WAM 2018 Graduate Ambassador activities report

Carmen Galaz-García
Mathematics PhD student
University of California, Santa Barbara
Overview

1. The project
2. The team
3. Events:
   a. Academic and job opportunities
   b. Math research
   c. Mental health
   d. Social
4. Some details
5. Outreach project: POWERs day 2018
6. Conclusions
1. The Project

- 15 events: research talks, panels, workshops and social events
- Organized through the UCSB student chapter of the AWM and with the support of Prof. Maribel Bueno-Cachadina.
- Outreach project: POWERs day 2018
1. The Project

- 15 events: research talks, panels, workshops and social events
- Organized through the **UCSB student chapter of the AWM** and **Prof. Maribel Bueno-Cachadina**.
- Outreach project: POWERs day 2018

**Goals:**
- Present to undergrad students the many possibilities of mathematics careers.
- Provide female role models, coming from academia, education and industry.
- Highlight gender and racial diversity in mathematics.
- To create a support structure for mathematics undergraduate students.
2. The Team

**Chloe Avery**
Math major
Commutative algebra
-> PhD

**Phoebe Coy**
Math major
Applied math
-> PhD

**Tamara Gomez**
Math major
Applied math
-> Industry

**Erika Walther**
Math + dance major
Math education
-> Math Teacher
4. Events

a. Academic and job opportunities

- **REU Talks and Panel (F)**
  Short talks by undergraduate students about the research they did during summer

- **Jobs in Industry Panel (W)**
  Panel featuring alumni from the UCSB Math department who have pursued a career in the industry

- **Study Abroad Panel for Math Students (W)**
  Mathematics UCSB undergraduate students who have recently studied abroad shared their experiences

- **Life in Grad School and Beyond Panel (S)**
  An all female panel of UCSB mathematics graduate students and postdoctoral fellows.
4. Events
a. Academic and job opportunities

Interested in learning about undergraduate math research opportunities?

Find out how to find and apply for summer math research programs. Hear about our experiences with math research, and share your own!

We will have two short talks, followed by a discussion:
“Motivation: If you liked it then you should’ve put a (commutative) ring on it”, by Chloe Avery
“Making a better simulation of waves, vortices, and shallow water”, by Phoebe Coy

Pizza will be provided!

When: Thursday, November 2nd at 5PM
Where: South Hall 6635

Funding provided by Charles and Lise Simmons and the IAS Women in Math.
4. Events

a. Academic and job opportunities

Interested in learning about undergraduate math research opportunities?

Find out how to find and apply for summer math research programs. Hear about our experiences with math research, and share your own!

We will have two short talks, followed by a discussion:

- "Math: If you liked it then you should’ve put a (commutative) ring on it", by Chloe Avery
- "Making a better simulation of waves, vortices, and shallow water", by Phoebe Coy

Pizza will be provided!

When: Thursday, November 2nd at 5PM
Where: South Hall 6635

Funding provided by Charles and Lisa Simonyi and the IAS Women and Math
4. Events

a. Academic and job opportunities

Interested in learning about undergraduate math research opportunities?

Find out how to find and apply for summer math research programs. Hear about our experiences with math research, and share your own!

We will have two short talks, followed by a discussion:

- "Math : If you liked it then you should've put a (commutative) ring on it", by Chobe Avery
- "Making a better simulation of waves, vortices, and shallow water", by Phoebe Coy

Pizza will be provided!

When: Thursday, November 2nd at 5PM
Where: South Hall 6635

Funding provided by Charles and Lisa Simon and the IAS Women in Math.
4. Events

b. Math Research

- Curves and Surfaces in Topology, Prof. Priyam Patel (F)
  Prof. Patel gave a detailed description of what topology is and how it differs from the more familiar subject of geometry. She focused on a class of objects called surfaces and explained that there is a rich theory of curves on surfaces.

- Processing Quantum Information, grad student Colleen Delaney (S)
  Delaney, who's been an NSF graduate research fellow since 2013, explained the basics of topological quantum computing.

- Learning knot theory through aerial dance, grad student Nancy Scherich (S)
  Last year's winner of the Science magazine Dance Your Ph.D. contest Scherich and her aerial dance troupe will perform a lecture about knot theory.
4. Events

b. Math research

Math-Dance Workshop

Learn the basics of knot theory in a performative lecture with Nancy Scheilich (winner of the 2017 dance your Ph.D. contest) and the AIREDANSE Collective

May 26, 2018 @ 127A West Canon Perdido Street, Santa Barbara, Studio A
4PM Performative lecture, free
5PM Aerial dance class, $10

Space is limited for both events.
Please send an email to unsedm@t.edu with your name to secure your place. You can attend both the performative lecture and the class, or the performative lecture only.

*Co-sponsored by AWM Women and Math program and Choike and Liza Smoot
Math-Dance Workshop

Learn the basics of knot theory in a performative lecture with Nancy Scherich (winner of the 2017 dance your Ph.D. contest) and the AIREDANSE Collective

May 26, 2018 @ 127A West Canary Perdido Street, Santa Barbara, Studio A
4PM Performative lecture, free
5PM Aerial dance class, $10

Space is limited for both events!
Please send an email to awm.airedanse@gmail.com with your name to secure your place. You can attend both the Performative lecture and the class, or the Performative lecture only.

*Co-sponsors: SASS, Women and Math program, and Charlie and Viza Smart.
4. Events

c. Mental Health

- Imposter syndrome, community discussion (F)
- Mental Health and Stress Managing Techniques (W)
- Representation of Women in STEM, community discussion (S)
4. Events

d. Social

● Opening event: Math Social Night (F)
Our first event of the year, where we presented the quarter’s events calendar and met professors, graduate and undergraduate students interested in joining the AWM chapter activities.

● Screening of documentary *Julia Robinson and Hilbert’s 10th problem* (F)
Julia Robinson was the first woman to become president of the AMS.

● Screening of *Hidden Figures* (W)
Screening of the acclaimed 2016 biographical drama film, which tells the story of three afro-american mathematicians who worked at NASA during the Space Race.

● Screening of documentary *Counting from Infinity* (S)
This is a documentary about UCSB professor Yitang Zhang, who’s been a teacher of several of the chapter’s officers.

● Closing event: Math Social Night (S)
4. Events
   d. Social
4. Events
d. Social

AWM Movie Night
Watch a documentary about an interesting woman mathematician!

Julia Robinson was the first woman elected to the mathematical section of the National Academy of Sciences, and the first woman to become president of the American Mathematical Society. While tracing Robinson’s contribution to the solution of Hilbert’s tenth problem, the film illuminates how her work led to an unusual friendship between Russian and American colleagues at the height of the Cold War.

As always, pizza will be provided!

When: Thursday, November 30th, 5pm
Where: South Hall 6635

Funding provided by U.S. Women and Math and Charles and Ruth Simon!
4. Events
d. Social
5. Some details

- Cost of each event*: $32
- Spent so far: $450
5. Some details

- Cost of each event*: $32
- Spent so far: $450

- Events* have been held in the Math department
- All speakers come from UCSB
5. Some details

- Cost of each event*: $32
- Spent so far: $450

- Events* have been held in the Math department
- All speakers come from UCSB

- Biggest attendance: 40 people for Jobs in Industry panel
- Average attendance: 13 people
5. Some details

- Cost of each event*: $32
- Spent so far: $450

- Events* have been held in the Math department
- All speakers come from UCSB

- Biggest attendance: 40 people for Jobs in Industry panel
- Average attendance: 13 people

- IAS Women and Math award has covered the cost of all events
4. Outreach project: POWERS day

- Full day of STEM activities for all female-identified and nonbinary high school students and math teachers in the Santa Barbara region
4. Outreach project: POWERS day

- Full day of STEM activities for all female-identified and nonbinary high school students and math teachers in the Santa Barbara region

- Activities included:
  - Opening by Prof. Kathy Foltz, Dean of the College of Creative Studies and professor at the department of Molecular Biology
  - "The math of swarming robots, superconductors, and slime mold". A math talk by Prof. Katy Craig.
  - Math problem solving competition in teams.
  - “Can you hear the shape of a drum” Physics workshop by Prof. Sathya Guruswamy
  - Mathematical puzzles workshops by Chloe Avery
  - Panel: Experiences in STEM
4. Outreach project: POWERS day

- Full day of STEM activities for all female-identified and nonbinary high school students and math teachers in the Santa Barbara region

- Activities included:
  - Opening by Prof. Kathy Foltz, Dean of the College of Creative Studies and professor at the department of Molecular Biology
  - "The math of swarming robots, superconductors, and slime mold". A math talk by Prof. Katy Craig.
  - Math problem solving competition in teams.
  - “Can you hear the shape of a drum” Physics workshop by Prof. Sathya Guruswamy
  - Mathematical puzzles workshops by Chloe Avery
  - Panel: Experiences in STEM

- [http://powersday.thisiscool.com](http://powersday.thisiscool.com)
2. Conclusions

AWM has provided me with a group of intelligent women who share my struggles as an underrepresented group in mathematics, and yet inspire me through their successes as women in mathematics.
  - Erika Walther

I learned that women can accomplish a lot when we work together. My work with the AWM student chapter is one of my proudest achievements in college, and the IAS Women and Mathematics grant helped to make it all possible.
  - Phoebe Coy

The funding we received from IAS allowed us to organize every single event we’ve hosted this year. Once students settle in and eat some pizza, they see we have created an encouraging environment within our student chapter, and they contribute to the creation of a supportive community for women in math.
  - Tamara Gomez
Thank you!