

REGENERON



# Regeneron Greater Capital Region Science and Engineering Fair, Inc.

Hosted by Rensselaer Polytechnic Institute, Troy, NY  
March 28, 2026 (36<sup>th</sup> Year)

Presenting Sponsor



Major sponsors



GE Aerospace



# GCRSEF Program

March 28, 2026

Time	Event
7:30-8:30 A.M.	Students arrive and set up projects (breakfast available in Sage Lobby)
8:00-9:00 A.M.	Judges receive orientation (Dr. Matt Nielsen and Dr. Dan Norton)
8:00-8:55 A.M.	Safety Check
8:35-8:55 A.M.	Welcome to students and important information (Joan Wagner, Fair Director and Gina Reals, Co-Director), Sage Auditorium)
9:00-11:30 A.M.	Morning student interviews
9:15-10:15 AM	Presentation for sponsoring teachers by Robin Krause, IRB specialist.* <b><i>Human Subjects, Handle with Care.</i></b> This presentation should equip attendees with essential knowledge of human subjects research to help students successfully design and perform ethical research that protects participants and follows regulatory standards.
11:30-12:25 P.M.	Lunch (in Sage), book lottery
12:30-2:20 P.M.	Afternoon student interviews
2:30-4:00 P.M.	Open to public
4:05-4:20 P.M.	Cleanup exhibit area. Pack up projects or leave outside of competition room to pick up after awards ceremony. Walker, place projects clips in box by door of room. Sage, leave clips in box outside of Sage Auditorium.
	Presentation of Awards
4:30-6:30 P.M.	Reception and Awards Ceremony: DCC 308 (Follow signs)
Special Awards	Presented by Dr. Matt Nielsen, GE Vernova Research and Dr. Dan Norton, Regeneron Pharmaceuticals, Coordinating Judges
Grand Prize Awards	Associate Dean of Science for Academic Affairs, Dr. Lee Ligon
\$50,000 Rensselaer Scholarship	Associate Dean of Science for Academic Affairs, Dr. Lee Ligon

\*Robin Krause is a dedicated Institutional Review Board (IRB) Administrator with over twenty years of experience in human subject research in the government sector. She holds Master Degrees in Education/Special Education and Science. Ms. Krause is a Certified IRB Professional (CIP), a notable credential that reflects her expertise and dedication to her profession. This certification highlights her advanced knowledge and adherence to industry best practices. In addition to her primary role, Ms. Krause has accumulated over ten years of experience working as an Institutional Animal Care and Use Committee (IACUC) and Biosafety Coordinator. She has also served as a Research Compliance Administrator, further broadening her expertise in the realm of research oversight and compliance. For the past six years, Ms. Krause has been an active member of the SRC for GCRSEF, contributing her knowledge and experience to her fellow SRC members and the younger generation of researchers.

## 22-Project Category Abbreviations

Animal Science (ANIM)  
Behavioral and Social Sciences (BEHA)  
Biochemistry (BCHM)  
Biomedical and Health Sciences (BMED)  
Biomedical Engineering (ENBM)  
Cellular and Molecular Biology (CELL)  
Chemistry (CHEM)  
Computational Biology and Bioinformatics (CBIO)  
Earth and Environmental Sciences (EAEV)  
Embedded Systems (EBED)  
Energy: Sustainable and Materials Design (EGSD)  
Engineering Technology: Statics and Dynamics (ETSD)  
Environmental Engineering (ENEV)  
Materials Science (MATS)  
Mathematics (MATH)  
Microbiology (MCRO)  
Physics and Astronomy (PHYS)  
Plant Sciences (PLNT)  
Robotics and Intelligent Machines (ROBO)  
Systems Software (SOFT)  
Technology Enhances the Arts (TECA)  
Translational Medical Sciences (TMED)

# Science Fair Judges

Last Name	First Name	Employer
Acheta	Jenica	Regeneron Pharmaceuticals
Backes	Benjamin	GE HealthCare
Bavda	Varun	Wadsworth Center, NYSDOH
Biederman	Casey	GlobalFoundries
Boiani	Sophia	Regeneron Pharmaceuticals
Bonitatibus	Peter	Rensselaer Polytechnic Institute
Bordwell	Alexander	Regeneron Pharmaceuticals
Braunstein	Jeffrey	University at Albany
Brockett	Mary	
Brun	Mike	GE Research, retired
Carpentier	Jared	Regeneron Pharmaceuticals
Chaturvedi	Seema	Siena University
Chittur	Sridar	UAlbany, SUNY
Czwakiel	James	Rensselaer Polytechnic Institute
Dawdy	Michael	Naval Nuclear Laboratory
Dey	Swarup	Regeneron Pharmaceuticals
DiFranzo	Susan	Hudson Valley Community College
Doherty	Mark	GE Vernova Advanced Research
Douglass	Steven	Naval Nuclear Laboratory
Ennis	Chris	GlobalFoundries
	Maja	
Fedorowicz	Aleksandra	Regeneron Pharmaceuticals
Feret	Elijah	SUNY RF/UAlbany
Fernando	Shamin	Regeneron Pharmaceuticals
Fisher	Elizabeth	Neural Stem Cell Institute
Flood	Caitlyn	Adirondack Environmental Services
Flynn	Brian	Regeneron Pharmaceuticals
Fraser	Keith	Rensselaer Polytechnic Institute
Gallagher	Ava	GlobalFoundries
Godbole	Eeshani	GE Aerospace
Gregg	Brian	Curia Global
Groom	Emily	Albany Medical College
Gulliksen	Ryan	Regeneron Pharmaceuticals
Guttenberg	Matt	GE Vernova
Hall	Andrew	Fluor Marine Propulsion Inc.
Harm	Ryan	Regeneron Pharmaceuticals
Hart	Greg	GlobalFoundries
Hawkins	Jacob	US Navy

Last Name	First Name	Employer
Herbst	Eric	
Hull	Olivia	Eurofins Scientific
Jackson	James	Regeneron Pharmaceuticals
Kadur		
Narayana	Brinda	NA
		Rensselaer Polytechnic Institute
Keshan	Neha	Rensselaer Polytechnic Institute
		Rensselaer Polytechnic Institute
Kirova-Snover	Margarita	
Knack	Madeline	
		Rensselaer Polytechnic Institute
Kuzmin	Konstantin	Rensselaer Polytechnic Institute
Ladison	Megan	Regeneron Pharmaceuticals
Latta	Dave	RPI / US Navy
Lincoln	Alexander	NYS
Maring	Brittney	Regeneron Pharmaceuticals
Maziba	Jehova Mgonja	Regeneron Pharmaceuticals
McGarrity	Kimberley	
Mondschein	Amanda	
Morrissey	Jennifer	Regeneron
Nagarajan	Kirthivasan	SI Group Inc.
		Rensselaer Polytechnic Institute
Natarajan	Kannathal	Rensselaer Polytechnic Institute
Natole Jr.	Michael	Regeneron Pharmaceuticals
Okoro	Blessing	RF SUNY
Peters	Chloe	Regeneron Pharmaceuticals

# Science Fair Judges Continued

Last Name	First Name	Employer
Powers Beggs	Bridget	National Grid
Ramesh	Pujhitha	UAlbany
Rovereto	Mark	GlobalFoundries
Salamida	Ashley	GlobalFoundries
Schmidt	Christopher	Regeneron Pharmaceuticals
Sedhain	Ashok	GlobalFoundries
Sharma	Geetu	Rensselaer Polytechnic Institute
Shukla	Piyush	Momentive Performance Materials
Sterinbach	Samuel	
Stofle	Heide	Regeneron Pharmaceuticals
Taylor	Hy	ESGR
Torelli	Amanda	Regeneron Pharmaceuticals
Townsend	Evangelos	Regeneron Pharmaceuticals
Townsend	Mindy	Siena University/Dudley Observatory
Van Valkenburg	Michael	Rensselaer Polytechnic Institute
Ventrice	Carl	University at Albany
Wang	Qi	University at Albany
Watson	Jared	Regeneron Pharmaceuticals

# Junior Division Projects (T = Team)

Project ID	Sage Floor	Last Name	First Name	Grade	Project Title
JT-ANIM-030	3rd	Anderson	Tracey	7	The Effect of Climate Change on the Larva Growth on Fruit Flies
JT-ANIM-030	3rd	Kocaj	Ezio	7	The Effect of Climate Change on the Larva Growth on Fruit Flies
J-BEHA-047	3rd	Fowler	Samuel	8	Perception and Pressure: The Grades of Anxiety
J-BMED-048	3rd	Elkins	Lillian	8	Hit the Hay: A Study on Sleep, Energy Drinks, and Academic Success in High School
J-BMED-049	3rd	Gargano	Giulietta	8	Run or Done: While Running, Do Shoe inserts Make an Impact?
JT-CHEM-028	3rd	Mollica	Benjamin	7	The Effects of Road Salt on Oxidation Rates of Freshwater Aquatic Systems
JT-CHEM-028	3rd	Timmins	Westin	7	The Effects of Road Salt on Oxidation Rates of Freshwater Aquatic Systems
J-EAEV-043	3rd	Stone	Bonnie	8	Ferrofluids vs Microplastics, The Effect of Ferrofluids on Removing Microplastics from Water
J-EAEV-045	3rd	Krattinger	Annabel	8	How Safe Is Your Water? - Testing Well Water Near Greenwich New York
J-EAEV-046	3rd	Connelly	Scarlet	8	Water Ecosystem v.s. Agricultural Pollution in Up-State NY
J-EAEV-051	3rd	Dartt	Madison	8	The Effect of Temperature on Algae Growth
J-ENBM-053	3rd	Fan	Aiden	6	Design and Testing of an Obstacle-Detecting Walking Stick
JT-ENEV-032	4th	Aierstok	Camden	7	Self Cooling Homes
JT-ENEV-032	4th	Talmadge	Annabelle	7	Self Cooling Homes
J-ETSD-085	4th	Wu	Leonardo	8	AI Assisted Real Time Athletic Performance Improvement
J-MATS-023	4th	Sheehan	Nola	8	Run or Done: While Running, Do Shoe Inserts Make an Impact?
J-MATS-039	4th	Davis	Dillan	8	Driven Straight or Sliced Off?
J-MATS-050	4th	Saunders	Bryce	8	What is Better Wood or Aluminum
J-MATS-104	4th	Rosenthal	Max	8	The Effect of Temperature on 3D Print's Tensile Strength
JT-PLNT-027	4th	Phelps	Madison	7	Don't be Shallow: The Effect of Depth of Seed on Dought Resistance of Plants
JT-PLNT-027	4th	Speanburg	Grace	7	Don't be Shallow: The Effect of Depth of Seed on Dought Resistance of Plants
JT-PLNT-029	4th	Anderson	Cora	7	Making a Splash: New Irrigation Techniques
JT-PLNT-029	4th	Powers	Tristan	7	Making a Splash: New Irrigation Techniques
J-PLNT-042	4th	Baker	Olivia	8	Keeping It Together: Testing the Effectiveness of Plants in Preventing Soil Erosion
JT-ROBO-038	4th	Noble	Charles	7	How AI Grading Affects The Education System: Should We Use It In Schools?
JT-ROBO-038	4th	Watson	Eleanor	7	How AI Grading Affects The Education System: Should We Use It In Schools?

# Senior Division Projects (T=Team)

Project ID	Walker Room #	Last Name	First Name	Grade	Project Title
S-ANIM-031	5219	Ulrich	Jeffrey	12	A Paleoartistic Reconstruction of Smilodectes gracilis Based on a Comparative Anatomical Approach
S-ANIM-041	5219	Zheng	Rui	12	Presentation: Effects of Visible Wavelength Exposure on Brown Planaria
S-ANIM-062	5219	Lindheimer	Tessa	12	Influence of Sea Cucumbers On Coral's Ability to Tolerate Heat Exposure
S-ANIM-065	5219	Cumming	William	12	Mechanics of Global Away Vectors in Reticulitermes
S-ANIM-096	5219	Tesfaye	Abiel	12	Red In Tooth and Claw: Usage of FEA to determine implications of Varanus salvadorii(Crocodile Monitor) functional morphology
S-ANIM-106	5219	Osmin	Brayden	12	Impact of Low-Frequency Boat Noise on the Behavioral Ecology of Soniferous Fish in the Hudson River
S-BCHM-014	3214	Johnson	Jayda	11	Strands of Stress: Measuring Hair Hormones as a Biomarker of Stress During the Israel-Iran 12-Day War
S-BEHA-006	6113	Sandu	Ana	12	The Role of Sensory Stimulation and Sleep Deprivation on Dognitive Performance in Drosophila melanogaster
S-BEHA-007	6113	Maurer	Lily	12	Observing the Effects of Varying Concentrations of Dibutyl Phthalate on Drosophila Melanogaster Sleep and Memory Using Aversive Taste and the Ethoscope.
S-BEHA-012	6113	Burns	Addison	12	Burnout or Breakthrough? How Sport Specialization Affects Overuse Injuries and the Well-Being of Female Lacrosse Athletes
S-BEHA-013	6113	Rossiter	Ella	12	Eosinophilic Esophagitis Elimination Diets: Assessing Reliefs and Barriers
S-BEHA-019	6113	Vasquez	Hailie	12	Cradle to Classroom: How Parent - Child Relationships Affect High School Academics
S-BEHA-020	6113	Higgins	Elizabeth	11	Fatherhood on the Bench: Do Daughters Make Judges More Feminist?
S-BEHA-021	6113	Krok	Abigail	12	Navigating the Curves: Emotional Effects of Scoliosis and Presence of Social Media
S-BEHA-063	6113	Smith	Alexis	12	Assessing the Influence of School-Wide Interventions on Feelings of School Connectedness
S-BEHA-066	6113	Collins	Abigail	12	The Effect of Cell Phones and Various Social Media Platforms on Preteens' Social Anxiety and Avoidance
S-BEHA-067	6113	Rainville	Sarah	12	Autonomous Motivation, Coach-Control, and the Athlete-Coach Relationship Correlated to Disordered Eating
S-BEHA-074	3214	Campbell	Victoria	12	Exploring The Impact of Screen Media Use in Early Childhood: The Role of Content, Engagement, and Socioeconomic Factors
S-BEHA-078	6113	Tasneem	Arisha	12	Attachment Styles Affect the Emotional Tone and Vividness of Dreams as a Result of Anxiety
S-BEHA-080	6113	Chen	Anne	12	Tinnitus Impact on Academic Performance and Social Life on High School Students
S-BEHA-092	6113	Zacarolli	Sophia	12	The Effects of Tracking Menstrual Cycle and ADHD Symptoms Through the Use of a Website and its Impact on Young Women's Understanding of the Correlation between Their Menstrual Cycle and ADHD Symptoms.
S-BEHA-097	6113	Sidique	Nihad	12	The Effect of Quran Recitation on Anxiety in High School and University Students

# Senior Division Projects Continued

Project ID	Walker Room	Last Name	First Name	Grade	Project Title
S-BEHA-099	6113	Zhang	Yimi	12	Clinicians' Attitudes Toward AI in Psychology and Its Role in Developing Treatment Plans
S-BEHA-107	6213	Zhang	Ann	10	TRACE
S-BEHA-110	6213	Schifano	Francesca	12	The Effects of Nature Exposure and Movement on High School Students' Productive and Creative Outputs at Taconic Hills High School, Craryville, NY
S-BEHA-111	6213	Smith	Ethan	12	The Effect of Animal Assisted Intervention on Adolescents with adhd Symptoms at Taconic Hills Cental School District
ST-BEHA-119	6213	Afghan	Ayesha	11	Listening Without Limits: AI's Role in Redefining Social Interaction
ST-BEHA-119	6213	Zhou	Olivia	11	Listening Without Limits: AI's Role in Redefining Social Interaction
S-BEHA-122	6213	Cheon	Emma	10	The Effects of Mental Fatigue on the Human Behavior and the Neurological Activation
S-BMED-011	3214	Narsapuram	Riddhi	12	The Effect of a Sublethal Amount of Sodium Fluoride in Memory Recollection and Sleep in Adult Drosophila using Aversive Taste Testing and Sleep Monitor Data
S-BMED-060	3214	Mulcahy	Fiona	11	Effects of Capsaicin on Lean Muscle Mass and Muscle Mass
S-BMED-070	3214	Wu	Flora	12	Maternal Exposure to Nitrate in Drinking Water and Risk of Cyanotic Congenital Heart Defects
S-BMED-073	3214	Mercer	Kaylee	12	The Impact of Travel Distance on Low Birth-Weight Rates in Selected Regions
S-BMED-077	3214	Rostkowski	Garrett	12	The Effects of Different Lacrosse Helmets and Facemasks on Head and Surface Impacts
S-BMED-079	3214	Harper	Alyssa	12	Correlation of Radon Awareness to Participant Age
S-BMED-105	3214	Kipp	Karrigan	12	Effect of Hip Flexor Strength and Flexibility on Toe-Touch Jump in High School Cheerleaders
S-BMED-114	3214	Hassler	William	12	Using 4D Computed Tomography Scans to Improve Localization of Hyperfunctioning Parathyroid Glands Compared to Traditional Sestamibi Scans from 2015 to 2025
S-BMED-116	3214	Kulkarni	Rohith	9	Analysis of the Relationship Between Heart Rate Variability (HRV) and Diet
S-BMED-124	3214	Rozario	Shreya	11	Using EEG Data to Investigate the Impact of Late Stage TSCI Knockouts on Seizure Activity
S-CBIO-008	3214	MacGregor	Erin	11	The impact of Gender on the Effects Elicited by Aerobic Exercise for Myotonic Dystrophy Type 1 Patients
S-CBIO-009	3214	DeMaria	Grace	12	Finding Potential Sex Differences in Various Body Systems of Myotonic Dystrophy Type 1 Patients using RNA Sequencing
S-CBIO-036	3214	Bergin	Laken	12	Transcriptomic Analysis of Alzheimer's Disease for the Identification of Potential Biomarkers
S-CBIO-059	3214	Ramesh	Darshni	11	Gut Microbiota Diversity in Alzheimer's Patients Versus Healthy Controls: A Meta-Analysis
S-CBIO-069	3214	Skurnick	Jackson	11	The Impact of Dataset Imbalances on False Negatives in AI-Based Breast Tumor Classification

# Senior Division Projects Continued

Project ID	Walker Room	Last Name	First Name	Grade	Project Title
S-CBIO-091	3214	Lyubarov	Jacob	12	Transcriptomic Analysis of Differentially Expressed Genes and Alternative Splicing Events in Patients with Alzheimer's Disease (AD)
S-CELL-016	5219	Reiss	Zoë	12	Effects of BRAF-V600E Activation in Mouse Intestinal Organoids
S-CELL-052	5219	Saleem	Aleena	11	Building a Signature Matrix for Cell Deconvolution in Rat Models of Spinal Cord Injury
S-CELL-058	5219	Ren	Rose	11	Investigating the Roles of Mx2 and SAMHD1 in HepG2 Cells
S-CELL-072	5219	Duke	Kloe	12	Impact of Copper Compound and Concentration on the Filamentous Growth of <i>Saccharomyces cerevisiae</i>
S-CELL-076	5219	Sathiyamoorthy	Swathi	12	Quantitative Analysis and Phenotyping of Retinal Layer Degeneration in Murine Models Following Intravitreal Injections
S-CELL-083	5219	Gupta	Tavish	11	Role of Actin Binding Proteins in the Uterine and Vulval Muscles of <i>Caenorhabditis elegans</i>
S-CELL-084	5219	Yalamanchi	Ishika	12	IKK $\alpha$ and IKK $\beta$ are Required for the IL-6-induced Antiviral Transcriptional Response
S-CELL-089	5219	Arqam	Alina	12	Role of NDRG1 in Ovarian Cancer Growth and Lipid Metabolism
S-CELL-098	5219	Monsur	Nirvana	11	Optogenetic Activation of Split-GAL4-Defined sNPF Neuron Subsets and Their Effects on Sleep in <i>Drosophila Melanogaster</i>
S-CELL-117	5219	Zyskowski	Sienna	12	Cloning a Key Factor Implicated in Human Placenta Development
S-CELL-121	5219	Gerber	Shaya	12	Effects of Menopause and High Fat Diet on Adult Hippocampal Neurogenesis in a Mouse Model of Alzheimer's Disease
S-CHEM-002	6219	Bonitatibus	Isabella	11	The Orbit of Coordination: Color and Reactivity in Diaza-18-Crown Jewel Complexes as a Precursor to Medical Imaging
S-CHEM-018	6219	Trenczer	Zachary	12	The Stability of Hetero Dipeptides in Concentrated Sulfuric Acid: Implications for the Habitability of Venusian Clouds
S-CHEM-113	6219	Yin	Joy	12	Computational Comparison of Host-Guest Interactions Between Cyclodextrins and Short Polymer Strands for Potential Microplastic Removal
S-EAEV-010	6213	Villanueva	Justin	12	In a Pinch: Exploring Fiddler Crab Contributions to Carbon Sequestration and Heavy Metal Concentrations in Hudson River Tidal Marsh
S-EAEV-024	6213	Li	Everitt	12	Thermal and Barometric Constraints on the Goat Rocks Volcanic Complex
S-EAEV-044	6213	Pradeep Nag	Ishae	11	Implementation and Assessment of Environmental Impact from Composting in an Upstate New York Suburban School
S-EAEV-057	6213	Bagchi	Ella	11	Tracking Air Pollution from Space: Do Satellite Measurements Accurately Estimate Ground-level Air Quality?
S-EAEV-068	6213	Yecies	Isabella	11	Temperature and Precipitation Effects on Wood Frog Reproductive and Bud Burst Phenology in Ephemeral Pools in Upstate New York

# Senior Division Projects Continued

Project ID	Walker Room	Last Name	First Name	Grade	Project Title
S-EAEV-095	6213	Patwoary	Borny	12	Investigating Long-Term Trends in Arctic Ocean Phytoplankton Chlorophyll from MODIS Aqua Satellite and Sea-Ice Extent Datasets by the NSIDC (2003–2024)
S-EAEV-103	6213	Powell	Ruby	12	Analyzing Oxygen and Carbon Isotope Ratios in Shells of the Planktonic Foraminifera <i>Turborotalita quinqueloba</i> from Deep-Sea Sediments as an Indicator of Climate Changes in the North Atlantic Ocean During the Deglaciation Following the Last Ice Age
S-EBED-055	3109	Zhang	Gianna	10	Green-Light Security for AI Computing
S-EGSD-015	3109	Schloss	Trey	12	Calculating Conductance of AMAROK's NBI and RFI Vacuum Chambers
S-EGSD-054	3109	Kumar	Rishabh	11	The Synthesis of Vanadium Oxide Nanorods and their Application in Lithium-ion Batteries for Efficiency and Longevity
S-EGSD-088	3109	Pagan	Wyatt	10	AMSTEG-RA
S-EGSD-109	3109	Dennis	Benjamin	12	Research Proposal: Extending the Range of Wind Turbines using MATLAB Simulink
S-EGSD-123	3109	Patel	Abhilash	12	Performance of Nanomaterial Noble Metal and Reduced Graphene Oxide Catalysts with Python Data Analysis for Proton Exchange Membrane Fuel Cells
S-ENBM-025	6213	Burns	Brendan	12	Hydration Status Influences Agreement Between Bioelectrical Impedance Analysis and Dual-Energy X-ray Absorptiometry in Body Fat Assessment
S-ENEV-035	3109	Otte	Ava	12	Construction of an Advanced Crossflow Filtration System Integrating Electric Field Technology
S-ENEV-118	3109	Mancuso Jr.	John	12	Solar Aerosol Injections and Their Effect on Diffuse Light and Solar Panel Efficiency
S-ETSD-087	6213	Sung	Sean	10	A Novel Approach to Extract Channel Mobility of SiC MOSFETs When Using Self-Aligned Channel Scheme
S-MATH-081	3109	Sun	Brian	11	A Sparsity Threshold for Advantageous Sparse Matrix Multiplication
S-MATH-082	3109	Lin	Samuel	11	Modeling Dandelion Spread Using Game Theory
S-MATS-005	6219	Hancock	Daniel	12	Alternative Methanol for Eco-friendly Silica Aerogel
S-MATS-086	6219	Sung	Simon	11	Machine Learning–Based Classification of Semiconductor Wafer Defects
S-MATS-093	6219	Mukherjee	Mahima	12	A Classification Model for Evaluating The Thermoelectric Quality Factor ( $\beta$ ) Using Bonding Features
S-MATS-120	6219	Cao	Joseph	11	AI-Based Prediction of Favorable Molecular Properties to Aid the Discovery of PFAS-Free Small-Molecule Surfactants for Firefighting Foams
S-MCRO-004	6219	Janicke	Rose	12	The co-occurrence of the mer operon with antimicrobial resistance (AMR) genes in <i>Salmonella enterica</i> serotype Typhi from human clinical samples in New York State.
S-MCRO-056	6219	Pillai	Priya	11	SAMD9 Protein and Flavivirus Replication

# Senior Division Projects Continued

Project ID	Walker Room	Last Name	First Name	Grade	Project Title
S-MCRO-075	6219	Francis	Destiny	12	The Effect of Chlorella pyrenoidosa and Porphyridium cruentum on Salvia nemorosa and Baptisia 'Lemon Meringue' infected with Powdery Mildew
S-PHYS-022	3109	Vogel	Maxwell	12	Investigating the Formation of Crater Terraces in the Oxia Palus Region of Mars
S-PHYS-064	3109	Wajda	Roy	12	Improvement on the Measurement of a Ratio of Branching Fractions for $\Lambda 0b \rightarrow \Lambda + c \pi - \pi + \pi -$ relative to $\Lambda 0b \rightarrow \Lambda + c \pi -$
S-PHYS-094	3109	Freed	Emma	12	Galaxy Quenching in Intermediate-sized Dark Matter Halos including Censored Data
S-PHYS-102	3109	Jacob	Tejas	10	Developing and Evaluating Improved Models for Orbital Trajectory Generation Using N-Body Dynamics Applied to Lambert's Problem- Spacecraft Trajectory Prediction Under Realistic Gravity
S-PHYS-108	3109	Bailey	Aneira	12	The Effects of Various Albedos and Concentrated Amounts of CO <sub>2</sub> on the Climate of the Exoplanet TRAPPIST-1e Compared to Earth
S-PHYS-112	3109	Mehrotra	Ayushi	12	Influence of Surfactants on Interfacial Bubble Behavior Under Controlled Turbulent Conditions
S-PLNT-071	6219	Sesselman	Emma	12	The Effect of Blue Light Intensity on Anthocyanin Growth and Light Stress Response in Arabidopsis thaliana
S-ROBO-115	3109	Afghan	Ahmad	10	Automated Detection of Offensive Language in Online Text Using Machine Learning Models
S-SOFT-090	3109	Gandhi	Ahana	11	Detecting AI-generated Images Using Metadata Anomalies
S-TMED-061	6213	Gillani	Arisa	12	The Association Between Antibiotic Use and Immunotherapy Outcomes in Smokers with Advanced Non-Small Cell Lung Cancer: A Retrospective Study

# Teacher Sponsors and Participating Schools

Teacher Name	School Name
Andrew Licari	Academy of The Holy Names
Christopher Reddy	Averill Park High School
Jennifer Gonyea	Bethlehem Central High School
Gina Reals	Burnt Hills - Ballston Lake CSD
Rochelle Stiverson	Cairo-Durham MS
Jonathan Wedvik	Clarkstown High School South
Alicia Tommasino Alan Koslow	Cohoes High School
Heidi Gleason	Columbia High School
Sean Mayer	Cornwall Central High School
Hao Guangyu	Emma Willard School
Kristen Blanchard	Farnsworth Middle School
Michael O'Brien	Germantown CSD
Nicole Dixon, Patrick Williams	Greenwich Central School District Guilderland High School
Thomas Vartuli	Hudson Falls Central School District
Kate Leto	Iroquois Middle School
Daniel Maloney	La Salle Institute
Amanda Bates Jessica Puopolo	Monroe-Woodbury High School
Chad Foti	New Paltz High School
Meagan Hughes Dan Mattoon	Niskayuna High School
Kristen Kleinman Katherine Jacobson Matthew Forman	Nyack High School
Michael Ciarelli	Pine Bush High School
Krista Sheehan	Rondout Valley High School
Peter Robinson Rebecca Goldfischer	Saratoga Springs High School
Robin Ogilvie	Schoharie Junior/Senior High School
Nathaniel Covert	Shaker High School and Shaker Junior High School
Eric Davenport	Shenendehowa High School
Ryan Beaudoin Wendell Hala	Suffern High School
Linda Hopkins	Taconic Hills High School
Kristin Touw	Warwick Valley High School

# Awards

## Special Awards

The purpose of these awards is to give recognition to specific areas of science research.

## Regional Awards

These special awards were developed by our Regional Fair and are not offered at the International finals.

Please note, some of the awards are for both divisions and others are for only one of the divisions.

*Monetary awards to teams are shared. Students must download a W-9 Form and Award Winner Letter Form from the GCRSEF website under **Forms** and submit them to Fair Director, Joan Wagner to receive the monetary award. Forms can be sent by email to [gcrsef@gmail.com](mailto:gcrsef@gmail.com) or to Joan Wagner, 53 Otter Way, Lake Placid, NY 12946*

### **American Society for Microbiology, Eastern New York Branch**

This award is given to one project that involves research related to microbiology.

**Senior Division Award:** Certificate plus \$100.

**Junior Division Award:** Certificate plus \$60.

### **Brown League Sports Science Award**

The award is presented to the project that uses a scientific approach to further an understanding or improve the performance of a sports-related phenomena. It is in memory of John Stasenکو who first initiated this award.

**Senior Division Award:** \$50 Amazon Card; no teams.

### **Cullen Blake and Deena Mousa Excellence in Science Award**

This award is given to a student who demonstrates both a love of science and the skill for doing science. This is a junior division award only.

**Junior Division Award:** Certificate plus \$100.

### **Curia Global: Passion for Scientific Endeavors Award**

This award goes to individual(s) who demonstrate a passion for scientific discovery and excellence as exemplified in the area(s) of chemistry, materials, environmental or medicinal applications.

**Senior Division Award:** Certificate and \$150.

**Junior Division Award:** Certificate and \$100.

### **Dudley Observatory Award**

The Dudley Observatory offers an award for a project in astronomy or space science. It is given in memory of past president, Sam Wait.

**Senior Division Award:** Certificate plus \$100.

**Junior Division Award:** Certificate plus \$60.

### **GCRSEF Excellence in Computer Science Award**

This award is for a project that demonstrates innovative use of computer programs to address an important problem facing society. This award may be given to an individual or a team.

**Senior Division Award:** Certificate plus \$200.

### **GlobalFoundries STEM Award**

Awarded to a project that demonstrates creative use of engineering, chemistry, physics, or computer science to address a problem identified in cooperation with community or industry partners.

**Junior Division:** Certificate + \$75.

**Senior Division:** Certificate plus \$150.

### **Linda Austin DNA Science and Technology Award**

This award is offered for research in DNA science and technology. It is in memory of Linda Austin who brought DNA Science and Technology to many, many schools in the Capital Region.

**Senior Division Award:** Certificate plus \$100.

## Regional Awards (continued)

### **Momentive Performance Materials**

This award is for a project that demonstrates the innovative use of synthetic chemicals to improve the environment and/or quality of life.

**Senior Division Award:** Certificate plus \$100.

**Junior Division Award:** Certificate plus \$60.

### **National Association of Biology Teachers**

This award is given an outstanding project in the life sciences.

**Senior Division Award:** Certificate and \$75.

**Junior Division Award:** Certificate and \$50.

### **National Grid Award for Energy and the Environment**

The award is presented to individual(s) with a research project/exhibit that includes consideration and/or achievement in energy reduction, sustainability or reduced impact to the environment.

**Senior Division Award:** Certificate plus \$100.

**Junior Division Award:** Certificate plus \$60.

### **Price Chopper's Golub Foundation Award in Memory of Jane Golub**

This award is for a project in nutrition that promotes good health.

**Senior Division Award:** Certificate plus \$100.

**Junior Division Award:** Certificate plus \$60.

### **Regeneron George Yancopoulos Award**

Awarded to the project that demonstrates the most creativity in improving or identifying health issues in an individual.

**Senior Division Award:** Certificate plus \$750.

**Junior Division Award:** Certificate plus \$250.

### **RPI Scholarship**

This award is given to outstanding project for grades 9-11. The Planning committee for the Fair reserves the right whether, or not to offer this award. (No teams).

**Senior Division Award:** \$50,000

### **Scientific American Magazine Award**

This award is a one-year subscription to Scientific American to senior division grand prize awardees.

### **SI Group Smart Chemistry Award**

This award will be presented to a project that demonstrates ingenuity in utilizing chemistry to promote environmental sustainability.

**Senior Division Award:** Certificate plus \$150.

**Junior Division Award:** Certificate plus \$100.

### **STANYS: Eleanor Miller Reed Science Research Award**

This award is given to a project that "captures the spirit of science research" and is in memory of Mrs. Reed.

**Senior Division Award:** Certificate and \$100.

**Junior Division Award:** Certificate and \$60.

### **UAlbany CNSE Design for Society Award**

This award is to a project that demonstrates a creative use of engineering or computer science to address a problem identified in cooperation with community or industry partners.

**Senior Division Award:** Certificate and \$100 gift card

### **UAlbany CNSE Scholarship**

This UAlbany CNSE scholarship, which provides \$2000 in annual support for non-tuition academic expenses, will support a student who: 1) participated in the Greater Capital Region Science and Engineering Fair; and 2) selects a major housed within the College of Nanotechnology, Science, and Engineering (CNSE).

### **Walter Eppenstein Physics/Astronomy Award**

This award is for an outstanding physics or astronomy project. It is in memory of Professor Walter Eppenstein, who brought this science fair to RPI.

**Senior Division Award:** Certificate plus \$75.

**American Psychological Association** This award recognizes outstanding research in psychology under the category of behavioral and social sciences or any category related to psychology (e.g., animal sciences, biochemistry, computer science, environmental science, mathematical science, medicine and health).

**Senior Division Award:** Certificate plus one-year APA membership.

## **Association for Women Geoscientists**

This award is offered to female students. Teams with at least one female are also eligible. These projects should exemplify high standards of innovativeness and scientific excellence in the geosciences. Special consideration will be given to projects that increase the public awareness of geosciences, illustrate the interdisciplinary nature of the geosciences or promote the sensitivity to Earth as a global system.

**Junior Division Award:** Certificate.

## **Citadel | Citadel Securities Innovation Prize**

The student(s) in the winning project will have:

- Exemplified ingenuity and innovation through their project idea, goals, and/or design, thinking creatively about how to solve problems.
- Collected data in a systematic and replicable way with consistency and accuracy
- Utilized exceptional data analysis techniques, making data-driven decisions and conclusions
- Used appropriate statistical analysis to accurately address the significance of results.

**Junior Division:** \$100 plus certificate. Teams share prize money.

**Senior Division:** \$200 plus certificate. Teams share prize money.

## **Department of Defense (DoD) STEM Leadership Prize**

This prize acknowledges the middle school student or team that demonstrates excellence in STEM, as well as the problem-solving skills and determination to overcome challenges throughout the research project.

**Junior Division Award:** Certificate and \$100. Teams share prize money.

## **Lemelson Early Inventor Prize**

This award is offered to an individual or team who: (1) Demonstrates problem-solving by identifying a critical problem; (2) Applies empathy and STEM knowledge to find a practical solution; (3) Displays entrepreneurial thinking by developing a tangible invention; (4) Ideally exemplifies environmentally-responsible thinking in their research and creation of the project.

**Junior Division Award:** Certificate plus \$100, to be shared if a team.

## **NASA Earth System Science Award**

This is for a project exhibiting a clear and focused purpose on Earth System Science that is testable using the science process. Founded in 1958 by President Dwight D. Eisenhower, NASA's mission is to pioneer the future in space exploration, scientific discovery and aeronautics research, answering basic questions like: What's out there in space? How do we get there? What will we find?

**Senior Division Award:** Certificate.

## **National Oceanic and Atmospheric Administration (NOAA) "Taking the Pulse of the Planet" Award**

This award goes to research that emphasizes NOAA's mission of science, service and stewardship in climate, weather, ocean and coastal sciences.

**Senior Division Award:** Certificate, Letter and pin.

## **Regeneron Biomedical Science Award**

This award is offered to a project in one of the following categories: Biochemistry, Biomedical & Molecular Biology, Cellular and Molecular Biology, Computational Biology & Bioinformatics, Microbiology and Translational Medical Science.

The research has all or some of these attributes: (1) Lead with Science: Demonstrate command of and passion for science, (2) Take on Big Ideas: Exemplify traits of a driven thinker, (3) Make it Happen: Demonstrate flexibility and a continuous learner mindset, (4) Be Great Together: Embodies traits of an inspiring leader, (5) Do What's Right: Embody a drive to use science for good.

**Senior Division Award:** Certificate plus \$375. Teams share award money.

## **Regional Ricoh Sustainable Development Award**

This award recognizes projects that demonstrate outstanding efforts in addressing issues of environmental responsibility and sustainable development.

**Senior Division Award:** Certificate.

## **Scientific American Subscription**

Scientific American recognizes outstanding student research. This award goes to the six grand prize awardees.

**Senior Division Award:** Certificate and one-year subscription to Scientific American.

## **Society for *In Vitro* Biology**

To be awarded to the most outstanding 11th grade student exhibiting in the areas of plant or animal *in vitro* biology or tissue. If there are no 11th graders available for award, it can be offered in other senior division grades.

**Senior Division Award:** Certificate and access to In Vitro Cellular and Developmental Biology Journal.

## **Stockholm Junior Water Prize (SJWP)**

This is for the best projects related to water quality, water resource management, water protection, water treatment or wastewater treatment. Up to three senior division awards may be given.

**Senior Division Award:** Certificate plus invitation to compete in the State Competition. **Up to three awardees** may register to compete in the State competition by April 15th. Ten finalists at the Regeneron International Fair will receive an all-expense trip to Stockholm, Sweden where they will represent the United States to compete in the International Stockholm Junior Water Prize competition. Each winner must complete the online form to compete at the higher level. **Prize may have three awardees.**

## **U.S. Air Force**

This award is given in any area of science and engineering (two junior and two senior awards). No teams.

**Senior Division Award:** Certificate and gifts.

**Junior Division Award:** Certificate and gifts.

## **U.S. Metric Association**

This is for a student whose project involves a significant amount of quantitative measurement, and which best uses the SI metric system for those measurements.

**Senior Division Award:** Certificate and 1-year membership.

**Junior Division Award:** Certificate and 1-year membership..

## **U.S. Navy Office of Research**

Five awards are available. Two junior and three senior awards (no teams).

**Senior Division Award:** Certificate, medal and monetary gift.

**Junior Division Award:** Certificate and medal.

## **Yale Science and Engineering Association Inc.**

This award is given to the most outstanding 11th grade student exhibiting in the areas of Computer Science, Engineering, Physics or Chemistry (team or individual).

**Senior Division Award:** Certificate and pin.

*A preliminary certificate will be mailed to recipient.*

# Grand Prizes

## Senior Division

### 1st Place

GCRSEF Certificate, ISEF Finalist certificate, gold medal, invitation to the **Regeneron ISEF**, \$1000 from RPI School of Science; teams split the prize money. Year e-subscription to **Scientific American**.

### 2nd Place

GCRSEF Certificate, ISEF Finalist certificate, silver medal, invitation to **Regeneron ISEF**, \$750 from RPI School of Science; teams split the prize money. One year e-subscription to **Scientific American**.

### 3rd Place

GCRSEF Certificate, ISEF Finalist certificate, bronze medal, invitation to **Regeneron ISEF**, \$500 from RPI School of Science; teams split the prize money. One year e-subscription to **Scientific American**.

### 1st Honorable Mention:

Certificate, ribbon, invitation to **STANYS State Science Congress**, \$250,, teams split the prize money. One year e-subscription to **Scientific American**.

### 2nd Honorable Mention

Certificate, ribbon, invitation to **STANYS State Science Congress**, \$150; teams split the prize money. One year e-subscription to **Scientific American**.

### 3rd Honorable Mention

Certificate, ribbon, invitation to **STANYS State Science Congress**, \$100.00; teams split the prize money. One year e-subscription to **Scientific American**.

## Junior Division

### 1st place

GCRSEF Certificate, Thermo Fisher Scientific JIC Certificate, gold medal, \$750 from RPI School of Science; teams split the prize money, invitation to **STANYS State Science Congress and Invitation to Thermo Fisher Scientific Junior Innovators Challenge (JIC)**.

### 2nd Place

GCRSEF Certificate, Thermo Fisher Scientific JIC Certificate, silver medal, \$500 from RPI School of Science; teams split the prize money, invitation to **STANYS State Science Congress and Invitation to Thermo Fisher Scientific Junior Innovators Challenge (JIC)**.

### 3rd Place

GCRSEF Certificate, Thermo Fisher Scientific JIC Certificate, bronze medal, \$250 from RPI School of Science; teams split the prize money, invitation to **STANYS State Science Congress and Invitation to Thermo Fisher Scientific Junior Innovators Challenge (JIC)**.

### 1st Honorable Mention

GCRSEF Certificate plus \$150. Teams split the prize money.

### 2nd Honorable Mention

GCRSEF Certificate, ribbon, \$100. Teams split the prize money.

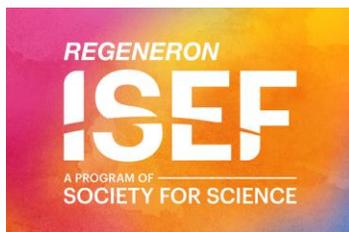
### 3rd Honorable Mention

GCRSEF Certificate, ribbon, \$75; teams split the prize money.

The Regeneron GCRSEF may send up to three projects to Regeneron ISEF. The Planning Committee reserves the right to decide how many go to Phoenix, Arizona from May 10-15, 2026. All expenses are paid by GCRSEF.

The STANYS State Science Congress is hosted by ESF, Syracuse, NY, in June 2026.

Thermo Fisher Scientific Junior Innovators (JIC) online information is due June 10, 2026 by 8:00 PM EDT. Semi-finalists will be announced September 2, 2026. Finalists announced September 16, 2026  
National finals will be held in Washington, DC in October 2026.



# Sponsors

## **Copernicus (Title Sponsor, \$15,000)**

Regeneron Pharmaceuticals

## **Galileo (\$5000)**

University at Albany College of Nanotechnology, Science and Engineering  
RPI Admissions, RPI School of Science  
National Grid

## **Sagan (\$2500-\$3000)**

GE Aerospace Research  
GlobalFoundries  
Momentive Performance Materials

## **Brache (\$1000-\$2000)**

Curia Global  
SI Group  
Price Chopper's Golub Foundation

## **Newton's Apple (\$250-\$900)**

Eastern Branch, American Society for Microbiology (ASM)  
KAPL NOVA  
Stewart's Shops

## **Additional Support**

Dudley Observatory  
Eastern Section of Science Teachers Association of NYS (STANYS)  
National Association of Biology Teachers (NABT)  
SAVVAS Education Books for lottery  
Scientific American (Subscriptions)

## **Special Support from Xerxes Foundation (Lincoln M. Hull)**

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