

2025 STARS Summer Research Program for Students

The 2025 STARS Summer Research Program for Students included 47 students from Dallas-Fort Worth and surrounding areas. This 8-week program gave students an opportunity to work side-by-side with a faculty host. 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.



Ai-Vy Ho

The Hockaday School

Mentor: [Joseph Takahashi, Ph.D.](#)

Peripheral Ghrelin Stimulates GHSR+ Neurons in the SCN



Aleissa Ballard

Irma Lerma Rangel YWLS

Mentor: [David Greenberg, M.D.](#)

Synergistic Effect Between Prolonged Low-temperature AMF and Antibiotic Exposure Reveals Progressive Biofilm Reduction in Staphylococcus Aureus



Andres Lopez

Allen High School

Mentor: [Jing Tian, Ph.D.](#)

Exploring the Mechanisms Behind PUFA-Mediated Suppression of SREBP-1: CRISPR Plasmid Design and SREBP-1 Mutant Development and Functional Assessment



Andrew Liu

St. Mark's School of Texas

Mentor: [Lorena Saelices Gomez, Ph.D.](#)

Characterizing Pathogenic Fibrils in Various Organs of AL Amyloidosis Patient 1 and Evaluating Short Peptides with His6-tags as a General Early Diagnostic Tool



Anjali Konda

The Hockaday School

Mentor: [Kartik Rajagopalan, M.D., Ph.D.](#)

Sex and Age are Critical for Using Leptin Signaling to Maintain Autonomic Stability During Severe Influenza in Mice



Awwabkhan Pathan

Jack E. Singley Academy

Mentor: [Kevin Williams, Ph.D.](#)

Effects of Stimulating the CNS IRE1-XBP1 Pathway on Metabolism and Diet-Induced Obesity



Ayush Javvadi

Heritage High School

Mentor: [Daisuke Hattori, Ph.D.](#)

Studying How Varying Neuronal Circuits Impact Social Behavior In the Drosophila Brain



Azra Karimis

Harmony School of Innovation-Garland

Mentor: [Prithvi Raj, Ph.D.](#)

Immune Responses in Infected Positive and Negative Cases of Pediatric Septic Arthritis



Clio Byrd

Lakehill Preparatory School
Mentor: [Dawn Wetzel, M.D., Ph.D.](#)

The Epidemiology of Leishmania in Canines and Sandflies in Texas



Conrad Toby

MacArthur High School
Mentor: [Mark Henkemeyer, Ph.D.](#)

Small Molecule Inhibition of Eph-Ephrin Bi-directional Signaling in Chronic Pain Models



Dyanne Condormango

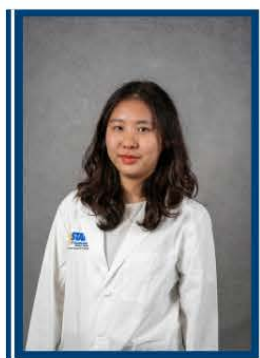
School for the Talented and Gifted at Townview Magnet Center

Mentor: [Stanislaw Deja, Ph.D.](#)
Liver on the run! Fight or Flight Induced Regulation of Glucose Motivated Metabolism



Elise Crumpton

Midlothian High School
Mentor: [Shin Yamazaki, Ph.D.](#)
The Effects of Palatable Food on Time-Place Learning in Wildtype Mice



Esther Park

Hebron High School
Mentor: [Jacques Lux, Ph.D.](#)
Novel Method to Create Ultrasound Phantoms Mimicking Fat Vesicle Size in MASLD



Ethan Irrobali

Jesuit College Preparatory
Mentor: [Allan-Hermann Pool, Ph.D.](#)
Anatomy, Projectome, and Functional Annotation of Mouse Spinal Cord Neural Diversity



Fatima Briseno

Irma Rangel YWLS
Mentor: [Hani Suleiman, M.D., Ph.D.](#)
Injury-Associated Alterations in YAP Expression in Mouse Glomerular Podocytes



Gabriela De La Garza

Richardson High School
Mentor: [Gary Hon, Ph.D.](#)
Modeling Congenital Heart Defect Variants for Functional Characterization



Henry Zhu

Highland Park High School
Mentor: [Melanie Cobb, Ph.D.](#)
WNK1 Controls Endothelial Morphological Adaptation to Shear Stress



Jada Simone Akinseye

Rick Reedy High School
Mentor: [Keisa Mathis, Ph.D.](#)
Assessment of Short-term Galantamine and Mycophenolate Mofetil Combination Therapy on Renal injury in a Murine Model of Systemic Lupus Erythematosus



Jahnavi Sharma

Frisco High School
Mentor: [Bo-Jui Chang, Ph.D.](#)
Post Acquisition Registration Routines for Reconstructing the Cardiac Cycle of a Zebrafish from Selective Plane Illumination Microscopy Data



Janakiram Dirisina

Heritage High School
Mentor: [Michael Buszczak, Ph.D.](#)
GCNA's IDR Associates with RNA-Binding Proteins and RNA Targets



Jasmin Padilla

North Garland High School

Mentor: [Nian Wang, Ph.D.](#)

MRI-Based Biomarkers of Regional Brain Microstructure and Network Alterations in Early Alzheimer's Disease



Joshua Oseni

Southwest Christian School

Mentor: [Kareem Azab, Ph.D.](#)

Investigating the Potential Use of FDA-approved Poloxamer P188 as a Vascular Stabilizer in Brain Cancer Treatment



Jude Pham

Lake Ridge High School

Mentor: [Helmut Kramer, Ph.D.](#)

Druggable Pathway Regulating Autophagy alleviates Neurodegeneration in Drosophila Melanogaster



Kate Jensen

Keller High School

Mentor: [Jennifer Kohler, Ph.D.](#)

Engineering a Fucosyltransferase to Install a Photo Crosslinking Fucose Analog



Katelyn Castro

Mansfield Legacy High School

Mentor: [Chen Liu, Ph.D.](#)

Investigating Dense Granule Protein Interactions in Toxoplasma gondii Using an ER-Retention Assay



Kathy Avila

North Mesquite High School

Mentor: [Felix Nitschke, Ph.D.](#)

Developing a cross-correction enabled gene therapy for Lafora Disease



Kyle Alferink

Frontier STEM Academy

Mentor: [David Corey, Ph.D.](#)

Evaluating TCF4 Gene Expression in Context of Pitt-Hopkins Syndrome



Laila Reddy

Townview TAG

Mentor: [Gaurav Sharma, Ph.D.](#)

Impact of Matrix Metalloproteinase-9 on Cardiac Metabolic Remodeling and Multi-Organ Metabolomic Signatures



Lena Elnager

Brighter Horizons Academy

Mentor: [Kendra Fredrick, Ph.D.](#)

Labeling the C-terminus of α -synuclein with cysteine-less intein for Structural Studies with Solid-state NMR: Optimizing Ligation Conditions



Maraiye Francine Dizon

Irma Rangel YWLS

Mentor: [Ayaz Najafov, Ph.D.](#)

Induction of immune checkpoint blockade proteins by necroptosis signaling activation



Meher Lahiri Gudipati

Prosper High School

Mentor: [Courtney Schroeder, Ph.D.](#)

A Unique Paralog of Arpc3 Evolved in Drosophila and exhibits Tissue-Specific Expression



Nadia Guevara

The Hockaday School

Mentor: [Kim Orth, Ph.D.](#)

Disease-Causing Mutation of FicD Increases the AMPylation and Concentration of BiP in Various Tissues



Natalie Johnson

Greenhill School

Mentor: [Dayoung Oh, Ph.D.](#)

Investigating the Subcellular Localization of Activated GPCR84 via 6-OAU Agonist



Nitya Anam

Liberty High School

Mentor: [Liqiang Ren, Ph.D.](#)

Optimizing Virtual Monoenergetic Imaging keV Pairs from Dual Energy CT to Differentiate Iodine and Water



Piyush Mallick

Grapevine High School

Mentor: [Todd Roberts, Ph.D.](#)

Implementation of seqNMFAnalysis to Zebra Finch HVC Neuronal Activity for Central Pattern Generator Detection



Rebecca Thomas

Carroll Senior High School

Mentor: [John Minna, M.D.](#)

Investigating the role of SMARCA4 and YAP1 in Small Cell Lung Cancer to Maximize Response and Control Therapeutic Resistance



Sam Zhu

Plano East Senior High School

Mentor: [Ivan D'Orso, Ph.D.](#)

Optimization of CRISPR-Cas9 Application in HIV Latency Studies



Sanjana Arudala

R.L Turner High School

Mentor: [Suraj Patel, M.D., Ph.D.](#)

Developing CRISPR-Engineered Knockout Mouse Models to Investigate Inflammation-Induced Metabolic Reprogramming



Sara John

Sunnyvale High School

Mentor: [Glen Liszczak, Ph.D.](#)

A New Cell-Based Assay to Study Self-Association of Unstructured Protein Regions



Sara Kocurek

The Hockaday School

Mentor: [Wei Xu, Ph.D.](#)

Targeting Hippocampal Neuroglia Form Cells to Enhance Cognition



Shivali Mishra

Allen High School

Mentor: [Sherwood Brown, M.D., Ph.D.](#)

The association Between Alcohol Consumption and Inflammatory Biomarkers in a Large, Diverse, Community-Based Sample



Shivani Sarangam

R.L. Turner High School

Mentor: [Jinfan Wang, Ph.D.](#)

Biochemical Characterization of the Human Mitochondrial LRPPRC-SLIRP Complex



Shriya Nadagouda

Greenhill High School

Mentor: [J. David Beckham, M.D.](#)

Modification of 3' UTR xrRNA2 Structure of Zika Virus Leads to an Attenuated Viral Strain

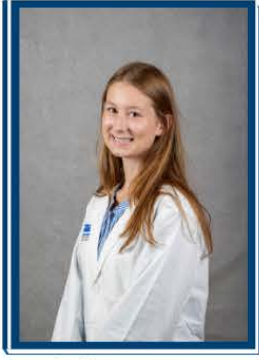


Sierra Salazar

Lakehill Preparatory School

Mentor: [Theodoros Kelesidis, M.D., Ph.D.](#)

In Vivo Modeling of Differential Effects of HIV Versus Antiretroviral Therapy on Antioxidant Responses of End Organs



Sydnie Metrano

Ursuline Academy of Dallas

Mentor: [David Sanders, Ph.D.](#)

Role of Phase Separation in TDP-43 Aggregation



Teniola Segun

Lovejoy High School

Mentor: [Steven Gray, Ph.D.](#)

DDX3X Autoregulation for Use in Potential Gene Therapy Treatment



Thi Nguyen

Newman Smith High School

Mentor: [Bin Cai, Ph.D.](#)

Improving the Efficiency, Robustness, and Safety of a Novel Biology-Guided Radiotherapy Workflow Through FMEA