



2011 ANNUAL REPORT





Dear Friends,

It is my great pleasure to share with you The Ingenuity Project's 2011 Annual Report. Once again, it showcases the extraordinary achievements of students in the Baltimore City Public School System. Our students inspire us every day.

The Ingenuity Project is a champion for learning and for STEM education. Our Board of Directors, teachers and staff are an unrelenting, dedicated voice urging students forward, often in cases where the odds are against them. We are the crowd cheering for all those who participated in this ambitious quest to make a difference in the lives and futures of our students.

Once again, we express our gratitude to the Baltimore City Public School System, The Abell Foundation, Lockhart Vaughan Foundation, and to all of our foundation donors. Philanthropic and individual support helps us close the 20% funding gap which must be raised each year from private sources.

We thank our Ingenuity parents who work with us to make it possible for their children to succeed in Ingenuity's rigorous curriculum. Our teachers are the rock of Ingenuity, and we thank them for their unwavering commitment.

Sincerely,

A handwritten signature in black ink that reads 'Gary R. Pasternack'. The signature is stylized with a large 'G' and a cursive 'R'.

Gary Pasternack, M.D., Ph.D.
Chair, Board of Directors

The Ingenuity Project is a cohort of highly motivated Baltimore public school students who prepare to achieve at nationally competitive levels in mathematics and science, and to ultimately become leaders in their chosen profession.

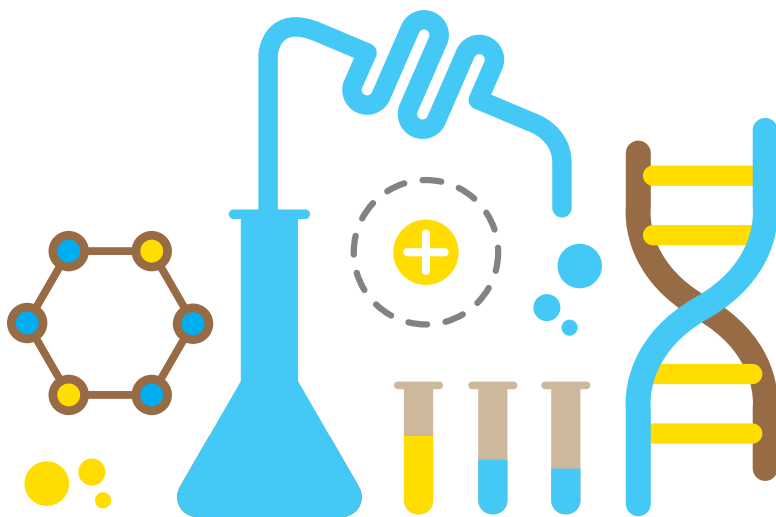


Students step outside of the ordinary curriculum to participate in a fast-paced program of accelerated mathematics and science. Experienced teachers bring the STEM curriculum to life so that complex concepts energize and excite the students' minds.

Ingenuity gives students a focus on academics with other highly motivated students. Ingenuity middle school students at Mount Royal, Roland Park and Hamilton middle schools advance to attend competitive high schools. Their strong academic foundation allows them to flourish in a variety of subjects. Many continue on to The Ingenuity Project at Baltimore Polytechnic Institute, where their studies will take them to new heights in mathematics and science. High school graduates attend some of the nation's best colleges and universities.

Ingenuity's staff seeks out capable students—those fueled by curiosity and unafraid of studying and learning the unfamiliar. Ingenuity welcomes a diverse range of students from all Baltimore neighborhoods, and is attentive to bringing its resources to more young people. There is great talent in the Baltimore schools, and funding is the only limit on expansion.

Our community is made up of bookworms and cheerleaders, loners and social butterflies, athletes and architects. They come together to look at problems in new ways, find solutions we have never dreamed of, and create a blueprint for the future.



RESEARCH CURRICULUM

The hallmark of The Ingenuity Project is its three-year Research Curriculum where students develop independent research projects under the mentorship of experts.

The Research Curriculum is the only program of its kind in the region's public and private schools. The ultimate goal for participating students is recognition from the Intel Science Talent Search and the Siemens Competition.

Distinguished scientists guide the students' original research. As examples, sponsoring departments from The Johns Hopkins University include Mechanical Engineering, Biochemistry and Molecular Biology, Biomedical Engineering, Pathology, Psychiatry and Behavioral Sciences, and Radiology.

High school students displayed the complexity of their research on May 26, 2011, at Ingenuity's 9th Annual Research Symposium held at Baltimore Polytechnic

Institute. The Symposium is coordinated by the students, and is the only time during the school year when students bring their work directly to the community.

Dr. Carol Greider, a 2009 Nobel Laureate and an Ingenuity parent, opened the 2011 Symposium with remarks about her path of research which led to winning the Nobel Prize in Medicine.

Dana Katzenelson earned a National Merit Scholarship and will attend Harvard University. She is also a 2011 U.S. Presidential Scholars semifinalist. The U.S. Presidential Scholars

Program was established in 1964, by executive order of the President, to recognize the nation's most distinguished graduating high school seniors. Each year, up to 141 seniors are named Presidential Scholars.



↑ Will Cameron with Christine Newman, Johns Hopkins University Assistant Dean for Engineering Education Outreach.



↑ Dr. Carol Greider with James Fulwiler





Dan Borgia and **Ilenna Jones** were named National Semi-Finalists in the 2011 Intel National Science Talent Search. Ilenna's research was titled, "Gene Expression and DNA Methylation of KCNQ2 and KCNQ3 in Bipolar Disorder," and conducted at The Johns Hopkins University Department of Psychiatry and Behavioral Sciences. Dan's research project, "Orientation-Dependent Elastic Energy of Diskoidal Colloids in Nematic Fluids," was conducted at The Johns Hopkins University Department of Physics and Astronomy.



Both Ilenna and Dan were both awarded the Student Achievement in Gifted and Talented Education Award by the Maryland State Department of Education.

Ilenna was named a Quest Bridge Scholar, receiving a full college scholarship to Dartmouth College. Dan will attend the Massachusetts Institute of Technology.

Since 2005, seven of our students have been semifinalists, and three have been among the top 10 winners nationally in the Intel Science Talent Search, the nation's oldest and most prestigious youth science competition. The Intel Science Talent Search has been called the "the junior Nobel Prize" because past alumni have won six Nobel Prizes and have been recognized in more than 100 of the most coveted mathematics and science honors in the world.



Muhammad Hamza was named a Gates Millennium Scholar, one of 1,000 students selected nationwide. The award provides a full academic scholarship for college and through the completion of his graduate education.

Muhammad is Ingenuity's third Millennium Scholar. He will attend The Johns Hopkins University.

Freshman **Trey Huff** won the Maryland Wood Bridge Challenge. His original bridge design supported over 2700 times its own weight. Classmates **Shavonte Brandon** and **Nadine Benavides** came in second with an efficiency score of 2650, and **Brooks Gearhart** came in third with a score of 2600. Nadine and Shavonte won second



Trey Huff, Shavonte Brandon and Nadine Benavides

place at the International Bridge Building Contest in Chicago with an efficiency score of 3855.

Caryn Carson, Ilenna Jones, Dana Katzenelson and **Lawrence Way** were USA Bio Olympiad semifinalists. The competition is the nation's premier biology competition for high school students.

**Ten Ingenuity seniors received four-year, full-tuition scholarships to
The Johns Hopkins University: Camaree Barr, Caryn Carson, James Fulwiler,
Selena Guerrero-Martin, Muhammad Hamza, Justus Jackson, Daniel Jalova,
Jonathan Mckenzie and Edward Samson.**

Enrollment in the Research Practicum is not a requirement, but a supplement to the standard Ingenuity curriculum. All students take Geometry in the ninth grade, followed by Algebra 2, Trigonometry, and Probability and Statistics in the 10th grade. Students complete AP Calculus BC in their senior year. Students showing extraordinary aptitude work independently, under the guidance of Dr. Mikhail Goldenberg, or take courses at The Johns Hopkins University. Many Ingenuity students begin their college mathematics studies with Calculus 3.

Ingenuity employs twenty mathematics and science faculty members, including five mathematicians, of whom three trained in the former Soviet Union. High school students study the traditional branches of science: biology, physics, and chemistry and Advanced Placement electives. At the end of ninth and tenth grades, students take SAT II examinations in biology and physics with an average score above 600; in eleventh grade, students may choose to take AP Chemistry with the AP Chemistry exam as their goal. They may also take AP Physics, AP Biology and Engineering. Most students enter college with four or more AP credits.



↑ Members of the Class of 2011 Pictured (L to R): Brandon Johnson (Temple), Terrell Buckson (Xavier University of Louisiana), James Fulwiler (Temple), Jonathan McKenzie (JHU Scholar), Alexander Katona (University of Miami), Dana Katzenelson (Harvard), Muhammad Hamza (JHU Scholar), Peter Jennings (US Naval Academy), Lawrence Wang (University of Chicago), Michael Leung (UMBC), Daniel Jalova (JHU Scholar), Ilenna Jones (Dartmouth), Caryn Carson (JHU Scholar), and Anna Manalad (Notre Dame University of MD).

CLASS OF 2011 COLLEGE ACCEPTANCES

Auburn University
Bryant University
California Polytechnic State University
Carnegie Mellon
Case Western Reserve University
Colgate University
Notre Dame University of Maryland
Coppin State University
Cornell University
Dartmouth College
Drexel University
Duquesne University
Elizabethtown College
Florida Agricultural & Mechanical University
Florida Institute of Technology
Georgia Institute of Technology
Goucher College
Harvard College
Hofstra University
Howard University
The Johns Hopkins University
Loyola University
Massachusetts Institute of Technology (MIT)
McDaniel College
Morgan State University
Mount St. Mary's University

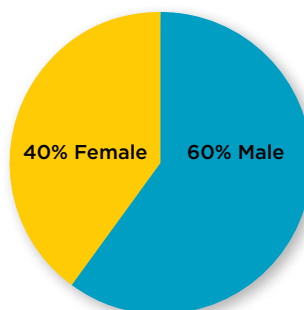
New York Institute of Technology
New York University
Northeastern University
Ohio State University
Pennsylvania State University
Philadelphia University
Randolph-Macon College
Rensselaer Polytechnic Institute
Stevenson University
Temple University
Tulane University
Tufts University
United States Naval Academy
University of Arizona
University of Central Florida
University of Chicago
University of Maryland, Baltimore County
University of Maryland, College Park
University of Miami
University of Pittsburgh
University of Rochester
University of Virginia
Washington College
Washington & Jefferson College
Xavier University of Louisiana

SAT and SAT II TEST SCORES

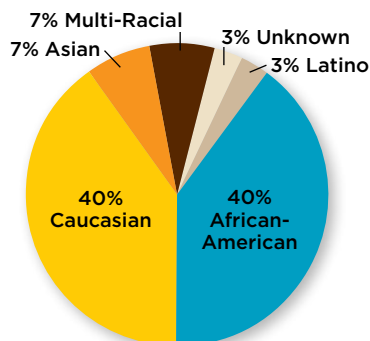
AVERAGE

SAT Mathematics	705
SAT Critical Reading	669
SAT Writing	650
SAT II Biology (taken at end of 9th grade)	677
SAT II Physics (taken at end of 10th grade)	662
SAT II Math I	670

INGENUITY AT POLY STUDENT DEMOGRAPHICS BY GENDER



INGENUITY AT POLY STUDENT DEMOGRAPHICS BY ETHNICITY



↑ Ingenuity juniors Elias Eston-Farber and Michael Tontcher and senior Anna Manalad at the Junior Sciences and Humanities Symposium

THE INGENUITY PROJECT IN MIDDLE SCHOOL

**Hamilton, Mount Royal and
Roland Park Middle Schools**

The middle school cohort comprises The Ingenuity Project's largest city-wide enrollment. In 2010-2011, 320 students completed the sixth, seventh and eighth grades. These bright young adolescents study with peers who share the same strong focus on academic achievement.

Highly skilled teachers introduce content-rich material at a fast pace. They concentrate intensively on mathematics and science and open pathways for students to discover their personal interests and talents. The environment sparks student excitement about learning and setting high academic goals for themselves. They learn to develop important organizational skills, work habits and persistence. Students gain the self-confidence to pursue further education with an instinct for self-guidance.

Ingenuity teachers write the middle school curriculum and, as master teachers, provide professional development for other teachers. Academically, middle schoolers complete Algebra I and study Earth & Space (Geology, Weather & Astronomy), Biology, and Physical Science (Physics and Chemistry). Science labs in middle school provide valuable hands-on experience. Parents, and even siblings, are engaged early in the program and invited to all special events.

Parent/family engagement and education helps build a learning environment that extends beyond the school and into the home.

EXPERIMENTATION

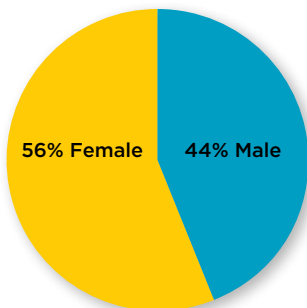
APPLICATION

OBSERVATION

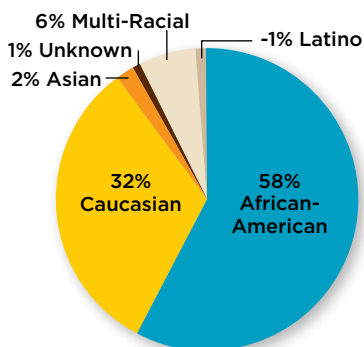
COLLABORATION



INGENUITY AT MIDDLE SCHOOL STUDENT DEMOGRAPHICS BY GENDER



INGENUITY AT MIDDLE SCHOOL STUDENT DEMOGRAPHICS BY ETHNICITY



↑ Roland Park Middle School students display the mathematics competition trophies that the team has received over the years.



RECENT ALUMNI



Tavon Brooks (Class of 2001) was named 2011 Black Engineer of the Year Most Promising Engineer. He is employed as a Senior Systems Engineer II, at the Raytheon Company.

Brandon Jones—

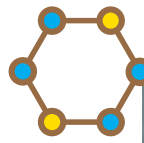
Duke University, 2011, Engineering. Employed as an IT consultant at CGI.

Brandon Demory—The Johns Hopkins University, 2011, Engineering. Enrolled at University of Michigan for a PhD in Electrical Engineering.

Jeremiah Cross—Harvard University, 2011, Premed. Teaching for Teach for America.



↑ Long time friends Brandon Jones, Brandon Demory and Jeremiah Cross completed Ingenuity at Roland Park, and graduated from Ingenuity at Poly in 2007.



The Ingenuity Project gratefully acknowledges
the following contributions received in the
2010-2011 school year.



The Abell Foundation
Baltimore City Public Schools
Baltimore Community Foundation
Hardesty Capital Management
Lockhart Vaughan Foundation
Lois and Philip Macht Family
Philanthropic Fund
T. Rowe Price Foundation
The Alvin and Fanny B.
Thalheimer Foundation, Inc.
The Goldsmith Family Foundation
The Jim and Anne Cantler
Memorial Fund
The Zanyvl and Isabelle Krieger
Fund

Carol & Kenneth Amanze
David & Justina Apaw
Kathy Bacon
Joseph Balter & Kathryn Frey
Carol Bishop
Steve & Tammy Blazenyak
Lawrence Brody & Sonye Danoff
Theresa Bruce (Class of 2005)
Albert & Maria Brzezczko
Jessica Campbell and
Ema Pagliaroli
Sharon & Scott Carson
Andrew & Zoe Clarkwest
Karol Costa
Christopher & Dolores Costello
Michael & Marianne De Bow
Duane Dennis
Christopher & Laura Doherty
Judy Egerton
Elmer Eusman & Barbara Pralle
Robert & Anne Fulwiler
Michael & Lynn Galitzin
Jeffrey Gray
Elizabeth Harber & Henry Kay
Kenneth & Linda Jones
Michael & Betty Katzenelson
Jodie Kavanaugh & George Wright
Douglas Kay & Anne Albinak
Christopher Kearney &
Jane Murphy

Doug Koshland & Mary Porter
Rona London
Sharon & David Lucas
Edward Makowski
Alexandra McKeown
Stephanie Miller
Lee Miller
Angela Natale & Ira Weinstein
Sonny & Hoang Nguyen
Ellen O'Brien & Mac Nachlas
William & Stephanie Regenold
Luc Renaux & Kathy Helzlsouer
Edye Sanford
Anthony Sartori
Lois & John Saylor
Monika & Eugene Schnell
Yelena Schwartz
Christopher & Susan Scott
Eric Seaberg & Mary Pivawer
Sharon Snow
Maya & Arnold Spicinitski
Betty & Jaime Arribas Starkey-El
Lorisa Stewart
Barbara Stricklin
Harry & Sandra Summers
Julie Thomas
Paul & Marilyn Timmel
Sean Tunis & Nancy Kass
Brenda & Ronald Wilson
Sergei Zverev



STATEMENT OF FINANCIAL POSITION, JUNE 30, 2011 AND 2010*

	2011	2010
ASSETS		
Cash	\$174,896	\$234,430
Certificate of Deposit	10,550	10,490
Cash restricted	—	—
Accounts receivable		—
Grant receivable	8,951	15,888
Prepaid expenses		—
Net property and equipment	54,821	55,465
Total Current Assets	\$249,218	\$316,273
LIABILITIES		
Deferred Revenue	—	—
Accounts payable	24,462	4,588
Total Current Liabilities	\$24,462	\$4,588
NET ASSETS		
Unrestricted	\$224,756	\$311,715
Temporarily Restricted	0	0
Total Net Assets	\$249,218	\$316,273

STATEMENT OF ACTIVITIES, JUNE 30, 2011 AND 2010

	2011	2010
Revenues and Other Support		
Baltimore City Public School System	\$420,224	\$420,000
The Abell Foundation	430,000	400,000
Foundation and Corporate Grants	76,500	129,300
Other revenue	36,052	41,680
Total revenues and other support	\$962,776	\$990,980
Expenses		
Program services	823,496	\$742,587
Management and general	194,856	181,572
Fundraising	31,383	30,547
Total expenses	\$1,049,735	954,706
Loss in Property Dispositions	—	(499)
Change in Net Assets	(86,959)	35,775
Net Assets at Beginning of Year	311,715	275,940
Net Assets at End of Year	\$224,756	\$311,715

*Above are selected components from the 2011 audited financial report.

Total student enrollment: 499

Cost per student: \$2,103

Baltimore Polytechnic Institute
1400 West Cold Spring Lane
Baltimore, MD 21209
410.662.8665 phone
410.662.8674 fax
www.ingenuityproject.org