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Biochemistry

BC-01

Structural Basis for Fas-mediated Apoptosis and Mechanism of Inhibition

Presentation Link:

Presenters: Bliss Chang, (University of Alabama at Birmingham), **Mentor:** Jamil Saad (University of Alabama at Birmingham)

BC-02

Phthalates and Alternatives in Uterine Cells

Presentation Link: <http://rsundarresearches.tumblr.com/>

Presenters: Ranjani Sundar, (Illinois Mathematics and Science Academy), **Mentor:** Ping Yin (Northwestern University)

BC-03

Engineering Infrared Remote-Controlled Nanorobots for Cancer Therapy

Presentation Link: <http://irnanorobots.blogspot.com>

Presenters: Amol Punjabi, (Advanced Math and Science Academy), **Mentor:** Gang Han (University of Massachusetts Medical School)

BC-04

Possible Role of His-133 Phosphorylation on G-Actin Regulation

Presentation Link: <http://histidine-133-phosphorylation.tumblr.com/>

Presenters: Sumit Saha, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

BC-05

Structural Studies of Llama Antibodies in Complex with HIV-1 gp120

Presentation Link: <http://vivian-jin-sigma-xi.tumblr.com>

Presenters: Vivian Jin, (Illinois Mathematics and Science Academy), **Mentor:** Lei Chen (National Institute of Health)

BC-06

The effect of polymeric nanoparticles on the stability of a biomimetic model of the lung surfactant

Presentation Link: <http://weiamd.tumblr.com>

Presenters: Weiam Daear, (University of Calgary), **Mentor:** Elmar Prenner (University of Calgary)

BC-07

Exploring the Possibility of Kombucha as Material for Drug Delivery

Presentation Link: <http://kombuchadelivery.tumblr.com/>

Presenters: Caroline Liu, Katherine Wang, Shalier Xia, (North Carolina School of Science and Mathematics), **Mentor:** Myra Halpin (North Carolina School of Science and Math)

BC-08

Structure Function Analysis of POR Mutants

Presentation Link: <http://ayang9999.tumblr.com/>

Presenters: Andrew Yang, (NISD Health Careers High School), **Mentor:** Bettie Sue Masters (UT Health Science Center at San Antonio)

BC-09

Exploring the Possibility of Kombucha Mushroom as Material for Drug Delivery

Presentation Link: <http://kombuchadelivery.tumblr.com/>

Presenters: Caroline Liu, (North Carolina School of Science and Mathematics), **Mentor:** Myra Halpin (North Carolina School of Science and Math)

Behavioral Sciences

BH-01

Examination of Patulin Toxicity in Adult Zebrafish

Presentation Link: <http://patulinzebrafish.tumblr.com/>

Presenters: Quang Nguyen, (Duke University), **Mentor:** Jordan Cocchiaro (Duke University)

BH-02

The Relationship Between Adolescent Eating Disorders and Emotional, Social, and Environmental Factors

Presentation Link:

Presenters: Lily Coad, (Bronx High School of Science), **Mentor:** Zach Lynn (Bronx High School of Science)

BH-03

The effect of perinatal lesioning of the medial dorsal nucleus on the CA3 region of the hippocampus on young adults

Presentation Link: <http://rucinsk.v.tumblr.com/>

Presenters: Violetta Rucinski, (Bronx High School of Science), **Mentor:** JoAnn Gensert (Bronx High School of Science)

BH-04

Quantitative Cocaine Model and Implications for Treatment

Presentation Link: <http://quantitativeschizomodel.tumblr.com/>

Presenters: Samantha Lee, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

BH-05

Reading to Learn: Factors of Comprehension

Presentation Link: <http://reading-to-learn.tumblr.com/>

Presenters: Serena Mon, (Cedar Shoals High School), **Mentor:** Cheryl Hudson (Cedar Shoals High School)

BH-06

The Effect of Varying Methods of Recall on the Accuracy of Memories

Presentation Link: <http://www.kellypellegrino.tumblr.com/>

Presenters: Kelly Pellegrino, (Bronx High School of Science), **Mentor:** Zach Lynn (Bronx High School of Science)

BH-07

Benchmark Proof of Sensitivity to Temporal Order of Events under Masked Stimuli

Presentation Link: <http://sensitivitytotemporalproperties.tumblr.com/>

Presenters: Anthea Ye, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

BH-08

Statistical Analysis of Stock Prices: Proof that Mean Reversion Exists & Whether Profit/Loss is Guaranteed

Presentation Link: <http://sigmaxi-ahrisuechoi.tumblr.com/>

Presenters: Ahrisue Choi, (Bronx High School of Science), **Mentor:** Alex Jung (Unemployed)

BH-09

Crossmodal Memory Interaction in Drosophila Melanogaster

Presentation Link:

Presenters: Natasha Honcharik, (Massachusetts Academy of Math and Science), **Mentor:** Christopher Burke (UMass Medical School)

BH-10

Age Differences in Canine Cognition

Presentation Link: <http://sw2324366.tumblr.com/>

Presenters: Seraphina Wong, (North Carolina School of Science and Mathematics), **Mentor:** Sarah Shoemaker (North Carolina School of Science and Math)

BH-11

A Novel Analysis and Predictive Risk Model of Chronic Diseases: A Markov Chain Monte Carlo Simulated Study on the Rising Incidence of Type II Diabetes Mellitus in the Youth

Presentation Link: <http://meghnanarayansigmaxi.tumblr.com/>

Presenters: Meghna Narayan, (Bronx High School of Science), **Mentor:** Lata Ganesh (World Bank Institute)

BH-12

Social Comparison or Association? Effects of Facebook Friend Profile Viewing on Self-Esteem

Presentation Link: <http://facebookselfesteem.tumblr.com/>

Presenters: Holly Slang, (North Carolina School of Science and Mathematics), **Mentor:** Sarah Shoemaker (North Carolina School of Science and Mathematics)

Cellular & Molecular Biology

CB-01

GTPase hGBP1 in glioblastomas

Presentation Link: <http://stephmangel.tumblr.com/>

Presenters: Stephanie Angel, (University of Toledo), **Mentor:** Deborah Vestal (University of Toledo)

CB-02

Effects of Selective Agonism of Angiotensin II AT1 and AT2 Receptors on Neural Differentiation and Proliferation in Human (H-9) Derived Stem Cells

Presentation Link: <http://brigitteblancosigmaxi.tumblr.com/#default>

Presenters: Brigitte Blanco, (Pine Crest School), **Mentor:** Jennifer Gordinier (Pine Crest School)

CB-03

Differential Gene Expression in Saccharomyces cerevisiae as a Result of Exposure to (-)-Epicatechin, a Flavanol Antioxidant Found in Cocoa

Presentation Link: <http://gselden.tumblr.com>

Presenters: Genevieve Selden, (Pine Crest School), **Mentor:** Jennifer Gordinier (Pine Crest School)

CB-04

The Microbial Growth of Three Strains of Yeast Cells in Different Concentrations of Osmolytes

Presentation Link: <http://yeastgroup.tumblr.com/>

Presenters: Samveg Desai, Danuh Kim, Howard Li, Kim Ngo, Seth Teague, (North Carolina School of Science and Mathematics), **Mentor:** Amy Sheck (North Carolina School of Science and Mathematics)

CB-05

Differences in Autophagy between Huntington's Disease Q111 Striatal Cells and Wild-Type Q7 Striatal Cells

Presentation Link: <http://laurenahoule.tumblr.com>

Presenters: Lauren Houle, (Pine Crest School), **Mentor:** Jianning Wei (Florida Atlantic University)

CB-06

Role of HIF-1 alpha in mRNA Expression: Profile of Cell Cycle Regulators in Mouse Sarcoma Cells after Ionizing Radiation

Presentation Link: <http://hif1a-project.tumblr.com/>

Presenters: Grace Guo, (North Carolina School of Science and Mathematics), **Mentor:** Sarah Shoemaker (North Carolina School of Science and Mathematics)

CB-07

The Role of Transforming Growth Factor Beta in Pancreatic Stellate Cells in Pancreatic Ductal Adenocarcinoma

Presentation Link: <http://gallant14k.tumblr.com/>

Presenters: Kelsey Gallant, (North Carolina School of Science and Mathematics), **Mentor:** Amy Sheck (North Carolina School of Science and Mathematics)

CB-08

*Trail avoidance, spatial pattern recognition, and tubule-crossing efficiency in the true slime mold *Physarum polycephalum**

Presentation Link: <http://navigation-and-pathfinding.tumblr.com/>

Presenters: Hannah McShea, (North Carolina School of Science and Mathematics), **Mentor:** Amy Sheck (North Carolina School of Science and Mathematics)

CB-09

Persisters Cells: A Unique Kind of Anti-Bacterial Resistance

Presentation Link: <http://www.malinipersisters.tumblr.com>

Presenters: Malini Basu, (Pine Crest School), **Mentor:** Jennifer Gordinier (Pine Crest School)

CB-10

Identifying a role for metabolism in pancreatic cancer chemoresponsiveness

Presentation Link: http://prezi.com/o6afjzj_nnw/?utm_campaign=share&utm_medium=copy

Presenters: Priya Desai, (North Carolina School of Science and Mathematics), **Mentor:** Sarah Shoemaker (North Carolina School of Science and Mathematics)

CB-11

The Role of HuD in the Development of Cortical Circuits and Epilepsy

Presentation Link: <http://mayuriviswanathanhudpilepsy.weebly.com/>

Presenters: Mayuri Viswanathan, (American Heritage School), **Mentor:** Mladen-Roko Rasin (Rutgers Robert Wood Johnson Medical School)

CB-12

The effects of stress: an epigenetic and genetic investigation

Presentation Link: <http://stressedmouse.tumblr.com/>

Presenters: Zoe Lee-McDermott, (Bronx High School of Science), **Mentor:** Richard Lee (The Bronx High School of Science)

CB-13

Response of Archaea to Stress

Presentation Link: <http://haloncsm2014.tumblr.com/>

Presenters: Abhishek Kulgod, Senita Portlock, Chase Yuan, Xueqi Zhu, Suzanne Zhou, (North Carolina School of Science and Mathematics), **Mentor:** Amy Shek (North Carolina School of Science and Math)

CB-14

The Role of Respiratory Epithelium Toll-like Receptor 2 Signaling

Presentation Link: <http://metastasislr2.blogspot.com/>

Presenters: Crystal Chen, (McGill University), **Mentor:** Lorenzo Ferri (McGill University)

CB-15

Understanding Mechanisms of Chemoresistance in BRCA2 Mutant Ovarian Cancer

Presentation Link: <http://chemoresistance-in-cancer.tumblr.com/>

Presenters: Michelle Heeney, (Mass Academy of Math and Science at WPI), **Mentor:** Maria Borowski (Mass Academy of Math and Science at WPI)

CB-16

The Induction of Axonal Regeneration through the Epithelial-Mesenchymal Transition in Retinal Ganglion Cells

Presentation Link: <http://emtaxonalregeneration.tumblr.com>

Presenters: Allison Belette, (Pine Crest School), **Mentor:** Daniel Pita-Thomas (University of Miami)

CB-17

Analysis of Metabolic Pathways and the Relationship to KDM5A and the Retinoblastoma 1 Gene

Presentation Link: <http://sigmaxiscienceproject.tumblr.com/>

Presenters: Aishwarya Raj, (Illinois Mathematics and Science Academy), **Mentor:** Elizaveta Benevolenskaya (University of Illinois at Chicago)

CB-18

IRES-Translation Mechanism Used by Viruses

Presentation Link: <http://mukta936.tumblr.com>

Presenters: Mukta Asnani, (SUNY Downstate Medical Center), **Mentor:** Tatyana Pestova (SUNY Downstate Medical Center)

CB-19

Measurement of the Growth Kinetics of Endometrial Cancer to Obtain Cancer Stem Cell Fractions and Surviving Fraction at 2Gy.

Presentation Link: <http://zhanga6.tumblr.com/>

Presenters: Andrew Zhang, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

CB-20

A full body and nervous system specific knockdown of Alanyl-tRNA synthetase in Drosophila melanogaster

Presentation Link: <http://alanjacobsacks.tumblr.com/>

Presenters: Alan Sacks, (Pine Crest School), **Mentor:** Jennifer Jennifer (Pine Crest)

CB-21

Characterization of Gene Expression in p53 Activated Tumor-Initiating Cells

Presentation Link: <http://characterizationofgene.tumblr.com/>

Presenters: Fan Liu, (Fontbonne Academy), **Mentor:** Randolph Watnick (Boston Children's Hospital)

CB-22

Understanding the Role of Succinylation

Presentation Link: <http://rhosuccinylation.tumblr.com/>

Presenters: Sabrina Hundal, (Glenforest Secondary School), **Mentor:** Uros Kuzmanov (University of Toronto)

CB-23

VEGFR2 Specific Delivery of Multistage Nanovectors: A nanomedicine-based approach to treat cancer by targeting blood vessel formation

Presentation Link: <http://evanshegogsigmaxi.blogspot.com/>

Presenters: Evan Shegog, (Bellaire High School), **Mentor:** Ennio Tasciotti (Houston Methodist Research Institute)

CB-24

Relationship Between Notch Signaling Receptors and Lymphatic Malformations

Presentation Link: <http://lymphaticmalformationssigmaxi.tumblr.com/>

Presenters: Epshita Das, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

CB-25

Gold Nanoparticle/Interferon Conjugates as Directed Drug Delivery Mechanisms for Pancreatic Carcinomas

Presentation Link: <http://edonowaysigmaxi.tumblr.com>

Presenters: Elizabeth Donoway, (Pine Crest School), **Mentor:** Siddarth Rawal (University of Miami)

CB-26

MUC1 as a biomarker for TGF- β 1 inhibition

Presentation Link: <http://emilyashkin.tumblr.com/>

Presenters: Emily Ashkin, (Providence Day School), **Mentor:** Pinku Mukherjee (University of North Carolina at Charlotte)

CB-27

Novel Anatomic Visualization and Architecture of the Cancer Stem Cell Niche

Presentation Link: <http://cancerstemcellniches.tumblr.com/>

Presenters: Matthew Chan, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

Chemistry

CH-01

Interatomic Two-Body Potential Function

Presentation Link: <https://sites.google.com/site/jcxie2014/>

Presenters: Jianing (Colin) Xie, (A&M Consolidated High School), **Mentor:** Tapas Kar (Utah State University)

CH-02

A Novel Silver Hydrogel Dressing for Burn Wounds

Presentation Link: <http://bboonkae.tumblr.com/>

Presenters: Philip Barber, (University of Queensland), **Mentor:** Benjawan Boonkaew (Universtiy of Queensland)

CH-03

Gelatin-Functionalized Graphene Oxide for Chemical and Photothermal Cancer Therapy

Presentation Link: <http://ncssmgotherapy.tumblr.com/>

Presenters: Guy Blanc, Aaron Lucander, Praruj Pant, (North Carolina School of Science and Mathematics), **Mentor:** Myra Halpin (North Carolina School of Science and Mathematics)

CH-04

Ability of 10,12- pentacosadiynoic acid (PCDA) liposome as chemo/biosensor: sensing structural differences between chalcones

Presentation Link: <http://pcdaliposomesensor.tumblr.com>

Presenters: Danuh Kim, (North Carolina School of Science and Mathematics), **Mentor:** Halpin Myra (North Carolina School of Science and Mathematics)

CH-05

Palladium-based Catalysts for the Methane to Methanol Conversion as a New Energy Source

Presentation Link: <http://feldsparr.tumblr.com>

Presenters: Luther Lu, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

CH-06

Building Better Bottles

Presentation Link: <http://buildingbetterbottles.tumblr.com>

Presenters: Nathaniel Mahowald, (Mass Academy of Math and Science at WPI), **Mentor:** Thomas Regele (Mass Academy of Math and Science)

CH-07

Optimization of Transparency and Durability of Self-Cleaning Glass

Presentation Link: <http://optimizingselfcleaningglass.tumblr.com>

Presenters: Simone Griffith, Ekaterina Khlystova, (North Carolina School of Science and Mathematics), **Mentor:** Myra Halpin (North Carolina School of Science and Mathematics)

Ecology & Evolutionary Biology

EB-01

Competition in vireos

Presentation Link: <http://kpeiman.tumblr.com/>

Presenters: Kathryn Peiman, (University of California, Los Angeles), **Mentor:** Greg Grether (University of California, Los Angeles)

EB-02

Haplotype Determination of Ancient Maya DNA

Presentation Link: <http://ancient-Mayans.tumblr.com>

Presenters: Michael Haynes, (SUNY Plattsburgh), **Mentor:** Nancy Elwess (SUNY Plattsburgh)

EB-03

Characteristics of the setae of ground spiders

Presentation Link: <http://amandatsang.tumblr.com>

Presenters: Amanda Tsang, (LaGuardia Community College), **Mentor:** Boris Zakharov (LaGuardia Community College)

Engineering

EN-01

Effect of PEDOT Coated Electrodes on Nerve Morphology of Regenerative Peripheral Nerve Interfaces

Presentation Link: <http://jffried.tumblr.com>

Presenters: Jeffrey Friedman, (University of Michigan, Ann Arbor), **Mentor:** Melanie Urbancek (University of Michigan-Ann Arbor)

EN-02

Arduino-Based Foot Neuropathy Analyzer

Presentation Link: <http://maya1varma.wix.com/neuropathyanalyzer>

Presenters: Maya Varma, (Presentation High School), **Mentor:** Anujan Varma (Not Applicable)

Environmental Sciences

ES-01

The Lichens Project

Presentation Link: <http://lichens.herokuapp.com>

Presenters: Bailey Blankenship, Allan Jiang, (North Carolina School of Science and Mathematics), **Mentor:** Myra Halpin (North Carolina School of Science and Mathematics)

ES-03

AQI Analysis of Modern Population Growth

Presentation Link: <http://compaqipop.tumblr.com/>

Presenters: Auston Li, (North Carolina School of Science and Mathematics), **Mentor:** Robert Gotwals (North Carolina School of Science and Mathematics)

ES-04

Using Dendroclimatology to Predict the Effects of Climate Change on High Elevations

Presentation Link: <http://nelsen15c.tumblr.com/>

Presenters: Catherine Nelsen, (Watauga High School), **Mentor:** Linda Schmalbeck (North Carolina School of Science and Math)

ES-05

A Novel Bacteria for Arsenic Bioremediation

Presentation Link: <http://arsenicbioremediation.tumblr.com/>

Presenters: Kriti Lall, (Castilleja School), **Mentor:** Aru Hill (Schmahl Science Workshops)

ES-06

Super Fungus: Insect Control to Save Our Food

Presentation Link: <http://sigmaxiwirewormsng.tumblr.com/>

Presenters: Nirupa Gadi, (Conrad High School), **Mentor:** Gadi Reddy (Montana State University)

ES-07

Quantum Dot Water Purification

Presentation Link: <http://ncssmqdwaterpurification.tumblr.com/>

Presenters: Adithya Iyengar, Neeraj Suresh, Shreyas Kolavennu, (North Carolina School of Science and Mathematics), **Mentor:** Myra Halpin (North Carolina School of Science and Mathematics)

ES-08

To Breathe or Not To Breathe: The Effects of the Hypoxia-Inducible Factor 1 on Cell Proliferation of the Spinal Cord

Presentation Link: <http://elizabethfeldman.tumblr.com>

Presenters: Elizabeth Feldman, (Pine Crest School), **Mentor:** Jennifer Gordinier (Pine Crest School)

ES-09

Mathematical Modeling and Ninety Years Forecast of Midwest Precipitation Changes Due to the Greenhouse Effect and Dramatic Agricultural Implications

Presentation Link: <http://cdnyramirez.tumblr.com/>

Presenters: Cindy Ramirez, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

ES-10

Investigating the Water Quality of a Channelized Stream via Macroinvertebrate Matrices: Snyder Ditch in Orwell, Ohio on the Western Reserve Land Conservancy

Presentation Link: <http://eankney.tumblr.com>

Presenters: Emily Ankney, (Youngstown State University), **Mentor:** Felicia Armstrong (Youngstown State University)

Geo-Sciences

GS-01

Arsenic Mobility in Mammoth Mountain Springs

Presentation Link: <http://kshipley22.tumblr.com>

Presenters: Kenisha Shipley, (California State University, Los Angeles), **Mentor:** Andre Ellis (California State University, Los Angeles)

GS-02

Empirical modeling of fault regions with natural erosion and fault uplift

Presentation Link: <http://jingyuyao.com/sigmaxi.html>

Presenters: Jingyu Yao, (Bronx High School of Science), **Mentor:** Bruce Shaw (Lamont Doherty Earth Observatory)

GS-03

Mapping the Lunar Crust-Mantle Boundary Via Seismic Noise Interferometry

Presentation Link: <http://mohomapping.tumblr.com/>

Presenters: Evelyn Webb, (North Carolina School of Science and Mathematics), **Mentor:** Johnathan Bennett (The North Carolina School of Science and Mathematics)

Math & Computer Science

MC-01

Game Theory and Machine Learning: A Profitable Marriage - The Case of Tilkee

Presentation Link: <http://gametheoryinlearning.tumblr.com/>

Presenters: Raymond Joseph, (Indian Institute of Technology, Madras INDIA), **Mentor:** Timothee Saumet (Grenoble, France / Tilkee, FRance)

MC-02

Soddy Sphere Packings' Construction Theorems and evidence of their Curvatures' Log-normality under the Local-to-Global Theorem

Presentation Link: <http://raevskym.tumblr.com/>

Presenters: Michael Raevsky, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

MC-03

Whose Line Is It Anyway?

Presentation Link: <http://natsohni.tumblr.com/>

Presenters: Natasha Sohni, (Century High School), **Mentor:** Rajani Sohni (Mayo Clinic)

MC-04

A Fundamental Theorem in the Reduction of Two-Dimensional Additive Systems

Presentation Link:

Presenters: Gidon Orelowitz, (Bronx High School of Science), **Mentor:** Melvyn Nathanson (CUNY Lehman College)

MC-05

Enumerating Acyclically Oriented Subgraphs

Presentation Link:

Presenters: Hol Seo, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

MC-06

Gaussian Integers: A Study in Divisibility

Presentation Link: <http://alisandratossigmaxi.tumblr.com/>

Presenters: Mihalis Alisandratos, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (The Bronx High School of Science)

MC-07

Power-10: a new scoring system for bowling

Presentation Link: <http://power-10bowling.tumblr.com/>

Presenters: Bright Zheng, (Blacksburg High School), **Mentor:** Marlow Lemons (Virginia Polytechnic Institute and State University)

MC-08

Computing The Galois Groups Of Ring Extensions Of the Rationals That Fix Exactly Q

Presentation Link:

Presenters: George Friedlander, (Bronx High School of Science), **Mentor:** Sylvain Cappell (NYU Courant)

MC-09

Water Water Everywhere: new methodology and quantitative model for environmental conservation and water conservation

Presentation Link: <http://www.tumblr.com/blog/waterwaterwatereverywhere>

Presenters: Herdrich Trott, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (The Bronx High School of Science)

Physics & Astronomy

PA-01

Discovering Statistical Relationships for Biological Ion Channels

Presentation Link: <http://rishy97.tumblr.com/>

Presenters: Rishabh Kumar, (Carmel High School), **Mentor:** Horia Petrache (IUPUI)

PA-02

Improvements in the Efficiency of Mitochondrial Biofuels through the Modeling of the Thermodynamic Efficiency of the Electron Transport Chain

Presentation Link:

Presenters: Michael Moore, (Bronx High School of Science), **Mentor:** lev murokh (queens college)

PA-03

Violation of Heisenberg Limit with Nonlinear Phase Shifts

Presentation Link: <http://researchshowcase.tumblr.com/>

Presenters: Dachi Tan, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx High School of Science)

Physiology & Immunology

PI-01

Stabilizing Nature of Intrinsically Bursting Neurons Suggests Novel Method to Treating Refractory Epilepsy

Presentation Link: <http://vivektrivedisigmaxi.tumblr.com/>

Presenters: Vivek Trivedi, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (Bronx Science)

PI-02

Ovarian Cancer and Diabetes: Metformin's Metabolic Effects

Presentation Link: <http://laceyg92.tumblr.com/>

Presenters: Lacey Gibson, (Southern Illinois University Carbondale), **Mentor:** Dale Hales (Southern Illinois University Carbondale)

PI-03

Biodegradable Nanoparticles for Type 1 Diabetes Therapy

Presentation Link:

Presenters: Walter Hsiang, (Yale University), **Mentor:** Michael McHugh (Yale University)

Social Sciences

SS-01

Students' Perceptions of Group Work versus Individual Work

Presentation Link: <http://mnagaswami.tumblr.com/>

Presenters: Megha Nagaswami, (Haverford Senior High School), **Mentor:** Jeffrey Nesbitt (Haverford Senior High School)

SS-02

The Economic Assimilation of Cuban Immigrants and its Impact on Future Immigration in the United States

Presentation Link: <http://spencershapiroresearch.tumblr.com/>

Presenters: Spencer Shapiro, (Bronx High School of Science), **Mentor:** Zach Lynn (Bronx High School of Science)

SS-03

The Effect of Stigma on Social Acceptance

Presentation Link: <http://alicekallman.tumblr.com>

Presenters: Alice Kallman, (Bronx High School of Science), **Mentor:** Zach Lynn (Bronx High School of Science)

SS-04

Osteology of Salango, Ecuador and a Comparison of Paleopathologies Between Coastal and Highland Sites in Ecuador

Presentation Link: <http://sleepingforest717.tumblr.com>

Presenters: Laura Van Voorhis, (University of Florida), **Mentor:** Douglas Broadfield (Florida Atlantic University)

SS-05

New Quantitative Methodology for Identification of Drug Abuse Based on Feature-Based Context-Free Grammar

Presentation Link: <http://carius.tumblr.com/>

Presenters: Yuqing Wang, (Bronx High School of Science), **Mentor:** Michael Chary (Mount Sinai School of Medicine)

SS-06

Kyoto Protocol: The Effects of Wind Farms on Carbon Emissions

Presentation Link: <http://stephen596.tumblr.com/>

Presenters: Stephen Tsamblakos, (Bronx High School of Science), **Mentor:** Zach Lynn (Bronx High School of Science)

SS-07

A New Foundational Approach for Analysis and Prediction of Endemic Processes in Social Networks

Presentation Link: <http://agouldsigmaxi.tumblr.com/>

Presenters: Alexander Gould, (Bronx High School of Science), **Mentor:** Vladimir Shapovalov (The Bronx High School of Science)

SS-08

The Effect of Deception in Research on Subjects' Trust

Presentation Link: <http://verabenkoilsigmaxi.tumblr.com/>

Presenters: Vera Benkoil, (Bronx High School of Science), **Mentor:** Zach Lynn (Bronx High School of Science)

SS-09

Assessing the Needs of Lesbian, Gay, Bisexual, and Transgender Elders in Northeast Florida

Presentation Link: <http://theneedsoflgbteldersinnefl.tumblr.com/>

Presenters: Danielle Krusemark, Tiffany Howard, Kai Puhl, (University of North Florida), **Mentor:** Lynne Carroll (University of North Florida)

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Feldman, Elizabeth	Pine Crest School	ES-08
Friedlander, George	Bronx High School of Science	MC-08
Friedman, Jeffrey	University of Michigan, Ann Arbor	EN-01
Gadi, Nirupa	Conrad High School	ES-06
Gallant, Kelsey	North Carolina School of Science and Mathematics	CB-07
Gibson, Lacey	Southern Illinois University Carbondale	PI-02
Gould, Alexander	Bronx High School of Science	SS-07
Griffith, Simone	North Carolina School of Science and Mathematics	CH-07
Guo, Grace	North Carolina School of Science and Mathematics	CB-06
Haynes, Michael	SUNY Plattsburgh	EB-02
Heeney, Michelle	Mass Academy of Math and Science at WPI	CB-15
Honcharik, Natasha	Massachusetts Academy of Math and Science	BH-09
Houle, Lauren	Pine Crest School	CB-05
Howard, Tiffany	University of North Florida	SS-09
Hsiang, Walter	Yale University	PI-03
Hundal, Sabrina	Glenforest Secondary School	CB-22
Iyengar, Adithya	North Carolina School of Science and Mathematics	ES-07
Jiang, Allan	North Carolina School of Science and Mathematics	ES-01
Jin, Vivian	Illinois Mathematics and Science Academy	BC-05
Joseph, Raymond	Indian Institute of Technology, Madras INDIA	MC-01

Presenter	School	Presentation
Kallman, Alice	Bronx High School of Science	SS-03
Khlystova, Ekaterina	North Carolina School of Science and Mathematics	CH-07
Kim, Danuh	North Carolina School of Science and Mathematics	CH-04, CB-04
Kolavennu, Shreyas	North Carolina School of Science and Mathematics	ES-07
Krusemark, Danielle	University of North Florida	SS-09
Kulgod, Abhishek	North Carolina School of Science and Mathematics	CB-13
Kumar, Rishabh	Carmel High School	PA-01
Lall, Kriti	Castilleja School	ES-05
Lee, Samantha	Bronx High School of Science	BH-04
Lee-McDermott, Zoe	Bronx High School of Science	CB-12
Li, Auston	North Carolina School of Science and Mathematics	ES-03
Li, Howard	North Carolina School of Science and Mathematics	CB-04
Liu, Caroline	North Carolina School of Science and Mathematics	BC-07
Liu, Caroline	North Carolina School of Science and Mathematics	BC-09
Liu, Fan	Fontbonne Academy	CB-21
Lu, Luther	Bronx High School of Science	CH-05
Mahowald, Nathaniel	Mass Academy of Math and Science at WPI	CH-06
Lucander, Aaron	North Carolina School of Science and Mathematics	CH-03
McShea, Hannah	North Carolina School of Science and Mathematics	CB-08
Mon, Serena	Cedar Shoals High School	BH-05
Moore, Michael	Bronx High School of Science	PA-02
Nagaswami, Megha	Haverford Senior High School	SS-01
Narayan, Meghna	Bronx High School of Science	BH-11
Nelsen, Catherine	Watauga High School	ES-04
Nguyen, Quang	Duke University	BH-01
Orelowitz, Gidon	Bronx High School of Science	MC-04
Pant, Praruj	North Carolina School of Science and Mathematics	CH-03
Peiman, Kathryn	University of California, Los Angeles	EB-01
Pellegrino, Kelly	Bronx High School of Science	BH-06
Phul, Kai	University of North Florida	SS-09
Portlock, Senita	North Carolina School of Science and Mathematics	CB-13
Punjabi, Amol	Advanced Math and Science Academy	BC-03
Raevsky, Michael	Bronx High School of Science	MC-02
Raj, Aishwarya	Illinois Mathematics and Science Academy	CB-17
Ramirez, Cindy	Bronx High School of Science	ES-09
Rucinski, Violetta	Bronx High School of Science	BH-03
Sacks, Alan	Pine Crest School	CB-20
Saha, Sumit	Bronx High School of Science	BC-04
Selden, Genevieve	Pine Crest School	CB-03
Seo, Hol	Bronx High School of Science	MC-05
Shapiro, Spencer	Bronx High School of Science	SS-02
Shegog, Evan	Bellaire High School	CB-23
Shipley, Kenisha	California State University, Los Angeles	GS-01

Presenter	School	Presentation
Slang, Holly	North Carolina School of Science and Mathematics	BH-12
Sohni, Natasha	Century High School	MC-03
Sundar, Ranjani	Illinois Mathematics and Science Academy	BC-02
Suresh, Neeraj	North Carolina School of Science and Mathematics	ES-07
Tan, Dachi	Bronx High School of Science	PA-03
Teague, Seth	North Carolina School of Science and Mathematics	CB-04
Trivedi, Vivek	Bronx High School of Science	PI-01
Trott, Herdrich	Bronx High School of Science	MC-09
Tsamblakos, Stephen	Bronx High School of Science	SS-06
Tsang, Amanda	LaGuardia Community College	EB-03
Van Voorhis, Laura	University of Florida	SS-04
Varma, Maya	Presentation High School	EN-02
Viswanathan, Mayuri	American Heritage School	CB-11
Wang, Katherine	North Carolina School of Science and Mathematics	BC-07
Wang, Yuqing	Bronx High School of Science	SS-05
Webb, Evelyn	North Carolina School of Science and Mathematics	GS-03
Wong, Seraphina	North Carolina School of Science and Mathematics	BH-10
Xia, Shalier	North Carolina School of Science and Mathematics	BC-07
Xie, Jianing (Colin)	A&M Consolidated High School	CH-01
Yang, Andrew	NISD Health Careers High School	BC-08
Yao, Jingyu	Bronx High School of Science	GS-02
Ye, Anthea	Bronx High School of Science	BH-07
Yuan, Chase	North Carolina School of Science and Mathematics	CB-13
Zhang, Andrew	Bronx High School of Science	CB-19
Zheng, Bright	Blacksburg High School	MC-07
Zhu, Xueqi	North Carolina School of Science and Mathematics	CB-13
Zhou, Suzanne	North Carolina School of Science and Mathematics	CB-13

List of Judges

Wole Akpose	Christian Duncan	Atul Joshi
Laura Alberici da Barbiano	Brian Dunleavy	Lakshmi Kakani
Jonathan Allen	Turkan Dursun-Kilic	Carolyn Kalsow
Loran Ambs	Julie Ealy	Anju Kalsy
March Ard	Judith Espinoza-Perez	Raghunath Kanakala
Peter Ariessohn	Mingxuan Fan	Lakshmi Kannan
Payam Bahrami	John Fauth	Anil Kapahi
Sheekela Baker	Tom Flanagan	Neeti Kapur
Hansraj Bangar	Jennifer Forbey	Shannon Keckler
Alexandr Banishev	Derek Fox	Martin Kelly
Xuhui Bao	John Freeman	Sally Kent
Barry Barclay	Jeffrey Frye	Tahsin Khan
Matt Beaky	Margaret Gaddis	LaVerne Knezek
Tara Bender	Greeshma Gadikota	Anton Kolomeyer
Josh Beun	Adarsh Gandhi	Dhaval Kolte
Stephanie Bingham	Lynne Gardner	Christine Koltermann
Elisabeth Bodnaruk	Solomon Gebru	Don Kraft
Justin Boyer	Vicki Geiser	Albert Kruger
Robert Boylan	Diane Genereux	Chetan Kulkarni
Pete Braun	Yulia Gerasimova	Yogesh Kulkarni
Peter Burke	Evone Ghaly	Rajnish Kumar
Diane Burns	Eileen Gilligan	Saravan Kumar
Phil Bushnell	Michael Givel	Kuzhiyileth Kumaroo
Emmanuel Byamukama	Guadalupe Gonzalez	Valerie Lafitte
James Cain	Christiaan Gribble	Lynn Lefebvre
Thomas Canam	Roger Grice	Jackson Leow
Diana Carlin	Gerald Griffin	Dinorah Leyva
Haimei Chen	George Grubbs	Joy Liao
Ming-Wei Chen	Bob Guenther	Hangkyo Lim
Xiomara Carolina Chianelli	Jessica Halpin	Ronghong Lin
John Chovan	Jingfen Han	Geou-Yarh Liou
Indrajit Chowdhury	Shane Hanlon	Benlin Liu
Andrew Coles	Michael Harding	Yan Liu
Angelo Collins	Michael Hibbs	Kaushik Lodh
Sandra Cooke	K.W. Hippias	Peng Lu
Sarah Corey-Rivas	Jonathan Hodgson	Xu Lu
Margarita Curras-Collazo	Bob Horton	Steven Luksic
Santanu Das	Heqiang Huo	Alexandra Mack
Orin Davis	Tianyao Huo	Robert Marande
Wilfredo De Jesus-Monge	Thomas Hutch	Joelle Mast
David Delehanty	Seungyoung Hwang	Ursula Mazur
Mrinal Dewanjee	Karthik Iyer	Shawna McMahan
Juleen Dickson	Abhinav Jain	Sarah McMenamin
Amelia Dietrich	Marian Johnson-Thompson	Ulrich Melcher
Mario DiGregorio	Cheryl Jorcyk	Allan Mills

Maria Modanu
Emily Moorefield
Howard Motoike
Sean Muir
Benson Muite
Amol Mungikar
Charu Munjal
Neil Myers
Rajesh Nair
Dominic Nathan
Natasha Nayak
Michael Nichols
Michael Nichols
Sarah Nichols
Lynn Nielsen-Bohlman
William Niemi
Sara O'Brien
Goetz Oertel
Bamidele Oluwade
Adebola Oyefusi
Franco Paoletti
Konstantinos Papazoglou
Jin Park
Abhinandan Pattanayak
Ron Patterson
Congyue Peng
Wellington Pham
Russell Philbrick
Mary Pilotte
Sudheer Pimputkar
Allison Porman
Bharath Prithiviraj
Dinesh Rabindran

Priya Rajavelu
Karthi Ramasamy
Nikhil Raut
Francis Reilly
Corinne Rhodes
Jeffrey Richardson
Felix Rivera-Mariani
Jayeeta Roychoudhury
Melissa Rura
Surya Saha
Ronald Sarno
Jorg Scholvin
William Scovell
Linda Sedlacek
Mark Seidel
Selia Selimovic
Roza Selimyan
Munish Sharma
Nawal Sharma
Surbhi Sharma
Pushkar Shejwalkar
Tanya Shipkowitz
Jeanette Shipley-Phillips
Cynthia Siew
Gloria Silva
Ilse Silva-Krott
Vivek Singh
Suman Sirimulla
Martha Sklavos
Michael Smith
Richard Snow
Roxanne Spencer
Kurt Spies

Jennifer Stewart
Michael Sulzinski
Makram Talih
Zhuo (George) Tan
Guangming Tao
Sarah Thatcher
Quynh Ton
Angela Tringali
Kaushlendra Tripathi
Melanie Urbanek
Kiran Vangara
Suresh Veeramani
Deborah Vestal
Shiv Viswanathan
Caixia Wang
Yane-Shih Wang
Don Warren
Patrick Weir
Lisa Willoughby
Martin Winkler
Susan Wolf
Gareth Wynn-Williams
Kang Xia
Joannes Yimbessalu
Vanessa Yingling
Elsa Youngsteadt
Li Zhang
Yie Zheng
Leming Zhou
Renjie Zhou
Justyna Zwolak