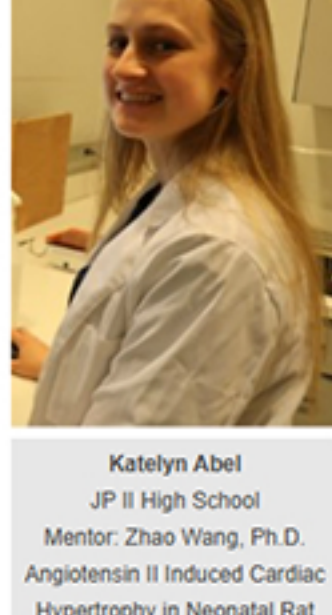
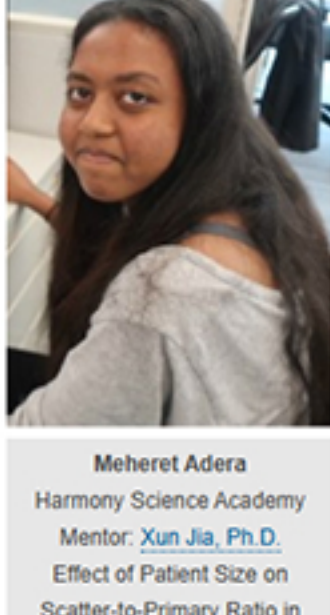


# Summer Research Program Students 2017

The 2017 STARS Summer Research Program for Students included 52 students from Dallas-Fort Worth and surrounding areas. This eight-week program gave students an opportunity to work side-by-side with a faculty host in a research laboratory. It consisted of activities, seminars, and an individualized research project that contributed to the advancement of science. The students were able to showcase and share these advancements during the end-of-program scientific poster session.



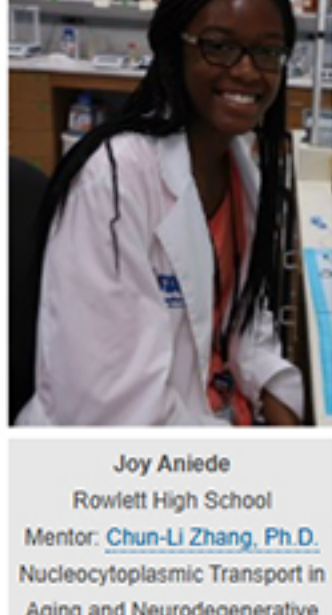
**Katelyn Abel**  
JP II High School  
Mentor: Zhao Wang, Ph.D.  
Angiotensin II Induced Cardiac Hypertrophy in Neonatal Rat Ventricular Myocytes



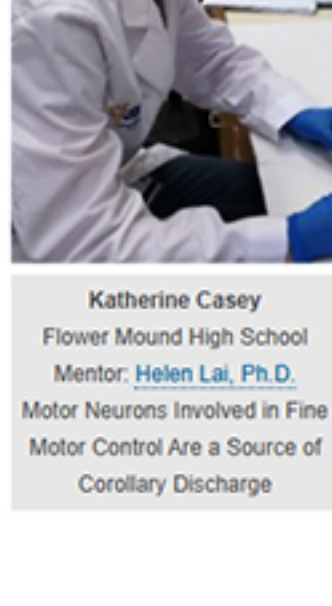
**Meheret Adera**  
Harmony Science Academy  
Mentor: [Xun Jia, Ph.D.](#)  
Effect of Patient Size on Scatter-to-Primary Ratio in Cone Beam CT



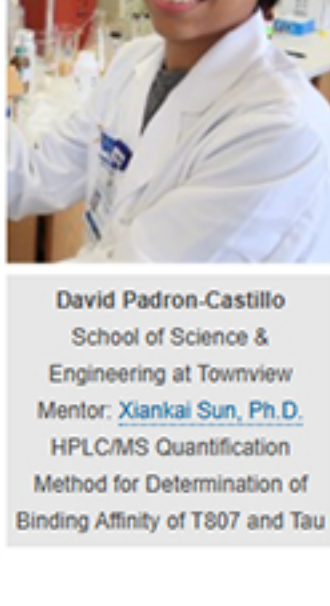
**Mahima Akula**  
Greenhill School  
Mentor: [Sherwood Brown, M.D., Ph.D.](#)  
The Relationship Between Asthma and Depression in Community Based Sample



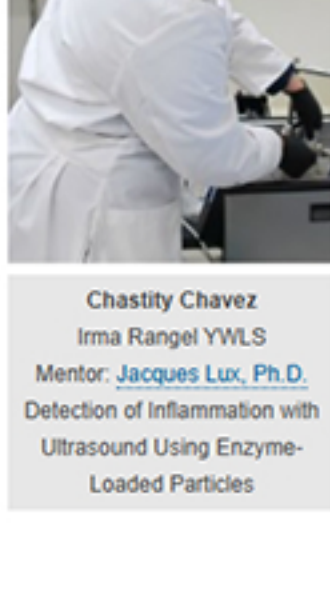
**Joy Aniede**  
Rowlett High School  
Mentor: [Chun-Li Zhang, Ph.D.](#)  
Nucleocytoplasmic Transport in Aging and Neurodegenerative Disorders



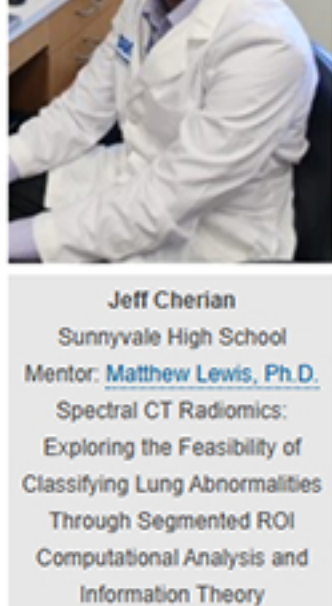
**Katherine Casey**  
Flower Mound High School  
Mentor: [Helen Lai, Ph.D.](#)  
Motor Neurons Involved in Fine Motor Control Are a Source of Corollary Discharge



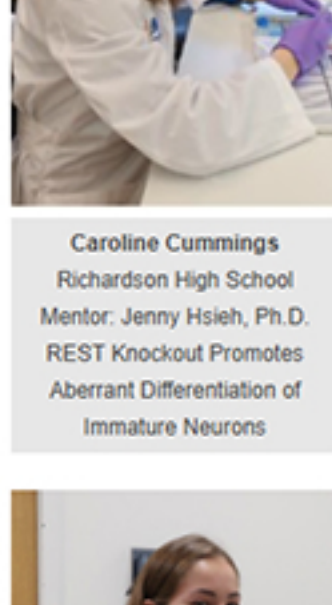
**David Padron-Castillo**  
School of Science & Engineering at Townview  
Mentor: [Xiankai Sun, Ph.D.](#)  
HPLC/MS Quantification Method for Determination of Binding Affinity of T807 and Tau



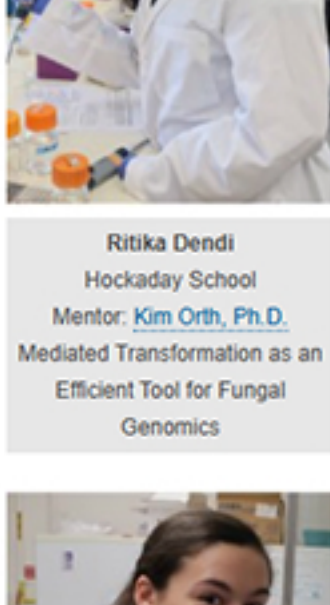
**Chastity Chavez**  
Irma Rangel YWLS  
Mentor: [Jacques Lux, Ph.D.](#)  
Detection of Inflammation with Ultrasound Using Enzyme-Loaded Particles



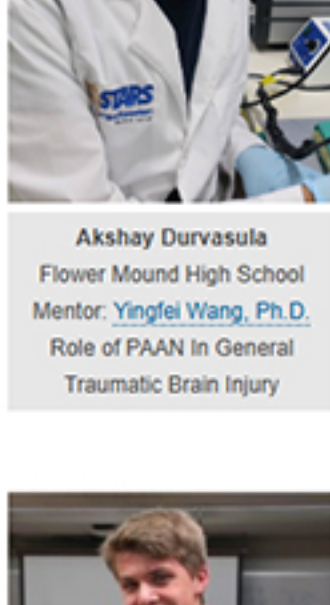
**Jeff Cherian**  
Sunnyvale High School  
Mentor: [Matthew Lewis, Ph.D.](#)  
Spectral CT Radiomics: Exploring the Feasibility of Classifying Lung Abnormalities Through Segmented ROI Computational Analysis and Information Theory



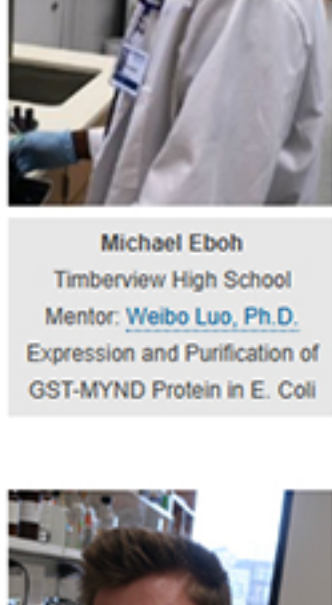
**Caroline Cummings**  
Richardson High School  
Mentor: Jenny Hsieh, Ph.D.  
REST Knockout Promotes Aberrant Differentiation of Immature Neurons



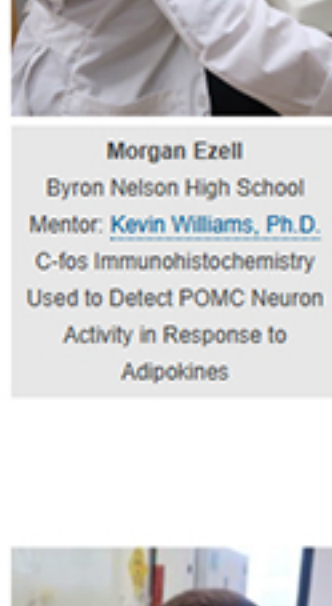
**Ritika Dendi**  
Hockaday School  
Mentor: [Kim Orth, Ph.D.](#)  
Mediated Transformation as an Efficient Tool for Fungal Genomics



**Akshay Durvasula**  
Flower Mound High School  
Mentor: [Yingfei Wang, Ph.D.](#)  
Role of PAAN in General Traumatic Brain Injury



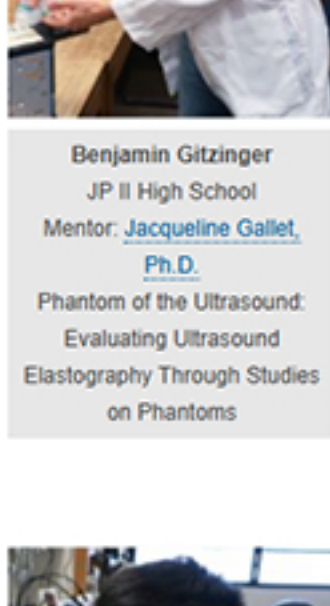
**Michael Ebboh**  
Timberview High School  
Mentor: [Weibo Luo, Ph.D.](#)  
Expression and Purification of GST-MYND Protein in E. Coli



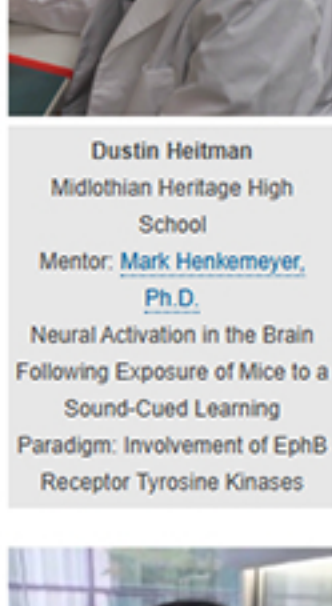
**Morgan Ezell**  
Byron Nelson High School  
Mentor: [Kevin Williams, Ph.D.](#)  
C-fos Immunohistochemistry Used to Detect POMC Neuron Activity in Response to Adipokines



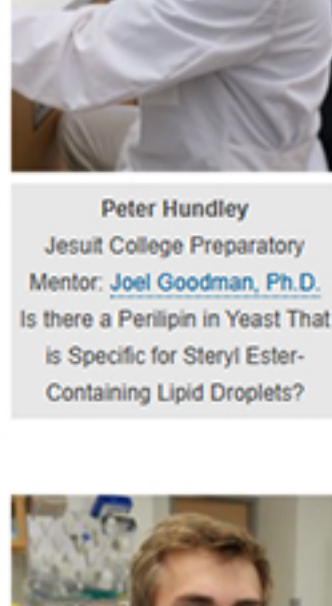
**Gabrielle Gard**  
Ursuline Academy of Dallas  
Mentor: [Rashmin Savani, M.D.](#)  
The Role of CD44 in Neonatal Inflammation after Hyperoxia Injury



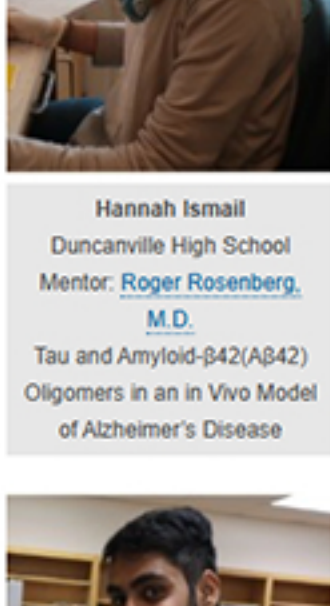
**Benjamin Gitzinger**  
JP II High School  
Mentor: [Jacqueline Gallet, Ph.D.](#)  
Phantom of the Ultrasound: Evaluating Ultrasound Elastography Through Studies on Phantoms



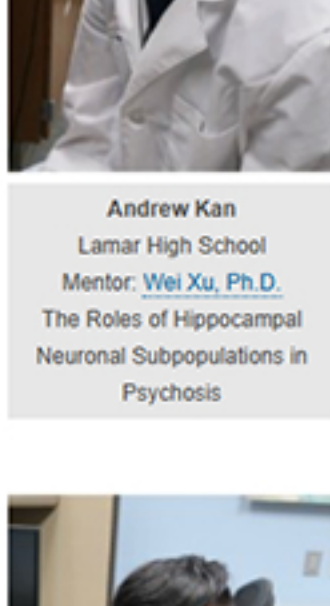
**Dustin Heitman**  
Midlothian Heritage High School  
Mentor: [Mark Henkemeyer, Ph.D.](#)  
Neural Activation in the Brain Following Exposure of Mice to a Sound-Cued Learning Paradigm: Involvement of EphB Receptor Tyrosine Kinases



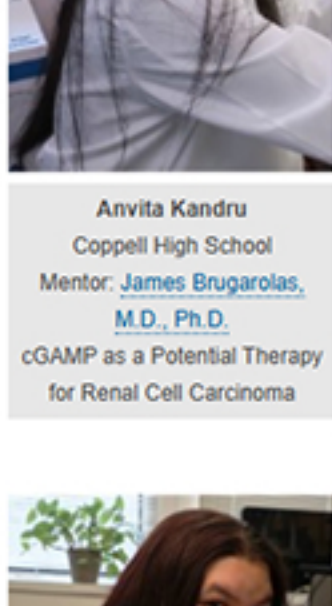
**Peter Hundley**  
Jesuit College Preparatory  
Mentor: [Joel Goodman, Ph.D.](#)  
Is there a Penicillin in Yeast That is Specific for Steryl Ester-Containing Lipid Droplets?



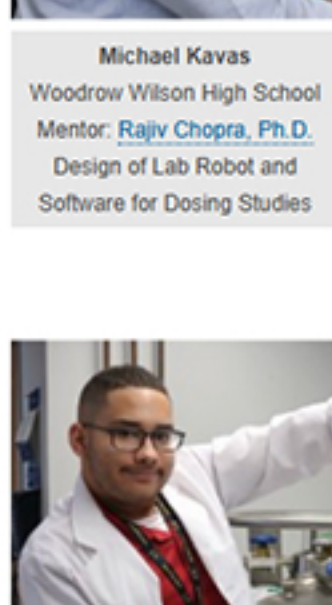
**Hannah Ismail**  
Duncanville High School  
Mentor: [Roger Rosenberg, M.D.](#)  
Tau and Amyloid- $\beta$ 42(A $\beta$ 42) Oligomers in an in Vivo Model of Alzheimer's Disease



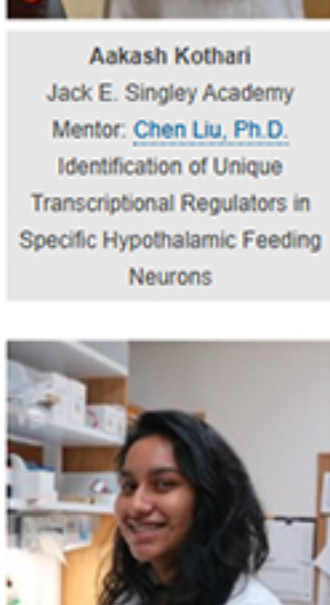
**Andrew Kan**  
Lamar High School  
Mentor: [Wei Xu, Ph.D.](#)  
The Roles of Hippocampal Neuronal Subpopulations in Psychosis



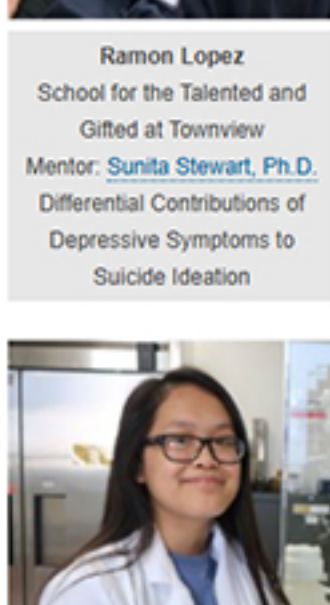
**Anvita Kandru**  
Coppell High School  
Mentor: [James Brugarolas, M.D., Ph.D.](#)  
cGAMP as a Potential Therapy for Renal Cell Carcinoma



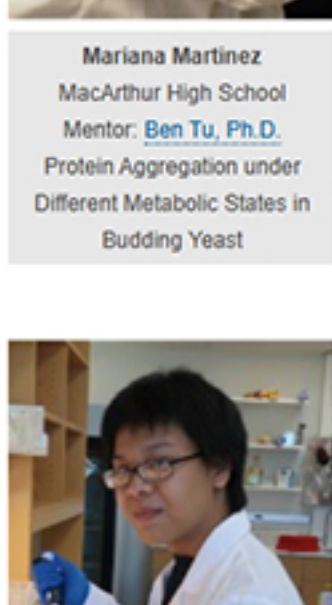
**Michael Kavas**  
Woodrow Wilson High School  
Mentor: [Rajiv Chopra, Ph.D.](#)  
Design of Lab Robot and Software for Dosing Studies



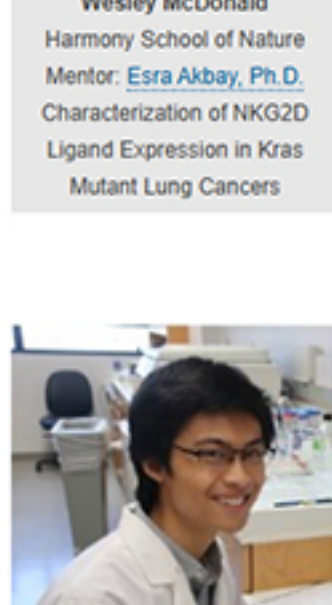
**Aakash Kothari**  
Jack E. Singley Academy  
Mentor: [Chen Liu, Ph.D.](#)  
Identification of Unique Transcriptional Regulators in Specific Hypothalamic Feeding Neurons



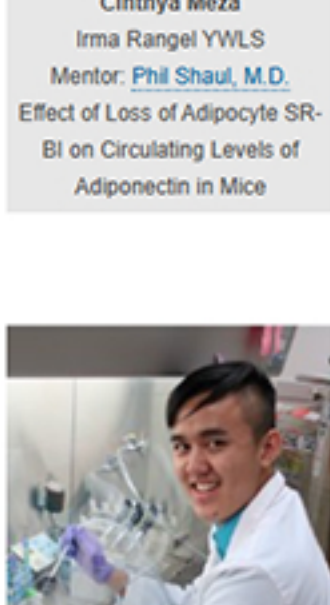
**Ramon Lopez**  
School for the Talented and Gifted at Townview  
Mentor: [Sunita Stewart, Ph.D.](#)  
Differential Contributions of Depressive Symptoms to Suicide Ideation



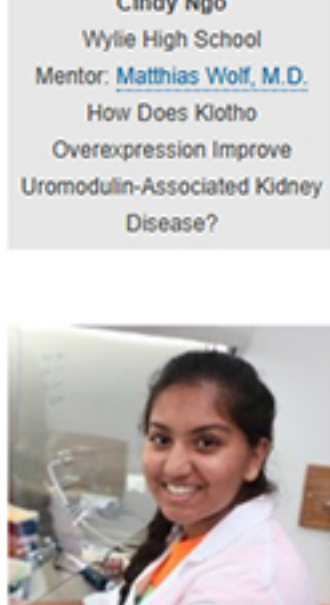
**Mariana Martinez**  
MacArthur High School  
Mentor: [Ben Tu, Ph.D.](#)  
Protein Aggregation under Different Metabolic States in Budding Yeast



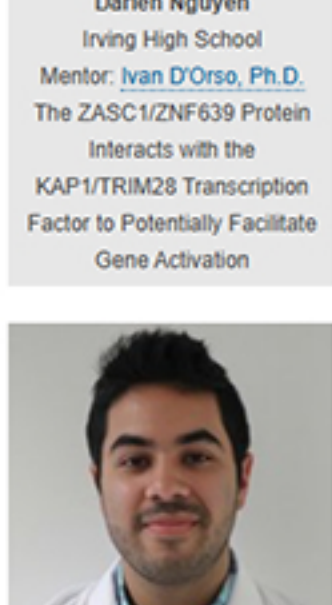
**Wesley McDonald**  
Harmony School of Nature  
Mentor: [Esra Akbay, Ph.D.](#)  
Characterization of NKG2D Ligand Expression in Kras Mutant Lung Cancers



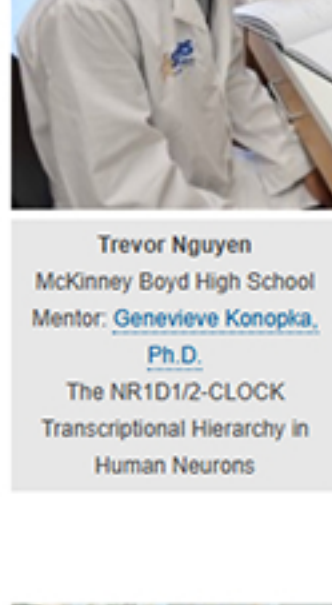
**Cinthya Meza**  
Irma Rangel YWLS  
Mentor: [Phil Shaul, M.D.](#)  
Effect of Loss of Adipocyte SR-BI on Circulating Levels of Adiponectin in Mice



**Cindy Ngo**  
Wylie High School  
Mentor: [Matthias Wolf, M.D.](#)  
How Does Klotho Overexpression Improve Uromodulin-Associated Kidney Disease?



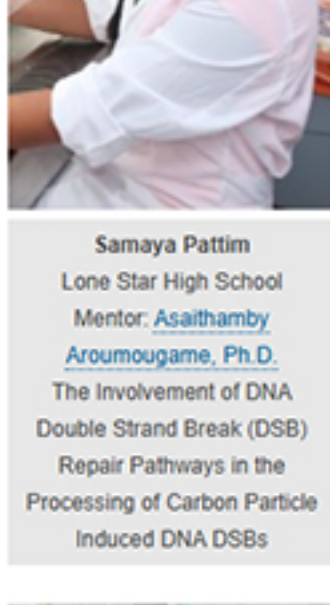
**Darien Nguyen**  
Irving High School  
Mentor: [Ivan D'Orso, Ph.D.](#)  
The ZASC1/ZNF639 Protein Interacts with the KAP1/TRIM28 Transcription Factor to Potentially Facilitate Gene Activation



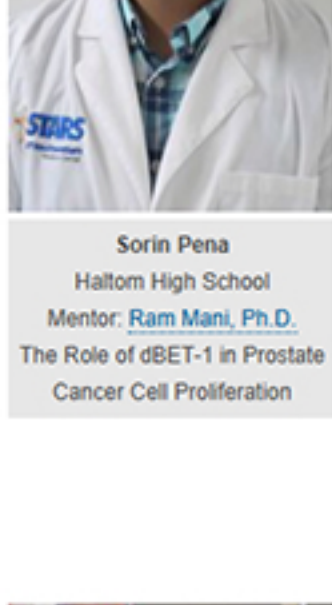
**Trevor Nguyen**  
McKinney Boyd High School  
Mentor: [Genevieve Konopka, Ph.D.](#)  
The NR1D1/2-CLOCK Transcriptional Hierarchy in Human Neurons



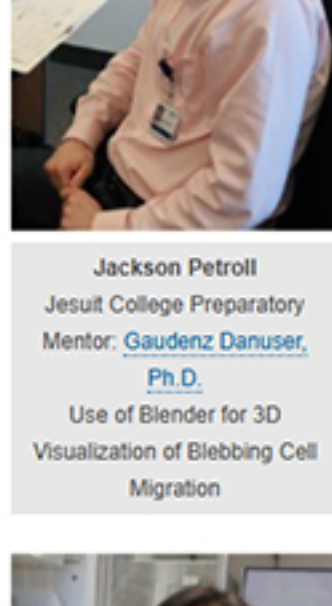
**Randy Nguyen**  
Poteet High School  
Mentor: [Raksha Jain, M.D.](#)  
Understanding the Effect of Estrogen on Neutrophil Apoptosis in Cystic Fibrosis



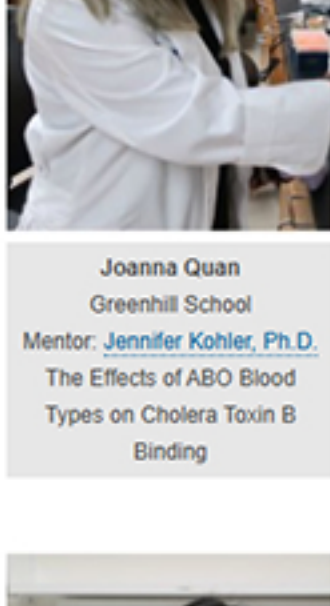
**Samaya Pattim**  
Lone Star High School  
Mentor: [Asaithamby Aroumougame, Ph.D.](#)  
The Involvement of DNA Double Strand Break (DSB) Repair Pathways in the Processing of Carbon Particle Induced DNA DSBs



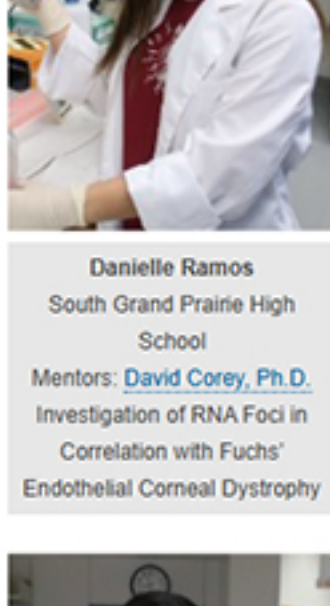
**Sorin Pena**  
Haltom High School  
Mentor: [Ram Mani, Ph.D.](#)  
The Role of  $\delta$ BET-1 in Prostate Cancer Cell Proliferation



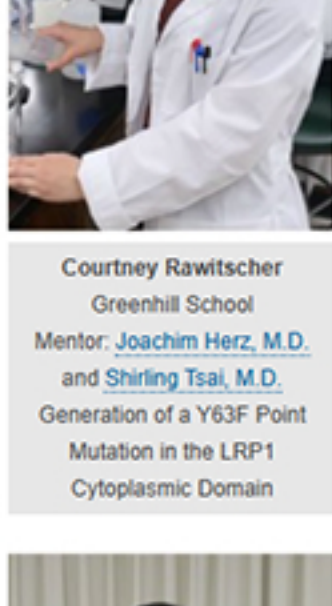
**Jackson Petroll**  
Jesuit College Preparatory  
Mentor: [Gaudenz Danuser, Ph.D.](#)  
Use of Blender for 3D Visualization of Blebbing Cell Migration



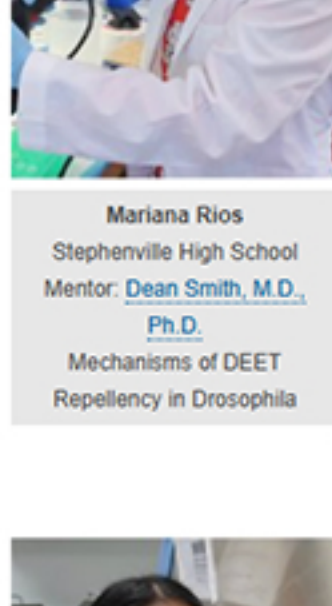
**Joanna Quan**  
Greenhill School  
Mentor: [Jennifer Kohler, Ph.D.](#)  
The Effects of ABO Blood Types on Cholera Toxin B Binding



**Danielle Ramos**  
South Grand Prairie High School  
Mentors: [David Corey, Ph.D.](#)  
Investigation of RNA Foci in Correlation with Fuchs' Endothelial Corneal Dystrophy



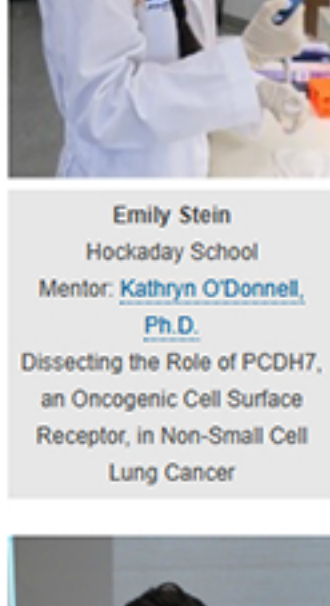
**Courtney Rawitscher**  
Greenhill School  
Mentor: [Joachim Herz, M.D.](#)  
and [Shirley Tsai, M.D.](#)  
Generation of a Y63F Point Mutation in the LRP1 Cytoplasmic Domain



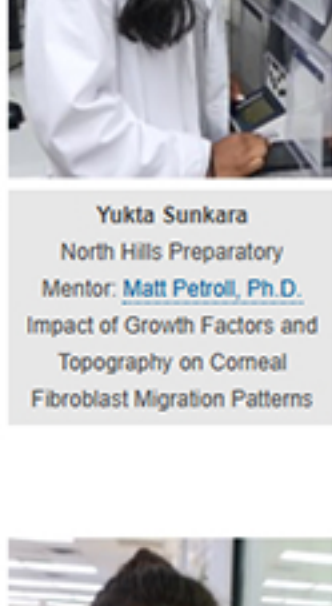
**Mariana Rios**  
Stephenville High School  
Mentor: [Dean Smith, M.D., Ph.D.](#)  
Mechanisms of DEET Repellency in Drosophila



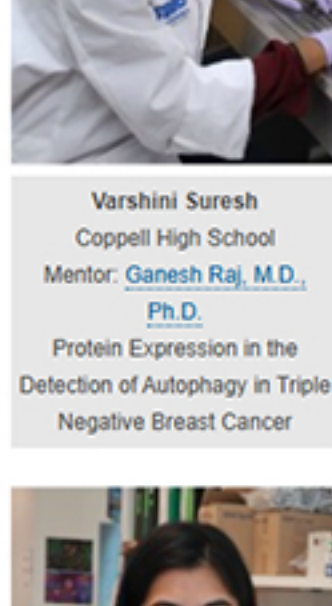
**Jasmine Rodriguez**  
Booker T. Washington HSPVA  
Mentor: [Todd Roberts, Ph.D.](#)  
Identifying the Effects of Temperature on Virus-Host Relationships



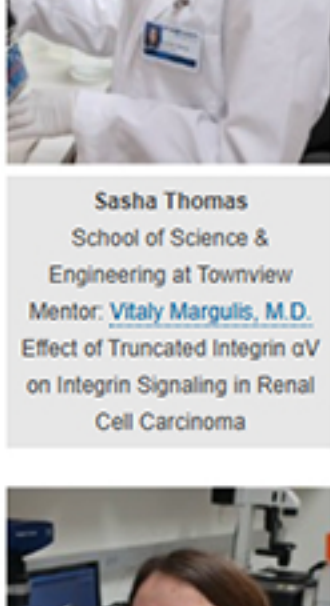
**Emily Stein**  
Hockaday School  
Mentor: [Kathryn O'Donnell, Ph.D.](#)  
Dissecting the Role of PCDH7, an Oncogenic Cell Surface Receptor, in Non-Small Cell Lung Cancer



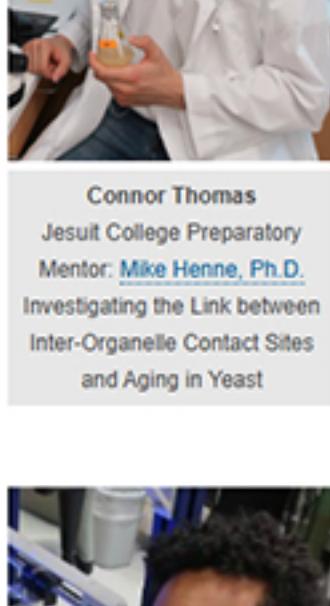
**Yukta Sunkara**  
North Hills Preparatory  
Mentor: [Matt Petroll, Ph.D.](#)  
Impact of Growth Factors and Topography on Corneal Fibroblast Migration Patterns



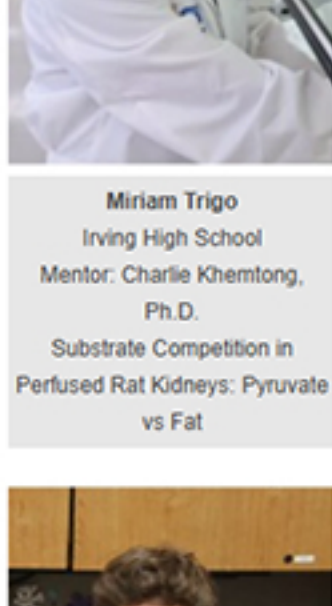
**Varshini Suresh**  
Coppell High School  
Mentor: [Ganesh Raj, M.D., Ph.D.](#)  
Protein Expression in the Detection of Autophagy in Triple Negative Breast Cancer



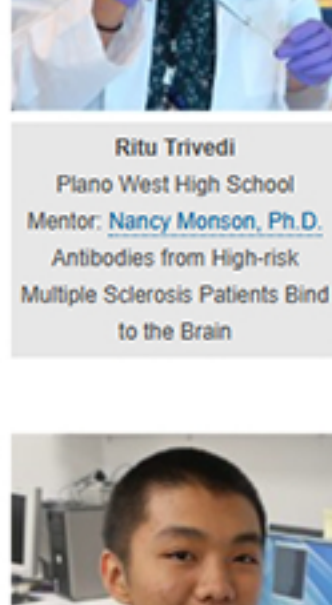
**Sasha Thomas**  
School of Science & Engineering at Townview  
Mentor: [Melanie Cobb, Ph.D.](#)  
Effect of Truncated Integrin  $\alpha$ V on Integrin Signaling in Renal Cell Carcinoma



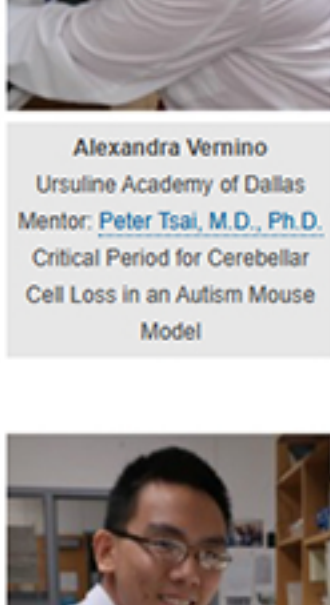
**Connor Thomas**  
Jesuit College Preparatory  
Mentor: [Mike Henne, Ph.D.](#)  
Investigating the Link between Inter-Organellar Contact Sites and Aging in Yeast



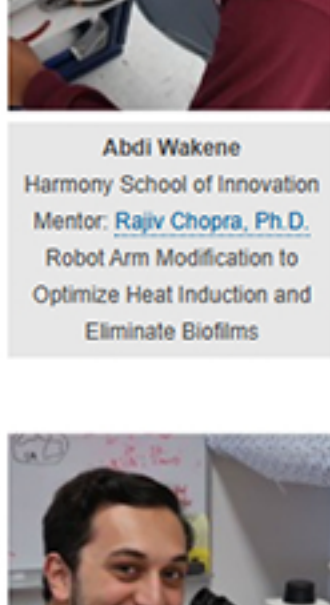
**Miriam Trigo**  
Irving High School  
Mentor: Charles Khemtong, Ph.D.  
Substrate Competition in Perfused Rat Kidneys: Pyruvate vs Fat



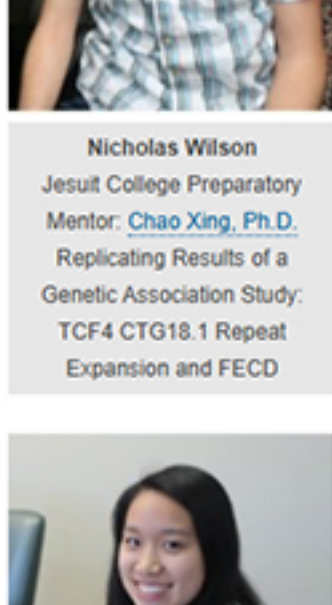
**Ritu Trivedi**  
Plano West High School  
Mentor: [Nancy Monson, Ph.D.](#)  
Antibodies from High-risk Multiple Sclerosis Patients Bind to the Brain



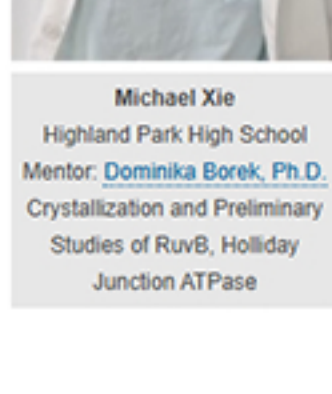
**Alexandra Vernino**  
Ursuline Academy of Dallas  
Mentor: [Peter Tsai, M.D., Ph.D.](#)  
Critical Period for Cerebellar Cell Loss in an Autism Mouse Model



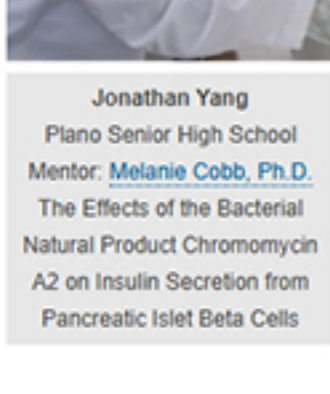
**Abdi Wakene**  
Harmony School of Innovation  
Mentor: [Rajiv Chopra, Ph.D.](#)  
Robot Arm Modification to Optimize Heat Induction and Eliminate Biofilms



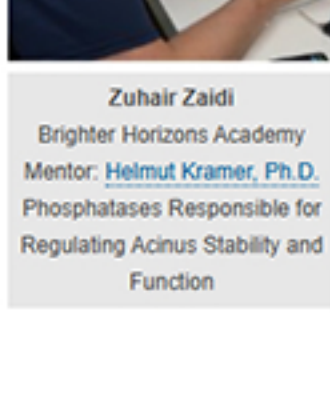
**Nicholas Wilson**  
Jesuit College Preparatory  
Mentor: [Chao Xing, Ph.D.](#)  
Replicating Results of a Genetic Association Study: TCF4 CTG18.1 Repeat Expansion and FECD



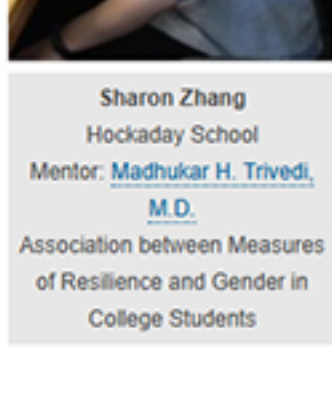
**Michael Xie**  
Highland Park High School  
Mentor: [Dominika Borek, Ph.D.](#)  
Crystallization and Preliminary Studies of RuvB, Holliday Junction ATPase



**Jonathan Yang**  
Plano Senior High School  
Mentor: [Melanie Cobb, Ph.D.](#)  
The Effects of the Bacterial Natural Product Chromomycin A2 on Insulin Secretion from Pancreatic Islet Beta Cells



**Zuhair Zaidi**  
Brighter Horizons Academy  
Mentor: [Helmut Kramer, Ph.D.](#)  
Phosphatases Responsible for Regulating Actin Stability and Function



**Sharon Zhang**  
Hockaday School  
Mentor: [Madhukar H. Trivedi, M.D.](#)  
Association between Measures of Resilience and Gender in College Students