

# An Inspirational Mix: ICM2026 in Philadelphia

*Allyn Jackson*

Held every four years, the International Congress of Mathematicians (ICM) is always a historic event. With the United States as host, the next ICM will take place in Philadelphia in July 2026. It has been four decades since the congress was last held in the US. Many of the greatest advances in mathematics research of that period were made by mathematicians working in the US—many of whom were born elsewhere. A true “melting pot” of nationalities and ethnicities, the American mathematical community is a compelling example of how much can be achieved when people set aside differences to focus on great intellectual aspirations. This spirit of cooperation and collaboration makes the US an ideal site for an ICM.

AMS past-president Bryna Kra of Northwestern University, who serves on the ICM2026 Organizing Committee, sees the congress as “a two-way street.” In one direction, it allows the US to serve mathematicians around the world, particularly those from developing countries. In the other direction, it reinforces for US mathematicians the breadth and depth of mathematics worldwide. “I think it will be a unifying event, bringing our mathematics community together and creating ties that will invigorate research for many years to come,” she said.

## A Momentous Gathering

The ICM is held under the auspices of the International Mathematical Union (IMU), which sets the scientific program and chooses the sites. The congress has great cachet, providing the venue for the awarding of the Fields Medals

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**BRYNA KRA**  
MEMBER, ICM2026  
ORGANIZING COMMITTEE

Born in Boston, Bryna Kra earned her PhD from Stanford in 1995 and today is the Sarah Rebecca Roland Professor of Mathematics at Northwestern University. As an invited speaker at the ICM in Madrid

in 2006, she found the congress to be “an amazing experience.” Among the plenary lectures were some of the best math talks she has ever heard. Another high point was the personal connections. “I met people who I have stayed in touch with since then, just sitting down at breakfast in the hotel,” she said. “The entire breakfast room was mathematicians!”

and burnishing the reputations of those who receive the coveted invitations to speak. But the real *raison d'être* of the ICM is to enrich connections among mathematicians from all over the globe.

Jalal Shatah of New York University, chair of the ICM2026 Organizing Committee, remembered the excitement of attending the ICM in Zurich in 1994, where he met many people he might not have encountered otherwise, some of whom became good friends and colleagues. The human interaction “is very vivid in my mind,” he said. He was in the crowd for Andrew Wiles’s plenary lecture, delivered in the cliffhanger period after the announcement of the proof of Fermat’s Last Theorem but before Wiles and Richard Taylor had closed a gap in the proof. The atmosphere in the lecture hall was “electrifying,” said Shatah. “There were more camera flashes than at a football game.”



**JALAL SHATAH**  
**CHAIR, ICM2026**  
**ORGANIZING COMMITTEE**

Born in Lebanon, Jalal Shatah came to the United States at age 18 and earned his PhD at Brown University in 1983. Today he is a professor at New York University. "It's an incredible fact that almost everything related to information science, computer science, data science, started in the US," he said. "Not necessarily by US-born mathematicians, but ones working here." In US mathematics, "there is cooperation and collaboration that exists no matter where you are from."

The status of the congress as a momentous gathering with historical significance harks back to the second ICM, held in Paris in 1900, at which David Hilbert set forth his list of problems that came to bear his name. In the decades that followed, the importance of the ICM as an expression of the state of the art of mathematics has continued to grow. The ICM "is not about mathematical disciplines that have been well developed and are at the end of their life cycle, but about those near the beginning of their life cycle," said Shatah. "That's what makes it so exciting."

### Challenging Times

With most of mathematics research centered in Europe in the first half of the twentieth century, the early congresses were held there; an exception was Toronto in 1924. World War II prevented ICMs during the 1940s, but once the conflict ended, American mathematicians pushed hard to bring the ICM to the US. They succeeded, and the first US congress was held in Cambridge, Massachusetts, in 1950. The second was in Berkeley in 1986.

In addition to the cancellations during WWII, the ICM has often been buffeted by world events. In 1982, for example, the imposition of martial law in Poland caused the ICM, scheduled for Warsaw that year, to be postponed to 1983. Three years later, when the congress was held in Berkeley, Cold War politics meant that only half of the approximately thirty Soviet mathematicians invited to speak got permission to travel. Some sent papers that were presented by others in substitute lectures.

World events had a dramatic impact on the last ICM, scheduled to be held in St. Petersburg, Russia, in July 2022. In February that year, Russia invaded Ukraine. The IMU decided that holding the congress as planned would be impossible and transformed it into an online event [see sidebar]. With the pain of this episode still fresh, the ICM2026

organizers are hoping no ripple effects will mar their own event. As one of the organizers, Tony Pantev of the University of Pennsylvania, put it, "We just want to keep the focus on mathematics and try to be as inclusive as humanly possible."

Yet another challenge for the ICMs is how expensive they have become. This might be one of the reasons the US was the only country to put in a bid to the IMU to hold ICM2026. The AMS ran the ICMs of 1950 and 1986, but for 2026, "the cost has skyrocketed in a way that was really beyond [AMS] resources," said Kra. "So the Simons Foundation stepped in." A philanthropic organization that supports research in mathematics and the physical sciences, the Simons Foundation is assisting with fundraising and logistics for ICM2026. The AMS is working closely with the Simons Foundation on various parts of the congress, said Kra, and "will definitely have a presence at the ICM... The AMS will be there in big numbers, I think."

### A Multifaceted Celebration

Every ICM is an event by and for mathematicians. The scientific program is handled by an international IMU-appointed committee, which for 2026 is chaired by Claire Voisin of the University of Paris VI. All other activities are managed by the Organizing Committee, which consists of mathematicians from the host country. For ICM2026, this committee has fifteen members, all of whom work in the US, but who were born in eight different countries over three continents.

Expecting 5,000 to 6,000 mathematicians, and hoping for even larger numbers from the general public, the ICM2026 Organizing Committee envisions the congress as a multifaceted celebration of mathematics. Showcasing the field as it connects to culture, arts, and music, ICM2026 will be "an inspirational mix," said Kra.

One aim of the committee is to bring a museum exhibit called *Mathemalchemy* (<https://mathemalchemy.org/>) to Philadelphia for a few months, to overlap with the congress. The committee has also initiated discussions with schools, museums, libraries, and other public institutions about ways to highlight mathematics during the ICM. These discussions have been met with "vigorous enthusiasm," said Pantev. Philadelphia mathematicians have long had connections to these kinds of public entities, he noted, but having the congress as a focal point has energized those ties. "That's great for us, and we want to keep this going beyond the ICM," Pantev remarked.

From the many colleges and universities in the area, the Organizing Committee has been building a contingent of volunteers to assist with various tasks associated with the congress. "Faculty members, undergraduates, and graduate students are really excited about the ICM," said Pantev.

**ICM2022: A PAINFUL DECISION**

On February 24, 2022, the IMU Executive Committee held an online meeting of its ten members, who were scattered across nine time zones. With the 2022 ICM in St. Petersburg, Russia, set to begin in a little more than four months, the committee thought it would be wrapping up final details about Covid regulations. Instead, it faced the tragic news of that day: Russia had invaded Ukraine. “Of course that changed the meeting completely,” said Helge Holden of the Norwegian University of Science and Technology, who at the time was IMU secretary general.

In a statement passed unanimously, the committee condemned the invasion and declared that holding the ICM in St. Petersburg would be impossible. It was a painful decision and, for the Russian organizers, a terrible blow. “You invest thousands of hours on something that would be the peak of your career,” Holden said. “And it’s taken away from you. You didn’t do anything wrong, but it’s just taken away.”

Tony Pantev of the University of Pennsylvania, who is on the ICM2026 Organizing Committee, recalled that disorienting moment. “The whole community was ready to go, to run the event, with all of its highlights and benefits,” he said. “Suddenly, everything collapsed. For us as scientists, the political reasons were understandable. But the collapse was really shocking. It’s still shocking.”

After pulling the congress out of St. Petersburg, the IMU embarked on a herculean effort to create an online platform to stage the ICM as a virtual event. An offer from the Council of Finnish Academies made it possible to hold in-person opening ceremonies in Helsinki, where the Fields Medals and other IMU honors were awarded. Over the week that followed, invited ICM speakers gave their lectures—many before live audiences in mathematics departments and institutes—and these were streamed to the ICM platform.

One bright spot: The online replacement event was open to all with no fee charged. Many who would not have been able to travel to the congress could attend virtually. “The mathematical community did an amazing job of coming together and unifying” to ensure that the congress could be held in some form, said AMS past-president Bryna Kra of Northwestern University. “This shows the importance that the community gives to the ICM.”



**TONY PANTEV**  
MEMBER, ICM2026  
ORGANIZING COMMITTEE

Born in Bulgaria, Tony Pantev earned his PhD at the University of Pennsylvania in 1994 and now chairs Penn’s mathematics department. He noted that the ICM offers opportunities to people in small countries to plug

into the wider mathematical world. “When I was [a student] in Bulgaria, I really wanted access to something like that,” he said, but he had no such opportunity. “So now, to give people in that situation access to the US mathematical community—that’s great.”

Across the US, mathematics departments and institutes are planning activities to coincide with the congress, including a variety of satellite conferences.

Also on the calendar for summer 2026 is the 250th anniversary of the Declaration of Independence, which was signed in Philadelphia in 1776. Commemorative events will take place across the city, including at Independence Mall, which is close to the Pennsylvania Convention Center, where the ICM will be held. Congress organizers are coordinating with the city’s plans and also exploring ways “to highlight mathematics in the US that will integrate into the historical festivities” said Pantev.

The ICM will be the high point of a larger project, the “Year of Math 2026,” which is being planned by the Conference Board of the Mathematical Sciences, an umbrella group of twenty mathematical organizations in the US. As a member of CBMS, the AMS has appointed a committee, jointly with the Society for Industrial and Applied Mathematics, to develop ideas for the Year of Math. Cochairing this committee are Kra and SIAM president Sven Leyffer of Argonne National Laboratory.

“Mathematics is experiencing a very exciting time because there are new fields that are being started, new areas of research that did not exist even a generation ago,” said Shatah. “We are hoping the ICM will bring this into the limelight and make it known that there are great opportunities for young people in this field right now. And that’s what we also want to convey in the Year of Math.”

**The ICM for All**

A major goal of the ICMs is to reach out to mathematicians from developing countries, which often lack the resources and connections to nourish research across a broad front. To this end, the ICM2026 organizers are designing a “boot camp” program for mathematicians from



**YURI TSCHINKEL**  
COCHAIR, ICM2026  
ORGANIZING COMMITTEE

Born in Moscow, Yuri Tschinkel grew up in East Berlin. He received his PhD from MIT in 1992 and is now a professor at New York University and the executive vice president for mathematics and physical sciences at

the Simons Foundation. He sees ICM2026 as an inclusive event transcending politics and nationalities. "Let's focus on mathematics, let's focus on things that unite us," he said. "Mathematics is for humankind... It should be for everybody."

developing countries, especially those near the beginning of their careers. Taking place in the two weeks preceding the congress, the boot camp will offer workshops and minicourses to give these participants "an opportunity to get in touch with cutting-edge research," said Pantev. "Then they can go into the congress with a foundation that helps them really understand and enjoy what's going on." An important component of this effort is the program of ICM travel grants administered by the AMS.

Welcoming all mathematicians regardless of where they are from—rather than adopting more formal constructs, such as inviting countries to send delegations of selected people—is a longstanding principle of the ICM. That principle is however sometimes compromised by visa policies of ICM host countries. For example, the mathematician José Luis Massera, who had visited Princeton University on a Rockefeller Fellowship and later headed the communist party in his home country of Uruguay, was denied a visa to attend the 1950 congress in Cambridge, Massachusetts. Efforts by the congress organizers to get the denial reversed were unsuccessful. Well aware of such potential impediments, the organizers of ICM2026 are in discussions with the IMU and the US National Academy of Sciences about ways to support visa applications in case problems arise.

### A Fantastic Opportunity

Attending an ICM can be especially exciting and rewarding for early-career mathematicians. Eric Friedlander of the University of Southern California knows this first-hand. A former AMS president and one of the main people behind the bid to bring ICM2026 to the US, Friedlander was just four years past his PhD when he attended his first ICM, in Vancouver in 1974. There he met the Cambridge mathematician J. Frank Adams, who during the congress organized an informal seminar that Friedlander attended.



**ERIC FRIEDLANDER**  
MEMBER, ICM2026  
ORGANIZING COMMITTEE

Born in Puerto Rico, Eric Friedlander earned his PhD at MIT in 1970 and today is a professor at the University of Southern California. In 1986, he attended the ICM in Berkeley. Among the Soviet mathematicians invited to

speak but denied permission to travel was Andrei Suslin. "He should have gotten a Fields Medal, but that's another story," remarked Friedlander. Suslin sent one of his papers, and Friedlander was given the task of transforming it into an accessible lecture for the congress. "It was very exciting for me because that was the biggest audience I've ever had." After Suslin emigrated to the US in the 1990s, he and Friedlander became best friends. Suslin died in 2018 at the age of 67.

"That had a major mathematical impact on me," said Friedlander.

He called ICM2026 a "fantastic opportunity" for mathematicians, especially those in North America, many of whom can jump in a car or take a short plane trip to get to Philadelphia. "It's a really attractive, maybe a once-in-a-lifetime opportunity, especially for American mathematicians, to learn, connect, find collaborators who are overseas—or just across the US. I would hope many, many people would go."

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