

2015 PROGRAM BOOK

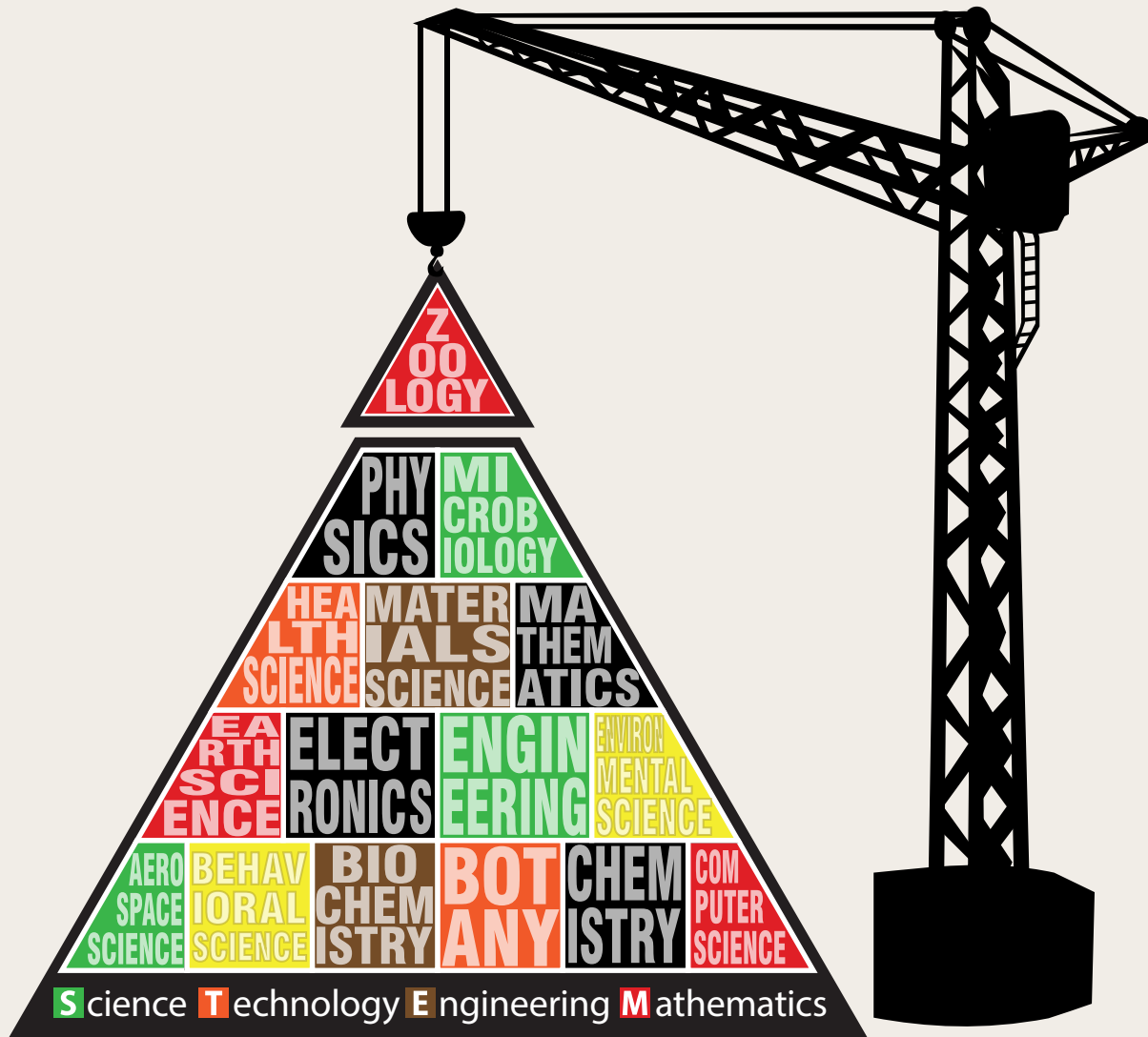
Chicago Public Schools Student Science Fair, Inc. presents

Building on



Science | Technology | Engineering | Mathematics

THE 65TH ANNUAL
CHICAGO PUBLIC SCHOOLS
STUDENT SCIENCE FAIR



Museum of Science and Industry, March 19-22, 2015

Symposium presentations, March 19, 2015

www.cpsscifair.org



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CHICAGO PUBLIC SCHOOLS
STUDENT SCIENCE FAIR, INC.
Nonprofit Organization



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Motorola Solutions Foundation is proud to support the Chicago Public Schools' Student Science Fair. We encourage students to use their imaginations to envision the impossible. Through the power of science and math, your creativity has no limits. **Your future begins today.**

ENVISION THE IMPOSSIBLE

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2015 Science Fair Program Book

Building on



Science | Technology | Engineering | Mathematics

65TH ANNUAL

CHICAGO PUBLIC SCHOOLS
STUDENT SCIENCE FAIR

Brought to you by:

Chicago Public Schools Student Science Fair, Inc.

Academic Supporters:

Chicago Public Schools

Office of College and Career Success

Site Host:

Museum of Science and Industry

2015 Theme by:

Morgan Park High School

ComEd After-school Science Club

City of Chicago

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Schedule of Events

Thursday, March 19, 2015 – Symposium – details on page 24

9:00 A.M. – 11:30 A.M.	Symposium Morning Sessions (e-Suite, Lab2 & 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 20, 2015 – Exhibit Judging – details on page 28

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 (C132))
12:00 NOON – 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 21, 2015 – 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. – 3:00 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 – pages 43-44
2:00 P.M. – 3:00 P.M.	ComEd Science Club Social (Rosenwald Room) – by ticket only

Sunday, March 22, 2015 – 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 19 through March 22, 2015, the Chicago Public Schools Student Science Fair, Inc. will sponsor the 65th Annual Citywide Chicago Public Schools Student Science Fair for Chicago Public Schools' students, which will be held at the historic Museum of Science and Industry; and

WHEREAS, the 2015 Student Science Fair follows the theme, **Building on Science, Technology, Engineering, Mathematics**; 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 these students will be chosen to attend the Illinois Junior Academy State Science Fair at Southern Illinois University in Carbondale, Illinois, with only four going on to compete at the International Science and Engineering Fair in Pittsburg, Pennsylvania; and

WHEREAS, students will compete in sixteen categories, including aerospace science, behavioral science, biochemistry, botany, chemistry, computer programming, 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 19-22, 2015, 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 teacher sponsors and parents who have provided support and encouragement for these young scientists.

Dated this 8th day of October, 2014.

Rahm Emanuel
Mayor



2014 Opening Ceremony

On Friday, March 22nd, the 63rd 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.



Phoenix Military Academy JROTC cadets participate in the presentation of colors.



Dr. Carlos Azcoitia, Chicago Board of Education Member, expresses his thanks to the participating students for being leaders in STEM education.



Barbara Lumpkin, Chicago Public Schools, extends her congratulations to the students, their parents and to the teachers.



Mary Houpt, Peoples Gas, conveys her support of the middle school science clubs.



Student Science Fair exhibitors assemble for the 2014 Opening Ceremony.



Luba Johnson, 2014 Chairperson, Corporate Sponsors and guests gather for a group photo after the ribbon cutting.



About the Chicago Public Schools Student Science Fair (CPSSSF)

About the Fair

We are proud to present the 65th 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 12,000 students enter projects, beginning at the local school level. Local school winners exhibit at the regional level. Approximately 300 winners from 10 Regional 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 1 and 2, 2015, at Southern Illinois University in Carbondale, 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 Pittsburgh, Pennsylvania, May 10-15, 2015.

Sponsors

Primarily, the CPS Student Science Fair, Inc. has three sponsoring organizations. The Chicago Public Schools, Office of College and Career Success oversee the planning for the local school and regional science fairs. The CPS Office of College and Career Success 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 am pleased to offer my warmest greetings and welcome to everyone gathered for the 65th Annual Chicago Public Schools Citywide Science Fair.

This year's Science Fair proudly welcomes approximately 300 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 ***Building on Science, Technology, Engineering, Mathematics***, the Fair will showcase a variety of scientific research projects from our city's best and brightest students.

This fair will not only present our students with the opportunity to display their knowledge of substantial developments in 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 entire 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. I am proud of every student here today and encourage you to keep learning and hypothesizing.

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 65th 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, "Building on STEM" was developed by Morgan Park High School ComEd Science Club. The theme continues on the tradition of "Bringing STEM Home" and "STEM Meeting Global Needs". Science Fair has been a tradition with the Chicago Public Schools for the past 65 years; showcasing the next generation of inventors.

The innate desire for discovery lays in the hearts of each participant today. 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. Based on the projects presented today, our future is hopeful and bright. 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 to Building on STEM!



Warmest regards,

Debra M. Sutkowski, Ph.D.
President, Board of Directors
CPS Student Science Fair, Inc.
Director, Scientific Publications Lead
Astellas



Greetings from BP America, Inc. Corporate Sponsor

Greetings!

On behalf of BP, I congratulate you on your participation in the 65th 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 all of us.

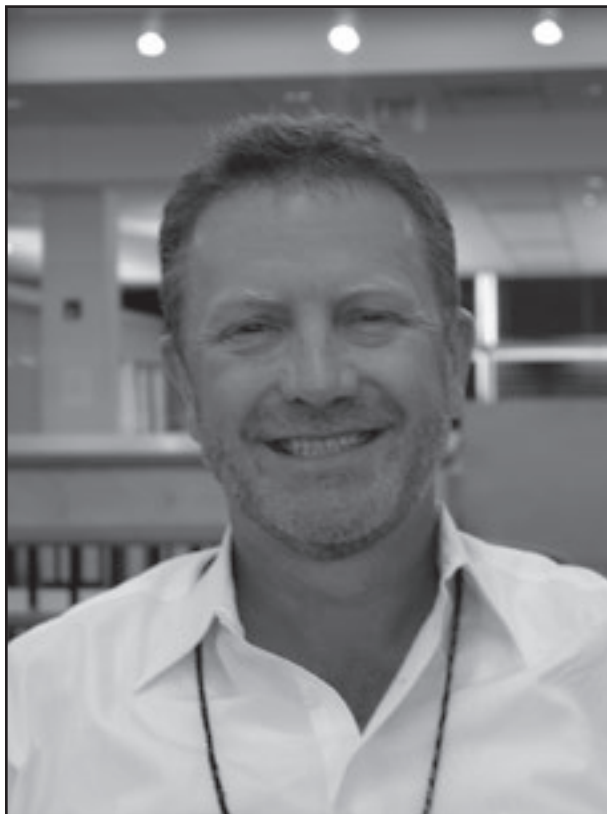
BP is a proud supporter of the 2015 Science Fair. We have more than 2,500 employees in Chicagoland, many of whom work in STEM fields, and many of whom got their start by participating in science fairs just like this one. BP has sponsored the Science Fair for many years, and every year we are impressed by the impressive projects the students present.

BP is one of the world's leading international oil and gas companies, providing its customers with fuel for transportation, energy for heat and light, retail services and petrochemicals products for everyday items. For BP this year's Science Fair theme, "Building on STEM," couldn't be more fitting.

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.

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

Kim Anderson
Chief Financial Officer
BP Products North America Inc.



beyond petroleum®



Greetings from ComEd, An Exelon Company Corporate Sponsor

Congratulations to Chicago's next generation of scientists, engineers, mathematicians, and inventors on your participation in the 65th annual Chicago Public Schools Student Science Fair. ComEd continues to be an energetic supporter of the Science Fair, and we look forward to seeing how students are inspired by this year's theme: **Building on Science, Technology, Engineering and Mathematics.**

At ComEd, we are enthusiastic about our support and investment in educational programs that get students excited about science, math and technology. The Chicago Public Schools Student Science Fair showcases the imaginations and hard work of Chicago students in the sciences. On behalf of everyone at ComEd, good luck in this year's competition. We hope you always continue to explore your potential in the field.

Anne Pramaggiore
President and CEO
ComEd



WELCOME

ComEd[®]
An Exelon Company



Greetings from Motorola Solutions Foundation, Corporate Sponsor

Greetings to All Science Fair Participants:

Congratulations on your participation in the Chicago Public Schools' Science Fair! I applaud your interest in science and innovation and commend your entry in the 2015 fair. Hard-working students like you demonstrate the potential to make our world a better place.

At Motorola Solutions, we share your passion for innovation and scientific advancement. Motorola's global team of scientists, engineers and technicians use the scientific process you're demonstrating today to discover and develop new materials, technologies and software for products that help our customers around the world be their best in the moments that matter.

Motorola Solutions and the Motorola Solutions Foundation are proud to reinforce your commitment to learning. We extend our thanks to your teachers, parents and volunteers who have helped you reach for your potential in making this Science Fair a success.

We challenge you to continue to be your best through science and innovation.

Best wishes,

Matt Blakely
Executive Director
Motorola Solutions Foundation



**MOTOROLA SOLUTIONS
FOUNDATION**



Greetings from Peoples Gas Corporate Sponsor

On behalf of Peoples Gas, congratulations on your participation in the 65th Annual Chicago Public Schools Student Science Fair! You should take great pride in your hard work and dedication, which has earned you an opportunity to showcase your talents today. It is also important to thank the parents, teachers, staff and volunteers of Chicago Public Schools, whose support and guidance inspires you to be successful.

Peoples Gas is proud to support 16 middle school science clubs, in which our engineers volunteer their time to engage students with science experiments and work with them on their science projects. It is rewarding to see the display of imagination, creativity and visualization that Chicago Public School Students bring to the Science Fair each year. We look forward to seeing how this year's theme "Building on STEM: Science, Engineering, Technology & Math," inspired projects on display this weekend.

At Peoples Gas, we are committed to investing in the future and share your passion for innovation. For 165 years, our business has used science, engineering, technology and mathematics to build and maintain a natural gas network which ensures safe and reliable natural gas service to the city of Chicago. We are pleased to be an enthusiastic supporter of the Science Fair and will continue to strive to support students develop values, leadership and skills that will help prepare for a life beyond the classroom.

Best of luck to all the participants.

John Kleczynski
President
Peoples Gas and North Shore Gas



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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,

Nancy Siepman, Ph.D.
Senior Vice President
Global Development Operations
Takeda Pharmaceuticals International, Inc.





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

Welcome and Congratulations

All of us at the Museum of Science and Industry, Chicago are pleased to welcome the students whose hard work has brought them to the Chicago Public Schools Student Science Fair. We also welcome the parents, teachers, judges and supporters who help make the science fair a success. The hundreds of projects on display demonstrate such innovative thinking that I see it as a sign of a bright future for STEM careers.

For 65 years, Chicago's young scientists and inventors have displayed their ideas at MSI where they've been seen not only by judges and family members but also by guests who visit the Museum on science fair weekend. These students are showing people science is fun, teaching them science is all around them, and inspiring them to come up with their own discoveries. It's a great opportunity for students to serve as role models to younger children.

The Museum's efforts, like that of the science fair, aim to inspire today's students to become tomorrow's scientists. Our vision is to inspire and motivate our children to achieve their full potential in the fields of science, technology, medicine and engineering. We're working to achieve this vision through our world-class exhibitions and our Center for the Advancement of Science Education, which reaches out to students, teachers, communities and schools with innovative programs designed to get students excited about science.

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



museum of
science+industry
chicago

WELCOME



Greetings from the Chicago Public Schools Chief Executive Officer

Dear participants and attendees:

On behalf of the Chicago Public Schools, I welcome all students, teachers, parents, volunteers and guests to the 65th Annual City Science Fair.

First, and most importantly, I want to address our students, who have worked arduously throughout the year to prepare for the Science Fair exhibitions. Students have engaged in their projects with great professionalism and knowledge and it has not been without months of research and analysis, which are critical skills for successful Science Fair projects. Given the national and local emphasis on growing the fields of science, technology, and mathematics, your participation in the Science Fair is a positive step toward preparing you for these fields.

Secondly, I thank Science teachers for their passion and commitment —two qualities that are essential to the success and effectiveness of the program in schools. With their support, our students hone their analytical skills, becoming powerful thinkers, who will be prepared for their future majors and careers.

Lastly, but not least, I appreciate the support of all the generous contributions the Science Fair has received this year. I also thank the CPS Student Science Fair, Inc. for their invaluable partnership and to all of the volunteers present today.

Congratulations to everyone and I wish you the best!

Sincerely,

Barbara Byrd-Bennett,
Chief Executive Officer
Chicago Public Schools





Greetings from the Chicago Public Schools Chief Officer, College & Career Success

*Dear Science Fair Participants,
Teachers, Supporters and
Volunteers,*

Welcome to the 65th Annual City Science Fair! On behalf of the Office of College and Career Success at Chicago Public Schools, I want to congratulate all of the student participants here today! I also want to extend a welcome and thank you to the teachers, our partner organizations and supporters of Science Fair.

The Office of College and Career Success works with schools, networks, and communities to ensure that every student at every grade level is provided individualized supports and opportunities to keep them engaged, on-track and accelerating toward success in college, career and in life. Science Fair is an important articulation of this mission.

I commend each student participating in the Science Fair today for the countless hours of hard work and preparation. Presenting your projects and representing your schools in this year's City Science Fair demonstrates your dedication, passion and academic achievement. I wish you all the best of luck as you pursue your educational and career goals and encourage you to continue to develop the valuable skills you have gained in science as you move forward into college and career.

Thank you to all the teachers for your dedication to your students and for taking the time to help them prepare for today's Science Fair. Your commitment ensures that students are able to share the results of their hard work and that the Science Fair is a success.

Thank you to the supporters and volunteers for your investment in Chicago Public School students by generously donating your time and resources. The 65th Annual City Science Fair would not be possible without committed donors, partners, and volunteers.



Finally, thank you to our partners at the Science Fair, Inc. We appreciate your support and collaboration. Your partnership ensures the continued success of Science Fair and commitment to Science, Technology, Engineering, and Math (STEM) education.

Warmly,

Aarti Dhupelia
Chief Officer, College and Career Success
Chicago Public Schools





Greetings from the CPS Manager, Academic Competitions

Dear Science Fair Participants:

I am proud to welcome students, teachers, volunteers, and staff to the 65th Annual City-Wide Student Science Fair! Most of all, congratulations to the students and their teachers for advancing to this prestigious event.

It can be difficult for non-Science Fair participants to truly grasp the immense amount of work and dedication it takes for students 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 their 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. partners and staff for making this event possible. Our partners are a committed group of people 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.

Please enjoy the year and I look forward to another successful City-Wide Student Science Fair.

Sylvia Nelson Jordan
Manager, Academic Competitions
Department of Student Support & Engagement





WELCOME

Greetings from Student Science Fair Chairperson

Welcome to the 65th Annual Student Science Fair! It is with great pleasure that I greet all the students who have made it to this crowning event. You have worked hard to make it to this point by completing research, experimenting, analyzing and evaluating data. This year's theme is *Building on Science, Technology, Engineering and Mathematics (STEM)*, which is a continuation from last year's theme *Bringing STEM Home*. According to the Next Generation Science Standards, the focus is on STEM. Student Science Fair provides students the opportunity to showcase their academic talents to professionals in STEM fields. In return, the professionals provide constructive feedback to the students concerning their research studies.

As a Science teacher, I have always enjoyed showcasing projects that reflect students' creativity and hard work. This venue, The Museum of Science and Industry is the perfect place to display innovations and see the best science projects that the City of Chicago has to offer.

I would like to extend a sincere thank you to all students, parents, guardians, teacher sponsors, school administrators and staff for your support of the Science Fair. Thank you to the professionals who volunteer their time to serve as judges for this competition. A special thank you to the CPS Student Science Fair, Inc. Board of Directors and our major corporate sponsors: BP America, Inc., ComEd An Exelon Company, Motorola Solutions Foundation, Peoples Gas and Takeda Pharmaceuticals International, Inc. In addition, a special thank you to the Chicago Public Schools for academic support and the Museum of Science and Industry for hosting the Student Science Fair.

Enjoy everyone!

Glennie King
2015 Student Science Fair Chairperson
Chicago Public Schools Student Science Fair, Inc.



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STUDENT SCIENCE FAIR

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Peoples Gas employee Shona Holman (right) judges a student's project at the 2014 CPS Student Science Fair.

Peoples Gas is proud to support the 65th 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.

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



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 2015 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 College and Career Success

Site Sponsor

- Museum of Science and Industry

Corporate Sponsor – \$25,000 Minimum

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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.

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- Optical Society of Chicago
- David Petrovski
- Tracy Raoul
- Edna Smith
- Lewis & Deonne Wright

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.



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 19, 2015, 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 19, 2015. 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 Southern Illinois University in Carbondale, Illinois on May 1 and 2, 2015.

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 2015 topic is: “*Chemistry Has All The Solutions!!!*”. 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

2014 Essay Contest Semi-Finalists

801	Addison, Nyah	10	OS04	Morgan Park	Is Chemistry the Solution to Global Warming?
802	Cheevers, Ava	9	NW06	Whitney Young	The Gas Chromatograph Mass Spectrometer
803	Guo, Jeff	9	NW06	Whitney Young	Nylons and Their Applications
804	Iturralde, Gabriela	9	NW06	Whitney Young	One Cow of A Problem
805	Laniewski, Gabriel	8	NW06	Whitney Young	To Eat or Not To Eat: The Obesity Crisis
806	Perkins, Vernisha	10	OS04	Morgan Park	The Chemistry Behind Global Warming
807	Radomski, Evan	10	NW06	Whitney Young	Superconductivity for the Energized World
808	Tuman, Anthony	10	NW06	Whitney Young	Chemistry Demonstrated Through Art
809	Xie, Biman	9	NW06	Whitney Young	Antibiotics
810	Yeh, Hugh	10	NW04	Lane Tech	Zebularine: A Permanent Solution

* See page 29 for the Network Abbreviation Key



Symposium Schedule

Thursday, March 19, 2015

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

601	Tramil, Acacia	9	Air Pressure Speed on Collision	Phoenix	Aero-Space Science	SLA
602	Puc, Marcelina	12	Apoptotic Action of Ag & Br on PC12 & HeLa Cells	Lane Tech	Biochemistry	NW04
603	Cazares, Lesley	10	Which Effects pH most?-Teas or Antacids	Phoenix	Chemistry	SLA
604	Chung, Phil	10	Cleaning Silver Without Elbow Grease	Von Steuben	Chemistry	NW01
605	Kolanowski, Michael	12	Hydrogen Peroxide Rates with Catalysts	Lincoln Park	Chemistry	NW04
606	Lam, Stacy	12	Go Green, Go Friendly, Go Biodiesel	Von Steuben	Chemistry	NW01
607	Martinez, Aristeo	9	Iron In Cereal	Phoenix	Chemistry	SLA
608	Omobilaji, Opakunle	12	How Do Contaminants Affect Lung Surfactants	Lindholm	Chemistry	NW11

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

609	Yu, Joanna	10	The Use of Materials on Comprehension	Lincoln Park	Behavioral Science	NW04
610	Bartley, Anthony	11	LrrB Gene Phenotype in Dictyostelium	Lindholm	Microbiology	NW11
611	Cabrera, Trisha	9	The Effects of Natural Antibiotics on E. coli	Lincoln Park	Microbiology	NW04
612	Dzafic, Nejla	10	Phage T4r on Streptomycin Resistant E. coli	Lane Tech	Microbiology	NW04
613	Munshi, Raisa	10	Sequential Antibiotics Exposure on E. coli	Lane Tech	Microbiology	NW04
614	Pei, Alexander	12	Role of miR-143 in Intestinal ApcMin/ + Mice	Whitney Young	Microbiology	NW06
615	Yeh, Hugh	12	Designing AAV Vectors	Lane Tech	Microbiology	NW04
616	Augusthy, Sebastian	12	Copper Bioconcentration in Snails	Kenwood	Zoology	NW09

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

617	Andrade, Jacqueline	9	Dunkin Donuts vs. McDonalds vs. Starbucks	Phoenix	Material Science	SLA
618	Pio, Abigail	9	The Less Mass Loss, The Better	Phoenix	Material Science	SLA
619	Wischnewsky, Samuel	11	Reinforcing Bioplastics: A Stronger Future	Whitney Young	Material Science	NW06
620	Galvin, Angelica	11	The Structural Integrity of Platonic Solids	Von Steuben	Engineering Science	NW01
621	Detmer, Samuel	11	Sequences of Digit Sums of Powers	Payton	Mathematics	NW06
622	Fajardo, David	12	1,2,3, Infinity	Phoenix	Mathematics	SLA
623	Kendrick, Lev	12	Lower Central Series Quotients	Payton	Mathematics	NW06
624	Padilla, Jose,	12	A Gambler's Ruins When to Stop?	Payton	Mathematics	NW06
625	Williamson, Peter	12	The Doors Problem	Payton	Mathematics	NW06



ROOM 1-Session D 1:00 P.M. - 2:30 P.M.

Exh	Student Name	Grade	Project Title	School	Category	Network
626	Harris, Thomas	9	Can various crystals types Enhance T P Growth?	Chicago Arg	Botany	NW10
627	Hoffman, Greytan	9	The Effect of Gravity on Seed Growth	Lincoln Park	Botany	NW04
628	Hernandez, Josemanuel	11	The Effect of Bacteriophage T4r on E. coli	Curie	Health Science	NW08
629	Maganti, Arun	10	Myocardial Scarring on Scleroderma	Lincoln Park	Health Science	NW04

ROOM 2-Session E 1:00 p.m. - 2:00 p.m.

630	Anaclet, Bukuru	10	Partial Shading and Pv Cell Output	Von Steuben	Environmental Science	NW01
631	Anderson, Erika	10	Poop to Power	Von Steuben	Environmental Science	NW01
632	Conde, Emily	12	Cleaning Up Oil Spills	Von Steuben	Environmental Science	NW01
633	Park, Reuben	10	Effect of T5-HPS Systems on Growth of Lettuce	Lane Tech	Environmental Science	NW04
634	Scholle, Margaret	10	Effect of Oceanic Currents on Shark Migration	Lane Tech	Environmental Science	NW04

Room 3-Session F 1:00 p.m. - 2:00 p.m.

635	Adachi, Adam	12	LilyPad Bike Turn Signal	Whitney Young	Computer Science	NW06
636	Bhatt, Bhavin	10	Distance vs. Voltage	Taft	Physics	NW01
637	Cruz, David	10	Traveling Distance vs. Road Surfaces	Phoenix	Physics	SLA
638	Del Sesto, Antonio	10	Effect of Temp. on Viscosity of Liquids	Lincoln Park	Physics	NW04
639	Inojosa, Daniel	9	Temperature's Effect on Bernoulli's Principle	Lincoln Park	Physics	NW04

* See page 29 for the Network Abbreviation Key





Symposium & Essay Luncheon Schedule

Thursday, March 19, 2015

Rosenwald Room– 11:30 A.M.

Remarks	Glennie King Chairperson CPS Student Science Fair, Inc.
Introduction of Special Guest	Nina Hike Symposium Committee Chairperson
Guest Speaker	Marisol Becerra PhD Candidate, Ohio State University Environment and Natural Resources
Recognition of Symposium Participants	Nina Hike
Recognition of Judges (Years of Service)	Nina Hike Glennie King

SYMPOSIUM THURSDAY



Nina Hike, Symposium & Essay, Justin Mohr, UIC Dept of Chemistry and Luba Johnson, 2014 Student Science Fair Chairperson



2014 Student Science Fair Chairperson Luba Johnson, Noel Vargas, Judge and Nina Hike, Symposium & Essay.



Symposium participants



Symposium participant - Neal Arpad from Lane



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 12,000 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 65th Annual City-wide Science Fair.

On Friday, March 20, 2015, 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 1 and 2, 2015, on the campus of the Southern Illinois University, Carbondale, Illinois. Students will compete with other students from around the state.

On Saturday, March 21, 2015, 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 10-15, 2015 in Pittsburgh, Pennsylvania.



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 22, 2015, 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 yolandadelrio@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.

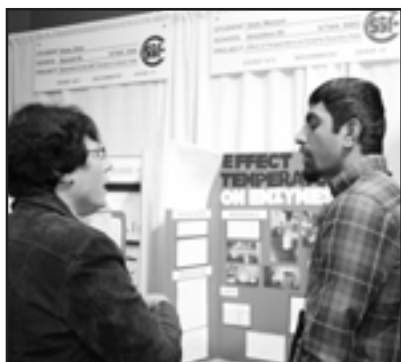




Exhibit Schedule

Friday, March 20, 2015

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 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 Buffett Luncheon	C132
12:00 NOON – 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	Martinez, Vladimir	8	Hovercraft	NW08	Edwards
2 E	Wang, David	8	Fin Aerodynamics of Model Rocketry	NW06	Jackson A
3 E	Marusarz, Andrzej	9	Does The Angle of Attack Effect Lift?	NW10	Kennedy HS
4 E	Tramil, Acacia	9	Air Pressure Speed on Collision	SLA	Phoenix Military HS
5 E	Bellido, Jimmy	11	Natures Helicopters	SLA	Phoenix Military HS
Behavioral Science					
6 E	Arguello, Andrea	8	Music Affects Concentration	NW05	Nobel
6 E	Barron, Rosa	8	Music Affects Concentration	NW05	Nobel
7 E	Callow, Noah	8	How Gender Affects a Person's Memory	NW04	Hawthorne
8 E	Dill, Annika	8	Math Motivator: Chocolate, Gum, or Nothing?	NW10	Kinzie
9 E	Fetsch, Jack	8	Untwisting the Problems Behind the Switching!	NW06	Young HS
10 E	Meimaris, Nicole	8	The Effect of Violent Video Games on Children	NW01	Edgebrook
11 E	Perez, Andrea	8	Pareidolia	NW02	Hayt
12 E	Hill, Lauryn	10	Sex Mirage	NW10	Julian HS
13 E	Khan, Mehreen	10	What's in a Face?	NW01	Taft HS
14 E	Villanueva, Jennifer	10	Brainwashed by Media	OS04	Juarez HS
15 E	Contreras, Marco	11	Are the Sexes Colorblind?	SLA	Air Force Military HS
16 E	Dominguez, Judith	11	The Effects of Music on the Brain	OS04	Juarez HS
17 E	Lungu, Kamil	11	A Study on Conditioned Stimulus Revelance	NW04	Lane HS
18 E	Ruiz, Stephanie	11	Battle of the Sexes	NW02	Lake View HS
19 E	Diaz, Javier	12	Time Preception and Age	NW08	Hancock HS
20 E	Ruvalcaba, Sergio	12	Eyewitness Memory: How Accurate Is It?	NW08	Hancock HS
Biochemistry					
21 E	Diaz, Rafael	7	From Garbage to Energy	NW07	Orozco
22 E	Hua, Shirley	7	The Effects of Hydrogen Peroxide	NW06	South Loop
23 E	Myers-Cohen, Thalia	7	Effect of Sweeteners on Epinephrine Levels	NW09	Kenwood HS
24 E	Pan, Rachel	7	The Rotting Apple	NW06	Sheridan
25 E	Puc, Katarzyna	7	Effect of Acidic Drink on Tooth Enamel	NW01	Bridge
26 E	Soberano, Joden	7	Extraction of DNA from Fruits	NW09	Ray
27 E	Hoefling, Jocelyn	8	At What Temperature Do Proteins Denature?	NW10	Twain
27 E	Marusarz, Natalia	8	At What Temperature Do Proteins Denature?	NW10	Twain
28 E	Raoul, Abdel	8	Does SPF Protect Skin/DNA From UV Radiation?	NW11	Lindblom
29 E	Krupa, Marek	10	What is the Effect of Soil pH on Plant Growth?	SLA	Chicago Military HS
30 E	Hafiz, Mona	11	Effect of Heavy Metals on Catalase Activity	NW02	Amundsen HS
31 E	Hejnar, Aleksandra	11	Effect of pH on Catalase Breaking Down H ₂ O ₂	NW02	Amundsen HS

Network (Abreviation)	Options (OPTN)	Network 4 (NW04)	Network 9 (NW09)
AUSL (AUSL)	OS4 (OS04)	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)

EXHIBIT JUDGING
FRIDAY



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
32 E	Jastrzebski, Martin	12	Enzymatic Hydrolysis of Starch by Amylase	NW06	Young HS
33 E	Puc, Marcelina	12	Apoptotic Mechanism of Ag & Br on PC12 & HeLa	NW04	Lane HS
34 E	Sohail, Sharjeel	12	Sucrose Molarities and Cell Respiration	NW02	Amundsen HS
35 D	Varela, Lucero	12	On The Road to an Artificial Pancreas	NW02	Lake View HS
300 E	Hadzic, Almir	12	Sucrose Concentration in Yeast Fermentation	NW02	Amundsen HS

Botany

36 E	Cisneros, Miguel	7	Food Promotion With Mr. Flytrap	NW08	Burroughs
37 E	Gee, Zachary	7	Water Works	NW01	Beaubien
38 E	Gipson, Joquana	7	Effects of Aspirin on Plants	NW13	Brown R
39 E	Pupa, Ania	7	Position vs. Size and Color of a Leaf	NW01	Edison Park
40 E	Sileo, Katelyn	7	The Effects of Aspirin on Plant Growth	NW10	Durkin Park
41 E	Thran, Michelle	7	CO ₂ and Light	NW01	Prussing
42 E	Jacob, Catherine	8	Aquaponics The Future of Agriculture	NW02	Jamieson
43 E	Munoz, Miriam	8	How Does Classical Music Affect Plant Growth?	NW13	Taylor
44 E	Ortiz, Jacqueline	8	Microwave Radiation vs. Plant Growth	NW08	Burroughs
45 E	Sileo, Abigail	8	The Effect of Worms on Plant Growth	NW10	Durkin Park
46 E	Perez, Yamile	8	There's Strength In The Green	NW08	Shields Middle
46 E	Ventura, Mya	8	There's Strength In The Green	NW08	Shields Middle
47 E	Ascencio, Liliana	9	The Effect of Detergent on Seed Germination	NW02	Amundsen HS
48 E	Cardine, Amyah	9	Plant Electronica	NW08	Curie HS
49 E	Harris, Thomas	9	Effect of Crystals on Tomato Plant Growth	NW10	Chicago Agri HS
50 E	Hoffman, Greylan	9	The Effect of Gravity on Seed Growth	NW04	Lincoln Park HS
51 E	Inson, Allyza	9	Effect of Salt on Seed Germination	NW03	Steinmetz HS
52 E	Mitola, Allison	9	The Effects of pH on the Growth of Beans	NW06	Young HS
53 E	Perez, Liana	9	Effect of Weed Killer on Seed Germination	NW03	Steinmetz HS
54 E	Rubarska, Weronika	9	The Effects of Salts on Seeds Germination	NW03	Steinmetz HS
55 E	Alhijazin, Aon	10	Growth of Algae in Water Bottles	NW13	Brooks HS
56 E	Bershed, Abeer	10	Effect of Electricity on Plants	NW02	Mather HS
57 E	Boyd, Arianna	10	The Effect of Supplements on Plant Growth	OS04	Morgan Park HS
58 E	Diaz, Desiree	10	Antioxidants and Free Radicals on Germination	NW10	Chicago Agri HS
59 E	Gomez, Kiana	10	Effects of Graywater: Can Plants Tolerate?	NW10	Chicago Agri HS
60 E	Holt, Markal	10	Cigarette Smoke Effects on Bean Growth Rates	NW03	Douglass HS
61 E	Nienajadlo, Emilia	11	Does the Type of Soil Affect Plant Growth?	NW10	Kennedy HS
62 E	Ramirez, Nereida	11	Caffeine vs. Milk	CHTR	Catalyst - Maria HS
63 E	Mayan, Christian	12	Plants and Fertilizer	NW08	Hancock HS

Chemistry

64 E	Adelien, Michel	7	Rate of Solubility	NW12	Washington H
65 E	Alcaraz, Guadalupe	7	How High Can It Go?	NW11	Fulton
65 E	Manriquez, Jesus	7	How High Can It Go?	NW11	Fulton

* See page 29 for the Network Abbreviation Key



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
66 E	Basic, Ena	7	Electrolyte Challenge	NW01	Beaubien
67 E	Comings, Ja'Nel	7	Now That's Flammin' Hot	NW05	Diego
68 E	Cornejo, Veronica	7	Stained Teeth	NW13	Washington G
69 E	Hamblet, Patrick	7	Plop, Plop, Fizz, Fast	NW13	Garvey M
70 E	Mullings, Kaitlyn	7	Effect of Particle Sizes on Reaction Rates	NW10	Kellogg
71 E	Anderson, Janie	7	Cool Candy	NW05	Melody
71 E	Thomas, Dakyla	7	Cool Candy	NW05	Melody
72 E	Andersen, Anna	8	What Kind of Soda Will Last Longer to Fizz?	NW03	Sayre
73 E	Arellano, Adrian	8	Different Waters in Soil	NW10	Hurley
74 E	Arosi, Emily	8	Time to React!	NW06	Salazar
75 E	Avina, Ariel	8	Which Temperature Forms the Best Crystals?	OS04	Morgan Park HS
76 E	Korbut, Anya	8	From Bacteria to Cafeteria	NW06	Young HS
77 E	Jaimes, Steve	8	Electrolyte Challenge	NW05	Nobel
77 E	Macedo, Leslie	8	Electrolyte Challenge	NW05	Nobel
78 E	Poelsterl, Kristine	8	Does Temp Affect the Strength of Magnetism?	NW01	Thorp O A
78 E	Verbrick, Greta	8	Does Temp Affect the Strength of Magnetism?	NW01	Thorp O A
79 E	Ragsdale, Kaylyn	8	Going Bananas, A Peel A Day Keeps Ions Away!	NW10	Owen
80 E	Cano, Ashlyn	8	Which Liquid Has the Most Electrolytes?	NW10	Twain
80 E	Rangel, Andrea	8	Which Liquid Has the Most Electrolytes?	NW10	Twain
81 E	Redmond, Saboora	8	How Low Can You Go?	NW12	Earhart
82 E	Schoeff, Madeleine	8	Flow	NW01	Wildwood
83 E	So, Kaitlyn	8	Tofu or Not Tofu	NW11	Lenart
84 E	Stinson, Daniel	8	Which Potato Has the Most Oil?	NW12	Thorp J N
85 E	Szymczyk, Robert	8	Battle of Electrolytes	NW01	Dever
86 E	Delgado, Jhoselin	9	Soil CEC and Barium Chloride	SLA	Phoenix Military HS
87 E	Ellis, Marcell	9	The Effect of Fruit on Gelatin's Protein	OS04	Morgan Park HS
88 E	Grebovic, Neira	9	Ice Cube Melting Rate	NW02	Lake View HS
89 E	Haque, Monnaf	9	Which Antacid is the Fastest?	NW04	Lincoln Park HS
90 E	Kennedy, Halina	9	Impact of Milk Fat Level on Plastic Strength	SLA	Chicago Military HS
91 E	Martinez, Aristeo	9	Iron in Cereal	SLA	Phoenix Military HS
92 E	Abughali, Baylasan	10	Effect of Temperature on Crystal Growth	NW01	Taft HS
93 E	Cazares, Lesley	10	Which Effects pH Most - Tea or Antacids?	SLA	Phoenix Military HS
94 E	Chung, Phil	10	Cleaning Silver Without Elbow Grease	NW01	Von Steuben HS
95 E	Coleman, Ashley	10	Casin Plastic	SLA	Phoenix Military HS
96 E	Hernandez, Denise	10	How Many Gatorades Are Unsafe To Drink?	NW11	Lindblom HS
97 E	Madden, Sidney	10	Artificial Coloring: A Rainbow of Risks	NW06	Young HS
98 E	Miranda, Llovizna	10	Effect of Flame Hue on Boiling Point of Water	NW08	Curie HS
99 E	Qazi, Haris	10	Producing Metals from Solutions	CHTR	Chicago Math & Science
100 E	Rest, Olivia	10	Acids and Antacids	NW06	Young HS
101 E	Rosales, Krystal	10	Electrolyte Drinks and Conductance	SLA	Phoenix Military HS

* See page 29 for the Network Abbreviation Key



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
102 E	Sangtrash, Rosalie	10	Does Oak, Pine, or Cedar Burn Faster?	NW04	Lincoln Park HS
103 E	Valerio, Joselyn	10	Antacid: Dissolve Time vs. Temperature	SLA	Phoenix Military HS
104 E	Ahmed, Anaam	11	Polyacrylamide for Water Conservation	NW02	Lake View HS
105 E	Akuamoah, Jeanette	11	Evaporation Rate of Water	NW10	Chicago Agri HS
106 E	Figueroa, Baleria	11	Big Pieces, Small Pieces: Which React Fastest?	CHTR	Catalyst - Maria HS
107 E	Kleiner, Alex	11	Electrolysis of Water	NW06	Young HS
108 E	Nesbit, Kevin	11	Big Pieces or Small Pieces, Which React Faster?	NW03	Clark HS
109 E	Akosa, Denzel	12	Conductivity of Solutions	CHTR	Chicago Math & Science
110 E	Drayton, Amber	12	Single Displacement Reaction in Metals	NW10	Julian HS
111 E	Kolanowski, Michael	12	Hydrogen Peroxide Rates With Catalysts	NW04	Lincoln Park HS
112 E	Omobilaji, Opakunle	12	How Do Contaminants Affect Lung Surfactants?	NW11	Lindblom HS
298 E	Avalos, Jessica	8	Feeling Rusty	NW11	Fulton

Computer Science

113 E	Gutierrez-Miranda, Marcelo	7	Evolutionary Robotics: The Body-Mind Nexus	NW09	Kenwood HS
114 E	Hernandez, Abigail	7	Wi-Fi Strengths	NW08	Hamline
115 E	Wolcott, Elvis	7	Effect of Programming Language on Runtime	NW09	Kenwood HS
116 D	Bobo, Vontrice	10	Navigating With the Use of IR Sensors	OS04	Morgan Park HS
117 D	Zhang, Guochuan	11	Heliofolium: Xeon Inspired Quantum Processor	NW04	Lane HS
118 E	Zhu, Jerry	11	Effect of Encryption on Wireless Security	NW04	Lane HS
119 D	Adachi, Adam	12	LilyPad Bike Turn Signal	NW06	Young HS

Earth Science

120 E	Wheatley, Vivian	8	How Does Water Depth Affect Wave Velocity?	NW02	Disney
121 E	Burzec, Patrick	10	Flood or No Flood?	NW06	Young HS
122 E	Dowdell, Kapri	10	Sounds Foggy to Me	OS04	Morgan Park HS
123 E	Nash, Emily	10	Rate of Leaf Decay in Different Temperatures	NW10	Chicago Agri HS

Electronics

124 E	Ganchiff, Alexander	7	Which Building Materials Are Wi-Fi Friendly?	NW04	Nettelhorst
125 E	Soulsby, Julia	7	Resistance is Futile	NW01	Taft HS
126 E	Brewer, Margaret	8	Crystal Radio Reception	NW06	Graham A
127 E	Ahmed, Aleena	10	My Cell Phone is Slowly Killing Me?	NW01	Taft HS
128 E	Czopek, Joanna	11	Which Food Powers a Light Bulb Better?	NW10	Kennedy HS

Engineering Science

129 E	Balintona, Kristoffer	7	Shaking Structures	NW05	Lowell
130 E	Dworkin-Cantor, Arielle	7	Moment of Inertia...Moment of Truth	NW04	Burley
131 E	Ventura, Evie	7	The Strength of An Arch	NW10	Kellogg
132 E	Galvan, Hazel	8	Bridge Efficiency	NW02	Budlong
133 E	McCabe, Sean	8	Floating Concrete? !Eureka!	NW10	Cassell
134 D	Salzman, Emma	8	London Bridge is Falling	NW06	Healy
135 E	Switzer, Jacqueline	8	Sand Slide	NW04	LaSalle

* See page 29 for the Network Abbreviation Key



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
136 D	Valencia, Bryan	8	Better Straps	NW08	Columbia Explorers
137 E	Guzman, Maria	9	Wheels, Wheels, and More Wheels	SLA	Phoenix Military HS
138 D	Nagubadi, Navya	9	Biomechanics & Prosthetics	NW06	Ogden HS
139 D	Tavas, Gabriel	9	Reshaping Magnetic Levitation	NW01	Northside HS
140 E	McFarlane, Juleeanna	10	Effect of Blade Pitch on Power Output	NW01	Von Steuben HS
141 E	Davila, Nathalia	11	Polyurethane vs. Polycylic	NW02	Lake View HS
142 E	Estrada, Monica	11	Wind Turbines and Energy	NW02	Lake View HS
143 E	Galvan, Angelica	11	The Structural Integrity of Platonic Solids	NW01	Von Steuben HS
144 E	Hardy, Jelani	11	Football Head Protection	OS04	Morgan Park HS
145 E	Peterson, Haydon	11	Structural Support for Earthquake Resistance	NW01	Von Steuben HS
146 E	Poole, Madeline	11	Analyzing GFX and Horizontal Heat Exchangers	NW10	Chicago Agri HS

Environmental Science

147 E	Adams, Hannah	7	Sea Change: Improving Desalination	NW04	Bell
148 E	Blin, Samuel	7	Making an Alternative Energy Source Primary	NW04	Bell
149 E	Casey, Gwendolen	7	Microbial Fuel Cells	NW01	Peterson
150 E	Geevarghese, Gloria	7	Does Gasoline Affect the pH of Soil?	NW01	Edison
151 E	Moy, Julie	7	The Hardness of Water	NW04	Skinner North
152 E	Tipping, Gmma	7	Aaah! Earthquake!	NW04	Audubon
153 D	Tseung, Nicole	7	The Vengeance of Poseidon	NW06	Haines
153 D	Wang, Yawen	7	The Vengeance of Poseidon	NW06	Haines
154 E	Wodnicki, Alyssa	7	Do Storm Drains Keep Waterways Debris Free?	NW01	Edgebrook
155 E	Galvez, Saul	8	Bacteria Hystreia	NW07	Zapata
156 E	Gupta, Ahana	8	The Freshwater Formula	NW06	Jackson A
157 E	Hare, Shanteace	8	Going Green As You Clean?	NW11	Randolph
157 E	Johnson, Jasmine	8	Going Green As You Clean?	NW11	Randolph
158 E	Jimenez, Adriana	8	Our Food on Fruit Fly Reproduction Rates	NW02	McCutcheon
159 E	Johnson, Donjanae	8	Weed Control Using Bay Leaves	NW12	Dixon
160 E	Rivera, Lorenzo	8	Muddy Energy	NW10	Lee
161 E	Berger, Kaitlin	9	Medical Drainage: Can It Hurt You?	NW01	Taft HS
162 E	Jones, Kelly	9	How Aerosols Effect the Environment	NW10	Julian HS
163 E	Lattuca, Carmelo	9	Hurricanes and Temperature	NW10	Kennedy HS
164 E	Martinez, Andrea	9	The Effect of Temperature on Solar Panels	NW11	Lindblom HS
165 E	Puczko, Daniel	9	The Effect of Quantity on MFC Output	NW04	Lane
166 E	Wojnowski, Nicole	9	Effect of Pollution on Brine Shrimp Hatching	NW06	Young HS
167 E	Anaclet, Bukuru	10	Partial Shading and Pv Cell Output	NW01	Von Steuben HS
168 E	Anderson, Erika	10	Poop to Power	NW01	Von Steuben HS
169 E	Banipal, Navjot	10	Effect of Compost on Plant Growth	NW03	Steinmetz HS
170 E	Booker, Stephanie	10	Chill It Down With Plants	NW13	Brooks HS
171 E	Ilumin, Raziell	10	The Effects of Toxins on Daphnia Magna BPM	NW03	Steinmetz HS
172 E	Ilumin, Renziel	10	The Effects of Beets on Daphnia Magna BPM	NW03	Steinmetz HS

* See page 29 for the Network Abbreviation Key

EXHIBIT JUDGING
FRIDAY



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
173 E	Madej, Sylvia	10	Effect of Alcohol on Daphnia's Heart Rate	NW03	Steinmetz HS
174 E	Neeson, Emily	10	Water Effects on Soil Types	NW10	Chicago Agri HS
175 E	Obedi, Bizimungu	10	CO ₂ Contribution to Global Warming	CHTR	Chicago Math & Science
176 E	Park, Reuben	10	Effect of T5-HPS Systems on Lettuce Growth	NW04	Lane HS
177 E	Scholle, Margaret	10	The Effect of Oceanic Currents on Sharks	NW04	Lane HS
178 E	Jones, Nefertia	11	Dangerous Rain	OS04	Morgan Park HS
179 E	Sepehrifar, Anahita	11	Turn Up the Wind	NW01	Von Steuben HS
180 E	Xu, Nova	11	Partial Shading Effect on Photovoltaic Array	NW06	Payton HS
181 E	Aspuria, Marianna	12	Effect of Global Climate Change on Depression	NW08	Hancock HS
182 E	Conde, Emily	12	Cleaning Up Oil Spills	NW01	Von Steuben HS
183 E	Cruz, Barbara	12	Air Quality in Chicago's Southwest Side	NW08	Hancock HS
184 E	Gomez, Erika	12	Ocean Acidification Effects on Coral Reefs	NW08	Hancock HS
185 E	Hadzic, Amina	12	Photosynthesis and Crude Oil	NW02	Amundsen HS
186 E	Lam, Stacy	12	Go Green, Go Friendly, Go Biodiesel	NW01	Von Steuben HS
187 E	Mora, Vanessa	12	The Amount of Hg Near Former Coal Plant	NW07	Social Justice HS
188 E	Ruizsparza, Stephanie	12	Water Quality Comparison	NW08	Hancock HS
189 E	Slote, Sana	12	The Effect of Sediment on Aquatic Organisms	CHTR	Chicago Math & Science

Health Science

190 E	Guzman, Madison	7	Calcium Carbonate vs. Heartburn	NW04	Skinner North
191 E	Pereiro, Layna	7	Which Fruit Has the Most Vitamin C?	NW02	Waters
192 E	Bhondwe, Khushi	8	Glucose in Fruit	NW02	Stone
193 E	Echols, Serena	8	Healthier Dense Fruit	OS04	Morgan Park HS
194 E	Madrigal, Lilly	8	The Deadly Element	NW05	Diego
195 E	Camacho, Nicole	10	Correlations in Migraine Medications	NW02	Amundsen HS
196 E	Maganti, Arun	10	Myocardial Scarring in Scleroderma Patients	NW04	Lincoln Park HS
197 D	Moreno, Sheilly	10	HALT! We Must Wait Five Seconds!	NW08	Curie HS
198 E	Hernandez, Josemanuel	11	Effect of Bacteriophage T4r on E. coli B	NW08	Curie HS

Materials Science

199 E	Castillo, Yesenia	7	Rusty Screw	NW05	Yates
200 E	Hoffer, Owen	7	Effect of Origami Folding on Paper Strength	NW09	Kenwood HS
201 E	Locust, Katrina	8	Deicer Salt: Friend or Foe	NW05	Cather
202 E	Rodriguez, David	8	Shaking Up Some Energy	NW10	Dore
203 E	Andrade, Jacqueline	9	Dunkin Donuts vs. McDonalds vs. Starbucks	SLA	Phoenix Military HS
204 E	Pio, Abigail	9	The Less Mass Loss, The Better	SLA	Phoenix Military HS
205 E	Sutton, Asuntha	9	Play Doh Mass	SLA	Carver Military HS
206 E	Young, Caroline	9	Rate of Flammability for Infant Clothing	NW01	Taft HS
207 E	Rivas, Jesus	10	Fire Detectors vs. Combustion	SLA	Phoenix Military HS

* See page 29 for the Network Abbreviation Key



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
208 E	Isidoro, Jennifer	11	Fire Retardant Paint	OS04	Juarez HS
209 E	Wischnewsky, Samuel	11	Reinforcing Bioplastics: A Stronger Future	NW06	Young HS
Mathematics					
210 D	Chen, Calvin	7	Patterns in Pascal's Triangle	NW06	Holden
211 D	Anifowoshe, Kanyinsola	8	Variations on the Monty Hall Problem	NW06	Young HS
212 E	Harris, Olivia	9	Aftermath of Playing a Musical Instrument	NW06	Young HS
213 D	Detmer, Samuel	11	Sequences of Digit Sums of Powers	NW06	Payton HS
214 D	McColgan, Matthew	11	Intersections of Regular Polygons	NW06	Payton HS
215 D	Xu, Qian Yue	11	GDP and Gini: Does Inequality Really Matter?	NW06	Jones HS
216 D	Gardner, Brooke	12	A Markov Chain Approach to Golf	NW06	Payton HS
217 D	Kendrick, Lev	12	Lower Central Series Quotients	NW06	Payton HS
218 D	Padilla, Jose	12	A Gambler's Ruin, When to Stop?	NW06	Payton HS
219 D	Phifer, Christopher	12	Bulgarian Solitaire and Integer Partitions	NW06	Payton HS
220 D	Sharma, Vikrant	12	Orbits of Cycles of Permutations and Equivale	NW06	Payton HS
221 D	Slade Byrd, Cormac	12	2-State Automata on a Hyperbolic Plane	NW06	Payton HS
222 D	Tsotsos, Ekaterina	12	Set!	NW06	Payton HS
223 D	Williamson, Peter	12	The Doors Problem	NW06	Payton HS
Microbiology					
224 E	Bitunjac, Robert	8	What Affect Does UV Light Have on E.coli?	NW10	Twain
225 E	Ocampo, Jazmine	8	Nano This Bacteria!	NW05	Lowell
226 E	Villada, Reyna	8	Young Living vs. Doterra	NW04	Franklin
227 E	Cabrera, Trisha	9	Au Naturel Antibiotics	NW04	Lincoln Park HS
228 E	Flores, Jasmin	9	Effect of Nanosilver on E.coli	NW08	Curie HS
229 E	Garcia, Juan	9	Fighting Bacteria	SLA	Chicago Military HS
230 E	Hennessy, Miette	9	Genetics and Cell Size in Crescentus	NW06	Young W
231 E	Hoefling, Johanna	9	Which Music Does Bacteria Like the Most?	NW10	Kennedy HS
232 E	Nuno, Isabella	9	Music and Bacteria	NW10	Kennedy HS
233 E	Arif, Fizza	10	Does Silver Nanoparticles Kill Bacteria?	NW02	Mather HS
234 E	Colula, Karla	10	Effect of Different Disinfectants on Bacteria	NW03	Steinmetz HS
235 E	Cruz, Isabel	10	Which Cleaner Most Effective Killing Bacteria?	OS04	Juarez HS
236 E	Dzafic, Nejla	10	Phage T4r on Streptomycin Resistant E.coli	NW04	Lane HS
237 E	Gonzalez, Stephanie	10	Dry Curing Meat	NW01	Foreman HS
238 E	Munshi, Raisa	10	Sequential Antibiotic Exposure on E.coli	NW04	Lane HS
239 E	Ramirez, Simei	10	Bacteria in Cosmetics	OS04	Juarez HS
240 E	Sotirova, Victoria	10	The Effect of Tetracycline on E.coli	NW02	Amundsen HS
241 D	Yeh, Hugh	10	Designing AAV Vectors for Leukemic Cells	NW04	Lane HS
242 E	Avellaneda-Franco, Guadalupe	11	Stay Fresh!	OS04	Juarez HS
243 E	Bartley, Anthony	11	LrrB Gene Phenotype in Dictyostelium	NW11	Lindblom HS
244 E	Castel, Yuritzi	11	What Type of Music Does Bacteria Prefer?	OS04	Juarez HS

* See page 29 for the Network Abbreviation Key

EXHIBIT JUDGING
FRIDAY



Exhibits by Category

Ex#	Student Name	Grade	Title	Network	School
245 E	Torres, Abigail	11	Substances	OS04	Juarez HS
246 E	Pei, Alexander	12	Role of miR-143 in Intestinal ApcMin/ + Mice	NW06	Young HS
Physics					
247 E	Coffey, Christopher	7	How Does Temperature Affect A Tennis Ball?	NW10	Keller
248 E	Majzoub, Omar	7	Aerodynamics of Wings	NW04	Franklin
249 E	Martinez, Jonathan	7	A Splash at a Time	NW08	Seward
249 E	Rodriguez, Angel	7	A Splash at a Time	NW08	Seward
250 E	Camarena, Jarely	7	Archimedes Screw	NW13	Clay
250 E	Shea, Dana	7	Archimedes Screw	NW13	Clay
251 E	Warda, Luke	7	Effects of Blade Angle on Wind Turbine Output	NW10	Keller
252 E	Bui, Jennifer	8	Coil Size on an Electric Motor's Speed	NW02	McCutcheon
253 E	Cole, Kendyll	8	Give It a Lift with Which Lever?	OS04	Morgan Park HS
254 E	Gohres, Thomas	8	Paper Airplanes: Wing Surface Aerodynamics	NW06	South Loop
255 E	Hayes, Thomas	8	Does Insulation Truly Help?	NW01	Thorp O A
255 E	Mills, Jesse	8	Does Insulation Truly Help?	NW01	Thorp O A
256 E	Lotfi, Mohamed	8	Speed Energy and Crashes	NW09	Drake
257 E	Mallard, Jailyn	8	Don't Fret	NW11	Lenart
258 E	Kuron, Julia	8	Parachutes: Does Size Affect Descent?	NW01	Smyser
258 E	Mendoza, Emily	8	Parachutes: Does Size Affect Descent?	NW01	Smyser
259 E	Nakum, Aayushi	8	The Study of Storing and Using Solar Energy	NW02	Rogers
260 D	Nash, Susan	8	It's A Small, Small World	NW06	Ogden HS
261 E	Parker, Elyja	8	Centripetal Force in Action	NW13	Cullen
262 E	Phifer, Gregory	8	The Effects of Angles on Projectiles	NW11	Lenart
263 E	Tuite, Zachary	8	Replicating Submarines Using Bottles	NW04	Burley
264 E	Washington, Samantha	8	Different Angles of Speed	NW01	Peterson
265 E	Fahnestrom, Trevor	9	Wood or Aluminum?	NW01	Taft HS
266 E	Ibarra, Daniel	9	The Effect of Magnets on Coasters	NW06	Ogden HS
267 E	Inojosa, Daniel	9	Temperature's Effect on Bernoulli's Principle	NW04	Lincoln Park HS
268 E	Loera, Edward	9	Electromagnetism	NW13	Brooks HS
269 E	Lopez, Aaron	9	Can Colored Glass Effect Energy of a Laser?	NW06	Ogden HS
270 E	Bhatt, Bhavin	10	Distance vs. Voltage	NW01	Taft HS
271 E	Cruz, David	10	Traveling Distance vs. Road Surfaces	SLA	Phoenix Military HS
272 E	Del Sesto, Antonio	10	Effect of Temperture on Viscosity of Liquids	NW04	Lincoln Park HS
273 E	Earley, Nicholas	10	The Relationship with the Sun and Radiation	NW06	Young HS
274 D	Morro, Joseph	10	Does Design Impact Parachute Landing Time?	NW04	Lincoln Park HS
275 E	Park, Alec	10	Can You Hear Me Now?	NW02	Mather HS
276 E	Poindexter, Kaylen	10	The Effect of Colors on Light Transmission	OS04	Morgan Park HS
277 E	Tarnate, Leila	10	Measuring Salt Concentration With A Laser	NW04	Lincoln Park HS
278 E	Warren, Nina	10	The Elegance of Music	NW06	Ogden HS
279 E	Wells, Arthur	10	Throw of the Ages	NW10	Julian HS
280 E	DePillars, Tyra	11	Comparing Weight Difference in Pointe Shoes	OS04	Morgan Park HS
281 E	Estrella, Arely	11	Does Air Pressure Affect the Balls Distance?	SLA	Air Force Military HS



Exhibits by Category

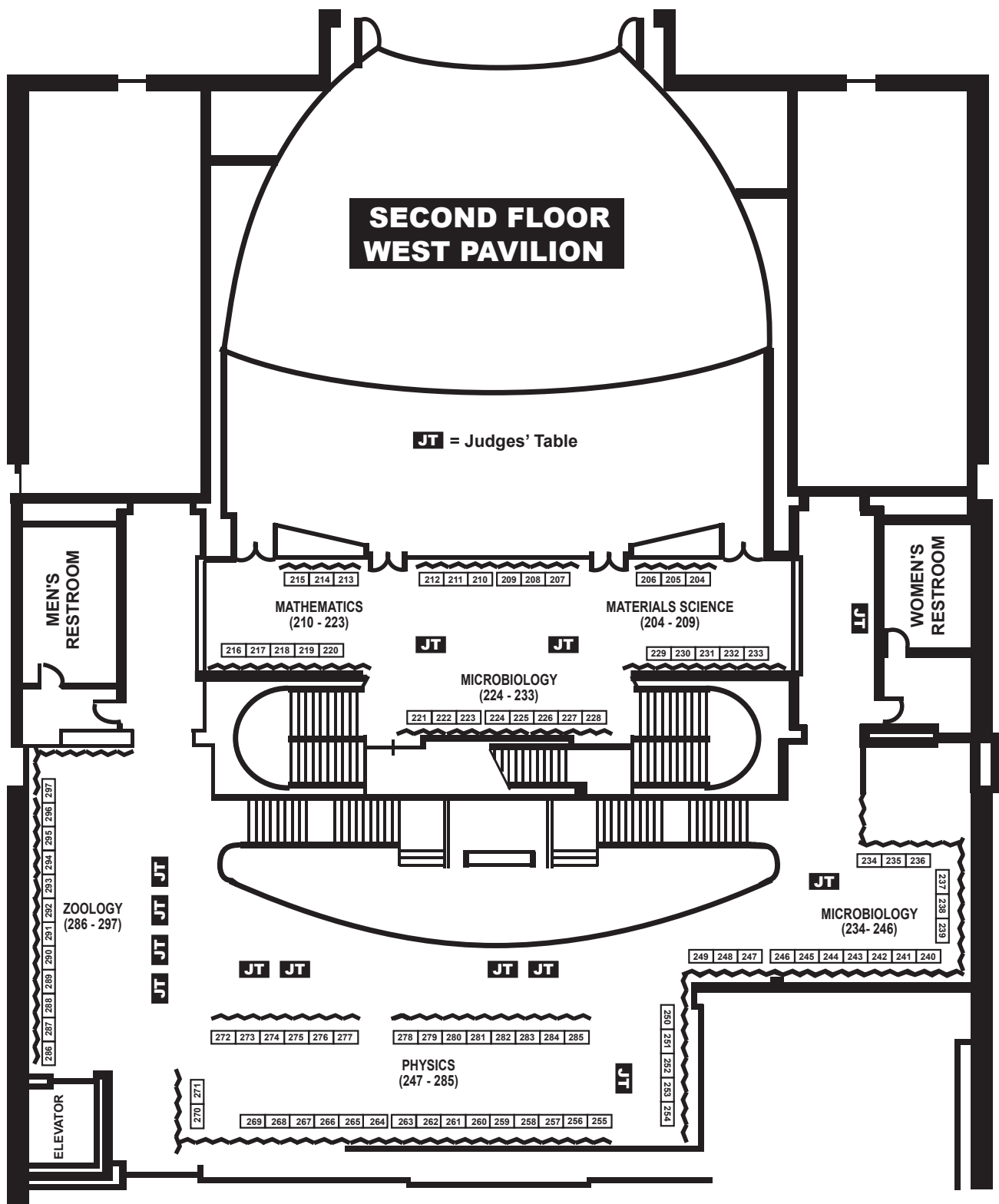
Ex#	Student Name	Grade	Title	Network	School
282 E	Griffin, Lott	11	Combustion Wood	NW06	Ogden HS
283 E	Xuya, Brian	11	Vehicular Manslaughter Physics	OS04	Juarez HS
284 E	Street, David	12	Viscosity Effect on Travel Time in Liquid	OS04	Morgan Park HS
285 E	Gomez, Ariel	11	Hello? Can You Hear Me?	NW10	Chicago Agri HS
299 E	Knight, Russell	7	What's the Fastest Way to Cool a Soda?	NW12	Neil

Zoology

286 E	Januska, Kipras	7	The Effects of pH on Artemia Hatching Time	NW06	Sheridan
287 E	Bautista, Reyna	8	Wiggling Their Way Out	NW08	Seward
287 E	Flores, Jacqueline	8	Wiggling Their Way Out	NW08	Seward
288 E	Bethke, Eleni	8	The Sixth Sense of Fruit Flies	NW04	LaSalle
289 E	Crozier, Dezaray	8	How Clean is Dead?	NW05	Lowell
290 E	Guzman, Delia	8	M & M Survival Challenge	NW01	Cleveland
290 E	Molina, Cristian	8	M & M Survival Challenge	NW01	Cleveland
291 E	Inga, Klever	8	Buzzed	NW05	Lowell
292 E	Gekker, Keren	9	How Different Lamps Change a Chameleon's Color	NW06	Young HS
293 E	Lopez, Edwin	10	Goldfish Memory	NW01	Foreman HS
294 E	Perez, Jocelyn	10	Molarity of Sucrose and Fruit Fly Behavior	CHTR	Chicago Math and Science
295 E	Augusthy, Sebastian	12	Copper Bioconcentration in Snails	NW09	Kenwood HS
296 E	Sheppard, Jalia	12	High Fat Diets and Grape Powder	NW10	Chicago Agri HS
297 E	Stonewall, Crystal	12	Analysis of Cisplatin + Imatinib Ovaries	NW10	Chicago Agri HS

Category	Elementary			Secondary			Total			Team Projects
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Aerospace Science	2	0	2	2	1	3	4	1	5	0
Behavioral Science	2	5	7	4	5	9	6	10	16	1
Biochemistry	3	6	9	3	4	7	6	10	16	1
Botany	2	10	12	5	12	17	7	22	29	1
Chemistry	9	18	27	9	18	27	18	36	54	5
Computer Science	2	1	3	3	1	4	5	2	7	0
Earth Science	0	1	1	1	2	3	1	3	4	0
Electronics	1	2	3	0	2	2	1	4	5	0
Engineering Science	3	5	8	3	7	10	6	12	18	0
Environmental Science	3	13	16	5	24	29	8	37	45	2
Health Science	0	5	5	2	2	4	2	7	9	0
Materials Science	2	2	4	2	5	7	4	7	11	0
Mathematics	1	1	2	8	4	12	9	5	14	0
Microbiology	1	2	3	4	16	20	5	18	23	0
Physics	12	10	22	15	6	21	27	16	43	4
Zoology	3	5	8	2	4	6	5	9	14	2
TOTAL ►	46	86	132	68	113	181	114	199	313	16







Student Exhibitors

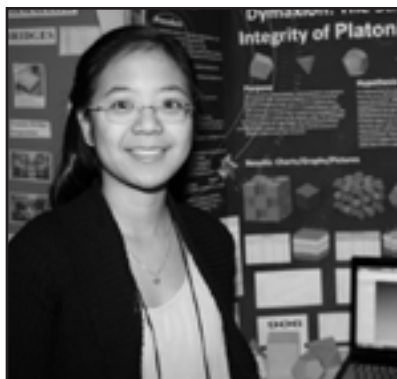
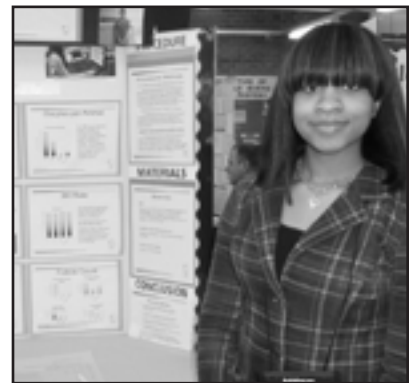
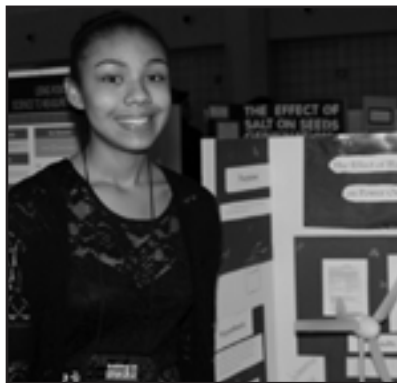
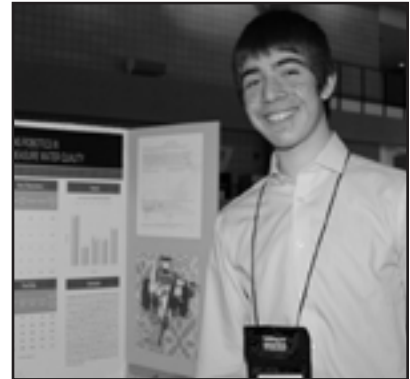
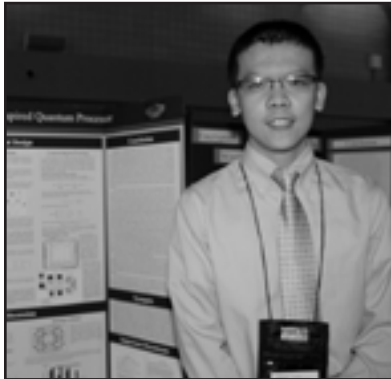


EXHIBIT JUDGING
FRIDAY



Student Exhibitors

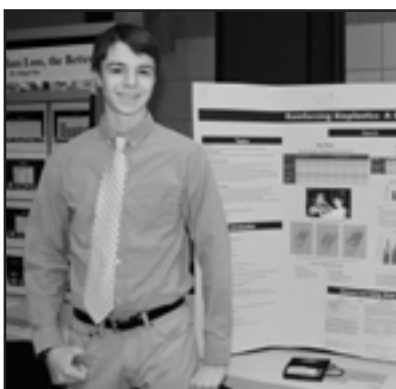
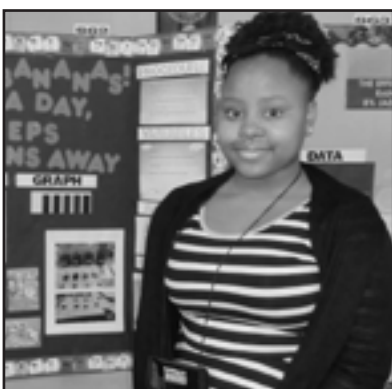
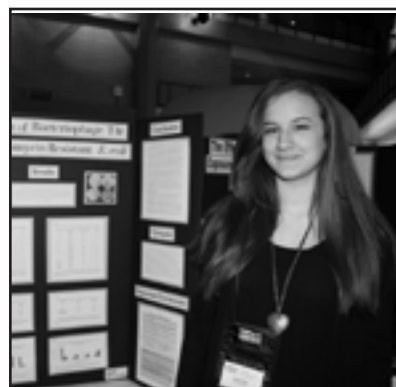


EXHIBIT JUDGING
FRIDAY



Student Exhibitors

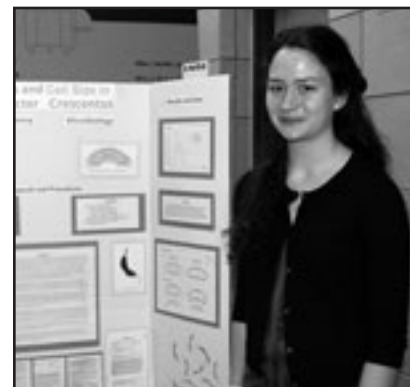
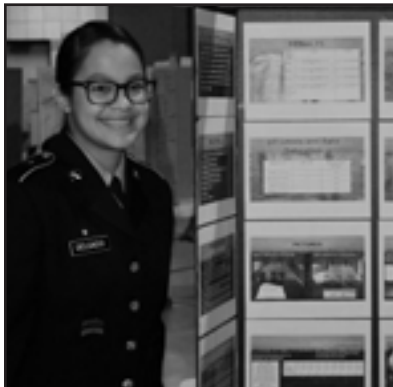
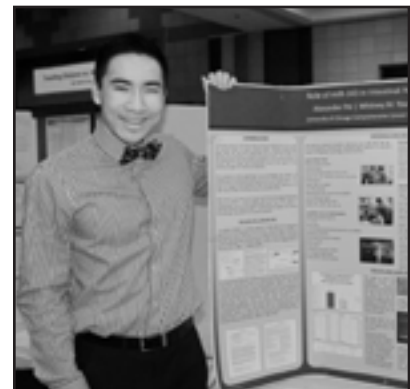
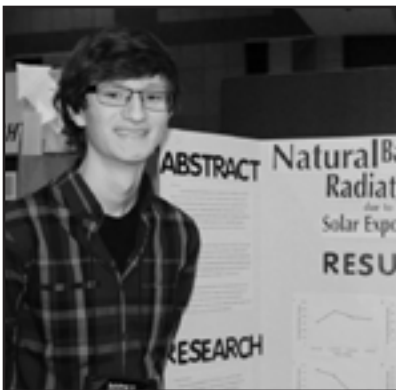
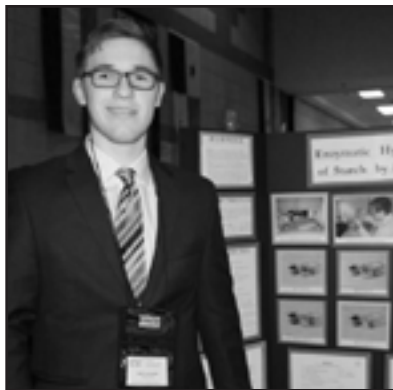


EXHIBIT JUDGING
FRIDAY



Sixth-Grade Regional Winners Recognition Luncheon

Saturday, March 21, 2015

11:45 A.M. – Rosenwald Room

Welcome

Glennie King
Chairperson
CPS Student Science Fair, Inc.

Comments

Melanie Wojtulewicz
Interim Executive Director
CPS Student Science Fair

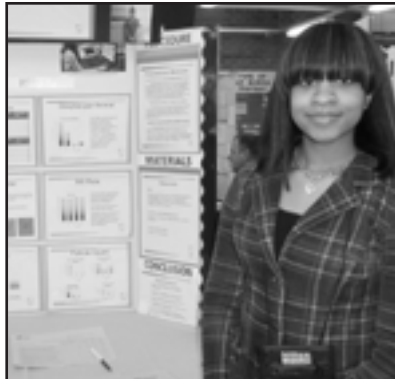
Elizabeth Copper
Chairperson Elect
CPS Student Science Fair, Inc.

Presentation of Awards

Glennie King
Melanie Wojtulewicz
Elizabeth Copper

Group Photo

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



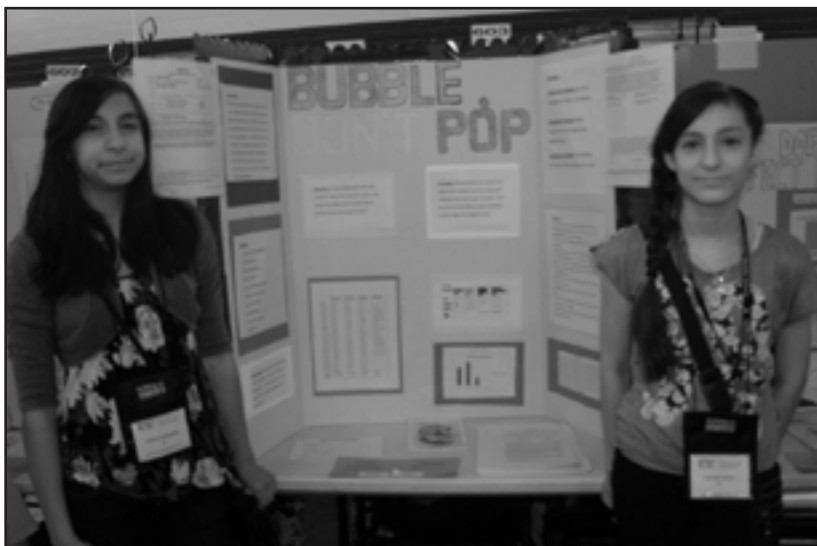
**PUBLIC VIEWING & 6TH GRADE
LUNCH SATURDAY**



Sixth-Grade Regional Winners

List of 2014–2015 Sixth-Grade Regional Winners

Nane	School	ProjectTitle	Region
Brennan, Dylan/ Pitera, Damian	O.A. Thorp	Marble Race	NW01
Burd, Xander	Skinner West	Less Mess S'More Stick	NW06
Chen, Nathan	Healy	Greasy Chips	NW06
Coleman, Anjonaë	Poe	Moist Skin vs. Dry Skin	NW13
Flores, Luzmariaelena/ Perez, Angie	Diego	Which Substance is More Acidic?	NW05
George, David	Decatur	Packaging Fruits Longer	NW02
Henderson, Kayli	McDade	An Eggstastic Adventure	NW12
Jackson, Jade	Barnard	How Food Wrapping Affects Spoilage	OS04
Jarmula, Claudia	Sayre	Can a Dog Distinguish Between Colors?	NW03
McDonald, Jordan	Earhart	Is That Mold?	NW12
Monzon, Yohhani/ Farias, Yamilet	Hernandez	Bubble, Don't Pop	NW08
Ortiz, Isabella	Marsh	Break the Ice	NW13
Reyes, Citlalli	Burroughs	The Physics in Cheating in Baseball	NW08
Rodriguez, Lorenzo	Skinner North	Electric Fruit	NW04
Schoeff, Parker	Wildwood	Effect of Temperature on Viscosity	NW01
Wang, Charles	LaSalle	Wi-Fi- Boosters on a Budget	NW04



PUBLIC VIEWING & 6TH GRADE
LUNCH SATURDAY



Awards Convocation

Sunday, March 22, 2015

1:00 P.M. – Auditorium

Pledge of Allegiance

National Anthem

Greetings..... **Glennie King**
Chairperson, CPS Student Science Fair

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

Remarks **The Honorable Leslie Hairston**
Alderman, 5th Ward
City of Chicago

Sylvia Nelson Jordan
Manager, Academic Competitions
CPS Office of College and Career Success

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**
Alderman Hairston
Debra Sutkowski
Sylvia Nelson Jordan

Recognition of Symposium Winners..... **Nina Hike**
Chairperson, Symposium & Essay Committee

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

International Science and Engineering Fair (ISEF) Awards ... **Glennie King**
Chairperson, CPS Student Science Fair

Closing Remarks **Glennie King**
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 22, 2015, 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 to a first time High School City Science Fair exhibition.

- Rita Nelson
- RyAnn Nelson -Jaiyesimi

Alpha Kappa Alpha Sorority, Inc.

Two \$50 cash awards to outstanding high school exhibitors.

- Linda Carter

American Association of Zookeepers-Lincoln Park

A \$50 cash award to an outstanding project involving animal behavior without manipulating the animal or to an outstanding project involving an environmental issue.

- Susan Moy

American Chemical Society - Chicago Section

Two \$100 cash awards to exemplary projects in Chemistry.

- Carmen Marquez

American Electroplaters and Surface Finishers Science Honors Award

Three \$400 cash awards will be awarded and presented at the American Electroplaters and Surface Finishers May Dinner Meeting

- AESF Chicago Branch- Andrew Gruda

American Meteorological Society

Two certificates of "Outstanding Achievement" to high school exhibitors for creative scientific endeavors in the areas of atmospheric and related oceanic and hydrologic sciences.

- Society for Science and the Public

American Nuclear Society

One \$100 cash award and certificate, one \$50 cash award and certificate; one \$25 cash award and certificate to exhibitors promoting peaceful uses of nuclear energy. Each student exhibitor's school will receive a certificate and recognition book.

- Dr. Roger W. Tillbrook

American Psychological Association

A certificate to an outstanding exhibit in Behavioral Science

- Society for Science and the Public

Anna Lisa Somera Consulting Award

A \$50 cash award to an outstanding female exhibitor.

- Anna Lisa Somera

Anti-Cruelty Society

A \$50 cash award to a student who exhibits humane care and treatment of animals in their experiment.

- Elliott Serrano

ASM Education Foundation

A medallion and certificate recognizing the winner of the best Materials Engineering project.

- Society for Science and the Public

Association for Women Geoscientists

A certificate to an exemplary female exhibitor in the area of Geoscience.

- Society for Science and the Public

Association of Women in Science

A \$50 Amazon.com gift card to an outstanding female exhibitor showing promise in scientific research.

- Karen Chien
- Katherine Kim

Astronaut Joan Higginbotham Award

A \$300 cash award to a student who has a project in the field of Astronomy, Aerospace Science, Physics or Engineering.

- Melanie Wojtulewicz

Bartley Family Award

Two \$50 gift cards to outstanding exhibitors.

- Jeanette Bartley

Broadcom MASTERS

A special invitation to the top 10% of exhibiting middle grade exhibitors to qualify for middle school Science & Engineering Fair

- Society for Science and the Public

Building on STEM Award

A 2015 souvenir wristband to each exhibitor, symposium and essay participant, as well as, each 6th grade recognition attendee

- Luba Johnson



Special Awards

Charles Braxton Brown, Jr. Award of Ingenuity

A \$50 cash award to any minority student exhibiting ingenuity using electricity.

- Vincent Brown

Charles Braxton Brown, Jr. Craftsmanship Award

A \$50 cash award to an exhibitor that shows excellent design and exhibit construction.

- Vincent Brown

Cheryl Deese Science Award

Three \$50 cash awards to outstanding exhibitors.

- Cheryl Deese

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 \$50 Visa gift card awarded for excellence in environmental science.

- David Bild

Chicago Herpetological Society

A free entry pass to Reptile Fest for 50 outstanding student exhibitors.

- Andy Sagan

Chicago Intellectual Property Alliance (CIPA)

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

- Sarah Biggs

Chicago Principals and Administrators Association

\$100 Target gift cards to five high school exhibitors and \$100 Target gift cards to five middle school exhibitors in the categories of Behavioral Science, Biochemistry, Chemistry, Environmental Science, Mathematics, or Microbiology.

- Clarice Berry
- Kent Lau

Chicago Zoological Society-Brookfield Zoo

Ten one year Family Memberships to exhibitors demonstrating forward thinking in conservation or animal welfare.

- Christopher C. Panek

Christine M. Krupa Award

One \$100 cash award to an outstanding project in Mathematics.

- Christine M. Krupa

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

Five \$200 cash awards to students whose work best exemplifies engineering design and creation.

- Dr. Peter Nelson, Dean

Copper's Encouragement Award

A \$50 gift card award to an outstanding middle school female exhibitor and a \$50 gift cards to an outstanding high school female exhibitor.

- Elizabeth Copper

Cynthia Slater Insurance Agency

One \$50 cash award to an outstanding exhibitor.

- Cynthia Slater

Davis Family Achievement Award

Six \$25 gift cards to outstanding exhibitors.

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

Department of Science - CPS

A 2015 souvenir lanyard to each student exhibitor .

- CPS-Department of Science

Dr. Sheila Brown Science Award

Two \$25 cash awards to outstanding middle school exhibitors and four \$50 cash awards to outstanding high school exhibitors in the categories of Chemistry or Health Science.

- Dr. Sheila Brown, DDS

Dr. Susan Engel Medical Award

One \$50 cash award to an outstanding project in the field of health science.

- Dr. Susan Engel

Earth and Environmental Science Award

Three \$100 cash awards to outstanding projects in the field of Earth and Environmental Science.

- David Petrovski
- Gary Cygan

Executive Director's Award

One \$200 cash award to an exhibitor selected by the Special Awards Committee.

- Melanie Wojtulewicz

Ezell Smith Award

One \$100 cash award to a student who has an exemplary exhibit in food science. One \$50 cash award to a student who has an exemplary exhibit relating to food science.

- Edna A. Smith
- Michael Smith
- Ezell E. Smith
- Leonard Smith

FBC Assisted Living Award

One \$50 cash award to a middle school exhibitor that best demonstrates the most innovative use of technology.

- Linda Carter

Fischer Scientific

One microscope to an outstanding project in Microbiology; a Telescope Kit or a Solar System Model to two outstanding students in Aerospace Science and/or Earth Science.

- David Isphording



Special Awards

Frey Scientific

Five \$50 gift certificates to outstanding middle school exhibitors and five \$50 gift certificates to outstanding high school exhibitors.

- Vince Zaccardi

Gerald Rudnick Technology Award

One \$50 cash award to a middle school exhibitor that best demonstrates the most innovative use of technology.

- Gerald Rudnick

Gonzalez, Wahlberg, James, Gonzales Award

Four \$50 cash awards to outstanding middle school exhibitors that best use the scientific method in their exhibit.

- Eddie Marie Gonzalez

Granular Materials Award

One \$100 cash award to an outstanding project on granular materials or the best use of granular materials in their project.

- Dr. Paul Dolan

Hambrick Opportunities Unlimited

Two \$50 cash awards to exhibitors that have exceptional artistic abilities in their display.

- Dr. Arlene Hambrick

IJAS State Exposition

Accommodations for 75 exhibitors and symposium presenters to attend the IJAS State Exposition.

- Monique Murray
- Juanita (Nini) Paulinski

IJAS Essay Finalists

One first place cash award of \$250, one second place cash award of \$125, one third place cash award of \$75, one fourth place award of \$50; and \$25 to six participants.

- Nina Hike

Illinois Speech-Language-Hearing Association

Two \$100 cash awards to projects related to communication disorder science.

- Denise Prohaska

Intel Excellence in Computer Science Award

One "Excellence in Computer Science" Award to an outstanding high school exhibitor who has a project in the category of Computer Science

- Society for Science and the Public

Janice Lemar Brown Memorial Female in STEM Award

One \$50 cash award to a female exhibitor whose exhibit is in Science or Math.

- Vivian Brown

Janice Lemar Brown Women In Mathematics Award

One \$50 cash award to an outstanding minority female Mathematics exhibitor.

- Vivian Brown

Jaylin S. Denwood Award

One \$50 gift card to an exemplary 7th or 8th grade exhibitor, and one \$25 gift card to an exemplary 7th or 8th grade exhibitor.

- Jaylin S. Denwood

Peecher Award

Two \$25 cash awards to outstanding elementary school exhibitors.

- Marie Clouston
- Amanda Scampini

Leap Learning Systems

Four 4-hour speech and learning training scholarships (value at \$500)

- Michael Levesque

LoEva Reid Award

Two \$50 cash awards to outstanding middle school exhibitors.

- Leon Williams
- Fred Williams

Lorraine B. Wilson Award

One \$100 gift card to an exemplary high school exhibitor.

- Lorraine B. Wilson

Luba Johnson Science Award

Two \$50 cash awards to outstanding exhibitors.

- Luba Johnson

Lula Mae Pruitt Award

Two \$50 cash awards to outstanding middle school exhibitors.

- Leon Williams
- Fred Williams

Marie Sklodowska-Curie Award

Four \$25 gift cards to outstanding projects in Physics and Chemistry.

- Barbara Dubielak-Wood

McGraw Hill School Education Group

Six \$50 cash awards to outstanding exhibitors.

- Ardena White

Metropolitan Water Reclamation District

Twenty-five award certificates will be given to outstanding student exhibitors in the category of Environmental Science. Exhibitors and their parents will attend a special Board Meeting at the Metropolitan Water Reclamation District of Greater Chicago, take a boat tour on the Chicago River and Lake Michigan and served a lunch.

- Mary Carroll



Special Awards

Morton Suggestion Company

A 2015 souvenir pencil to each exhibitor, symposium and essay participant, as well as, each 6th grade recognition attendee.

- Morton Suggestions, Scott Kouri

Mu Alpha Theta

One certificate to a high school exhibitor creatively using modern mathematics.

- Kay Weiss

Murff Mathematical Merit Award

Two \$50 cash awards to outstanding exhibitors.

- Rickey Murff

Museum of Science and Industry

A MSI family membership to exhibitors chosen to go to IJAS.

- Julie Boyk

National Oceanic & Atmospheric Administration

One award and medallion to an exhibitor that has focused on one of the following topics: ecosystems, climate, weather/water and commerce/transportation.

- Society for Science and the Public

National Technical Association

One \$50 cash award to an outstanding exhibitor.

- Melvin Slater
- Cynthia Slater

Omega Psi Phi Fraternity, Inc. - Iota Chapter

Fourteen \$50 cash awards to outstanding exhibitors.

- Melvin Slater
- Ron Wright
- Melvin Hargrett
- Andre Garner
- Clayton Harris
- Jerrold DeRon
- Reggie Smith
- Joe Jackson
- Richard Keller
- Marco Johnson
- Rick Williams

Optical Society of Chicago

One \$100 cash award for an outstanding project about or using light, optics or color.

- George Magerl

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

A \$233 cash award to an outstanding work of research in mathematics.

- The Fogelson Family Foundation, Bruce Fogelson

CPS Student Science Fair, Inc. President's Award

One \$500 cash award to the top scoring middle school exhibitor. One \$500 cash award to the top scoring high school exhibitor.

- Dr. Debra Sutkowski

QED Prizes for Distinguished Mathematical Research by The Fogelson Family Foundation

Four \$127 cash awards to distinguished works of mathematical research.

- The Fogelson Family Foundation, Bruce Fogelson

QED Prizes for Outstanding Research in Mathematics and Related Sciences Award by The Fogelson Family Foundation

Five \$179 cash awards to outstanding works of research in pure mathematics, applied mathematics, mathematics in engineering, mathematics in computer-related sciences and to a work demonstrating exceptional mathematical insight.

- The Fogelson Family Foundation, Bruce Fogelson

Ricoh Sustainable Development Award

One award certificate to an exhibitor that has best reflected the principles of sustainability- balancing economic development with environmental responsibility.

- Society for Science and the Public

Rochelle Hawes Bolton - Award of Excellence

Four \$25 cash awards to exemplary exhibitors in the areas of Health Science, Material Science, Botany, or Zoology and 20 certificates to outstanding exhibitors

- Deborah Hawes

Science Merit Award

A \$50 cash award to an outstanding high school exhibitor in behavioral science, environmental science, chemistry, or physics.

- Rita Nelson
- RyAnn Nelson -Jaiyesimi

Scope Shoppe, Inc.

One field microscope and case to an outstanding middle school exhibitor.

- Patrick Schlinder

Shirley Davis-Morrissey Memorial Teacher Award

Two \$300 cash awards to teacher sponsors who have successfully demonstrated outstanding leadership and educational mentorship to students exhibiting at CPS Student Science Fair.

- Gary Morrissey
- Sidney Brow
- Brittany Davis

Slater Association

One \$50 cash award to an outstanding exhibitor.

- Melvin Slater
- Cynthia Slater

Society for In Vitro Biology

Recognition for an outstanding 11th grade student exhibiting in areas of plant or animal in vitro biology or tissue culture

- Society for Science and the Public



Special Awards

Society of Tribiologists and Lubrication Engineering

Four \$50 cash awards to outstanding projects relating to lubrication or friction.

- Russell Turay

Special Awards for Mathematical Investigation - by The Fogelson Family Foundation

Three \$73 cash awards, and two \$31 cash awards to promising mathematical investigations.

- The Fogelson Family Foundation, Bruce Fogelson

SPIE-- The Intl Society for Optical Engineering

Special recognition to projects relating to using light, optics or color: 1st Place \$200 cash award, 2nd Place \$150 cash award, 3rd Place \$100 cash award

- George Magerl

Stockholm Junior Water Prize

Six certificates to exemplary high school water related exhibits and eligibility to participate in the Stockholm Junior Water State Competition.

- Society for Science and the Public

Supporting Mathematical Research Award - by The Fogelson Family Foundation

Three awards of books to teacher sponsors of high quality mathematical research.

- The Fogelson Family Foundation, Bruce Fogelson

Debra Sutkowski Award

A souvenir waterbottle to each exhibitor, symposium and essay participant, as well as, each 6th grade recognition attendee.

- Debra Sutkowski

Surgeon General's Special Science Award

An award certificate to an exhibitor with outstanding research in the field of health promotion, disease prevention and health science.

- Society for Science and the Public

Symposium Award

Cash awards to the top ten scoring projects: One first place cash award of \$250, one second place cash award of \$125, one third place cash award of \$75, one fourth place award of \$50; and \$25 to the other six participants.

- Nina Hike

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

One \$100 cash award presented to an outstanding project in Electronics.

- Tracy Raoul

The National Sorority of Phi Delta Kappa, Inc.

Two \$50 cash awards to science teacher sponsors.

- Shannette Rooks

United States Air Force

Four certificates, laptop backpack, personal lunch bag, 3 in 1 calculator, picture frame, digital clock and helicopter pen to outstanding exhibitors

- Society for Science and the Public

US Metric Association

One award to an exhibitor that has an outstanding project which used the SI Metric system and the measurements were integrally important to the research.

- Society for Science and the Public United States

United States Navy and Marine Corps. – Office of Naval Research

A certificate of achievement and a medallion to exemplary middle school exhibitors.

- Society for Science and the Public

UOP, A Honeywell Company

Ten cash awards: one \$150, four \$100 and five \$50 cash awards to outstanding exhibitors in the category of chemistry, physics, engineering science or environmental science.

- Willie Morrisette

Walter and Mary McKinney Award

Two \$50 cash awards to outstanding middle school exhibitors.

- Gina Grant

Wolfram Research

Seventeen complimentary 1-year licenses of "Mathematica for Students" plus a free 1-year subscription to Wolfram/Alpha Pro.

- Carol Cronin

World Book Encyclopedia Inc.

One copy of World Book Science Year 2014 to all exhibitors that participate in the City Science Fair.

- Mark Willy

Yale Science & Engineering Association

One certificate to an outstanding 11th grade exhibitor 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 to each 6th grade student participant that attends the 6th Grade Luncheon at the City Science Fair.

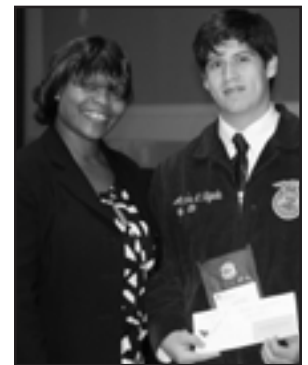
- Yolanda Del Rio

Young Scientist Award

One \$50 cash award to a high school exhibitor for his/her 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 \$101–\$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 in order 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), Chicago State University (CSU), Harold Washington College and Illinois Institute of Technology 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 men-

tors to the campus. NEIU, CSU, Harold Washington College and Illinois Institute of Technology 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. More details will follow in a mailing to teachers at the beginning of the next school year. Please contact Paul Dolan, Professor of Physics, Northeastern Illinois University at: P-Dolan@neiu.edu or 773-442-5785.

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 money to purchase supplies, materials, and/or equipment for conducting club activities. Peoples Gas provided funding for 15 middle school science clubs this school year. In addition to stipends, teachers were able to 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 on the basis of participation in the Chicago Public Schools Science Fair, scholastic achievement, future goals, and personal interviews. Since 1956, CPS Student Science Fair Inc. has awarded 2,030 scholarships valued at \$3,255,902 to students from 75 Chicago public high schools.



2014 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 2014 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 2,030 scholarships, valued at \$3,255,902 to students from 75 Chicago public high schools



Muhammad Aftab/CMSA
Illinois Institute of Technology
Mechanical Engineering
Ray Readus Memorial/\$1,000



Najah Ahsan/Northside CP
University of Illinois at Chicago
Bioengineering
University of Illinois
at Chicago Full-Tuition
Waiver Scholarship/4Yr
Renewable/\$12,000 Yr and
Takeda Development Center
Americas, Inc/ \$5,000



Zahra Ahsan/Northside CP
University of Illinois at Chicago
Bioengineering
University of Illinois
at Chicago Full-Tuition
Waiver Scholarship/4Yr
Renewable/\$12,000 Yr and
Takeda Development Center
Americas, Inc./ \$5,000



Dyrell Ashley/Julian
Illinois State University
Biological Sciences
Tom Maloney Scholarship/\$1,000



Jaeda Branch/Morgan Park
University of Chicago
Environmental Studies
University of Chicago Tuition
Waiver Scholarship/4-Yr
Renewable/\$2,000 Yr



Tania Brito/Phoenix MA
Harold Washington College
Chemistry/Pharmacy
Marlene Sutkowski
Memorial/\$1,000



Vivian Cao/Lake View
University of Illinois
Biology
Barbara McCormick
Scholarship/\$1,000



Felix Carlo Cavan/Hope CP
Trinity College
Chemical Engineering
Allen Nelson Scholarship/\$2,000
&
Geri Blakley Scholarship/\$1,500



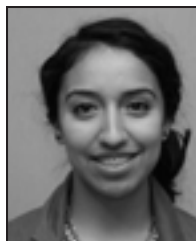
2014 Scholarship Winners



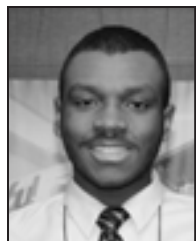
Ayesha Choudhry/Amundsen
DePaul University
Cognitive Psychology
DePaul University Tuition
Waiver Scholarship/4-Yr
Renewable/\$8,000 Yr



Shameka Davis/Westinghouse
Grinnell College
Biology/Psychology
Motorola Foundation
Scholarship/\$3,000



Joyce Jimenez/Amundsen
University of Wisconsin-Madison
Biology
Blum-Kovler Foundation
Scholarship/\$1,000



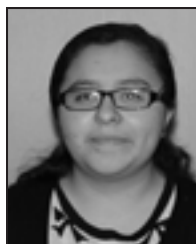
Gersham Johnson/Payton CP
Yale University
Mathematics
Donald & Helen Edwards
Scholarship/\$1,000



Lena Lu/Lincoln Park
University of Rochester
Chemical Engineering
BP America Inc.
Scholarship/\$3,000



Rileigh Luczak/Payton CP
University of Chicago
Mathematics
Chicago Teachers Union
Scholarship/\$500; & Zdunek-
Memhardt Scholarship/\$500



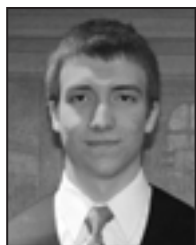
Diana Maldonado/Amundsen
Loyola University
Pre-Medicine
Loyola University Tuition
Waiver Scholarship/4-Yr
Renewable/\$2,000 Yr



Alexander Mine/Payton CP
University of Chicago
Mathematics
Dolores Rosenbaum
Scholarship/\$4,000 & Ira Sax
Scholarship/\$1,000



Khusbu Patel/Lane Tech CP
Kalamazoo College
Biology
Takeda Development Center
Americas, Inc/\$3,000



Alexander Pauer/Lane Tech
CP
LeHigh University
Chemical Engineering
Harold Kiehlm
Scholarship/\$4,000



Hai Pham/Amundsen
University of Illinois
Biomedical Engineering
Charles Lange
Scholarship/\$4,000



Yaretzi Rivera/Juarez
University of Illinois at Chicago
Biology
Takeda Development Center
Americas, Inc./\$3,000



Thomas Poole/Chicago Ag
University of Illinois
Agricultural Sciences
Takeda Development Center
Americas, Inc./\$2,000



Reyna Tavera/Hubbard
St. Xavier University
Biology
ComEd, An Exelon Co.
Scholarship/\$3,000



Kornelia Skowron/Lane Tech CP
Roosevelt University
Biochemistry/Pre-Pharmacy
Roosevelt University Tuition
Waiver Scholarship/4-Yr
Renewable/\$2,000 Yr
& Takeda Development Center
Americas, Inc./\$2,000



Weipeng Zhang/W. Young
Northwestern University
Biological Sciences
Takeda Development Center
Americas, Inc./\$10,000



Marquise Walker/Lindblom
Lawrence Tech University
Biomedical Engineering
Harold Kiehm
Scholarship/\$2,000; Zebra
Earn Your Stripes for Science
Scholarship/\$2,000; Barbara
Bulmash Scholarship/\$1,500
& Alumni Association
Scholarship/\$500

2014 Senior Recognition Awards

The following Chicago public school seniors are recognized for their participation in the CPS Student Science Fair program. Each senior will receive a \$500 cash award upon submitting proof of enrollment in a college/university in the fall of 2014.



Meesum Ali/
Amundsen
University of
Illinois
at Chicago
Computer
Science



**Guillermo
Fransual**/
Amundsen
University of
Illinois
at Chicago
Chemistry



Selina Garcia/
Phoenix MA
Marquette
University
Nursing



**Nushrat
Jahan**/
Lane Tech
University of
Chicago
Biochemistry/
Pre-Medicine



Jiawen Li/
Lincoln Park
Illinois Institute
of Technology
Biomedical
Engineering



Tho Nguyen/
Amundsen
University of
Illinois
at Chicago
Chemistry



Number of Scholarships Awarded (1956 – 2014)

Map no. School

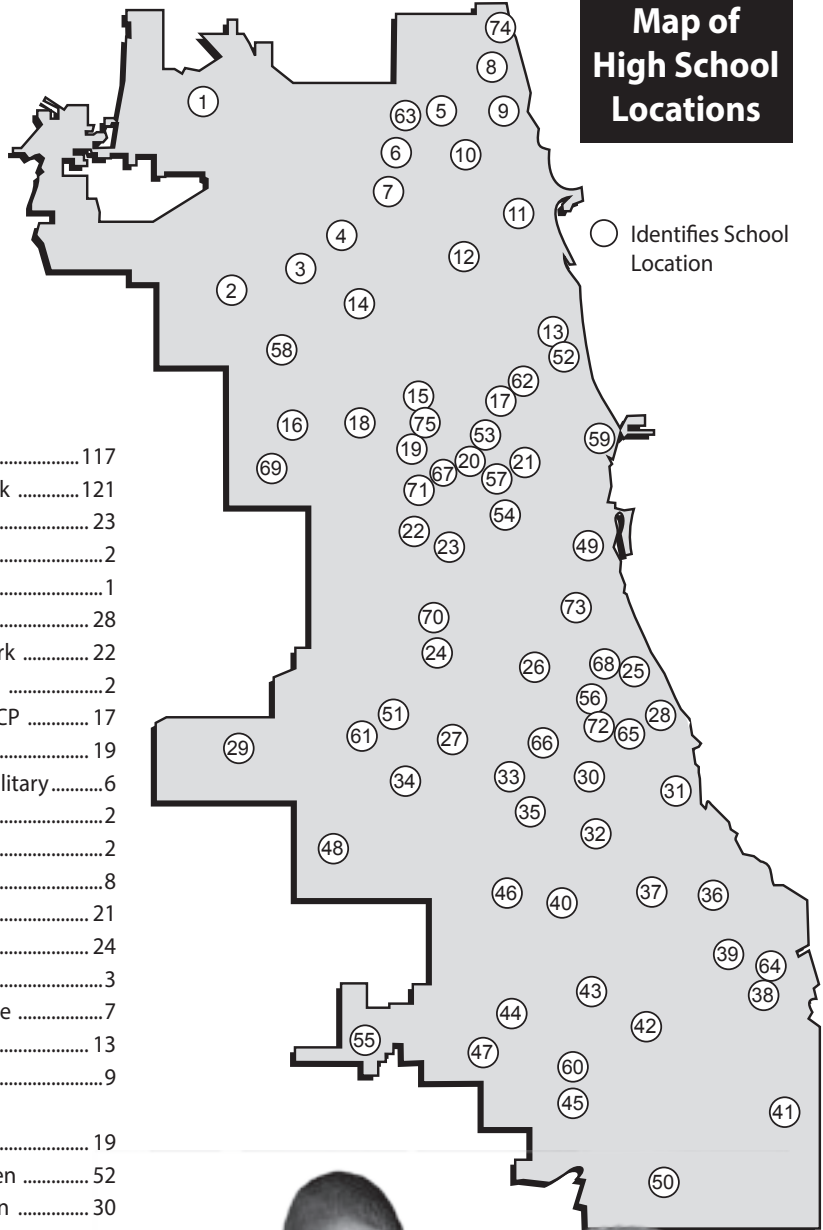
Scholarships

3	Air Force Academy	1
10	Amundsen	36
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.	46
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	15
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	17
31	Hyde Park	16
59	Jones	4
54	Juarez	5
44	Julian	6
24	Kelly	11
14	Kelvyn Park	13
29	Kennedy	14
28	Kenwood	16
25	King CP	7
11	Lake View	14

12	Lane	117
13	Lincoln Park	121
33	Lindblom	23
19	Marshall	2
71	Manley	1
05	Mather	28
47	Morgan Park	22
52	Near North	2
63	Northside CP	17
62	Payton	19
67	Phoenix Military	6
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	52
41	Washington	30
17	Wells	7
75	Westinghouse	1
21	Whitney Young	46
72	Williams Medical	2
70	World Language	2

Map of High School Locations

○ Identifies School Location





ComEd High School Science Club Program 2014-2015

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 Renewable Energy Education Kit and a Solar Hydrogen Generation Set. . 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.

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Kai Erquhart

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Eman Sarhan

Bowen
Joseph Sunshine

Brooks
Aurora Tyagi

Carver Military
Jamiu Sokoya

Chicago Ag
Daniel Martin

Harper
Donna Larrieu

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Monique Murray

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Marie Ferentz

**Magic Johnson/
Lawndale**
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Elizabeth Copper

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Payton
Walter Kinderman

Phoenix
Beatrice Jaji

Washington, G
Daniel Wills

Young, W
Todd Katz





Peoples Gas Middle School Science Club Program 2014-2015

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

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Peoples Gas Engineers



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



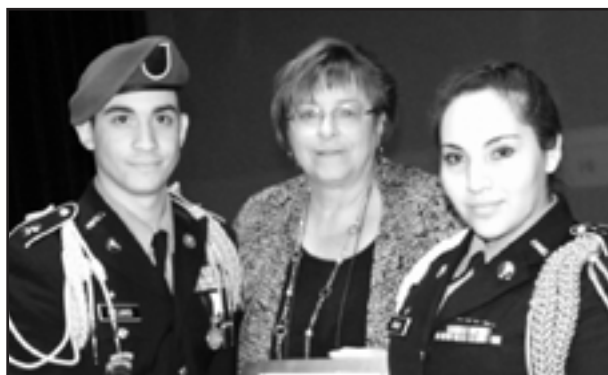
Faces of the Student Science Fair



THANK YOU



Faces of the Student Science Fair



THANK YOU



Exhibit Judges

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 65th Annual CPS Student Science Fair.

Thank you and congratulations for a job well done!

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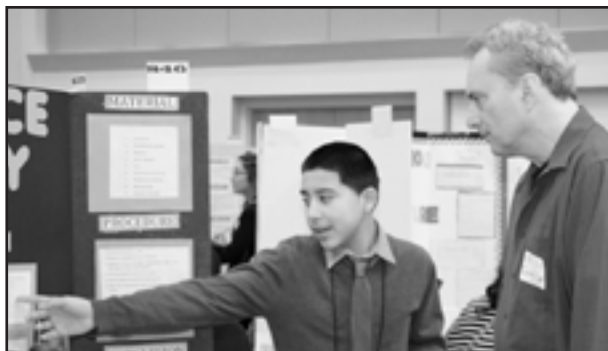
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Symposium and Essay Readers and Judges

Symposium Readers

The following individuals, in addition to the Symposium Committee, generously volunteered their time and expertise on Saturday, January 24, 2015 to read research and essay papers submitted for evaluation. *Thank you, Symposium Readers!*

Dana Cartier
Roy Coleman
Elizabeth Copper
Yolanda Del Rio
Matthew Drury
Margaret Farr
Stephen Farr
Hon Fong
Jennifer Friedhart
Cathrine Goss

Ethelene Hare
Gordon Henderson
Nina Hike
Beatrice Jaji
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Jessie Rucker
Kathleen Russell
Oscar Torres
Dianna Uchida
Frances Vandervoort
Wei Wang
Melanie Wojtulewicz
Anna West
Henry West

Symposium Judges

The following scientists and engineers volunteered their time and expertise on Thursday, March 19, 2015 to act on a panel of judges to select the finalists who will participate in the Illinois Junior Academy of Science Symposium.

Cynthia Colquitt
U.S. EPA
Newton Ellens
U.S. EPA
Curtis Frank
Frank Electric Company
Cathrine Goss
Aon Hewitt

Jimmie Julion
Chicago Dept. of Water Management
Joseph Kerke
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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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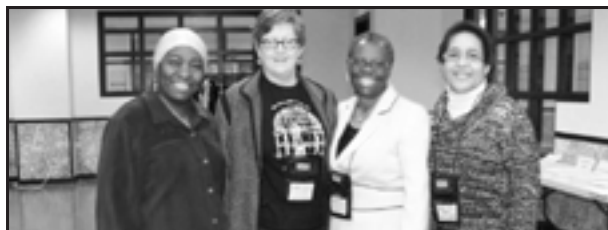
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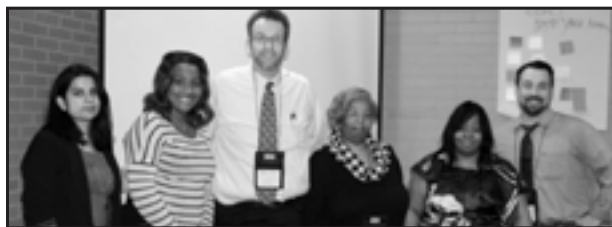
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Acknowledgments

The Annual Chicago Public Schools Student Science Fair represents one of the best syntheses of the city's business and educational communities. The not-profit CPS Student Science Fair, Inc. is a coalition of current and retired public school teachers and administrators. They coordinate this yearly showcase with the aid of the aforementioned Chicago Public Schools Office of College and Career Support, the Museum of Science and Industry, and this year's corporate sponsors, BP American Inc., ComEd, An Exelon Company, Motorola Solutions Foundation, Peoples Gas, and Takeda Pharmaceuticals International, Inc., as well as many other individual donors.

In addition to our corporate, academic and site sponsors, contributors, committees and judges there are many others whose support must be acknowledged. We wish to express our sincere appreciation to the following individuals and organizations for their invaluable contributions to the 2015 CPS Student Science Fair.

- 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 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 help at the City-wide science fair; 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

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- Morton Suggestion Company for providing souvenir pencils for each exhibitor and 6th Grade Regional Winners
- The Chicago Herpetological Society for providing 50 entry passes to the World's Largest ReptileFest on April 11-12, 2015
- Northern Trust for donating a tote bag for all exhibitors and 6th Grade Regional Winners.
- Phoenix Military Academy High School JROTC cadets for serving as Color Guard at the Opening Ceremony and Awards Program.

Your support will ensure the continuation of the CPS Student Science Fair in its exemplary form.



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