

Division Awards

Representing the top presentations for Graduate, Undergraduate and High School Students

- **Graduate Division Winner**

Competition in vireos

Kathryn Peiman of the University of California, Los Angeles; Advisor: Greg Grether.

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

- **Undergraduate Division Winner**

GTPase hGBP1 in glioblastomas

Stephanie Angel of the University of Toledo; Advisor: Deborah Vestal.

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

- **High School Division Winners (Tie)**

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

Allison Belette of Pine Crest School; Advisor: Daniel Pita-Thomas.

<http://emtaxonalregeneration.tumblr.com>

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

Holly Slang of the North Carolina School of Science and Mathematics; Advisor: Sarah

Shoemaker. - <http://facebookselfesteem.tumblr.com>

Division Award winners receive a cash prize and commemorative certificate noting their achievement.

Section Awards (see following pages) receive a commemorative certificate noting their achievement.

Section Awards

Representing highly rated presentations by field of research

Behavioral Sciences

High School

First Place: Holly Slang, (North Carolina School of Science and Mathematics). Advisor: Sarah Shoemaker. *Social Comparison or Association? Effects of Facebook Friend Profile Viewing on Self-Esteem* - <http://facebookselfesteem.tumblr.com>

Second Place: Serena Mon, (Cedar Shoals High School). Advisor: Cheryl Hudson. *Reading to Learn: Factors of Comprehension* - <http://reading-to-learn.tumblr.com/>

Third Place: Ahrisue Choi, (Bronx High School of Science). Advisor: Alex Jung. *Statistical Analysis of Stock Prices: Proof that Mean Reversion Exists & Whether Profit/Loss is Guaranteed*

Undergraduate

First Place: Quang Nguyen, (Duke University). Advisor: Jordan Cocchiaro. *Examination of Patulin Toxicity in Adult Zebrafish* - <http://patulinzebrafish.tumblr.com/>

Biochemistry

Graduate

First Place: Weiam Daear, (University of Calgary). Advisor: Elmar Prenner. *The effect of polymeric nanoparticles on the stability of a biomimetic model of the lung surfactant* - <http://weiamd.tumblr.com>

High School

First Place: Caroline Liu, Katherine Wang, Shalier Xia, (North Carolina School of Science and Mathematics). Advisor: Myra Halpin. *Exploring the Possibility of Kombucha as Material for Drug Delivery* - <http://kombuchadelivery.tumblr.com/>

Second Place: Amol Punjabi, (Advanced Math and Science Academy). Advisor: Gang Han. *Engineering Infrared Remote-Controlled Nanorobots for Cancer Therapy* - <http://irnanorobots.blogspot.com>

Third Place: Vivian Jin, (Illinois Mathematics and Science Academy). Advisor: Lei Chen. *Structural Studies of Llama Antibodies in Complex with HIV-1 gp120* - <http://vivian-jin-sigma-xi.tumblr.com>

Cellular & Molecular Biology

Graduate

First Place: Mukta Asnani, (SUNY Downstate Medical Center). Advisor: Tatyana Pestova. *IRES-Translation Mechanism Used by Viruses* - <http://mukta936.tumblr.com>

Undergraduate

First Place: Stephanie Angel, (University of Toledo). Advisor: Deborah Vestal. *GTPase hGBP1 in glioblastomas* - <http://stephmangel.tumblr.com/>

Second Place: Crystal Chen, (McGill University). Advisor: Lorenzo Ferri. *The Role of Respiratory Epithelium Toll-like Receptor 2 Signaling* - <http://metastasistlr2.blogspot.com/>

High School

First Place: Allison Belette, (Pine Crest School). Advisor: Daniel Pita-Thomas. *The Induction of Axonal Regeneration through the Epithelial-Mesenchymal Transition in Retinal Ganglion Cells* - <http://emtaxonalregeneration.tumblr.com>

Second Place: Lauren Houle, (Pine Crest School). Advisor: Jianning Wei. *Differences in Autophagy between Huntington's Disease Q111 Striatal Cells and Wild-Type Q7 Striatal Cells* - <http://laurenahoule.tumblr.com>

Third Place: Hannah McShea, (North Carolina School of Science and Mathematics). Advisor: Amy Sheck. *Trail avoidance, spatial pattern recognition, and tubule-crossing efficiency in the true slime mold Physarum polycephalum* - <http://navigation-and-pathfinding.tumblr.com/>

Chemistry

Undergraduate

First Place: Philip Barber, (University of Queensland). Advisor: Benjawan Boonkaew. *A Novel Silver Hydrogel Dressing for Burn Wounds* - <http://bboonkae.tumblr.com/>

High School

First Place: Jianing (Colin) Xie, (A&M Consolidated High School). Advisor: Tapas Kar. *Interatomic Two-Body Potential Function* - <https://sites.google.com/site/jcxie2014/>

Second Place: Guy Blanc, Aaron Lucander, Praruj Pant, (North Carolina School of Science and Mathematics). Advisor: Myra Halpin. *Gelatin-Functionalized Graphene Oxide for Chemical and Photothermal Cancer Therapy* - <http://ncssmgotherapy.tumblr.com/>

Third Place: Nathaniel Mahowald, (Mass Academy of Math and Science at WPI). Advisor: Thomas Regele. *Building Better Bottles* - <http://buildingbetterbottles.tumblr.com>

Ecology & Evolutionary Biology

Graduate Student

First Place: Kathryn Peiman, (University of California, Los Angeles). Advisor: Greg Grether. *Competition in vireos* - <http://kpeiman.tumblr.com/>

Undergraduate

First Place: Amanda Tsang, (LaGuardia Community College). Advisor: Boris Zakharov. *Characteristics of the setae of ground spiders* - <http://amandatsang.tumblr.com>

Second Place: Michael Haynes, (SUNY Plattsburgh). Advisor: Nancy Elwess. *Haplogroup Determination of Ancient Maya DNA* - <http://ancient-Mayans.tumblr.com>

Engineering

Graduate

First Place: Jeffrey Friedman, (University of Michigan, Ann Arbor). Advisor: Melanie Urbanchek. *Effect of PEDOT Coated Electrodes on Nerve Morphology of Regenerative Peripheral Nerve Interfaces* - <http://jffried.tumblr.com>

High School

First Place: Maya Varma, (Presentation High School). Advisor: Anujan Varma. *Arduino-Based Foot Neuropathy Analyzer* - <http://maya1varma.wix.com/neuropathyanalyzer>

Environmental Science

Graduate

First Place: Emily Ankney, (Youngstown State University). Advisor: Felicia Armstrong. *Investigating the Water Quality of a Channelized Stream via Macroinvertebrate Matrices: Snyder Ditch in Orwell, Ohio on the Western Reserve Land Conservancy* - <http://eankney.tumblr.com>

High School

First Place: Nirupa Gadi, (Conrad High School). Advisor: Gadi Reddy. *Super Fungus: Insect Control to Save Our Food* - <http://sigmaxiwirewormsng.tumblr.com/>

Second Place: Kriti Lall, (Castilleja School). Advisor: Aru Hill. *A Novel Bacteria for Arsenic Bioremediation* - <http://arsenicbioremediation.tumblr.com/>

Third Place: Auston Li, (North Carolina School of Science and Mathematics). Advisor: Robert Gotwals. *AQI Analysis of Modern Population Growth* - <http://compagipop.tumblr.com/>

Geo-Sciences

Graduate

First Place: Kenisha Shipley, (California State University, Los Angeles). Advisor: Andre Ellis. *Arsenic Mobility in Mammoth Mountain Springs* - <http://kshipley22.tumblr.com>

High School

First Place: Evelyn Webb, (North Carolina School of Science and Mathematics). Advisor: Johnathan Bennett. *Mapping the Lunar Crust-Mantle Boundary Via Seismic Noise Interferometry* - <http://mohomapping.tumblr.com/>

Second Place: Jingyu Yao, (Bronx High School of Science). Advisor: Bruce Shaw. *Empirical modeling of fault regions with natural erosion and fault uplift* - <http://jingyuyao.com/sigmaxi.html>

Math & Computer Science

High School

First Place: Natasha Sohni, (Century High School). Advisor: Rajani Sohni. *Whose Line Is It Anyway?* - <http://natsohni.tumblr.com/>

Second Place [Tie]: Mihalis Alisandratos, (Bronx High School of Science). Advisor: Vladimir Shapovalov. *Gaussian Integers: A Study in Divisibility* - <http://alisandratossigmaxi.tumblr.com/>

Second Place [Tie]: Michael Raevsky, (Bronx High School of Science). Advisor: Vladimir Shapovalov. *Soddy Sphere Packings' Construction Theorems and evidence of their Curvatures' Log-normality under the Local-to-Global Theorem* - <http://raevskym.tumblr.com/>

Undergraduate

First Place: Raymond Joseph, (Indian Institute of Technology, Madras INDIA). Advisor: Timothee Saumet. *Game Theory and Machine Learning: A Profitable Marriage - The Case of Tilkee* -

Physics & Astronomy

High School

First Place: Dachi Tan, (Bronx High School of Science). Advisor: Vladimir Shapovalov. *Violation of Heisenberg Limit with Nonlinear Phase Shifts* -

Second Place: Rishabh Kumar, (Carmel High School). Advisor: Horia Petrache. *Discovering Statistical Relationships for Biological Ion Channels* - <http://rishy97.tumblr.com/>

Physiology & Immunology

Undergraduate

First Place: Walter Hsiang, (Yale University). Advisor: Michael McHugh. *Biodegradable Nanoparticles for Type 1 Diabetes Therapy*

Second Place: Lacey Gibson, (Southern Illinois University Carbondale). Advisor: Dale Hales. *Ovarian Cancer and Diabetes: Metformin's Metabolic Effects* - <http://laceyg92.tumblr.com/>

Social Sciences

Graduate Student

First Place: Laura Van Voorhis, (University of Florida). Advisor: Douglas Broadfield. *Osteology of Salango, Ecuador and a Comparison of Paleopathologies Between Coastal and Highland Sites in Ecuador* - <http://sleepingforest717.tumblr.com>

Undergraduate

First Place: Danielle Krusemark, Tiffany Howard, Kai Puhl, (University of North Florida). Advisor: Lynne Carroll. *Assessing the Needs of Lesbian, Gay, Bisexual, and Transgender Elders in Northeast Florida* - <http://theneedsoflgbteldersinnefl.tumblr.com/>

High School

First Place [Tie]: Yuqing Wang, (Bronx High School of Science). Advisor: Michael Chary. *New Quantitative Methodology for Identification of Drug Abuse Based on Feature-Based Context-Free Grammar* - <http://carrius.tumblr.com/>

First Place [Tie]: Megha Nagaswami, (Haverford Senior High School). Advisor: Jeffrey Nesbitt. *Students' Perceptions of Group Work versus Individual Work* - <http://mnagaswami.tumblr.com/>

Second Place: Vera Benkoil, (Bronx High School of Science). Advisor: Zach Lynn. *The Effect of Deception in Research on Subjects' Trust* - <http://verabenkoilsgmaxi.tumblr.com/>

Third Place: Alexander Gould, (Bronx High School of Science). Advisor: Vladimir Shapovalov. *A New Foundational Approach for Analysis and Prediction of Endemic Processes in Social Networks* - <http://agouldsgmaxi.tumblr.com/>