2020 IMPACT REPORT
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About Us

The Mathematical Association of America (MAA) is the world’s largest community of mathematicians, students, and enthusiasts. We accelerate the understanding of our world through mathematics because mathematics drives society and shapes our lives.

OUR VISION

We envision a society that values the power and beauty of mathematics and fully realizes its potential to promote human flourishing.

OUR MISSION

The mission of the MAA is to advance the understanding of mathematics and its impact on our world.
Letter From Leadership

Even as many of us are vaccinated and beginning a slow, cautious return to more normal routines, we are still in the middle of a pandemic, a health crisis that upended the global economy and the lives of everyone on the planet. We all face uncertainty about what our post-pandemic world will look like.

As you read the report, you will see how the MAA community rapidly responded to the challenges of remote instruction and the upending of our professional lives across almost all dimensions. I hope you’ll also be proud of the ways in which MAA has adjusted to support our community and continues to champion change.

The MAA will continue to focus on our mission, core values, and vision. During the last year, we have all been called to reckon with historical barriers affecting participation in mathematics. One of our core values is inclusivity. Progress can only come through community engagement and action. Our virtual Diversity, Equity, and Inclusion (DEI) programming represents early efforts on this front.

There is much room to improve. We must all engage honestly with our past to advance equity, diversity, and inclusion within the MAA and in our community.

Although it was a year filled with pain and uncertainty, it gave us space to come together, sharing our insights and learning together, gaining strength and resiliency through community. The discussions I followed on MAA Connect reminded me that MAA is our members, and it is through our collective efforts that we advance our mission, values, and vision.

One of those core values is teaching & learning. As classroom instruction moved online, the MAA community moved rapidly to consider how to meet educational objectives in spite of the technological challenges. I watched as questions shifted from how to use technology to wrestle with deep questions around content versus understanding, and what authentic assessment supports our goals for our students might look like. While these questions were lurking in the background pre-pandemic, I fully anticipate that we will continue these discussions to accelerate the work already underway, which is represented by the Committee on the Undergraduate Program in Mathematics (CUPM).

MAA’s historical emphasis on communication, another of our core values, continued without interruption in 2020, with our journals and magazines appearing as usual. Through our partnership with Taylor & Francis, MAA members now have access to a number of additional journals. With AMS, MAA Press continues to offer high quality, high value texts and other books that celebrate our discipline while attaining to the highest standards of mathematical exposition.

As I write this, we are well into 2021, and I’m excited to see the efforts of the past year continue to develop and grow. While I had hoped that we would be able to meet in person for MAA MathFest 2021, holding the meeting virtually offers us the opportunity to focus on how our meetings can be more inclusive for those who would be unable to attend. In fact, reflection over the past year has led us to conclude that, to live into our values, we must continue to offer mechanisms for in-person virtual engagement at all of our meetings. That’s a challenge we embrace and hope to hear from you as we experiment and learn.

The strength of the MAA comes from the voices and expertise of our members. I am always excited to see your energy and enthusiasm. The future offers many opportunities for us to grow together.

Thank you for being a part of our community.

Sincerely,

Michael Pearson
MAA Executive Director
Supporting Our Community in the Midst of a Pandemic

Building Community and Providing Support in a Global Health Crisis

In March 2020, the World Health Organization declared COVID-19 a pandemic. This was uncharted territory, affecting nearly every facet of education, from the way students learn to how educators teach. Overnight, classrooms became computer screens. However, instruction for in-person learning does not always seamlessly transfer to a remote learning environment. Educators were now faced with two crises—the pandemic and its aftermath. The ripple effects from the pandemic disrupted education as a whole, leaving teachers and professors only one path forward, to adapt and overcome.

2020 had a profound impact on public health as well as how people work and live. Our community responded by sharing their mathematical knowledge in new ways. We leveraged our new online community platform, MAA Connect, to unify our community and share resources. In a matter of days, we had dozens of resources available and hundreds of downloads from educators.

In the days after, we were vigilant in putting together downloadable resources and free online training to help teachers navigate the transition to remote learning.

HIGHLIGHTS:

- Created a compilation resources page on MAA Connect, a new member community portal, with over 400 downloads.
- Launched M-Powered, an AMC community website dedicated to enhancing student’s mathematical journey through community outreach, learning activities, and engaging events. Started in June - 20,500 views and 7,428 visitors.
- Launched the MAA Newsroom, a central hub for all MAA news and stories, with over 16,000 page views.
- Conducted outreach programs that hosted 25 webinars, with 2,022 total attendees and 6,506 recorded views.
- On March 16, launched the “Talk Shop” series to help faculty transition to online teaching and remote learning, which garnered over 1,200 views on YouTube.
- On June 10, the MAA participated in #ShutDownSTEM to reinforce our commitment to eradicate anti-Black racism in academia and STEM, driving 250 people to shutdownstem.com.
I have found my membership in the MAA to be a high-leverage investment in my career. Through the MAA, and the benefits of membership, I have been able to improve the learning experience for my students, continue growing intellectually and professionally, and generally stay engaged with my field, something which I value highly.

Nathan Warkentin
High School Mathematics Teacher
Seoul International School
"I currently teach Mathematics for IBDP and American curriculum courses at Abu Dhabi International Private School. I have found my membership in the MAA to be a valuable investment in my career and in my professional development, and especially have enjoyed the Classroom Capsules where project based learning is readily available for use. The professional development courses are also highly beneficial.

Through the MAA, and the benefits of membership, I have been able to enrich my teaching process and apply hands-on activities to my classroom teaching thereby leading me to be a guide by the side rather than a sage on a stage in the classroom."

Julius Jose Kurian
Abu Dhabi International Private School
United Arab Emirates

"I joined the Mathematical Association of America when I joined Ivy Tech Community College as a full-time instructor. It was an easy way for me to satisfy my need for continuing professional development for my job. I teach a wide range of mathematics courses (from basic math through advanced calculus), physics, and astronomy. My experience with the Mathematical Association goes back to my college days where I participated in the Putnam exam every year. It was a great experience and made it easy when it came time to join a professional organization."

Cyrus Screwvala
Assistant Professor, School of Arts, Sciences and Education/Mathematics & Physics Professor
Ivy Tech Community College of Indiana – Columbus Campus

"I currently teach the equivalent of middle and high school math. Through the MAA and the benefits of membership, I have rediscovered the joy I have in engaging and re-joining a community that shares the love and passion I have for math. I especially have enjoyed joining conversations about math at a higher level than I teach."

Donna Singleton
King James Academy Royston
Royston, Hertfordshire, U.K.
Sections

Sections and SIGMAAs are the heart of the MAA. They connect people using their geographic location and special interests. Also, they help members identify themselves within the MAA and as a result they are able to connect with other people with shared interests. This is one of the many reasons members stay at the MAA for an average of 23 years.

George Pólya Lecturer Series

The George Pólya Lecturer is a popular program for Section meetings, offering each Section an opportunity to schedule a lecture, fully funded by the MAA. Beginning in 2022, the MAA is accelerating the rotation schedule for appointing a new Pólya Lecturer from five to three years. The series is also adding two new speaker programs on three-year rotations, to provide all Sections with a funded invited lecture every year!

2020 SPEAKERS:

Talithia Wiliams
Harvey Mudd College

Charles Hadlock
Bentley University

Charles Hadlock spoke about the mathematics behind various types of auctions. He recounted his experience in teaching, using live auctions and real money in his classes. Hadlock said “Oftentimes, a five dollar breakfast sandwich would bring the student auctioneer over $50,” and his class analyzed how preferred bidding strategies depend on auction design. He goes on to explain “A famous result with wide applicability in economics is the Revenue Equivalence Theorem, which I proved with simple calculus and used as a basis for much of the presentation.”

SIGMAAs

Mathematics In Business, Industry, and Government


Involvement in the MAA has enriched my life greatly. It started with section meeting attendance, and grew to involvement in MAA’s Special Interest Group for Mathematics in Business, Industry, and Government, or BIG SIGMAA. At the beginning, it seemed a bit strange to be an engineer attending Math events. However, those feelings soon faded. I found that I had some viewpoints that others wanted to hear. I could never have predicted the many friendships and memorable experiences I would have along the way.

We live in a golden age for Mathematics. Part of that is a growth in the number of opportunities to get involved as a math student or young professional mathematician. These involve summer Research Experiences for Undergraduates, career workshops, Undergraduate Math Conferences, Math Circles, PIC Math projects, and so much more. When I was a student, I was not aware of all these opportunities. I encourage you to look around at all the possibilities, get involved, and enjoy.

Greg Coxson
PEO IWS Research Engineer
United States Naval Academy

We have 5,200+ members who participate in 17 SIGMAAs

Mathematics and the Arts
Business Industry Government
Mathematical and Computational Biology
Environmental Mathematics
History of Mathematics
Inquiry-Based Learning
Math Circles for Students and Teachers
Mathematical Knowledge for Teaching
Philosophy of Mathematics
Quantitative Literacy
Recreational Mathematics
Research in Undergraduate Mathematics Education
Mathematics and Sports
Statistics Education
Teaching Advanced High School Mathematics
Undergraduate Research
Mathematics Instruction Using the Web
MAA Connect is a new member benefit introduced in January 2020. It is a community hub promoting member engagement and discussion through organic conversations with other members and non-members in the mathematical community. The MAA is one big community—a combination of smaller intersecting communities—all of whom benefit from being able to connect with each other.

Diversity is our greatest strength and also our greatest challenge. MAA Connect has demonstrated that we are all concerned with improving math education and offering students the best educational experience that is possible.

Peter Arvanites
Professor of Mathematics
Rockland Community College

Staying Connected in 2020

MAA Connect was an instrumental community resource during the COVID-19 pandemic. The planning behind the community began in 2019–16 months before the first lockdown. When the world was turned upside down in March 2020, the MAA was equipped to offer the community alternative ways to communicate and connect. When many in the mathematics community needed a way to get input about online pedagogy or instructional technology, MAA Connect filled that need and so much more.

“Online Teaching and Distance Learning” community started with approximately 60 members and now has more than 600, with 300+ discussions and a library of resources.

Began with 5 communities and at the end of 2020 had more than 120.

More than 1,500 new discussion threads and nearly 5,000 posts across all communities in 2020.

More than 100 events including virtual programming, conferences, social hours, etc.

TOP FEATURED DISCUSSIONS:

“What is the name of your ‘Math for Liberal Arts’ course

Position Statement? Social Justice Movement

“Seeking Practical Advice on Zoom Scheduling for Autumn”

“I’m grateful for MAA Connect. With so much newness in the term, questions would arise, and several times I simply posted to a community in MAA Connect. Soon enough, I had responses and my question was answered. Before long, I was often thinking of options far beyond the scope of my question! So, I’m thankful for MAA Connect—for us being MAA ‘Connect-ed’ via our posts and discussions. MAA Connect is a bit of MathFest in my day when I read the daily digest! And for that, I’m very, very thankful!”

Tim Chartier
Chair, Congress

HIGHLIGHTS:

“Diversity is our greatest strength and also our greatest challenge. MAA Connect has demonstrated that we are all concerned with improving math education and offering students the best educational experience that is possible.”
MAA Competitions

The MAA’s American Mathematics Competitions (MAA AMC) program leads the nation in strengthening the mathematical capabilities of the next generation of problem-solvers. Through classroom resources and friendly competition, the MAA AMC program helps America’s educators identify talent and foster a love of mathematics. The MAA AMC program develops the analytical skills needed for future STEM careers in an innovative society.

In its 70+ year history, the AMC has been solely an in-person, pencil and paper competition. Due to the pandemic in 2020, AMC had very little notice, but high demand, to shift operations online. Within 2 months, students and competitions managers had a new path forward with the virtual AMC as well as the option to still participate in-person.

More than 100,000 students and competition managers hosted the AMC cycle online, proving the online option to be a resounding need. The MAA AMC will continue to offer a hybrid model for future years, advancing its competition series with industry-forward technology while providing convenience, safety, and ease for its community.

HIGHLIGHTS:

- AMC launched the Young Women in Mathematics program in 2019, awarded the first young women in March 2020, and increased donor funding by 5x to support more young women in 2021.

- Launch M-Powered: The AMC launched a new community website, M-Powered, featuring engaging programming and resources for students, educators, and community members.
M-Powered

In June 2020, MAA AMC launched M-Powered, a community website dedicated to AMC K-12 outreach and connection to include students, teachers, and community enthusiasts.

M-Powered offers featured events, downloadable resources, and community spotlights to:

- Build students’ capabilities and confidence
- Tackle math myths such as “talent vs. skill”
- Reframe negative math connotations
- Increase transparency in math and math competitions
- Heighten inclusivity through partnerships and community outreach

M-Powered visitors are encouraged to support each other's personal learning journey and collaborate along the way.

TOP EVENTS

Weekly Math Wednesdays
Attendees were encouraged to explore the big picture concepts of the universe every Wednesday in the summer. The sessions allowed attendees to brainstorm and wonder about higher mathematical constructs.

Rubik’s Cube
This event was debuted on M-Powered on the website’s launch date. It included an approachable introduction to recreational mathematics to explore puzzle history, math applications, and solving techniques. Campers learned skills and techniques from a record-breaking speed-cuber.

Exploding Dots
MAA Mathematician-at-Large, James Tanton, presented 30-minute virtual problem-solving sessions delving into the powerful story of place-value in arithmetic, algebra, college mathematics, and beyond.

The Mindset, The Innovation, and The Math: A Post-AMC 8 Discussion Exclusively for CMs
This event was for AMC 8 educators, supporting them on dynamic problem-solving with AMC problems and thought exercises. Competition Managers explored AMC 8 strategies, support, and guidance for building an approachable space for student learning post-competition.

Fireside Chat
Students from the AMC Olympiad program co-hosted an event to support and get to know other AMC students. This event was an informal, interactive hangout, and explored all things math competitions: experiences, myths, and advice. This was a student-led, student-only event.
**Mathematics on a Global Stage**

**International Mathematical Olympiad**

The U.S. team earned third place in the virtual 61st International Mathematical Olympiad (IMO) held on September 21-22, 2020. The six high school U.S. team members also won medals for their individual top scores.

The IMO, the preeminent high school math competition, brings together the top mathematics students from across the world to compete in the world championship of math. For the first time in its history, the IMO was held virtually with each country setting up their own exam centers and live streaming the participants as they took the competition. Over 600 students from 105 countries and territories competed. The U.S. team scored 183 points out of a possible 252 points.

The Olympiad distills the robust problem-solving and critical thinking components, required later for research, with identifying young talent for further enrichment. The Olympiads elevate the level of mathematical awareness worldwide; the worldwide competitions have provided a concrete target for interested young mathematicians to pursue.

**2020 U.S. IMO TEAM**

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<thead>
<tr>
<th>Medal</th>
<th>Name</th>
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<tbody>
<tr>
<td>Gold</td>
<td>Quanlin Chen</td>
</tr>
<tr>
<td>Gold</td>
<td>Jeffrey Kwan</td>
</tr>
<tr>
<td>Gold</td>
<td>Luke Robitaille</td>
</tr>
<tr>
<td>Silver</td>
<td>Gopal Goel</td>
</tr>
<tr>
<td>Silver</td>
<td>Tianze Jiang</td>
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<tr>
<td>Silver</td>
<td>William Wang</td>
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The IMO is probably the biggest, if not the only point in time, when people who love thinking processes above all come together.

Oleksandr “Sasha” Rudenko

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**MAA American Mathematical Competition**

Number of Students for AMC 8 and 10/12 (2019-2020 Cycle)

<table>
<thead>
<tr>
<th>Country</th>
<th>Students</th>
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<tr>
<td>Brazil</td>
<td>661</td>
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<tr>
<td>China</td>
<td>24,284</td>
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<tr>
<td>Taiwan</td>
<td>999</td>
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<tr>
<td>India</td>
<td>4,284</td>
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<tr>
<td>Nigeria</td>
<td>2,761</td>
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<tr>
<td>Vietnam</td>
<td>4,667</td>
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<tr>
<td>Philippines</td>
<td>999</td>
</tr>
<tr>
<td>South Korea</td>
<td>4,667</td>
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<tr>
<td>Vietnam</td>
<td>4,667</td>
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<tr>
<td>South Korea</td>
<td>4,667</td>
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<tr>
<td>Indonesia</td>
<td>2,917</td>
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<tr>
<td>Kyrgyzstan</td>
<td>3,278</td>
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<tr>
<td>Azerbaijan</td>
<td>1,264</td>
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<td>India</td>
<td>4,284</td>
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<td>Philippines</td>
<td>999</td>
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<td>Philippines</td>
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5 New Countries

73,859 Total Students

The most humbling examples are in Afghanistan and Iraq because these countries are well known to be in armed conflicts...we can see the endurance of humans, in spite of seemingly insurmountable struggle, trying to raise their young minds above wars and terrorism.

Marcio Vargas Sejas
European Girls’ Mathematical Olympiad
The U.S. team earned fourth place in the European Girls’ Mathematical Olympiad (EGMO), a challenging high school competition hosted annually to honor girls across the world. This year, the competition originally scheduled in the Netherlands was held virtually on April 15-21, 2020. During the EGMO, 53 countries competed in the competition with 204 total student participants.

LEADER:
Meghal Gupta

DEPUTY LEADER:
Rachel Zhang

Romanian Master of Mathematics
The U.S. team earned third place at the Romanian Master of Mathematics (RMM) held in Bucharest, Romania from February 26 - March 2, 2020. The RMM is a challenging international high school mathematics competition that allows students to exchange mathematical ideas and engage in cross-cultural communication with other students from around the world.

A total of 20 teams from around the world competed at the 12th Romanian Master of Mathematics. Over the course of two days, students work through six problems; the team score is based on the combined highest three individual scores.

LEADER:
Po-Shen Loh

DEPUTY LEADER:
Ankan Bhattachary

On behalf of MAA, we extend our congratulations to the students and leaders of Team USA who competed at RMM. Every year, we are amazed by the talent showcased by our students, and we are proud to foster their interest in mathematics.

Jennifer Barton,
Director, Competition Operations

2020 U.S. EGMO TEAM:
Sanjana Das
Ashley Ke
Elizabeth Ke
Christine Yang

2020 RMM TEAM
Sanjana Das
Ashley Ke
Elizabeth Ke
Christine Yang

GOLD MEDAL
Sanjana Das

SILVER MEDAL
Ashley Ke
Elizabeth Ke
Christine Yang

BRONZE MEDAL
Eric Gan

22 23
I’m delighted to have MAA work with AoPS to support this effort. The success of the CMC is a testament to the energy, enthusiasm, and commitment of our community to give back and provide extraordinary opportunities for talented students around the world during this time when so much of our ordinary plans have been disrupted.

— Michael Pearson,
Executive Director of MAA

**The Cyberspace Mathematical Competition**

In the midst of the pandemic, the traditional IMO (planned for St. Petersburg, Russia) was postponed. MAA American Mathematics Competitions (AMC) wanted to offer something in its place. As a result, the AMC launched the first-ever Cyberspace Mathematical Competition (CMC). The CMC’s mission is to provide a fun opportunity for the world’s top young math students to engage with challenging and interesting problems, and virtually meet peers from 70+ other countries. The U.S. team placed second with six gold medals and two silver medals. Every member of the US team placed on the podium.

**LEADER:**
Po-Shen Loh

**2020 U.S. CMC TEAM:**
- Sanjana Das
- Gopal Goel
- Tianze Jiang
- Jeffrey Kwan
- Luke Robitaille
- William Wang
- Christine Yang
- Quanlin Chen

**Gold Medal**
- Sanjana Das
- Gopal Goel
- Tianze Jiang
- Jeffrey Kwan
- Luke Robitaille
- William Wang
- Christine Yang

**Silver Medal**
- Quanlin Chen

**AMC 8**
- (Nov 2020- online)
- Student Participation:
  - 11,055 paper
  - 45,023 online
  - 56,078 total domestic
  - 44,115 international
- Site Administrators:
  - 1,564 domestic schools
  - 33 countries

**AMC 10/12**
- (Feb 2020- print)
- Student Participation:
  - 111,910 domestic
  - 23,891 international
- Site Administrators:
  - 3,324 domestic schools
  - 44 countries

**AIME**
- (March 2020- print)
- Student Participation:
  - 5,634 domestic
  - 489 international
- Site Administrators:
  - 1,073 schools
  - 12 countries

**USA(J)MO**
- (June 2020- online)
- Student Participation:
  - USAMO 223
  - USAJMO 199
- Site Administrators:
  - 194 schools

Olympiad students volunteered to organize events on M-Powered, like the Fireside Chat, a student-only event which built transparency approachability around math competitions as well as added to the resources available for AMC students.

For the AMC 8 in 2020, the MAA AMC added 535 new competition managers and 412 new schools.

For the AMC 10/12 in 2020, The MAA AMC added 838 new competition managers and 421 new schools.
MAA AMC Awards and Certificate Program

Last year, the AMC introduced the Maryam Mirzakhani AMC 10 A Prize & Certificates to celebrate young women’s achievements in math by recognizing top-scoring students on the MAA AMC.

In 2020, Jessica Wan received a monetary prize of $5,000 for achieving a perfect score on the AMC 10 A! An additional 149 students received Certificates of Excellence for being top-scorers in their MAA Section.

This was made possible by the generous initial donation from AwesomeMathGirls.org.

Edyth May Sliffe Award

Over the last 32 years, MAA has awarded teachers The Edyth May Sliffe Awards for Distinguished Mathematics Teaching in Middle and High School. The award honors teachers who host the MAA AMC and who have done outstanding work to motivate students in mathematics. In 2020, 20 teachers were honored. Since the program’s inception, 614 teachers have been awarded over $300,000 in awards.

SLIFFE WINNERS

- Matthew Donnelly
- Joshua Rosenthal
- Patrick Keegan
- Ingrid Lu
- William Speer
- William Hawkins
- Bettina Berton
- Paul Poiesz
- William Skerbitz
- Steve Maxey
- Steve Gadbois
- Luis Valdes
- Richard Agin
- Christopher Tillman
- Terry King
- Matthew Caputo
- Daniel Lowe

"As a girl competing in a male-dominated activity, I do not let my gender define my limit."

Annie Ye
2020 Maryam Mirzakhani Certificate Winner

"All of these achievements were beyond my wildest dreams when I was first introduced to competitive math and could not solve even half of the weekly homework problems! My experience as a mathlete has taught me problem-solving skills that will be very useful to me in my career someday."

Karen Culley
2020 Maryam Mirzakhani Certificate Winner

"Growing up, my family put a hard emphasis on education and more importantly an emphasis on education that you have a passion for. My first exposure to math, much like Mrs. Mirzakhani was from my brother. As peculiar as it sounds, I copied everything that he would do. So, when he joined Kumon, I joined too. However, unlike everything else I found my own interest in mathematics. Throughout the progression of school, I would love helping people and tutoring people in math and I found out that my mathematical ability surpassed my peers when I would skip my 6th and 8th-grade math classes. I soon enrolled in a math excellence academy (ICAE) which has given me opportunities to further mathematical understanding and achieve feats such as receiving the Maryam Mirzakhani AMC 10A award."

Niveditha Murali
2020 Maryam Mirzakhani Certificate Winner

"It’s an honor to be one of the Maryam Mirzakhani AMC 10 A Certificate Winners. I’m glad that my effort in math paid off because it’s always been my favorite subject since I was very young. This is the third time that I participated in AMC and I can actually see my improvement in the three years, which encourages me to continue and be more passionate about math."

Jenny Tang
2020 Maryam Mirzakhani Certificate Winner

"I’m glad that the AMC provides an opportunity for me to continue challenging myself and participating in math competitions. I owe so much to all the math teachers I’ve had throughout the years that have guided me and pushed me out of my comfort zone."

Hannah Wang
2020 Maryam Mirzakhani Certificate Winner
Due to the pandemic, MOP quickly shifted its operations online within a month. With the cooperation of students and staff, this year’s MOP allowed for more programming flexibility, guest speakers, and centralized curriculum management. Students’ testimonials positively and powerfully spoke to the new, dynamic format.”

Mathematical Olympiad Program

Since its inception in 1974, the Mathematical Olympiad Program (MOP) is a mathematically stimulating experience designed to broaden the participants’ view of mathematics while fostering their excitement toward further study. The Mathematical Olympiad Program is free to attend for invited students.

THE PROGRAM:

Challenges their mind with advanced mathematical theorems and techniques
Tests their problem-solving skills
Gives them opportunities to explore their futures while enjoying a taste of the college environment.

Evenings contained optional enrichment activities, including talks on advanced mathematical concepts from visiting speakers, as well as staff office hours, and recreational panel activities. The program expects to further enhance our training of the next generation of leading mathematicians and scientists.

In 2020, 62 students were invited to this selective program from a pool of over 132,000 AMC 10/12 participants. MOP instructors teach dynamic introductory courses in Number Theory, Combinatorics, Euclidean Geometry, and other specialty topics.

Pre-MOP

MAA created the pre-MOP program in 2019 as a way to close the gender gap in mathematics. The program was established to give girls participating in MOP an opportunity to acclimate to the environment, meet instructors, practice problem-solving skills, and ultimately build on their abilities before the beginning of the summer camp. The students participated in problem-solving exercises, games, and meals with MOP staff, giving them an opportunity to connect and bond together. This alternative environment allows girls to safely practice mathematics, eases the competitive tension, and fosters self-confidence in a collaborative and supportive learning environment.

Sergey Levin, co-Editor-in-Chief for the AIME Editorial Board, MAA member of the Metro New York Section, has generously pledged $10,000 a year for 3 years to fund the pre-MOP program.

“I thought it was amazing and really fun... in general, I learned a lot and had a great time. I also met some new people and made new friends.”

“You all did an amazing job of making online MOP enjoyable!”

“Thanks for arranging games and stuff for the camp, they were a blast! Overall, it was a really worthwhile experience and I learned a lot.”

“I wish it could be year-long. The connection and bond within the community is precious. I really enjoy it!”

Jennifer Barton
Director of Competitions Operations

“It’s been fun! Thanks for organizing everything because virtual life is intrinsically harder.”

“I really enjoyed being here - I only wish it could have been longer! I cannot express my gratitude enough for the generosity of the staff here.”

“Thank you for arranging games and stuff for the camp, they were a blast! Overall, it was a really worthwhile experience and I learned a lot.”

“It’s been fun! Thanks for organizing everything because virtual life is intrinsically harder.”

“I really enjoyed being here - I only wish it could have been longer! I cannot express my gratitude enough for the generosity of the staff here.”

“You all did an amazing job of making online MOP enjoyable!”
Putnam Competition

81st William Lowell Putnam Mathematical Competition

Due to COVID-19, the 81st annual William Lowell Putnam Mathematical Competition, originally scheduled for Fall 2020, was postponed until Feb. 20, 2021. The competition proceeded in an unofficial mode, with no proctors, no prizes, no awards, and no national recognition of high-scoring individuals or teams. Students self-administered the exam themselves via an online platform. The solution papers were uploaded by participants for grading. Scores were reported back privately to the individual participants and the local supervisors of each institution. There were 1,593 students from 360 institutions who participated in the Putnam.

Programs

The MAA has 14 grant-funded programs, falling into three categories:

- **Curriculum Resources**
  Aid faculty for teaching pre-service teachers.

- **Outreach Initiatives**
  Enable faculty to fund projects that are aimed at reaching underrepresented groups in mathematics.

- **Professional Development**
  Programs are focused on increasing the skills of current college and university faculty, supporting early career mathematicians, and providing resources to teachers at various levels.

We strive to provide the best resources, information, and opportunities to the mathematics community, and are committed to creating and facilitating high quality programming that enriches their lives.

HIGHLIGHTS

35 people attended the virtual CoMInDs 5th annual workshop.

2020 PIC Math cohort did not convene due to the pandemic. In lieu of presenting in-person, MAA offered stipends to students to produce short videos of their work, solving real-world problems, with their respective industry partners. 11 student groups submitted videos.

The Fall 2020 VITAL workshop was attended by 30 participants. Each received a $300 stipend, totaling $9,000.

$295,000* were awarded to 117 people from 48 institutions to support outreach initiatives.

In 2020, MAA held 25 webinars (including collaborations with TPSE, NMS, MMHub), which were attended by over 2,000 people live, with 6,210 views of the recordings afterwards.

*Includes outreach grants, subawards, and stipends
Founded in 1994, over 2,000 faculty fellows have completed the program. Project NExT (New Experiences in Teaching) is a professional development program for early career Ph.D.s in the mathematical sciences that improves the learning experiences of thousands of students taught by the program’s fellows.

Building a Better Future For Everyone

In a year of crisis, NExT’ers rallied together using their entrepreneurial flexibility to successfully pivot their in-person meeting, which typically takes place at MAA MathFest, to a virtual meeting. The meeting took place on July 27 - July 31, 2020 and had over 200 attendees from around the nation. Each day started in homerooms which were geographically given to people in similar areas to foster future teamwork and collaboration with NExT’ers. From there, NExT’ers had the opportunity to select and personalize their schedule to include professional development sessions as well as social events ranging from Yoga for a little zen, to fueling their brain with Trivia, and sharing stories over Happy Hour.

Since this meeting, Project NExT has continued operating virtually, offering monthly workshops, which are open to the public.
“Project NExT has supported my growth as a leader in the math community and equipped me with a strong network of peers who have positively influenced my development as a tenure-track professor. I have benefitted immensely from my time in Project NExT!”

Julianne Vega (2020 Brown dot)
Assistant Professor of Mathematics at Kennesaw State University

“Project NExT provides you with a unique opportunity of exposure to multiple topics and techniques that are impactful to our everyday jobs in education. An invaluable complement to our graduate school education, a four-season offering of knowledge and connections that would usually take years to develop.”

Alvaro Ortiz Lugo (2020 Brown dot)
Assistant Professor of Mathematics, Georgia Gwinnett College

“Shortly after I became a full-time faculty member, I applied for and was selected for the 2010-2011 cohort of Project NExT Fellows. I learned so much during that Fellowship year about how to balance teaching, research, and service; how to organize a panel session; and how to deepen my connections in the professional mathematics community. Since then, I have been active in the Oklahoma-Arkansas Section by taking undergraduate students to Section meetings, judging undergraduate research presentations, attending professional development workshops, and helping to select invited speakers for Section meetings.”

Nicholas Zoller (2010 Blue dot)
Associate Professor of Mathematics at Southern Nazarene University

MAA Project NExT Keeps on Growing

The Story Behind Cohort Colors

Creating colors for cohorts began in the first year of the program by Jim Leitzel. He wanted NExT’ers to be able to easily identify each other at events and conferences. Being from Nebraska, he chose “red” for the inaugural cohort color, which paved a colorful path for the following cohorts as it is still continues today.

HIGHLIGHTS

Grown the program to include over 2,100 faculty.

Dr. Trish Hammer, associate dean at Virginia Tech, joined the Project NExT leadership team as associate director, beginning with MathFest 2020.

Dr. Alicia Prieto Langarica, Project NExT associate director, was a keynote speaker at the Society for Mathematical Biology 2020 conference.

Four recipients of the 2020 Alder and Meritorious Service awards mentioned NExT involvement and/or credited Project NExT with launching their careers: Dr. Selenne Banuelos, Dr. Brandy Wiegers, Dr. Tamara Lakins, and Dr. Ezra (Bud) Brown.
Life After Project NExT

My name is Kira Hamman, and although it’s hard for me to believe, I have been a member of the MAA for 19 years. I first joined as a Project NExT fellow while at Hood College in Maryland. My department chair at Hood was Betty Mayfield, who was (and is) a devoted MAA member herself. Betty took me along to section meetings, helped me find funding to attend national meetings, and encouraged me to contribute talks whenever I could. The MAA became my professional community, and I stayed involved after my time with Project NExT ended, eventually joining and then chairing an MAA committee.

These days I value the MAA both for its role in my own career and for what I now understand is its larger role in supporting the entire profession. I am constantly impressed by how hard the organization works to provide resources for all mathematicians – not just full-time academics but also students, VITAL faculty, and mathematicians in business, industry, and government. And I appreciate the tremendous efforts the MAA has made in recent years to address underrepresentation in mathematics, and to grapple with those issues in its own membership and organizational structure.

When I think about what my career would be like without the MAA, the word that comes to mind is “lonely.” My membership in the MAA gives me access to high-quality books and journals, in-person meetings, online events, and myriad other invaluable professional materials and opportunities. But much more importantly, it gives me a community. The MAA is, first and foremost, about people, and I can say with confidence that much of who I am as a mathematician is because of those people and my connection with them through the MAA.

Kira Hamman
Assistant Teaching Professor, Mathematics
Director, Honors Program
Penn State University – Mont Alto

Diversity, Equity, and Inclusion

Breaking Down Barriers

MAA is dedicated to moving the needle on diversity, equity, and inclusion (DEI) throughout the organization and in the math community. In August 2020, MAA was proud to be the recipient of a renewal grant in the amount of $1.2 million from NSF to continue its long-standing National Research Experience for Undergraduates Program (NREUP). MAA’s NREUP focuses on offering research opportunities to minority undergraduates and in doing so, targets its outreach to HSIs, HBCUs, and tribal colleges. During the next three years, MAA will partner with institutions to create, evaluate, and disseminate the outcomes of working with underrepresented students in research and math sciences.
Making Strides in Diversity, Equity, and Inclusion

The MAA also welcomed two new engaging programs to its DEI portfolio, offering math faculty a chance to be interactive and hands-on with learning DEI best practices in the field.

MAA worked with facilitators, Rosalie Belanger-Rioux and Sara Rezvi to launch “Conversations with the Math Community,” which gathered 25 math faculty to talk about diversity and inclusion in the classroom and in math departments. We kicked this program off with an in-person workshop held at MAA’s Carriage House in February 2020 and invited local faculty to participate in a hands-on workshop that connected actual experiences in the classroom to DEI awareness.

After success with the in-person event, Belanger-Rioux and Rezvi created a three-day virtual workshop with topics including how to be an active bystander, defining microaggressions and how to respond to them, and defining what it means to be a mathematician. 50 people attended the virtual workshop and afterwards shared what they learned at their respective institutions. A DEI group, open to non-members and members, was also started on MAA Connect to help facilitate discussion and build community. The group has grown to over 150 members and offers a robust mix of engagement opportunities including a book club, office hours with the DEI moderators, special events, guest speakers, and more.

MAA launched another new program dedicated to enhancing professional development opportunities for VITAL (Visiting, Instructors, Teaching Assistant, Lecturers) staff. The VITAL community has been historically underrepresented in the math community and needs better accessibility and opportunities for professional development. Led by Dr. Dave Kung (Project NExT), Paula Talley (Dana Center) and Laura Watkins (AMATYC), the first set of workshops had 30 participants from the Dallas/Fort Worth area and included four virtual sessions held every Friday in the month of October. The workshop received positive feedback from participants with over 50% sharing that these workshops met or exceeded their expectations. The plan is to continue hosting VITAL workshops in different geographic locations with the next one taking place in spring 2021 in western/central North Carolina.

Outreach Programs and Professional Development Programs Pivot During a Pandemic

In 2020, several of our programs had to pause due to the pandemic. MAA staff quickly changed gears to transform in-person programs to online versions.

Lathisms

Tensor SUMMA

With the goal to strengthen underrepresented minorities in mathematics, the Tensor SUMMA program is proud to partner with Williams College for its Lathisms project. Lathisms was founded in 2016 by Dr. Pamela Harris, Dr. Alexander Diaz-Lopez, Dr. Alicia Prieto-Langarica, and Dr. Gabriel Sosa with the mission of showcasing the contributions of Latinx and Hispanic mathematicians during Hispanic Heritage Month. Its goal is to provide an accessible platform that features the multifaceted and diverse nature of the Latinx and Hispanic mathematics community and inspire the younger generation of Latinx and Hispanic mathematicians. Every year, the website hosts 31 Hispanic or Latinx mathematicians from ages 18 and up who share their stories, their struggles, and their challenges as they navigated their way through the mathematics profession.

Lathisms offers a platform to showcase the work of Latinx and Hispanic mathematicians and also creates resources that are specifically geared toward the Latinx and/or Hispanic population. Not only did the Lathisms group create a database of accomplished Latinx and/or Hispanic mathematicians for people seeking speakers for scientific sessions, but they have also published a book called Testimonios which showcases the stories of Hispanic and Latinx mathematicians. The book shines a light on their successes and their struggles and gives others advice on navigating a life in the mathematical sciences as a Hispanic or Latinx mathematician. When asked about how Lathisms has been received by the math community, Dr. Harris stated that “Sharing these stories of these wonderful mathematicians has led to not only to overwhelmingly positive feedback from our community, but as a source of inspiration to keep pushing boundaries towards a thriving Latinx/Hispanic community in mathematics.”

The MAA Tensor SUMMA grant has kept Lathisms alive throughout the last three years! We were able to secure the domain for the website, a web developer, created posters, and began a podcast. The funding was instrumental in Lathisms now becoming a nonprofit whose goal is to continue highlighting the work and contributions of Latinx and Hispanic mathematicians while allowing us to expand our reach through fundraising to begin a scholarship for undergraduates.
National Science Foundation
STEM Showcase

StatPrep

MAA’s StatPREP team, which has worked tirelessly to provide resources to faculty who teach intro to statistics, participated in NSF’s 2020 STEM Showcase. The StatPREP team created a video to highlight their work, provide background and history behind how the project came to fruition, and why the workshops are impactful to faculty.

Virtual Showcase

PIC Math

PIC Math also required creative measures to share the impact of its work. Throughout the year, students and faculty mentors work with industry partners to solve real world problems. Afterwards, they would prepare to present their work during MAA’s annual conference, MathFest. With MathFest being cancelled, the project team found another way for students to showcase their amazing work via Zoom.

We hosted the PIC Math Virtual Showcase where 21 student teams, joined by their faculty mentors, and introduced by their industry partner, presented their problems and solutions. All presentations were capped at 5 minutes and presented virtually on July 31 and August 1. The showcase was also joined by two industry speakers, Raymond T. Perkins (T. Rowe Price) and Gwen Spencer (Stripe) who shared their experiences working in the industry and offered tips to students on where to focus their studies.

With stipend incentives, we also offered students an opportunity to increase the visibility of their work. We helped turn their presentations into two-minute videos, which we posted and publicized through MAA’s website and channels. 11 student teams made two-minute videos, which have received 349 views and 5,739 Impressions.

I would say that StatPREP was one of the best professional development experiences that I have engaged in because it is immediately transferable to what I was doing.

Megan Breit-Goodwin,
StatPREP workshop participant.

This program allowed hundreds of people, primarily women, of varying ages, races, and ethnicities to come together, learn from one another, and form personal and professional relationships, all through a shared interest in mathematics. It is rewarding to be part of such an endeavor!

Temple University
MAA 2020 Award Recipients

Henry L. Alder Award
Selenna Bafuelos
Kenneth Monks
Brandy Wiegars

Carl B. Allendoerfer Awards
Beth Malmikog and Kathryn Haymaker
Juan Arias De Reyna, David Clark, and Noam Elkes

Chauvenet Prize
Vladimir Pozdnyakov and J. Michael Steele

Mary P. Dolciani Award
Henry Pollak

Euler Book Prize
Tim Chartier

Trevor Evans Award
Sanaz Aline Kardehdeh, Bruce Golden, and Eric Eden

Yueh-Gin Gung and Dr. Charles Y. Hu Award For Distinguished Service to Mathematics
Gerald Porter

Deborah and Franklin Tepper Haimo Awards for Distinguished College of University Teaching of Mathematics Awards
Mark Tomforde
Suzanne Weekes
Federico Ardila

Paul R. Halmos-Lester R. Ford Awards
Daniel Ullman and Daniel Velleman
Colin Adams, Allison Henrich, Kata Keahey, and Nicholas Scoville
John B. Little
Balázs Gerencsér and Viktor Harangi
Earle Raymond Hedrick Lectures
Jordan Ellenberg

Joint Policy Board for Mathematics Communications Awards
Christopher Budd
James Tanton

Meritorious Service Awards
Tamara Lakins
Ezra (Bud) Brown
Thomas Hagendorf
Lisa Manini
Shaenene McMillan

Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student (A MSP-MAA-SIAM)
Nina Zubrilina
Honorable Mention: Ashwin Sah, Mohitab Sarehney, David Stoner, and Murilo Corato Zanarilla

George Pólya Awards
Christopher Catone
Adam Glesser, Matt Rothbin, Isabel Serrano, and Bogdan D. Suceava

George Pólya Lectures
Talithia Williams
Charles Hadlock

The William Lowell Putnam Mathematical Competition: Individual Winners
Ashwin Sah
Kevin Sun
Yuan Yao
Shengtong Zhang
Daniel Zhu

The William Lowell Putnam Mathematical Competition: Team Winner
Massachusetts Institute of Technology: Ashwin Sah, Shengtong Zhang, Daniel Zhu
Harvard University: Sahun Kim, Sheldon Kiersen Tan, Franklin Wang
Stanford University: David Kawaili Lin, John Midalia, Hanhthi Zheng, Yifan Zhu
University of California, Los Angeles: Ciprian Bonciocat, Jacob Zhang, Kaxia Zhu
University of Waterloo: Gian Cordana Sanjaya, Kai Sun, Anzo Zhao Yang Teh

The Elizabeth Lowell Putnam Prize
Laura Pierson
Qi Qi
Hanzhi Zheng

The David Robbins Prize
Aubrey D.H.J. de Grey

Annie and John Selden Prize
Paul Dawkins

Edyth May Sliffe Awards
Bettina Berlon
Brian Jackson
Christopher Tillman
Daniel Low
Ingrid Lu
Joshua Rossenthal
Luis Valdés
Marisa Reinsch
Matthew Caputo
Matthew Donnelly
Patrick Keegan
Paul Preiss
Richard Agin
Steve Gadbois
Steve Massie
Susan Gifford
Terry King
William Hawkins
William Skerbitz
William Speer
Daniel Solow Author’s Award
Jim Hefferon

MAA's Inclusivity Award
William Yslas Vélez
MAA Press & Publications

The MAA books program continues its distinguished history of producing inspiring, useful, and enjoyable mathematical and pedagogical content in partnership with the American Mathematical Society (AMS). In 2020, MAA Press produced 10 new volumes. The pandemic slowed production processes as everything shifted online. Nevertheless, MAA published some innovative and enticing books.

In 2020, the long-awaited *The Unity of Combinatorics* by Bud Brown and Richard Guy was published. The book is, as one might expect given that author duo, a masterpiece of expository writing brimming with gorgeous mathematics.

Another highlight includes *Interacting with Ordinary Differential Equations* by Stephen and Max Saperstone. This book is actually a collection of interactive Mathematica notebooks that use cloud computing to illustrate the concepts and allow reader experimentation.

We produced an insightful and research-backed Notes volume, *What Could They Possibly Be Thinking?! Understanding Your College Math Students* by Dave Kung and Natasha Speer.

MAA FOCUS has begun alternating traditional issues with issues specifically dedicated to MAA Core Values:

COMMUNICATION

COMMUNITY

TEACHING AND LEARNING

DIVERSITY

The Feb/Mar 2020 issue centered on Teaching and Learning. In Oct/Nov 2020, we celebrated the core value of Diversity by focusing on articles written by and about individuals from traditionally underrepresented groups in our mathematical community. We introduced a new column: Focus on Diversity, edited by Dandrielle Lewis. This issue also contained an article by Alicia Prieto-Langarica and Bill Yslas Vélez about differences in undergraduate mathematics education in the US and Mexico. An article on mathematics education in a Hopi community and a graduate student MSED coalition rounded out the discussion.
The Virtual Special Issues program in which editors of five MAA journals select noteworthy articles on a specified theme remained a popular feature. These Virtual Special Issues are open access as a means to showcase MAA Periodicals and are widely read by the international mathematics community.

MAA Publications

In 2020 MAA periodicals continued to publish and thrive despite the pandemic. Data analytics tracked a measurable increase in article downloads and submissions.

HIGHLIGHTS

- The American Mathematical Monthly surpassed 1,000 submissions in a single year!
- The Virtual Special Issues program in which editors of five MAA journals select noteworthy articles on a specified theme remained a popular feature. These Virtual Special Issues are open access as a means to showcase MAA Periodicals and are widely read by the international mathematics community.

The College Mathematics Journal

March 2020

A Closer Look at the Compensating Polar Planimeter

John Eggers

A polar planimeter measures the area of a region by tracing its perimeter. In this paper, we (1) show a simple approach to analyzing the operation of a polar planimeter, (2) explain what a neutral circle is and its significance, (3) explain what it is that a compensating polar planimeter compensates for, and (4) provide a glimpse of the fascinating history of this instrument.

"Planimeters are fascinating instruments that deserve to be better known."

MAA FOCUS

October/November 2020

The Education of Mathematics Majors in Mexico and the U.S.

Alicia Prieto-Lángarica and William Yslas Vélez

The mathematical preparation of mathematics majors is dramatically different in the United States from other countries and this has implications for undergraduate students hoping to study abroad and for U.S. graduate school admissions of foreign students. Alicia Prieto-Lángarica and William Yslas Vélez compare a typical undergraduate experience in Mexico and in the U.S.

"The liberal arts curriculum allows students to include more mathematics in their undergraduate program of study, even when the student’s interests lie in other subjects. This is one of the benefits of a liberal arts education and mathematics departments should welcome the opportunity to increase the mathematical literacy of its students."

The American Mathematical Monthly surpassed 1,000 submissions in a single year!
DIY Flattened Curves

Tim Chartier

Tim Chartier discusses a viral comic that appeared in numerous venues at the onset of the coronavirus pandemic encouraging social/physical distancing in order to “flatten the curve.” The article explores how adjusting parameters in a basic SIR model produces graphs showing how social distancing, which can slow down the rate at which people get infected, allows society to stay within the healthcare system capacity. The article suggests that readers should play with the model themselves, starting with a basic, linked SageMathCell application.

"Mathematical models help us predict and understand the spread of disease as well as understand measures to reduce the spread."

The American Mathematical Monthly

June/July 2020

The Bounded Convergence Theorem

Brian S. Thomson

We revisit the nineteenth-century version of the bounded convergence theorem formulated by C. Arzelà in 1885 for Riemann integrable functions and, independently, by W. F. Osgood in 1897 for continuous functions.

"The bounded convergence theorem originates with another Italian mathematician Cesare Arzelà from 1885. His proof went beyond continuous functions and applied as well to Riemann integrable functions. The American mathematician W. F. Osgood rediscovered the theorem in 1897, but (as here) stating it and proving it only for continuous functions. It is conventional to refer to the continuous version as "Osgood’s theorem," an accurate description although not an accurate attribution. Proofs of the bounded convergence theorem, either the Arzelà version or the narrower Osgood version, are not commonly deemed suitable for undergraduate students and so most elementary textbooks do not give the theorem a try. The most natural impression for the novice student, having never seen these versions, is that uniform convergence works but everything else fails."

Fair Sharing of Triangular Pizzas

Hans Humenberger

How can we slice up a triangular pizza so that two people taking alternate slices receive the same amount of pizza and the same amount of crust? For equilateral triangles, there is an elegant “proof without words” solution to this problem. We investigate several related questions with regard to non-equilateral triangles.

“If a pizza is shared fairly, then everybody should get the same amount of “area” and the same amount of “crust.” The problem of fair pizza division has received considerable attention from mathematicians, but the theory and reasoning behind the solution are more important than the illusion of modeling real-life situations.”

A Mathematical History Tour: Reflections on a Study Abroad Program

R. Abraham Edwards and Marie Savoie

A professor describes a unique study-abroad course combining the history of mathematics and travel, including the logistics of planning and executing the trip as well as suggestions for designing virtual tours that can capture the magic of travel at home. A student participant who had not previously been interested in mathematics reflects on her experiences.

"The dramatic impact that this program had on my ability to appreciate the study and practice of mathematics was something I didn’t anticipate... Each site visit made the historical figures come alive, almost as if we were standing in the same room together."
Communications Highlights

**FOLLOWERS GROWTH IN 2020**

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**IMPLEMENTED NEW SOCIAL MEDIA STRATEGY**

Implemented new social media strategy in January 2020 and had 63,000 referral sessions to maa.org via social media.

**Launched MAA Newsroom**

Launched MAA Newsroom in October 2020 and had nearly 16,000 page views in 2 months!

**Math Values blog**

Math Values blog had 93,000 site visits in 2020, compared to previous year at 49,000. That’s a 90% increase!

**Top Tweets**

- **How Lisa Piccirillo produced a proof that stunned the math world.**
- **Three mathematicians have resolved a fundamental question about the dodecahedron.**
- **Can social unrest and its spread be modeled using mathematics?**
- **Annoyed with the previous methods of measurement, Johannes Kepler wrote a 1615 book on measuring the volume of wine barrels. See how he used algebra to anticipate differential calculus solutions for maxima and minima problems. #WineBarrels #Volume http://bit.ly/2CBnRsb**

**INDUSTRY AVERAGE ENGAGEMENT RATE:** 0.13% 0.06%

**LINKEDIN**

- **TOTAL FOLLOWERS AT THE END OF 2020:** 11,317
- **TOTAL FOLLOWER GAIN:** +2,817
- **NUMBER OF POSTS:** 58
- **TOTAL IMPRESSIONS:** 65,618

**NEW!**

- **TOTAL ENGAGEMENT:** 2,922
- **TOTAL IMPRESSIONS:** 3,425
- **AVERAGE WEEKLY ENGAGEMENT RATE:** 0.4%
- **INDUSTRY AVERAGE ENGAGEMENT RATE:** 0.06%

**WEBSITE TRAFFIC**

- **IMPRESSIONS:** 126,970
- **ENGAGEMENTS:** 1,063
- **IMPRESSIONS:** 131,906
- **ENGAGEMENTS:** 1,133
- **IMPRESSIONS:** 134,709
- **ENGAGEMENTS:** 1,063
- **IMPRESSIONS:** 131,806
- **ENGAGEMENTS:** 1,063
Top Facebook Posts

Researchers are using mathematical models to estimate how contagious the coronavirus is and how far it could spread.

Congratulations to the Massachusetts Institute of Technology (MIT) on their success in this year’s Putnam Mathematical Competition!

Pi eating contest. #PiDay https://www.maa.org/

MAA member and Team USA’s International Mathematical Olympiad Coach Po-Shen Loh is offering a free daily YouTube math course called, “Ask Math Anything.”

Top LinkedIn Posts

Check out our latest #MathValues post on the first annual #BlackInMathWeek Twitter event hosted by Black in Math this past November. Read the article and explore the hashtag on Twitter to learn more about Black mathematicians’ many amazing contributions to the field! http://bit.ly/2TiAHHn

David Bressoud explains the dysfunctional way we approach calculus education in the U.S. and offers suggestions on how we can improve and move forward. New on #MathValues. https://lnkd.in/gQrVeRM

Researchers are using mathematical models to estimate how contagious the coronavirus is and how far it could spread.

The world is changing. How can mathematics adapt to be online? Check out this “Reimagining Online Mathematics” #MathValues post from Audrey Malagon of Virginia Wesleyan University. #Nonlinemath #innovation https://lnkd.in/dQgSRSu

Nicholas Scoville of Ursinus College writes in “Topology from Analysis: A Mini-Primary Source Project for Topology” about using Cantor’s 1872 paper to help students study abstract topological notions. Check out his words of wisdom. #MAAConvergence #Topology
Math Values

MAA is known for providing a variety of mechanisms for the mathematical sciences community to share ideas and to learn from each other. That is why we introduced MathValues.org, a place where we share perspectives on issues important to the community and discuss mathematical related topics. MAA’s core values—community, inclusivity, communication, and teaching & learning—are the focal points for the content.

• 93,000 site visits
• 77,000 unique visitors
• 130,000 page views
• 40% of total traffic comes from social media to Math Values

BLOGGERS:
David Bressoud
Tim Chartier
Keith Devlin
Meera Desai
Carrie Diaz Eaton
Rachel Levy

Michael Pearson
Maria Hernandez
DUE Point Contributors
NAM Contributors
Guest Contributors

TOP BLOG POSTS
Anti-science Policy and the Canonization of Discourse on Race and Racism
MAA Recommendations for COVID-19 Response
Black Lives Matter: A Message from the MAA Committee on Minority Participation in Mathematics
Of Course, 2 + 2 = 4 is Cultural. That Doesn’t Mean the Sum Could Be Anything Else.

TOP SOURCES BY VISITS

Newsroom

In 2020, we launched the MAA newsroom, the new home for all organizational news, stories, and media coverage. It serves as a central hub to help others understand MAA’s brand story and makes it easy for journalists to find what we do and why it matters.

HIGHLIGHT STATS:

4,127 users
16,000 page views
15% of total traffic comes from social media to newsroom
3 pages are browsed by users on average

TOP COUNTRIES VISITED
United States
Canada
China
India
United Kingdom
Hong Kong
South Korea
Vietnam
Taiwan
Poland

New MAA Funding Enhances Efforts to Support More Women In Mathematics
Why your gift matters

The Mathematical Association of America gratefully acknowledges the generosity of all donors who made gifts between January 1, 2020 and December 31, 2020. Your support helps MAA inspire students, support teachers, and train early-career faculty. Together, we can advance the understanding of mathematics across all ages and highlight its impacts on our world.

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- Akamai Foundation
- AmazonSmile Foundation
- Apple Matching Gift
- Army Educational Outreach Program
- Art of Problem Solving
- Benevity Community Impact Fund
- Budapest Semesters in Math
- Casualty Actuarial Society
- D. E. Shaw Group
- Jane Street Capital
- MathWorks
- McDonald’s Restaurants
- Network for Good
- PayPal Giving Fund
- Two Sigma Investments, LLC

MAA Section Partners
- MD/DC/VA Section of Mathematical Association of America
- North Central Section of Mathematical Association of America

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Donor list reflects gifts made between January 1, 2020 and December 31, 2020.

*Denotes deceased donor

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Global disruption caused by the pandemic pushed MAA to reassess our strategic plan and annual budget. Despite shifts made, we recognized the value of maintaining the same level of superior programming members and the public need and expect, MAA was able to maintain cost effectiveness. The 2020 financials reflect MAA’s ability to match the reduction in projected revenue with expenditures, resulting in an overall net gain. The funding traditionally earmarked to support face-to-face meetings was reallocated to provide an unprecedented number of virtual opportunities.

In 2020, a significant amount of federally funded activities were postponed until 2021. The work of program services shifted to replace funding with the launch of program webinars. With increased marketing, the competitions, memberships, programming, and publications led the way in revenue generations, with nominal expenditure increases.

MAA continues to work towards a financial strategic goal of sustainability. We are extremely grateful to our donors, sponsors, and volunteers for their increased financial support of our mission. It is by this joint effort that the MAA continues to thrive. The future offers opportunities for us to continue to pursue our vision of a society that values the power, beauty, and potential of mathematics to promote human flourishing.

We are grateful to our donors, supporters, sponsors, and volunteers for their financial support of our mission during a very unusual year. It is because of you that the MAA continues to thrive.

Total Revenue: $8,417,538

- Competitions: 22%
- Publications: 20%
- Development/Fundraising: 21%
- Grant and Donor Funded Programs: 17%
- General & Administration/Other Income: 3%
- Governance/Communications/Public Policy: 0%
- Meetings/Events: 2%
- Membership: 13%

Total Expenses: $8,017,634

- Competitions: 15%
- Publications: 10%
- Membership: 12%
- Meetings/Events: 7%
- Development/Fundraising: 5%
- Grant and Donor Funded Programs: 23%
- General & Administration/Other Income: 7%
- Communications: 7%
- Governance: 1%
- Public Policy: 0%
We all have a story. I have a lifetime of stories but nothing compares to the story of 2020. I know many of you share the same sentiment which is empowering to know “we were all in it together.”

For me, in the fall semester, I was assigned to teach a virtual Calculus 1 class with 500 students. An administrator thought that it was not a significant increase in work to have a 500-student online class as compared to a normal 40-student in-person class. The difficulty was not teaching during the normal class hours; instead, it was the outside of class activities including the many emails from students who were struggling with the many challenges we all faced as a result of the pandemic.

The MAA has been great in how it responded in innovative ways to address some of these issues brought about by the pandemic. Many of these are discussed throughout this 2020 Impact Report, but I want to mention a few of them. Foremost for me is MAA Connect which is an online platform promoting member engagement and community discussion. MAA Connect has been a wonderful way to stay connected to colleagues in the math community and to learn how they are dealing with new issues that arose in 2020. The MAA Math Values blog is a great way to explore the diverse voices of mathematics and learn about current ideas that are important to the mathematics community. Also, MAA Virtual Programming is a venue to connect with colleagues, learn new skills, and grow professionally. These include webinars, workshops, minicourses, panel discussions, and research seminars. Finally, I am excited about the new MAA Section Lecturer Joint Speaker Series which is a partnership with the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM) and will allow MAA Sections to regularly invite early-career mathematicians from these professional organizations to speak at their Section meetings.

I have been a member of the MAA for many years. I have participated in my MAA Section, been involved on MAA projects, and volunteered to serve on MAA committees. By being engaged in many programs that the MAA offers, I have become part of the large MAA math community, and this has led to discussions that promoted positive changes in teaching, mentoring, researching, serving, and being more inclusive. This has also led to meeting many new people who have turned into lifelong friends. I am thankful for the friendships developed through the MAA. This is the strength of the MAA. It is the people.

Michael Dorff