The Putnam Children's Discovery Center, Inc.

Science Teachers Association of NYS (Westchester Section)

White Plains HS Science Research Department (Kimberly Fleming)

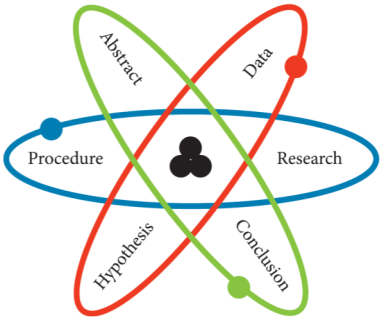
www.DiscoveryCtr.org

Presents

THE TRI COUNTY SCIENCE & TECHNOLOGY FAIR

Westchester <> Putnam <> Rockland

APRIL 28, 2018



Judge Edith Miller Excellence in Education

Susan Schaell Handelman Award for Scholastic Excellence in Science & Technology

The Newman Family

Gem Level: Sponsorship: *Bronze*

WHITE PLAINS HS 550 North St White Plains, NY

GRAND SPONSOR

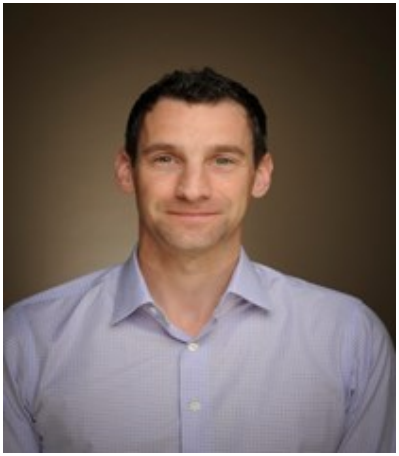
PepsiCo Global R&D

Tri County Science & Technology Fair
is pleased to Welcome to our 2018 Awards Ceremony

Ken Jenkins

Deputy County Executive, Westchester County

Keynote Speaker



Damian Browne

PepsiCo Global R&D

Featured Grand Sponsor Speaker

TODAY'S PROGRAM

8:00-9:30	Student Registration & Set Up
8:30– 9:30	Complimentary Continental Hospitality Breakfast for Students, Teachers & Parents
8:30	Gift Shop Opens T– Shirts, Science Items , Tupperware & More
8:30-9:00	Judges' Hospitality Breakfast
9:00	Judges' Meeting
9:30	Snacks and Coffee for Sale
9:45	All exhibits must be set up for cross check. No one will be allowed to set up after 9:45
10:00-12:00	Exhibit Judging (Exhibiting Students, Judges & Authorized Fair personnel only) ** Parents of Division E & M must stay on the premises**
12:00-2:15	Lunch / Concession Stand Items Available for Sale
1:00-2:00	Public Viewing
2:30	Tupperware Fundraiser Table closes To purchase post fair www.janicepcdc.my.tupperware.com
2:00-2:30	Please dismantle exhibits/put them in your vehicles
2:45	Gift Shop Closes / Doors open in the Auditorium
2:45-4:00	Award Ceremony in the Auditorium **Ken Jenkins** Westchester County Executive's Office *Keynote Speaker* **Damian Browne** PepsiCo Global R&D *Featured Speaker, Grand Sponsor Welcome* **Joseph Sciame** Science Teachers Association NYS *Featured Speaker , presenting Marilyn Reiner Award* **Matthew Newman** Flambé Comedy (Youtube or Facebook) **Mark Newman** www.marknewmanhomes.com **Theresa Henry,** retired *Presenters Judge Edith Miller Excellence in Education Award* **Susan Scaell Handelman,** *retired* *Presenting: Susan Schaell Handelman Award for Scholastic Excellence in Science & Technology* **Frank Iacopelli** Independent Chemical Corporation *Master of Ceremonies* **Ali Ansarim** PepsiCo Global R&D *Featured Speaker, introduction: Damian Browne* **Mark Kramer**, **Frank Iacopelli &** **Janice Newman**
4:00	50/50 Raffle is drawn

A FEW WORDS ABOUT THE ORGANIZERS

The Tri County Science Technology Fair was founded in 1990 by The Putnam Children's Discovery Center, a volunteer organization. The original Fair was a countywide competition for Putnam County. In 1993 the Fair expanded to a regional Fair to include Westchester and Rockland Counties. The Fair's primary purpose is to reward children who have an interest in science, math and technology. Public, private and home schooled students from the three counties are welcome to participate in the Fair, A STEM Activity.

Elementary and middle school students gain entry to our Fair by placing in a Science & Technology Fair organized by their school. Home schooled students are entered based on their parent or the person in charge of their home schooling. The local organizers in the public or private schools determine who will continue on to our Fair. It is recommended that they encourage their first or second place winners. They can send up to twelve exhibits in the elementary and middle school divisions. There are nine categories for K-8 *Biology, Chemistry, Environment, Earth/Space, Engineering/Technology, Health & Medicine, Math/Computers, Physics. & Psychology On the High School level two categories have been dissected into two: Health & Medicine is now: Health & Nutrition; Medicine and Medical Science & Technology. Psychology is now: Clinical/Social Psychology; Physiological/Experimental Psychology.*

To view the rules visit **www. DiscoveryCtr.org**. For the purposes of our Fair the Divisions are: Division "E" grades K-4 / Division "M" grades 5-8 Division "H" grades 9-12. Schools that cross into two divisions can send 12 exhibits grades K-4 and 12 within grades 5-8 and 18 within grades 9-12. High School students are "direct" entered by either their principal or science department chairperson, or District STEM coordinator. The majority of high school students presenting at our Fair have opted for individual empirical or theoretical research projects as these projects meet the eligibility requirements for the NYS level. Three students and six alternates on the high school level will be selected to continue on to the NYS Science Congress. In the Middle School Division several students may be selected for further competition at the Broadcom Masters a National competition organized by Society for Science & the Public (SSP).

The Center wishes to thank our sponsors, the volunteers, committee leaders, and the endless hours of dedication by the presenting students and their families, without whose support there would be no Fair.

Beware of the words "settled science" there is no such thing as "settled science". Science is always evolving. So if you believe something is "different" explore it, try to defy it and see where that road takes you. Maybe it takes you back to "accepted science." But we will only learn when scientists aim to prove or disprove theories. Please continue to explore, our future depends on it.

Winners from the 2018 Tri County Fair available **www.DiscoveryCtr.org** after May 1.

Your school can have a fun Hands on Science Program complete with an educational magic show offered on Saturdays or Sundays for Jewish Day Schools. For complete details visit online at www.DiscoveryCtr.org or call 845 621-1260

The Tri County Science & Technology Fair

Organizer

The Putnam Children's Discovery Center, Inc. (PCDC)

A not for profit organization 501 (c) (3)

SCIENCE FAIR COMMITTEE

Janice Newman
Chairperson, Executive Director, PCDC

Gail Deuso
Special Events Chairperson

Sheri Rosensweig
Fundraising

Doug Mann
Sci Tech Fair Volunteer Coordinator PCDC

Mark William Newman
Administrative Secretary, PCDC

Peggy Lynch
Special Events Committee Leader PCDC

Special thanks to

Ellen Doherty, Principal WPHS

Dr Margaret Hawthorne Doty
Coordinator, Science & Engineering

Kimberly Fleming
and White Plains HS Custodial Staff

Michael Blueglass
and the WESEF team

Stephanie Lemnious
Broadcom Masters

Gail Deuso, Mark Newman
Judges Room Coordinators

Bettye F. Malone
K-8 Room Lead Floor Manager

SPONSORSHIP

PepsiCo Global R&D

Grand Sponsor

Special Thanks to

Judy Vigar

Vice President, CSD and Food Service Platforms for Global Beverages R&D

Judge Edith Miller Excellence in Education

The Newman Family

Susan Schaell Handelman

Gem Level Sponsors: Bronze Level

KOHLS

Brewster location Lightning Rod: Aluminum Level

Lawrence Brown, CPA

914-285-4101

Lightning Rod: Aluminum Level

Natalie DiPaolo **Kathy Tuite**

Barbara Weinstein **Alyssa Zhang**

Friends of Science: Leg Up Donor

IN KIND DONATIONS

Maverick Publishing www.maverickpublishing.net *Featuring: small business web design*	**GINO'S TRATTORIA** www.ginostrattoria.com **VITO'S FINEST MARINARA** www.Vitosfinest.com

Special Thanks Pepsico Global R & D

Judy Vigar

Vice President, CSD and Food Service Platforms for Global Beverages R&D

Jan Weststrate

Senior Vice President, R&D Global Functions, Governance and Compliance

Special Fund Donations to

Judge Edith Miller Excellence in Education

Donors:

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www.marknewmanhomes.com

MATTHEW NEWMAN

Flambè Comedy / follow on twitter @MattsNewmans

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Pablo & Cecila Caldas

Doug Mann

Lane & Wendy Newman

Vingie Merritt-Genco

Michael & Larisa Mulroney

Roberta Rosensweig

Special Fund Donations to

Susan Schaell Handelman Award for Scholastic Excellence in Science & Technology

Susan Handelman, Jed Handelman , Zach Handelman & Christopher Metcalf

Special Fund Donations to

Marilyn Reiner Science in Education

Science Teachers Association of New York State

Westchester Section

IN KIND DONATIONS

DUNKIN DONUTS AT THESE LOCATIONS

Dunkin Donuts

Mahopac

Vito's Finest Marinara

www.vitosfinest.com

LOOKING FORWARD TO NEXT YEAR….

People often ask us what can I do to help. The two biggest areas of need are financial and volunteering. If you can discuss with your employer the wonderful experience your child had and suggest a corporate donation that would be fantastic. All donations are tax deductible. Our organization is a qualified 501(c) (3). The Fair is 100% volunteer, so you can assure your donor that all the proceeds go towards prizes and the production of the fair. *Please remember no amount is too small*

FINANCIAL SUPPORT:

PREMIER CIRCLE: $20,000+

GRAND SPONSORSHIP: $10,000

GEM LEVEL SPONSORSHIP:

Diamond $8,500 Platinum $7,000 Gold $5,000

Silver $2,500 Bronze $1,000

LIGHTNING ROD LEVELS:

Copper $750 Aluminum $500 Electric $350

FRIENDS OF SCIENCE LEVELS:

Heart $250 Helping Hand $100 Leg Up Donors $50

** Grand Sponsors should include a logo for reproduction**

PayPal donations can be made to JNewman@DiscoveryCtr.org

Or visit www.DiscoveryCtr.org for links for online giving.

These companies match donations, please let us know if you are an employee.

GOLDMAN SACHS ING MERRIL LYNCH IBM
MICROSOFT GE ALTRIA

Please see if your company does matching grants we would love to welcome them

Name_____ Phone _____

Company_____ Email _____

Address _____ Donation $_____

All donations to PCDC are tax deductible per IRS 501(c) (3).
Mail to: PUTNAM CHILDREN'S DISCOVERY CENTER, INC.
PO BOX 222 Carmel, NY 10512 (put STF or Science Fair in the memo)

We can also be a designated donation through United Way drives

Damian Browne

MY WORK WITH PEPSICO: I am currently Senior Director of Ingredient Discovery and Applications for Global R&D based in Valhalla, NY. I started my PepsiCo career in 2007 in Cork, Ireland developing and building analytical and research chemistry capabilities supporting Europe and AMEA translating scientific research to process solutions for improved quality and productivity.

PRIOR TO PEPSICO: Prior to PepsiCo I spent 9 years working in pharmacuetical, first for a generic pharmacuetical company, then new drug entities particularly diabeties and cardiovasular drugs. Both were research and development roles based in Ireland.

MY CURRENT ROLE AND CHALLENGES: I lead a team of scientists developing ingredient/ingredient processing solutions to overcome current external headwinds or supporting new innovations. Unsurprisingly, the majority of time is spent developing immediate solutions for calorie reduction of our core business. This necessitates not only developing a scientific strategy and solution for incremental calorie reductions but integrating this into the current supply chain, and as cost effective as possible.

MY EDUCATION: I have undergraduate degrees in Food Science and in Chemistry. My Ph.D research was synthezing novel stationary phases specifically for low molecular weight polar neurotransmitters. I am a member of the Royal Society of Chemistry where I was awarded a Chartered Chemist and Chartered Scientist status. I am also a Fellow of the Irish Chemists Society.

Judge Edith Miller
Excellence in Education

Award for top overall MS score

Edith Lorraine Meyer was born into poverty on December 3, 1929. Her parents Earl &Florence Meyer were considered the working poor. She lived with her sister Yvonne in a one bedroom apartment with a bath tub in the kitchen. It was one of the few flats to have a toilet inside the apartment. She brought herself from a place of poverty to a place of prominence by committing to school and education. Realizing the only way out of the cycle of poverty was college; she walked to school with cardboard in her shoes. This saved her the nickel bus fare so that she could attend Hunter College. She went on to St John's Law School and graduated as the only woman in her class. After passing the bar exam, she decided to focus on having a family. With a law degree under her belt she knew she would never be poor again. Five years later she started a job at The New York City Legal Aid Society where she could assist people who were less fortunate. She quickly rose to the head of the office. She went on and was appointed by Mayor Lindsay to the Family Court of NY, where she became the administrative judge. During her time in family court, she was the presiding Judge on the famous Willie Bosket case which became instrumental in helping to change NYS law. The ramifications of this case resulted in children under age 16 committing heinous crimes could be tried as adults. The moment that made her proudest was becoming the FIRST woman to be appointed to the Appellate Term of the NYS Supreme Court. Judge Edith Miller passed on to her children, Brian and Janice the importance of education and because of this, Janice, her daughter, founder of The Putnam Children's Discovery Center and the founder of the Tri County Science & Technology Fair created a fund in her honor. The Discovery Center annually hosts the Tri County Science & Technology Fair. The first recipient of this award was in 2005. The middle school exhibit with the highest score receives The Judge Edith Miller Excellence in Education Award. Judge Miller is survived by her two children Janice & Brian and three grandchildren, Michael, Mark & Matthew and great grandchild, Jasmine.

To contribute use PayPal JNewman@DiscoveryCtr.org
or checks payable to PCDC memo: JEM
PO Box 222 Carmel, NY 10512

MARILYN REINER

SCIENCE IN EDUCATION FUND

Award for top overall HS score

In the fall of 2004 we lost a strong supporter within our science community. Marilyn Reiner, a retired high school science teacher from Pearl River HS, passed away unexpectedly. She elevated the standards for high school students by creating an additional competition for the top nine students at the Tri County Science & Technology Fair. She was the president of the Westchester Section of The Science Teachers Association of New York State and worked tirelessly on the Tri County Science & Technology Fair.

In January 2005, The Putnam Children's Discovery Center started a fund in her honor, and the monies raised are utilized solely for science activities for children. The Discovery Center reaches children in Putnam, Rockland, Westchester, Dutchess and Orange counties in New York State. The programs that currently will benefit are: Family Science, a program that helps to take the mystery out of science; encourages parents not to be afraid of participating in their local science fairs. The program also offers science fair project suggestions and support when "you get stuck" during the project process. **Hands On Science,** a program (grades K-8) that takes place in school for students interested in science. The program offers several hands on activities where questioning is encouraged and the children work with a teacher in small, informal groups. Tri County Science & Technology Fair, an annual event for grades K-12. The best and the brightest students exhibit their projects, competing on a regional level. Three of the best researchers on the high school level go on to the NYS competitions.

To make a donation, please make checks payable to PCDC and memo MRSE or Marilyn Reiner Science in Education. Mail to PCDC PO Box 222 Carmel, NY 10512.

Or use PayPal: JNewman@DiscoveryCtr.org

Susan Schaell Handelman Award for Scholastic Excellence in Science & Technology

The best Middle School with the highest overall average among all other Middle Schools.

Susan Schaell Handelman has been an educator in private and public schools in CT and NY, and a volunteer for many organizations including the PCDC. Being an R.N. and teacher, Family Science Nights included Susan with the 3D human body puzzles and eye & ear models, sharing anatomy and physiology facts with curious children and their chaperones. She arranged the initiation of the Hands On Science classes at the Kent Schools in Carmel, NY to provide day and evening enrichment workshops, which attracted participants from other districts as well.

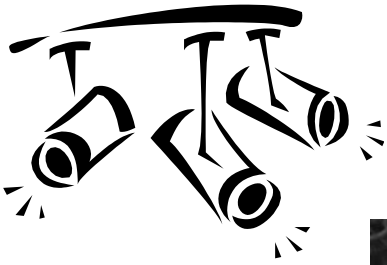
Originating from a small, rural community in Illinois, Susan graduated from Northwestern University, having received a full academic scholarship to study childhood development and education. A Master of Science degree from NY Medical College and Pace led to Nursing Board Certifications as a Family Nurse Practitioner and also Women's Health Care Nurse Practitioner ("pioneer" positions). She was also a Certified Electrologist.

Though now retired these ongoing educational, science, and health interests inspired a special appreciation and support for the quality programs PCDC brings to communities. She has recruited funding, teachers, judges, shared PCDC judging protocols, and lobbied for science fair publicity resulting in increased participation.

Her late husband James, and sons Zach and Jed participated in PCDC endeavors also. Grandson Asher is expected to continue the tradition.

To make a donation, please make checks payable to PCDC and memo SSH or *Susan Schaell Handelman Award for Scholastic Excellence in Science & Technology.*
Mail to PCDC PO Box 222 Carmel, NY 10512.

Or use PayPal: JNewman@DiscoveryCtr.org



SPOTLIGHT ON VOLUNTEERISM

Bettye F Malone is an invaluable K-8 Exhibition Floor Manager. Several years ago, as a lead Floor manager, she came up with the way that our dismissals are handled to this day. The first words out of any volunteer working this room say "Is Bettye coming this year?" they know under her leadership the room will be well managed. We are always blessed whenever she is able to help us.

As with most volunteers, they volunteer elsewhere and Bettye is very involved with the Westchester Putnam Boy Scouts where she is on the Advancement and Nominating Committees. She is a Merit Badge Counselor and the Advancement Chair for Troop 4 Yonkers. She particularly enjoys Winter Camping.

THE MANY FACES OF THE VOLUNTEERS

These are people who we "Spotlighted" in past Fairs, watch as we add more each year

Frank Iacopelli,
Judges Committee

Matthew Newman
Flambé Comedy
General Volunteer

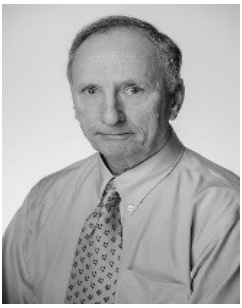
Peggy Lynch
Concession Manager

Tony Meschino
Magician
Elementary Floor
Manager

Joseph Sciame
Science Teachers Assn of
NYS Westchester Section

Christina Iacopelli,
Data Tabulation

Robert Maver
General Volunteer



Mark Kramer
Judges Committee

Mark Karell
Judges Committee

THE MANY FACES OF THE VOLUNTEERS

These are people who we "Spotlighted" in past Fairs, watch as we add more each year

Amanda Iacopelli,
Data Tabulation

Mark Newman
www.marknewmanhomes.com
General Volunteer

SPECIAL PEOPLE

Each Division was asked to name people who have been involved with the Fair for years

Michael Blueglass
Donna Cardillo
Arthur Cooper
Dr. Maria DeCandia
Gail Deuso
Kimberly Fleming
Dean Gallea
Theresa Henry
Frank Iacopelli
Amanda Iacopelli
Christine Iacopelli
Chris Kalish

Marc Karell
Shawon Khan
Reid Klarsfeld
Mark Kramer
Bettye F. Malone
Gerald Mannarino
Caryn Margolis
Lawrence McIntyre
Kathleen McManus
Gail Meeker
Bruce Meyer
Michael Mulroney

Janice Newman
Mark Newman
Matthew Newman
Todd Newman
Joanne Quinn
Marilyn Reiner
Michael Saccucci
Michael Saccucci, Jr
Beth Schoenbrun
Steve Sylvia
Dawn Sylvia
Judy Vigar

2018 JUDGES

Dean Gallea	Judging Coordinator
Amanda Iacopelli	Data Tabulation Manager
Christina Iacopelli	Data Tabulation Manager
Marc Karell	Judging Coordinator
Shawon Khan	Judging Coordinator
Mark Kramer	Judging Coordinator
Natalie Postrigan	Judging Coordinator
Dr. Michael Saccucci	Judging Coordinator - Data Tabulation
Michael Saccucci, Jr.	Student Volunteer - Data Tabulation

Judges come from the following companies

Accelerate Learning

Albert Einstein College of Medicine

Ashworth University

AT&T

Biology Department, Lehman College, CUNY

Collado Engineering P.C.

Columbia University

Consumer Reports

Dominican College

Franklin Miller, Inc.

Good Shepherd Services

Hazen and Sawyer

IBM (ret.)

IBM T.J. Watson Research Center

Indigo Education Company

Manhattanville College

Mercy College

Montefiore Medical Center

New York Medical College

New York Power Authority

Oracle

PAGNY

PepsiCo

Sacred Heart University

Saint Barnabas Hospital

St. Thomas Aquinas College

Takeda Pharmaceuticals

Taro Pharmaceuticals

The City College of New York

The College of New Rochelle

The College of Westchester

The Mathers Foundation

United States Military Academy

Watson Inc

Wells Fargo

2018 JUDGES

Ms. Delal Ahmad
Dr. Kelly Almond
Dr. Benjamin Alper
Mr. Ali Ansari
Ms. Francine Antonucci
Dr. Henny Billett
Mr. Tony Blanc
Dr. Susanne Burger
Mr. Lee Bussinger
Ms. Patricia Catauro
Mr. Samuel Chang
Dr. Haiping Cheng
Mr. Alex Chin
Dr. Mushfique Choudhury
Dr. Jeff Cohen
Mr. Mark Connelly
Dr. Arthur J. Cooper
Ms. Kerryann Cosgrove
Dr. Kathleen Crowley
Ms. Cathy Culver
Dr. AnnMarie DelliPizzi
Dr. Paul Dent
Ms. Leann Du Higashi
Mr. Evans Eboigbodin
Dr. Melissa Eslinger
Dr. Ge (David) Feng
Ms. Nickesha Francis
Mr. Wilson Frank
Mr. Scott Friedbauer
Mr. Steve Gibson
Dr. Michael Gilliam
Ms. Vera Gouchev
Mr. Nitin Gupta
Mr. Zach Handelman
Mr. Chris Kalish
Dr. Mary Kelly
Ms. Ronnie Kent
Mr. Kazim Khan
Dr. Hong Duck Kim
Mr. Peter Kouretsos
Mrs. Majella Lanham
Ms. Michelle LaPlatney
Ms. Dahee Lee
Ms. Amanda Lewis
Dr. Frank Libsch
Dr. Edgar Lichstein
Ms. Natalia Lizardo
Mr. Eric Lorenz
Dr. John Lucassen
Dr. Stephen Lucci
Dr. Jessica Malberg
Mr. Gerald Mannarino
Mr. Nick Mannarino
Mr. Bruce Meyer
Mr. Alberd Misku
Dr. Stephen Moshman

2018 JUDGES

Mr. Steven Moskowitz
Dr. Michele Nanna
Dr. Laura Nattress
Dr. Chris Nwosisi
Dr. Kevin O'Donovan
Mr. Tolu Ojelade
Dr. Christopher Pappas
Mr. Allen Parry
Ms. Alison Platt
Ms. Natalie Postrigan
Mr. Derek Rankin
Dr. Warren Rosenberg
Ms. Leslie Salcedo
Mr. Jawanza Sampson
Dr. Cristina Savin
Ms. Krishna Shah
Mr. Ron Shapiro
Dr. Tara Shapiro
Dr. Alka Shukla
Ms. Marwa Soliman
Ms. Annette Stabile-Torchetti
Mr. Spencer Sullivan
Mrs. Olga Svensson
Dr. Noor Syed
Dr. Aradhana Tiwari
Dr. Rashmi Tiwari
Mr. Abhilash Tiwari
Ms. Karen Tschinkel
Dr. Francis Via
Mrs. Judy Vigar
Dr. Thaddeus Wandel
Dr. Xintao Wang
Dr. Fajun Yang
Mr. Michael Yeosock
Dr. Meng Zhang

Thank you for taking the time to judge today.

The students deserve to get the best judges in their field. We understand there were many things you could have done instead and are grateful that you chose to volunteer in this great STEM program.

Please volunteer next year to inspire and foster the young scientists of tomorrow

Please consider inviting co-workers, colleagues, your personal doctors, people who you have a professional affiliation with to join the team of qualified judges for next year.

A LABOR OF LOVE…. A LOVE OF SCIENCE

The Tri County Science & Technology Fair is 100% Volunteer

JUDGES

Every year we need good, reliable, qualified judges .

- **Scientists**
- **Engineers**
- **Retired Computer, Math & Science teachers**
- **Doctors, Nurses, Other Health Care Professionals**
- **College students with science majors/ interns**
- **Psychologists / Psychiatrists**

Visit www.DiscoveryCtr.org and fill out the judges form on the Tri County page

ADMINISTRATIVE / OFFICE

- **PR– Press**
- **Collators to prepare packets**
- **Registration at the Fair**
- **Data Entry at the Fair**

Email JNewman@DiscoveryCtr.org

DAY OF THE EVENT

- **Hospitality Table**
- **Lunch Time Volunteers**
- **Concession / Gift Shop**
- **Floor Managers**

Visit www.DiscoveryCtr.org and fill out the Volunteers form on the Tri County page

SPECIAL THANKS

REGISTRATION COORDINATORS

Caryn Margolis ,Edgemont Jr/Sr HS

Mark Nowak, Edgemont Jr/Sr HS

Jaime Zung, Rye HS

EXHIBIT FLOOR MANAGERS

Kimberly Flemming

Bettye F Malone

Tony Meschino

Theresa Henry

Lawrence McIntyre

Todd Newman

VIDEO & PHOTOGRAPHY

Michael Blueglass, Yorktown High School

Amanda Iacopelli

Christine Iacopelli

RUNNERS & GUIDES

Robert Maver

Matthew Newman

GIFT SHOP VOLUNTEERS

Special thanks to all the high school students from White Plains HS that helped us with logistics and navigating the building.

2018 Participating Schools

Tri County Science & Technology Fair welcomes public, private and home schooled students from Westchester, Putnam & Rockland Counties. Elementary & Middle School participants have placed in their school Fairs or come with a recommendation if home schooled. High School students are direct entered by their Science teachers, Science Department Chairs or Principals.

The Discovery Center started the Tri County Fair in 1993 to create a regional competition. We are the only Fair in NYS that spans K-12. If your school would like to get involved in the 2019 Fair email JNeman@DiscoveryCtr.org. If your school does not currently hold a school wide science Fair and would like to get one underway please email JNewman@DiscoveryCtr.org. Your Fair can be set up by your PTA, teachers, or a group of interested parents.

Carmel HS
Croton-Harmon HS
Edgemont HS
Edgemont Jr/Sr HS
F.E. Bellows
Family School 32
Farragut MS
Fox Lane HS
Garrison School
George Fischer MS
Harrison HS
Hendrick Hudson HS
Hutchinson School
Irvington HS
John Jay MS
Lincoln HS
Mahopac HS
Nanuet Senior HS
Patricia Dichiaro
PEARLS
Peekskill HS
Pelham Memorial HS
Pelham MS
Prospect Hill School
Putnam Valley HS
Richard .J. Bailey
Robert E Bell
Rockland Country Day
Rye Country Day School
Rye HS
Rye Neck HS
Scardsale HS
School 30
Seven Bridges
Sleepy Hollow HS
Westlake HS
Woodlands HS
Yorktown HS

2018 Teachers & Fair Coordinators

The teachers and local Fair coordinators are the unsung heroes who have inspired and encouraged students exhibiting today. They have volunteered their time to create a Science & Technology Fair in their schools and have mentored and / or arranged for mentors for their students. We deeply appreciate their commitment to science, math & technology

Kristen Bonnici	Rye Neck HS
Ryan Kopreski	Rye Country Day School
Steven Beltecas	Pelham Memorial HS
Sandra Betters	Rockland Country Day
Michael Blueglass	Yorktown HS
Allison Blunt	Harrison HS
Maria Buckley	Pelham MS
Thomas Callahan	Hutchinson School & Prospect Hill
Thomas Danahy	Nanuet Senior HS
Natalie DiPaolo	Family School 32
Leah Englander	Rye Neck MS
Jayne Gavigan	F.E. Bellows
Randy Gunnell	Harrison HS
Erum Hadi	Peekskill HS
Christopher Hasson	PEARLS
Kevin Keegan	Garrison School
Gail Kipper	Farragut MS
Kennon Landis	Rockland Country Day
Amy Leahy	Rye HS
Donna Light Donovan	Croton-Harmon HS
Janet Longo-Abinanti	Sleepy Hollow HS
Viren Maira	Pelham MS
Denice Manzo	Patricia Dichiaro
Caryn Margolis	Edgemont Jr/Sr HS
Lawrence McIntyre	Westlake HS

2018 Teachers & Fair Coordinators

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Todd Mensch	Richard J Bailey & Woodlands MS
Zach Miller	John Jay MS
Nicole Monaco	Carmel HS
Lori Morton	Robert E Bell & Seven Bridges
Dan Moy	Rye HS
Mark Nowak	Edgemont HS
Nadia Parrika	Irvington HS
Stephanie Peborde-Burke	Fox Lane HS
Dylan Prendergast	Scardsale HS
Dennis Quackenbush	Mahopac HS
Dr. Christine Rogers	Hendrick Hudson HS
John Rowitt	School 30
Dean Saghafi	Lincoln HS
Mike Scarantino	F.E. Bellows
Heather Schmidt	George Fischer MS
Aiza Shikapwashya	Woodlands HS
Gail Sider	Hutchinson School
Elizabeth Stephens	Mahopac HS
Jeremy Szerlip	Scardsale HS
Christine Watroba	John Jay MS
Lauren Zeoli	Rye Neck MS
Michele Zielinski	Sleepy Hollow HS
Jaime Zung	Rye HS
Jerry Zupan	Putnam Valley HS
Katy Zweig	Prospect Hill School

FAQ about AWARDS

Why didn't a student get first place when there were only two exhibits in his/her category?

Not all schools fill an exhibit in each category. They may choose to enter more exhibits in another category. When a category at the Fair has less students there is a greater likelihood that not all three awards will be awarded. Each exhibit has to achieve a **minimum** score prior to being considered for an award.

Why was first & third place awarded without a second place?

Each award has a minimum score. To be eligible for first place you must score higher then 90, for second 85 and third 80. Please keep in mind that is a minimum, so if we have a 98,97,92 then those are the First, Second & Third place winners. If we have a 92,84,80 then First & Third will be awarded with the 84 taking third.

How did a student get an opportunity for Broadcom Masters when he/she didn't win 1,2,3 place?

The Middle School Division at the fair is grades 5-8 and fifth graders are not eligible for Broadcom. It is possible for fifth graders to place in all three levels (1,2,3) and the 4th place or 5th place person is eligible for Broadcom based on the scores. If one assumes that the scores are 99,98,97,96,95 and the first three are fifth graders but last two are 6th-8th grades then those two may have the highest scores eligible to go to Broadcom. Additionally not all exhibits are eligible for Broadcom so it is possible that the 1,2,3 are all in grades 6-8 but none of the exhibits qualified, or none of the exhibitors signed up to be considered.

SPECIAL AWARDS

Judge Edith Miller Excellence in Education

Award for top overall MS score

Marilyn Reiner Science in Education

Award for top overall HS score

Susan Schaell Handelman Award for Scholastic Excellence in Science & Technology

The best Middle School with the highest overall average among all other Middle Schools.

ELEMENTARY SCHOOL

EXHIBITS

Grades K-4

Schools are permitted to enter up to three exhibits in any of the following categories but not to exceed more then 12 exhibits in the division (K-4)

no exhibit can have more then 3 contributors
Exhibits are by category and then alphabetically listed by contributor.

Each exhibit is listed once with all contributors.

Biology

Chemistry

Earth/Space

Engineering/Technology

Environment

Health & Medicine

Math/Computers

Physics

Please note homeschooled students welcome

BIOLOGY

Isabel Dourmashkin **Eva Stern** PEARLS	Does the Nose Know?
Lia Huang **Gianna Navarrete** Prospect Hill	Can lemon kill germs?
Isabelle Mejalli Hutchinson	Will Colored Water Cause A Colored Flower to Change?
Elias Moran Garrison	Which door handle in the school has the most bacteria?
Olivia Moran Garrison	Does your mood affect your blood pressure?
Arianna Ortiz Patricia Dichiaro	Soil Erosion
David Takaki PEARLS	Are Your Eyes Playing Tricks on You?
Hudson Yeaple **Talula Yeaple** Garrison	Rabbit Behavior and ability to learn patterns and colors

CHEMISTRY

Andrew Andrade **Sina Rassi** Hutchinson	Will Different Vinegar Affect Chemical Reactions?
Aoife Bronnimann F.E. Bellows	How much vinegar makes the most casein plastic from milk?
Gabriel Dzwonek **Rachel Solomon** Hutchinson	How Strong is Water and Salt Water?
Carey Gallagher **Eabha Peel** PEARLS	Lava Lamp Chemistry
Ellery Gordon **Gwen Gordon** Garrison	Garrison VS Cold Spring - How hard is the water?!

CHEMISTRY

Tommy Meagher **Dustin Reda** Prospect Hill	Which type of gum produces the biggest bubble?
Gianna Stracuzzi F.E. Bellows	Can liquids break down latex balloons?
Dean Vazquez Family School 32	Strange Things in Soft Drinks

EARTH / SPACE

Jordan Collins Richard .J. Bailey	Volcano
Peter Dinitz Garrison	Soil vs. Colored Water: Will the Flower Change?
Elena Villalobos School 30	How To Grow The Best Crystals

ENGINEERING / TECHNOLOGY

Ari Barta	Transforming Electricity
Giovanni Cipollone	Robo Bank
Luke Harvey	Can it Go the Distance?
Kierra Iglehart **Sarah Kaplan** Richard .J. Bailey	Magnet Movement
Mackenzie McGough PEARLS	How to Make A Mechanical Arm
Aidan Murphy PEARLS	How To Make A Hovercraft
Nina Seales **Desiree Whitley** Hutchinson	What shape floats best?
Maya Tanaka Prospect Hill	Which type of lemon is best for secret writing?

ENVIRONMENT

Sarafina Deighton Hutchinson	Will Plants Grow from Parts Other Than Seeds?
Lillianna Fauci F.E. Bellows	Which pet store fish is best to grow hydroponic plants?

HEALTH & MEDICINE

Hesham Albahr **Bobby North** Hutchinson	Will color affect taste?
Sasha Carmel F.E. Bellows	Spiciness of Pepper and Physical Characteristics
Jimmy Clunie **Christian DeFelippi** Prospect Hill	Does age affect human reaction times?
Gavin Cooper Patricia Dichiaro	How Well Do Disinfectants Work
Christopher Fuller Patricia Dichiaro	Do antibacterial wipes work?
Lily Haugh Family School 32	Watch What You Drink
Cara McNulty **Karie McInerney** PEARLS	Rethink Your Drink

PHYSICS

Jack Evangelista **Julian Russo** F.E. Bellows	Does Weight Affect How Far Ball Rolls?
Rainer Gangemi Garrison	How magnets levitate

PHYSICS

Aden Hadi Richard .J. Bailey	Clever Citrus Conductor
Johnathan Longno-Phoummany Hutchinson School	Will pressure affect electric current?
Stefen Markovic **Adrian Winter** Prospect Hill	Does the wingspan of a glider affect how far it goes?
Harry Millan F.E. Bellows	Wavelength Interference Patterns
Jake Morton Richard .J. Bailey	Defining Sound
Kiran Schwaderer Hutchinson	Will a banana conduct electricity better when it is ripe?
Brady Sergio F.E. Bellows	Does Weight Affect the Rate of Swing on a Pendulum?
Ella Stephens Prospect Hill	Which ball bounces higher on the blacktop?

MIDDLE SCHOOL

EXHIBITS

Grades 5-8

Schools are permitted to enter up to two exhibits in any of the following categories but not to exceed more then 12 exhibits in the division(5-8)

no exhibit can have more then 3 contributors

Students who are in grades 6,7 and 8 may have an opportunity for further competition at the Broadcom Masters later this fall.

Exhibits are by category and then alphabetically listed by contributor.

***E**ach exhibit is listed once with all contributors.*

Biology

Chemistry

Earth/Space

Engineering/Technology

Environment

Health & Medicine

Math/Computers

Physics

Psychology

Please note homeschooled students welcome

TRI COUNTY SCIENCE & TECHNOLOGY FAIR IS AFFILIATED WITH BROADCOM MASTERS

Broadcom MASTERS, a program of Society for Science & the Public stands for Math, Applied Science, Technology, and Engineering for Rising Stars. The premier science and engineering national competition for 6th, 7th, and 8th graders, Broadcom MASTERS inspires middle school students to pursue their personal passion for science, engineering and math into high school. This program brings together young people who share a passion for innovation in STEM subjects and inspires them to stay with math and science throughout high school and into exciting careers.

Learn more at www.societyforscience.org/masters.

Broadcom MASTERS offers a unique opportunity for students interested in scientific endeavors to showcase their talent. Students motivated to explore new frontiers in science present their research in local science fairs, and if selected as a Broadcom MASTERS finalist, are invited to present their research in Washington D.C.

"I am fortunate to be the Broadcom MASTERS finalist from New York. This enabled me to present my research in Washington D.C, meet and exchange ideas with like minded peers while participating in team challenges organized by Broadcom MASTERS. It was a memorable experience and I encourage middle school students interested in the STEM area to participate in the Broadcom MASTERS. "

Smita Mohindra,Broadcom MASTERS finalist, New York

BIOLOGY

Olivia Auffarth	Effect of antioxidants on the growth of plants
Daniella Delgado **Emma Hanaburgh** George Fischer MS	Does Music Affect Plant Growth?
Tahela Denu	To Vape or Not to Vape, That is the Question
Charlotte Dinitz	LEDs & their EPGs (Effects on Plant Growth)
Leah Dourmashkin **Nathalia Evelyn** PEARLS	The Flu! Lets Get Rid of It!
Mac Lake	Effects of Wifi on Different Types of Seedlings
Matt Langer Patricia Dichiaro	Superbugs Super Problems
Princess Mansingh Pelham MS	Middle Schooler's Healthy Heart Rate
Jillian McKechnie George Fischer MS	Seeing Double: The Science of Clones
Arianna Ortiz Patricia Dichiaro	Soil Erosion
Thehara Ubayawardena F.E. Bellows	Can Plants Grow Against Gravity?
Cheryl Zhang	Hints in the Prints

CHEMISTRY

Joel Alexander PEARLS	Cool Chemistry
Isabella Brady PEARLS	Bath Bombs

CHEMISTRY

Sophia Brady	Homemade Shampoo
ELIla Grann F.E. Bellows	What Impact Will Ocean Acidification Have on Sea Life?
Sophie Greenslade Richard .J. Bailey	Absorption
Rachel Lewis John Jay MS	Electrolysis of Water
Viren Maira Pelham MS	How to Make Glow Sticks Glow Brighter
Peter Pitaleff	Superpower Laundry Detergent
Derek Ryan Rye Neck MS	Effect of Galactose on the activity of β-Galactosidase (Lactase)
Julia Sandberg Rye Neck MS	How does the solute of a water solution affect the strength of electrolysis?
Shreyas Singh Pelham MS	Do Energy Drinks Affect Your Heart Rate?
Abigail Stobin John Jay MS	Chemical Reactions!

EARTH / SPACE

Ryan Badger George Fischer MS	How do Clouds Form?
Phillip Buettner **Matthew Lord** Rye Neck MS	How does the amount of vegetation coverage influence the amount of soil erosion due to water?
Jacob Goldman-Wetzler Farragut MS	How does the ratio of the amount of papers to area of papers effect perception of thickness?
Daniel Gomez Patricia Dichiaro	Outer Space

EARTH / SPACE

Ashwani Pothen PEARLS	The Power of Heat Right Under Your Feet
Harshita Shet Woodlands MS	Volcanic & Earthquake Impact

ENGINEERING / TECHNOLOGY

Mehr Anand **Nicolas Jikia** Robert E Bell	Battery Buggy
Pierce Berke John Jay MS	Where will neutral networks go next, and why do Bill Gates, Elon Musk, and Stephen Hawking consider it a problem?
Aubrey Dall **Fiona Donelan** George Fischer MS	Hydraulic Arm
Benjamin D'Amico Rye Neck MS	Affordable and Efficient Drones for Emergency Use
Zachary D'Amico F.E. Bellows	The Better Renewable Energy Source
Matthew Doka Pelham MS	Acidic Voltage
Cielo Gazard PEARLS	What Will Protect You Best In A Tsunami?
Jonah Halperin Seven Bridges	Hovercraft
Mathew Joseph **Akram Elkouraichi** PEARLS	The Color of the Wind
Jimmy Lin George Fischer MS	Typo the EV3 Robot
Thomas Maslov Seven Bridges	How to Make Your Own Minecraft Server

ENGINEERING / TECHNOLOGY

Sophia Zamudio Woodlands MS	AM Radio

ENVIRONMENT

Aidan Arouh	What are the effects of acid rain on plant growth?
Irene Basu	What Type of Water is Most Effective to Water Plants?
Krissh Bhargava Robert E Bell	Project Green- Inspiring Pro-environmental Behavior
Jasmin Butler **Aoi Enomoto** Richard .J. Bailey	Global Warming
Bella Caporusso Rye Neck MS	How does oil in the soil effect the rate of growth in seedlings?
Jessica DeLuise	All About Sinkholes
Maximiliaan Engelen F.E. Bellows	How Does Habitat Affect Plant Growth?
Teresa Li PEARLS	Roof Top Gardens:Are They A Cool Idea?
Lily Lindenauer Patricia Dichiaro	Tap vs. Bottled Water
Evan Maasik	How Does Acidity Affect Plant Growth?
Peter Nicholas	Mycofiltration
Haru Olesiak **Lindsay Kaufman** Edgemont Jr/Sr HS	Effect of Different Liquids on the Germination of Radish Seeds
Mihir Patil Edgemont Jr/Sr HS	The effectiveness of using mealworms to eliminate household waste.

ENVIRONMENT

Elio Pietranico	How Does Sugar Affect Plants?
Grace Proano	Roof Top Garden
Kyle Ryan Rye Neck MS	Air Pollution: Particulate Matter in the Village of Mamaroneck

HEALTH & MEDICINE

Titli Bandyopadhyay George Fischer MS	Studies of Hydrogel as an Alternate Carrier for Oral Drug Delivery
Gabriel Betancourt Richard .J. Bailey	5 Second Rule
Danielle Blachar John Jay MS	Food Allergies: What are they and why do they occur?
Nandita Deendyal PEARLS	Fighting the Flu
Gizelle Dominguez **Kristen Luther** Woodlands MS	Insulin Pump Design
Christian Gentolia **Nicolas Valin** Woodlands MS	Backpack weights on students
Devisi Goel Seven Bridges	Cancer Prevention & Early Detection
Nuha Islam **Nishi Uppuluri** Edgemont Jr/Sr HS	Appetite Affecters
Liliy Lindenauer Patricia Dichiaro	Tap vs. Bottled Water
Ayan Makode Robert E Bell	The Science of Sleep
Carys Mc Grory F.E. Bellows	Is Bottled Water Cleaner than Rye Neck Tap Water?

HEALTH & MEDICINE

Audrey McElhatton PEARLS	Bad Hair Day
Anthony Morel Patricia Dichiaro	Which food wrap prevents food spoilage
Jeremy Morton Woodlands MS	Test your Tolerance to Salt
Samina Quli F.E. Bellows	Food And The 5 Second Rule
Cassandra Sciarra **Victoria Sciarra** George Fischer MS	Which is More Dangerous? The Sun or Sunscreen?
Leah Sherbansky Pelham MS	Prevention of Streptococcus Illnesses
Jonah Sherbansky Pelham MS	How Does Exercise Affect Heart Rate?

MATH / COMPUTERS

Ryan Aaabel **Eamonn Faccilonga** George Fischer MS	Fibonacci Sequence
Nathaniel Ascher **Lakshman Sibal** Edgemont Jr/Sr HS	Baseball Statistics
Thomas Connolly **Stephen Elliott** **Cole Mayclim** George Fischer MS	We Can Guess Your Birthday
Kenneth Ge Edgemont Jr/Sr HS	An algorithm for bus routes
Julia Meyerson Pelham MS	Building and Programming a Search and Rescue Robot Prototype

MATH / COMPUTERS

Linus Ringstad **Henry Robertson** Rye Neck MS	The Effect of Population Density on Antibiotic Resistance

PHYSICS

Abigail Andrade **Ava Liebmann** **Jessica Park**	How does the shape of an arrowhead impact the depth it can penetrate into a target?
Ara Beigi John Jay MS	Resonance and Natural Frequency
Kaitlyn Blanch **Alexis Friedman** Rye Neck MS	Does hair color effect the amount of static electricity produced?
Penelope Cloonan PEARLS	Does Brewing Time Affect the Strength of Tea?
Jasmine Duffus Pelham MS	Does Cheaper or More Expensive Sunscreen Protect You More from UVA and UVB rays?
Dylan Horan Garrison	Does size, stiffness and surface area affect a toothbrushbots speed
Dylan Ledden F.E. Bellows	Which Fruit Generates The Most Energy?
Cormac Murphy PEARLS	How Does Color Affect the Absorption of Light?
Shirish Patel PEARLS	The Mpemba Effect
William White F.E. Bellows	The Size Of Raw Eggs In Different Liquids

PSYCHOLOGY

Sorany Campo Pelham MS	Fears of Middle School Students
Marija Domgjoni PEARLS	Do People Judge Food Based on Color?

PSYCHOLOGY

Maya Gelber Garrison	Group size and conformity
Vivian Guo Pelham MS	Does Gender Affect Color Preference?
Samantha Haviland Rye Neck MS	Common Fears
Beatrice (Bee) Herbstman **Amanda Scholz** Farragut MS	Multitasking
Aiden McGuik **Alexander Munoz-Sanchez** George Fischer MS	Does Sight Affect Taste?
Isabel Palacios-Ferrer Rye Neck MS	How does color affect taste?
Phelan Waldron Garrison	Do students gain better scores when listening to different sounds?

HIGH SCHOOL EXHIBITS

Grades 9-12

High School students are “direct” entered by either their principal or science department chairperson. High Schools may send up to 14 exhibits in (any combination of category). Each exhibit can have up to three contributors. The Fair allows for Demonstrative Exhibits as well as Research Exhibits. The majority of high school students presenting at our fair have opted for individual empirical or theoretical research projects. These projects meet the eligibility requirements for the New York State Science Congress hosted by The Science Teachers Association of NYS (STANYS) held in May.

Exhibits are by category and then alphabetically listed by contributor.

Each exhibit is listed once with all contributors.

Biology

Chemistry

Clinical/Social Psychology

Earth/Space

Engineering/Technology

Environment

Health and Nutrition

Math/Computers

Medicine and Medical Science & Technology

Physics

Physiological/Experimental Psychology

Please note homeschooled students welcome

BIOLOGY

Celine Brad Croton-Harmon HS	Analyzing the effects of Fluridone application on invasive species Hydrilla verticillata and surrounding aquatic plant species in the Croton River
Luca Brown Sleepy Hollow HS	Evaluating glutathione and phytochelatins in cadmium-contaminated solanum tuberosum
Nicholas Curet **Zobaida Roza** Lincoln HS	Analysis of Alu PV92 in Hispanic Minorities
Kaitlyn Figueroa Woodlands HS	The Effect of Temperature on Bacterial Growth Rate
Jessica Finkler Mahopac HS	The Role of Notch Signaling in T-cell Acute Lymphoblastic Leukemia
Brian Garcia-Hernandez Lincoln HS	Determining The Prescence of Expanded Repeats Using a Non-Radioactive Southern Blot
Alexandrine Gaspar Mahopac HS	Testing the Effectiveness of Epiandrosterone for the Treatment of Tularemia Caused by Francisella tularensis
Trisha Gollamudi Rye HS	Genetic Factors of Alzheimer's Disease
Angie Jang Edgemont HS	Characterizing the novel tumor suppressor role of Nol3/ARC in hematopoietic cells
Anna Kunz Yorktown HS	Dissecting the Role of BMN-GPI Anchored Proteins in Babesiosis and Modification of the Infected Red Blood Cell
Cheryl Luo Yorktown HS	Determining the Antiviral Function of XAF1
Bryan Mesquita Westlake HS	An Off-Switch for Borrelia? Investigating bba01, the Plausible Repressor Protein of bba74 in Borrelia burgdorferi
Mriganka Nerkar Ardsley HS	The Activation of Notch Signaling: Models Events During Myocardial Infarction
Buu-Hac Nguyen Hendrick Hudson HS	Single-Domain Antibody-Mediated Modulation of Neurotransmitter Transport

BIOLOGY

Isabel O'Connell Harrison HS	Prevalence of Atopic Dermatitis in a Compromised Immune System Due to Psychological Stressors
Isabella Pansini Fox Lane HS	Determining the Optimal Mounting Medium for Structured Illumination Microscopy of Zebrafish Hair Cells
Simon Peck Fox Lane HS	Use of a Novel Peptide-Based Assay to Determine Risk of Reaction to Lupine for Peanut Allergic Patients
Laura Rodriguez Lincoln HS	Elucidating How the Membrane Attack Complex Interacts with Gram-Positive Bacteria
Shrila Shah Yorktown HS	The Evaluation of Recombinant Cytotoxins for the Therapy of CNS Tumors in Experimental Mouse Models
Dhruv Sidhwani Edgemont HS	Comparing Levels of H1 Histone Subtypes in CEKO Mouse Splenocytes
Madeleine Sleeman Fox Lane HS	The Role of Src Homology Phosphatase 2 in T cell Activation and PD-1 Mediated Inhibition
Faith Summers Westlake HS	Can Proteins Conquer Prostate Cancer? The Role of NQO2 and Glutaminase in Large Extracellular Vesicle Formations and Regulation of Oxidative Stress
Helen Tejada Sleepy Hollow HS	Understanding the contribution of pancreatic endocrine populations to metabolic dysregulation in lipodystrophy
Piers Upton Pelham Memorial	CRISPR Based Gene Editing: Using ODIN's DIY Bacterial Gene Engineering CRISPR Kit to Edit E. coli
Varun Valada Scarsdale HS	fMRI Analysis of Response Inhibition for iCUD in a Drug -Related Context
Diane Zhang Fox Lane HS	Detection of Copy Number Variations and Their Impact on Gene Expression in Liver Cancer

CHEMISTRY

Danielle Bucci Harrison HS	Quantification and Chemical Analysis of Leachate from Bisphenol-A Free Baby Bottles after Exposure to Microwave Stress
Anna Cahn	Determining the Effectiveness of Aloe Vera on
Tyler Luther Woodlands HS	The Electrolyte Showdown
Helen Meyerson Pelham Memorial HS	The Effect of Caffeine Content on Water Permeability of the Droplet Bilayer
Margarita Ruiz **Carlos Valiente** Woodlands HS	The Effect of Caffeine on Plant Growth

CLINICAL / SOCIAL PSYCHOLOGY

Gabriela Abreu White Plains HS	Determining the relationship between the severity and frequency of cannabis use in college students
William Baschwitz Croton-Harmon HS	Surveying Physical Therapists on Providing Adolescent Patients with Physical Therapy (PT) Education Prior to Surgery
Theresa Calabrese Peekskill HS	The Impact of Social Media on Teen Body Image.
Dorothea Caposito Putnam Valley HS	The Subjective Well Being of Foster Care Youth
Pilar Ceron White Plains HS	The Effect of Intervention on Racial Bias in School Children and Adolescents
Taylor Coleman Croton-Harmon HS	The Effect of Perceived Hunger on the Shift from Goal Directed Action to Habitual Control
Meredith Conlin Putnam Valley HS	The Correlation Between Youth Bullying and Adult Cyberbullying
Lynn Dvorkin Pelham Memorial HS	The Effectiveness of Different Forms of Non-Verbal Communication Between a Parent and Child

CLINICAL / SOCIAL PSYCHOLOGY

Chidinma Echezon Woodlands HS	Does Reading Books Increase Your Vocabulary?
Joanna Falisi White Plains HS	The Relationship Between Social Media Activity and Aggressive Behavior Among Adults
Eliza Grose Sleepy Hollow HS	The association of positive emotion with empathy in adolescents
Aadi Kapur Scarsdale HS	Individual Difference in Foraging Strategies in Humans
Kayla Mariuzza Yorktown HS	Evaluating the Efficacy and Feasibility of Family-Based Therapy to Treat Schizophrenia Based on the Family's Perspective
Chabeli Martinez Yorktown HS	Factors that Affect Families of Children with Down Syndrome
Catherine McClay Yorktown HS	Exercise and Quality of Life in Children with Heart Disease
Nikolas O'Hanlon White Plains HS	The Impact of Participation in Religion and/or Boy/Girl Scout on Adoption of Risk Behaviors
Casey Oppenheim Sleepy Hollow HS	The effects of social, cultural, and academic belonging on perceived stress in adolescents.
Madeline Ortiz Montanez **Nikolaos Plakas** Lincoln HS	The Effect of Video Games on Academic Performance, Socialization and Behavior.
Emmanuel Rodriguez Lincoln HS	Diminution of Phobias with the use of Virtual Reality vs. Meditation
Ryder Rose **Camilo Villaviciencio** White Plains HS	The Representation of Women in Popular Culture
Gretta Silsdorf Carmel HS	Occupational Therapy and its effect on Sensory Processing Disorder

CLINICAL / SOCIAL PSYCHOLOGY

Omar Tabanjeh Yorktown HS	The Linguistic, Social, and Academic Development of Deaf or Hard of Hearing Children
Samantha Tilley Fox Lane HS	Facial Discrimination in 8-Month Old Caucasian American and Black African Infants
Juan Velez White Plains HS	The Correlation Between Sleep Duration and Attention in Students & Teachers
Akiah Watts Carmel HS	Linguistic Analysis of Sentence Variety in College Application Essays

EARTH / SPACE

Christopher Bauco Westlake HS	Investigating Paleoclimate Through the Deposition of Ice Rafted Debris from the Western Mid-Atlantic Ridge
William Branca Yorktown HS	Predicting Solar Flares Using the Random Forest Algorithm
Isabelle Oktay Rye HS	Computational biology approach in the analysis of the growth of anaerobic bacteria under Titan's atmospheric and surface conditions
Alejandra Perea Rojas Fox Lane HS	Building a Machine Learning Web Application to Facilitate the Deduction of Stellar Parameters
Dora Rippon Putnam Valley HS	Determining the Minimum Mass of a Habitable Planet

ENGINEERING / TECHNOLOGY

Adrian Addo, **Patrick Adofo** **Reimond Bataac** Lincoln HS	The effect of alterations to skirt design of a hovercraft on the amount of friction.
Abie Bitton Rockland Country Day	Creating a Linear Accelerator Using a Custom Circuit

ENGINEERING / TECHNOLOGY

Sarah Broas Putnam Valley HS	Development of Decellularized Peppermint Leaf Functionalized Biomimetic Scaffolds for Cardiac Tissue Engineering
James Buzaid Sleepy Hollow HS	Self-Healing Properties of Human Hair
Joseph Cantori White Plains HS	Development of a Prototype Device to Influence Animal Activity in the Proximity of Roadways
Brandon Chin Lincoln HS	Developing a New Bending Apparatus to Measure Bone Strength in C57Bl/6J
Elianna Herrera **Micheal Boahene** Lincoln HS	Bionic Arm
Cole Mackool Pelham Memorial HS	Creating a Pneumatic Operated Soft Robot From a 3D Printed Mold.
Jonathon Marcuse Rye Neck HS	Can one power mobile electronics with their own body heat?
Alex Mayo-Smith Rye HS	Engineering an Affordable and Easy To Use Biosphere to Test the Effects of Elemental Carbon Dioxide on Plants Growing in Martian Regolith
Arjay Mirchandani Yorktown HS	Boundary-Layer Flow Dynamics Concerning Forward Swept Wings
Helena O'Sullivan Carmel HS	An Accessible Reading Program for Children with Physical Challenges
Owen Robertson Rye Neck HS	How does the shape of a wind turbine's base affect its height?
Paulina Snyder White Plains HS	The Effects of Asymmetrical Stent Grafts on Intracranial Aneurysm Occlusion
Shaina Stone Rockland Country Day	Building a Two-Wheeled Bike
Lucas Vienne Rye Neck HS	What is the effect of sensors on Traffic congestion?

ENGINEERING / TECHNOLOGY

Diane Yang Yorktown HS	Hybrid Piezoelectric and Electromagnetic Energy Harvesters
Spencer Zack Yorktown HS	The Recovery and Utilization of Thermal Energy Generated from Biodegradation

ENVIRONMENT

Robert Chacha **Nicolas Holman** Peekskill HS	The Impact of Population Density on Microplastic Pollution Near the Hudson River Shorelines
Lee Cohen Westlake HS	Why So Aggressive? Understanding Image Completion and Territorial Behavior of Coral Reef Fish in the Red Sea
Maksym Demus Yorktown HS	Water Weltand Treatment systems of nitrates
Nicole Francis Rye HS	The Effect of Environmental Factors on Anguilla rostrada (American Glass Eel) Migration in the Blind Brook off the Long Island Sound
Lukas Glist Pelham Memorial	Impacts of Land Use in the Hudson River Valley on Water Quality
Oscar Hutarra White Plains HS	The Effects of Polluted Water on Indigenous Fish Populations in the Bronx River
Cerina Karr **Stefanie Guiliano** Fox Lane HS	The Effect of Detritivore Presence on the Spatial Response of Old-Field Arthropods
Hayley Lewis Putnam Valley HS	Caffeine's Effect on Crayfish and Dragonfly Nymph Behavior and Development
Madeline Rafa Rye HS	Climate Change and its Effect on Mosquito-Borne Infectious Disease
Anthony Scaglione Westlake HS	The effect of Invasive Plant Species on the Biodiversity of an Invasive Shrub Ecosystem
Maia Surendra Croton-Harmon HS	Analyzing the relationship between antibiotic use and the spread of antibiotic-resistance in retail poultry from Denmark from 1996-2016

ENVIRONMENT

Bennett Taylor Rye Neck HS	Can the tardigrade DSup gene be effectively inserted into a commercial soybean as to increase radiation resistance?
Eesha Thaker Irvington HS	How big is YOUR footprint? Analyses of Eutrophication and Proximity to Fertilized Areas
Eli Turner	The Use of Ant Pheromones as a Pesticide

HEALTH and NUTRICION

Melissa Angel White Plains HS	A Comparative Analysis Regarding Breastfeeding to Formula Feeding on Infant Sleep Duration
Innes Belshe Peekskill HS	Physician Perspectives on the Usefulness, Recommendation and Training for Complementary and Alternative Medicines in Hudson Valley, New York
Joshua Gottschall Sleepy Hollow HS	The Environmental Factors of Crohn's Disease
Colin Hannah **Brian Weir** Yorktown HS	Determining Trends in Sports-Related Injuries and Identifying the Most Effective Rehabilitation Strategies
NeTonia Holliman Peekskill HS	The Affect of Poverty on Low Birth Weight in African American Women in an Urban Area
Anna Lazin Sleepy Hollow HS	The effects of artificial sweeteners on human health using Caenorhabditis elegans as a model
Anna Nakagama **Rebecca Tenner** Rye Neck HS	What are the main barriers that keep students from receiving vaccinations?

MATH / COMPUTERS

Samuel Barton Fox Lane HS	A Monte Carlo Study of Iodine and Bromine Particles and Their Behavior Through Phase Changes In The Second Dimension
Ananya Gurumurthy Edgemont HS	Novel Use of a Convolutional Neural Network for the Diagnosis of Inflammation and Infection in Soft-Tissue Implant Regions
Eli Lichtblau White Plains HS	Detection of Contextualized Sarcastic Sentiment with an Evolutionary Long Short-Term Neural Network
Peter Manthey	Using Bioinformatics to Model Cell Proliferation
Catherine Taubner Pelham Memorial HS	Face Verification Using Resnet-18
Walter Wacaser	Human Assisted NeuroEvolutionary Alogrithms
Andrew Walek Sleepy Hollow HS	Determining the Factors that Alter the Delay of a Semiconductor Monitoring Circuit

MEDICINE and MEDICAL SCIENCE & TECHNOLOGY

Amna Ahmad Harrison HS	The Use of Magnetic Resonance Ultrasound Waves as an Effective, Non-Invasive Method for the Treatment of Parkinson's Disease.
Jamie Burke Pelham Memorial HS	Does A Surgical Mask a Day Really Keep Germs Away?
James Chen Rye Country Day	Pre-Transplant Proteinuria Predicts Post-Transplant Renal Replacement Therapy and Mortality in Patients Bridged to Cardiac Transplant with Left-Ventricular Assist Devices
Benjamin Chun Nanuet Senior HS	The Effect of Chronic and Acute MPTP Models on the Loss of Dendritic Spines in the Striatal Spiny Neurons of Mice
Kaitlin Cohen **Natalie Scanlon** Putnam Valley HS	CRISPR Knockout of E-Cadherin to Inhibit the Adhesive Properties of HEK293 Cells
Olivia Dunne Rye Neck HS	How can antibody conjugation assist in the intake of gold nanoparticles by FSHR-expressing cells?

MEDICINE and MEDICAL SCIENCE & TECHNOLOGY

Roopa Duvvi Yorktown HS	The Impact of sEH Inhibition on High Fructose-Induced Impairment of Cardiac Function in Young Rats
Samantha Feingold Fox Lane HS	The Removal of Mouse Feeder Cells from Endometrial and Ovarian Cancer Patient-derived Cell Lines
Julia Friedman Sleepy Hollow HS	Test for cannibalism of multipotent adult stem cells (MASCs) by A549 and Mel IV cancer cell lines
Jason Garofalo- Putnam Valley HS	The Possible Correlation Between Mitochondrial DNA on Trinucleotide DNA Repeats and the Onset Age of Huntington's Disease
Shawn Jimerson Peekskill HS	The Therapeutic Potential of Unrelated Donor Human Placental Derived Stem Cells (HPDSC) and Unrelated Umbilical Cord Blood (UCB) on Patients with Malignant
Tejas Karwa	Evaluation of Immunogenic Cell Death Potential of
William Lau Scarsdale HS	A Novel MRI Technique to Aid in the Diagnosis of ALS
Jonathan Lloyd Rye HS	Right Foot Forward - A Bluetooth Insole to Aid Gait Analysis and Correction
Luis Luna Peekskill HS	Whole-Genome Analysis of Group A Streptococcus Isolates to Identify Potential Antibiotic Resistant Genes
Usman Malik Edgemont HS	Prevalence of REM Sleep Behavior Disorder in the South Asian Population of the New York City Metropolitan Area
Maya Millstein Sleepy Hollow HS	Development and Evaluation of a Questionnaire to Improve the Diagnosis of Sleep Apnea in Women
Olivia Min Pelham Memorial HS	The Effect of Temperature on Spiral Template Test Results
Mina Mohammadi Edgemont HS	The Engineering of a Non-Mitogenic Varient of Fibroblast Growth Factor 1 for the Treatment of Diabetes Mellitus
Sabrina Morales Fox Lane HS	The Effect of Hyperglycemia on Beta Cell Proliferation
Anshul Muger Edgemont HS	Evaluating the efficiency of NanoString and Illumina MiSeq and application into Melanoma Immunotherapy

MEDICINE and MEDICAL SCIENCE & TECHNOLOGY

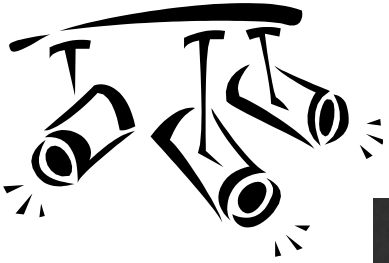
Anjali Nandakumar Edgemont HS	Exploiting Molecule X's Transcriptional Activity to Increase Tumor Immunogenicity and Uncover Novel Therapeutic Targets
Rory O'Brien Yorktown HS	Methods for Investigation of the Effects of Spinal Cord Lesion on Motor Cortex Activity in Mice
Charles Panzarella Westlake HS	Identifying the Optimal Attention Span Threshold for Optokinetic Vision Testing of Non-Communicative Trauma Patients
Michelle Portillo **Kevin Scott** **Sinai Thomas** Lincoln HS	The Varition of Prescription Medications in New York City Neighborhoods
Kaitlyn Ramlakhan Fox Lane HS	Usage of the NIH-Toolbox (iPAD) to Assess Cognitive Deficits Post Brain Injury in Children
Marisa Santoli Rye Neck HS	What is the effect of Alkaline phosphatase gene expression on hair cell regeneration in zebrafish?
Akaash Saraf Edgemont HS	Nrf2 Activation Provides Neuroprotection in the In-Vitro Model of Hemorrhagic Stroke
Sayli Satpute Yorktown HS	A Validation of Sepsis Prediction Scores for Poor Outcome
Lilah Smolev Harrison HS	Using PPAR Agonist and Intranasal Insulin to Treat Alzheimer's Disease
Rebecca Taylor Rye Neck HS	What is the effect of gene deletion on Corticospinal circuit plasticty?
Chaim Yi Rye HS	Effects of Electromagnetic Radiation on Human Health
Margaret Zhong Ardsley HS	The Therapeutic Implications for a Novel Nimodipine Derivative in Alzheimer's Disease

PHYSICS

Ivan Garduno **Guadalupe Hernandez** **Tyra Perez**	The Effect of Headgear on Limiting the Impact of G- forces

PHYSIOLOGICAL / EXPERIMENTAL PSYCHOLOGY

Erik Bird Sleepy Hollow HS	Differences in Time Perception and Perceived Control Amongst Adolescents and Adults
Sophia Brodie Croton-Harmon HS	Motor Action, Emotional Memory, and Handedness
Mayelin Ceballos White Plains HS	MicroRNA-155 Influence upon Anxiety in Rodents
Hailie Fortuniewicz **Jaiell Taylor** Lincoln HS	Inducing Positivity in High School Students
Adam Galluccio Rye Neck HS	What are the physiological effects of colors on the human body?
Evelyn Hon Rye Neck HS	The Effect of Art Participation on Creative Ideation
Ema Jovanovic Rye Neck HS	What is the effect of l-theanine on the memory of cockroaches
Julia Kischkat Harrison HS	Utilizing the Non Schooling Paracheirodon Axelrodi and Schooling Paracheirodon innesi to develop a Model of Neophobia and Social Independence
Hailey Kissner Hendrick Hudson	Examining Neural Structure of the Visual System Related to the Reading Ability of Young Children
Sumin Lee	Flood Insurance Choice
Jasmyn Lucas Peekskill HS	The Effects of Athletics on the Academic Performance of High School Student Athletes
Michelle Mahecha White Plains HS	The Effect of Working Memory on SLI Diagnosis
Kelly Marx White Plains HS	Neurological Results In Children, Teenagers, And Young Adults With High Risk Sickle Cell Disease Who Have Received A Familial Haploidentical Allogeneic Stem Cell Transplantation
Christopher Moriarty Sleepy Hollow HS	Analyzing Anxiety in Firefighters Based on Experience Levels



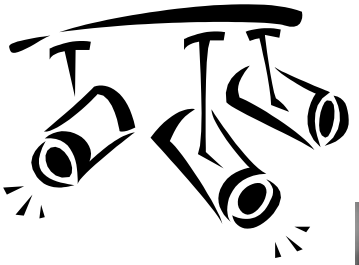
SPOTLIGHT ON VOLUNTEERISM

Theresa Henry is the niece of the late Judge Edith Miller, the namesake of the Excellence in Education Award. Born and raised in The Bronx, NY, Theresa attended ESP classes in NYC public schools. She graduated from Wm. Howard Taft H.S., Bronx, NY before attending Manhattan Community College, NYC. While in college, she was employed at a major bank on Wall Street where she served in many roles. She is currently retired after nearly four decades in banking , her last position being AVP of Global Data Center Operations.

“My Aunt Edith, my mentor, always encouraged me to volunteer wherever I could. The greatest impact was in my working career which enabled me to participate in special projects, acquire the necessary expertise as the "computer age" took off, and receive several promotions. Now retired, I volunteer in church and community events whenever I can.

I've looked forward to volunteering at the Tri-County Science & Technology Fair these past few years, especially serving in the elementary and middle school exhibition hall. These young people are so intelligent, talented, and dedicated. They are the future and volunteering at this event is one way to encourage them and let them know they can go far into the future.

I am honored to have been able to present The Judge Edith Miller Excellence in Education Award in my Aunt's name.” *Theresa Henry*



SPOTLIGHT ON VOLUNTEERISM

Gail Deuso was the Cruise Director at Smugglers Notch Resort many, many years ago where she met Tri County Science & Technology Fair organizer Janice Newman. The rest - as they say - is history! She has been making the trip down from Vermont almost every year since inception. Gail is a real asset not just being a key volunteer pre and post fair organizing packets, shopping, unloading, cataloging and storing items for next year, but she also is part of the brainstorming that takes place all year long to make the Fair a better Fair!

Gail also annually stage manages for Burlington Discover Jazz Festival in June & in December helps sell trees to benefit a homeless organization. Her regular gig is being the Vermont Coordinator for The Leukemia & Lymphoma Society. She is honored to be spolighted by Janice at Sci Tech Fair this year!

SPECIAL THANKS TO PEPSI GLOBAL R & D .. And Judy Vigar

JUDY VIGAR

Vice President R & D Global Beverage Platforms

Judy is a 16 year veteran in PepsiCo R & D and a 35 year veteran in the food industry. She has led R&D for the development and launch of many new beverage products around the world for Gatorade, Tropicana, and other PepsiCo beverage brands. She has expertise in Non Carbonated Beverages, as well as Engineering and Manufacturing, particularly, in juice based beverages.

While at PepsiCo, Judy spent close to four years in Europe. While there, she created and led a Beverages R&D satellite lab, and was part of the acquisition team for two large eastern European beverage companies. Judy joined PepsiCo in 2002, following almost nineteen years with Procter and Gamble in Food and Beverage Manufacturing and PD. She holds two patents in the area of chelating agent technology. She graduated magna cum laude from Brown University in 1983, with a Bachelor of Science degree in Electrical Engineering and is a member of Tau Beta Pi. Judy is a certified Project Management Professional through PMI and is currently working on her Masters Degree in Food Science at Rutgers University.

Judy just celebrated her 26th wedding anniversary with her husband, Jim and they have one 17 year old son, James. They enjoy boating, swimming, camping and travelling.

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