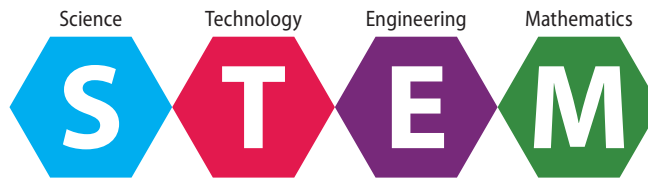


2017 PROGRAM BOOK

67TH ANNUAL

CHICAGO PUBLIC SCHOOLS STUDENT SCIENCE FAIR, INC., PRESENTS



Connecting Global Innovations



Museum of Science and Industry, March 16 - 19, 2017
Symposium presentations, March 16, 2017



**AS A COMPANY DEDICATED
TO HELPING PEOPLE
BE THEIR BEST
IN THE MOMENTS
THAT MATTER,**

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TO SUPPORT THE 2017 CHICAGO
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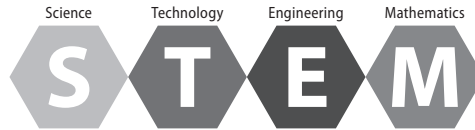
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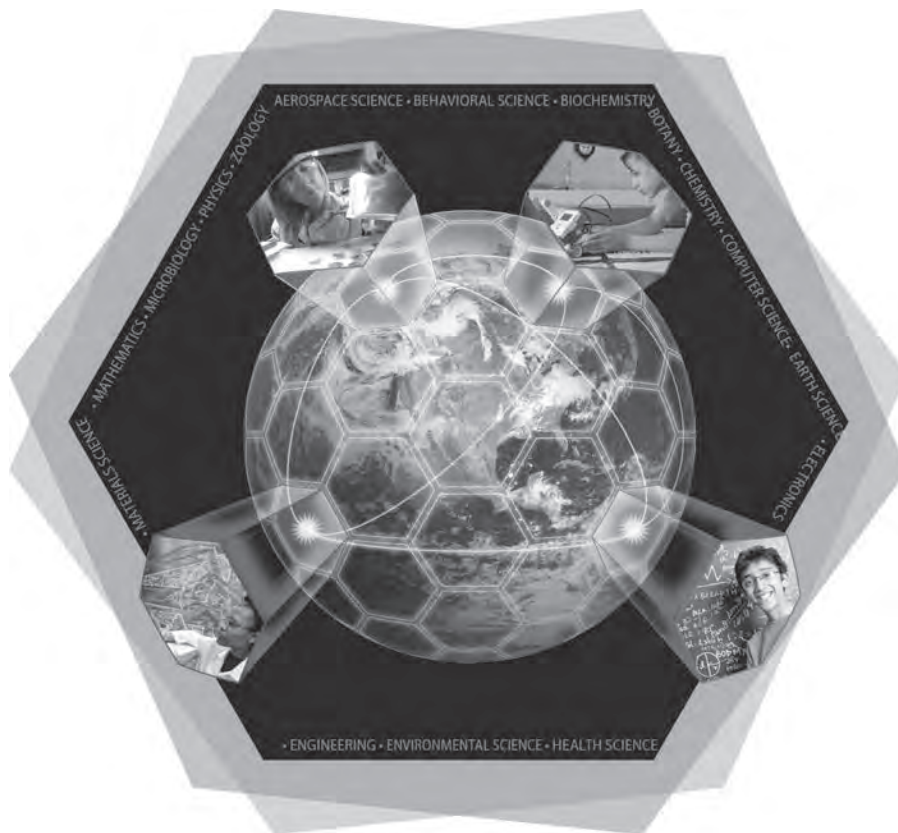


2017 Science Fair Program Book

67th ANNUAL CHICAGO PUBLIC SCHOOLS STUDENT SCIENCE FAIR



Connecting Global Innovations



Brought to you by:
Chicago Public Schools Student Science Fair, Inc.

Academic Supporters:
Chicago Public Schools
Office of Teaching and Learning

Site Host:
Museum of Science and Industry

2017 Theme by:
Morgan Park High School - ComEd After-school Science Club

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Chief Officer

Office of Teaching and Learning

Sylvia Nelson Jordan

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Table of Contents

Schedule of Events	4
Proclamation from the Mayor of the City of Chicago	5
2016 Opening Ceremony	6
About the Chicago Public Schools Student Science Fair (CPSSSF)	7
Greetings from the Mayor of the City of Chicago.....	8
Greetings from the CPSSSF President of the Board of Directors.....	9
Greeting from BP America, Inc., Corporate Sponsor	10
Greetings from ComEd, An Exelon Company, Corporate Sponsor	11
Greetings from Motorola Solution Foundation, Corporate Sponsor.....	12
Greetings from Peoples Gas, Corporate Sponsor	13
Greetings from Takeda Pharmaceutical International, Inc., Corporate Sponsor	14
Greetings from the Museum of Science and Industry President and CEO.....	15
Greetings from the Chicago Public Schools (CPS) Chief Education Officer	16
Greetings from the CPS Chief Officer, Teaching and Learning	17
Greetings from the CPS Manager of Academic Competitions	18
Greetings from the SSF Chairperson.....	19
Corporate Sponsors.....	21
Contributors.....	22
Symposium and Essay Contests.....	23
Symposium Schedule.....	24
Symposium and Essay Luncheon	25
Exhibit Information.....	26
Exhibit Judging Schedule	27
Exhibits by Category	28
Exhibit Floor Plan	38
Sixth-Grade Regional Winners Recognition Luncheon Schedule	43
Sixth-Grade Regional Winners.....	44
Awards Convocation	45
Special Awards	46
Special Programs	52
2016 Scholarship Winners.....	53
Number of Scholarships Awarded to Date	56
ComEd High School Science Club Program 2016-2017.....	58
Peoples Gas Middle School Science Club Program 2016-2017	59
Science Fair Volunteers	60
Faces of Science Fair.....	61
Exhibit Judges	64
Symposium and Essay Readers and Judges.....	69
Administrative Officers/Operating Committees.....	70
Regional Science Fair Committees.....	73
Science Fair Teacher-Sponsors	77
Acknowledgments.....	82



Schedule of Events

Thursday, March 16, 2017 – Symposium – details on page 24

9:00 A.M. – 11:30 A.M.	Symposium Morning Sessions (e-Suite, Lab 2 & Classroom 3)
11:30 A.M. – 12:45 P.M.	Symposium Luncheon (Rosenwald Room) - by invitation only
1:00 P.M. – 3:30 P.M.	Symposium Afternoon Sessions (e-Suite, Lab 2 & Classroom 3)

Friday, March 17, 2017 – Exhibit Judging – details on page 27

7:30 A.M. – 8:30 A.M.	Judges Briefing and Breakfast (Auditorium)
8:30 A.M. – 12:00 NOON	Judging of Exhibits (West Pavilion))
11:00 A.M. – 11:30 A.M.	Opening Ceremony (West Pavilion Main Entrance)
11:30 A.M. – 12:00 NOON	Ribbon Cutting and Exhibit Tour (West Pavilion)
11:30 A.M. – 1:30 P.M.	Judges Buffet Luncheon (TBA)
12:15 P.M. – 1:30 P.M.	Recognition Luncheon (Rosenwald Room) - by invitation only
12:00 NOON – 1:00 P.M.	Judging Continues (West Pavilion)
1:00 P.M. – 3:15 P.M.	Science Fair Open to the Public (West Pavilion)

Saturday, March 18, 2017– Public Viewing and Additional Events – details on page 43

9:00 A.M. – 11:45 A.M.	Sixth-Grade Regional Winners Tour of the Museum
9:30 A.M. – 3:15 P.M.	Science Fair Open to the Public (West Pavilion)
9:30 A.M. – 1:00 P.M.	International Science and Engineering Fair Judging (Auditorium)
11:45 A.M. – 1:00 P.M.	Sixth-Grade Regional Winners Luncheon (Rosenwald Room) By invitation only – page 43
2:00 P.M. – 3:00 P.M.	ComEd Science Club Social (Rosenwald Room) – by ticket only

Sunday, March 19, 2017 – Awards Convocation – details on page 45

11:00 A.M. - 12:00 NOON	Science Fair Open to the Public (West Pavilion).
1:00 p.m. – 3:00 P.M.	Awards Convocation (Auditorium) – by ticket only



Proclamation from the Mayor of the City of Chicago



OFFICE OF THE MAYOR
CITY OF CHICAGO

RAHM EMANUEL
MAYOR

PROCLAMATION

WHEREAS, from March 13th through March 19th of 2017, the Chicago Public Schools Student Science Fair, Inc. will sponsor the 67th Annual Citywide Chicago Public Schools Student Science Fair for Chicago Public Schools' students which will be held at the Museum of Science and Industry; and

WHEREAS, the 2017 Student Science Fair follows the theme, *Science, Technology, Engineering and Mathematics: Connecting Global Innovations*; and

WHEREAS, approximately 300 students from a total of 10,000 participants at the local school and network levels will be selected to exhibit their projects and symposium papers at the Museum of Science and Industry; and

WHEREAS, 70 of those students will be sent to the Illinois Junior Academy State Science Fair at Northern Illinois University in DeKalb, Illinois and four students will be sent to the International Science and Engineering Fair in Los Angeles, California; and

WHEREAS, students will compete in sixteen categories, including aerospace science, behavioral science, biochemistry, botany, chemistry, computer science, earth science, electronics, engineering science, environmental science, health science, materials science, mathematics, microbiology, physics, and zoology;

NOW, THEREFORE, I, RAHM EMANUEL, MAYOR OF THE CITY OF CHICAGO, do hereby proclaim March 13-19, 2017 to be CHICAGO PUBLIC SCHOOLS STUDENT SCIENCE FAIR DAYS IN CHICAGO, in recognition of the exceptional talents displayed by these students and in appreciation of the Fair's corporate sponsors as well as our teacher sponsors and parents who have provided support and encouragement for these young scientists every step of the way.

Dated this 15th day of February, 2017.

Mayor



2016 Opening Ceremony

On Friday, March 18th, the 66th Annual Chicago Public Schools Student Science Fair opened with corporate and CPS sponsors' greetings, accolades and words of encouragement for the student scientists at this year's fair.



2016 Science Fair Exhibitors gather along the stairs to watch the Opening Ceremonies.



Phoenix Military Academy JROTC cadets march in for the presentation of colors.



Dr. Janice Jackson, Chief Education Officer is excited to welcome everyone present and congratulates all participants.



Gail Ward, Chicago Public School Board of Education, expresses her support for science fair and thanks all present for their hard work and dedication.



Andy Hesselbach welcomes the gathering crowd and expresses Peoples Gas's continued support for STEM Education and science fair.



The 2016 Student Science Fair is officially opened with the cutting of the ribbon by 2016 Chairperson Glennie King, Dr. Janice Jackson, Sponsors and guests.



About the Chicago Public Schools Student Science Fair (CPSSSF)

About the Fair

We are proud to present the 67th Annual Chicago Public Schools (CPS) Student Science Fair. The fair originated in 1950 as a vehicle to encourage and motivate young science students. Since then, a volunteer army of teachers and administrators has sustained this exemplary program. The objectives of the CPS Student Science Fair are to:

- provide opportunities and support for students to conduct authentic research
- expose students to diverse science learning communities
- obtain scholarships for selected Chicago Public Schools graduating seniors
- maintain perpetual interest in fostering scientific research, invention, and technological development
- promote scientific interests and hobbies of students
- conduct an annual science fair, symposium and essay contest

School, Regional and City Science Fairs

More than 10,000 students enter projects, beginning at the local school level. Local school winners exhibit at the regional level. Approximately 300 winners from 10 Regional Networks Science Fairs are exhibiting at this three-day citywide fair. The CPS Student Science Fair is always held in the spring at the Museum of Science and Industry.

Student Science Symposium and IJAS Essay Contest

Additional components of the fair are the CPS Student Science Symposium and IJAS Essay Contests. High school students participate in the symposium competition, presenting their research to a panel of judges. High school students and 7th- and 8th-graders participate in the essay contests, writing about a given contemporary issue in science.

State and International Fairs

Each year, approximately 50 students are selected to participate in the exhibition, and 15 research paper presentations are delivered at the Illinois Junior Academy of Science (IJAS) State Science Fair. This event is scheduled May 5 and 6, 2017, at Northern Illinois University in DeKalb, Illinois. In addition, the four top-scoring students from the CPS Student Science

Fair will participate at the International Science and Engineering Fair (ISEF), which will be held in Los Angeles, CA, May 14-19, 2017.

Sponsors

Primarily, the CPS Student Science Fair, Inc. has three sponsoring organizations. The Chicago Public Schools, Office of Teaching and Learning oversee the planning for the local school and regional science fairs. The CPS Office of Teaching and Learning is the host department for CPSSSF, employing the Regional Science Fair Coordinator, CPS/SSF Liaison and contributing operational funds to run the fair each year. The Museum of Science and Industry hosts the citywide fair and provides technical support services to the participants and teacher volunteers. Chicago-area corporations spearhead the drive within the Chicago business community to obtain the necessary financial support for a successful science fair experience. The Motorola Solutions Foundation, ComEd, An Exelon Company, BP America, Inc., Peoples Gas and Takeda Pharmaceuticals International, Inc. are this year's corporate sponsors.

How You Can Help

To help the CPS Student Science Fair and encourage young people to consider careers in the STEM fields, monetary contributions must be solicited. Without this financial support, the school and regional fair support, the production of the high quality event of the City Science Fair, and the participation in the state and international science fairs would be greatly limited.

Please consider being a contributor to the operating fund or scholarship fund, or providing special awards and tours prizes. Please send a letter of interest to contribute to CPS Student Science Fair, Inc., P.O. Box 803945, Chicago, IL 60680-3945, or visit website at cpsscifair.org.



Greetings from the Mayor of the City of Chicago

Dear Friends:

As Mayor and on behalf of the City of Chicago, I offer my warmest greetings and welcome to everyone gathered for the 67th Annual Chicago Public Schools Citywide Science Fair.

This year's Science Fair proudly welcomes approximately 290 select students from various schools throughout Chicago. Because of the involved investigation and curious experimentation allowed by science and related projects, students are equipped with some of the tools necessary to excel both inside and outside of the classroom. With the theme *Science, Technology, Engineering and Mathematics: Connecting Global Innovations*, the Fair will showcase a variety of scientific research projects from our city's best and brightest students.

This fair will not only present the students the opportunity to display their knowledge of substantial developments in the areas such as aerospace science, physics, and mathematics with essays and display boards, but also make room for the development of crucial analytical and critical skills. Additionally, the process from the beginning of research to the culminating presentation builds confidence and experience that will be beneficial throughout their burgeoning academic and professional careers.

On behalf of the people of Chicago, please accept my best wishes to every participant for an enjoyable and successful competition.

Sincerely,

Mayor
City of Chicago





Greetings from the President of the Board of Directors Chicago Public Schools Student Science Fair, Inc.

Welcome and Salutations!

It is a profound pleasure to join you at the Museum of Science & Industry for the 67th Annual Student Science Fair. As the President of the Board of Directors for Student Science Fair, Inc. and on behalf of its members, we offer our sincerest appreciation to the teachers, principals, volunteers, parents, corporate sponsors and the museum. With these partnerships, we have been able to establish critical thinkers and provide the next generation of innovators with the opportunity to present their work to today's professionals in the STEM fields.

This year's theme, *Science, Technology, Engineering and Mathematics: Connecting Global Innovations* captures the essence of STEM. STEM classes are more than school subjects. It is a valuable approach to improving our world and it is critical to the understanding, exploration and engagement of scientists around the world to collaborate and create innovative ways to improve our environment.

The innate desire for discovery lays in the hearts of each Science Fair participant. The members of the Board of Directors for Student Science Fair, Inc. want to inspire and enable Scientists, Technologists, Engineers and Mathematicians to unlock the mysteries of their field. We are proud to encourage and support our CPS students to enter STEM careers through participation in the city, state and international science fairs and to provide scholarships to the most promising students entering STEM fields. This is a new generation with opportunities and challenges that we need to nurture and empower.

Students, embrace the knowledge and mentorship of your parents and teachers. Realize that you are the future; and we are depending on you. Remember that the secret to life is to think like a proton because they are always positive, and never believe an atom because they make up everything. Also remember that to be number one, you have to be odd and the most powerful computer chip is your imagination!

On behalf of the members of the Board of Directors for Student Science Fair, Inc., please accept our sincerest congratulations. Your contributions to knowledge and understanding in the STEM fields are helping make our world a better and safer place.



Congratulations on connecting STEM through innovation!

Warmest regards,

Debra M. Sutkowski, Ph.D.
President, Board of Directors
CPS Student Science Fair, Inc.



CHICAGO PUBLIC SCHOOLS
STUDENT SCIENCE FAIR



Greetings from BP America, Inc. Corporate Sponsor

Greetings from BP America, Inc.

It's time for science!

On behalf of BP, congratulations on your participation in the 67th annual Chicago Public Schools Student Science Fair. Your hard work, dedication and the support of your family and teachers has brought you this far, and you should be extremely proud of your achievements. You are an inspiration to us all.

BP has been a proud supporter of the Science Fair for many years and we believe this year's theme -STEM - Connecting Global Innovations - couldn't be more fitting. After all, with more than 3,500 employees in the Chicagoland/Northwest Indiana area and operations in more than 70 countries across the globe, we connect global innovations every day!

BP is one of the world's leading energy companies. With our expertise in the fields of oil, natural gas and wind energies, we provide our customers with fuel for transportation, energy for heat and light, retail services and petrochemical products for everyday items (everything from plastic bottles to lipstick to golf balls).

Your work demonstrates the importance of scientific inquiry, and will serve you well no matter what career you decide to pursue. Curiosity, drive and continually increasing your knowledge are skills that universities and employers will always value. It's no surprise that many of our employees work in STEM fields, and many got their start by participating in science fairs just like this one.

Again, congratulations to all of the Science Fair participants, families and teachers. My colleagues and I look forward to seeing your projects, and I hope you have a wonderful experience.

Sincerely,

Kelli McDonald
Commodity Risk Manager
Integrated Supply and Trading
BP AmericaBP Products North America Inc.



beyond petroleum®



Greetings from ComEd, An Exelon Company Corporate Sponsor

To all Science Fair Participants

Congratulations on your involvement in the 67th annual Chicago Public Schools Student Science Fair! A science fair project is an experience that is both challenging and gratifying. You have already done thoughtful research and made powerful discoveries throughout your scientific process. Along the way, you have put your knowledge of reading, writing, math, critical thinking, data analysis and computer science to work. Today, you will also practice public speaking, and learn how to explain and defend your work in front of the judges.

Participating in science fair projects in this way is helpful in building the confidence and competence required of STEM professionals in today's workforce. That is why ComEd continues to be an energetic supporter of the science fair process. We believe it yields mature, skilled and competitive young leaders who have career goals and the discipline and drive to attain them.

You have clearly demonstrated that you have the motivation to succeed, and we believe that you can! We wish you the best at this next level of competition and look forward to seeing how you have been inspired by this year's theme, STEM: Connecting Global Innovations.

Best wishes,

Anne Pramaggiore
President and CEO
ComEd



WELCOME

ComEd[®]
An Exelon Company



Greetings from Motorola Solutions Foundation, Corporate Sponsor

To all Science Fair Participants

Congratulations on being selected to participate in the Chicago Public Schools Science Fair! We applaud your interest in science and your commitment to exploring the world around you.

At Motorola Solutions, we share your passion for innovation and scientific exploration. Motorola's global team of scientists, engineers, and technicians use many of the processes you're demonstrating today to develop new devices and technologies to make communities safe and thriving.

Motorola Solutions and Motorola Solutions Foundation are proud to support your commitment to learning. We extend our thanks to your teachers, parents, friends, family members, and volunteers who have helped you reach this level of success. We encourage you to continue to be your best and create the discoveries and innovations of tomorrow that will make the world a happier, healthier, safer place.

Best Regards,
Matt Blakely
Executive Director
Motorola Solutions Foundation



MOTOROLA SOLUTIONS
FOUNDATION



Greetings from Peoples Gas Corporate Sponsor

Welcome to the 67th annual Chicago Public Schools Student Science Fair!

Every year, the Science Fair offers students a chance to demonstrate their achievements in science, technology, engineering and math. The Fair also provides a window to the future and the promise it holds under our next generation of scientists.

The themes of the projects at the Student Science Fair may have changed over the years, but the dedication to excellence by CPS students has remained constant. We salute your hard work, curiosity and determination.

I'm proud of our longtime support for the Student Science Fair as a corporate sponsor and through our volunteer efforts. Throughout the year, Peoples Gas engineers serve as advisors to 16 middle school science clubs, helping students prepare their projects. Several dozen of our current and former employees also are serving as judges today, and some of them have been Science Fair judges for well over 10 years.

On behalf of everyone at Peoples Gas, congratulations to the more than 300 students competing in the 2017 CPS Student Science Fair, and a heartfelt thank you to the teachers, staff, parents and judges who make it so successful.

Charles Matthews
President and CEO
Peoples Gas



WELCOME

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NATURAL GAS DELIVERY



Greetings from Takeda Pharmaceuticals International, Inc. Corporate Sponsor

Dear Future Innovators:

Curiosity and interest are at the heart of discovery and innovation. Without them, we would not have computers, televisions, smart phones, or many other items we use on a daily basis. These innovations and advances begin with you and with the Chicago Public Schools Student Science Fair. Today we celebrate your curiosity and interest to think differently, to see the possibility, and to potentially create the next big invention, cure or blockbuster.

At Takeda Pharmaceuticals, we strive to create better health for people worldwide through leading innovation in medicine. We are a diverse organization committed to working with local communities to fully understand their needs in order to best deliver industry-leading solutions. Achieving this goal requires having great scientists – like you.

We are pleased to continue our sponsorship of Chicago Public Schools Student Science Fair and to provide scholarships for outstanding students to continue their education in science. We are looking to you to be part of ensuring we deliver healthcare options for patients in need, whether that is through developing medicines or inventing technologies that help make that happen.

Best of luck to everyone participating in this year's science fair. Also, a special thank you to all the teachers, parents, and volunteers who give their time, dedication and support for you to explore your curiosity and interest.

Best wishes,

Tom Harris
Head of Global Regulatory Affairs Takeda
Pharmaceuticals





Greetings from the Museum of Science and Industry's President and CEO

Welcome and Congratulations

Science fair weekend is always an inspiring time at the Museum of Science and Industry. MSI has been honored to showcase the innovative thinking of the young scientists participating in the Chicago Public Schools Student Science Fair since the fair's inception.

Our partnership with the CPS Student Science Fair exemplifies the Museum's vision: to inspire and motivate our children to achieve their full potential in the fields of science, technology, medicine and engineering. The hundreds of projects on display demonstrate such innovative thinking that I see it as a sign of a bright future for STEM careers.

These students are showing people that science is powerful and impactful. Science improves our lives and helps solve our most pressing global challenges. The student presenters serve as role models to younger children as they inspire them to come up with their own discoveries about their world.

We also want to acknowledge the parents, teachers, judges and supporters who help make the science fair a success.

Good luck to all the participants. We're proud of what you've done to make it this far. We want you to keep asking tough questions and creating solutions to problems. Your efforts will help make the world a better place.

Best wishes,

David R. Mosena
President and CEO
Museum of Science and Industry, Chicago



WELCOME



museum of
science+industry
chicago



Greetings from the Chicago Public Schools Chief Education Officer

Dear Science Fair Community,

Welcome to the 2017 Chicago Student City Science Fair

Congratulations to all student participants and teachers on advancing to the City Science Fair. I know all students have gained immense knowledge throughout this process. The new skills that you have acquired through classroom coursework, laboratory experimentation and research will bolster your future education and career goals.

As the Chief Education Officer, I am a strong proponent of competitive programs such as Science Fair, as it greatly influences academic outcomes in the classroom. This program continues to allow Chicago Public Schools to provide opportunities for students to learn rigorous academic material while developing a strong work ethic, motivation, and time management skills. As you progress through your studies and move on through college, career and life; I encourage you to maintain the drive that led you to this level of competition.

I wholeheartedly believe the Science Fair and other Chicago Public Schools enrichment programs enhance student learning, promote academic achievement and would not be possible without our teachers, parents and community partners. We appreciate your invaluable support, dedication, and commitment to making this educational opportunity a meaningful experience for all participating students.



Congratulations to all participants and enjoy the 2017 Chicago Student City Science Fair!

Best,

Dr. Janice K. Jackson
Chief Education Officer
Chicago Public Schools





WELCOME

Greetings from the Chicago Public Schools Chief Officer, Office of Teaching & Learning

*Dear Science Fair Students and
Educators,*

As the Chief Officer of the Office of Teaching and Learning, it is my pleasure to welcome students, educators, and guests to the 67th Annual Chicago Student City Science Fair.

A primary goal of the Office of Teaching and Learning is to improve student academic outcomes. This can only be accomplished by engaging students in educational opportunities beyond the classroom walls. Academic competitions such as the Science Fair program exemplifies our mission to ensure that all students are prepared for college, career and life.

Along with teachers, students grapple with complex subjects that will eventually translate to growth in the Science, Technology, Engineering, and Mathematics (STEM) fields. Participation in the Science Fair enhances each students' ability to conduct research, develop a work plan and solve complex problems through inquiry based learning. As a result, students develop new skills to become 21st Century learners and leaders who are able to compete in a global society.

I hope all participants enjoy an engaging and memorable experience at this year's City Science Fair. I also extend gratitude and best wishes to parents and teachers who have diligently supported our students for this level of competition. Thank you all for your participation, congratulations, and good luck as you move forward in the competition.

Sincerely,

LaTanya McDade
Chief Officer, Office of Teaching and Learning
Chicago Public Schools





Greetings from the CPS Manager, Academic Competitions

Dear Science Fair Community,

On behalf of the Academic Competitions team, I am proud to welcome students, teachers, volunteers, and staff to the 67th Chicago Student Science Fair! Congratulations to the students, and the teachers who have guided students, for advancing to this prestigious event. This event is a collaborative effort with Student Science Fair, Inc. to celebrate you.

It can be difficult for non-Science Fair participants to truly grasp the immense amount of work and dedication it takes for student and coaches to participate in this event. Students develop projects, test and analyze them prior to presenting them before you today. Additionally, teachers serve the critical role of guiding their students and coaching them through the project development process. Both teachers and students have often sacrificed time beyond the school hours to ensure today's presentation is successful.

I also want to extend a warm thank you to our Student Science Fair, Inc. partner and staff for making this event possible. Our partners are a committed group of professionals who devote their time to fundraising, planning, and organizing this event. Their arduous work is carried out with the goal to improve student outcomes, engage them in meaningful academic work, and prepare them for the growing fields of science, technology, engineering, and mathematics. Science Fair participants are learning critical academic skills. They are also practicing time management and discipline. The skills students receive from Science Fair will help them succeed in the classroom and in their future careers. I believe that we get closer to accomplishing our aims for every cohort of students each year.



I hope you enjoy this event and highly encourage you to participate in the Science Fair next year.

Sincerely,

Sylvia Nelson Jordan
Manager
Academic Competitions





Greetings from Student Science Fair, Inc. Chairperson

Congratulations!!! You have made it to the 67th Annual Student Science Fair here at the Museum of Science and Industry. MSI is a place that “provides engaging science experiences for students and educators because they both will decide the future of science.” What a great venue for you to display your work. This year's Student Science Fair theme is STEM: Connecting Global Innovations. Your testable question(s), research, analysis of your data and hard work makes each of you a very special student. We in the scientific community are looking for new and improved ideas; answers to old questions; forward thinkers and students like you. Today is YOUR day to showcase your work to professionals and scientists in the STEM fields also to your family, friends and community who may one day benefit from your investigation or design.

Yes, we live in a global community with instant messages through various social media connections.

Imagine your work here, through digital/internet connections, assist professionals across the oceans to cure, contain, improve lives or the environment. You are living during some of the most exciting times in the history of humanity. Keep the questions coming and keep seeking the answers to them.

I would like to thank all of you, the students, your parents/guardians, teacher sponsors, administrators and staff and university partners for all of their support provided to the make this weekend possible.

Thank you to the many science fair judges and volunteers who support our students' endeavors in the STEM fields. A special thank you to the CPS Student Science Fair, Inc. Board of Directors and our major corporate sponsors: BP America, ComEd, An Exelon Company, Motorola Solutions Foundation, Peoples Gas and Takeda Pharmaceuticals International, Inc.



Last but not least, thank you Chicago Public Schools for the academic support to our students and the Museum of Science and Industry for hosting this event.

Sincerely,

Elizabeth S. Cooper (chemical symbol Cu)
2017 Student Science Fair Chairperson
Chicago Public Schools Student Science Fair, Inc.



CHICAGO PUBLIC SCHOOLS
STUDENT SCIENCE FAIR



Peoples Gas is proud to
support the 67th Annual
**Chicago Public Schools
Student Science Fair.**

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Corporate Sponsors

Beginning in 1958, the scope and complexity of the Science Fair outgrew the ability of the Chicago Board of Education and the teacher volunteers to continue without financial support from the business community. Illinois Bell Telephone was the first to recognize the importance of this premier academic event to the students of this city and participated as a corporate sponsor.

We are particularly grateful to those at Motorola Solutions Foundation, ComEd, An Exelon Company, BP America, Inc., Peoples Gas and Takeda Pharmaceuticals International, Inc. whose leadership was essential in helping us obtain the necessary support of local business and industry, and whose generous financial contributions made this year's Science Fair possible.

Over the years, the involvement, responsibilities, and obligations of the corporate sponsor have evolved.

Currently, Science Fair asks the following of the corporate sponsor:

- Provide a substantial contribution, a minimum of \$25,000, for operating capital and/or scholarships
- Provide assistance in soliciting additional funds for the balance of the costs incurred. These costs include goods and services, publications, scholarships and grants, support to regional fairs and the city fair at the Museum of Science and Industry, and participation at the Illinois Junior Academy of Science State Science Fair and the International Science and Engineering Fair.
- Provide help in securing a corporate sponsor for the next year's Science Fair.

For further information about becoming a corporate sponsor please send inquiries to CPS Student Science Fair, Inc., P.O. Box 803945, Chicago, IL 60680-3945

We would greatly appreciate your partnership.

		ComEd, An Exelon Company		Chicago Board of Governors
		The Motorola Solutions Foundation	1993	Chicago Sun- Times
		Takeda Global Research & Development Center, Inc.	1990-92	Motorola, Inc.
2017	BP America, Inc.		1989	Sara Lee Corporation
	ComEd, An Exelon Company		1988	AMOCO Corporation
	The Motorola Solutions Foundation	2011	1987	Acme Steel Company
	Peoples Gas		1986	Interlake Corporation, Inc.
	Takeda Pharmaceuticals International, Inc.		1985	Chicago Sun-Times
2016	BP America, Inc.	2010	1984	First National Bank of Chicago
	ComEd, An Exelon Company		1983	Peoples Gas
	The Motorola Solutions Foundation		1982	Illinois Bell Telephone
	Peoples Gas	2006-09	1981	Sears, Roebuck and Company
	Takeda Pharmaceuticals International, Inc.		1980	International Harvester
2015	BP America, Inc.		1979	Morton Norwich
	ComEd, An Exelon Company	2004-05	1978	Bell & Howell
	The Motorola Solutions Foundation		1977	Zenith Radio Corporation
	Peoples Gas		1976	Standard Oil (Indiana)
	Takeda Pharmaceuticals International, Inc.		1975	U.S. Steel
2014	BP America, Inc.,	2003	1974	Commonwealth Edison
	ComEd, An Exelon Company		1973	Harris Bank
	The Motorola Solutions Foundation		1972	Peoples Gas
	Peoples Gas		1971	Motorola, Inc.
	Takeda Global Research & Development Center, Inc.	2000-02	1970	Illinois Bell Telephone
2013	BP America, Inc.,		1969	Borg-Warner
	ComEd, An Exelon Company		1968	Western Electric
	The Motorola Solutions Foundation		1967	Sears, Roebuck and Company
	Takeda Global Research & Development Center, Inc.	1999	1966	Inland Steel
			1965	Montgomery Ward
		1998	1964	Standard Oil (Indiana)
			1963	Swift & Co.
			1962	Commonwealth Edison
		1996-97	1961	International Harvester
			1960	Peoples Gas
			1959	U.S. Steel
2012	BP America, Inc.,	1994-95	1958	Illinois Bell Telephone



Contributors

To all of those who contributed to the operating, scholarship funds and Special Awards & Tours, we offer a very special THANK YOU for helping make the 2017 Science Fair a success.

Operating Fund

Donations to the Operating Fund help produce the City Science Fair, the Regional Science Fairs and many programs supporting students' independent research for science fair.

Academic Sponsor

- CPS, Office of Teaching and Learning

Site Sponsor

- Museum of Science and Industry

Corporate Sponsor – \$25,000 Minimum

- BP America, Inc.
- ComEd, An Exelon Company
- Motorola Solutions Foundation
- Peoples Gas

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- Illinois Tool Works
- Roy Coleman & Dianna Uchida

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- Kenneth Zdunek & Mary Memhardt
- Debra Sutkowski

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- Rudy Joan Lubov
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- Naylor Pipe Company
- Henry Rosenbaum

Scholarship Fund and Special Awards and Tours

Donations to the Scholarship Fund go to qualified high school seniors who have presented a project at a Regional and/or City-wide Science Fair and will major in one of the following areas science, technology, engineering or mathematics in college. Donations to the Special Awards and Tours go directly to students, whose projects meet criteria set by the donors and are selected by Special Awards Judges.

Benefactors of Academic Scholarships

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- Mary Nalbandian

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- Beth Lange
- Marilyn Levin
- Henry Rosenbaum
- Motorola Solutions Foundation
- Debra M. Sutkowski
- Melanie Wojtulewicz
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- UIC-College of Engineering
- University of Notre Dame
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- Omega Psi Phi Fraternity, Inc.- IOTA Chapter
- SPIE-Optical Society of Chicago

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- IL Speech-Language-Hearing Association
- Industrial Water, Waste & Sewage Group
- Amy Lange
- Rita Nelson

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- Lewis & Deonne Wright
- Universal Gran Encampment of the US

If you are interested in supporting the Science Fair or becoming a sponsor, additional information can be obtained by sending an inquiry to CPS Student Science Fair, Inc., P.O. Box 803945 Chicago, IL, 60680-3945, or by contacting Luba Johnson at ljohnson131@cps.edu or Melanie Wojtulewicz at wojo@aol.com.



Symposium and Essay Contests

Symposium Information

Symposium is an integral and popular feature of the Chicago Public Schools Student Science Fair. This event held on Thursday, March 16, 2017, takes place at the Museum of Science and Industry. Student presenters from Grades 9–12, through their teacher sponsor, first submitted a scientific research paper. In January, a committee of volunteer readers evaluated these papers; and research papers were chosen to be presented on March 16, 2017. Each student must have performed the primary research described in their paper, must defend the scientific merit of the research, and display written and oral communication skills. During the Symposium competition, a panel of judges from the scientific, academic, and business communities listen to, question, and evaluate each presentation. Fifteen finalists are selected to participate at the Illinois Junior Academy of Science (IJAS) State Science Fair at Northern Illinois University in Dekalb, Illinois on May 5 and 6, 2017.

Essay Contests

IJAS Essay Contest

Also evaluated by volunteer readers at the January Symposium & Essay Reading Session are the essay papers submitted by students from Grades 7–12. As an ancillary activity of the State Science Fair, the IJAS sponsors an essay contest for students who conduct library research and prepare a 1500-word essay. The 2017 topic is: *"Engaged Learning"*. Ten of the IJAS student essays are selected as outstanding and the top scoring essay will be forwarded to the IJAS for evaluation at the state level.



SYMPOSIUM THURSDAY

2017 Essay Contest Semi-Finalists

801	Anastasi, Alyssa	8	ISP	Young HS	Modifying Teacher-Parent Communication
802	Cruz, David	12	SLA	Phoenix MA	Gardner's Multiple Intelligence Theory
803	Gordon, Callista Grace	8	ISP	Young HS	Wag to Calm
804	Harris, Olivia	11	ISP	Young HS	Engaged Learning in the Classroom and Beyond
805	Jarmula, Nicole	12	ISP	Young HS	Electrically Increasing Productivity
806	Michicich, Morgan	8	ISP	Young HS	The FAM! Program
807	Ramos, Eduardo	11	NW10	Hubbard HS	Video Game Addiction
808	Serna, Edith	12	NW10	Hubbard HS	It's Music Time
809	Vergara, Daniel	9	NW10	Hubbard HS	Engaged Learning in Basketball
810	Yan, Jiajun	8	ISP	Young HS	Programming the Future

* See page 29 for the Network Abbreviation Key



Symposium Schedule

Thursday, March 16, 2017

ROOM 1- Session A 9:00 - 11:30 A. M.

Ex#	Student Name	Grade	Project Title	School	Category	Net-work
601	De, Rohit	12	Novel Keap1-Binding Particle	Young	Biochemistry	ISP
602	Galvan, Hazel Rose	10	Aqueous V. Interfacial Route of Polyaniline	Von Steuben	Chemistry	NW01
603	Grammenos, Ochmaa	9	Do pH Levels Affect Catalase Activity?	Von Steuben	Chemistry	NW01
604	Hentati, Nada	10	Lead in Chicago Park District Soil	Lincoln Park	Chemistry	ISP
605	Keller, Sally	12	Effects of Temperature on Luminol Intensity	Young	Chemistry	ISP
606	Molina, Cristian	10	Rust's Effects on Magnetic Properties	Lincoln Park	Chemistry	ISP
607	Pendon, Georgia	10	Effects of Temperature on UV Beads	Lincoln Park	Chemistry	ISP
608	Quan, Michael	9	Advil: Gel or Enteric?	Von Steuben	Chemistry	NW01

ROOM 2- Session B 9:00 - 11:30 A. M.

609	Molnar, Claudia	9	Effect of Electrolytes on Brassica Rapa	Lane	Botany	NW04
610	Neeson, Emily	12	Development of Specific CRC microNA Profiles	CHSAS	Health Science	ISP
611	Oladipo, Mercy	10	Hydroquinone: Finding a Safer Alternative	Young	Health Science	ISP
612	Chen, Andy	12	Alternative Medicine on E. coli	Young	Microbiology	ISP
613	Ebrahim, Anusha	12	Predicting Paths to Prostate Cancer	Young	Microbiology	ISP
614	Munshi, Raisa	12	16SrRNA Cyanobacteria Taxonomy Identification	Lane	Microbiology	NW04
615	Puczko, Michael	9	Effect of Tetracycline on Gram- Bacteria	Lane	Microbiology	NW04
616	Salgado, Selena	11	Bacterial Transformation	Curie	Microbiology	NW08

ROOM 3 - Session C 9:00 - 11:30 A. M.

617	Arnashus, Abigail	9	Angling Energy for D3 Synthesis Efficiency	Von Steuben	Engineering	NW01
618	Gomez, Brandon	11	Coding a Maze Solving Robot Theory Vs. Reality	Von Steuben	Engineering	NW01
619	Lam, Alvin	11	Effect Curvature has on a Line Sensor Robot	Von Steuben	Engineering	NW01
620	Lynch, Charlie	11	Arch Strength at Varying Heights	Von Steuben	Engineering	NW01
621	Mrdak, Marcus	9	Waterproof Bike Seat Cover	Von Steuben	Engineering	NW01
622	Rogel, Sofia	9	The Heat Cure	Von Steuben	Engineering	NW01
623	Nunez, Stoykof	10	Reinforced Concrete Composite	Phoenix	Material Science	SLA
624	Pio, Abigail	11	Don't Let the Water In	Phoenix	Material Science	SLA

ROOM 1- Session D 1:00 - 3:30 P. M.

625	DeVarenne, Emma	11	Algae Fuel	Von Steuben	Environmental Science	NW01
626	Gehrenbeck, Malia	11	Grease Your Engines	Von Steuben	Environmental Science	NW01
627	Goral, Natalia	10	What's In My Water?	Amundsen	Environmental Science	NW02
628	Marquez, Ivery	10	Trash to Gas: Biomass	Von Steuben	Environmental Science	NW01
629	Puczko, Daniel	11	The Effect of Glucose Concentration on MFC	Lane	Environmental Science	NW04
630	Taylor, Tanzanikia	10	Global Warming and Carbon Dioxide	Michele Clark	Environmental Science	NW03

ROOM 2- Session E 1:00 - 3:30 P. M

631	Dutton, Kayla	9	The Effect of Phone Usage on Sleep Quality	Lane	Behavioral Science	NW04
632	Martinez, Aristeo	11	Are You Smarter Than a C. Elegans?	Phoenix	Behavioral Science	SLA
633	Perez, Penelopi	10	The Impact of Photography on our World	Young	Behavioral Science	ISP
634	White-Grey, Hyacinth	9	Can You Multi-Task?	Young	Behavioral Science	ISP
635	Miller, Myelle	12	Not In The Mood!	Julian	Zoology	NW13

* See page 28 for the Network Abbreviation Key

ROOM 3- Session F 1:00 - 3:30 P. M

636	Aduong, Vivian	12	Geo-Wrapping	Young	Computer Science	ISP
637	Moreno, Sheilly	12	Identifying the Location of the Hit!	Curie	Mathematics	NW08
638	Sanchez Jr., Octavio	12	Demonstrating Infinities within a Projection	Phoenix	Mathematics	SLA
639	Ahmed, Uzair	10	The Effect of Rocket Fuel on Thrust Yield	Lake View	Physics	NW01
640	Ashitey, Naa	12	Amplitude Modulation Through Aluminum Foil	Lincoln Park	Physics	ISP

Symposium & Essay Luncheon Schedule

Thursday, March 16, 2017

Rosenwald Room- 11:30 A.M

Remarks	Elizabeth Copper Chairperson CPS Student Science Fair, Inc.
Introduction of Special Guest	Jennifer Patush Symposium & Essay Committee Co-Chairperson
Guest Speaker	Alexandria Strother Miss Chicago 2017 Electrical Engineer BP Whiting Refinery
Recognition of Symposium Participants	Jacqueline DiLorenzo Symposium & Essay Committee Co-Chairperson
Recognition of Judges (Years of Service)	Jennifer Patush Jacqueline DiLorenzo Elizabeth Copper

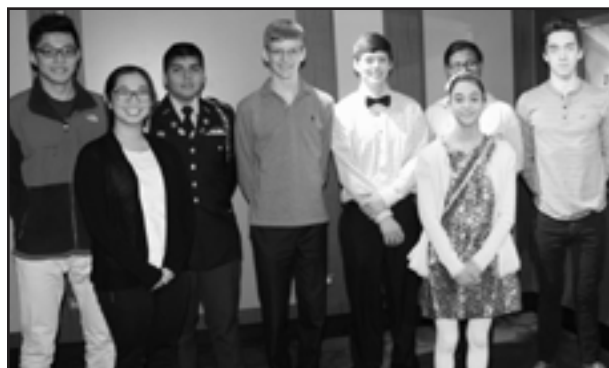




Exhibit Information

The CPS Student Science Fair offers academically and scientifically talented young people an opportunity to showcase their accomplishments. The projects on display represent the most outstanding scientific endeavors of students in Grades 7–12.

The exhibitors at this year's CPS Student Science Fair were selected from approximately 10,000 students who competed in school and regional science fairs throughout the city during this past December and January. These winners were chosen on the basis of their scientific approach, thoroughness, creativity, and presentation. Once again we welcome CPS student winners from the QED: Chicago's Youth Math Symposium. These winners were chosen on the basis of their mathematical approach, thoroughness, creativity, and presentation. QED is an abbreviation of the Latin phrase "quod erat demonstrandum," which is commonly used to signal the completion of a mathematical proof. We welcome all student participants to the 67th Annual City-wide Science Fair.

On Friday, March 17, 2017, over 300 judges from the scientific, academic, and business communities will observe, listen to, question, and evaluate the exhibitors. Winners are selected based on established criteria as indicated in the Science Fair Handbook.

The top 50 winners will participate at the Illinois Junior Academy of Science (IJAS) State Science Fair, held May 5 and 6, 2017, on the campus of the Northern Illinois University, DeKalb, Illinois. Students will compete with other students from around the state.

On Saturday, March 18, 2017, the top 35 outstanding high school projects will be evaluated by a special panel of judges. Four finalists will be invited to compete at the International Science and Engineering Fair (ISEF), which is being held May 14-19, 2017 in Los Angeles, California.



Some of the judges also function as Special Awards judges for the companies that have graciously sent them to evaluate the exhibitors. Each company may have one or more special criteria, in addition to the established criteria, by which to determine the recipient of its special award. All CPS Student Science Fair participants will be recognized with certificates and souvenirs at the Awards Convocation on Sunday, March 19, 2017, at 1:00 p.m., in the main auditorium of the Museum of Science and Industry. Approximately 100 students will be individually recognized with cash prizes, awards, and other special gifts. In addition, all CPS Student Science Fair participants are eligible to apply for financial support grants and college scholarships in their senior year of high school.

All CPS Student Science Fair participants are WINNERS!

If you would like to serve as a judge, please contact Yolanda Del Rio at yolanda_delrio@comcast.net to have your name added to the database. At a minimum, judges must have a degree in science, mathematics, computer science, or engineering. They may not be a current employee of the Chicago Public Schools.





Exhibit Schedule

Friday, March 17, 2017

Science Fair Exhibit Judging

7:30 A.M. - 8:30 A.M.	Judges Briefing and Breakfast	Main Auditorium
8:30 A.M. - 11:00 A.M.	Judging of Exhibits	West Pavilion
11:00 A.M. - 11:30 A.M.	Opening Ceremony	West Pavilion
11:30 A.M. - 12:00 NOON	Ribbon Cutting and Exhibit Tour	West Pavilion
12:15 P.M. - 1:30 P.M.	Recognition Luncheon (by Invitation only)	Rosenwald Room
12:00 NOON - 1:00 P.M.	Judging Continues	West Pavilion
1:00 P.M. - 3:15 P.M.	Fair Open to the Public	West Pavilion



EXHIBIT JUDGING
FRIDAY



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
Aerospace Science					
1 E	Achebe, Adam	7	Effect of Warhead Diameter Projectile Peak	NW09	Kenwood HS
2 D	Ren, Jeffrey	10	The Efficiency of Fixed Wings	SLA	Phoenix Military HS
Behavioral Science					
3 E	Khomyak, Anastasia	7	Eye Color Mystery	NW05	Columbus
4 E	Bratley, Madison	8	A Bit of Color	ISP	Skinner North
5 E	Charlier, Nina	8	The Power of a PSA	ISP	Edgebrook
6 E	Gordon, Callista	8	Wag to Calm	ISP	Young HS
7 E	Igbokwe, Robert	8	Is Venus Smarter Than Mars?	NW02	Armstrong
8 E	McChesney, Maren	8	Effect of Praise: Confident vs. Unconfident	ISP	Edgebrook
9 E	Swanson, Margaret	8	The Sleepy Blues	ISP	Hawthorne
10 E	Zubak, Emma	8	Commercial or Try - What Makes You Buy?	ISP	LaSalle II
11 E	Daugherty, Megan	9	The Stroop Effect	NW02	Lake View HS
12 E	Romero, Viviana	9	Color Influences Taste?	NW08	Curie HS
13 E	White-Grey, Hyacinth	9	Can You Multi-task?	ISP	Young HS
14 E	Gaona, Emiliano	10	Does a Magnet's Force Affect Plant Growth?	NW02	Mather HS
15 E	Javed, Tahira	10	Text vs. Talk: The Effect on Reaction Time	NW02	Mather HS
16 E	Perez, Penelopi	10	The Impact of Photography on Our World	ISP	Young HS
17 E	Martinez, Aristeo	11	Are You Smarter Than a C.elegans?	SLA	Phoenix Military HS
18 E	Muhammad, Aaliyah	11	Secret Life of a Teenager	NW13	Julian HS
19 E	Hoye, Elijah	12	Effect of Auditory Distraction on Reaction	NW12	South Shore Intl HS
20 E	Washington, Kyler	12	The Effect of Conversation on Reaction Time	NW12	South Shore Intl HS
Biochemistry					
21 E	Castro, Nazareth	8	Bubbling Heat!!!	NW08	Shields Middle
21 E	Chihuahua, Amada	8	Bubbling Heat!!!	NW08	Shields Middle
22 E	Abioye, Hassan	10	Wet With a Chance of Enzyme Catalyzation	CHTR	Chicago Math & Science
23 E	Chavira, Juan	10	Temperature vs. Catalase	NW02	Amundsen HS
24 E	Ruiz, Cecilia	10	Why Do People Respond to Drugs Differently?	ISP	Juarez HS
25 E	Poole, Jonathan	11	Different Pretreatments in Food Dehydration	ISP	Chicago Agri HS
26 E	Siddiqui, Hira	11	Effect of Enzyme Concentration	NW02	Amundsen HS
27 D	De, Rohit	12	Novel Keap1-binding Particle	ISP	Young HS
28 E	Duarte, Andrew	12	The Effect of CuSO ₄ (H ₂ O) on Enzyme Activity	NW06	Ogden HS
29 E	Johnson, Christopher	12	The Effect of pH on Osmosis in Winter Squash	NW06	Ogden HS
30 E	Mendez, Jessica	12	The Effect of Chemicals on Hair	NW04	Kelvyn Park HS

Network (Abbreviation)

AUSL (AUSL)	Independent School Principals (ISP)	Network 5 (NW05)	Network 10 (NW10)
Charter (CHTR)	Network 1 (NW01)	Network 6 (NW06)	Network 11 (NW11)
Contract (CNTR)	Network 2 (NW02)	Network 7 (NW07)	Network 12 (NW12)
Military (SLA)	Network 3 (NW03)	Network 8 (NW08)	Network 13 (NW13)
Options (OPTN)	Network 4 (NW04)	Network 9 (NW09)	



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
Botany					
31 E	Mostafa, Amro	7	How Does pH Affect Plant Growth?	NW06	Galileo
32 E	Herrejon, Carolina	8	Oregano Germination, Yes or No?	NW06	Jackson A
33 E	Kujawa, Elizabeth	8	Red Dye 40 and Its Effect on Plant Growth	ISP	Lenart
34 E	Lothian, Ellen	8	Affects of Irradiation on Seed Germination	NW01	Prussing
35 E	Reyes, Citlalli	8	Allelopathic Plants	NW08	Burroughs
36 E	Switzer, Susan	8	C-ing Double? Adding Vitamin C to Tomatoes	NW02	Stone
36 E	Zises, Lucy	8	C-ing Double? Adding Vitamin C to Tomatoes	NW02	Stone
37 E	Ariyama, Emily	9	The Effect of Water Type on Wildflowers	ISP	Lincoln Park HS
38 E	Brandy, Kourtni	9	Kool-Aid vs. Salt Water	NW10	Morgan Park HS
39 E	Cervantes, Lizabeth	9	Effect of HCl on Germination of Seeds	NW03	Steinmetz HS
40 E	Dayson, Dayna	9	Effect of NaCl on Pinto Beans	NW03	Steinmetz HS
41 E	Economos, Yanni	9	Growing Plants in Hydroponic Systems	NW02	Mather HS
42 E	Fleischer, Katarina	9	Effects of NaCl on Lima Bean Germination	NW03	Steinmetz HS
43 E	Hernandez, Alex	9	Effect of Salts on Seed Germination	NW03	Steinmetz HS
44 E	Jaworowski, Bartek	9	Effect of Fertilizer on Germination of Seeds	NW03	Steinmetz HS
45 E	Quach, Dalena	9	The Effect of Plants on Soil Erosion	NW02	Mather HS
46 E	Romo, Nelly	9	Effects of H ₂ O ₂ on Seed Germination	NW10	Kennedy HS47
47 E	Tlatelpa, Jasmin	9	Effects of Detergents on Seed Germination	NW03	Steinmetz HS
48 E	Villarreal, Angelina	9	The Effect of Space on Seed Germination	NW03	Steinmetz HS
49 E	Aftab, Yusra	10	Hot Corn	CHTR	Chicago Math & Science
50 E	Ramos, Gladys	10	Does Microwave Radiation Affect Plant Growth?	ISP	Juarez HS
51 E	Roman, Alexis	10	Can Plants Stop Soil Erosion?	ISP	Juarez HS
52 E	Gomez, Kiana	12	The Effects of Greywater on Plants	ISP	Chicago Agri HS
Chemistry					
53 E	Cardenas, Ashley	7	Mint Experiment	ISP	Grissom
54 E	Davis, Marnesha	7	What Dissolves Packing Peanuts the Best?	NW13	Mt Vernon
54 E	Hutcherson, Danita	7	What Dissolves Packing Peanuts the Best?	NW13	Mt Vernon
55 E	Gotelaere, Hannah	7	Accuracy of Kastle-Meyer Test	NW01	Bateman
56 E	Jackson, Lateefah	7	Accelerate Rusting	NW05	Mason
57 E	Macias, Rafael	7	Temperature and pH of Orange Juice	NW08	Hedges
58 E	Soltys, Joanna	7	Effect of Temperature on Reaction Rates	NW10	Twain
59 E	Wadlington, Kelly	7	Vanished Into Thin Air	NW12	Earhart
60 E	Waypa, Caleb	7	The Shocking Affect of Electrolysis on pH	NW04	Bell
61 E	Woo, Lily	7	Which Additive Makes the Strongest Gelatin?	NW01	Edison
62 E	Abarca, Yazmin	8	Which Chocolate Melts the Fastest?	CHTR	Catalyst - Maria
62 E	Reyes, Gabriela	8	Which Chocolate Melts the Fastest?	CHTR	Catalyst - Maria
63 E	Andreu, Jessica	8	Energy Stored in Food	NW01	Oriole Park
63 E	Simioni, Isabella	8	Energy Stored in Food	NW01	Oriole Park
64 E	Awan, Aruba	8	Which Reacts Fastest: Big or Small	NW02	Rogers

* See page 28 for the Network Abbreviation Key



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
65 E	Canada, Jaylene	8	Lead It Flow	NW05	Lowell
66 E	Ceron, Valeria	8	Why Does Fire Burn in Different Colors?	NW01	Bateman
67 E	Dusing, Jaime	8	How Much Oxygen Is In the Air?	ISP	Addams
68 E	Kafi, Amtul	8	Does Mint Affect Temperature?	ISP	Peck
69 E	Khuc, Cindy	8	Pineapple vs. Jello	NW02	Hayt
70 E	Lannert, Nora	8	Sodium Chloride's Effect on Oxidane	NW04	LaSalle
71 E	Leong, Tiffany	8	The Sweet Science of Soda	ISP	LaSalle II
72 E	London, Akili	8	A Bloody Mess	NW05	Mason
73 E	Ortiz, Isabella	8	Does It Make Cents?	NW13	Marsh
74 E	Pena, Tiffany	8	Water is Clean, Right?	NW01	Beaubien
74 E	Spain, Sasha	8	Water is Clean, Right?	NW01	Beaubien
75 E	Pineda, Ethan	8	Electrolysis	NW06	Burr
76 E	Plomin, Karma	8	Watching Paint Dry	NW06	Galileo
77 E	Saunders, Madison	8	Which Food Burns The Most Energy?	NW12	Dixon
78 E	Tamatekou, Agnes	8	pH Levels	NW12	Dixon
79 E	Thach, Sydney	8	Which Fabric Is To Dye For?	NW06	Sheridan
80 E	Vazquez, Karolina	8	The Future Fuel Cycle	NW05	Lowell
81 E	West, Kendall	8	May I Have a Tall Cup of A.C.T. Right	NW10	Owen
82 E	Wong, Amilie	8	Which Liquids Have a Higher pH Level?	NW10	Dore
83 E	Wysocki, Anastasia	8	Decaffeinated Tea, What's The Story Behind It?	ISP	Lenart
84 E	Awisha, Natalia	9	Light Altering Chemical Reactions	NW02	Amundsen HS
85 E	Coleman, Dorian	9	Let's Get Rusting	NW10	Morgan Park HS
86 E	Lara, Desiree	9	Retaining Vitamin C	NW02	Lake View HS
87 E	Luo, Kyle	9	The Effects of pH Level Due to Temperature	NW08	Curie HS
88 E	Podobinski, Peter	9	Which Water is of the Best Quality?	NW10	Kennedy HS
89 E	Razo, Ruby	9	Evaporation Rates of Liquids	NW08	Curie HS
90 E	Rubalcaba, Natalia	9	Effects of Iodine on Different Oils	NW02	Lake View HS
91 E	State, Stefania	9	Milk Into Plastic!	NW02	Amundsen HS
92 E	Villegas, Ricardo	9	Mentos and Coke Geysers	NW02	Lake View HS
93 E	Broy, Jamal	10	Which Substance Melts Ice the Fastest?	NW10	Morgan Park HS
94 E	Galvan, Hazel Rose	10	Aqueous vs. Interfacial Route of Polyaniline	NW01	Von Steuben HS
95 E	Gonzalez, Rodolfo	10	Concrete Hardness	SLA	Marine Leadership
96 E	Hentati, Nada	10	Lead in Chicago Park District Soil	ISP	Lincoln Park HS
97 E	Molina, Cristian	10	Rust's Effects on Magnetic Properties	ISP	Lincoln Park HS
98 E	Pendon, Georgia	10	The Effect of Temperature on UV Beads	ISP	Lincoln Park HS
99 E	Rubalcaba, Kayla	10	Surface Area Affect Reaction Rate	ISP	Juarez HS
100 E	Khatoon, Shagufta	11	Determination of KSP of CA (OH) 2	CHTR	Chicago Math & Science
101 E	Oliveros, Yamilet	11	Paper Towels vs Water	SLA	Carver Military HS
102 E	Dudek, Gina	12	What is Temperature's Effect on Fe (SCN) 2+?	NW10	Kennedy HS
103 E	Gaspar, Daniel	12	Effect of Temperature on Lead Precipitate	NW07	Social Justice HS
104 E	Keller, Sally	12	Effects of Temperature on Luminol Intensity	ISP	Young HS

* See page 28 for the Network Abbreviation Key



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
105 E	Walker, Sakima	12	Soda Pop Explosion!	NW03	Clark HS
Computer Science					
106 E	Badillo-Matiaz, Isisel	9	How Safe Is Our Technology From Hackers?	NW02	Lake View HS
107 D	Schumm, Liam	10	Battlecode	ISP	Payton HS
108 D	Aduong, Vivian	12	Geo-Wrapping	ISP	Young HS
109 E	Rivera, Omar	12	Will An Intel (R) Pentium 4 Overclock?	NW04	Kelvyn Park HS
Earth Science					
110 E	Berry, Brianna	7	Wind Power	NW10	Morgan Park HS
111 E	Rivera, Diego	8	From Trash to Gas	ISP	Lee
112 E	Torres, Julia	8	Bubble, Bubble, Boil and Trouble	NW01	Beaubien
113 E	Nash, Emily	12	The Rate of Leaf Decay in Different Temperatures	ISP	Chicago Agri HS
Electronics					
114 E	Solorzano, Rolando	7	Is Bluetooth A Killer?	ISP	Nobel
115 E	Ornelas, Enzo	8	Attractive Energy	NW03	Sayre
116 E	Altenbach, Isabella	11	Effect of Frequency on Wireless Electricity	NW04	Lane HS
Engineering Science					
117 D	Estrada, July	7	Hidden Alarm	NW08	Columbia Explorers
118 E	Gueye, Mame	7	Effect of Soil Type on Bridge	NW09	Kenwood HS
119 E	Malinowski, Zachary	7	What's Better, Wood or Aluminum Bats?	ISP	Grissom
120 E	Ing, Edwin	8	Silent Sound	NW06	Healy
121 D	McPhilliamy, Giselle	8	Electromagnetism Express	NW04	Blaine
122 D	Nelson, Emily	8	The Sturdy Stand: Stable Renewable Energy	NW10	Kellogg
123 E	Shields, Darnell	8	Wind vs. Water	NW03	Sayre
124 E	Yu, Yingson	8	Microbial Fuel Cells	NW06	Healy
125 D	Arnashus, Abigail	9	Angling Energy for D3 Synthesis Efficiency	NW01	Von Steuben HS
126 D	Rogel, Sofia	9	The Heat Cure	NW01	Von Steuben HS
127 E	Tichy, Donald	9	Egg-Cellent	ISP	Chicago Agri HS
128 E	Aco, David	10	Effect of Vertical on Weight Bearing Capacity	NW04	Lane HS
129 D	Cacho, Ana	10	Engineering Concrete	ISP	Juarez HS
130 D	Villanueva, Valerie	10	The Effect of Speed on an Electric Charge	NW04	Lane HS
131 E	Biziak, Michal	11	Gauge Wire and Electric Motor Longevity	NW10	Kennedy HS
132 D	Gomez, Brandon	11	Coding a Maze Solving Robot Theory vs. Reality	NW01	Von Steuben HS
133 D	Lam, Alvin	11	Effect Curvature Has on a Line Sensor Robot	NW01	Von Steuben HS
134 D	Mrdak, Marcus	11	Waterproof Bike Seat Cover	NW01	Von Steuben HS
Environmental Science					
135 E	Arguelles, Naiomi	7	Paper Alternatives	NW02	Budlong
136 E	Chetkovich, Nia	7	Water Everywhere But Think Before You Drink	ISP	Edgebrook
137 E	Li, Litao	7	Is Hard Water Hard on the Environment?	NW06	Ward J
138 E	Huang, Ivy	7	Plants' Absorbation Rates of VOCs	NW06	Haines

* See page 28 for the Network Abbreviation Key



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
138 E	Liang, Jiayu	7	Plants' Absorption Rates of VOCs	NW06	Haines
139 E	Martens, Erin	7	Nanosilver in the Environment	ISP	Ebinger
140 E	Bish, Tyler	8	Let's Go pH-ishing	NW04	Audubon
141 E	Bogdal, Daniel	8	Does the Flame Retardant's Type Matter?	NW10	Twain
141 E	Laboy, Jacob	8	Does the Flame Retardant's Type Matter?	NW10	Twain
142 E	Brown, Max	8	A Nickel Goes A Long Way	NW04	Audubon
143 E	Chaidez, Jessica	8	Do Gas Stations Destroy Our Soil?	NW10	Dawes
144 E	Hensler, Vanessa	8	The Chicago River: The Ugly Truth	ISP	Burley
145 E	Iturralde, Sophia	8	Dirt Dangers	NW06	Jackson A
146 E	Jurkowski, Amy	8	Heavy Metals in Fish	ISP	Hawthorne
147 E	Saadia, Zoha	8	Keep It Running: Hydro vs. Air Energy	NW02	Armstrong
148 E	Shahriyar, Chad	8	Munching Mealworms!	NW02	McCutcheon
149 E	Cousins, Brycen	10	Effect of Temperature on the Corrosion of Al	NW11	Lindblom HS
150 E	Petropoulos, Amalia	9	Smelly Energy	NW02	Mather HS
151 E	Banks, Kira	10	Planria an Indicator for Safe Water	NW11	Lindblom HS
152 E	Chaudhry, Naima	10	The Effect of Biopolymers on Radish Growth	NW04	Lane HS
153 E	Goral, Natalia	10	What's In My Water?	NW02	Amundsen HS
154 E	James-Anderson, Alissa	10	Feud of the Fuels	NW11	Lindblom HS
155 E	Marquez, Ivery	10	Trash to Gas: Biomass	NW01	Von Steuben HS
156 E	Ortiz, Jacqueline	10	Water Quality Along the Chicago River	SLA	Phoenix Military HS
157 E	Schoenecker, Kristine	10	From Turbid to Clear!!	ISP	Chicago Agri HS
158 E	Szymczyk, Robert	10	The Effects of Water Pollution on Mosquitoes	NW04	Lane HS
159 E	Taylor, Tanzanikia	10	Global Warming and Carbon Dioxide	NW03	Clark HS
160 E	DeVarenne, Emma	11	Algae Fuel	NW01	Von Steuben HS
161 E	Gehrenbeck, Malia	11	Grease Your Engines	NW01	Von Steuben HS
162 E	Morris, Jesse	11	Well, That Was Unexpected...	NW01	Von Steuben HS
163 E	Pietri, Isabel	11	When Fungi Attacks	NW04	Kelvyn Park HS
164 E	Puczek, Daniel	11	The Effect of Glucose Concentration on MFC	NW04	Lane HS
165 E	Van de Velde, Amy	11	Soil Erosion's Effect on Water Purification	ISP	Chicago Agri HS
166 E	Vogwill, Daniel	11	Effects of an Electromagnetic Field on Plants	ISP	Chicago Agri HS
167 E	Bossi, Andrea	12	Glacial Recession and Bio-Succession	NW11	Lindblom HS
168 E	Dowdell, Kapri	12	What's Under Your Feet at the Playground?	NW10	Morgan Park HS
169 E	Franco, Juan	12	Location Related to the Quality of Water	ISP	Juarez HS
170 E	Nuno, Selene	12	How Different Diets Affect Earthworms and Soil	ISP	Chicago Agri HS
Health Science					
171 E	Tran, Carol	7	Salt, Sugar, and Ethanol Oh My	NW02	McCutcheon
172 E	Addo, Albert	8	The Art in "Art"eries	NW05	Mason
173 E	Gardner, Erin	8	Is Big Fat or Little Fat?	NW12	Earhart
174 E	Martinez, Cynthia	8	Which Moisturizer Really Works?	NW08	Columbia Explorers
175 E	Singh, Vidhi	8	Probable Causes of CVST: A Case-Control Study	ISP	Young HS
176 E	Hernandez, Rachel	9	Measuring Glucose Concentrations in Drinks	NW08	Curie HS

* See page 28 for the Network Abbreviation Key



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
177 E	Landa, Diane	10	Supplement Dissolution in Various Drinks	ISP	Juarez HS
178 E	Oladipo, Mercy	10	A Safer Alternative to Hydroquinone	ISP	Young HS
179 E	Rosas, Juan	10	Solids in Smoke	NW10	Goode HS
180 E	Czyz, Magdalena	11	Delicious, Nutritious, and Soreness	ISP	Young HS
181 E	Guo, Jeff	11	Role of Screen Use in Altering Vision Quality	ISP	Young HS
182 E	Murillo, Katie	11	Fat In Food	NW10	Kennedy HS
183 E	Neeson, Emily	12	Development of Colon Cancer microRNA Profiles	ISP	Chicago Agri HS

Materials Science

184 E	Dill, Ella	7	Which Material Makes the Best Insulation?	ISP	Kinzie
185 E	Johnson, Aaliyah	7	Which Materials Keep Water Hot The Longest?	NW03	Spencer
185 E	Walters, Jacqueline	7	Which Materials Keep Water Hot The Longest?	NW03	Spencer
186 E	Shih, Alyssa	7	Sweating It Out!	ISP	Lenart
187 E	Gonzalez, Alex	8	Oh, That Feels Better!	NW08	Christopher
188 D	Herbig, Patrick	8	The Sorbo Helmet	ISP	Young HS
189 E	Herring, Michelle	8	Candy Fiber Pull	NW10	Morgan Park HS
190 E	Parson-Moore, Sheldon	8	Cell Phone Spectrophotometer	NW10	Kellogg
191 E	Turner, Charlie	8	Insulation Investigation	NW04	Audubon
192 E	Tschetter, Nicholas	9	Density vs. Acoustic Absorption	ISP	Lincoln Park HS
193 D	Childs, Alexandria	10	Conductive Paint	NW10	Goode HS
194 E	Colunga, Efrain	10	Thermal Processing of Bobby Pins	SLA	Phoenix Military HS
195 E	Mainor, Modist	10	A Color Symphony	NW03	Clark HS
196 E	Nunez, Stoykof	10	Reinforced Concrete Composite	SLA	Phoenix Military HS
197 E	Reyes, Tayes	10	pH Balance	NW02	Lake View HS
198 E	Stenneth, Letandre	10	Combating Partial Shading	ISP	Payton HS
199 E	Victory, Michael	10	Soaking Up the World	NW03	Clark HS
200 E	Pio, Abigail	11	Don't Let the Water In	SLA	Phoenix Military HS
201 E	Miller, Terrell	12	Lifting Prints	NW13	Julian HS
202 E	Valerio, Joselyn	12	Stretching Glass	SLA	Phoenix Military HS

Mathematics

203 E	Goel, Abhinav	8	The Game of SET	ISP	Young HS
204 D	McGuigan, Isabel	8	Chef Showdown	ISP	Young HS
205 E	Nguyen, Allyson	8	This or That?	ISP	Young HS
205 E	Pan, Teresa	8	This or That?	ISP	Young HS
206 E	Rincon, Jacqueline	8	It's Not Magic, It's Math	NW06	Holden
207 E	Chen, Ethan	11	Probability in Big Two	ISP	Payton HS
208 E	Gonzalez, Isaac	11	How Does Multitasking Affect Performance?	ISP	Juarez HS
209 D	McHugh, John	11	Vieta Jumping	ISP	Payton HS
210 E	Vaughan, Brendan	11	Ratio of Radicals	ISP	Payton HS
211 E	Zhang, Jorge	11	The Good, The Bad, and This Project	ISP	Payton HS

* See page 28 for the Network Abbreviation Key

EXHIBIT JUDGING
FRIDAY



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
212 E	Farb, Beatrice	12	From the Jerk to the Role Model	ISP	Payton HS
213 E	Huang, Kaiyu	12	Linear Congruent Systems	ISP	Lincoln Park HS
214 E	Moreno, Sheilly	12	Identifying the Location of the Hit!	NW08	Curie HS
215 E	Mularczyk, Hanna	12	Euler Characteristics of Orientable Surfaces	ISP	Payton HS
216 D	Olaguez-Campos, Alejandra	12	Controlling Probabilities with Dice	SLA	Phoenix Military HS
217 D	Sanchez, Octavio	12	Demonstrating Infinities Within a Projection	SLA	Phoenix Military HS
218 D	Xia, Sophia	12	Noncommutative Rings as Graph Invariants	ISP	Young HS

Microbiology

219 E	Dzankovic, Amer	7	Which Brand of Yeast Produces the Most CO ₂ ?	NW02	Waters
220 E	Akhtar, Esha	8	Pampered & Polished or Infected & Inflamed?	NW02	Armstrong
221 E	Eromosele, Eghonghong	8	Time is of The Essence	NW11	Lindblom HS
222 E	Richardson, Ella	8	Crush What's on Your Brush!	NW04	Audubon
223 E	Joshi, Abhishek	10	Effect of Temperature on Algal Photosynthesis	NW04	Lane HS
224 E	Vucic, Sara	10	Effect of Evolution on Bacterial Resistance	NW04	Lane HS
225 E	Salgado, Selena	11	Bacterial Transformation	NW08	Curie HS
226 E	Bernal, Carlos	12	Silver Nanoparticles on E.coli?	NW02	Amundsen HS
227 E	Chen, Andy	12	Alternative Medicine on E.coli	ISP	Young HS
228 E	Dinescu, Catalina	12	The Effect of Antibiotics on E.coli Bacteria	NW02	Amundsen HS
229 E	Ebrahim, Anusha	12	Predicting Paths to Prostate Cancer	ISP	Young HS
230 E	Hawkins, Lamarcus	12	The Effect of Diet on Fruit Fly Lifespan	NW07	Social Justice HS
231 E	Munshi, Raissa	12	16SrRNA Cyanobacteria Taxonomy Identification	NW04	Lane HS
232 E	Palomares, Joseph	12	Comparing UV Light vs. Chlorine Sterilization	NW02	Amundsen HS
233 E	Sotirova, Victoria	12	Tetracycline and Amoxicillin Resistance	NW02	Amundsen HS

Physics

234 E	Almond, Tamia	7	The Effect of Mass on the Speed of a Car	NW03	Leland
234 E	Dean, Tavares	7	The Effect of Mass on the Speed of a Car	NW03	Leland
235 E	Banks, Logan	7	All Corked Up	ISP	Grissom
236 E	Biggerman, Harry	7	Watt's Your Angle?	NW01	Edison
237 E	Davila, Valentina	7	How Ramp Height Affects Ball Speed	NW10	Stevenson
238 D	Fantozzi, Armahn	7	Efficient Propeller Design	NW09	Hendricks
239 E	Gavaldon, Payton	7	Temperature Changing Surface Tension	ISP	Burley
240 E	Hennessy, Julian	7	Effect of a Ball's Spin on Its Trajectory	NW09	Kenwood HS
241 E	Karafiol, Jonah	7	Effect of Cloth Shade on Temperature	NW09	Kenwood HS
242 E	Kessler, Sedona	7	Climate vs. Concerto	NW04	Bell
243 E	Liu, Xu	7	Gone With The Wind!	NW06	Healy
244 E	Miller, Johnathan	7	Where There is Charge, There Can Be Sparks!	NW05	Frazier Int'l Magnet
245 E	Serges, Thomas	7	Hydrodynamics: Testing Drag Force	NW04	Franklin
246 E	Smith, Carel	7	Boatafoam	NW11	Green
247 E	Soumare, Bocar	7	The Pitch of a Wind Blade and Power Produced	NW12	Dixon
248 E	Wilkin, Elias	7	Ranque-Hilsch Vortex Tube: Hot or Not?	NW04	Bell
249 E	Wilson, Destiny	7	Soak It Up	NW05	Mason

* See page 28 for the Network Abbreviation Key



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
250 E	Cahue, Fatima	8	How Does Height Affect a Blood Splatter?	NW08	Calmeca
251 E	Cranston, Avery	8	Can You Hear Me Now? Reducing Noise	NW10	Kellogg
252 D	de la Fuente, Amanda	8	The Sound of Silence	NW04	Blaine
253 E	Freymler, Konrad	8	The Science Behind the Flip	NW01	Bridge
254 E	Harbaugh, Dorothy	8	Golf Ball Battle	NW04	LaSalle
255 E	Hollis, Lauren	8	The Effect of Magnets on Water	ISP	Ebinger
256 E	Hu, David	8	Skyblaster Slingshot!	NW06	Sheridan
257 E	Huang, Jia Yi	8	Breaking Down Plastics	NW06	Haines
257 E	Huang, Sydney	8	Breaking Down Plastics	NW06	Haines
258 E	Jones, Ayanah	8	Oxygen vs. Temperature	NW12	Bouchet
259 E	Kular, Parneet	8	Tons of Newtons	NW06	Jackson A
260 E	Michaels, Chase	8	Superconductors: Levitation Without Magic	ISP	Hawthorne
261 E	Perez, Carolina	8	Fast and Furious	ISP	Nightingale
262 E	Rogers, John	8	Dimple Distance	NW06	Sheridan
263 E	Valenzuela, Madison	8	Can It Push It?	NW03	Clark G R
264 E	Wasim, Rashail	8	GMOs and Organics: The Shocking Divide	ISP	Skinner North
265 E	Yakes, Jason	8	To Cork or Not to Cork?	NW10	Byrne
266 E	Yousefzai, Royana	8	That's Shocking	NW02	McPherson
267 E	Adelien, Michel	9	Electromagnetic Induction	NW13	Brooks HS
268 E	Sarkiss, Baito	9	How to Make an Aircraft Invisible to Radar	NW06	Ogden HS
269 E	Thothala, Chirag	9	Effect of Temperature on Photovoltaic Array	NW02	Lake View HS
270 E	Ahmed, Uzair	10	The Effect of Rocket Fuel on Thrust Yield	NW02	Lake View HS
271 E	Chiem, Danny	10	Do Magnets Affect Speaker's Volume?	NW02	Mather HS
272 E	Quintana, Alan	10	Angled Solar Energy	NW10	Goode HS
273 E	Tat, Connie	10	Effect of Magnetic Fields on Plant Growth	NW04	Lane HS
274 E	Casas, Guadalupe	11	Landing the Flip Bottle	NW10	Kennedy HS
275 E	Ibarra, Daniel	11	The Effect of Magnets on Coasters	NW06	Ogden HS
276 D	Lopez, Rohan	11	Optimum Wave Flow in Electromagnetic Field	ISP	Payton HS
277 E	Mikos, Kathryn	11	Moment of Inertia's Effect on a Cylinder Speed	NW10	Kennedy HS
278 D	Miranda, Ron	11	High Frequency Magnetic Linear Accelerator	NW11	Lindblom HS
279 E	Nguyen, Ly	11	Surface Tension of Water	NW02	Mather HS
280 E	Ashitey, Naa	12	Amplitude Modulation in Aluminum Foil	ISP	Lincoln Park HS
281 E	Diaz-Mendoza, Desiree	12	Impact of Hard Water on Solar Panels	ISP	Chicago Agri HS
282 E	Hernandez, Denise	12	Dynamic of Particles in an Optical Trap	NW11	Lindblom HS
283 E	Wells, Arthur	12	Throw of the Century	NW13	Julian HS
Zoology					
284 E	Romero, Jocelyn	9	Do Goldfish Have Long Term Memory Capability?	NW13	Brooks HS
285 E	Bahena, Dulce	10	Regeneration of Blackworms in Toxic Solution	ISP	Juarez HS
286 E	Carranza, Joel	10	Energy Drink vs. Heart Rate in Daphnia Magna	ISP	Juarez HS
287 E	Miller, Myelle	12	Not in the Mood!	NW13	Julian HS
288 E	Morales, Emily	12	Effect of Cytotoxins on Brine Shrimp	NW07	Social Justice HS

* See page 28 for the Network Abbreviation Key

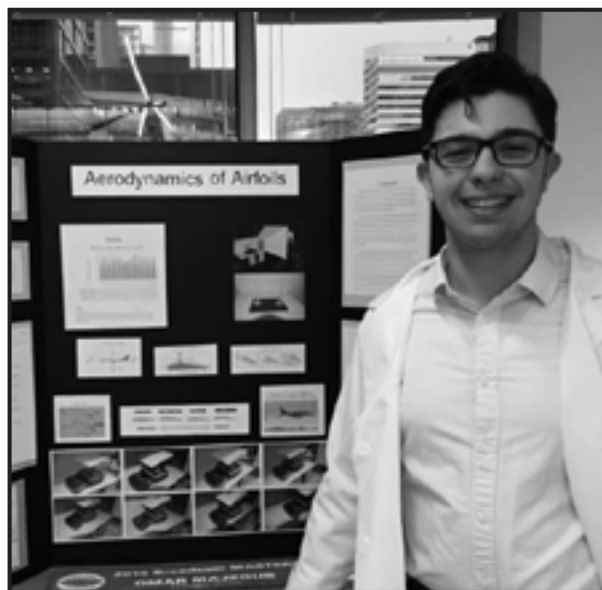
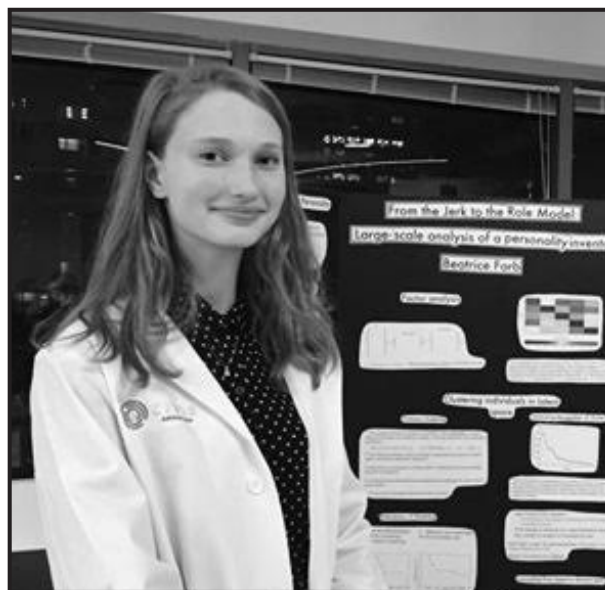
EXHIBIT JUDGING
FRIDAY



Exhibit List by Category and Gender

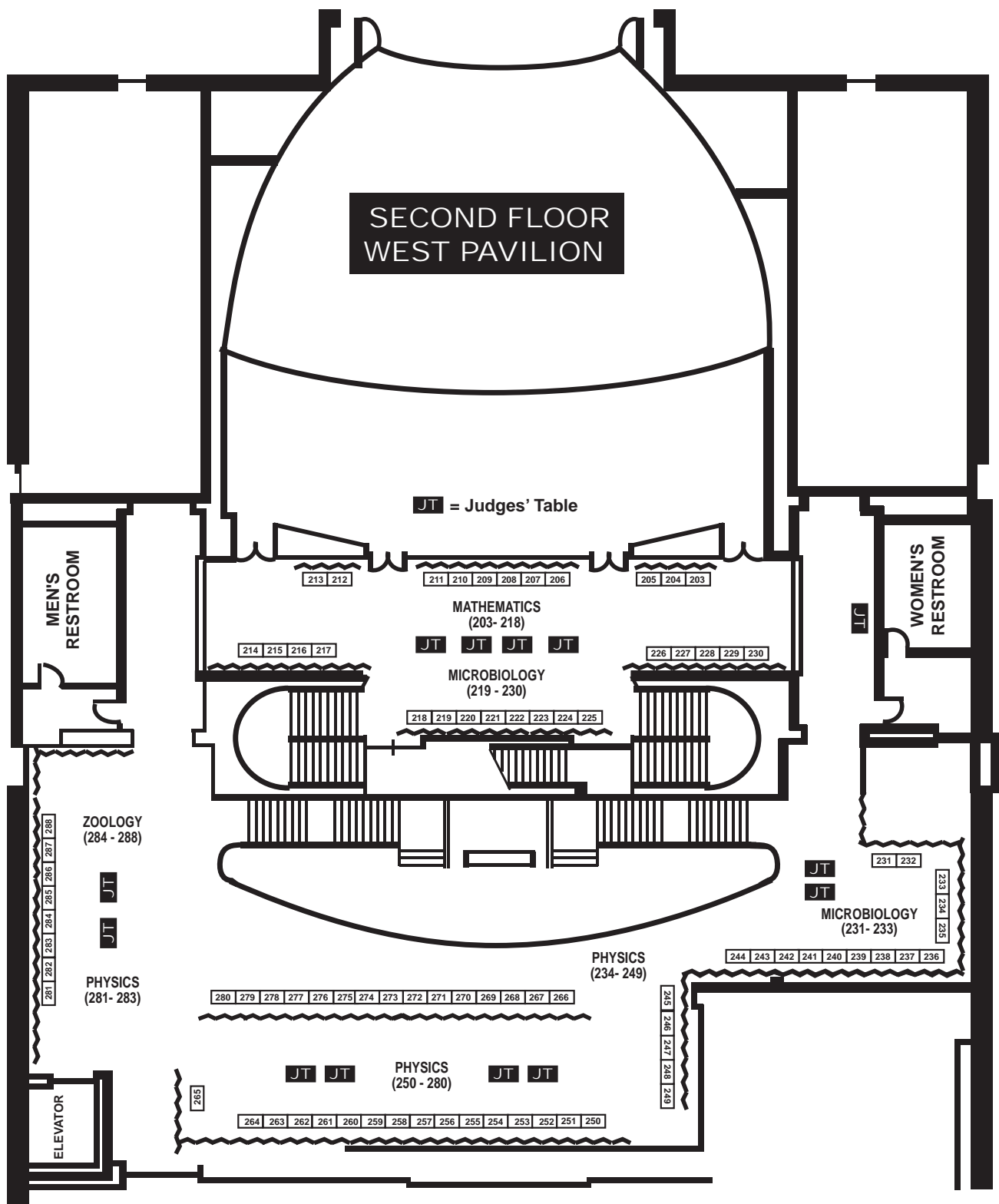
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	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Aerospace Science	1	0	1	1	0	1	2	0	2	0
Behavioral Science	1	7	8	3	7	10	4	14	18	0
Biochemistry	0	2	2	6	3	9	6	5	11	1
Botany	1	6	7	4	12	16	5	18	23	1
Chemistry	4	31	35	8	14	22	12	45	57	4
Computer Science	0	0	0	2	2	4	2	2	4	0
Earth Science	1	2	3	0	1	1	1	3	4	0
Electronics	2	0	2	0	1	1	2	1	3	0
Engineering Science	4	4	8	6	4	10	10	8	18	0
Environmental Science	5	11	16	6	16	22	11	27	38	2
Health Science	1	4	5	2	6	8	3	10	13	0
Materials Science	4	5	9	6	5	11	10	10	20	1
Mathematics	1	4	5	7	5	12	8	9	17	1
Microbiology	1	3	4	5	6	11	6	9	15	0
Physics	21	14	35	10	7	17	31	21	52	2
Zoology	0	0	0	1	4	5	1	4	5	0
TOTAL ▶	47	93	140	67	93	160	114	186	300	12

EXHIBIT JUDGING
FRIDAY



**EXHIBIT JUDGING
FRIDAY**







Student Exhibitors

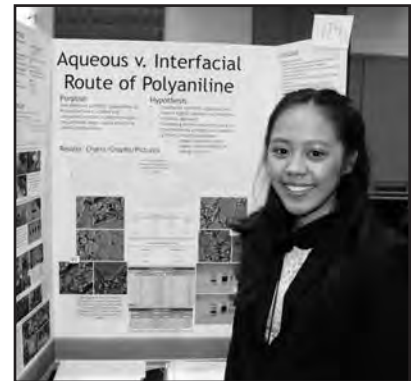
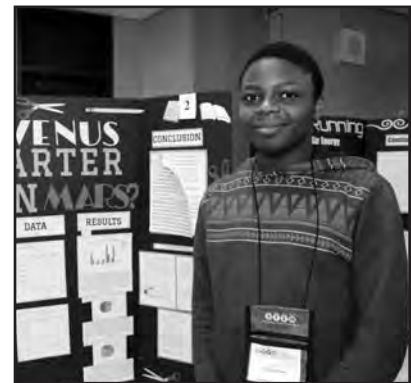


EXHIBIT JUDGING
FRIDAY



Student Exhibitors

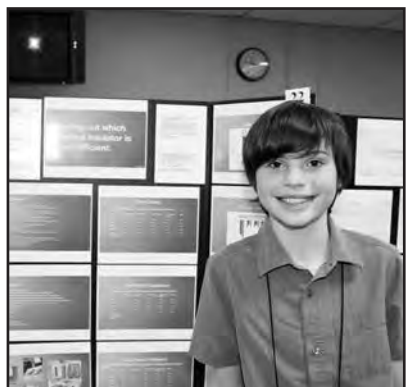
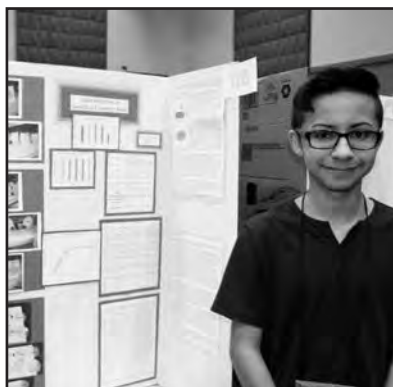
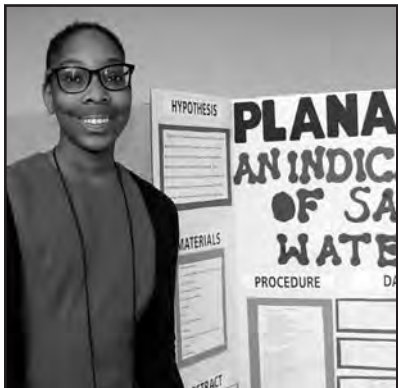


EXHIBIT JUDGING
FRIDAY



Student Exhibitors

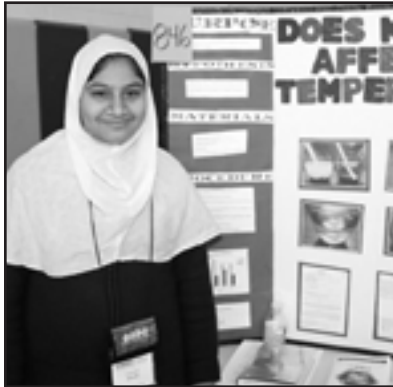
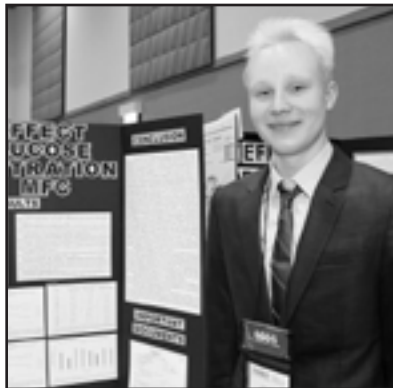
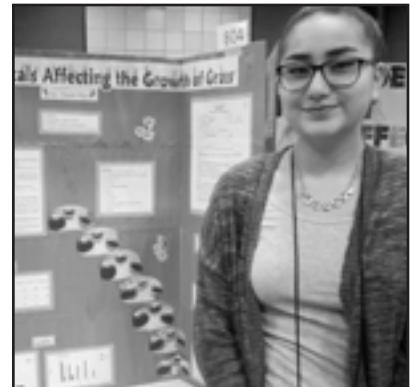
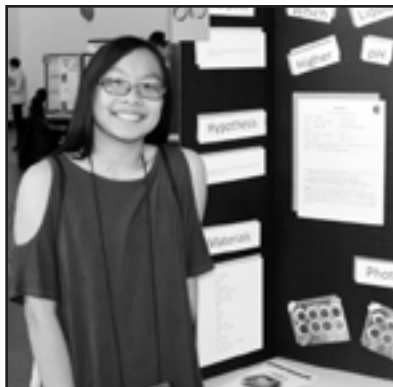


EXHIBIT JUDGING
FRIDAY



Sixth-Grade Regional Winners Recognition Luncheon

Saturday, March 18, 2017

11:45 A.M. – Rosenwald Room

Welcome

Elizabeth Copper
Chairperson
CPS Student Science Fair

Comments

Melanie Wojtulewicz
Executive Chairperson
CPS Student Science Fair

Jeanette Bartley
Chairperson Elect
CPS Student Science Fair, Inc.

Presentation of Awards

Elizabeth Copper
Melanie Wojtulewicz
Jeanette Bartley

Group Photo

Allan Reisberg
Chairperson, Digital Imaging
CPS Student Science Fair, Inc.



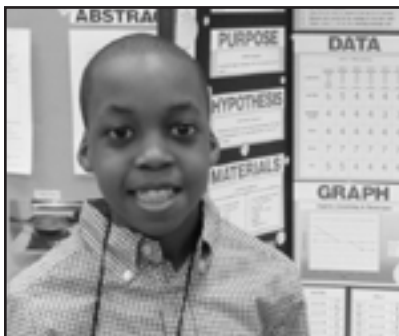
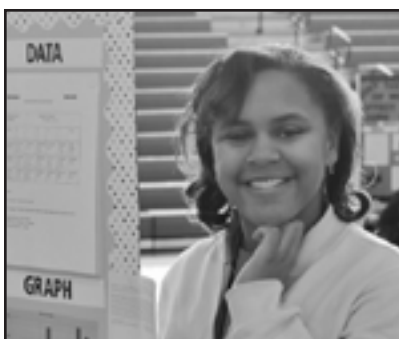
**PUBLIC VIEWING & 6TH GRADE
LUNCH SATURDAY**



Sixth-Grade Regional Winners

List of 2017 Sixth-Grade Regional Winners

Exh	Name	Grade	Network	School	Title
701	Agrawal, Sameer	6	ISP	Skinner North	Beverage CSI
702	Sun, Yujie	6	ISP	Lenart	Hovercrafts
703	Melo, Valentin	6	NW01	Haugan	Speeding Heart: Elegance or Fury of Rhythm
704	Warden, Stella	6	NW01	Peterson	Soda Stains
705	Khan, Faiyaz	6	NW02	Decatur	Microfightology
706	Kibler, Emma	6	NW02	Waters	Do Rooftop Gardens Keep Houses Cooler?
707	Chaides, Juan	6	NW03	Clark G R	Disintegrating Rocks
707	Jimenez, Benjamin	6	NW03	Clark G R	Disintegrating Rocks
708	McGregory, Camren	6	NW05	Frazier Int'l Magnet	Temperature and Elasticity
709	Sangabriel-Rivera, Stephan	6	NW08	Hernandez	Sprouting Potatoes
710	Zmali-Meftah, Yasmine	6	NW06	Burr	Glucose in Baked Goods
711	Cross, Nia	6	NW10	Barnard	Marble Slide
712	Sutton, Andre	6	NW11	Turner-Drew	Aspirin Breakdown
713	Cowan, Kamryn	6	NW12	Earhart	What's Your Print?
713	Pierson, Dariyah	6	NW12	Earhart	What's Your Print?
714	Dozier, Mykari	6	NW13	Pullman	Which Fabric Type Burns the Quickest?
714	Ramos, Vanessa	6	NW13	Pullman	Which Fabric Type Burns the Quickest?



PUBLIC VIEWING & 6TH GRADE
LUNCH SATURDAY



Awards Convocation

Sunday, March 19, 2017

1:00 P.M. – Auditorium

Pledge of Allegiance

National Anthem

Greetings.....**Elizabeth Copper**
Chairperson, CPS Student Science Fair

Welcome.....**Gary Sircus**
Manager, Teacher Programs & IQST
Museum of Science and Industry

Remarks.....**Arnaldo Rivera**
Chief Policy Officer
Chicago Board of Education
Sylvia Nelson Jordan
Manager, CPS Academic Competitions
Office of Teaching and Learning
Debra Sutkowski
President
CPS Student Science Fair Board of Directors

Awards Presentation.....**Ruby Parnell-Booth**
Chairperson, Special Awards and Tours Committee
• Special Awards
• Military Awards
• Special Tour Awards

Winners Recognized by**Gary Sircus**
Arnaldo Rivera
Sylvia Nelson Jordan
Debra Sutkowski

Recognition of Symposium Winners.....**Jennifer Patush**
Jacqueline Di Lorenzo
Co-Chairpersons, Symposium & Essay Committee

Illinois Junior Academy of Science (IJAS) Awards.....**Monique Murray**
Juanita Pailinski
Co-Chairpersons, IJAS Committee

International Science and Engineering FAIR (ISEF) Awards... **Elizabeth Copper**
Chairperson, CPS Student Science Fair

Closing Remarks.....**Elizabeth Copper**
Chairperson, CPS Student Science Fair





Special Awards

A variety of incentives are provided by individuals, industry, educational organizations and professional societies. The contributors listed below and the representatives serving as judges, award cash awards, certificates of merit, invitations to attend special recognition programs, luncheons and opportunities in real laboratory settings. Some Special Award sponsors have dedicated special recognition to the Teacher Sponsors that encourage these exhibitors to stretch to reach their potential.

At the Awards Convocation on Sunday, March 19, 2017, students whose projects are selected by Special Awards judges will be the direct recipients of these awards.

If you are interested in offering a Special Award at the next Science Fair, please contact Ruby Sheree Parnell-Booth Special Awards, P.O. Box 803945, Chicago, IL 60680 or by email at rsparnell-booth@cps.edu

On behalf of all the young scientists, a special THANK YOU is extended to the contributors of Special Awards.

Achievement Award

A \$50 cash award will be given to a first time high school student exhibitor with an outstanding project

- Rita Nelson
- RyAnn Nelson -Jaiyesimi

American Association of Zookeepers-Lincoln Park

A \$50 cash award will be given to a student exhibitor with an outstanding project in the category of animal behavior or environmental science

- Susan Moy

American Meteorological Society

A certificate of "Outstanding Achievement" to each of two high school student exhibitors with outstanding projects in the category of atmospheric, oceanic or hydrologic science

- Society for Science and the Public

American Nuclear Society-Chicago Section

One \$100 cash award and a book by Max Carbon will be given to a student exhibitor with an "Outstanding" project; one \$50 cash award and a book by Max Carbon will be given to a student exhibitor with an "Excellent" project

- Dr. Roger W. Tillbrook
- Justin W. Thomas
- John Houck

American Psychological Association

A certificate of "Outstanding Research" will be given to a student exhibitor with an outstanding project in behavioral science, biochemistry, computer science, environmental science, mathematical science, medicine or health science.

- Society for Science and the Public

Anti-Cruelty Society

A \$50 Visa gift card will be given to a student exhibitor with an outstanding project exhibiting humane care and treatment of animals

- Elliott Serrano

ASM Education Foundation

A medallion and certificate of outstanding achievement will be given to a student exhibitor with an outstanding

project in the category of engineering

- Society for Science and the Public

Association for Women Geoscientists

A certificate of "outstanding achievement" will be given to a female student exhibitor with an outstanding project that increases the public awareness of the geosciences, illustrate the interdisciplinary nature of the geosciences, or promote the sensitivity to the Earth as a global system.

- Society for Science and the Public

Association of Women in Science

A \$50 Amazon.com gift card will be given to a female student exhibitor with an outstanding project in scientific research

- Barbara Di Eugenio
- Jessica Hoch

Astronaut Joan Higginbotham Award

A \$300 cash award will be given to a high school student exhibitor with an outstanding project in aerospace science, physics, electronics or engineering

- Melanie Wojtulewicz

ASU Rob and Melani Walton Sustainability Solutions Initiative

A certificate and a nomination will be given to each of two exhibitors to enter for the Grand Prize: a trip to Arizona for the 2016 Sustainability Solutions Festival.

- Society for Science and the Public

Bartley Family Award

A \$50 gift card will be given to each of two student exhibitors with outstanding projects

- Jeanette Bartley

Broadcom MASTERS

A special invitation for the top 10% of middle school student exhibitors to be nominees for the Science & Engineering Fair national competition

- Society for Science and the Public

Chicago Academy of Sciences and its Peggy Notebaert Nature Museum

A One-year Family Membership to the Peggy Notebaert Nature Museum (\$60 value) and a \$100 Visa gift



Special Awards

card to an exemplary environmental science project

- David Bild

Chicago Botanic Garden

One "Day at the Garden" package which includes free parking, four free tram tickets, four Railroad Garden or Wonderland Express tickets, and \$10 off any membership purchase will be awarded to a student exhibitor with an outstanding project

- Nancy Issac

Chicago Intellectual Property Alliance (CIPA)

Three "Most Inventive" awards: First place - assistance with filing a patent application and a \$500 cash award; Second place - a \$300 cash award; Third place - a \$200 cash award

- Sarah Biggs

Chicago Principals and Administrators Association

A \$100 Target gift card to each of five high school student exhibitors and to each of five elementary school student exhibitors in behavioral science, biochemistry, chemistry, environmental science, mathematics or microbiology.

- Clarice Berry
- Kent Lau

Chicago Surface and Finishing Foundation

A \$400 cash award will be given to each of three student exhibitors that have outstanding projects relating to the electroplating industry

- Amanda Beach

Chicago Zoological Society-Brookfield Zoo

A one year Brookfield Zoo family membership will be given to student exhibitors with outstanding projects

- Marjorie Baker

Christine M. Krupa Award

A \$100 cash award will be given to a student exhibitor with an outstanding mathematics project

- Christine M. Krupa

College of Engineering, University of Illinois at Chicago (MC 152)

A \$250 cash award will be given to each of five student exhibitors with outstanding projects in the category of engineering

- Dr. Peter Nelson, Dean
- Jovita Banks
- Dale Reed
- Gerry Smith

Copper's Encouragement Award

A \$50 gift card will be given to each of two female high school student exhibitors with "outstanding" projects in health science and a \$25 gift card will be given to a female high school student exhibitor with "excellent" projects in health science

- Elizabeth Copper

Cynthia Slater Insurance Agency

A \$50 cash award will be given to a student exhibitor with an outstanding project

- Cynthia Slater

Davis Family Achievement Award

A \$25 gift card will be given to student exhibitors with outstanding projects

- Lillian B. Qualls
- Lois McClinton
- Jacqueline Johnson
- Sheila Ramsey

Delta Sigma Theta Sorority, Inc.

A \$50 cash award will be given to a student exhibitor with an outstanding project

- Chicago Alumnae Chapter
- Judy Walter

DNA Learning Center-Notre Dame

A fully paid scholarship for a one week session to DNA Learning Center Summer Camp located at the University of Notre Dame for one of the following dates for summer 2017: June 25 – June 30, or July 9 – July 14, 2017 for a student with an outstanding project. Scholarship will cover tuition, lab fees, room and board, food and camp activities. Transportation to and from campus is not included.

- Dr. Amy Stark – University of Notre Dame

Dr. Susan Engel Medical Award

A \$25 cash award will be given to a student exhibitor with an outstanding health related project

- Dr. Susan Engel

Earth and Environmental Science Award

A \$100 cash award will be given to each of three student exhibitors with outstanding projects in the category of Earth and Environmental Science

- David Petrovski
- Gary Cygan

Executive Director's Award

A \$200 cash award will be given to a middle school female exhibitor with an outstanding project

- Melanie Wojtulewicz

Fisher Science Education

Each student exhibitor will receive a Thermo Fisher souvenir bag that contains a pair of chemical splash goggles, 5 pairs of gloves minimum, a reusable laboratory apron, and a lab notebook

- David Isphording

Fogelson Family Foundation- Paul J. Salley, Jr. Prize for Outstanding Mathematical Research by a Young Mathematician

A \$313 Paul J. Sally, Jr. cash award will be given to a student exhibitor with outstanding work of research in mathematics

- The Fogelson Family Foundation



Special Awards

Fogelson Family Foundation-Outstanding Teacher in Mathematics and Related Sciences

A \$349 Fogleson Family Foundation cash award will be given to a outstanding mathematics and related sciences teacher

- The Fogelson Family Foundation

Fogelson Family Foundation- Outstanding Mathematics Department which supported the most mathematics and related sciences projects entered into the City Science Fair

A \$401 Fogleson Family Foundation cash award will be given to an outstanding mathematics departement which supoorted the most math/related sciences projects that entered the City Science Fair

- The Fogelson Family Foundation

Fogelson Family Foundation- QED Prizes for Outstanding Research in Mathematics and Related Sciences

Three \$227 QED Prize cash award will be given to each of three student exhibitors with outstanding works of research in Pure Mathematics, Applied Mathematics, Mathematics in Engineering, and Mathematics in Computer-Related Sciences, and to a work demonstrating exceptional mathematical insight

- The Fogelson Family Foundation

Fogelson Family Foundation- Distinguished Mathematics Research

A \$191 Fogelson Family Foundation cash award will be given to each of three student exhibitors for distinguished mathematical research

- The Fogelson Family Foundation

Fogelson Family Foundation- Special Awards for Mathematical Investigations or application

A \$101 Fogelson Family Foundation cash award will be given to each of three student exhibitors for outstanding mathematical investigations or application project

- The Fogelson Family Foundation

Gerald Rudnick Technology Award

A \$50 cash award will be given to a middle school student exhibitor that best demonstrates the most innovative use of technology

- Gerald Rudnick

Gonzalzes, Wahlberg, James, Gonzalzes Award

A \$100 cash award to each of four middle school exhibitors that best use the scientific method in their exhibits

- Eddie Marie Gonzalzes

IJAS

Accommodation for each of the top 60 student exhibitors and each of the top 15 symposium presenters to attend the IJAS State Exposition

- Monique Murray
- Juanita (Nini) Paulinski

IJAS Essay Finalists

A \$250 cash award will be given to each of the top two essays; a \$125 cash award will be given to the third place essay; a \$75 cash award will be given to the fourth place essay; and a \$50 cash award will be given to the fifth place essay

- Jennifer Patush
- Jacqueline Di Lorenzo

Illinois Speech-Language-Hearing Association

A \$100 cash award will be given to each of two student exhibitors with outstanding projects related to communication disorders

- Denise Prohaska

Illinois Water Environmental Association

A certificate and eligibility to participate in the Stockholm Junior Water State Competition will be given to each of two middle school student exhibitors and one high school student exhibitor with outstanding water-related projects

- Society for Science and the Public

Industrial Water Waste and Sewage Group

A \$100 cash award will be given to each of three student exhibitors with outstanding water-related projects

- Barbara Scapardine

Intel ECS Award

An "Excellence in Computer Science" certificate will be given to a student exhibitor with an outstanding project in the category of computer science

- Society for Science and the Public

Intel ISEF

Accommodations to the International Science and Engineering Fair for each of the four high school student exhibitors with outstanding projects; recognition of each of two alternates

- Stephen Farr
- Margaret Farr

Kathryn Peecher Memorial Award

A \$25 cash award will be given to each of two elementary school exhibitors with outstanding projects

- Marie Clouston
- Amanda Scampini

Lincoln Park Zoo

A one-year household membership to Lincoln Park Zoo will be given to a student exhibitor with an outstanding project

- Alexa Cottrell

Luba Johnson Science Award

A \$50 cash award will be given to each of two student exhibitors with outstanding projects

- Luba Johnson



Special Awards

McGraw Hill School Education Group

A \$100 cash award will be given to each of two student exhibitors with outstanding projects in the category of biology; a \$100 cash award will be given to each of two student exhibitors with outstanding projects in the category of chemistry; a \$100 cash award will be given to a student exhibitor with an outstanding project in the category of physics

- Ardena White

Metropolitan Water Reclamation District

One certificate will be awarded to each of 25 student exhibitors with an outstanding projects in the category of environmental science; Exhibitors will attend company's June 15, 2017 Award Ceremony; Exhibitors will participate in a luncheon boat ride on the Chicago River and Lake Michigan.

- Mary Carroll

Morton Suggestion Company

A souvenir pencil will be given to each student exhibitor

- Scott Kouri

Motorola Inc.

A \$500 cash award will be given to a student exhibitor with an outstanding project and a \$250 cash award will be given to each of four student exhibitors with outstanding projects

- Motorola, Inc.

Mu Alpha Theta

A certificate of "outstanding achievement" will be given to a high school student exhibitor that creatively using modern mathematics

- Society for Science and the Public

Museum of Science and Industry

A MSI membership will be given to each student exhibitor chosen to go to IJAS

- Julie Boyk

NASA

A certificate of "outstanding achievement" will be given to a student exhibitor whose project offers the greatest insight into Earth's interconnected systems

- Society for Science and the Public

National Oceanic & Atmospheric Administration

A certificate and medallion will be given to a student exhibitor whose research best emphasizes prediction of changes in climate, weather, oceans, and coasts.

- Society for Science and the Public

National Technical Association

A \$50 cash award will be given to an outstanding student exhibitor

- Melvin Slater
- Cynthia Slater

NCS Pearson

A \$100 cash award will be given to a student exhibitor with an outstanding project

- NCS Pearson

Omega Psi Phi Fraternity, Inc. - Iota Chapter

A \$100 cash award will be given to each of seven student exhibitors with outstanding projects.

- Melvin Slater • Ron Wright • Melvin Hargrett
- Andre Garner • Clayton Harris • Eric Fullilove
- Reggie Smith • Kenneth Coles • Robert Biekman
- Marco Johnson • Rick Williams

Optical Society of Chicago

A \$100 cash award will be given to a student exhibitor with an outstanding project best using or about optics

- George Magerl

Optical Society of Chicago-Rudolph Guzik Award

A \$500 cash award will be given to a student exhibitor with an outstanding project in the category of physics

- George Magerl

President's Award

A \$500 cash award will be given to an Outstanding middle school exhibitor; a \$500 cash award to an Outstanding high school exhibitor.

- Dr. Debra Sutkowski

Ricoh Sustainable Development Award

A certificate of "outstanding achievement" will be given to a student exhibitor that best reflects the principles of sustainability - balancing economic development with environmental responsibility

- Society for Science and the Public

RochelleA62:C65 Hawes Bolton - Award of Excellence

A \$25 cash award will be given to each of eight student exhibitors with outstanding projects

- Dr. Deborah Hawes
- Pamela Hawes-Green

Rochelle Hawes Bolton - Award of Excellence

A certificate of "outstanding achievement" to each of twenty student exhibitors with outstanding projects

- Dr. Deborah Hawes
- Pamela Hawes-Green

Science Merit Award

A \$50 cash award will be given to a student exhibitor with an outstanding project in behavioral science, environmental science, chemistry, or physics.

- Rita Nelson
- RyAnn Nelson -Jaiyesimi

Slater Association

One \$50 cash award will be given to an outstanding exhibitor

- Melvin Slater
- Cynthia Slater



Special Awards

Society for In Vitro Biology

A certificate of "outstanding achievement" will be given to an 11th grade student exhibitor with an outstanding project exhibiting plant or animal invitro biology or tissue culture

- Society for Science and the Public

Society for Science & Public Award for Community Innovation

A \$500 cash award will be given to a high school student exhibitor with an outstanding project that is based on solving a local concern or problem and demonstrates a direct and positive impact on the local community

- Society for Science and the Public

Society of Tribiologists and Lubrication Engineering-Yushiro Manufacturing America

A \$100 cash award will be given to a student exhibitor with an outstanding project; A \$50 cash award will be given to each of two student exhibitors with excellent projects

- Jeffrey Mackey
- Karen Harrington
- Michael Tann
- Mike Feltman

SPIE-- The Intl Society for Optical Engineering

A \$200 cash award will be given to a student exhibitor with an outstanding project that best exhibits the use of light, optics, or color; a \$150 cash award for 2nd place; a \$100 cash award for 3rd place

- George Magerl

Stockholm Junior Water Prize

A certificate will be given to each of six high school student exhibitors that have outstanding water related exhibits; eligibility to participate in the Stockholm Junior Water State Competition

- Society for Science and the Public

Symposium Award

Cash awards to symposium participants: \$250 first place; \$125 second place; \$75 third place; \$50 fourth place; eleven participation awards of \$25

Teach Our Children, Inc. - Tyron K. Smith Award

One \$100 cash award will be given to a student exhibitor with an outstanding project in electronics

- Tracy Raoul

The National Sorority of Phi Delta Kappa, Inc.

A \$50 cash award will be given to each of two student exhibitors with outstanding projects

- Shannette Rooks

United States Air Force

A certificate enclosed in a blue award folder, an over-the-shoulder sling pack, power bank charger, dog tag

USB flash memory drive, and a dual USB car charger will be given to each of four high school student exhibitors with outstanding projects

- Society for Science and the Public

US Metric Association

A certificate for "outstanding achievement" will be given to a student exhibitor that has an outstanding project in which the measures were integrally important to the research

- Society for Science and the Public

United States Navy and Marine Corps - Office of Naval Research

A letter of congratulations, certificate of achievement and a medallion to 3 exemplary middle school exhibitors; A letter of congratulations, certificate of achievement, a medallion and a redeemable recognition award (\$50 gift card) for 5 exemplary high school exhibitors

- Society for Science and the Public

Universal Grand Encampment of the United States & Territories, Inc.

A \$150 cash award will be given to a student exhibitor with an outstanding project related to vision

- Calvert Griffin

UOP, A Honeywell Company

Twelve cash awards: two \$150, four \$100, and six \$50 cash awards will be given to student exhibitors with outstanding projects in the category of chemistry, physics, engineering sciences or environmental sciences.

- Willie Morrisette
- Douglas Nafis

Yale Science & Engineering Association

A certificate of "outstanding achievement" will be given to an 11th grade student exhibitor with an outstanding project in the category of Computer Science, Engineering, Physics, or Chemistry

- Society for Science and the Public

Yolanda Del Rio 6th Grade Recognition Gift

A McDonald's gift card will be given to each 6th grade student participant that attends the 6th Grade Luncheon at the City Science Fair.

- Yolanda Del Rio

Young Scientist Award

A \$50 cash award will be given to a high school student exhibitor with outstanding research endeavors in biochemistry, health science, microbiology or zoology.

- Rita Nelson
- RyAnn Nelson -Jaiyesimi

Special Awards





CPS Student Science Fair Special Programs

Research Grants – money for student research

Mini-grants are available to students in Grades 7 through 12 for the purpose of providing financial aid while conducting research projects. Students may apply for renewable grants of up to \$100 per semester. These funds may be used for the purchase of materials and equipment not available in their schools, but which are needed to complete the student's experimental research. Students may apply to the Research Grants Committee of CPS Student Science Fair, Inc.

Maxi-grants are awarded to students in Grades 9 through 12 and provide financial support in amounts of \$100–\$500. This grant is available to students who have already demonstrated excellence in science projects and are in need of more expensive materials and equipment to continue their research. Students must apply to the Research Grants Committee of CPS Student Science Fair, Inc. and, if accepted, must present their work at an interview with members of this committee. An application can be found in the current *Science Fair Handbook* and on the Internet at: www.cpsscifair.org.

Advise-a-Student – professional advice for student research

The Advise-a-Student program is designed to provide technical advice to students in Grades 7 through 12 who are working on a research project. Advice is available only after students exhaust school resources and have thoroughly researched their topic in the library. In order to discuss and obtain assistance in improving their projects, students must apply for a research advisor by submitting an application to the Advise-A-Student Committee of CPS Student Science Fair, Inc. An application can be found in the current *Science Fair Handbook* and on the Internet at: www.cpsscifair.org.

Science Fair Central – workshops for student research

Northeastern Illinois University (NEIU) and Chicago State University (CSU) opened labs in their science buildings on Saturday mornings this past September and October and invited high school and elementary school students, teachers, parents, and mentors to the campus. NEIU and CSU provided professional

scientists, including university faculty and staff, to advise and assist the students. In some cases, lab set-up space and materials were made available. Details regarding these workshops are sent to teachers at the beginning of the school year.

Science Clubs – after school help from teachers for student research

ComEd, An Exelon Company has continued to provide funding for 20 high school science clubs this school year. The primary objective is to compensate teacher-sponsors for guiding students as they developed science fair projects. Club sponsors receive supplies, materials, and/or equipment for conducting club activities. Peoples Gas provided funding for 16 middle school science clubs this school year. In addition to stipends, teachers could help students collect data by using Vernier *LabQuest*, which brought more technology into the classroom. These clubs also have engineers from Peoples Gas who volunteer to advise club members on their science research.

Scholarships – college funds for science fair alumni

In order to support the CPS Student Science Fair and to encourage students to consider careers in science, several local universities have provided renewable tuition waiver scholarships. In addition, monetary contributions from various sources in the business community have been volunteered as well as solicited to provide additional scholarships. Any prospective Chicago public high school graduate who has participated in at least one science fair (during Grades 7–12) at the regional or city level and/or the symposium is eligible to apply for a scholarship. The Scholarship Committee, comprising Science Fair representatives, business and education, selects scholarship recipients based on participation in the Chicago Public Schools Science Fair, scholastic achievement, future goals, and personal interviews. Since 1956, CPS Student Science Fair Inc. has awarded 2,092 scholarships valued at \$3.5 million to students from 75 Chicago public high schools.



2016 Scholarship Winners

Any prospective June CPS high school graduate who has participated in CPS science fairs (during grades 7-12) at a regional or the city level and/or the symposium/essay competition; and who is planning to major in science, technology, engineering, and/or mathematics was eligible to apply for a scholarship. The Scholarship Committee, representing business and education, selects scholarship recipients on the basis of participation in the Chicago Public Schools Science Fair, scholastic achievement, future goals, and personal interviews.

The June 2016 high school graduates listed below were selected to receive financial scholarships by the Chicago Public Schools Student Science Fair, Inc. Scholarship Committee.

Since 1956, Student Science Fair, Inc. has awarded 2,092 scholarships, valued at \$3,598,402 to students from 75 Chicago public high schools



Anaam Ahmed/Lake View
University of Illinois at Chicago
Neuroscience
Charles Lange Memorial
Scholarship,
\$2,000



Anthony Bartley/Lindblom
Washington University
in St. Louis
Molecular and Cellular Biology
Takeda Pharmaceutical
International, Inc.
\$10,000



Yuritzi Castel/Juarez
University of Illinois at Chicago
Biology
MSDonline, Inc. Scholarship,
\$1,500



Alexander Castro/Lincoln
Park
Northwestern University
Engineering
BP America Inc. Scholarship,
\$3,000



Angelica Galvan/Von Steuben
University of Michigan
Engineering
Mary Nalbandian Scholarship,
\$5,000



Aleksandra Hejnar/Amundsen
DePaul University
Computer Science
DePaul University, 4-year
Renewable, \$8,000/yr



Josemanuel Hernandez/Curie
Northwestern University
Physics
Takeda Pharmaceutical
International, Inc.,
\$8,000



Lorena Juarez/Hubbard
Dominican University
Biological Engineering
CPS Student Science Fair, Inc.,
\$1,500



2016 Scholarship Winners



William Li/Lincoln Park
University of Illinois at
Urbana-Champaign
Chemical Engineering
Allen Nelson Memorial
Scholarship,
\$2,500



Cindy Lund/Lincoln Park
University of Illinois at Urbana-
Champaign
Biology
Marlene Sutkowski Memorial
Scholarship,
\$2,000



Kamil Lungu/Lane
Pomona College
Environmental Analysis
ComEd, Exelon Scholarship,
\$3,000



Neha Motwani/Lane
Knox College
Biology
Dolores Rosenbaum Memorial
Scholarship,
\$2,500



Susan Panek/Lincoln Park HS
University of Illinois at Chicago
Pre-Medicine
University of Illinois at Chicago
Honors College; 4 yr Renewable,
Full Tuition Waiver,
\$12,000/yr.



Twinkle Philip/Von Steuben
Loyola University of Chicago
Biology
CPS Student Science Fair, Inc.,
\$1,500



Kathy Podobinska/Kennedy
Loyola University of Chicago
Biomedical Engineering
Loyola University
4-year Renewable,
\$2,000/yr.



Madeline Poole/CHAS
University of Illinois at
Urbana-Champaign
Agricultural and
Biological Engineering
Takeda Pharmaceutical
International, Inc.,
\$4,000



Aurora Priego/Juarez
University of Illinois at Chicago
Psychiatry
Geri Blakely Memorial
Scholarship, \$2,000 and Chicago
Teachers Union Scholarship,
\$500



Zayra Solis/Amundsen
Aruppe College of Loyola
Secondary Education and
Mathematics
CPS Student Science Fair, Inc.,
\$1,500



Abigail Torres/Juarez
Denison University
Biology
Barbara Bulmash Memorial
Scholarship,\$2,000 and
Ray Readus Memorial
Scholarship,
\$500



Samuel Wischnewsky/Young
Massachusetts Institute of
Technology
Physics
Takeda Pharmaceutical
International, Inc.,
\$8,000



Nova Xu/Payton CP
Massachusetts Institute of
Technology
Biological Engineering
Motorola Foundation
Scholarship, \$3,000, and Blum-
Kovler Foundation Scholarship,
\$1,000



Guochuan Zhang/Lane
University of Chicago
Math, Computer Science
University of Chicago, 4-year
Renewable, \$2,000/yr



Jerry Zhu/Lane Tech
University of Illinois at
Urbana-Champaign
Mathematics
Harold Keihm Memorial
Scholarship,\$2,000 and
CPS Student Science Fair, Inc.,
\$500.





Number of Scholarships Awarded (1956 – 2016)

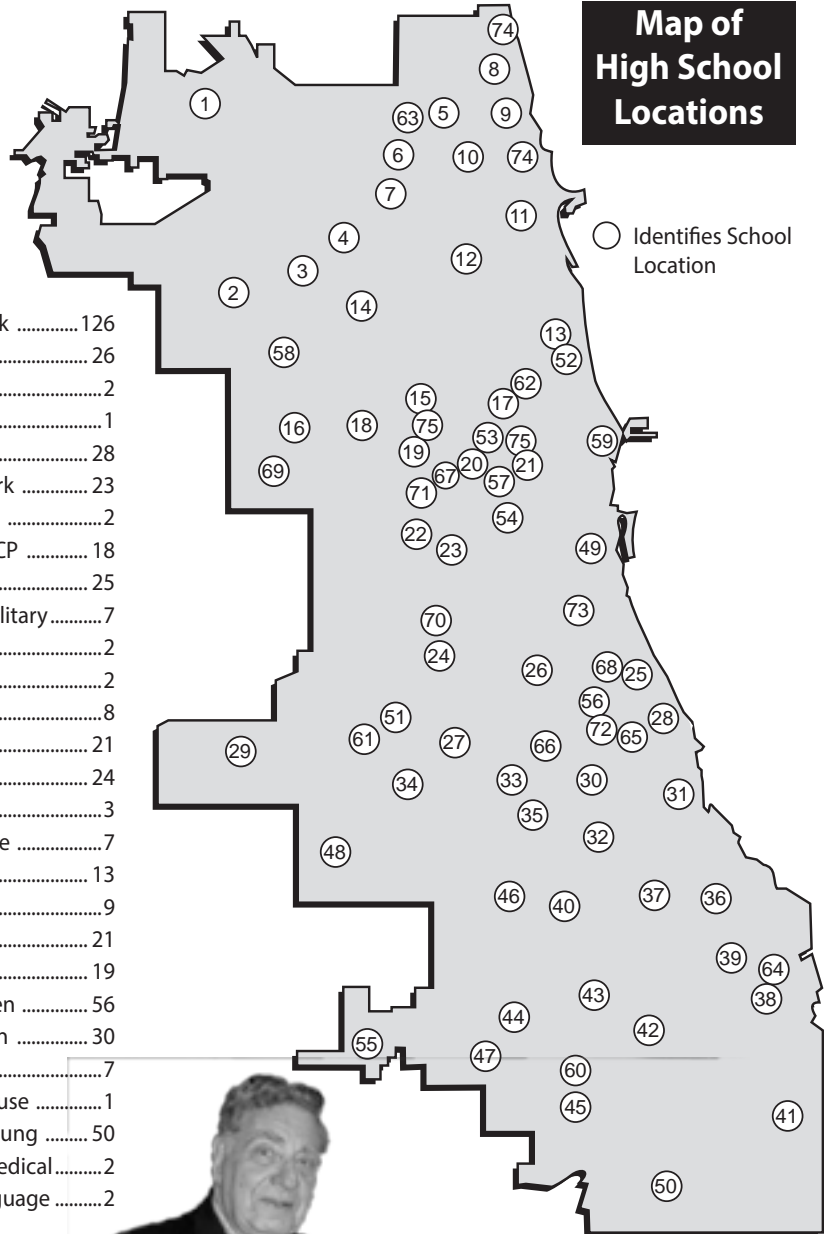
Map no. School Scholarships

73	Air Force Academy	1
10	Amundsen	40
16	Austin	8
64	BEST	1
57	Best Practice	1
48	Bogan	28
38	Bowen	15
68	Bronzeville	1
60	Brooks	3
46	Calumet	4
50	Carver	6
69	Chicago Academy	1
55	Chicago Ag. Sci.	48
74	Chicago Math and Science Academy	1
39	Chicago Voc.	7
15	Clemente	1
42	Corliss	11
20	Crane	1
53	Cregier	2
51	Curie	18
49	Dunbar	1
56	DuSable	3
65	Dyett	1
30	Englewood	4
22	Farragut	4
45	Fenger	14
18	Flower	1
03	Foreman	24
27	Gage Park	4
61	Hancock	4
43	Harlan	5
35	Harper	4
23	Harrison	4
37	Hirsch	5
66	Hope	3
34	Hubbard	18
31	Hyde Park	16
59	Jones	5
54	Juarez	8
44	Julian	7
24	Kelly	11
14	Kelvyn Park	13
29	Kennedy	15
28	Kenwood	18
25	King CP	7
11	Lake View	15
12	Lane	126

13	Lincoln Park	126
33	Lindblom	26
19	Marshall	2
71	Manley	1
05	Mather	28
47	Morgan Park	23
52	Near North	2
63	Northside CP	18
62	Payton	25
67	Phoenix Military	7
58	Prosser	2
32	Robeson	2
07	Roosevelt	8
04	Schurz	21
09	Senn	24
40	Simeon	3
36	South Shore	7
02	Steinmetz	13
08	Sullivan	9
01	Taft	21
26	Tilden	19
06	Von Steuben	56
41	Washington	30
17	Wells	7
75	Westinghouse	1
21	Whitney Young	50
72	Williams Medical	2
70	World Language	2

Map of High School Locations

○ Identifies School Location





ComEd High School Science Club Program 2016-2017

The following high schools have approved after-school science clubs sponsored by ComEd, An Exelon Company. Each club is provided with a stipend for the club sponsor and received science materials which included a Materials Science Classroom Kit with Interactive Lessons and Labs sponsored through The American Ceramic Society. Mr. Charles Smith, Graduate Research Assistant at University of Illinois at Urbana-Champaign - Krogstad Research Group in Material Science, presented the professional development on the Lab Lesson at the Orientation Meeting held in October 2016.. The primary objective of the ComEd Science Club Program is to provide extended science experiences and guidance to students interested in developing science fair projects.

Amundsen

Eman Sarhan

Hubbard

Jacqueline Di Lorenzo

Brooks

Aurora Tyagi

Carver Military

Jamii Sokoya

Chicago Ag

Daniel Martin

Curie

Neshell Graham

Goode STEM

Alejandra Frausto

Hanock

Stephen Farr

Harper

Donna Larrieu

Juarez

Brankica Pulia

Julian

Monique Murray

Kelvyn Park

Thomas Unger

Lane Tech

Lucy Young

Lindblom

Elizabeth Copper

Marine Leadership

Academy

Monica Gomez

Marshall

Danielle English

Morgan Park

Eddie Marie Gonzalzes

Payton

Walter Kinderman

Phoenix

Beatrice Jaji





Peoples Gas Middle School Science Club Program 2016-2017

The following elementary schools have approved after-school science clubs sponsored by Peoples Gas. Each club was provided with a stipend for the club sponsor and incorporated technology using Vernier LabQuest in collecting data for analysis. Giving students the knowledge and experience of using technology helps to inspire ideas for independent research projects. Peoples Gas engineers volunteered to lend their expertise to club members on their projects. The primary objectives of the Peoples Gas Science Club Program was to provide guidance to students interested in developing science fair projects and using LabQuest for data collection

Bateman

Vasiliki Valkanas

Cullen

Pamela Mayweathers

Decatur Classical

David Pfest

Dever

Andrew Bean

Edwards

Matthew Moline

Frazier

Theresa Calderon

Galileo Scholastic

Jessica Garcia

Hernandez Middle

Rosario Canizales

Hughes

Tracy Sevier

Kilmer

Zijada Cobovic

Nash

Connie Kelly

Owen Scholastic

Shevinna Sims

Parker Community

LaTanya A. Waters

Ruggles

Adayo Moton

Waters

Margaret Ballasch

Wildwood World

Brigid Clare Jennings

Peoples Gas Engineers

Erin Carlson

Kyle Frayn

Milos Galic

Lananh Ho

Tyler Hogue

Patrick Jurczewski

Armando Lem

Marcia Lewis

Mario Martinez

Mohamed Mohamedein

Antonia Nosal

Heta Panchal

Michael Schmitt

Shrikant Shah

Matt Urbaniak

Jonathan Zepeda

Wilson Mantilla

Manager, Fields Operations

Mary H. Houpt

Manager, Community
Partnerships





Science Fair Volunteers

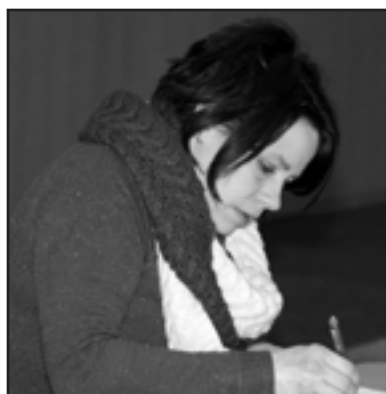
On the following pages are the pictures and names of almost 1300 people who give of their own time and of themselves to make the CPS Student Science Fair possible. **THANK YOU!**



THANK YOU



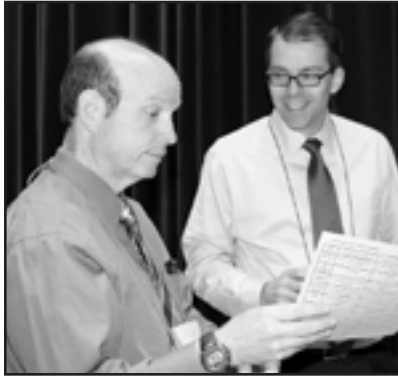
Faces of the Student Science Fair



THANK YOU



Faces of the Student Science Fair



THANK YOU



Faces of the Student Science Fair



THANK YOU



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Each year approximately 300 judges from the scientific, academic, and business communities generously donate their time, effort, and expertise in order to objectively and professionally evaluate the most scientifically talented students from the Chicago Public Schools. Science Fair honors judges who have served for a minimum of five years and on every fifth anniversary. Judges receiving a plaque for service are invited to a special Recognition Luncheon which will be held after judging is completed.

Science Fair salutes ALL the Exhibit Judges participating in the 66th Annual CPS Student Science Fair.

Thank you and congratulations for a job well done!

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Symposium Readers

The following individuals, in addition to the Symposium Committee, generously volunteered their time and expertise on Saturday, January 28, 2017 to read research and essay papers submitted for evaluation. *Thank you, Symposium Readers!*

Steve Appel
Carol Burke
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The following scientists and engineers volunteered their time and expertise on Thursday, March 16, 2017 to act on a panel of judges to select the finalists who will participate in the Illinois Junior Academy of Science Symposium.

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The City Science Fair would not be possible were it not for the effort of the dedicated CPS employees and retirees who give days and weeks of their time and have done so for years. They invest their time behind the scenes preparing an event and supporting programs for the purpose of fostering science education, encouraging students to engage in independent research and providing those students a public forum to present their work

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Many thanks go to the Regional Networks Science Fair Committees, who contribute their time and effort to create the events at which the best of the projects from the school science fairs are presented and judged. Regional Science Fair Committees are chaired by science teachers.. The committees may include lead science teachers from participating schools and colleagues from Network Offices. Their efforts to insure a successful Regional Science Fair is greatly appreciated. Though the focus of the event is on students' projects, these events succeed due to the care and attention to detail of those people working on arrangements, credentials, exhibits, judging and safety committees. This year the Regional Networks Science Fairs were grouped by schools closest to the hosting site.

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- The students who worked so diligently to develop the outstanding research and displays presented at this event
- The parents, teachers, and other adults who inspired the young people in various aspects of their projects
- The professors, engineers, scientists, and mathematicians who volunteered their services to help students develop their research
- Faculty and administrative personnel who organized the school science fairs which give students their first opportunity to present their research to judges
- Chicago Public Schools, Department of Science for their support and for providing souvenir lanyards to each exhibitor and 6th Grade Regional Winners
- IKON Office Solutions for the donation of a copying machine to use during the week of Science Fair
- Dr. Huseyin Colak, Northeastern Illinois University and Prof. Valerie Goss, Chicago State University for presenting Science Fair Central workshops

- Tom Schrey, Artmark Graphics and Allan Reisberg, Photographer, who worked so diligently to develop the 2017 Science Fair Program Book with photographs.
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- Omicron for their technical support for data entry
- Thermo Fisher Scientific, David Isphording, Sales Representative, for providing Safety kits to each exhibitor and 6th Grade Regional Winners. The safety kits will include a pair of chemical splash goggles, 5 pairs of gloves minimum, and a reusable laboratory apron. The materials are housed in a Thermo Fisher drawstring bag.
- Yolanda Del Rio, for providing prizes for the ComEd High School After-School Science Club Ice Cream Social
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- Joshua Pelletier, Division liaison of The Refractory Ceramics Division of The American Ceramic Society, for providing ten Materials Science Classroom Kits for the ComEd After-school Science Clubs.
- Charles S. Smith, Krogstad Research Group, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, for providing professional development on the classroom activities used in the Materials Science Classroom Kits.
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