

# Summer Research Program for Students 2019

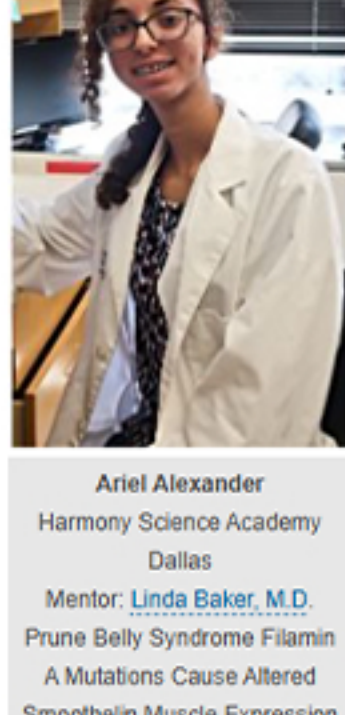
The 2019 STARS Summer Research Program for Students included 58 students from Dallas-Fort Worth and surrounding areas. This eight-week program gave students an opportunity to work side-by-side with a faculty host in a research laboratory. It consisted of activities, seminars, and an individualized research 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.



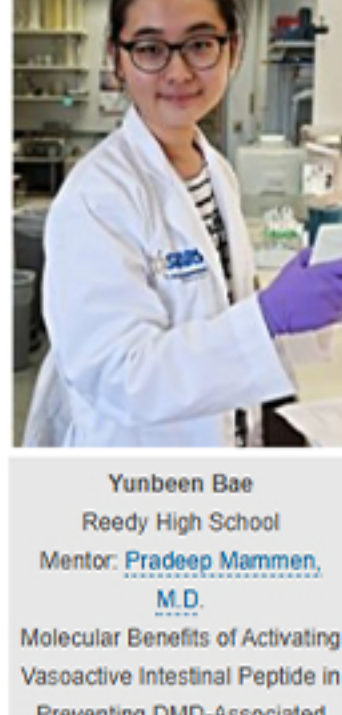
**Jaila Acevedo**  
Irma Lerma Rangel Young Women's Leadership School  
Mentor: [Charlie Khemlong, Ph.D.](#)  
Is the Heart Ketogenic?



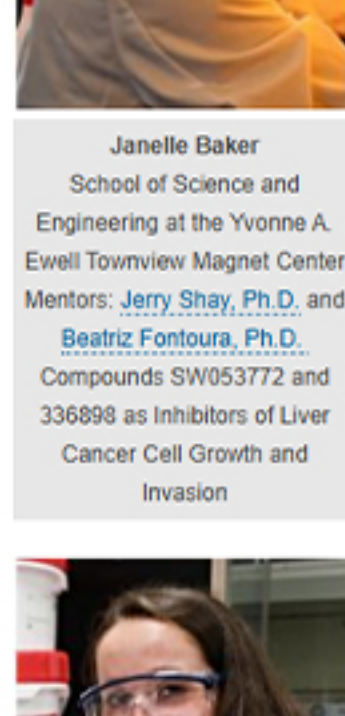
**Emmanuella Alawode**  
South Grand Prairie High School  
Mentor: [Zhi-Ping Liu, Ph.D.](#)  
Development of A Novel Small Molecule Inhibitor of Jumoni C Domain-containing Histone Demethylases for Treatment of Castration-resistant Prostate Cancer



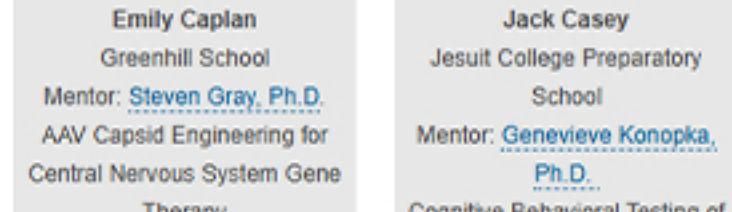
**Ariel Alexander**  
Harmony Science Academy  
Mentor: [Linda Baker, M.D.](#)  
Prune Belly Syndrome Filamin A Mutations Cause Altered Smoothelin Muscle Expression in Visceral Smooth Muscle



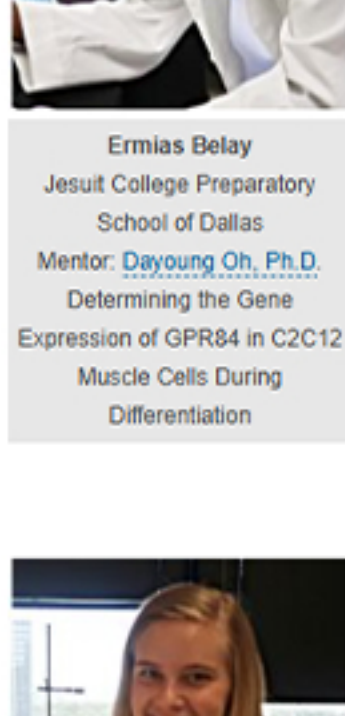
**Yunbeen Bae**  
Reedy High School  
Mentor: [Pradeep Mammen, M.D.](#)  
Molecular Benefits of Activating Vasovascular Intestinal Peptide in Preventing DMD-Associated Cardiomyopathy



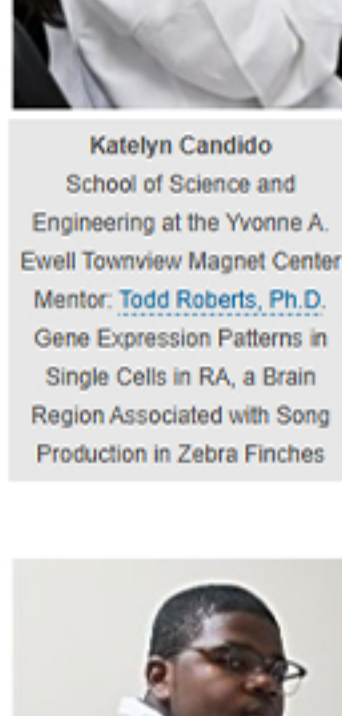
**Janelle Baker**  
School of Science and Engineering at the Yvonne A. Ewell Townview Magnet Center  
Mentors: [Jerry Shay, Ph.D.](#) and [Beatriz Fontoura, Ph.D.](#)  
Compounds SW053772 and 336898 as Inhibitors of Liver Cancer Cell Growth and Invasion



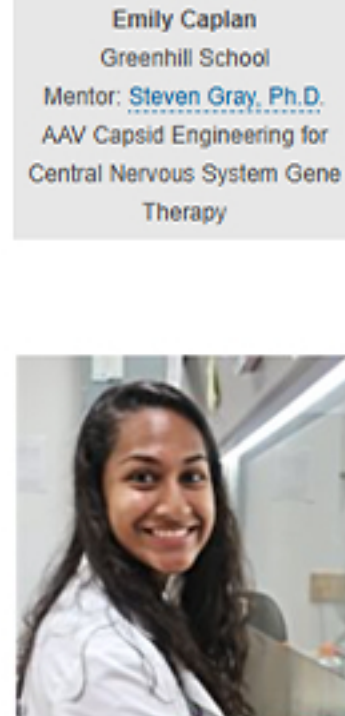
**Chaitanya Bashyam**  
Edward S. Marcus High School  
Mentor: [Yuh Min Chook, Ph.D.](#)  
Biochemical Studies of Kapβ2 with hnRNP A/B NLS



**Ermas Belay**  
Jesuit College Preparatory School of Dallas  
Mentor: [Dayoung Oh, Ph.D.](#)  
Determining the Gene Expression of GPR84 in C2C12 Muscle Cells During Differentiation



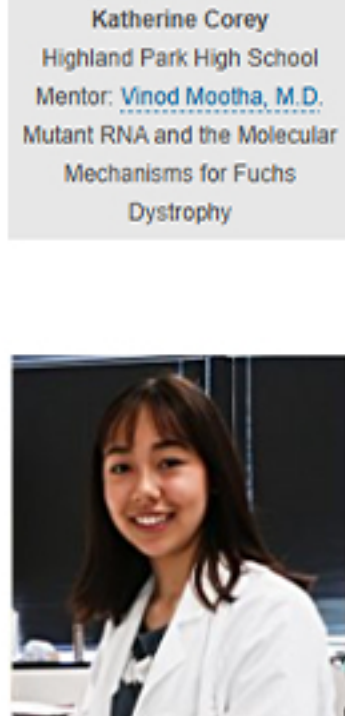
**Katelyn Candido**  
School of Science and Engineering at the Yvonne A. Ewell Townview Magnet Center  
Mentor: [Todd Roberts, Ph.D.](#)  
Gene Expression Patterns in Single Cells in RA, a Brain Region Associated with Song Production in Zebra Finches



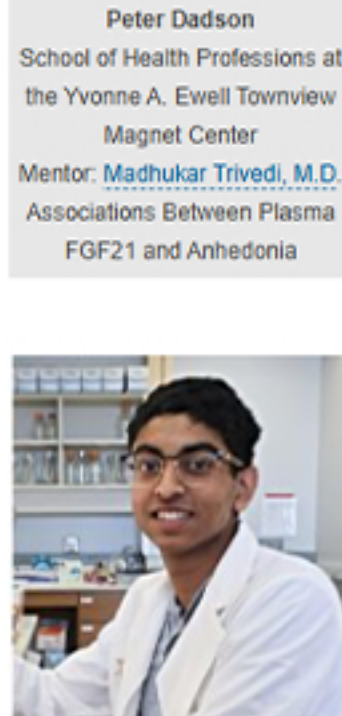
**Emily Caplan**  
Greenhill School  
Mentor: [Steven Gray, Ph.D.](#)  
AAV Capsid Engineering for Central Nervous System Gene Therapy



**Jack Casey**  
Jesuit College Preparatory School  
Mentor: [Genevieve Konopka, Ph.D.](#)  
Cognitive Behavioral Testing of CLOCK and HuCLOCK Modified Mice



**Katherine Corey**  
Highland Park High School  
Mentor: [Vinod Mootha, M.D.](#)  
Mutant RNA and the Molecular Mechanisms for Fuchs Dystrophy



**Peter Dadson**  
School of Health Professions at the Yvonne A. Ewell Townview Magnet Center  
Mentor: [Madhukar Trivedi, M.D.](#)  
Associations Between Plasma FGF21 and Anhedonia



**Varsha Danda**  
The Hockaday School  
Mentor: [Kathryn O'Donnell, Ph.D.](#)  
Investigation of SET Oncoprotein Function in PCDH7-Mediated Lung Tumorigenesis



**Sindhuja Darisipudi**  
Uplift North Hills Preparatory  
Mentor: [Dominika Borek, Ph.D.](#)  
Purification and Structural Characterization of Standard for Cryo-EM



**Audrey DeJong**  
Richardson High School  
Mentor: [David Mangelsdorf, Ph.D.](#)  
Pancreatic Cancer is Characterized by Loss of β-Klotho and FGF21



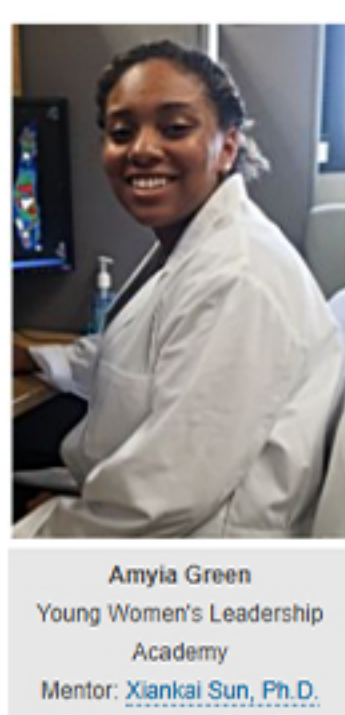
**Ritesh Dontula**  
Coppell High School  
Mentor: [Maria Chahrouh, Ph.D.](#)  
The Effect of UBE3B Loss on Calcium Signaling Pathway



**Delaney Feagans**  
Young Women's Leadership Academy at Arnold  
Mentor: [Jennifer Kohler, Ph.D.](#)  
Effect of O-GlcNAc on the Activity of Transcriptional Activators



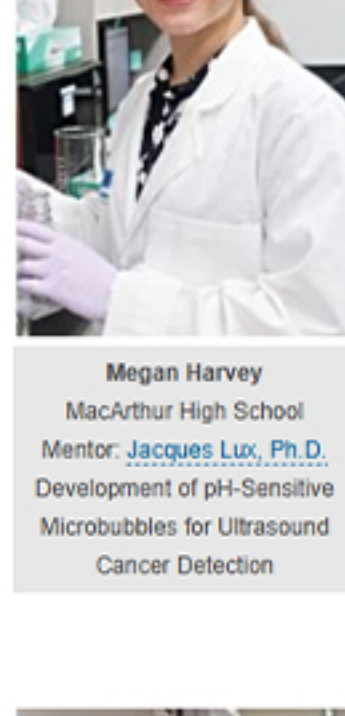
**Abel Fetahi**  
School for the Talented and Gifted at the Yvonne A. Ewell Townview Magnet Center  
Mentor: [Genevieve Konopka, Ph.D.](#)  
A Weighted Gene Coexpression Network Analysis on Single Cell Transcriptomics Data



**Varun Gande**  
Greenhill School  
Mentor: [James Kim, M.D., Ph.D.](#)  
Loss of Hedgehog Ligand Reduces Levels of Hypoxia in Mice, Causing Reactive Oxygen Species Levels to Rise



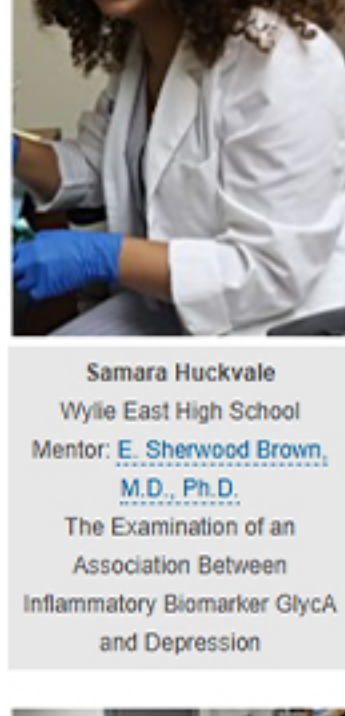
**Meera Gangasani**  
Episcopal School of Dallas  
Mentor: [John Minna, M.D.](#)  
Identification of Drugs that Generate a Synergistic Anti-cancer Effect in Combination with Cisplatin-Etoposide Treatment in SCLC Utilizing an FDA Drug Targeting CRISPR Library



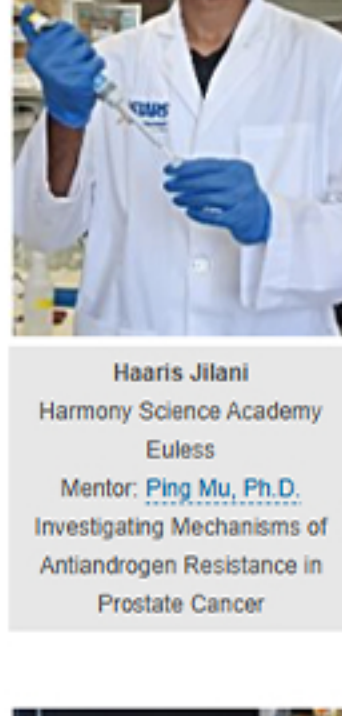
**Aileen Garcia**  
Emmett J. Conrad High School  
Mentor: [Prasanna Alluri, M.D., Ph.D.](#)  
Novel CDK4/6 Degradation in ER+ Breast Cancer



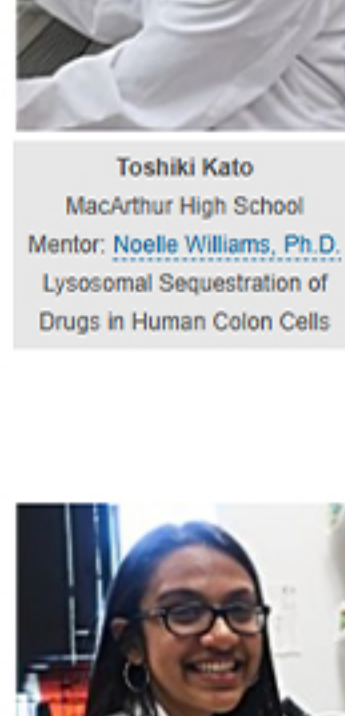
**Jon Graswich**  
Byron Nelson High School  
Mentor: [David Corey, Ph.D.](#)  
Localization and Expression of Ago2 Related to Cellular Stress



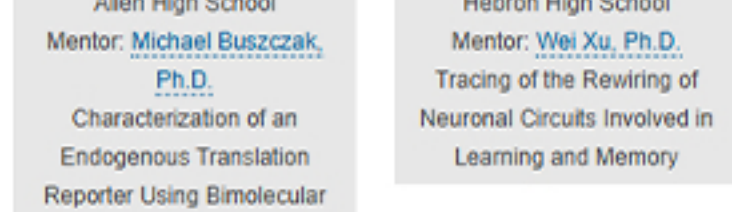
**Amyia Green**  
Young Women's Leadership Academy  
Mentor: [Xiankai Sun, Ph.D.](#)  
Evaluation of L-5[18F]-Fluorotryptophan for PET Imaging of Renal Cell Carcinomas



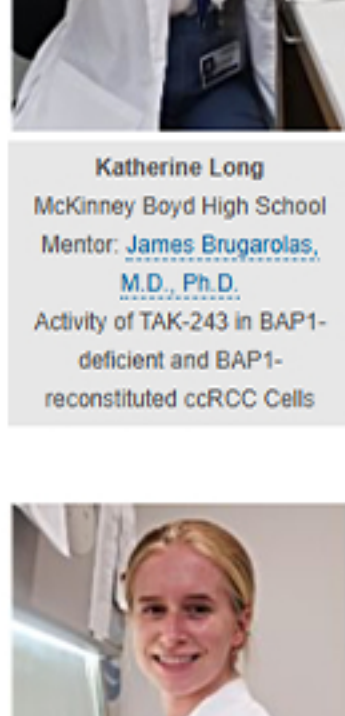
**Ryan Hammond**  
John Paul II High School  
Mentor: [Kevin Dean, Ph.D.](#)  
Visualizing Microtubules Through DNA Cloning



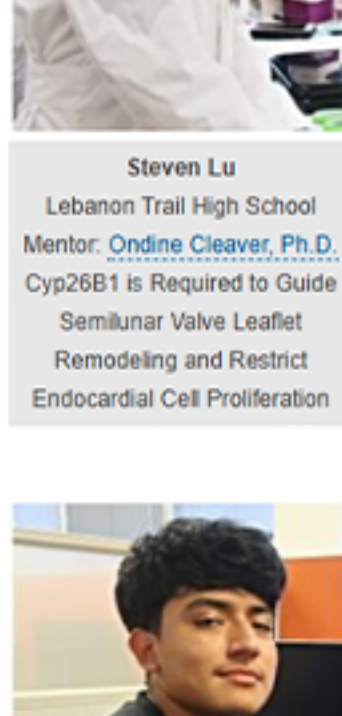
**Megan Harvey**  
MacArthur High School  
Mentor: [Jacques Lux, Ph.D.](#)  
Development of pH-Sensitive Microbubbles for Ultrasound Cancer Detection



**Hafsa Hashmi**  
Brighter Horizons Academy  
Mentor: [Zhao Wang, Ph.D.](#)  
Role of Protein Kinase RNA (PKR)-like ER Kinase (PERK) in Myocardial Ischemia-Reperfusion Injury



**Samara Huckvale**  
Wylie East High School  
Mentor: [E. Sherwood Brown, M.D., Ph.D.](#)  
The Examination of an Association Between Inflammatory Biomarker GlycA and Depression



**Haaris Jilani**  
Harmony Science Academy  
Euless  
Mentor: [Ping Mu, Ph.D.](#)  
Investigating Mechanisms of Antiandrogen Resistance in Prostate Cancer



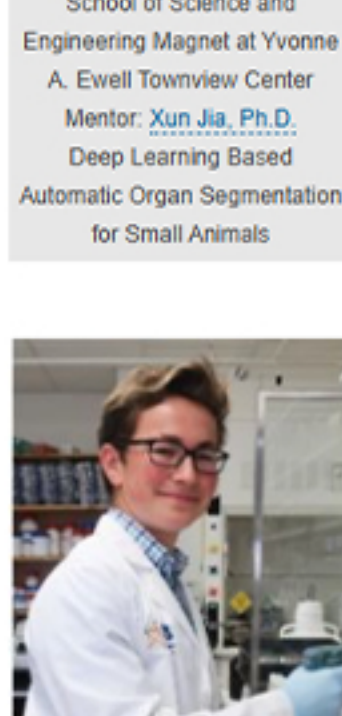
**Toshiki Kato**  
MacArthur High School  
Mentor: [Noelle Williams, Ph.D.](#)  
Lysosomal Sequestration of Drugs in Human Colon Cells



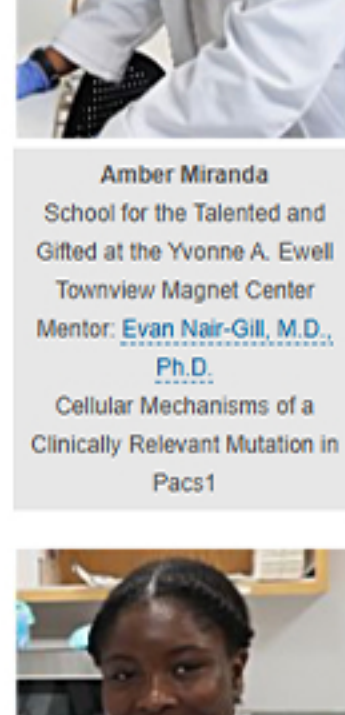
**Aaron Libed**  
Mansfield Lake Ridge High School  
Mentor: [Ganesh Raj, M.D., Ph.D.](#)  
Therapeutic Combination-Induced Synthetic Lethality in Lung and Pancreatic Cancers



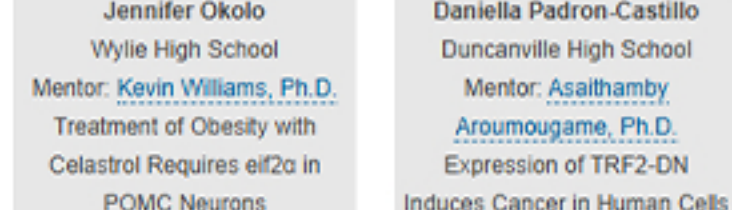
**Katherine Long**  
McKinney Boyd High School  
Mentor: [James Bugarolas, M.D., Ph.D.](#)  
Activity of TAK-243 in BAP1-deficient and BAP1-reconstituted ccRCC Cells



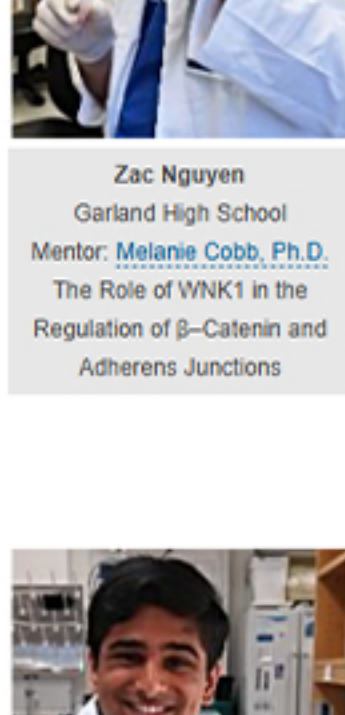
**Steven Lu**  
Lebanon Trail High School  
Mentor: [Ondine Cleaver, Ph.D.](#)  
Cyp26B1 Is Required to Guide Semilunar Valve Leaflet Remodeling and Restrict Endocardial Cell Proliferation



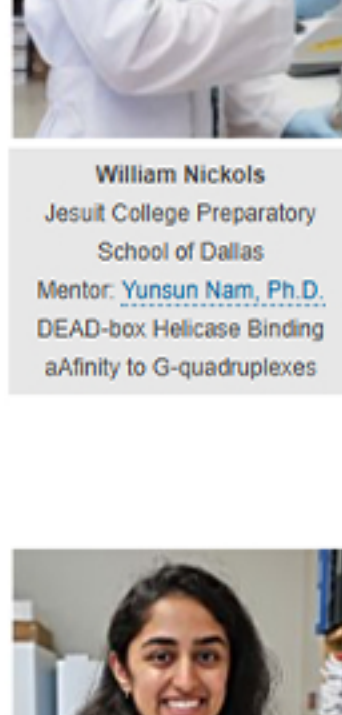
**Priya Mandava**  
Allen High School  
Mentor: [Michael Buszczak, Ph.D.](#)  
Characterization of an Endogenous Translation Reporter Using Bimolecular Fluorescence Technique in Drosophila Melanogaster



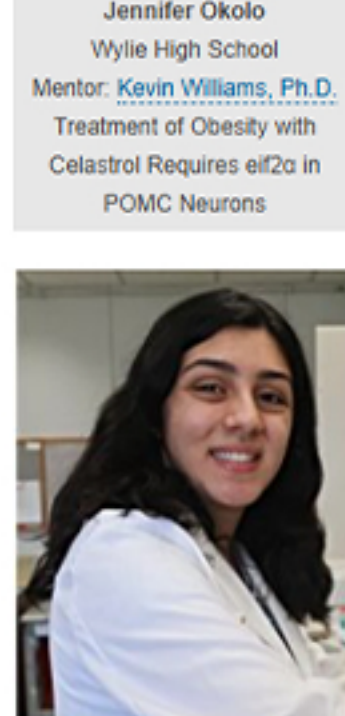
**Ashwin Mathew**  
Hebron High School  
Mentor: [Wei Xu, Ph.D.](#)  
Tracing of the Rewiring of Neuronal Circuits Involved in Learning and Memory



**Caitlin McAlanis**  
North Forney High School  
Mentor: [Douglas Strand, Ph.D.](#)  
Comparative Cellular Anatomy of the Mouse and Human Bladder



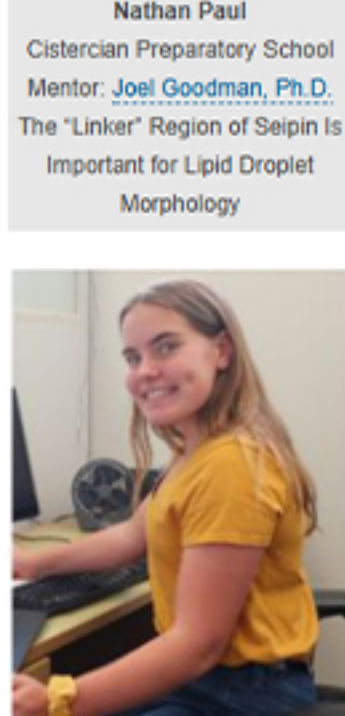
**Carlos Medrano**  
School of Science and Engineering Magnet at Yvonne A. Ewell Townview Center  
Mentor: [Xun Jia, Ph.D.](#)  
Deep Learning Based Automatic Organ Segmentation for Small Animals



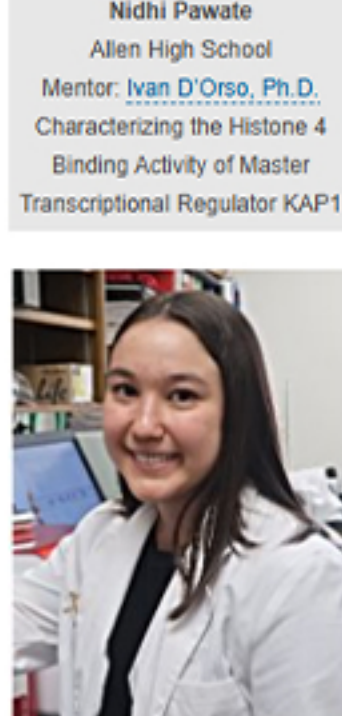
**Amber Miranda**  
School for the Talented and Gifted at the Yvonne A. Ewell Townview Magnet Center  
Mentor: [Evan Nair-Gill, M.D., Ph.D.](#)  
Cellular Mechanisms of a Clinically Relevant Mutation in Pacs1



**Riya Mohan**  
Grapevine Senior High School  
Mentor: [Ezra Burstein, M.D., Ph.D.](#)  
The Role of Endosomal Recycling in NF-κB Pathway Activation



**Zac Nguyen**  
Garland High School  
Mentor: [Melanie Cobb, Ph.D.](#)  
The Role of WNK1 in the Regulation of β-Catenin and Adherens Junctions



**William Nickols**  
Jesuit College Preparatory School of Dallas  
Mentor: [Yunsun Nam, Ph.D.](#)  
DEAD-box Helicase Binding Affinity to G-quadruplexes



**Jennifer Okolo**  
Wylie High School  
Mentor: [Kevin Williams, Ph.D.](#)  
Treatment of Obesity with Celastrol Requires eIF2α in POMC Neurons



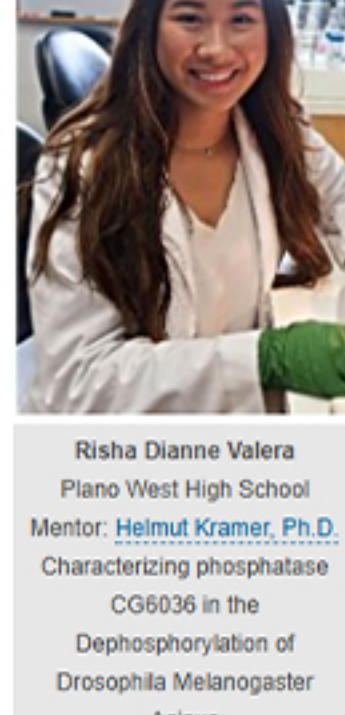
**Daniella Padron-Castillo**  
Duncanville High School  
Mentor: [Asaithamby Arumugam, Ph.D.](#)  
Expression of TRF2-DN Induces Cancer in Human Cells



**Nathan Paul**  
Cistercian Preparatory School  
Mentor: [Joel Goodman, Ph.D.](#)  
The "Linker" Region of Seipin Is Important for Lipid Droplet Morphology



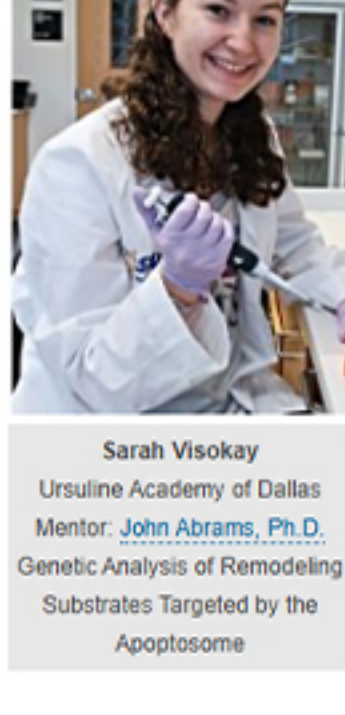
**Nidhi Pawate**  
Allen High School  
Mentor: [Ivan D'Orso, Ph.D.](#)  
Characterizing the Histone 4 Binding Activity of Master Transcriptional Regulator KAP1



**Sameen Rahman**  
Uplift North Hills Preparatory  
Mentor: [Srinivas Malladi, Ph.D.](#)  
Metabolic Reprogramming Drives Metastatic Breakout in Breast Cancer



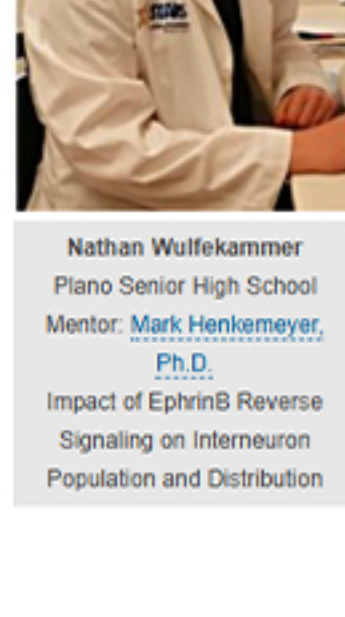
**Matthew Raroque**  
St. Mark's School of Texas  
Mentor: [Steven Vernino, M.D., Ph.D.](#)  
Antibodies against Muscarinic Acetylcholine Receptors in POTS



**Rebekah Rohrs**  
Nimitz High School  
Mentor: [Carol S. North, M.D.](#)  
Filicide and Postpartum Psychosis: A Review



**Isabel Schaffer**  
The Hockaday School  
Mentors: [Michael Brown, M.D.](#) and [Joseph Goldstein, M.D.](#)  
Mechanistic Studies of Triazole Binding to Niemann-Pick C1 Protein



**Armaan Sood**  
Imagine International Academy of North Texas  
Mentor: [Elizabeth Maher, M.D., Ph.D.](#)  
Glioblastoma Nuclei Undergo Marked Deformation and Reduction in Size when Migrating through Confined Spaces



**Shaniya Srikonda**  
Irving High School  
Mentor: [Lee Kraus, Ph.D.](#)  
Role of Poly(ADP-Ribose) Polymerase 1 in Trophoblast Differentiation



**Khyathi Thallipureddy**  
Texas Academy of Mathematics and Science  
Mentor: [Chen Liu, Ph.D.](#)  
Human Genetic Variant OtpQ153R Causes Excessive Weight Gain and Glucose Intolerance in Mice



**Jordan Thompson**  
Greenhill School  
Mentor: [John Huleman, Ph.D.](#)  
The Development of New Tools to Control the Unfolded Protein Response



**Risha Dianne Valera**  
Piano West High School  
Mentor: [Helmut Kramer, Ph.D.](#)  
Characterizing phosphatase CG6036 in the Dephosphorylation of Drosophila Melanogaster Aclnus



**Daniela Vallejo**  
The Hockaday School  
Mentor: [Kim Orth, Ph.D.](#)  
Characterizing Putative Virulence Factor VPA1328 in Vibrio Parahaemolyticus



**Sarah Visokay**  
Ursuline Academy of Dallas  
Mentor: [John Abrams, Ph.D.](#)  
Genetic Analysis of Remodeling Substrates Targeted by the Apoptosome



**Michelle Wu**  
Carroll Senior High School  
Mentor: [Shaheen Khan, Ph.D.](#)  
Understanding the Development of Autoimmune Events in Patients Receiving Immune Checkpoint Inhibitor Therapy



**Nathan Wulfekammer**  
Piano Senior High School  
Mentor: [Mark Henkemeyer, Ph.D.](#)  
Impact of EphrinB Reverse Signaling on Interneuron Population and Distribution



**Layla Zonouzy**  
McKinney North High School  
Mentor: [Jim Collins, Ph.D.](#)  
Functional Heterogeneity in Schistosoma Tegument Progenitors: A "Skin" Testing Study of Progenitor Specification