

Next Generation **Leadership**



Illinois Mathematics and Science Academy®  
Fall 2017

Welcome to the 2017-2018 school year! It's a special academic year in that we begin the school year with a full budget! Over the past three years, our colleagues in public schools (K-12), who are under the Illinois State Board of Education (ISBE), began their school year with a full budget while IMSA and the rest of the universities, which are under the Illinois Board of Higher Education (IBHE), began and operated most of the past two years without a full budget.



**José M. Torres, PhD**

We also begin the school year with great energy fresh from a summer of alumni engagement, youth camps in Aurora, Springfield and the Metro-East area, professional learning experiences for teachers all across Illinois and entrepreneurship programming in our new IN2@IMSA innovation center. We are fortunate that "Dr. Bob" is serving as Interim Principal of the Academy. Dr. Robert Hernandez, who has served the IMSA community for over 22 years, agreed to serve as interim until we identify a permanent instructional leader. Dr. Bob's leadership and organizational skills are already evident on campus. Katie Berger stepped in as Acting Director for Student Affairs filling in for Dr. Bob.

Everything we do at IMSA is focused on exploring new ways of solving problems, teaching critical thinking skills and collaboration. When we refer to "STEM" in our Impact and Outcomes Statement (see graphic at the bottom of the page), which states, "By 2022, IMSA is a recognized global leader and catalyst in equity and excellence in STEM teaching and learning, innovation and entrepreneurship," we mean "problem solving, critical thinking and collaboration" among other things. By "STEM," we also mean scientific and design thinking as well as creative and ethical thinking." This IMSA Impact and Outcomes Statement serves as the cornerstone of our five-year strategic plan.

As we make continuous progress toward accomplishing our 2022 vision, we have established three priorities for the 2017-2018 school year. One priority is an approach to teaching problem solving skills guided by the United Nations 17 Sustainable Development Goals. Another priority relates to our foundational philosophy of equity and excellence that guides all our efforts. While we continue to seek and support talented students throughout Illinois with a passion and interest in mathematics and science, we are making a concerted effort to recruit and support high ability, low income students. A final priority is preparing and hosting the International Student Science Fair (ISSF) in 2018. We have the honor, privilege and responsibility of hosting the 14th Annual ISSF for the first time in the US on June 27-July 1, 2018.

As I begin my fourth year as President of the Illinois Mathematics and Science Academy, I consider it not only a privilege to serve, but also a responsibility to lead. I'm so proud of being part of IMSA! Sustaining excellence and making inroads into equity has never been more challenging and complicated given our national landscape and budget limitations. Yet, I know that you share my commitment to this vision, which is essential to our future.

**Respectfully,**  
**José M. Torres, PhD**  
**President**

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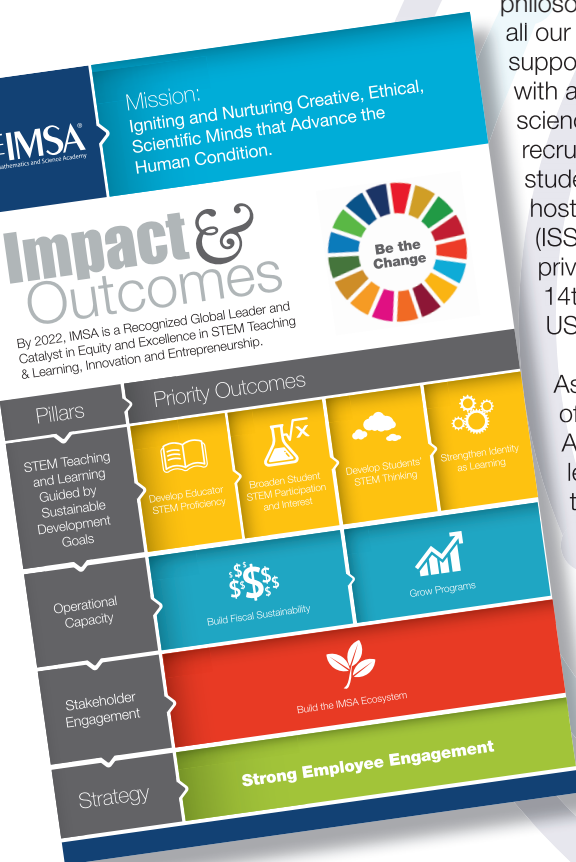
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## Mission

*The mission of IMSA, the world's leading teaching and learning laboratory for imagination and inquiry, is to ignite and nurture creative, ethical, scientific minds that advance the human condition, through a system distinguished by profound questions, collaborative relationships, personalized experiential learning, global networking, generative use of technology and pioneering outreach.*





# IMSA Welcomes the World

2018 ISSF



**International Student  
Science Fair 2018**



## ISSF: Influencing Global Change

A team of IMSA faculty, staff and students are planning the 14th Annual International Student Science Fair (ISSF) to be held on campus in Aurora next summer June 27-July 1, 2018.

A signature event of the Illinois Bicentennial celebration and the first time the fair will be held in the United States, ISSF 2018 provides a festive opportunity for young scientists to showcase their research, collaborate and compete on an international stage. ISSF 2018 will highlight three global challenges that transcend national boundaries: energy, hunger and water. The event theme, "To significantly influence life on our planet through cooperation and collaboration," emphasizes IMSA's mission to ignite creative, ethical, scientific minds that advance the human condition.

ISSF is an annual international event supported by approximately 40 international STEM schools and organized by the International Science Schools Network (ISSN) which provides a forum for promoting leading edge science education on a global scale.

## Exploring Solutions for Energy, Hunger, Water through ISSF 2018

### Clean and Affordable Energy

One in five people globally lack electricity to light their homes. Clean and affordable energy is central to nearly every major challenge the world faces today: jobs, security, climate change and food production.

### Zero Hunger

According to the United Nations, 795 million people in the world, or one in nine people are undernourished and not healthy enough to lead an active life. Hunger and malnutrition are the number one risk to health worldwide.

### Clean Water

Fresh water sustains human life and is vital for human health. However, due to reduced economics or poor infrastructure, 40 percent of the global population is affected by water scarcity and most of them are children.

To learn more visit [issf2018.com](http://issf2018.com)



The 2018 ISSF is organized by the Illinois Mathematics and Science Academy and supported by the IMSA Fund for Advancement of Education, a 501(c)(3) corporation that accepts philanthropic gifts to support the educational and programmatic needs of the Academy. Corporate partner opportunities are available. For more information contact the Development Office at 630-907-5989.

# From Our Students

## Students Reflect on 2017 ISSF in South Korea, Look Forward to IMSA Hosting in 2018

As part of IMSA's preparation to host the 2018 fair, an IMSA team including staff and three students attended the 2017 ISSF in Busan, South Korea. Competing with 34 participating science schools from 21 different countries, our students earn honors in leadership, research and future city design. They took time to reflect on their experience.

### Darius Hong '18

Though English wasn't the first language of most of the presenters, the curiosity and genuine passion for science that they possessed was clearly expressed. I have no doubt in my mind that some of those same presenters will go on to lead humanity in the future.

It is truly an honor for IMSA to be passed the torch of this amazing tradition that unites schools from across the globe. I am proud and excited to be hosting the 14th annual ISSF at IMSA next year because I now fully understand the potential that this fair has to change a student's perspective of the world. There are so many brilliant young minds on this planet, and this fair is a perfect opportunity for those minds to meet.

### Sonya Gupta '18

I was honored to represent the United States and the Illinois Mathematics and Science Academy at such a prestigious competition. I never truly grasped how unique and transformative this experience would be until I arrived. I was able to appreciate the different conditions and cultures that exist all around the world. The girls from Kenya were researching what would be the most sustainable and drought-resistant corn type after they experienced three years of drought and failed harvests. The

Australian team was researching how to improve wind turbine designs, which provides around 30% of Australia's renewable energy and has the potential to contribute more.

I cannot wait to be a part of and see what amazing experience Illinois Mathematics and Science Academy's International Student Science Fair in 2018 will be.

### Nabeel Rasheed '18

ISSF gave me the chance to listen to ideas from other countries, especially those which are impoverished. I presented a scientific poster on neurobehavioral biomarkers as a potential gateway to offsetting coronary heart disease risk in adolescents. Discussing my research brought a large sense of inspiration and pride and helped me understand its true meaning in the scientific community.



*Left to right: IMSA 2017 ISSF Team  
Nabeel Rasheed, Sonya Gupta and Darius Hong*

# The Next Generation of Leaders

## Welcome Class of 2020

IMSA welcomes **250 students** into the Class of 2020 representing **35 Illinois counties** from across the state. IMSA has enrolled students from **95 Illinois counties** since opening 30 years ago, helping them reach their full potential and apply their passion for math and science to advance the human condition.

### Incoming sophomores are representing these Illinois counties:

Adams, Boone, Bureau, Champaign, Cook, DeKalb, DuPage, Grundy, Iroquois, Jackson, Kane, Kendall, Knox, Lake, LaSalle, Macon, Macoupin, Madison, Massac, McDonough, McHenry, McLean, Monroe, Morgan, Ogle, Peoria, Piatt, Rock Island, Sangamon, Stephenson, St. Clair, Tazewell, Vermilion, Will and Winnebago.

## Congratulations Class of 2017

**43%**

*of IMSA's graduating class will be attending Illinois colleges and universities including:*

UIC, Northwestern, University of Illinois, Loyola, University of Chicago, DePaul and Illinois Institute of Technology



### Other Select Institutions:

Yale, Swarthmore, Stanford, Purdue, MIT, Caltech, Boston College, Brown University, Carnegie Mellon, Columbia University, Cornell, Dartmouth, Duke, Harvard, Johns Hopkins University and Vanderbilt



IMSA sophomores and staff partnered with the Fox Valley Park District to prune, mulch, plant and clean up parks and playgrounds as a way to kick off the school year and the Service Learning Program. To meet IMSA's graduation requirements, students must complete 200 service hours of which at least 30 are completed within the IMSA community, and at least 70 in each student's home community.

Many IMSA students go above and beyond this 200 hour requirement. In fact, the class of 2017 completed **76,000 hours of service**, averaging **317 hours per student**. Of these hours, **35,000** were dedicated to their home communities, spreading the gifts and talents of IMSA students throughout the state of Illinois.

## Interested in Attending IMSA?

Prospective students and parents are cordially invited to IMSA's Preview Days on September 23 and December 3 from 10:30 am until 3 pm. The events are an opportunity to learn more about the Academy's academic and residential programs. Come meet with current IMSA students, their parents, IMSA faculty and staff, and get a first-hand look at what our programs are about! Several discussion panels and tours of our facilities will be available.

Student guests attend Preview Day with at least one adult. Registration is required in advance.

Visit [imsa.edu/admissions](https://imsa.edu/admissions) for more information, or to register.





# Leading STEM Education

## New Data Science Curriculum Builds STEM Pipeline

Data science careers are growing in virtually every job sector. In fact, demand for deep analytical talent in the United States could be 50 to 60 percent greater than its projected supply by 2018. To help meet this demand, IMSA's Professional Field Services outreach division has created a curriculum for teachers that motivates and inspires students to be computational thinkers. "What's the Story, Data?" is the newest installment to the Fusion enrichment program. This curriculum challenges students to explore and analyze data in order to validate and test claims.

IMSA Fusion is a turnkey science, technology, engineering and mathematics program for fourth through eighth grade teachers that includes curriculum, lab kits for up to 30 students, and ongoing teacher professional development for hands-on, minds-on learning. This highly-acclaimed and affordable program increases student interest and stimulates excellence in Illinois schools' mathematics and science initiatives including the Next Generation Science Standards (NGSS) and Common Core math standards.

The Illinois State Board of Education has recognized IMSA as the preferred NGSS training partner in the state of Illinois. IMSA developers and trainers deliver NGSS curriculum and train regional office personnel to administer cutting edge professional development to teachers statewide on the new curriculum. Choosing IMSA as the preferred trainer solidifies the Academy as the state leader in STEM education.



## Access to Fusion Expands

IMSA and Flinn Scientific, the leading scientific equipment supplier since 1977, have teamed up to expand access to the award-winning IMSA Fusion program for teachers across the state of Illinois.

*"Flinn Scientific and IMSA share the same passion for science education and recognize the value and lasting impact that a strong STEM program has among students, teachers and schools alike," said Mike Lavelle, Chief Executive Officer for Flinn Scientific. "Our alliance with IMSA gives us the opportunity to reach a broader range of schools and teachers offering them access to a teacher professional development and student STEM enrichment program that has been nationally recognized, is research driven, and is scalable to meet their instructional needs."*

*"IMSA Fusion curricula is developed and written by IMSA's team of experienced educators who are the reason for the success of this program," said Dr. Norman Robinson III, Executive Director for Professional Field Services for IMSA. "We are pleased to collaborate with Flinn Scientific because it offers a platform to expand IMSA's reach as a global leader in STEM education and assists in our efforts to provide transformational STEM curricula to not only educators in Illinois but also nationwide."*



**Save the Date:**  
**June 11-12, 2018**

**STEAM Summit for  
K-12 Teachers and  
Administrators**

# Fall Programs @IN2

IMSA's IN2 Steve and Jamie Chen Center for Innovation & Inquiry, is Illinois' first secondary school innovation and entrepreneurship center. IN2 connects the Academy with the community by providing collaboration programming and events in STEM topics, makerspace and entrepreneurship mentoring for middle school and high school students in grades 7-12.

Many programs involve community partnerships, food and fun. Some workshops and events require registration and a fee.

- **IN2 Student Memberships** A limited number of student memberships are available for students in grades 6-12. Members are invited to IN2 each week for entrepreneurship and makerspace programming on Mondays from 7-9pm and Tuesdays and Thursdays from 4-6pm.
- **Green Apple Day of Service** Environmental community service projects sponsored by ComEd. September 30, 2017.
- **Girls IN2 STEM** Girls IN2 STEM teen training and mentoring program and STEM activities for girls. Love STEM? Join our team! Recruiting teen girls to mentor middle schoolers.
- **INspire** Learn public speaking techniques with student peers in fun and interactive mini workshops thru September 30, 2017.
- **PowerUP!** Friendly energy scrimmage competition for students and parents sponsored by ComEd. October 17, 2017.
- **Teen STEM Cafe'** STEM related teen talks and interactive events hosted in partnership with NIU and sponsored by Caterpillar. Fall 2017.

**For more information or to register:**



**imsa.edu/in2**



**in2@imsa.edu**



**630-907-5800**



**IN2 IMSA**



**tinyurl.com/newsletterin2**

# In2

Steve and Jamie Chen  
Center for Innovation & Inquiry



## Alumni Corner

### Letter from IAA Past President



Over the past few years, the IMSA Alumni Association (IAA) has been successful in rebuilding connections between alumni, students, and IMSA on the social and professional levels. I look forward to seeing the next cabinet bring fresh ideas and programming to the IAA. Our new Alumni Relations Coordinator, Cathe Stieg from the Office of Public Affairs at IMSA is building our database of alumni experts. This database will connect alumni with new areas for our College, Career, and Choices (CCC) forums with students, provide advice to Power Pitch competitions, background for press request and original stories, and help seed the creation of IMSA alumni podcasts. It has been an honor serving as the IAA President, and a special thank you to all the cabinet members who served with me during the last 8 years. The IAA could not have accomplished as much without our team efforts. I look forward to seeing the new cabinet blaze new trails and continuing to support their efforts as they set out their new goals.

**Thank you,  
Melvin Bacani '90, IAA Past President**

# Lead the Way for IMSA

## Nurture Minds that Change the World with Annual Giving

Who writes the future? The discoverers. The thinkers. The creators and experimenters. Through IMSA's unique education, minds like these are nurtured and developed into leaders who change the world.

Over the past 31 years, the annual support of alumni, students, parents, and friends has strengthened and fostered IMSA's greatest advancements, building the scientific and technological tools that shape the future.

Whether it's for scholarships, research, clubs, or another area of IMSA that is meaningful to a donor, an annual gift in any amount has an immediate impact on IMSA's education, research and outreach programs. So often, philanthropy is what allows a student to explore their entrepreneurial interest, provide a teacher with new skills and material to bring back to their classroom, or give a student the resources to turn a great idea into a real discovery.

Visit [imsa.edu/giving](https://imsa.edu/giving) to make a fully tax-deductible donation and help today's students become tomorrow's world leaders.

For more information and to begin the conversation about employer matching gifts, monthly recurring donations, tribute and memorial giving, planned giving and estate gifts or naming opportunities, please contact the Development Office at 630-907-5045.



## Potential Turns to Passion at IMSA

As a parent, Bruce saw his daughter Jennifer '97, flourish at IMSA. Bruce credits her education at IMSA for instilling her with confidence and setting her on the path to success. IMSA gives students the chance to discover their passion. The more they try and the more they experience, the more they discover what they love. The chance to pursue passion means graduates like Jennifer have a greater sense of vision and a greater chance of realizing their true potential. Bruce is a generous supporter because he believes that IMSA is a wise investment and the opportunity of a lifetime. An opportunity he hopes his newly born granddaughter will also embrace one day.

"IMSA encourages bright students to reach their highest potential and change the world creating something monumental."

*Left to right: Jennifer Tietz '97, Bruce Tietz (father of Jennifer), Barb Tietz*