



Hosted and sponsored by  
**The School of Natural Sciences and  
Mathematics**  
and  
**Stockton University**





School of Natural Sciences and Mathematics

P: 609.652.4546 • F: 609.626.5515

101 Vera King Farris Drive | Galloway NJ 08205-9441

[stockton.edu](http://stockton.edu)

Date: March 16, 2024  
To: Participants in the 49<sup>th</sup> Annual Jersey Shore Science Fair  
From: Amanda Norvell, Dean of Natural Sciences and Mathematics  
Subject: Welcome to Stockton University

On behalf of President Joe Bertolino, Interim Provost and Vice President for Academic Affairs Marissa Levy, and the faculty, staff and students in the School of Natural Sciences and Mathematics, I welcome you to our Galloway campus. We are excited to host the updated numbers from 340 student-scientists and 300+ projects which represent many of the region's schools.

Congratulations to our future scientists. As you have worked on these projects, you have had the opportunity to learn about the key principles of the scientific method, to develop hypotheses and design experiments to test your predictions. I hope you have found tremendous satisfaction in overcoming the challenges scientists face, for example grappling with unexpected results. The skills you are developing are identical to those needed by researchers, scientists, and professionals around the world as we work to address the global challenges that we face, such as climate change or antibiotic resistance, that require STEM-based solutions.

As you are thinking about your future education, I would like to invite you back to visit the University during our spring [Discover Stockton Open House event](#) on Saturday, March 23, 2024. We offer an array of innovative and forward-looking academic programs for undergraduate students, as well as for post-graduate education and certification. Undergraduate degree programs are offered in Applied Physics, Biochemistry/Molecular Biology, Biology, Chemistry, Computer Science, Environmental Science, Geology, Health Science, Marine Science, Mathematics, Nursing, Public Health, and Sustainability, as well as dual degrees in engineering, pharmacy, and medicine with our university partners (Rutgers, Rowan and NJIT). Our graduate and doctoral degrees focus on disciplines such as Coastal Zone Management, Communications Disorders, Data Science and Strategic Analytics, Environmental Science, Nursing, Occupational Therapy, Physical Therapy, and Nursing Practice. In addition, we support a naturally grown farm, arboretum, pinelands research reserve, and a fleet of coastal oceanographic vessels ran out of the Marine Field Station located on the waterfront in nearby Port Republic.

Please visit the [Academic Affairs website](#) to learn more about our majors and how a Stockton education it may help you reach your goals. Should you want to visit the campus to tour our science facilities, Marine Science and Environmental Field Station in nearby Port Republic, or meet our faculty and students, please feel free to contact the School of Natural Sciences and Mathematics office ([nams@stockton.edu](mailto:nams@stockton.edu)).

I commend you all on a job well done and hope you enjoy the rest of the day.

A handwritten signature in black ink that reads "Amanda Norvell".

EXIT TO PARKING  
LOT

**MED**  
Loc# 209 - 236

**MIC**  
Loc # 237 - 259

**PHY**  
Loc # 260 - 286

**ZOO**  
Loc # 287 - 307

**TMP**  
Loc # 308 - 324

EXIT TO  
CAMPUS

**ENV**  
Loc # 160 -  
190

**ESS**  
Loc # 123 -  
134

**MAT**  
Loc # 191  
- 208

**ENG**  
Loc # 135 -  
159

**BLEACHERS**

**PLEASE READ THIS**

1. Projects must comply with ISEF rules, including;  
NO liquids, chemicals, field samples, or tissues (plant, animal, human, etc.)-no living or field-collected samples or organisms for display
2. Use your **location number (Loc #)** to find your spot
3. There is no power available to any projects

**BLEACHERS**

EXIT TO PARKING  
LOT

**CSC**  
Loc# 113 - 122

**COM**  
Loc# 88 - 112

**CHM**  
Loc # 65 - 87

**BOT**  
Loc # 41 - 64

**BCH**  
Loc # 27- 39

**BSS**  
Loc # 1 - 26

**MAIN ENTRANCE**

# Contents

**All food Service and most appropriate areas for visitors to pass time during the 9:00 am to 12:00 pm judging sessions will be in the Campus Center.**

**All lunchtime Food Service will take place in the Campus Center.**

## **Interested in what Stockton has to offer? Then visit our tables in the Coffee House...**

The Admissions Office will offer a staffed table in the Coffee House area and campus tours at 10:30 AM and 12 PM. Guided tours are also available during the week. You can also visit us during our next open House on **Sunday March 26, 2023**. Call Admissions with questions or to schedule a tour 609-652-4261.

Information tables for the School of Natural Sciences and Mathematics and the Atlantic Cape Community College will be in the Coffee House area as well.

# Jersey Shore Science Fair Program

## March 16, 2024

### **7:45 – 8:45 am**

Project Registration – no earlier please

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### **7:45 – 9:00 am**

Safety inspection. **Displays must comply with ISEF regulations.**

Students, please wear registration badges and remain by your displays

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### **8:00 – 9:00 am**

Judges will meet in the Campus Center Event Room

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### **9:00 – 12:00 pm**

Project judging. Students must wear registration badges and remain by their projects until 12 noon. Judges have until noon to visit and/or revisit projects. In order to be evaluated, students must be present. If a student leaves to use the restroom, please tell the person next to you in case judges come by at that time.

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### **12:00 – 1:00 pm**

Project area opens to the public. **Student, please leave projects on display until 1:00 p.m.**

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### **1:00 – 1:15 pm**

Students may take down displays

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### **1:15 pm**

Awards Ceremony – All ages and categories, Sports Center

# Code of Conduct

*For teachers, relatives and friends of the participants and other guests:*

The Science Fair provides an opportunity for students to talk with judges about their science projects. For this to occur without distraction, it is important that, during the judging period, the judges and students be left undisturbed. Therefore, between 9:00 am and noon, while judging is taking place, everyone except the judges and the students are asked to leave the immediate judging area. Individuals having questions about the judging process are asked to bring those questions to the Judging Center in the Campus Center Event Room.

Students must wear registration badges and remain by their projects until 12 noon. Judges have until 12:00 PM to visit and/or revisit projects – in order to be evaluated students must be present. If a student leaves to use the restroom, please tell the person next to you in case judges come by at that time.

Thank you for your cooperation.

## JSSF Acknowledgments

**Dr. Amanda Norvell** – Dean, School of Natural Sciences and Mathematics, Stockton University

**Dr. Christine Schairer** – JSSF Director and Safety Officer, Stockton University

**Rosanne Weiss** – Chief Judge, Retired FAA

**Miguel Borbon**- Logistical Management, Stockton University

**Steve Evert**- Former Stockton University Representative and Logistical Management Stockton University

**Adriane Sicknick** – Media and Publication Specialist, Stockton University

**Lou Regan** –Web Developer, Stockton University

**Marie Jelinski** – Special awards and business operations

# Special Awards

The Jersey Shore Science Fair Committee and the School of Natural Sciences and Mathematics would like to acknowledge the following groups for providing special awards to the participants of the 48<sup>th</sup> annual Jersey Shore Science Fair:

**The Natural Science and Mathematics Department** – The NAMS Department awards gift certificates to the 1<sup>st</sup> place projects in the Upper-level divisions.

**Institute of Electronics and Electrical Engineers** – The IEEE and Women in Engineering (WIE) award special prizes to the top projects in computer science and/or engineering.

**The Paul Saraduke, Jr. Award** – The top upper-level physics project will receive an award made possible through a generous gift from the Saraduke family as a living memorial to Paul Saraduke, Jr. Paul was a member of the Stockton NAMS staff, and served regularly as a judge. This award is given in hopes that those that receive it will be encouraged to further pursue their interest in physics.

**American Chemical Society** – Awards two prizes to the projects in upper and intermediate chemistry divisions.

**Atlantic Cape Community College** – Provides an award to the top projects for Junior medicine and engineering categories.

**Save Barnegat Bay organization** will present an award for the top project representing Barnegat Bay. Save Barnegat Bay is a 45-year-old grassroots organization whose mission is to restore and protect the Barnegat Bay Ecosystem. Their environmental education programs strive to teach about Barnegat Bay and its conservation. Their campaigns engage everyone throughout the watershed to be more conscientious of how they are affecting the bay and its wildlife for the future.

# Schools in JSSF 2024

Academy of Allied Health and Science

Atlantic Christian School

Biotechnology High School

Bishop McHugh Regional Catholic School

Cape Christian Academy

Cape May County Technical School

Central Regional High School

Chelsea Heights Elementary

Egg Harbor Township High School

Eugene Tighe School

Folsom Elementary School

Galloway Township Middle School

High Technology High School

Holmdel High School

Home Schooling

Howell Middle School South

Lacey Township High School

Lakewood High School

Lower Cape May Regional High School

Manalapan-High School

Manalapan-Englishtown Middle School

Marine Academy of Technology & Environmental Sciences (MATES)

Middletown High School South

Pilgrim Academy

Ranney School

Rumson Fair Haven Regional High School

Smithville School

Sovereign Avenue School

Texas Avenue School



The Marine Academy of Science and Technology (MAST-Sandy Hook)

Toms River High School East

Toms River High School North

Toms River Intermediate East

Toms River Intermediate North

Toms River Intermediate South

# JSSF 2024 Judges and Affiliations

Rosanne M. Weiss	Atlantic Cape Community College
Tim Alexander	Drexel University
Armen R. Amirian	Gemological Institute of America
Lauren R. Baltera	Stockton SUBS club
Brittany Berchtold	Stockton University
Marium Bhatti	Stockton University
Michael Bolicki	Atlantic Cape Community College
Cheryl D. Brown	LS Technologies
Karen Brundage-Johnson	Atlantic Cape Community College
Joseph F. Burns	FAA Tech Center, retired
Karyn A. Camilo	No Affiliation
Mike G. Campbell	Federal Aviation Administration (FAA)
Melissa B. Castone	Rowan College of South Jersey
Lynn S. Catterson	No Affiliation
Anjali Chakradhar	Harvard University
Usama Chaudhri	Stockton University
Cambell E Clark	Stockton University
Judith E. Coburn	ACITech
Dick Colby	Stockton University
Jake K. Collier	Federal Aviation Administration (FAA)
Christine Covello	None
Dennis M. Covello	Retired Educator
Jamie Covello	State of New Jersey
Holly M. Cyrus	FAA Tech Center AvSTEM
Gayle R. D'Abate	Federal Aviation Administration (FAA)
Erin DeLong	Atlantic Cape Community College
Neera Desai	Atlantic Cape Community College
Michael C. Dorsch	Atlantic Cape Community College
Michelle Fitzgerald	Egg Harbor Township High School
Kathleen Ghanavati	Retired Teacher
Marie Gleason	Drexel University
Rosemary G. Goldberg	Galloway Township Middle School
James M. Gorman	Retired Education Coordinator for Operating Engineers
Darrell Gray	Retired
Michael Hackett	Community College of Philadelphia
John Hensyl	Federal Aviation Administration (FAA)
Hannah Huie	Stockton University
Ida Jones	Red Bank Charter
Shaileshbhai Kaklotar	Amneal Pharmaceuticals, Inc.
Aarani Kamalanathan	No Affiliation
Deena T. Khan	Stockton University
Alex Konkel	FAA Tech Center AvSTEM
Alan J. Kopala	FAA Tech Center, retired
Scott M. Larew	Kennedy/Jenks Consultants, Inc.
Shanan Levin	Federal Aviation Administration (FAA)

John E. Livezey	Atlantic Cape Community College
Richard E. Lyon	Federal Aviation Administration (FAA)
Carrie Anne Lyons	New Jersey Water Environment Association (NJWEA)
Ed Mack	FAA Tech Center, retired
Srini R. Mandalapu	Federal Aviation Administration (FAA)
Jen Martin	Stockton University
James Mauroff	Federal Aviation Administration (FAA)
Ryan H. McCourt	Egg Harbor Township High School
Lisa A. McGeoch	Federal Aviation Administration (FAA)
Latoya Mcglone	Atlantic Cape Community College
Mariah M. Mendoza	Stockton University
David L. Morlando	Retired
Sandra Morlando	Retired
Sandra Morlando	Retired
Gerhard M. Mueller	None
Hazel A. Mueller	Stockton University
Chris Nally	New Jersey Water Environment Association (NJWEA)
Jim Neville	New Jersey Water Environment Association (NJWEA)
Matthias Ngo	Stockton University
Cynthia Osuala	(No Affiliation)
Michael Otterbum	Retired
Judith Otterbum-Martinez	Atlantic Cape Community Cape
Mark Palmer	Palmer Atlantic Properties LLC
Shail Patel	NA
Silkey Patel	NA
Tejeskumar Patel	MSKCC
Elizabeth Pollock	Stockton University
Joyce A. Pratt	Atlantic County Democratic Committee
Jasmin Ratanpara	Morgan Stanley
Habib Rehman	Atlantic County Democratic Committee
Marc Richard	Stockton University
Francis Rigor	LS Technologies
Jehili Sanchez	Stockton University
Brendan Santangelo	Camden Community College
Christina G. Savich	Atlantic Cape Community College
Kimberly Scata	Duffy Law Group
Mark T. Schnepf	Federal Aviation Administration (FAA)
Melanie Schroer	Stockton University
Steve Shenk	FAA Tech Center, retired
Pryushkumar Siddhapura	No affiliation
Maruy F. Simpson	Atlantic Cape Community College
Gregory J. Skrabonja	Federal Aviation Administration (FAA)
Kathleen T. Spaeth	Rutgers University NJAES
Connor Sparks	Stockton University
	PTA President, Arthur Rann Elem. School (Galloway); Trustee,
Caitlin Stenson	Galloway Dem Club
Michael Suleiman	Atlantic County Democratic Committee

# JSSF 2024 Judges and Affiliations (Con't)

Scott Summerill	Advanced Sciences and Technologies
Manual A. Tapia	Stockton University
Sana Z. Touafek	Stockton University
Megan Tran	No Affiliation
Peter K. Tran	Rutgers University
Sheden D. Trezil	Stockton University
Joseph J. Trout	Stockton University
Naitik Verma	ACITech
Brian E. Vernchio	ACITech
Joan B. Vicari	Retired
Benita P. Villar	Stockton University
Erin E. Wannan	Rowan University
Bo Zilovic	Atlantic Cape Community College

# Jersey Shore Science Fair 2024

## Participants & Projects

# Delaware Valley Science Fair Eligibility

The following winners of the Jersey Shore Science Fair will be eligible to attend the Delaware Valley Science Fair (DVSF) **Tuesday, April 2 through Thursday, April 4:**

Delaware Valley Science Fair (DVSF)  
Drexel University  
236 Randall Hal  
3141 Chestnut Street, Philadelphia, PA 19104  
www.dvsf.org

## The following awarded projects are eligible to attend DVSF:

### ***Juniors – 6-8 Grade***

1st and 2nd place only, all categories including teams

### ***Intermediate – 9-10 Grade***

1st, 2nd and 3rd place except Team category 1st place only

### ***Upper – 11-12 Grade***

1st, 2<sup>nd</sup>, and 3rd place except Team category 1st place only

***Set-up and event detail for the DVSF can be found on the JSSF webpage***

EXIT TO PARKING  
LOT

**MED**  
Loc# 209 - 236

**MIC**  
Loc # 237 - 259

**PHY**  
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**ZOO**  
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**TMP**  
Loc # 308 - 324

EXIT TO  
CAMPUS

**ENV**  
Loc # 160 -  
190

**MAT**  
Loc # 191  
- 208

**ENG**  
Loc # 135 -  
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**ESS**  
Loc # 123 -  
134

**BLEACHERS**

**PLEASE READ THIS**

1. Projects must comply with ISEF rules, including;

NO liquids, chemicals, field samples, or tissues (plant, animal, human, etc.)-no living or field-collected samples or organisms for display

2. Use your **location number (Loc #)** to find your spot

3. There is no power available to any projects

**BLEACHERS**

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**BCH**  
Loc # 27- 39

**BSS**  
Loc # 1 - 26

**MAIN ENTRANCE**

# JSSF 2024 Participating Projects

## Behavioral and Social Sciences - BSS

### Junior BSS

J BSS1	Leah Tierno	Scarcity Principle and the Amygdala
J BSS2	Madeline Ryan	What Affects Your Opinion On Foods
J BSS3	Arisa Nawal	The Stroop Effect
J BSS 4	Jaxon Gazia	Comparison of Puzzle and Problem Solving Skills Between Adolescent Males and Females Based On Completion Time of Puzzle and Stress Levels
J BSS5	Lia Hess	Does Heart Rate Increase When Telling a Lie?

### Intermediate BSS

I BSS 1	Jay Patel	Correlation in Diagnostics of Cognitive Neuropsychology to the Intelligence Quotient (IQ)
I BSS 2	Emily Kim	The Mu Rhythm Suppressions of Particants with and without previous Bone Injuries When Read Pain-Related Excerpts
I BSS 3	Mia Pagaduan	The Effect of Bilingualism on the Interference of Irrelevant Stimuli With Cognitive Processing
I BSS 4	Jason Wang	Analyzing Political Bias in Large Language Models (LLM)
I BSS 5	Jonathan Lin	Disparity or not: an exploration of mortgage lending practices and solutions for minorities
I BSS 6	Dorisa Sun	Effects of ultraviolet light intensities on C. elegans reproductive behavior and offspring development

### Upper BSS

U BSS 1	Anugna Parvataneni	Effects of Labeling on Recycling
U BSS 2	Casey Brew	Quality of Athletic Performance in regards to Electrolyte concentration in Sport Drinks versus Organic Drinks
U BSS 3	Tiffany Chen	Influence of Cultural Pressures for Success on Depressive Symptoms in Asian American College Students
U BSS 4	Edith Domanski	An Analysis of Background-Based Biases in Phonological Connotations
U BSS 5	Ria Ulep	Effects of Multilingualism on Statistical Learning
U BSS 6	Harry Halligan	Smell's Effect On Short-Term Memory
U BSS 7	Heidi Matchett	The Convergence of Academic Demands, Social Expectations, and Mental Health Challenges Among the Upperclassmen of Rumson Fair-Haven High School
U BSS 8	Logan Rettino	How Capable Are Humans at Recognizing AI-Written Works?
U BSS 9	Justin Hammer	Analysis of Biochemistry Materials During Enezyme Catalysis
U BSS 10	Shreyas Musuku	A Novel Algorithm Integrating Biopsychosocial Profiles for Precise Treatment of Mood and Anxiety Disorders Utilizing Self-Supervised Learning
U BSS 11	Saathvik Gubbala	Ethical Implications of Artificial Intelligence Bias Through Recidivism Case



U BSS 12	Paavni Suyal	Study Using Machine Learning
U BSS 13	Hanyi Deng	Exploring the Cognitive Benefits: Impact of Turmeric and Green Tea Compounds on Effect of serotonin delivered through 5-HTP on memory retention and PIWI-related interactions in <i>D. tigrina</i> and <i>D. melanogaster</i>
U BSS 14	Leo LaGratta	Tik Tok Scrolling Linked to Decrease in Attention Span

# Biochemistry - BCH

## Junior BCH

J BCH 1	Vandita Gabbita	UV Rays VS. Yeast Colony Growth!
J BCH 2	Owen Soheily	How Does the Concentration of Hydrogen Peroxide Affect the Catalase Enzymatic Reaction?
J BCH 3	Emma Winneker	Pear Pressure
J BCH 4	Jordyn Kelly	Fruit Gas: The Helium of the Future?
J BCH 5	Ryleigh Wells	Are all bottled waters created equally?

## Intermediate BCH

I BCH 1	Chloe Wnek Tatianna Febles-	Quaternary Ammonium Cations Environmental Effect on Local Water Bodies using Spectrophotometry
I BCH 2	Perez	Food Contamination Utilization of a Neural Network Framework for Machine Learning Predictions of
I BCH 3	Sunkalp Chandra	Microplastics Exposure Through Integration of Gene Expression Levels

## Upper BCH

U BCH 1	Mahika Jawa	Evaluate the impact of chemicals associated with E cigarettes and vape related liquids on the immune system
U BCH 3	Prisha Rai	Utilizing a Novel VAE Pipeline for Tau Inhibitor Screening Validated in Drosophila Melanogaster Alzheimer's Models
U BCH 4	Aashka Patel Bhargav	Synthesis of Copper Nanoparticles and the Biological Impact Synthesis of Copper Nanoparticles and the Biological Impact
U BCH 5	Yerramsetty	
U BCH 6	Daniel D'Silva	Using Computers to Understand Cancer Gene Expression and Drugs

# Botany – BOT

## Junior BOT

J BOT 1	Gabriella Iznyuk	Rooting For Space Plants; How Do Roots Grow When Seed Position Changes?
J BOT 2	Nithura Arun	What types of plants can help prevent soil erosion?
J BOT 3	Alexandra Kanterezhi-Gatto	Which subspecies of Dracaena trifasciata will absorb the most Carbon Dioxide?
J BOT 4	Arisha Patel	Which liquid helps radishes grow the tallest?
J BOT 5	Noah Lessig	Can beans grow upside down hydroponically?
J BOT 6	Arabella Cristelo	Light Spectrum Seedlings
J BOT 7	Mohammad Abuelfuol	Would different liquids affect the growth of plants?
J BOT 8	Cameron Ambrosia	Tomato Testing: The Effect of Soil on Germination

## Intermediate BOT

I BOT 1	Maxim Gulko	Venus Flytrap digestion
I BOT 2	Ayon Hajra	Utilizing Quaternary Ammonium Compounds as Mitigating Agents Against Volatile Organic Compound Toxicity in Duckweed
I BOT 3	Abhiansh Pathak	The physical effects of colloidal silver on the plant <i>Ocimum basilicum</i>
I BOT 4	Shivali Sethi	Analyzing the Effects of Macro- and Micro-sized Bioplastics Within Soil on the Development of <i>Ocimum Basilicum</i>
I BOT 5	Victoria Zhang	Effect of Increased Amounts of Zinc in Fertilizer Espoma Organic Fertilizer on <i>Ocimum basilicum</i>
I BOT 6	Haley Ryan	Reparative Implications of Applying Planarian Pluripotent Stem Cells to Damaged <i>Hydrangea</i> Leaves
I BOT 7	Surya Gedipudi	The Impact of the Factor of pH in Organic Fertilizers on the Growth of <i>Raphanus sativus</i>

I BOT 9	Briana Ecke	Comparative Analysis of Different Mushroom Species on the Growth of <i>Chlorophytum comosum</i>
I BOT 10	Lillian Boyd	An Assessment of the Health of <i>Zostera marina</i> Under Varying Ocean Acidification Simulations
I BOT 11	Sophia Dong	Examining the Efficiency of <i>Phragmites Australis</i> Cellulose as a Source of Sustainable Flooring
I BOT 12	Ryan Geddes	Effects of Soil Invertebrates on the Health of <i>Ocimum basilicum</i>
I BOT 13	Tyler Steinbrunn	The Effects of Potting Media on Orchid Health
I BOT 14	Suvit Asnani	Effect of Potassium Nitrate on Growth of Rapid Cycling <i>Brassica rapa</i> (Wisconsin Fast Plants) in the Presence of Glyphosate

## Upper BOT

U BOT 1	Pravanti Manikonda	Comparing the Effect of Salicylic acid and the SNC1 Gene in Inhibiting <i>S. epidermidis</i> in Mutant and Wild Strains of <i>Arabidopsis thaliana</i>
U BOT 2	Katherine Donaldson	How Positive and Negative Reinforcements Affect Plant Growth

## Chemistry - CHM

### Junior CHM

J CHM 1	Krishna Goswami	Do Different Liquids Affect the Melting Rates of Ice?
J CHM 2	Darshan Patel	The Best Water Filter
J CHM 3	Selena Nguyen	How does silver tarnish and how are electrolytes involved?
J CHM 4	Michael Kulsen	Do different colored M&Ms share the same food dyes?
J CHM 5	Eli Hudson	Does 1%, almond, and oat milk affect the height of a pancake
J CHM 6	Molly Dorrick	Soak it Up
J CHM 7	David Cunningham	Hydrogen Extraction
J CHM 8	Alana Stephens	The Rise and Fall of Chocolate
J CHM 9	Emma Ramsey	Crystal Project: The Effect of Temperature on Crystal Growth
J CHM 10	Jacob Colleton	The Effect of Clothes Washing on Durability of Clothes

### Intermediate CHM

I CHM 1	Evelyn Lee	The Effect of Natural Acids on the Hair Structure of 1A Black Hair
I CHM 2	Elijah Schwartz Bay	Innovating Salt-Resistant Cements
I CHM 3	Mia Pagano	Caffeine
I CHM 4	Kyle Wlazlowski	An Examination of Dissolution Effects of Acetaminophen in Conjunction with Vitamin B? In a Simulated Stomach Environment
I CHM 5	Jackson Perez	What's Tomato With Acid?

### Upper CHM

U CHM 1	Cleatus Oakes	Comparative Analysis of Sodium Polyacrylate and Polyacrylamide for Water Management Applications
U CHM 2	Lauren McNaboe	Utilizing Natural and Synthetic Polymers as Nanofiber Air Filters and Evaluating the Effectiveness of Each Polymer
U CHM 3	Maya Abdelaal	Examining Tannin Interference on Dimethyl Sulfide (DMS) Presence in Ocean County, NJ Salt Marshes
U CHM 4	Mia Sullivan	Synthesizing Microwave Assisted Carbon Quantum Dots for Thiamine Detection
U CHM 5	Michelle Kagramian	Testing the Transcription Factor Inhibitor IP300w on the DUX4 Mutated Gene for the Treatment of Facioscapulohumeral Muscular Dystrophy
U CHM 6	Kriti Srivastava	Integration and Optimization of Copper(I) Oxide and Titanium Nitride Nanoparticles for Enhanced Solar Cell Performance
U CHM 7	Anders Nielsen	Simultaneous Electrolysis-Carbon Capture in a Reactor with Aqueous KOH

# Computer - COM

## Junior COM

J COM 1	Akhil Velampalli	Unauthorized Users May Not Enter: How would you create a strong password that no one would guess?
J COM 2	Morgan Kirschenbaum	Weak or Strong? Bring it On!
J COM 3	Omuwa Izah	Decoding the Ripples: Exploring the Impact of ChatGPT Integration

## Intermediate COM

I COM 1	Samay Prabhu	NeuroScan: A Revolutionizing Algorithm for Automated Detection of Multiple Sclerosis (MS) using Convolutional Neural Networks (CNNs)
I COM 2	Niyel Hassan	An Ensemble Framework for Fall Detection Using Multivariate Wi-Fi Channel State Information (CSI)
I COM 3	Daniel Chang	Beyond Pixels: Pushing the Boundaries of Open-Source Vision Models for Cognitive Intelligence
I COM 4	Saketh Satti	Using Visual Transformers to Enhance Descriptions of a Scene for Blind and Visually-Impaired People
I COM 5	Maya Bhasin	Using Machine Learning Models to Predict the Spread of Wildfires in California Based on Temperature Data
I COM 6	Aditya Choudhary	Enhancing Emotion Recognition Accuracy with a Body Pose-Aware Neural Network
I COM 7	Ella Barnes	Designing an App to Indicate the Likelihood of Jellyfish in a User's Area
I COM 8	Jophy Lin	Advancing Diabetic Retinopathy Detection: Reducing Misdiagnosis Using Deep Ensemble Learning
I COM 9	Harry Fan	Using AI to identify contrails and reduce the carbon footprint

## Upper COM

U COM 1	Ishani Singh	Automated Early Detection of Diabetic Retinopathy Using Deep Learning
U COM 2	Shreya Mahindroo	Improving the Analysis of Malicious Websites Using Machine Learning
U COM 3	Anna Pitera	Predicting and Analyzing the Temperatures of Diamondback Terrapin Nests with Python
U COM 4	Jake Dorick	PneumoVision: A Convolutional Neural Network Software for the Classification of Various Respiratory Illnesses
U COM 5	Ashley Lommerin	How Microgrids Optimize Energy Distribution
U COM 6	Katherin Ackerman	Population Assessment Through Facial Recognition of Sandy Hook Harbor Seals
U COM 7	Animish Jain	Applying Multiplicative Weights Update To Skin Cancer Classification Applications
U COM 8	Ryan Edwards	A Novel Algorithm to Identify and Eradicate Protozoan Parasites in Aquatic Environments using Convolutional Neural Networks and an NLP API
U COM 9	Raymond Jiang	Privacy-preserving Fundus Disease Diagnosis Using Federated Learning
U COM 10	Eshan Guha	Privacy Enhancing Technologies in Machine Learning: FHE and its Impact on Predictive Accuracy and Carbon Footprint
U COM 12	Max Brodsky	Improving Skin Disease Identification
U COM 13	Ayan Patel	Using Machine Learning to Improve Codon Optimization

## Consumer Science - CSC

### Junior CSC

J CSC 1	Isabelle Esposito	Organic Fruits VS Regular Fruits
J CSC 2	Kaia Leeds	Which Brand Of Waterproof Mascara Works the Best?
J CSC 3	Sophie Memmelaar	The Effect of Hair Dye and Bleach On Hair Strength
J CSC 4	Zoe Palermo	What Method of Taking Acrylic Paint off Paint Prushes Works Best?
J CSC 5	Brooklyn Miller	Protective Cases for Cell Phones (using Eggs)
J CSC 6	Ethan Rabinowitz	The Effects of Varying Baking Fats in Cookies
J CSC 7	Charlotte Fiedler	Which Homemade Hair Dye Works the Best?
J CSC 8	Chase Benckert	Energy Vampires
J CSC 9	Sadie Bensen	The effect of a candle warner on the life of a candle.

## Earth and Space Science - ESS

### Junior ESS

J ESS 1	Giovanni DiDonato	How much water can different rocks hold?
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### Intermediate ESS

I ESS 1	Rahul Gupta	Lagrange Points 4 & 5 Dynamic Location with Multiple Moonlet Interactions
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### Upper ESS

U ESS 1	Morgan Zylinski	Determining the Presence of Ferulic Acid in <i>S. Alterniflora</i> and its Biogeochemical Influences within Saltmarshes at Barnegat Bay, NJ
U ESS 2	Amalie Werner	WILDFIRE AND PRESCRIBED BURN EFFECTS ON PINE BARRENS SOILS AND SUCCESSION
U ESS 3	Mae Woolley	Environmental Effects on Growth and Development on Clinging Jellyfish
U ESS 4	Madelyn Raffensperger	Geological Predictive Mapping
U ESS 5	Pramya Surapaneni	High-Speed Neural Network Tsunami Predictor with Multiple Adjustable Parameters
U ESS 6	Katherine Fang	Discovering Habitable Exoplanets Using GPU Folding and Sigma Clipping
U ESS 7	Pranshu Suyal	Utilizing Deep Learning to Identify Potentially Habitable Exoplanets
U ESS 8	Suchit Basineni	Using Deep Learning Models to Predict Wildfire Probabilities & Spread
U ESS 9	Matthew Thomas	Amateur Surveying of the Transiting Exoplanet Survey Satellite (TESS) for Threshold Crossing Events (TCE)
U ESS 10	Abhinav Kartik	Use of a Convolutional Neural Network to Understand the Reasons Behind the Formation of Quasars and to Predict Potential Future Formations of Quasars

## Engineering - ENG

J ENG 1	Agrim Jain	The Effect of Bridge Design on Weight Bearing Capacity
J ENG 2	Devansh Gupta	How will the number of blades of a wind turbine affect the renewable energy generated?
J ENG 3	Olivia Juralewicz	The Effects of Temperature on the Distance a Softball Travels When Hit by a standardized apparatus
J ENG 4	Iyanuoluwa Ayannusi	illuminating the Future: Solar vs. Hydro
J ENG 5	Amreen Gurm	Manipulating Magnets To Improve Generator Output
J ENG 6	Fenway Carson	Be The Light
J ENG 7	Kyle Wolcott	Brilliant Bridges

J ENG 9	Hunter Zebrowski	Hydraulics and How They Work
J ENG 10	Sophia Bui	Here's the Facts...All About Roller Coasters Tracks!

### Intermediate ENG

I ENG 1	Anabelle Ahteck	SeamStress: A Novel Conductible Thread Stress Sensor Stitched in Clothing Seams for Gait Analysis
I ENG 2	Sophia Gao	Wearable Hazardous Gas Sensor for Respiratory Health Monitoring
I ENG 3	Aarav Upadhyay	A Novel 3D-Printed Damper to Mitigate the Effects of Unwanted Vibration in Motors
I ENG 4	Andrew Van Pelt	Prototype Development of an Improved Nasal Spray Applicator for Naloxone HCl
I ENG 5	Sharad Patel	EXAMINING THE ADAPTIVE PATH-FINDING ABILITIES OF PHYSARUM POLYCEPHALUM TO DESIGN A NOVEL TRANSPORTATION NETWORK
I ENG 6	Samantha Capili	An Investigation of the Effect of Roof Materials on Electricity Generation via Thermoelectric Generators
I ENG 7	Sanjit Vinodanandan	Evaluating the Efficiency of a Mobile Air Purifier in Carbon Dioxide Removal
I ENG 8	Mingyu Zhang	A System for Vehicle Fault Diagnosis Based on Convolutional Neural Networks Using Audio Analysis
I ENG 9	Owen Seavey	Investigating the Impact of Water Injection on Engine Performance

### Upper ENG

U ENG 1	Rishay Gupta	Infrared Localization: Designing a Novel End Effector for Pneumatic EMS Soft-Robots
U ENG 2	Ashley Sherman	Touchless User Interface With Hand Gesture Recognition To Prevent Spread Of Infection In Public Spaces
U ENG 3	Carly Gittle	Capturing Untapped Energy Potential With 0% Carbon Footprint To Offset Fossil Fuel Usage
U ENG 4	Maggie Kelleher	Using Wasted Recyclable Plastics to Decrease Carbon Emissions from Concrete
U ENG 5	Arjun Tschand	Deep Learning Air Quality Measurement System for Early Pollution Detection
U ENG 6	Mia Mastroianni	Modified Holes in Plastic Products to Deter Coastal Creatures

## Environmental Science – ENV

### Junior ENV

J ENV 1	Drew Graziano	Global Alkalinity
J ENV 2	Hope Swansinger	Luminescent Life: How Nutrients Affect Dinoflagellates Glow
J ENV 3	Aizah Haider	Does Food Waste Affect Earth?

### Intermediate ENV

I ENV 1	McDonagh Kuntz	Effect of Azospirillum brasilense on Trifolium pratense's Biomass and Survival Rate After Saltwater Inundation
I ENV 5	Kealia Grace Smith	The Effects of Sound Wave Frequencies on the Activity of Brackish and Saltwater Dinoflagellates
I ENV 6	Lily Nader	Comparative Analysis of Sunscreen Persistence in Water
I ENV 7	Zachary Ciappa	Examining the Use of Crassostrea virginica Shells as a Biosorbent to Decrease Phosphate Concentrations in Solutions
I ENV 9	Axl Perono	Testing for Neuromuscular Abnormalities in Mercenaria mercenaria in Nitrate Contaminated Waters
I ENV 10	Eleonora Degnan	Determining a Relationship Between Dissolved Oxygen and Salinity and Sulfates in Barnegat Bay, NJ.

I ENV 11	Aarthi Gunasekaran	A Natural Cost-Effective Solution to Pharmaceutical Contamination and Drinking Water
I ENV 12	Kavya Sridhar	Different Acidity Levels of Lemon Juice and their Effect on R. Sativus Growth
I ENV 13	Ioanna Varouhakis	Effects of Temperature, Copper, and Zinc on the Reproduction of D. pulex

## Upper ENV

U ENV 1	Akshaya Padmanabhan	Using Oyster Mushroom Mycelium to Create a Filter to Remediate Contaminated Water
U ENV 2	Carly Rand	Effect of Education Level on Perception of Climate Change
U ENV 3	Kaitlyn Muller	Hydrological Impacts of Developed Lagoonal Systems within an Estuarine Ecosystem
U ENV 4	Zoey Smith	Nutrient Uptake Ability of Zooxanthellae After Temperature Acclimation
U ENV 5	Devyn Krinic	Dissolved Iron Fertilization in the Southern Ocean
U ENV 6	Jack Chen	Naturally Derived Ant Repellents on an Atta cephalotes Foraging Trail
U ENV 7	Caroline Liebmann	Biofilm Accumulation on Microplastics in the Barnegat Bay, New Jersey
U ENV 8	Lilian Cole	Mapping Saltwater Intrusion and Its Impacts on Agriculture Land
U ENV 9	Ina Nikolova	Monitoring the Wrack Line
U ENV 10	Rohit Kottomtharayil	Optimizing Urban Air Quality: A Deep Learning Approach Integrating Data for Countermeasure Evaluation
U ENV 12	Nirvik Patel	H2-Engine: Using Water to Bring Electric Vehicles Down to Zero Emissions
U ENV 13	Sashreek Bhupathiraju	"The Chemical Separation of Polyester-cotton through the depolymerization of PET with NaOH Catalyst."
U ENV 15	Andrey Potylitsin	Analysis of Vaisala WXT-520 and Arable Mark-2 Weather Stations
U ENV 16	Ryan Cohen	A novel algae-based bioreactor to reverse and mitigate effects of eutrophication from the algal species Chlorophyta
U ENV 17	Sofia Bracken	The Effects of varying Salinity and Temperature on Gonionemus Vertens
U ENV 18	Vivian Braceland	Bird Feeder Preference of Local Bird Species in NJ

## Mathematics - MAT

### Junior MAT

J MAT 1	Awin Budhiraja Budhiraja	Make That Shot!
J MAT 2	Rishil Patel	Does the number of sides on a dice affect its probability?
J MAT 3	Willow Idris	M&M Scramble: What Can You Handle?
J MAT 4	Aark Bhagat	To Trust or Not to Trust?
J MAT 5	Kavya Patel	Origami: The Math Behind the Art
J MAT 6	Ava Abdrabouh	Planets of Youth: Calculating Your Age in Space

### Intermediate MAT

I MAT 1	Vasudevan Govardhanan	Nakashima bundles on Calabi-Yau (n+2)-folds
I MAT 2	Siddharth Shankar	Reality in Imaginary Numbers
I MAT 3	Wesley Wan	The Effect of Chess Openings on Win Rates Using Scatter Plots

### Upper MAT

U MAT 1	Logan Mesh	Frequencies of widely digitally isolated primes
U MAT 2	Eden Sanzone	The Effects of COVID-19 on the Price of Beef, Chicken, and Shell Eggs
U MAT 3	Abigail Jones	Analysis of the Impact of Climate Change on Physical and Mental Health

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U MAT 4	Krish Patel	A Novel Cryptographic Cipher Incorporating Complex Analysis and Transformative Geometry
U MAT 6	Jeff Bob	TBA
U MAT 7	Sushani Kumar	Train an Open-Source Language Model to Accurately Solve Math Problems
U MAT 10	Aadarsh Kumar	BUS ANT-ICS: SCHOOL BUS OPTIMIZATION USING ANT COLONY ALGORITHMS
U MAT 11	Shoubhit Mukherjee	Developing and Using a Mathematical Model to Describe the Dynamics of Biological Competition.

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# Medicine and Health - MED

## Junior MED

J MED 1	Quetzali Robledo-Cruz	Creeping Calories
J MED 2	Maya Famelio	Broken Bone? Milk it Up!
J MED 3	Chance Reed	How the Level of Football Play Affects the Number of Injuries for the Players
J MED 4	Abrielle Tyler	AWL: Which Print Will Prevail?
J MED 5	Marius Barranco	How Music Affects the Heart Rate
J MED 6	Lilly Voss	Rethink Your Drink: Dental Damage is Real!

## Immediate MED

I MED 1	Vincent Li	Effect of Ibuprofen on the Regenerative Growth of Planarian Pluripotent Stem Cells
I MED 2	Siddharth Kedharnath	Automated White Blood Cell Classification for Hematological Disorder Detection Using Convolutional Neural Network's
I MED 3	Micaela Marrinhas	Analyzing the Effects of FD&C Red 40 Powder on the Growth of Pleurotus pulmonarius

## Upper MED

U MED 1	Eaghan Weatherstone	The Effects of Ganoderma lucidum Powder on Locomotion and Fertility of Drosophila melanogaster
U MED 2	Kailey Miller	Tremor Alleviation for Neuromuscular Disorders using a Weighted Vibrating Glove Prototype
U MED 3	Jordyn Martin	How Do Bones Heal?
U MED 4	Charlotte Fischer	Non-Modifiable to Modifiable Factors of Coronary Artery Disease
U MED 5	Anusha Sharma	A Novel Machine Learning Tool for Early Detection and Management of Skin Lesions
U MED 7	Tiara Bray	Bacterial Resistance in Medication
U MED 8	Audrey Molyneux	Tracheal Scaffolding Prosthetics
U MED 9	Aidan Fitzgerald	Light Reflection in Diagnosing Ocular Disease
U MED 10	Tran Nguyen	Iron Bioavailability
U MED 11	Johathan Younan	Cardiac Rest
U MED 12	Dilan Gandhi	: A Novel Algorithm for Automated Detection and Classification of Arrhythmias through ECG Signal Analysis
U MED 13	Gajan Mohan Raj	DiaDetect: A Novel Collaborative Approach to Improving Multiclass Diagnosis of Diabetic Retinopathy
U MED 14	Brinsley Tice	The Effect of Cellphone Screen Time on Visual Acuity and Visual Discrimination in
U MED 15	Vishrut Thoutam	Using Quantum-informed Graph Transformers to Predict Protein Properties for Drug Discovery
U MED 16	Chara Wang	The Effect of Blueberry Polyphenolic Compounds on the Associative Learning of Caenorhabditis Elegans Exposed to Iron-enriched (FAC) Environments
U MED 17	Alan Sun	The Effects of Cyanocobalamin (Vitamin B12) on Oxidative Stress and Locomotion for Different Strains of Caenorhabditis Elegans
U MED 18	John Taylor	Examining The Effect of Ibuprofen on Drosophila
U MED 20	Tajneen Islam	Identifying Associations between Diets and Cardiovascular Biomarkers Among Racial Groups

## Microbiology - MIC

### Junior MIC

J MIC 1	Tyler Flickinger	What Wipe Works Best
J MIC 2	Akshaya Velampalli	Sea Sparkle: How the bioluminescence of marine dinoflagellates is affected by changes to their light-dark cycle?
J MIC 3	Lisa Farha	Fruity Duty
J MIC 4	Shayla Moran	Does the Heat Affect the Meat?
J MIC 5	Evelyn Sullivan	Does exposure to light affect the bioluminescence of dinoflagellates?
J MIC 6	Tessa D'Alessandris	Did You Just Touch That? Where to Find the Most Germs in School
J MIC 7	Simone James	Cosmetic Chaos!
J MIC 8	Emelia Lowry	Science Critters
J MIC 9	Claire McGowan	Did You Just Eat That?

### Intermediate MIC

I MIC 1	Shaurya Srivastava	Vile Volts: A Dual Microbial Fuel Cell and Winogradsky Column System as a Bioelectrochemical Method to Evaluate Microbe Diversity
I MIC 2	Henry Cantor	Effect of different levels of g-force on the cell density growth of <i>Chlamydomonas moewusii</i>
I MIC 3	Divyam Dave	Observing antibacterial effects of zingerone combined with ampicillin at different ratios on the inhibition of <i>Staphylococcus epidermidis</i>
I MIC 4	Charlie Aronson	Effects of magnesium Chloride on the DNA of <i>Escherichia Coli</i> DH5-Alpha
I MIC 5	Edward Sedeno	Don't Touch That! An Experimentation on the Fundamental Knowledge of Bacteria
I MIC 6	Isabella Morgan	Analysis of Atmospheric Bacteria Concentrations and Related Parameters in the Metedeconk River, NJ
I MIC 7	Kellyn Miller	Water Quality Analysis of Lagoonal Systems in Beach Haven West, New Jersey
I MIC 8	John Chang	Effects of Varying Frequencies of red Noise on the Amount of Bioluminescent Quorum Sensing in <i>Vibrio fischeri</i>
I MIC 9	Navya Shah	Assessing Antimicrobial Efficacy of <i>Aloe vera</i> , <i>Aloe ferox</i> , and <i>Aloe arborescens</i> Against <i>S. epidermidis</i>

### Upper MIC

U MIC 1	Leah Seidman	Microbiome of the Bean Beetle <i>Callosobruchus maculatus</i> Raised on Four Different Beans
U MIC 2	Desmond Pepe	The in-vitro effects of PI3K and MEK inhibitor combination therapy on EGFR+ cancer cell lines
U MIC 3	Jyothi Ramesh	Horizontal Gene Transfer of Ampicillin Resistance Between <i>Micrococcus luteus</i> and <i>Roseus</i>
U MIC 5	Eric Morshed	The Microbiome of <i>C. elegans</i> and Its Impact on Health

## Physics - PHY

### Junior PHY

J PHY 2	Landon Lubani	Stop the Train!: Can magnets be used to stop a train?
J PHY 3	Aidan Kim	The Mystery of the Gauss Rifle: If the number of magnet stages are increased in the gauss rifle, will the velocity of the rifle increase as well?
J PHY 4	Bryce Judge	Layering Aluminum to Produce More Ionic Wind

J PHY 5	Erick Rodriguez Garcia	How do different paper airplane models affect distance?
J PHY 6	Raees Ali	Does velocity affect how far objects, being launched, travel?
J PHY 7	Annesha Das	Shining Star
J PHY 8	Nathan Inteso	Does the length of a rocket affect its altitude?
J PHY 9	Gianna Quinn	How does the material that a baseball bat is made of affect the distance?
J PHY 10	Steven Truskowski	How can the different types of bats affect how far the ball will go?
J PHY 11	Brielle Campbell	Technicolor Shadows Made by Light and Colors
J PHY 12	Sarah Lynch	The Effect that Air Pressure of the Ball has on Shooting Accuracy
J PHY 13	Ryan Lemonie	Paper Ball Launcher:How the Material will Affect the Distance Traveled
J PHY 14	Lucas Knipe	Electromagnets: Does the amount of loops around a nail affect the strength of the magnet?
J PHY 15	Aaron Patel	How long wil lit take 3 cars to go down a ramp with different weight placements?
J PHY 17	Raffaele Rosenfelt	Do the Dimples on a Golfball Affect the Speed and Distance

### Intermediate PHY

I PHY 1	Rohan Arni	Searching for Dark Matter Production in ATLAS Proton-Proton Experiments Using Genetic Algorithms
I PHY 2	Audrey Wang	The Effect of Varying Tennis Ball Pressure on the Coefficient of Restitution and Force on the Wrist During Collision with Tennis Racquet
I PHY 3	Remy Mander	The Effect of Dribbling Different Official-Regulation Basketballs in Terms of their Retention of Air
I PHY 4	Acim Savich	Determining the Best Replacement for Crumb Rubber in Artificial Grass Sports Fields

### Upper PHY

U PHY 1	Broden Connolly	Breaking RSA Encryption Using a Quantum Factoring Algorithm
U PHY 2	Narehsanjay Muthukumar	Optimizing Wing Design for Maximum Lift-to-Drag Ration on a Boeing 737 using OpenVSP
U PHY 3	Ava Boyle	Examining the Effect of Physical Parameters on Projectile Penetration in Ballistic Gelatin
U PHY 4	Indus Boddu	A Novel Switched Reluctance Motor Design That Reduces Torque Ripple
U PHY 5	Saketh Ayyagari	TBD
U PHY 6	Jasmine Guo	Discovering strong Gravitational lenses with Machine Learnign

## Zoology - ZOO

### Junior ZOO

J ZOO 1	Rita Escajadillo	One Fish Two Fish...Ask Me How to Train a Fish!
J ZOO 2	Sophia Chorpenning	A Pawsitive Choice: What Paw Does a Dog Prefer?
J ZOO 3	Fiona Thame	Bioluminescent Dinoflagellates

### Intermediate ZOO

I ZOO 2	Vinil Polepalli	Effects of Epigallocatechin Gallate (EGCG) and Piperine Compounds on the Regeneration of D. Tigrina
I ZOO 3	Ritwik Singh	Impact of Increased Soil Nitrogen Levels on Western Harvester Ant Mortality
I ZOO 4	Violet Fischer	Analysis of Ferulic Acid Concentrations on the Foraging Ability of Nassarius obsoletus
I ZOO 5	Keegan Dunn	Examining the Effects of Visible Light in Terrestrial Environments on Malaclemys terrapin terrapin

I ZOO 6	Julia Reid	Evaluating The Relationship Between <i>Emerita talpoida</i> Population Density and Various Environmental Factors
I ZOO 7	Ava Tarditi	The Biodiversity in Marine Zooplankton Through Fall and Early Winter Brodon
I ZOO 8	Medhansh Puri	Effect of Different Amounts of Artificial Light At Night (ALAN) on Planarian Regeneration Rate
I ZOO 9	Summer Sprague	Effectiveness and Efficiency of Bird Deterrents on Floating Oyster Gear

## Upper ZOO

U ZOO 1	Christian Volk	The Effects of the Location of Citronella on the Repulsion of <i>Drosophila Melanogaster</i> From a Banana
U ZOO 2	Amanda Bechtler	Don't Fly By!
U ZOO 4	Anthony Billotti	Developing an iOS Application that Determines Whether a Marine Organism Meets Harvest Size Requirements
U ZOO 5	Noah Cuttrel	Effects of Methylmercury concentration in Striped Bass
U ZOO 6	Erin White	The Effect of Differing Environment Factors on the Abundance and Behavior of Piping Plovers on Sandy Hook
U ZOO 7	Priyanka Subburaman	Analyzing the Dependence of <i>Caenorhabditis elegans</i> on Dextromethorphan Through a Chemotaxis Assay
U ZOO 8	Chinmayi Palya	The Effect of the C36B1.12 Gene of <i>Caenorhabditis elegans</i> ' Associative Learning Abilities
U ZOO 9	Sam Puleio	Effects of Land Based Tourism on the Efficacy of Hauling Out for Harbor Seals ( <i>Phoca vitulina</i> ) in Sandy Hook, New Jersey

## Team Project – TMP

### Intermediate TMP

I TMP 1	Gabriela Maldonadi	Problem Solving Deicer's Negative Impact on the Environment
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### Junior TMP

J TMP 2	Jillian Groeller	What Liquid Degrades Tooth enamel the most?
J TMP 3	Benjamin Witte	The Effects of Artificial Verse Natural Sunlight on Plant Growth
J TMP 4	Chiaki Lux	How Does Temperature Affect the Strength of a 16.4 Cubic cm Neodymium Plated Magnet's Magnetic Field Attracting 4 mm Metal Washers?
J TMP 5	Adrian Fuentes-Rodriquez	Water Protectors
J TMP 6	Maseeha Yousaf	Bristle Bacteria
J TMP 8	Zoey Carasco	How RSV Affects Children and Their Health

### Upper TMP

U TMP 1	Andrew Cagliostro	Effects of Varying Salinities on the Growth of the Northern Diamondback Terrapin ( <i>Malaclemys terrapin terrapin</i> )
U TMP 2	Emily Gravina	Evaluating the Nesting Habits of Northern Diamondback Terrapin ( <i>Malaclemys terrapin terrapin</i> ) at Gateway National Recreation Area, Sandy Hook Unit
U TMP 3	Shravani Vedagiri	Investigating the Impact of Varying Nutritional Supplements on Stem Cell Regeneration in Piwi mutated <i>D. Melanogaster</i>
U TMP 4	Fabian Froberg Vince	Cracking The Nut: Exploring the Diets of Squirrels
U TMP 6	Ashton Garrison	Nature's Jaws: The Effects of Different Water Stressors on <i>Dionaea Muscipula</i> (Venus Fly Trap) on the Closing Time of the Trap
U TMP 7	Annabelle Costello	The effect of the Environment on Fingerprint Development
U TMP 8	Evan McCormick	The Presence of Pathogenic Microorganisms and Other Bacteria in Rumson-Fair Haven Regional High School





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