

Summer Research Program Students 2016

The 2016 STARS Summer Research Program for Students included 44 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.



Bethanie Abram
Irving High School
Mentor: [Daniel Siegwart, Ph.D.](#)
Biophysical Property Evaluation of Nanoparticles: Effects of Dendrimer and miRNA Identity on Binding, Size and Stability



Priyanka Agrawal
Greenhill School
Mentor: [Xuelian Luo, Ph.D.](#)
High-level Expression and Purification of LIMD1 Protein Fragments Using GST and 6xHis-tag



Hope Anderson
Marcus High School
Mentor: [Li Liu, Ph.D.](#)
Evaluation of Vascular Disrupting Agent Combretastatin A-4-phosphate in Lung Cancer H1299 by Dynamic Bioluminescence and 3D Imaging



Jonathan Avendano
Gunter High School
Mentor: Charlie Khemlong, Ph.D.
Exploring Pyridoxine as a 13C pH Imaging Agent: pH Titration and Hyperpolarized 13C NMR Studies



Denver Baumgartner
JJ Pearce High School
Mentor: [Ming Chang Hu, M.D., Ph.D.](#)
Effect of Klotho on Endothelial Cells under Phosphate Stress



Benjamin Bich
Timberview High School
Mentor: William Holland, Ph.D.
Regulating Ceramides will Defend Against the Cardiac Lipotoxic Effects



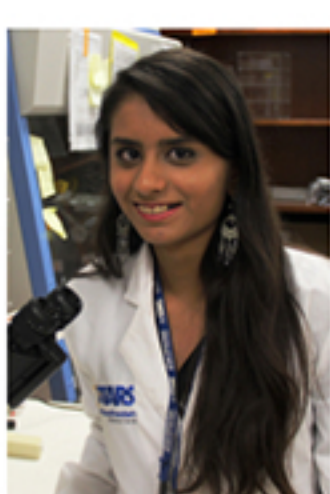
Aiden Blinn
St. Mark's School of Texas
Mentor: Zhao Wang, Ph.D.
Role of de Novo Pyrimidine Synthesis in Cardiac Hypertrophy



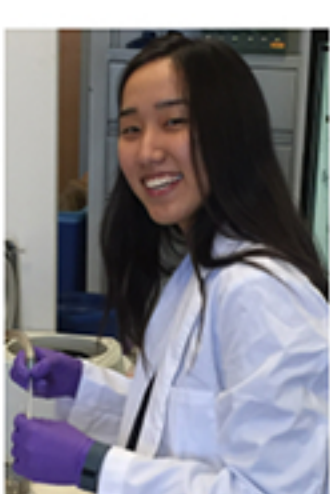
Giovanni Camarena
South Grand Prairie High School
Mentor: [Helmut Kramer, Ph.D.](#)
Effects of fic on Survival, Vision, and Stress Response



Joe Carver
Jesuit College Preparatory School of Dallas
Mentor: Pin Xu, Ph.D.
Behavioral Categorization of KCNC3 Mutants



Shreeya Chodavadia
Plano East Senior High School
Mentor: [Ganesh Raj, M.D., Ph.D.](#)
The Effects of Jk4an on AD1, D567, and PC3 Prostate Cancer Cell Lines for Medicinal Development



Emily Chung
Independence High School
Mentor: [Pradeep P.A. Mammen, M.D.](#)
Cardiac Atrophy in Duchenne Muscular Dystrophy



Shivani Daftary
Greenhill School
Mentor: [Sherwood Brown, M.D., Ph.D.](#)
Microtubule Associated Protein-2 in Bipolar Depression: Impact of Pregnenolone



Lizette Delbosque
North Mesquite High School
Mentor: [Mike Henne, Ph.D.](#)
Roles of Drosophila Snazurus (Snz) in Lipid Metabolism and Aging



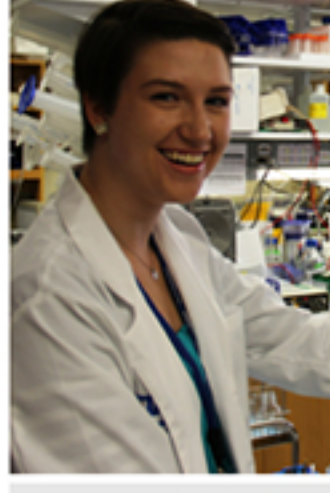
Yosi Fatahi
Science and Engineering Magnet
Mentor: [Genevieve Konopka, Ph.D.](#)
Gene Expression in Autism Brain Tissue is Differentially Correlated with Functional Brain Activity



Marco Flores - Morning Session
School of Health Professions
Mentor: Craig Powell, M.D., Ph.D.
Effectiveness of IGF-1 Treatment in Normalizing Synaptic Structure and Function in the Hippocampus of a Gulf War Illness Mouse Model



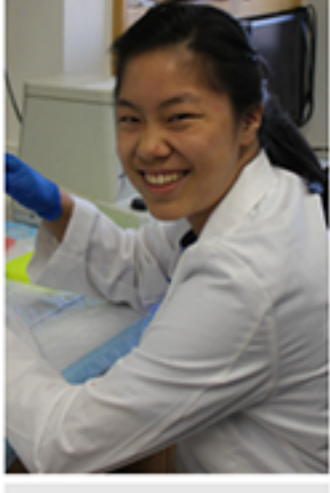
Samuel Gagnon-Hartman
Wylie High School
Mentor: [Raksha Jain, M.D.](#)
Abiotic Biofilm Production of Pseudomonas Aeruginosa from Sputum of Cystic Fibrosis Patients: Gateways to More Effective Antibiotic Treatments



Miranda Gavitt
Richardson High School
Mentor: [Yunsun Nam, Ph.D.](#)
Towards a Crystal Structure of Mettl16 Bound to RNA



Jordan Hill
James Martin High School
Mentor: [Ram Mani, Ph.D.](#)
Generation of Patients Derived Mutations in KAT8 by Site Directed Mutagenesis



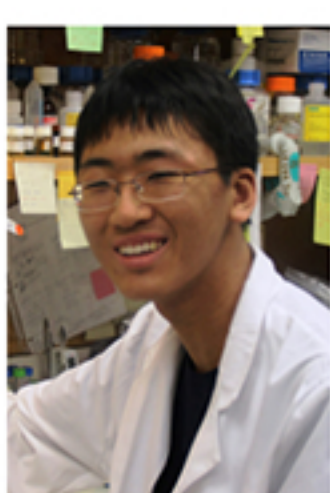
Wendy Ho
The Hockaday School
Mentor: [Xiankai Sun, Ph.D.](#)
A "Golden" Way for Targeted Diagnosis and Treatment of Cancer: PD-L1 Targeted Gold Nano-theranostics



Neha Kapoor
The Hockaday School
Mentor: [Rajiv Chopra, Ph.D.](#)
Preparation of Ciprofloxacin Loaded Liposomes to Treat Biofilms



Mariam Khan
North Hills Preparatory
Mentor: [Laura Banaszynski, Ph.D.](#)
HIRA O-GlcNAcylation Regulates Embryonic Stem Cell Differentiation



Steven Kim
Coppell High School
Mentor: [Russell Debose-Boyd, Ph.D.](#)
Utilizing CRISPR/Cas9 to Eliminate UBIAD1 Expression in Mouse Embryonic Fibroblasts



Aracely Lomeli
W.H. Adamson High School
Mentor: [Marallice Conacci Sorrell, Ph.D.](#)
Myc Downregulates Expression of Tumor Suppressor ARNT2



Afza Mohammed
Jack E. Singley Academy
Mentor: Julian Meeks, Ph.D.
Bile Acids are Candidate Pheromones or Kairomones of the Accessory Olfactory System



Alejandra Nava-Garcia
Science and Engineering Magnet
Mentor: [Melanie H. Cobb, Ph.D.](#)
Analysis of Natural Products in Insulin Secretion



Yaqueline Ozuna
Irving High School
Mentor: [Vitaly Margulis, M.D.](#)
Quantitative Analysis of DNA Methylation of E-cadherin Promoter in Renal Carcinoma Cell Lines. Effect of 5-Azacytidine 2' deoxycytidine.



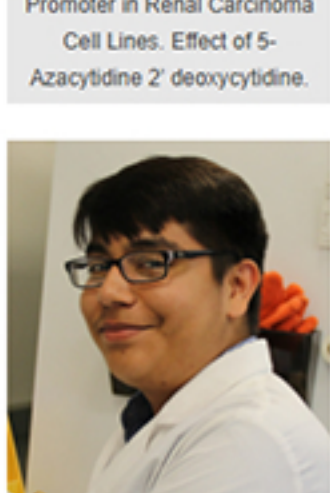
Rahul Pentaparthi
Plano West Senior High School
Mentor: [Ryan Hibbs, Ph.D.](#)
In Vitro Incorporation of α5 and β3 Subunits into α3β4 Nicotinic Acetylcholine Receptors



Ciana Perez
Skyline High School
Mentor: [Linda Baker, M.D.](#)
Prune Belly Syndrome: Fina Expression in the Developing Mouse Bladder



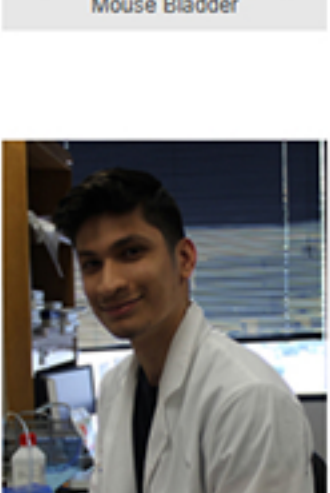
Nidhi Prakuzhy
Lovejoy High School
Mentor: [Peter Tsai, M.D., Ph.D.](#)
Identifying Deep Cerebellar Nuclei in Regulation of Autistic-like Behavior



Daniel Ramirez
North Mesquite High School
Mentor: [Dominika Borek, Ph.D.](#)
O-GlcNAcylation as an Onset of Heteroplasmic Proliferation in mtDNA



Michelle Ramirez
Irma Lerma Rangel YWLS
Mentor: [Ivan D'Orso, Ph.D.](#)
The KAP1/TRIM28 Transcription Regulator Interacts with a Specific Histone H4 Post-Translation Modification



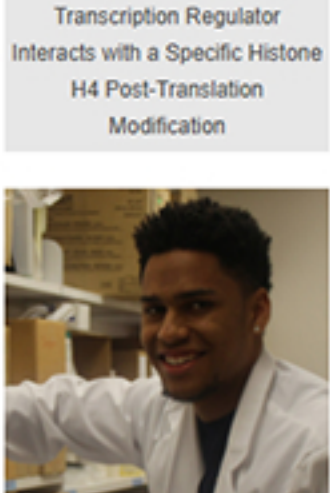
Abraham Rangel
Trini Early College High School
Mentor: [Bruce Beutler, M.D.](#)
Evaluating the Necessity of MYO1D in Osteoclast Differentiation



Anthony Rivera
JBS Law Magnet
Mentor: [Wei Xu, Ph.D.](#)
Developing Novel Viral Technology to Trace Remodeling of Neuronal Circuits in Memory



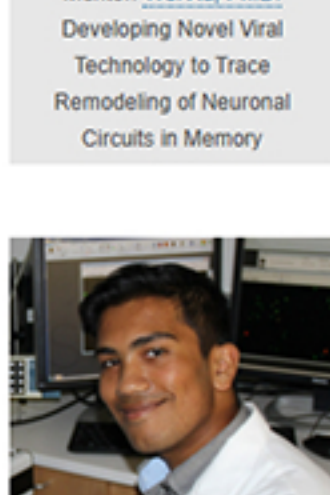
Erik Sanchez-Perez
Jesuit College Preparatory School of Dallas
Mentor: [Kim Orth, Ph.D.](#)
Determine the Secretion and Translocation of VP2145 Effector Protein for Vibrio parahaemolyticus



David Saunders
Cedar Hill High School
Mentor: [Philip Shaul, M.D.](#)
Molecular Basis of LDL Uptake by Scavenger Receptor Class B, Type I in Endothelial Cells



Noah Sherer
Jesuit College Preparatory School of Dallas
Mentor: [Zerrin Yetkin, M.D.](#)
Functional Activation within Dysplastic Cortex



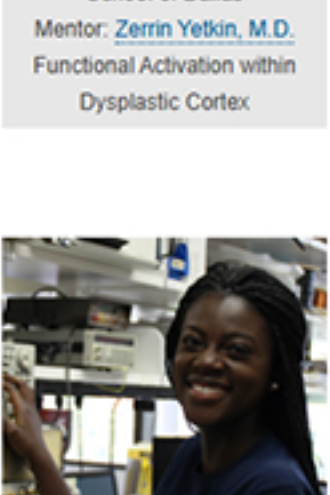
Aviral Samani
Talented and Gifted Magnet School
Mentor: [Joel Goodman, Ph.D.](#)
Differing Behaviors of Lipid Droplets and Metabolic Organelles in the Presence and Absence of Pet10p, a Potential Structural Protein



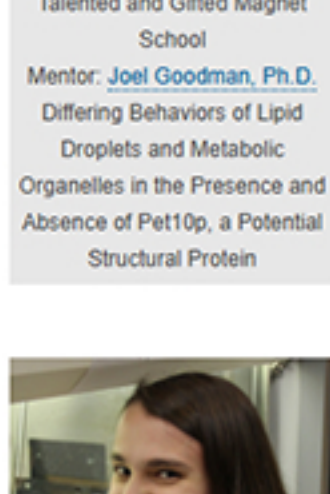
Maggie Stein
The Hockaday School
Mentor: [Maria Chahrouh, Ph.D.](#)
Investigating the Neuronal Function of the Neurodevelopmental Disease Gene UBE3B Through Site-directed Mutagenesis of the Predicted Active Site in the Catalytic Domain



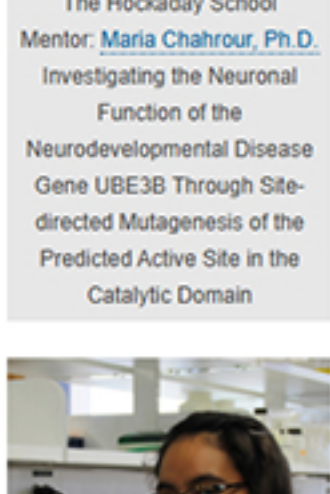
Julia Stone
Wylie High School
Mentor: [Jennifer Kohler, Ph.D.](#)
Effects of Inhibitors on the Glycosylation and Overproduction of Mucus



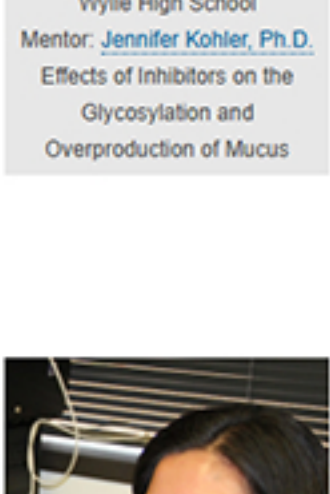
Abeer Tijani
MacArthur High School
Mentor: [Rajiv Chopra, Ph.D.](#)
Treating Bacterial Biofilm with Electromagnetic Energy



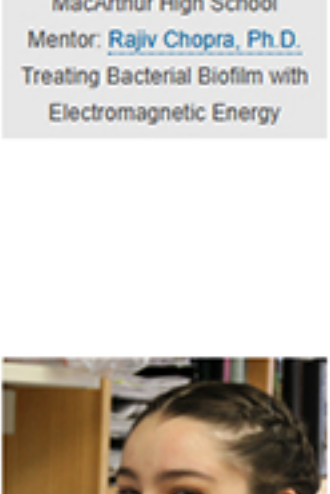
Megan Ungerman
Highland Park High School
Mentor: [James Brugarolas, M.D., Ph.D.](#)
Use of siRNA Nanoparticle for Patients with Resistant Renal Cell Carcinomas



Ileana Valdez
Talented and Gifted Magnet School
Mentor: [Todd Roberts, Ph.D.](#)
Testing the Effects of Masculinization on the Song Learning Process in Female Canaries



Melodie Vuong
Newman Smith High School
Mentor: [Matthew Lewis, Ph.D.](#)
Exploiting Partial-volume Artifacts in Spectral CT Imaging to Identify Surgical Textiles



Lisi Wangermann
Booker T. Washington HSPVA
Mentor: [Joachim Herz, M.D.](#)
Chimeric Na⁺/H⁺ Exchanger as a High-throughput Drug-Discovery Tool