

STARS NOTES



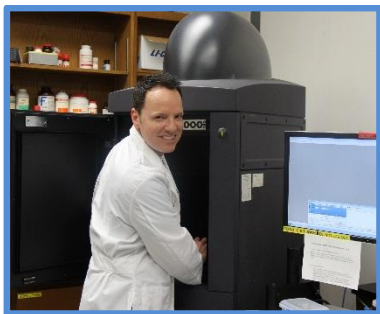
SCIENCE TEACHER ACCESS TO RESOURCES AT SOUTHWESTERN

STARS Notes
September 2016
Issue XV, Number 2

Core funding for the STARS Program is provided by the
State of Texas.

2016 STARS Summer Research Program for Teachers
Our 2016 SRP was a huge success! See what the teachers
had to say:

*“Innovations in Visualizing the Activity of Vascular Disrupting
Agents”*



Jeff Bivins
Richardson High School

Hosted by:
Ralph Mason, Ph.D.
Biomedical Engineering

“I am thrilled to have had the opportunity to be welcomed back for a second year! The experience I gained the first year was enhanced this summer. The team that I worked with challenged me and pushed me to new intellectual heights. The analytical and research skills that I learned this summer will enhance the learning environment in my classroom. Thanks to an amazing group of team members, I will be able to share with my students the latest techniques in research, the technological advances in science, and the statistical analysis of research data. I would encourage every teacher to take advantage of this opportunity provided by the STARS program. This is an experience of a life time and one that I wish I could do every summer!”

*“Generation of Ezh2 Knockout Embryonic Stem Cells by
CRISPR-Cas9”*

Stephanie Cartwright
Travis Middle School

Hosted by:
Jian Xu, Ph.D.
Pediatrics



“The STARS program has been an amazing experience because it combines learning techniques in an actual lab setting with seminars about new and intriguing scientific research and lesson plans that will be engaging to bring back to the classroom. It rekindles my passion for learning and teaching and reminds me of how exciting science can be for students.”

**WHAT'S
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“A Comparative Analysis of PGRMC1 Versus the Sigma-2 Receptor Using Varied Imaging”



Adriane Davis
Dallas Environmental Science
Academy

Hosted by:
Orhan K. Oz, M.D., Ph.D.
Radiology

“The impact of participation in the STARS Summer Research Program cannot be measured with words alone. For it has provided me with a greater foundation and understanding of the scientific research process. As a second year participant, the evidence can be seen not only in the delivery and the quality of my inquiry labs, but also in student product and achievement that we have attained. I am continually impressed with the professionalism, and support and encouragement that I have received from the STARS program, and my mentors, that have enabled me to reach new heights as a science educator. For these reasons, I am forever grateful to the faculty and staff of STARS, to the research labs who have opened their doors, and the University for making opportunities like this possible.”

“Pioglitazone Does Not Augment Total Antioxidant Capacity in Zucker Diabetic Fatty Rat Lung”

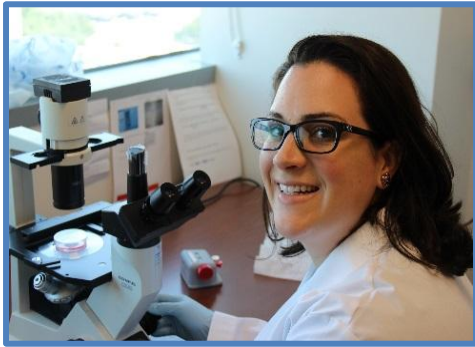
William Kuilan
Lassiter Early College High
School

Hosted by:
Connie Hsia, M.D.
Internal Medicine



“STARS is one of the best things to happen to science education in Texas.”

“Identification of Metabolites in Human Glioblastoma Cells”



Jennifer Long
W.T. White High School

Hosted by:
Woo-Ping Ge, Ph.D.
Children's Medical Center Research
Institute at UTSW

“Professionally, I was challenged even though it was second summer in the lab, having to be a student again, starting with very little knowledge, and at times feeling like I lacked some basic skills. This humbling experience will serve as a way to connect to my students better when they struggle to understand and embrace scientific content, as well as flounder with seemingly elementary lab skills. Personally, it affirmed my love of science and understanding how things work. This experience was enlightening as I learned about a lot of cutting edge research being done and new ways of analyzing things. In all the discoveries being made, there is a lot that scientists still don't know and can't fully explain. It's comforting that no one has all the answers and I can use that to push my students to be better thinkers and problem-solvers.”

“Regulation of Visceral Adipose Tissue Development”

Monica Oliver, M. S. Ed.
W.E. Greiner Middle School
Exploratory Arts Academy

Hosted by:
Rana Gupta, Ph.D.
Internal Medicine

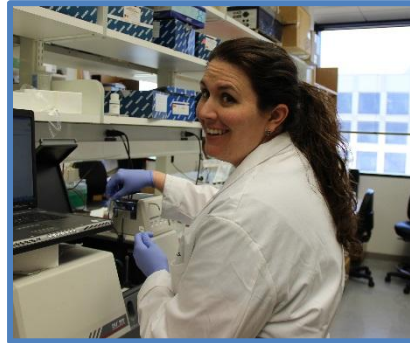


“Each summer I set out to find new and inventive strategies to enhance my personal growth that strengthens my professional growth. UT Southwestern STARS program has far exceeded my quest for growth this summer. I feel that I have become a part of a process bigger than I could have imagined. My assigned lab was like a family. Regularly lab members collaborate, contributing thoughts or ideas to solve the overarching lab focus without judgment or criticism. If you were an outsider walking into a lab discussion, you would not be able to identify the hierarchy. They are all genuinely learning from one another. Within this dynamic group of people, I felt safe to ask questions without fear of judgment if I were to make a mistake. I would like to thank each of them for their patience and assistance in making my experience memorable. From this summer forward, I take with me knowledge coupled with experiences I have gained this summer. Thank you UT Southwestern STARS Program, and Gupta lab for affording me with this opportunity. I realize you had many candidates to choose from, thank you for allowing me to be one of the chosen few.”

“Does PLC- β 3 Dimerization Contribute to the Catalytic Activation of PLC- β 3 by G α q?”

Bree Penninger
John Paul II High School

Hosted by:
Elliott M. Ross, Ph.D.
Pharmacology



“The STARS Summer Research Program has given me an opportunity to experience first-hand the upper-level application of basic knowledge and techniques that I work hard to bring to the classroom. This experience has provided a broadening of my own personal knowledge and given me perspective to be able to take my students' learning to the next level. Being able to work alongside researchers in the Pharmacology department has also given me a glimpse into the life of a researcher, and I will be able to bring this back to my students as well. I'm so grateful for this opportunity and honored to have been chosen to participate!”

“Cell Cycle Regulated Function of WRN Syndrome Protein in Response to DNA Damage”

Shannon Snell
John Tyler High School

Hosted by:
Asaithamby Aroumougame, Ph.D.
Radiation Oncology



“One of the most important things I impress upon my students is that learning does not end with high school or even post-secondary education. Learning is a lifelong journey and it is important to take advantage of every opportunity you get to grow or learn something new. STARS has been just that for me. My research in the radiation oncology lab this summer has been a much needed reminder of my love for science and the reason I became a science teacher. I am excited to apply what I have learned in my research this summer in my classroom, and hopefully teach students to love science as much as I do.”



2016 STARS Dallas ISD Professional Development Sessions

Cassandra Cartmill, a science educator with 12+ years of teaching experience, was the Master Teacher for the two 2-day Professional Development workshops hosted by STARS for Dallas ISD Biology teachers. The topics that were addressed included:

- Macromolecules
- Homeostasis
- Cell proliferation and cancer
- Viruses

Two of these topics were covered each day in the 2-day workshop. They included lectures, wet labs or activities, and visits to UTSW research labs. The following are the teachers who attended the workshops:



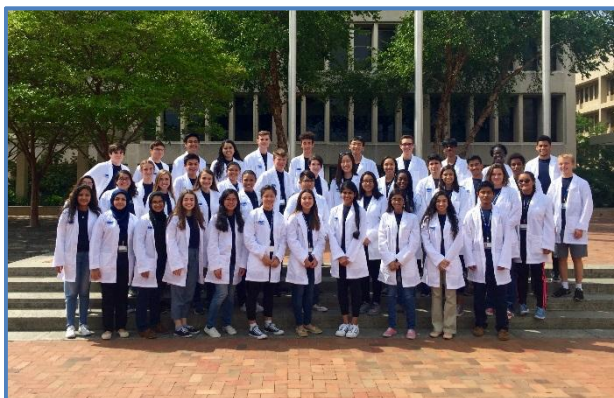
- Katrina Barry
Hillcrest High School
- Pamela G. Bissic
L G Pinkston High School
- Kamilah Crouch
Skyline High School
- Mario Dupree
W H Adamson High School
- Debonie Enge
Emmett J Conrad High School
- Sisi Huang
Thomas Jefferson High School



- Phillip Keller
Trinidad Garza Early College at Mountain View
- Jeremy McLin
Hillcrest High School
- Don Porter
School Community Guidance Center
- Vickie Reed
Irma Rangel Young Women's Leadership School
- Courtney White
Skyline High School

2016 STARS Summer Research Program for Students

Name	School	Host
Bethanie Abram	Irving High School	Daniel Siegwart, Ph.D.
Priyanka Agrawal	Greenhill School	Xuelian Luo, Ph.D.
Hope Anderson	Marcus High School	Li Liu, Ph.D.
Jonathan Avendano	Gunter High School	Charlie Khemtong, Ph.D.
Denver Baumgartner	JJ Pearce High School	Ming Chang Hu, M.D., Ph.D.
Benjamin Bich	Timberview High School	William Holland, Ph.D.
Aiden Blinn	St. Mark's School of Texas	Zhao Wang, Ph.D.
Giovanny Camarena	South Grand Prairie High School	Helmut Kramer, Ph.D.
Joe Carver	Jesuit College Preparatory School of Dallas	Pin Xu, Ph.D.
Shreeya Chodavadia	Plano East Senior High School	Ganesh Raj, M.D., Ph.D.
Emily Chung	Independence High School	Pradeep P.A. Mammen, M.D.
Shivani Daftary	Greenhill School	Sherwood Brown, M.D., Ph.D.
Lizette Delbosque	North Mesquite High School	Mike Henne, Ph.D.
Yosi Fetahi	Science and Engineering Magnet	Genevieve Konopka, Ph.D.
Marco Flores	School of Health Professions	Craig Powell, M.D., Ph.D.
Samuel Gagnon-Hartman	Wylie High School	Raksha Jain, M.D.
Miranda Gavitt	Richardson High School	Yunsun Nam, Ph.D.
Jordan Hill	James Martin High School	Ram Mani, Ph.D.
Wendy Ho	The Hockaday School	Xiankai Sun, Ph.D.
Neha Kapoor	The Hockaday School	Rajiv Chopra, Ph.D.
Marium Khan	North Hills Preparatory	Laura Banaszynski, Ph.D.
Steven Kim	Coppell High School	Russell Dubose-Boyd, Ph.D.
Aracely Lomeli	W.H. Adamson High School	Maralice Conacci Sorrell, Ph.D.
Afza Mohammed	Jack E. Singley Academy	Julian Meeks, Ph.D.
Alejandra Nava-Garcia	Science and Engineering Magnet	Melanie H. Cobb, Ph.D.
Yaqueline Ozuna	Irving High School	Vitaly Margulis, M.D.
Rahul Pentaparathi	Plano West Senior High School	Ryan Hibbs, Ph.D.
Ciana Perez	Skyline High School	Linda Baker, M.D.
Nidhi Prakuzhy	Lovejoy High School	Peter Tsai, M.D., Ph.D.
Daniel Ramirez	North Mesquite High School	Dominika Borek, Ph.D.
Michelle Ramirez	Irma Lerma Rangel YWLS	Ivan Dorso, Ph.D.
Abraham Rangel	Trini Early College High School	Bruce Beutler, M.D.
Anthony Rivera	JBS Law Magnet	Wei Xu, Ph.D.
Erik Sanchez-Perez	Jesuit College Preparatory School of Dallas	Kim Orth, Ph.D.
David Saunders	Cedar Hill High School	Philip Shaul, M.D.
Noah Sherer	Jesuit College Preparatory School of Dallas	Zerrin Yetkin, M.D.
Aviral Somani	Talented and Gifted Magnet School	Joel Goodman, Ph.D.
Maggie Stein	The Hockaday School	Maria Chahrour, Ph.D.
Julia Stone	Wylie High School	Jennifer Kohler, Ph.D.
Abeer Tijani	MacArthur High School	Rajiv Chopra, Ph.D.
Megan Ungerman	Highland Park High School	James Brugarolas, M.D., Ph.D.
Ileana Valdez	Talented and Gifted Magnet School	Todd Roberts, Ph.D.
Melodie Vuong	Newman Smith High School	Matthew Lewis, Ph.D.
Lisl Wangermann	Booker T. Washington HSPVA	Joachim Herz, M.D.



**2016 STARS Summer Research Program for
Students**

2016 STARS Summer Science Camps

STARS was able to hold 3 Summer Science Camps in Biology, Chemistry, and Physics. These workshops gave teachers an opportunity to fine-tune their teaching skills. Teachers were coached by two “Master Teachers” as they presented biology, chemistry, and physics lessons and laboratory exercises to 30-35 rising 9th, 10th, and 11th grade students. The students learned concepts in biology, chemistry, or physics through presentations and various laboratory exercises. Students also received information about careers in science and medicine, and had an opportunity to tour our research labs.

Biology



Master Teachers



Adam Jacobson
Wylie ISD
Learning Specialist

Susan Moran
Lebanon Trail
High School

Chemistry



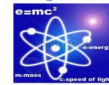
Master Teachers



Ben Doolan
Wylie
High School

Rachmad
Tjachyadi
Creekview
High School

Physics



Master Teachers



Fred Hurst
Newman Smith
High School

Dr. Ken Hahn
John Brown
University

Biology Teachers

- Aaron Anderson
Spence Middle School
- Ramin Baranpourian
Creekview High School
- Megan Dion
Uplift Infinity Preparatory
- Nancy Dunning
Townview Health
- Brandon Morales
A. Maceo Smith High School
- Hannah Nayakanti
Imagine Intl. Academy
- Breen Rashid
Lake Dallas High School
- Marcia Singh
McKinney Alternative
- Lindsey Nayakanti
Harmony School of Business

Chemistry Teachers

- Laurie Bailey
Texas College Preparatory
- Tracy Bruce
Grand Prairie Collegiate Institute
- Maysaa Enaya
McMillen High School
- Denisha Foster
Texas Success Academy
- Genia Harris
Angleton High School
- Heather Lentz
Imagine Intl. Academy
- Breen Rashid
Lake Dallas High School
- Marcia Singh
McKinney Alternative

Physics Teachers

- Robert Boehler
Aledo High School
- Catalina Boudreaux
Garza Early College
- Brian Ellis
W.T. White
- Susan Erwin
Miller Grove High School
- Jacqueline Felan
Lewisville High School
- Denisha Foster
Texas Success Academy
- Robert Franklin
Western Hills High School
- Sammy Grimes
Patton Academic Center
- Cheryl Smith
Bryan Adams High School



2016 Biology Workshop
Teachers



2016 Chemistry Workshop
Teachers



2016 Physics Workshop
Teachers

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PROGRAMS

SYMPOSIA

- Basic Science Symposia
- Mini-Symposia

OUTREACH

- Bureau of Science Fair Judges
- Research Assistance
- Science Ambassadors
- Student Mentoring

SUMMER RESEARCH

- Summer Research Program for Teachers
- Summer Research Program for Students

TOURS

- UT Southwestern School of Health Professions
- UT Southwestern Medical Center
- Parkland Health & Hospital System of Dallas
- Children's Medical Center Dallas

IN-SERVICE SESSIONS

- Hands-on Chemistry: Making Learning Memorable
- Flies as a Model System

SCIENCE CAMPS

- Biology
- Chemistry
- Physics

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Visit our web site at www.utsouthwestern.edu/stars