

Underrepresented Students in Topology and Algebra Research Symposium (USTARS)

Candice Price

Communicated by Alexander Diaz-Lopez

We wanted to create a space where any graduate student would feel safe presenting for the first time.

For the past six years, Underrepresented Students in Topology and Algebra Research Symposium (USTARS) has met every April and has grown into a three-day event featuring thirty-minute research talks given by graduate students in the fields of topology and algebra, an early career faculty workshop, a professional development session, and a poster session for invited undergraduates. It also now includes two Distinguished Graduate Student

Awards, given to a graduate student in each of topology and algebra, and an early-career faculty speaker presenting on their mathematical journey. Graduate students at all stages of their research careers are invited to attend USTARS and discuss techniques and concepts that they are exploring as part of the process of producing their graduate theses and, in turn, gain new insight into their research from students and professors at other institutions who may view the problem from a different perspective. Additionally, USTARS provides a venue for mentorship and potential collaboration. Faculty who attend are encouraged to help undergraduate and transitional graduate students find research areas and to urge students to meet and network with people interested in their areas of research. But, most of all, it provides a place for underrepresented students to showcase their research to a diverse group of mathematicians in a supportive environment.

USTARS Locations

- 2011: University of Iowa
- 2012: University of Iowa
- 2013: Purdue University
- 2014: University of California, Berkeley
- 2015: Florida Gulf Coast University
- 2016: Sam Houston State University
- 2017: Amherst College

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Twenty undergraduates, forty-two graduate students, five postdocs, and eleven faculty attended USTARS 2014.

THE GRADUATE STUDENT SECTION



USTARS Organizing Committee: Syvillia Averett, Garrett Jones, Candice Price, Erik Insko, Kathy McElroy, Shannon Talbott, and Jeannine Abiva.



USTARS 2014 participants: Amanda Ruiz, Candice Price, Emillie Davie Lawrence, Federico Ardila, Dagan Karp, and Mohamed Omar.

The History of USTARS

The idea for USTARS was born in November of 2010 when, as a fifth-year graduate student at the University of Iowa, I attended the student-run Binghamton University Graduate Conference in Algebra and Topology. Inspired by the inclusiveness and organization of the conference, I reached out to three of my fellow classmates at the University of Iowa—Syvillia Averett, Carlos De la Mora, and Erik Insko—and asked a simple question: “Would you like to plan a conference for graduate students focusing on algebra and topology?” They cautiously said yes. Together, with the support of faculty member Julianna Tymoczko, we decided to plan a conference run by graduate students for graduate students that showcased and connected underrepresented mathematicians.

We wanted an event to which we could invite our friends, a possible collaborator, or even someone whose work we admired and wanted to get to know. We wanted to create a space where any graduate student would feel safe presenting for the first time. These were our first goals. What happened next is USTARS transformed into something much more than that: it has turned into what a recent USTARS participant called “a family gathering.” This symposium creates a space where participants can network and exchange ideas in an environment full of diverse backgrounds and experiences, something rarely experienced as a graduate student of color. On April 1–2,

2011, sixty-eight participants attended the NSF-funded USTARS at the University of Iowa.

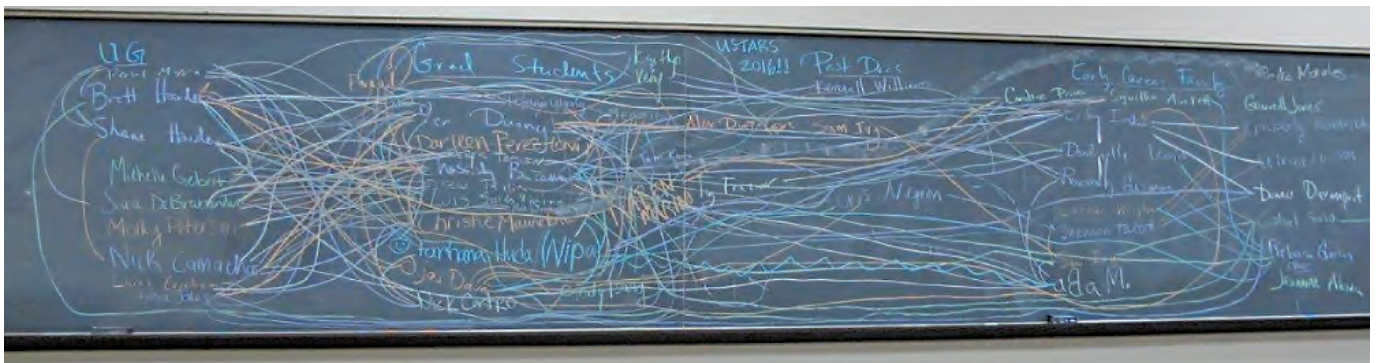
In the fall of 2011, Jeannine Abiva, Garrett Jones, and Shannon Talbott, all graduate students at UIowa, joined Syvillia, Erik, and me to make up the current group of USTARS organizers.

In 2013 we founded the USTARS Advisory Board. The board consists of faculty who have demonstrated an impact in addressing issues of underrepresentation in mathematical sciences. But more than that, they are also people the organizers of USTARS have leaned on, learned from, and been led by at various times in their journey.

The USTARS Invited Volume, posted at arXiv.org, is open to contributions from any participant of USTARS. The articles are peer-reviewed by USTARS participants and then posted on the arXiv to receive more feedback from the larger math community before possibly being submitted for publication. This opportunity was one that we as organizers wish we had when we were graduate students.

In 2015 we prepared a five-year review to discuss the influence of USTARS on its participants and to express our goals for the future of USTARS. We sent surveys to all participants of USTARS asking about how attending USTARS influenced their lives. The report can be found at www.ustars.org.

In 2016, we hosted a pre-USTARS workshop for early career faculty. Twelve past USTARS graduate student participants, who are now faculty, came together to USTARS.



Network of USTARS 2016 participants.

THE GRADUATE STUDENT SECTION

The Impact of USTARS

To assess the impact of USTARS, we survey participants every year. Below are some of the testimonials we received:

I met three of my current collaborators at USTARS meetings.

USTARS allowed me to present my research for the first time in a friendly setting.

I really liked the family environment and feel of the symposium. It is probably the best conference I have ever attended.

It is important to see and meet people who have a similar background and have similar career goals. It enhances the sense of belonging and increases motivation. The Questions & Answers panel discussions at the end of each conference are very helpful in guiding students in the first steps to take and knowing about the possible directions and common pitfalls.

The impact that USTARS has on the organizers is also tremendous. Not only do the six of us get to work together on a program we are all so passionate about, it allows us to stay connected as friends that started graduate school together.

One collaboration team that materialized at past USTARS conferences includes Alexander Diaz-Lopez, Pamela E. Harris, Erik Insko, Mohamed Omar, and Darleen Perez-Lavin. Their joint work has resulted in two published articles and two preprints in the areas of representation theory and combinatorics over the past three years, and in the spring of 2016 four of them proved the peak polynomial positivity conjecture posed by Sara Billey, Krzysztof Burdzy, and Bruce Sagan in 2013. Mohamed Omar, one of those participants, stated that USTARS “has been one of the best scholastic interactions in terms of fruitfulness and feeling a sense of belonging.”

The Future of USTARS

The seventh meeting of USTARS will be hosted by the mathematics and statistics department at Amherst College, March 31–April 2, 2017. The theme for the 2017 USTARS Early Career Faculty Development Workshop will be “Writing throughout Your Career.” The growth of USTARS continues to amaze me. Our next goals are to enhance the sustainability of USTARS by partnering with nonprofit organizations and to create post-USTARS support.

Photo Credits

Photos are courtesy of the USTARS Media Group.

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ABOUT THE AUTHOR

Candice Price, along with some colleagues, founded USTARS in 2010. Her service mission statement is to create and contribute to programs that broaden the participation of underrepresented groups by focusing on strong mentoring and research networks.



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