

[Subscribe](#)[Past Issues](#)[Translate ▼](#)[RSS](#)**Mission**

To research and develop model programs and self-sustaining learning communities that engage students from all backgrounds in doing mathematics at a high level.

[Mathworks](#) is a center for innovation in mathematics education at Texas State University. We develop and research model programs in the following areas:

- Summer Math Camps
- Teacher Development
- Curriculum

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## Fall 2018



### Leaves are falling, autumn is calling!

#### In this newsletter:

- **Upcoming Events**

- Mathworks Math Contest
- Celebrating Mathworks 30th Anniversary
- Math Camp Dates for 2019

- **2018 in Review**

- Junior Summer Math Camp - Half-Day (JSMCH)
- Junior Summer Math Camp - Residential (JSMCR)
- Honors Summer Math Camp (HSMC)
- Professional Development for Teachers
- Graduate Research
- Mathworks Fellows
- Primary Math World Contest (PMWC)
- Thank You to Our Sponsors

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Mathematics Department

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[www.txstate.edu/mathworks](http://www.txstate.edu/mathworks)[mathworks@txstate.edu](mailto:mathworks@txstate.edu)[Forward](#) this email to friends and family.**Dear Alumni,**

Have you recently...

Moved?

Started graduate school?

Landed a new job?

Written a book?

Received an award?

Or simply want to reconnect with other alumni?

We at Mathworks love to hear what alumni are doing these days!

Simply fill out this [online update form](#).

A member of the Texas State University System

**Timeline for 2018:**

- **October 29th:** MMC sent via email to math teachers/coaches. (If you do not see the test in your inbox please check your spam folder.)
- **November 1st:** MMC administered at different locations.
- **November 2nd:** MMC administrators mail tests back to Mathworks as soon as possible after administering it. Must be postmarked by **Nov. 2, 2018**
- **November 9th:** Tests due back to Mathworks for grading.
- **November 30th-December 9th:** Test scores released to teachers and coaches.

**[Click here to register.](#)**

The Mathworks Math Contest (MMC) is a free mathematics test: an opportunity for middle school students (6th-8th grade) to explore mathematics and be challenged by high-level problems. If you have any questions please contact Mathworks at (512) 245-3439 or send your questions to [mathworks@txstate.edu](mailto:mathworks@txstate.edu).

**30 Years of Excellence in Mathematics**

In 2019, Mathworks will celebrate its 30 year anniversary. Mathworks began with its first summer math camp in 1990. We are planning special events for 2019 to commemorate the successes of our students and plans for the future. We invite all of our former students and teachers to send in stories and memories of their time at Mathworks for a memory album we are putting together. We especially appreciate any ideas and suggestions you might have for special events. Please send your suggestions and stories to [mathworks@txstate.edu](mailto:mathworks@txstate.edu) or [max@txstate.edu](mailto:max@txstate.edu). Thank you and we hope to see you again soon!

**Math Camps Dates for 2019**

Applications will open on January 1, 2019 for next summer's math camps. With three camps to choose from, students at different levels can participate in a math program best suited for their experience and background. There is still lots of time before summer begins, but it's never too early to start planning!

**Junior Summer Math Camp Half-Day: JSMCH (Grades 3 - 8)**

- June 10<sup>th</sup> - June 21<sup>st</sup>, 2019
- [Find out more about the half-day JSMCH here!](#)

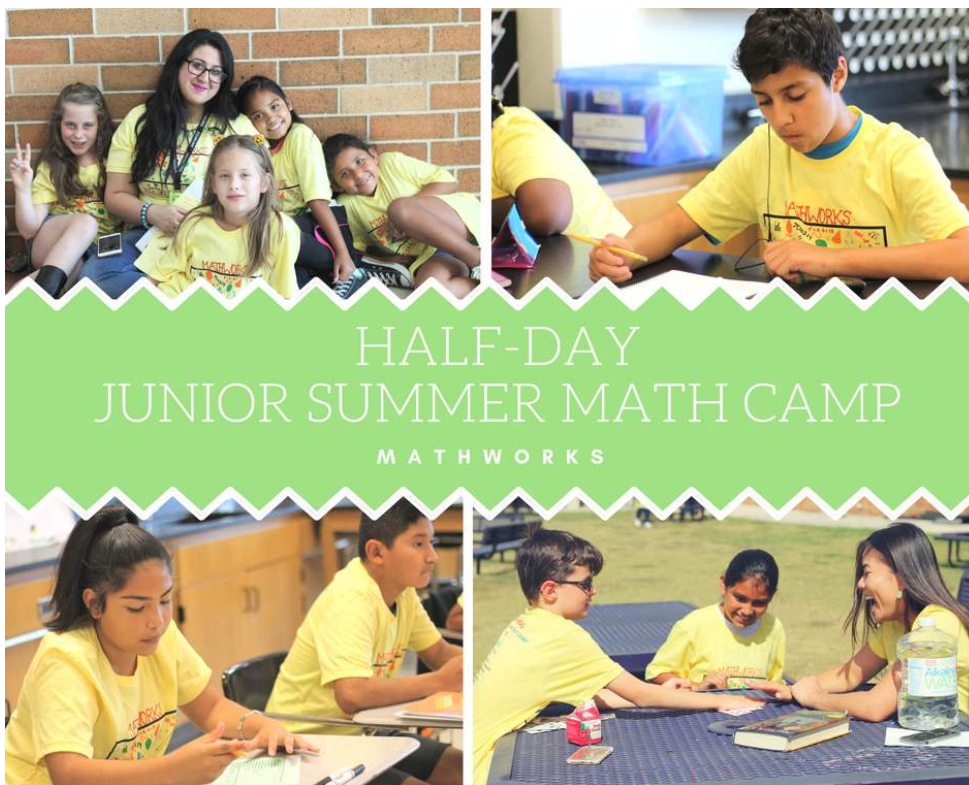
**Junior Summer Math Camp Residential: JSMCR (Grades 6 - 8)**

- June 9<sup>th</sup> - June 21<sup>st</sup>, 2019

- June 23<sup>rd</sup> – August 3<sup>rd</sup>, 2019
- [Find out more about the HSMC here!](#)

## 2018 in Review

### Mathworks 23rd Annual JSMCH at a Glance



*"Math camp has changed me by me not giving up when I make mistakes, and to not be afraid to get out there and do math."*

### **JSMCH**

- Attended: 179 Students (82 males, 97 females)
- Scholarships: 68% of the students receive full scholarships

From a first-year program that introduces students to beginning concepts in algebra through play-acting and drama (dramathics), to a more advanced program in problem-solving and discrete math, students enjoy exploring problems together and share in the excitement of mathematical exploration and discovery. Students in grades 3 – 8 have five levels to choose from. The math camp curriculum offers hands-on activities to help students understand basic algebraic concepts. According to the Partnership in Education and Resilience (PEAR) post-camp survey, students who attended this camp experienced a significant positive gain in math interest with 84.1% of the students reporting a positive change. Not only do JSMCH students learn math but they have fun doing it, which in turn gives them the desire to learn more and go further in mathematics and science.





*According to a returning camper, "Part of what makes this camp so great is not just the math...but the experience you gain from staying at the dorms and making long-lasting friendships with amazing kids from around the globe."*

## **JSMC**

- Attended: 48 (22 male, 26 female)
- Applied: 144
- Scholarships: 25% of the students receive full or partial scholarships

This year at JSMCR, forty-eight students spent two weeks on campus at Texas State University where they were immersed in the excitement of exploring mathematics and higher-level problem solving. Students learned the importance of collaboration and critical thinking from Texas State math professors Dr. Eugene Curtin and Dr. Jian Shen. In class, students worked on problems and presented their solutions in order to improve their mathematics communication skills. The collaborative learning environment at JSMCR helped students understand the importance of teamwork in the field of mathematics.

In their free time, campers had the opportunity to visit the student recreation center where they could play basketball, run, swim, or attend salsa and yoga classes. On Friday, campers attended a colloquium given by Dr. Cody Patterson, an HSMC alum who now teaches at the University of Texas at San Antonio. After the colloquium, campers enjoyed an authentic Texan BBQ at Rio Vista Park.

The JSMCR is truly one of a kind, as it gives middle school students a taste of the college experience. According to a returning camper,

*"Part of what makes this camp so great is not just the math... but the experience you gain from staying at the dorms and making long-lasting friendships with amazing kids from around the globe."*



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## Honors Summer Math Camp - (HSMC)



### HSMC

- Attended: 63 (30 male, 33 female)
- Applied: 262
- Scholarships: 19% full or partial scholarships
- Research: 10 research projects mentored by 7 Texas State faculty mentors
- Sponsored by:
  - Silicon Labs
  - American Math Society Epsilon Fund
  - Mathworks Endowed Scholarships, and others

The 29<sup>th</sup> Annual Honors Summer Math Camp was a year to remember. Sixty-three students were chosen from a pool of 262 applicants from around the world. These young students spent six-weeks living and learning together at Texas State University. Over the course of the program, students investigated various topics in mathematics, including Number Theory, Analysis, Combinatorics, Abstract Algebra and Topology. Students were encouraged to *"think deeply of simple things,"* (Arnold Ross), to ask questions, and to work together to solve challenging problems.

Weekly colloquia were presented by outstanding speakers including Admiral Bob Inman (U. Texas), Dr. Michael Starbird (U. Texas) and Dr. Fumiko Futamura (Southwestern). The speakers provided campers with insights about world problems, and applications of mathematics in areas such as art and science. Weekend excursions are a tradition at the HSMC. Every year campers hike up Enchanted Rock, float down the San Marcos River, and take an overnight trip to the Bamberger Ranch where they learn about different forms of conservation.

HSMC has developed a unique learning community for high-achieving students for the past twenty-nine years. One camper describes his overall camp experience with the following statement,

*"I found true happiness and my second home at HSMC. Not only was I exposed to a whole new world of math but I have improved as a person. In a friendly environment, I was able to truly bond with other campers and gain life-long friendships."*

The Mathworks Teacher Professional Development (PD) program prepares middle school mathematics teachers to engage students from all backgrounds in doing math at a high level. This prepares students for success in future courses in math and science, and careers in STEM.



*"Observing camp classes (taught) me to see how to allow sufficient time for ideas to truly sink in and make sense for all students. I saw the importance of student discussion, and how students built up their mathematical efficacy."  
-2018 PD teacher*

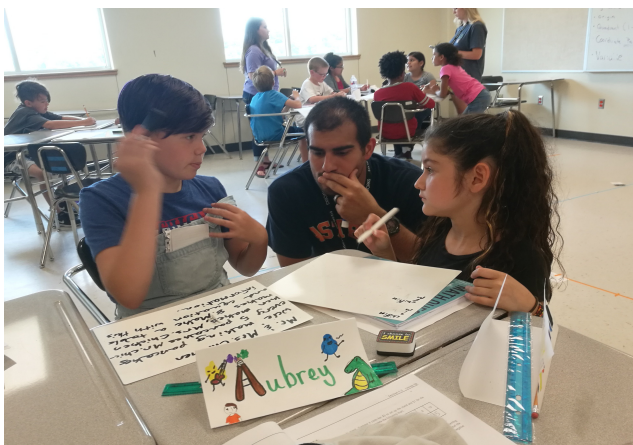
The PD program was held from June 4 - 15. Teachers were immersed in an intensive, two-week program where they learned math content and pedagogy as part of the JSMCH. In the morning, teachers observed the JSMCH, and in the afternoon they attended a seminar where they discussed math content, hands-on activities, and research-based mathematics pedagogy. Participants received 45 hours Professional Continuing Education hours approved by the State Board for Educator Certification (SBEC).

In-service teachers from Austin area schools came from O Henry, Austin Classical Academy at Mueller and Kipp Austin Public Charter School.

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## Mathworks Master Teachers (MT)

Mathworks Master Teachers did a fabulous job of exciting young students with the joy of mathematical exploration and discovery, and preparing the students for algebra and higher-level mathematics.

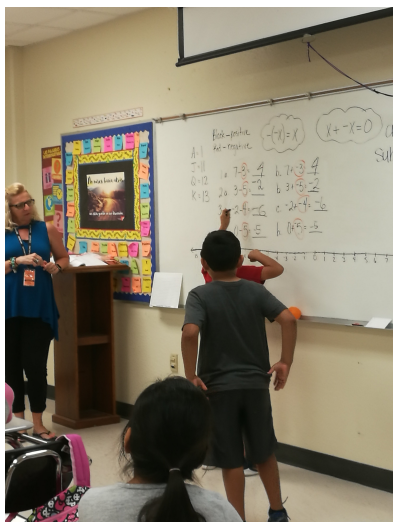


*"The reasoning on "why" the mathematics works I feel are important*

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*explanation of why their process is correct. Students being able to explain and reason will develop a deeper understanding of mathematics."*

*-2018 MT*



*"This program has truly had the most influence on my teaching! Would not have continued teaching without it!" -2018 MT*

A total of 18 Master Teachers attended from all over the state of Texas, from Midland to San Marcos, Kyle to Seabrook and Weslaco. They make learning mathematics fun! We have teachers who have been here as few as 2 years and others who have been here for 19 years.

## Graduate students conduct research at Mathworks

**Nama Namakshi** is currently a mathematics faculty member at the University of Arkansas. She worked at Mathworks for many years while a graduate student at Texas State University, first teaching during the JSMC, then examining and writing curriculum for the JSMC and conducting research. She earned her PhD in Mathematics Education at Texas State University in 2016. Nama's dissertation was entitled: *Creating a Pathway to STEM: Role of an Informal Mathematics Program*. Her study examined experiences of students from minority backgrounds in an informal mathematics program.

**Sonalee Bhattacharyya** is currently a lecturer at Texas State University's Mathematics Department. She conducted research in the JSMC, taught several summers in the JSMC and helped write parts of the JSMC curriculum. She earned her PhD in Mathematics Education at Texas State University in 2018. Sonalee's dissertation was entitled: *Investigating How an Informal Summer Program Sustains Teachers in their Profession*. Her study examined the revitalization of in-service mathematics teachers through summer practice-based professional development.

**Christina Koehne**, currently a doctoral student in Mathematics Education at Texas State, is exploring beginning elementary pre-service teachers' mathematical practices using the setting of the Junior Summer Math Camp. Christina worked at Mathworks as a JSMC instructor for several summers and helped write parts of the JSMC curriculum.

Christina, Nama and Sonalee have co-authored several articles that appeared in





## Collaboration in Research at Mathworks

Cody Patterson, a former HSMC student and now a mathematics education faculty at UTSA collaborates with Texas State graduate students and Mathworks faculty to work on research in the JSMC and HSMC settings.

Joining with Mathworks faculty, Hiroko Warshauer, Max Warshauer, and Terry McCabe, and graduate students in mathematics education including Christina Koehne, Katty Zied, Xiaowen Cui, and Sonalee Bhattacharyya, the team is examining professional development of pre-service and in-service teachers – what a mix of participants offers.

Cody has also used the HSMC setting to study how peer mentors' criteria for proof validity and clarity at the HSMC may differ from those of professional mathematicians. Working with Texas State PhD student Xiaowen Cui, they presented their research at the 2017 Conference on Research in Undergraduate Mathematics Education (RUME).

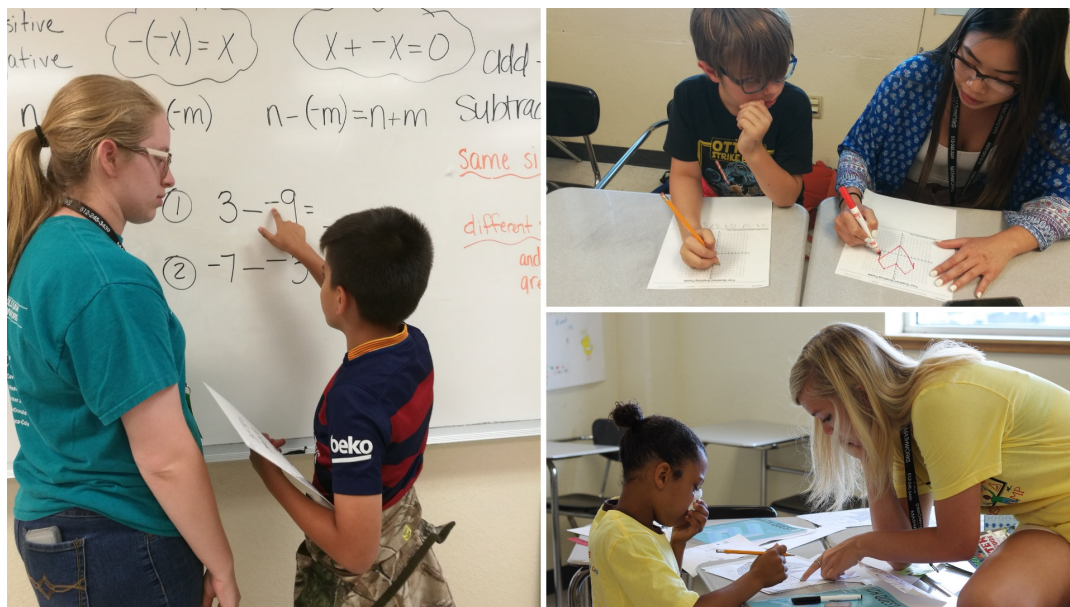
Currently, Cody is working with two Texas State MS students in mathematics, Lino Guajardo and Maria Tomasso, to examine how peer mentors support students in learning about proofs. They submitted their work to the 2019 RUME Conference.

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## Mathworks Fellows Program

- Attended: 22 students (5 male, 17 female)
- Applied: 47 students
- Undergraduate Majors: Applied Mathematics, Mathematics, Physics, Education, History
- Seeking Teacher Certification: 15 students

*to ask probing questions that will help my students really think deeply and develop understanding of the material."*



*"I think something that is an important characteristic is never giving up!" - 2018 MF*

The Mathworks Fellows Program continues to develop as an exciting program for undergraduates to learn about teaching mathematics. In 2018, 22 undergraduates from Texas State University and 1 undergraduate from Texas A & M participated in the JSMCH as Mathworks Fellows (MFs). Each of the 11 JSMC classes had two MFs assisting the master teachers in class. In the afternoons, the MFs reflected on the morning camp with the master teacher and prepared for the next day's camp. The Fellows then met with Hiroko Warshauer in a seminar to further discuss the Mathworks Guiding Principles. There were 15 MFs working towards teacher certification, 10 mathematics majors, and 12 MFs in other fields such as Physics, History and Interdisciplinary Studies.

## Primary Math World Contest (PMWC), 21st Competition 2018

Four students were chosen to participate in the Primary Math World Competition (PMWC) in Hong Kong. At the PMWC, they met top students from around the world who competed in this challenging mathematics contest.



We had 599 students take the Mathworks Math Contest (MMC) and 28 teachers and coaches who proctored the test at sites throughout Texas. A team of 4 students was then selected to represent the United States in the Po Leung Kuk Primary Math World Contest (PMWC) as the San Marcos Mathworks Team.

In July, after attending the Residential Summer Math Camp (JSMCR) training program, these students flew to Hong Kong and competed at the 2018 PMWC. The team in 2018 finished as co-champions for the Po Leung Kuk Cup for the 13th time.

We would also like to recognize our Team Leaders. Dr. Hiroko Warshauer, the Team Leader, is an Assistant Professor of Mathematics at Texas State University. Pat Carreon, the Deputy Team Leader, teaches 7th Grade Algebra at Weslaco ISD, and has taught in the JSMC for 19 years.

## Thank You to Our Sponsors



Thank you for another successful summer of learning mathematics. Our mission is to research and develop model programs and self-sustaining learning communities that engage students from all backgrounds in doing mathematics at a high level.

Your donations made it possible:

For students to attend the programs regardless of their financial background.



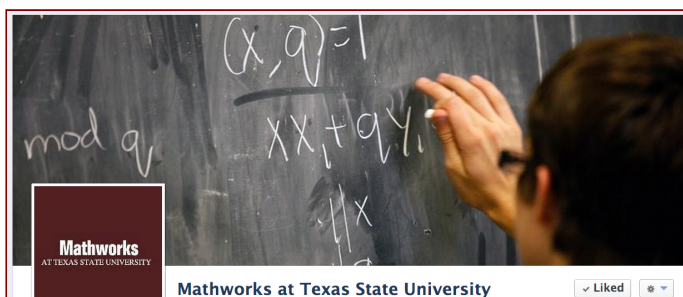
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