A. *magna cum laude* Mathematics. Phi Beta Kappa. GPA: 3.96
Minor: Physics
Sep 2013 - May 2017
Dean's List 2013-2015, 2016-2017

Budapest Semesters in Mathematics, Budapest, Hungary
Sep 2015 - Dec 2015 GPA: 3.8

Beijing No.4 High School, Beijing, China
Sep 2010 - May 2013

PUBLICATIONS

Puzzling and Apuzzling Graphs, D. Gold, J. Henle, C. Huang, T. Lyve, T. Marin, J. Osorio, M. Puligandla, B. Weick, J. Xia, **H. Yun**, and J. Zhang, AKCE International Journal of Graphs and Combinatorics, vol. 13, no. 1 (2016): 1-10.

In preparation:

Generators for Splines on Infinite Graphs and the Equivariant Cohomology Ring of a Certain Affine Springer Fiber, J. Tymoczko and H. Yun

HONORS & AWARDS

Ann Kirsten Pokora Prize to a senior with a distinguished academic record in mathematics, Smith College, 2017
Top 500: William Lowell Putnam Mathematical Competition, 2017
Suzan Rose Benedict Prize to a Sophomore for Excellence in Mathematics, Smith College, 2015
Summer Research Fellowship, Smith College, 2014-2016
Wallfisch Performance Prize (Piano), Smith College, 2016
Susan Rose Internships in Music, Smith College, 2015

RESEARCH EXPERIENCE

Generalized Algebraic Splines Mathematics
Jan 2016 – present Smith College

- Researched polynomial splines with real coefficients on the A_n root lattice
- Presented the project at several conferences
- Currently preparing a paper on recent results

Spectroscopy of Nobelium Ions Physics
May 2015 – July 2015 Smith College

- Read papers on the linear Paul trap and sympathetic cooling
- Coded in Mathematica to simulate the trajectories of ions in a linear Paul trap
- Designed experiments to do spectroscopy on Nobelium ions

Monge Distance and Quantum Chaos Physics
May 2014 – July 2014 Smith College

- Read papers on a new metric defined on quantum states (Monge distance)
- Coded in Mathematica to numerically evaluate the Monge distance between quantum states
- Coded in Python to evolve partial differential equations

Creating a Clueless Puzzle Mathematics
Oct 2013 – May 2014 Smith College

- Defined *puzzles* and *apuzzles* on graphs
- Explored the puzzling/apuzzling property of paths, cycles, bipartite graphs, complete graphs, etc.
- Published a research paper *Puzzling and Apuzzling Graphs*

TALKS

[Oct 2018] *Introduction to Schubert Calculus*, Graduate Student Seminar, Brown University
[April 2017] Poster: *Splines on Lattices*, Celebrating Collaborations, Smith College
[April 2017] *Splines on Lattices*, 24th Hudson River Undergraduate Mathematics Conference (HRUMC), Westfield State University
[Jan 2017] *An Introduction to Splines*, the Joint Math Meetings, Atlanta, GA
[Dec 2016] *Splines on Cycles and Infinite Graphs*, Math Lunch Talk, Smith College
[Sep 2016] *Basis of Splines on the A_n Root Lattice*, Women in Mathematics in New England (WIMIN) 2016, Smith College
[July 2016] *Basis of Splines on the An Root Lattice*, Williams REU conference, Williams College
[July 2016] Poster: *Number of Positive Root in a Subspace of the A_n lattice*, Summer Combo in Vermont, St Michael's College
[April 2016] *Generalized Splines on Cycles and Infinite Graphs*, Math Lunch Talk, Smith College
[April 2016] *Generalized splines on cycles and infinite graphs*, 23nd Hudson River Undergraduate Mathematics Conference (HRUMC), St Michael's College
[Sep 2014] *Puzzling and Apuzzling Graphs*, Women in Mathematics in New England (WIMIN) 2014, Smith College
[April 2014] *Puzzling and Apuzzling Graphs*, 21st Hudson River Undergraduate Mathematics Conference (HRUMC), Skidmore College
[March 2014] *Puzzling and Apuzzling Graphs*, 5th Annual AEMES Research Symposium, Smith College

WORK EXPERIENCE

Tutor Mathematics
Sep 2016 – May 2017 Smith College

- Tutored for a range of math classes, including pre-calculus (MTH 102), the standard calculus sequence (MTH 111, 112, 212), discrete mathematics (MTH 153), and linear algebra (MTH 211), specializing in discrete mathematics.
- Held 4 hours of drop-in session every week

Instructor Computer Science
17 Jan – 20 Jan 2016 Smith College

- Proposed course *Introduction to Java Programming* and was invited to teach during the January term at Smith College
- Created a curriculum
- Course description: *This course will introduce students to the programming language Java. Subjects covered will be basic setup, variables, conditional statements, loops, getting user input, classes and objects.*

Tutor Computer Science
Sep 2016 – Dec 2016 Smith College

- Tutored for Data Structures with Java (CSC 212)
- Held 4 hours of drop-in session every week

Orientation Leader — Office for International Students & Scholars, Smith College
Aug 2016

- Introduced incoming international students to college life in the U.S.
- Spoke as a panelist on the Academic Panel

Tutor and Grader — Physics & Astronomy, Smith College
Sep 2014 – May 2016

- Tutored for Introductory Physics III (PHY 215), which covers special relativity, introductory quantum mechanics, and introductory atomic physics (1 semester)
- Tutored for Mathematical Methods of Physical Sciences and Engineering (PHY 210) (1 semester)
- Held 4 hours of drop-in session every week and individual appointments
- Responsible for facilitating labs, in-class discussions and problem solving sessions in Introductory Physics I (PHY 117) (1 semester)
- Graded homework for physics classes, including Introductory Physics I (PHY 117) and Introductory Physics III (PHY 215) (2 semesters)
- Graded homework for introductory astronomy (AST 111) (1 semester)

SKILLS

Languages: Chinese (Native): fluent in speaking, reading, and writing
Computer Proficiency: Python, Java, Mathematica, MatLab, SolidWorks, LaTeX.

EXTRA-CURRICULAR ACTIVITIES

I play classical piano and chamber music in my free time.
I also enjoy rock climbing.
Treasurer, Astronomy and Physics Club (Sep 2013-May 2015)
The Bearded Ladies - a recreational circus club (Sep 2014-May 2015)
Smith College Glee Club (Sep 2014 - Jan 2015)
Safe Passage - a Northampton-based domestic violence service (Jan 2014-June 2014)
Smith College Chorus (Sep 2013- May 2014)