

2024 STARS Summer Research Program for Students

The 2024 STARS Summer Research Program for Students included 51 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.



Ashly Alonso

Irma Lerma Rangel YWL

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

Bioengineering therapeutic proteins for prevention of insoluble glycogen deposits in Lafora Disease



Vishnu Anand

School for the Talented and Gifted
at Townview Magnet Center

Mentor: [Joel Elmquist, DVM, Ph.D.](#)

Understanding the Autonomic Nervous System's Role in Vagal Stimulation and Glucose Homeostasis



Juhi Arora

Edward S. Marcus High School

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

Constructing Programmable RNA-activated Flippase (FLP) Recombinases for Targeted Manipulation of Cell Types



Yatziri Chapa

Irma Lerma Rangel YWL School

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

The Functional Characterization of B-Arrestin of Brown Adipose Tissue

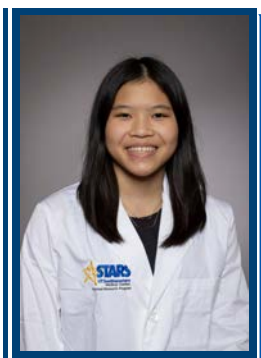


Jada Clemmons

Cedar Hill High School

Mentor: [Maralice Conacci-Sorrell, Ph.D.](#)

Unveiling the impact of individual tryptophan derived metabolites on colon cancer cell proliferation

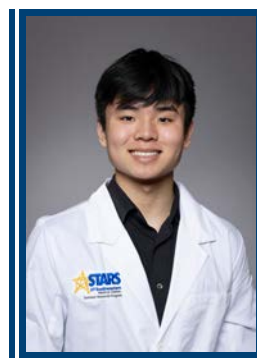


Katherine Dang

John Paul II High School

Mentor: [Jacques Lux, Ph.D.](#)

Ultrasound-based STING Activation in Antigen-Presenting Cells using a Clinical Transducer



Daniel Deng

St. Mark's School of Texas

Mentor: [Don Gammon, Ph.D.](#)

Screening Putative IpaH2 Substrates to Uncover Evolutionarily Conserved Antimicrobial Pathways

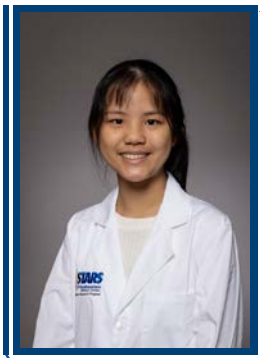


Shabreen Dhillon

Waxahachie Global High School

Mentor: [Ashley Solmonson, Ph.D.](#)

Mechanistic study on metabolism during human trophoblast stem cell differentiation



Evelyn Ding

Plano West Senior High School

Mentor: [Jacqueline Gallet, Ph.D.](#)

Determining the Optimal Material for Constructing Realistic 3D-Printed Models of Spinal Vertebrae for Simulation-Based Training and Education

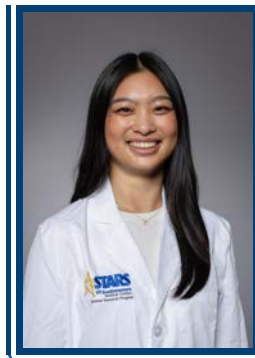


Saron Elias

Garland High School

Mentor: [Raquibul Hannan, M.D., Ph.D.](#)

Targeting HASPIN, a Serine/threonine Kinase essential to mitosis, to modulate tumor microenvironment in a colon cancer model



Alexis Fan

The Hockaday School

Mentor: [Shin Yamazaki, Ph.D.](#)
Time-Place Learning in C57BL/6J Mice



Vishruth Ganesh

Plano Senior High School

Mentor: [Bradley Lega, M.D.](#)

Understanding Memory Search: The CMR Model and its Insight Into Trends in Episodic Memory



Siri Gangireddy

Carroll Senior High School

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

Analyzing the Effects of Using AAV9 on DHPS Deficient Mice Models



Gabriel Gaona

The Hockaday School

Mentor: [Michael Shiloh, M.D., Ph.D.](#)

Characterizing Airway M Cells



Kundanika Ghosh

Uplift North Hills Preparatory

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

Subcellular Localization of Ago2 Protein in Wild Type and DROSHA Knockout HCT116 Cell Line

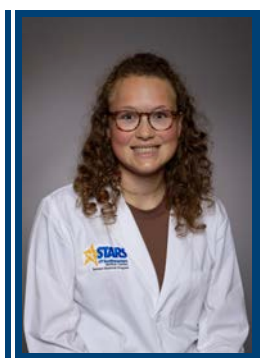


Prabath Girish

Greenhill School

Mentor: [Sharmistha Mitra Ph.D.](#)

Exploring malin-mediated ubiquitination of glycogen metabolism related substrates in Lafora disease



Zoe Greene

School for the Talented and Gifted at Townview Magnet Center

Mentor: [Hasan Zaki, Ph.D.](#)

Examining the impact of PoleP286R in colon cancer



Leonardo Hernandez

Jesuit College Preparatory School of Dallas

Mentor: [Helmut Krämer, Ph.D.](#)

Testing the effect of A5-induced autophagy on neurodegeneration in Drosophila



Peter Ivanov

MacArthur High School

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

Investigating the effects of N-Lactoyl-Phenylalanine on Appetite Regulation and Pro-opiomelanocortin Neuron Activity in the Hypothalamus



Sumayyah Jilani

Harmony Science Academy - Euless

Mentor: [Helen Lai, Ph.D.](#)

Investigating the Role of EHMT2 in the Development of the Nociceptive Lineage



Emily John

Jack E. Singley Academy

Mentor: [Yuuki Obata, Ph.D.](#)

The effect of molecular clock ablation on neuron-specific circadian rhythms in the gut



Aravind Juvva

Prosper High School

Mentor: [Ariella Hunker, Ph.D.](#)

Investigating the role of KRAS mutations in CDK4/6 inhibitor resistance in breast cancer

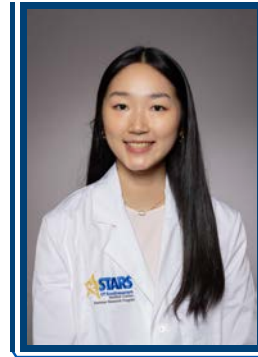


Alden Kendall

Greenhill School

Mentor: [Melanie Cobb, Ph.D.](#)

CDC14A/B as a therapeutic target for taxane sensitization for lung cancer

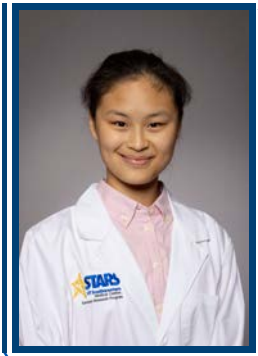


Christine Lee

Newman Smith High School

Mentor: [Gaudenz Danuser, Ph.D.](#)

Quantitative spatial analysis of cancer organotrophic behavior



Michelle Lu

Science and Engineering Magnet at Townview

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

Structural study of α -synuclein fibril conformations by sensitivity-enhanced Solid State NMR



Joel Maliyil

Dubiski Career High School

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

Tuning Meiotic Stress Granule to probe its role in gametogenesis in *Saccharomyces Cerevisiae*



Hans Manish

Independence High School

Mentor: [Genevieve Konopka, Ph.D.](#)

Exploring the role of Foxp1 on SPN neuronal development in the Striatum



Neel Manne

Jesuit College Preparatory School of Dallas

Mentor: [Wenhao Zhang, Ph.D.](#)

Simulating a continuous attractor network with gaussian weights and varying external inputs



Henry Maxwell

Midlothian High School

Mentor: [Robert Tower, Ph.D.](#)

The Role of Itaconate in Physiological and Aberrant Bone Formation

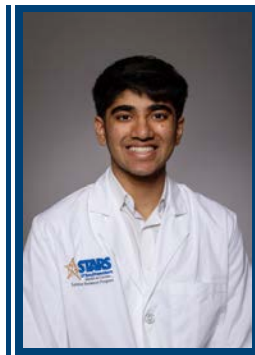


Isaac Molina

Barack Obama Male Leadership Academy

Mentor: [Allan-Hermann Pool, Ph.D.](#)

Characterizing Spinal Cord Tissue Complexity and Quantifying Spinal Cord Dependent Behaviors



Varun Mukund

Greenhill School

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

Investigating the Effects of Acetylation and Phosphorylation Mutants of SREBP-1 on PUFA-Mediated Suppression of Fatty Acid Synthesis



Monisha Nath

South Grand Prairie High School

Mentor: [Ganesh](#)

[Sankaranarayanan, Ph.D.](#)
Comparative Movement Analysis of Experts and Novices During Simulated Nissen Fundoplication Surgery



Jacqueline Nunez Martinez
Harmony Science Academy -
Dallas

Mentor: [David Mangelsdorf, Ph.D.](#)
Phosphate sensing as regulator of the
phosphate transporter SLC20A1/PiT1

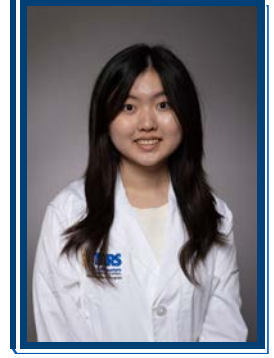


Arav Patel
Wylie High School Mentor:
[Stephen Bunt, Ed.D.](#)

Effects of King-Devick times and
errors on cognitive symptoms in
post-concussed adolescents



Omkar Rege
School for the Talented and
Gifted at Townview Magnet
Center
Mentor: [Douglas Strand, Ph.D.](#)
A Cellular Atlas of Human Lower Urinary
Tract in Aging and Disease



Lindsey Ro
Creekview High School
Mentor: [Seungwon
\(Sebastian\) Choi, Ph.D.](#)
Dissecting Ascending
Somatosensory Pathways For
Head Turning and Nursing



Dhakshata Sathyamurthy
Centennial High School

Mentor: [John Beckham, Ph.D.](#)
Schlafen, The Virus Lullaby: IFN α 2
Treatment Induces Alpha Synuclein-
Dependent Schlafen Expression in
Cortical Neurons



Ayushi Savla
Plano East Senior High School
Mentor: [John Minna, M.D.](#)

Investigating the Role of YAP1 in the
SCLC-Y Subtype to Discover
Therapeutic Vulnerabilities



Kugu Scott
Lovejoy High School
Mentor: [Daisuke Hattori, Ph.D.](#)
Exploring Neuronal Circuitry Involved in
Social Homeostasis in Drosophila
melanogaster

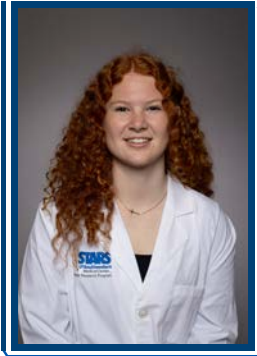


Rohan Singhal
Colleyville Heritage High School
Mentor: [Michalis Agathocleous, Ph.D.](#)
Citrate Synthase is Required for the Initiation of PTEN-
Deficient T-cell Acute Lymphoblastic
Leukemogenesis, but not PTEN-Deficient
Myeloproliferative Neoplasms



Victor Soberanis
Harmony Science
Academy - Dallas
Mentor: [Lorena Saelices
Gomez, Ph.D.](#)

Optimizing in vitro generation of
amyloid fibrils from transthyretin
and ATTRv patient-derived seeds



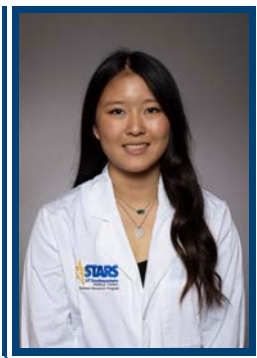
Lily Springborn
JJ Pearce High School
Mentor: [Matt Sieber, Ph.D.](#)
Intracellular parasite remodels host's
mitochondrial and ER movement
during cellular quiescence



Sanjay Sundaram
R.L. Turner High School
Mentor: [You Zhang, Ph.D.](#)
Creating a Pneumatic-driven, Dual-
modal, Anthropomorphic Phantom
and Deep Learning Model for
Fluoroscopy-guided Procedures



Manshi Swain
Wakeland High School
Mentor: [Todd Roberts, Ph.D.](#)
Cellular Organization of Hindbrain
Circuit Involved in Zebra Finch
Learned Vocalization



Clara Tam

R.L. Turner High School

Mentor: [Jim Collins, Ph.D.](#)

Studying the G1/S checkpoint and its cell cycle regulators in the human parasite *Schistosoma mansoni*



Amy Ternida

Heritage High School

Mentor: [Saikat Mukhopadhyay, M.D., Ph.D.](#)

Identifying chemical compounds and chemical peptides as inhibitors of ciliary trafficking



Sahasra Thridandapani

Heritage High School

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

Mechanistic study of de novo anti-CRISPR ORF D1



Ryana Velani

Rick Reedy High School

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

Disconnect Between Child Perception of Asthma and Objective Lung Function



Axel Villalba Zubia

North Mesquite High School

Mentor: [Murat Durakoglugil, M.D., Ph.D.](#)

APP Cleavage and Synaptic Plasticity



Abigail Woodberry

The Hockaday School

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

Loss of FicD Results in Defects in Skeletal Muscle Adaptation



Jenna Woody

Frontier STEM Academy

Mentor: [Venuprasad Poojary, Ph.D.](#)

ZBTB44, a novel transcription factor, functions as a tumor suppressor