The 2023 STARS Summer Research Program for Students included 53 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.

**2023 STARS Summer Research Program for Students**

**Sri Achanta**
Coppell High School  
Mentor: Fernando Kay, M.D., Ph.D.  
Structured data extraction via natural language processing in chest CT Reports

**Riya Acharya**
R.L. Turner High School  
Mentor: Igor A. Butovich, Ph.D.  
Physiological characterization of the effects of Sdr16c5/Sdr16c6 and Soat1 inactivation in the eye

**Isabelle Agarwal**
Richardson High School  
Mentor: James J. Collins, Ph.D.  
Role of histone deacetylases in schistosomes

**Arwa Ahmed**
Harmony School of Innovation- Dallas  
Mentor: Joseph Su, M.P.H., Ph.D.  
Ecologic evaluation for the association between early-onset colorectal cancer and environmental arsenic

**Imad Ahmed**
Harmony School of Innovation- Dallas  
Mentor: Genevieve Konopka, Ph.D.  
Evaluating the Effects of Post-Mortem Intervals on In-Vitro Mouse Cortical Viability as Measured by GFP Expression and Cleaved Caspase-3 Presence

**Eno Ambe**
Lone Star High School  
Mentor: Sharmistha Mitra, Ph.D.  
Determining The Function of Linear Ubiquitin Chain Assembly Complex in Glycogen Metabolism

**Eva Anderson**
Irma Lerma Rangel YWLA  
Mentor: Jin Ye, Ph.D.  
Domain deletions in UBXD8 – its role in ferroptosis and alcoholic liver disease

**Lakshmi Aravindan**
John Paul II High School  
Mentor: Yuki Obata, Ph.D.  
Succinate Regulates the Enteric Nervous System via Epithelial Tuft Cells
Prerith Arunkumar
Coppell High School
Mentor: Benjamin Weaver, Ph.D.
Variant Calling and Identifying Suppressors of ubr-S and Its Role in Pluripotent Stem Cells

Eleanor Browne
The Hockaday School
Mentor: Nicholas Conrad, Ph.D.
Assaying the direct effects of METTL16 on translation

Chloe Callaway
Independence High School
Mentor: Wenbao Zhang, Ph.D.
Reading out the mind from in-silico hippocampus

Abigail Castro
Mansfield Legacy High School
Mentor: Glen Liszczak, Ph.D.
Wrestling with the Implications of ETV6 SUMOylation Cancer Model

Elise Cho
The Hockaday School
Mentor: Kim Orth, Ph.D.
Investigation into the regulation of AgrC, a receptor histidine kinase from Staphylococcus aureus

Andrea Condormango Rafael
School for the Talented and Gifted at Townview Magnet Center
Mentor: Samuel Achilefu, Ph.D.
Observing the fluorescence lifetime of LS280 on 4T1 cells

Sisir Datla
R.L. Turner High School
Mentor: Venuprasad Poogary, Ph.D.
Identification and cloning of ZNF22, a novel transcription factor, involved in CD8+ T cell exhaustion

Antonio Dimafelix
Jesuit College Preparatory School of Dallas
Mentor: Daniel Kober, Ph.D.
How ER-localized E2 enzymes control Protein Homeostasis

Jacqueline Dominguez
Prestonwood Christian Academy
Mentor: Daisuke Hattori, Ph.D.
Examining neural circuits that regulate social attention in Drosophila

Shashank Gangaram
Plano East Senior High School
Mentor: Helmut Krämer, Ph.D.
Drug induced enhancement in neuronal autophagy delays neurodegeneration in Drosophila Alzheimer’s Disease models

Samuel Guerra Arthur
North Garland High School
Mentor: Nicolai Van Oers, Ph.D.
Species-Specific Differences in the Transcription Factor Forkhead Box N1

Tyler Hall
The Oakridge School
Mentor: Michael Reese, Ph.D.
Finding the Substrate Binding Region of CSAR1 in the Parasite Toxoplasma
Isabel Ketterson  
Lakehill Preparatory School  
Mentor: Yuh Min Chook, Ph.D.  
Investigation of E3 ligase WDTC1 binding to the exportin CRM1

Jose Hernandez  
School for the Talented and Gifted at Townview  
Mentor: Genevieve Konopka, Ph.D.  
Determining Circadian Rhythm Effects on Embryonic Brain Development

Anish Jonnalagadda  
Imagine International Academy of North Texas  
Mentor: Ping Mu, Ph.D.  
Characterizing the Role of NR2F1 in Metastatic Prostate Cancer

Lauren Kaneira  
Flower Mound High School  
Mentor: Mark Henkemeyer, Ph.D.  
Nose poking behavior reveals that daytime anticipatory food seeking behavior persists in mice during and after timed restricted feeding

Alyssa Harbin  
MacArthur High School  
Mentor: E. Sherwood Brown, M.D., Ph.D.  
The Relationship Between Asthma and Carotid Thickness

Max Kettles  
Greenhill School  
Mentor: Jing Tian, Ph.D.  
Unraveling the Mechanism: Investigating SREBP-1 phosphorylation and PUFA Mediated selective suppression of SREBP-1

Om Kulkarni  
Texas Academy of Mathematics and Science  
Mentor: Michael Buszczak, Ph.D.  
Testing whether GCNA paralogs preserve genome integrity by regulating pericentromeric satellite DNA

James Li  
Frisco High School  
Mentor: Melanie H Cobb, Ph.D.  
The Optimization of Fixation and Immunostaining Protocols for Evaluation of the Mouse Meibomian Gland

Ruixuan Li  
The Hockaday School  
Mentor: Felix Nitschke, Ph.D.  
TATκ-Mediated Delivery of Human α-Amylase Protein for Cross-Correction-Enabled Viral Gene Therapy of Lafora Disease

Mihir Madabushi  
Uplift North Hills Preparatory School  
Mentor: Lorena Saélices Gómez, Ph.D.  
Identification of Transhyretin Aggregate Antibodies for Incorporation into a Clinical Diagnostic Tool

Grace Marquez  
MacArthur High School  
Mentor: Todd Roberts, Ph.D.  
Identify Neural Organization of Zebra Finch Motor Pathways by Gene Expression

Ishrat Masud  
Jack E. Singley Academy  
Mentor: Shin Yamazaki, Ph.D.  
Nose poking behavior reveals that daytime anticipatory food seeking behavior persists in mice during and after timed restricted feeding
Isabelle Munsterman
Woodrow Wilson High School
Mentor: Marek Napierala, Ph.D.
Genetic variants causing Friedreich's ataxia

Jane Moses
Allen High School
Mentor: Jun Wu, Ph.D.
Investigating the effect of physical constraints on the differentiation of human pluripotent stem cells

Anika Mootha
Greenhill School
Mentor: David Corey, Ph.D.
Cellular Localization of RNAi Machinery in Mammalian Cells

Jayanth Mokkapatira
Plano West Senior High School
Mentor: Ganesh Raj, M.D., Ph.D.
Disrupting Protein-Protein Interactions as a Therapeutic Approach in Estrogen-Receptor Positive Breast Cancer

Chikasi Nwachukwu
Harmony Science School of Innovation - Garland
Mentor: Gerta Hoxhaj, Ph.D.
The role of collagen components in supporting cell growth upon ΔNADK2 loss

Molewaoluwa Omotoso
School of Health Professions at Townview
Mentor: Chen Liu, Ph.D.
Transcriptional regulation of Melanocortin 4 Receptor (Mc4r) by Otp

Satvik Paduri
Science and Engineering Magnet at Townview
Mentor: Steven Gray, Ph.D.
In vitro – Testing AAV9-JeT and CBA DDX3X Construct Expression

Alanna Polyak
Plano West Senior High School
Mentor: Ariella Hanker, Ph.D.
Investigating the addition of trastuzumab to neratinib and fulvestrant in ER+/HER2-mutant breast cancer cells with double HER2 mutations

Aditya Pulipaka
Greenhill School
Mentor: Joseph Takahashi, Ph.D.
IPurification and Validation of BMAL1 Antibody for Studying BMAL1 Expression

Sofia Reyes
Booker T. Washington HSVPA
Mentor: Katherine J. Wert, Ph.D.
Sex Difference and Hormonal Interactions in the Unfolded Protein Response

Francisco Salazar
School of Science and Engineering at Townview
Mentor: Jacqueline Gallet, Ph.D.
Preliminary Investigation Into A Shear Wave Transducer For Possible Clinical Usage

Pooja Sanghvi
Greenhill School
Mentor: Michalis Agathocleous, Ph.D.
The Role of Lactate Dehydrogenase in Hematopoietic Stem Cells
**Mary Schnautz**
Grapevine High School
Mentor: Jennifer Kohler, Ph.D.
Determining the Function of GALNT14 in Osteosarcoma

**Nishi Soni**
Centennial High School
Mentor: John D. Minna, M.D.
Exploring the Role of Chemokine Receptor CXCR4 Pathways Components in SCLC

**Jake Tessnow**
Carroll Senior High School
Mentor: Jeffrey Zigman, M.D., Ph.D.
The Role of Depp1 in Blood Glucose Homeostasis

**Jeanette Thomas**
Keller High School
Mentor: Christoph U. Lehmann, M.D.
Identifying Complex Interface Matching Errors within COVID-19 Vaccinations

**Eric Tong**
Grapevine High School
Mentor: Kendra Frederick, Ph.D.
Developing Methods to Predict NMR Peak Shapes for Regions of Intrinsic Disorder

**Khoa Trinh**
Garland High School
Mentor: Dayoung Oh, Ph.D.
The Role of GPR92 During Pancreatic Islet Development

**Glenda Vega**
Irma Lerma Rangel YWLA
Mentor: Sukh Makhnoon, Ph.D.
A Cellular Anatomy of the Female Urethra

**Nelson Vo**
School of Science and Engineering at Townview
Mentor: Hesham Sadek, M.D., Ph.D.
Induction of Cytokinesis in Cardiomyocytes Promotes Cardiac Regeneration

**Dawson Zavala**
Jesuit College Preparatory School of Dallas
Mentor: Gaurav Sharmav, Ph.D.
Enhancing Lung Preservation Strategies by Exploring Glucose Metabolism in Ex Vivo Lung Perfusion