

IMSA: A Differentiator for Illinois

Illinois Mathematics and Science Academy

Who Are We?



**Science is not about
status quo. It's about
revolution.**

- Dr. Leon Lederman, IMSA Founder
Director emeritus Fermi National Lab
Nobel Laureate in Physics (1988)

A Revolutionary Education

The Illinois Mathematics and Science Academy (IMSA) launched in 1986 through support by the Illinois Governor and State Legislature in collaboration with business, education, and science leaders.

Vision & Goals

To be a Recognized Global Leader and Catalyst for Equity and Excellence in STEM Teaching and Learning, innovation and entrepreneurship through:

- New STEM Teaching Models
- The Development of STEM thinking and Education of Future Solutionaries
- Broadening Statewide Student Participation in STEM
- Educator STEM Proficiency

Impacts & Outcomes

- Consistently places top finishers in National and International student math and science competitions
- IMSA Alumni founders of Top American companies: YouTube, PayPal, and Yelp
- IMSA Alumni working at Illinois' most innovative companies: Boeing, Abbvie, ComEd
- IMSA Alumni teaching at Top 20 American Universities
- The power to convene national and international groups for collaboration
- National and International recognition for recruitment of underserved populations to STEM

2019 Accolades



RESIDENTIAL ACADEMY

#1

Ranked #1 Public High School in America by niche.com

170

Students conducting research alongside Faculty or at world-leading institutions and 52 social entrepreneurial projects

57%

IMSA Faculty with doctoral degrees
100% with masters degree



GLOBAL TEACHING & LEARNING

90,000

STEM lesson plans accessed by teachers worldwide

50,000

Hours of STEM professional development delivered worldwide

5,000

Institutions from 188 countries utilizing IMSA's teaching materials

What Do We Do?

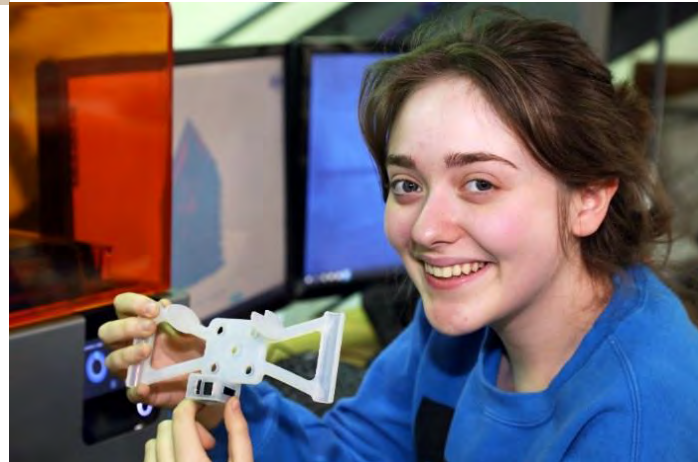


Research & Venture collaboration

- \$1.9 million for Steve and Jaime Chen Center for Innovation & Inquiry providing new venture programming for prototyping, design thinking and the launching of new ideas
- \$20K in Prize Money for student and faculty pitches and startup ideas
- \$2.2M for New Science Wing focused on forensic science

Global Experiences

- \$200K to host the 2018 International Student Science Fair featuring 32 schools from 20 countries
- \$30K in Scholarships supporting Educational Student Excursions to International Destinations and other Leadership Opportunities
- \$50K faculty training and development of curricular to support UN 17 Sustainable Development Goals



Leaders Start at IMSA

IMSA graduates are leaders in the business, education, scientific, and technology sectors. Notable IMSA alumni include:

Community Leaders

- Michael Brody
- Arati Shroff, U.S. Diplomat
- Lieutenant Commander Alex Dietrich

Academic Innovators

- Tim Meyer, CEO of FermiLab
- Rebecca Willett, University of Chicago professor and researcher of machine learning and data science.
- Sabrina Paterski, “Next Einstein”
- Dr. Princess Imoukhuede, University of Illinois researcher developing treatments for over 70 diseases including breast cancer.
- Dr. Aaron Parness, NASA Robotics

Entrepreneurs

- Steve Chen, You Tube Co-Founder
- Yu Pan, PayPal Co-Creator
- Russell Simmons, Yelp Co-Founder
- Sam Yagan, ShopRunner Founder

imsa.edu/giving



SHOPRUNNER

love it. get it.



A Partnership-Driven IMSA Fund

The IMSA Fund for Advancement welcomes strategic alliances to advance the progress of math and science education through Illinois, our nation and the world.



How Can You Help?



Our Path to Collaboration: Strategic Partnerships

- Judge an IMSA Competition
- Create a Strategic Alignment Partnership
- Sponsor Internship or Student Research
- Design/Fund IMSA Programs in STEM, Global, or Entrepreneurship
- Join the IMSA Fund Board

Case Study: ComEd

History & Purpose

Since 1995, ComEd has partnered with IMSA providing grants to support Academy and Outreach programs including:

- > IMSA's Energy 2000K program
- > CyberQuiz 4 Kids program
- > IMSA's Energy Center
- > Multicultural Student Recruitment
- > Energy Innovation Programs

Current Activities

Most recently, ComEd partnered with IMSA on a \$25,000 grant used for energy innovation programs:

- > Six mini grants to IMSA faculty and staff for energy projects. Awards ranged \$250 - \$2,500 and were used for energy curriculum, research, projects and resources including energy applications for Arduinos in Engineering, fluorescence spectroscopy for biodiesel and biofuel production and chemical kinetic techniques.
- > Sponsorship of the Steve and Jamie Center for Innovation & Inquiry "Idea Bar", a concierge station for supplies an volunteer start-up mentors.
- > Power UP! energy scrimmage featuring students grades 6-12 who design solutions to situations presented related to communications and public works capabilities during a simulated cyber attack.

Thank you from the IMSA Fund

Join Us at IMSA!

- Learn about IMSA scholarship online: <https://digitalcommons.imsa.edu/>
- Browse IMSA Videos: <https://www.youtube.com/user/IMSAschool>
- Join a virtual (or real) tour:
 - <https://www.imsa.edu/audience/video-tour/>
 - Sample a real tour with a 2-hour immersive experience with students and faculty at IMSA. Contact Tami Armstrong @ tarmstrong@imsa.edu

The IMSA Fund Board is charged to find partners and donors to advance the mission of IMSA. 2019 is a growth year for the Board, and we encourage expressions of interest by members of the Illinois community who wish to strengthen the vision of the Illinois Mathematics and Science Academy.

2018 IMSA Fund Financial Support

Source of Contributions

FY19 – July 1, 2018-June 30, 2019:

- > Annual Goal: \$1.1M
- > YTD Actual: \$1.37M
- > Restricted Gifts: \$950K
- > Unrestricted Gifts: \$360K
- > Total Assets as of : \$360K

Top Corporate Donors:

- > ComEd
- > BP
- > Boeing
- > Nicor
- > Pentair
- > VWR
- > TE Connectivity
- > Ecolab

Use of Contributions

PROMISE (Excellence & Equity)
Save a Seat (Auditorium Refresh)
Science Wing Equipment
Summer Outreach Program
IRC (Library)
Robotics
SIR (Inquiry & Research)
Athletics
Leon Lederman Founder's Fund

Targeted use of Unrestricted:
Block Grants with Key Usage for:

- > Faculty and Curriculum Development
- > Summer Stem Camps
- > International Student treks
- > International Market Research supporting expansion of IMSA

Appendix A: Sample Coursework

Science

Cancer Biology
Molecular and Cellular Biology
Organic Chemistry
Medicinal Chemistry
Physics – Calculus-based Mechanics

Computer Science

Advanced Programming
App Programming
Object Oriented Programming

Mathematics

Multi-Variable Calculus
Statistical Experimentation & Inference
Theory of Analysis
Game Theory and Rationality

Social Science

Science and Society
Modern Genocide and Mass Violence

World Languages

Mandarin Chinese
Russian
German

English

Modern World Fiction
Graphic Novels – Image and Text

Fine Arts

Music
Visual Arts