

# STARS Notes

September 2019  
Volume 16, Issue 5



## Science Teacher Access to Resources at Southwestern

### Summer 2019 Event Re-Cap

#### 2019 STARS SUMMER RESEARCH PROGRAM

The **STARS Summer Research Program (SRP)** is an eight-week program designed to give teachers and students an opportunity to work side by side with a faculty host in a research laboratory. Participants are paid a stipend and are required to present the results of their research at the end of the summer. Applications are available from December 1<sup>st</sup> to February 1<sup>st</sup> every year.

An important function of this program is to help teachers rekindle their love of science and to encourage students in North Texas to pursue science related fields.

Teachers give poster presentations and develop classroom activities related to their research experience. Students also give poster presentations and act as emissaries at their schools the following year by giving talks outlining their research.

The summer experience takes place in biomedical research laboratories only and does not include any clinical or shadowing opportunities. Participation is limited by funding resources.

This year the Summer Research Program was a resounding success! The 2019 cohort consisted of 63 participants (five teachers and 58 students) from across the DFW Region. As part of their weekly activities, the students and teachers attended seminar lectures presented by internationally renowned scientists.

Here is a listing of our six part seminar series of lectures:

1. Dr. Kim Orth, Department of Molecular Biology, *“Black Spot, Black Death, Black Pearl: The Tales of Bacterial Effectors.”*
2. Dr. James Collins, Department of Pharmacology, *“It’s no fluke: Using planarians to guide our understanding of parasitic schistosomes.”*
3. Dr. Todd Roberts, Department of Neuroscience, *“Vocal Learning, Brain Plasticity and the Remarkable Songbird.”*
4. Dr. Julie Pfeiffer, Department of Microbiology, *“The power of model systems: Lessons learned from swamp creatures and an eradicated virus.”*
5. Dr. Bruce Beutler, Center for the Genetics of Host Defense, *“Mutagenesis in the mouse.”*
6. Dr. Nikhil Munshi, Depts. of Internal Medicine and Molecular Biology, *“Establishing cardiac rhythm: What makes the ticker keep ticking?”*

The students valued the opportunity to ask our presenters a multitude of questions related to their research. One recurring and popular question was related to the scientist’s career path and what were the decisions they made to pursue a life in biomedical research.



Dr. Beutler’s Seminar Lecture

#### INSIDE THIS ISSUE

SRP Seminar Series.....	1
Teacher’s Thoughts .....	2
2019 STARS SRP Students.....	5
2019 Summer Camps .....	8
Future Events Fall 2019 .....	9
Programs and Socials .....	11

#### SPECIAL POINTS OF INTEREST

- Core funding for the STARS Program is provided by the State of Texas
- Other funding is provided by the Texas Workforce Commission
- All STARS Programs are provided free of charge to students and teachers

# Teacher's Thoughts

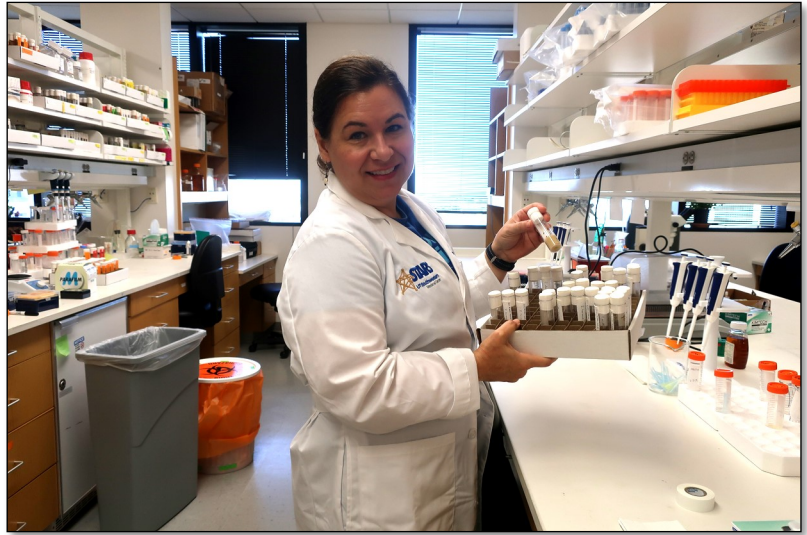
## Rebecca Bottin

C.M. Rice Middle School

Lab: Miriam Osterfield, PhD

Project: Comparison of Protein Localization in Two *Zaprionus* Species During Epithelial Tube Morphogenesis

“Working in a biomedical research lab is something I had not done before the SRP. I gained experience with new materials and equipment, increased my knowledge of current issues in science research, and participated as a team with my lab-mates. Summer two gave me more independent experiences and increased my confidence in the lab. The SRP stimulated me to really think about ways I can improve my teaching, and my students have already benefited from my time in lab. Dr. Miriam Osterfield, my Principle Investigator, was incredible to work with each day too. She and I co-taught our lesson last year, and she plans to return again this year!”



## STARS SRP TEACHER EXPERIENCE

In this segment of Teacher's Thoughts, our 2019 SRP Teachers share their experiences of how working in a biomedical research laboratory has impacted not only them but their teaching styles as well.

Through participation in the Summer Research Program, teachers not only learn new techniques, but also rekindle their interest in science, which positively affects their students.

In addition, teachers use their newfound knowledge and skills to develop classroom activities that relate to their areas of research.

The STARS Summer Research Program for Teachers is open to any teacher in Texas.



## Briana Harry

L.G. Pinkston High School

Lab: Orson Moe, MD

Project: Membrane Localization of The Kidney Anion Exchanger p.Arg524His mutant In Autosomal Dominant Distal Renal Tubular Acidosis

“As I was told by my mentor the first day, ‘Drink the coffee it's good, and you will need it.’ Best advice of the summer. This summer experience has helped me fine tune ways of teaching DNA and mutations. I plan to use much more real world scenarios with my students to help ignite a love for science.”

# Teacher's Thoughts

## Phillip Jones

North Mesquite High School

Lab: Avneesh Chhabra, MD

Project: Quantifying Differences of Regional Fat and Muscle Tissues in Patients with Femoroacetabular Impingement versus Controls

“The summer STARS research program was a wonderful experience. I came in hoping to hone my laboratory skills and revitalize my classroom experience. Eight weeks later, I am confident the skills I learned will help me to develop activities for my students so that they may gain a better understanding of research and the scientific process.”

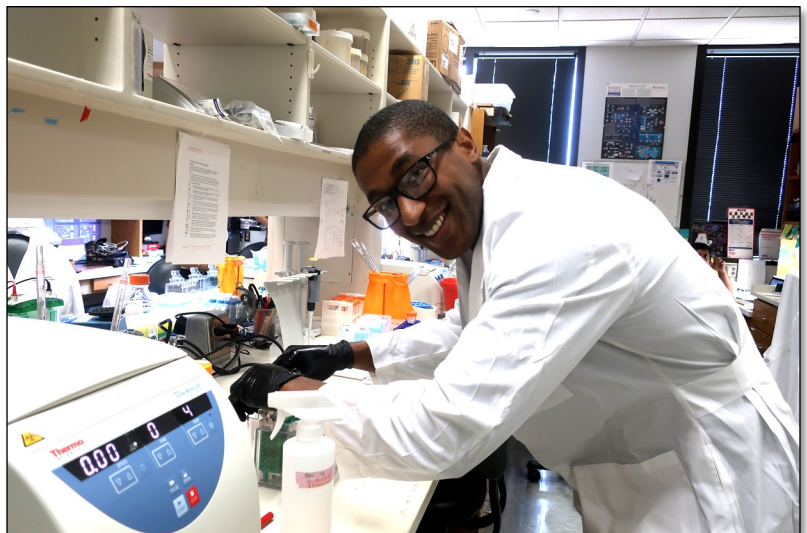


## WEEKLY MEETINGS

As part of the teachers' weekly STARS events, the teachers met with Lynn Tam, STARS Assistant Director, and Maria Sandlin, Education Assistant to discuss how their journeys were unfolding.

The teachers talked about updates regarding their projects, scientific communication, and their action plans that they are to bring to their classrooms.

This simple process of staying in touch provided the teachers with camaraderie and granted them an opportunity to feel as though they weren't alone in their experiences.



## Andre Watson

L.V. Berkner High School

Lab: Hasan Zaki, PhD

Project: NOD2-mediated Downregulation of the TLR Signaling Pathways

“Participating in the STARS program was a unique experience that I will not soon forget. Dr. Zaki, Ms. Godfrey and Dr. Khan were so giving in their deep knowledge of pathology. Because of this program I will definitely be able to provide my students with an exciting new perspective about science and research at one of the greatest universities in the world.”

---

# Teacher's Thoughts

---

**Cherrie Lemon**

Hector P. Garcia Middle School

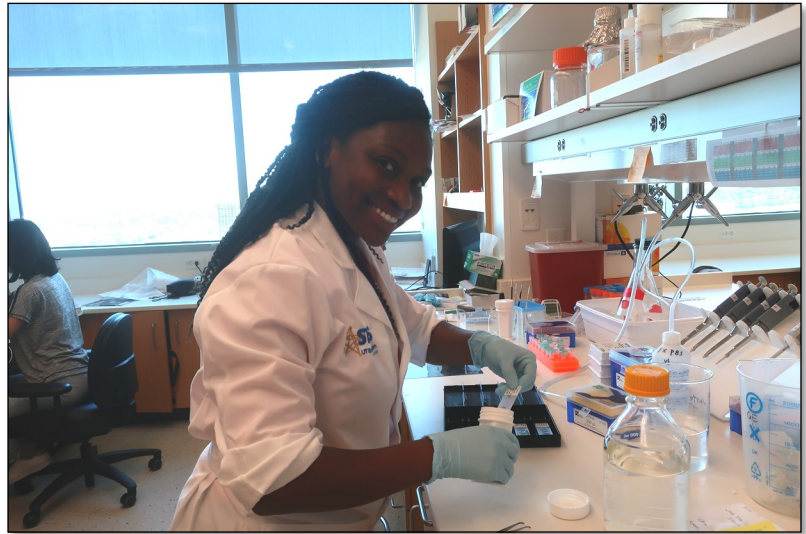
Lab: Woo-Ping Ge, PhD

Project: Conditional Knockout of ADAM 10

Leads to Cerebellar Development Delays

“Being afforded the opportunity to participate in the STARS Summer Research Program was a unique and rewarding experience. Each day, for eight weeks, I was able to work alongside passionate and brilliant individuals, who were eager to help me grow as a scientist. It was an honor to be a part of Dr. Ge’s lab. Each day in the lab offered a new opportunity to expand upon my scientific knowledge, work hands on with the latest technology, and create ways to take these ideas back into the classroom. Thank you STARS SRP for allowing me to be a part of something so great.”

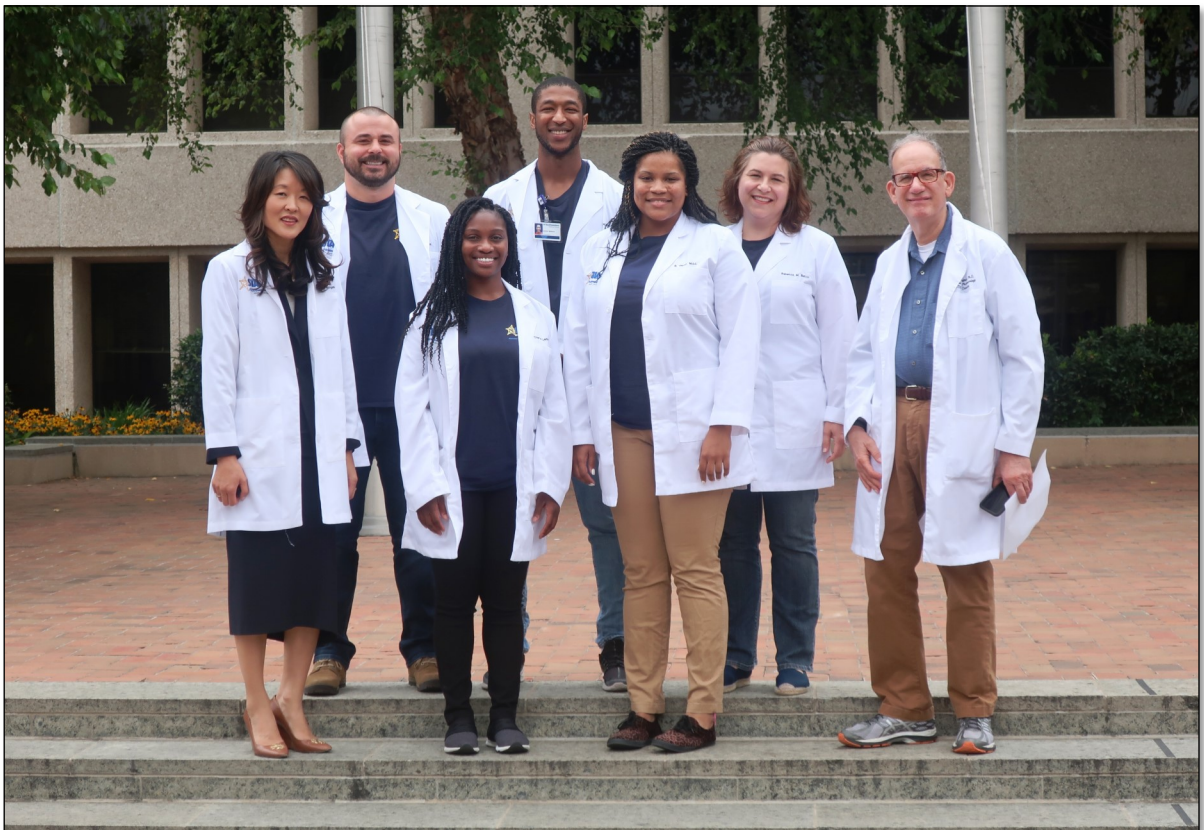
---



---

## 2019 STARS Summer Research Program Teacher Cohort

---



# 2019 STARS Summer Research Program Students

Name	School	Lab
Jaila Acevedo	Irma L. Rangel YWLS	Charlie Khemtong, PhD
Emmanuella Alawode	South Grand Prairie High School	Zhi-Ping Liu, PhD
Ariel Alexander	Harmony Science Academy Dallas	Linda Baker, MD
Yunbeen Bae	Reedy High School	Pradeep Mammen, MD
Janelle Baker	School of Science and Engineering at the Yvonne A. Ewell Townview Magnet Center	Jerry Shay, PhD and Beatriz Fontoura, PhD
Chaitanya Bashyam	Edward S. Marcus High School	Yuh Min Chook, PhD
Ermias Belay	Jesuit College Preparatory School of Dallas	Dayoung Oh, PhD
Katelyn Candido	School of Science and Engineering at the Yvonne A. Ewell Townview Magnet Center	Todd Roberts, PhD
Emily Caplan	Greenhill School	Steven Gray, PhD
Jack Casey	Jesuit College Preparatory School	Genevieve Konopka, PhD
Daniela Padron-Castillo	Duncanville High School	Asaithamby Aroumougame, PhD
Katherine Corey	Highland Park High School	Vinod Mootha, MD
Peter Dadson	School of Health Professions at the Yvonne A. Ewell Townview Magnet Center	Madhukar Trivedi, MD
Varsha Danda	The Hockaday School	Kathryn O'Donnell, PhD
Sindhuja Darisipudi	Uplift North Hills Preparatory	Dominika Borek, PhD
Audrey DeJong	Richardson High School	David Mangelsdorf, PhD
Ritesh Dontula	Coppell High School	Maria Chahrour, PhD
Delaney Feagans	Young Women's Leadership Academy at Arnold	Jennifer Kohler, PhD
Abel Fetahi	School for the Talented and Gifted at the Yvonne A. Ewell Townview Magnet Center	Genevieve Konopka, PhD
Varun Gande	Greenhill School	James Kim, MD, PhD
Meera Gangasani	Episcopal School Of Dallas	John Minna, MD
Aileen Garcia	Emmett J. Conrad High School	Prasanna Alluri, MD, PhD

# 2019 STARS Summer Research Program Students

Name	School	Lab
Jon Graswich	Byron Nelson High School	David Corey, PhD
Amyia Green	Young Women's Leadership Academy	Xiankai Sun, PhD
Ryan Hammond	John Paul II High School	Kevin Dean, PhD
Megan Harvey	MacArthur High School	Jacques Lux, PhD
Hafsa Hashmi	Brighter Horizons Academy	Zhao Wang, PhD
Samara Huckvale	Wylie East High School	E. Sherwood Brown, MD, PhD
Haaris Jilani	Harmony Science Academy Euless	Ping Mu, PhD
Toshiki Kato	MacArthur High School	Noelle Williams, PhD
Aaron Libed	Mansfield Lake Ridge High School	Ganesh Raj, MD, PhD
Katherine Long	Mckinney Boyd High School	James Brugarolas, MD, PhD
Steven Lu	Lebanon Trail High School	Ondine Cleaver, PhD
Priya Mandava	Allen High School	Michael Buszczak, PhD
Ashwin Mathew	Hebron High School	Wei Xu, PhD
Caitlin McAlanis	North Forney High School	Douglas Strand, PhD
Carlos Medrano	School of Science and Engineering Magnet at Yvonne A. Ewell Townview Center	Xun Jia, PhD
Amber Miranda	School for the Talented and Gifted at the Yvonne A. Ewell Townview Magnet Center	Evan Nair-Gill, MD, PhD
Riya Mohan	Grapevine Senior High School	Ezra Burstein, MD, PhD
Zachary Nguyen	Garland High School	Melanie Cobb, PhD
William Nickols	Jesuit College Preparatory School of Dallas	Yunsun Nam, PhD
Jennifer Okolo	Wylie High School	Kevin Williams, PhD
Nathan Paul	Cistercian Preparatory School	Joel Goodman, PhD
Nidhi Pawate	Allen High School	Ivan D'Orso, PhD

# 2019 STARS Summer Research Program Students

Name	School	Lab
Sameen Rahman	Uplift North Hills Preparatory	Srinivas Malladi, PhD
Matthew Raroque	St. Mark's School of Texas	Steven Vernino, MD, PhD
Rebekah Rohrs	Nimitz High School	Carol S. North, MD
Isabel Schaffer	The Hockaday School	Michael Brown, MD and Joseph Goldstein, MD
Armaan Sood	Imagine International Academy of North Texas	Elizabeth Maher, MD, PhD
Shanivi Srikonda	Irving High School	Lee Kraus, PhD
Khyathi Thallapureddy	Texas Academy of Mathematics and Science	Chen Liu, PhD
Jordan Thompson	Greenhill School	John Hulleman, PhD
Risha Dianne Valera	Plano West High School	Helmut Kramer, PhD
Daniela Vallejo	The Hockaday School	Kim Orth, PhD
Sarah Visokay	Ursuline Academy of Dallas	John Abrams, PhD
Michelle Wu	Carroll Senior High School	Shaheen Khan, PhD
Nathan Wulfekammer	Plano Senior High School	Mark Henkemeyer, PhD
Layla Zonouzy	McKinney North High School	Jim Collins, PhD



## ABOUT THE CAMPS

This year, STARS held three two week long Summer Science Camps in biology, chemistry, and physics.

These workshops gave teachers opportunities to fine tune their teaching skills and enhance their confidence by utilizing small class sizes paired with the condensed camp duration period.

Teachers were coached by two Master Teachers as they presented biology, chemistry, and physics lessons and laboratory exercises to 30 rising 9th, 10th, and 11th grade students.

The students learned about their camp discipline's concepts through presentations and a myriad of laboratory exercises.

Students additionally received information about careers in science and medicine and had an opportunity to tour research labs at UT Southwestern Medical Center.

For more photos from this year's Summer Camps, please visit our Instagram!

# 2019 STARS Summer Camps



## Biology Master Teachers



Dr. Hillary Kasbarian  
Ursuline Academy



Dr. Barbara Fishel  
The Hockaday School

Biology Teachers: Mehmet Biter (Harmony Science Academy—Carrollton), Ann Marie Burgess (Handley Middle School), Maria Derikito (Samuell High School), Zulema Martinez (McDonald Middle School), Marie Mathai (Universal Academy), Farhana Razzaque (Imagine International Academy of North Texas), Hana'a Said (Harmony Science Academy—Dallas), Romney Standifer (DeSoto High School), Opal Thomas (South Oak Cliff High School), Kenya Wilson-Brown (DeSoto High School)



## Chemistry Master Teachers



Rachmad Tjachyadi  
Creekview High School



Dr. Beverly Lawson  
The Hockaday School

Chemistry Teachers: Asher Azad (Gainesville High School), Raino Bhatti (Irving High School), Aaron Chila (Harlingen School of Health Professions), Jerrica Cleveland (Young Women's Leadership Academy), Krista Davis (Gruber High School), Maria Derikito (Samuell High School), Jingwei Fu (Coppell High School), Mustafa Karabulut (Harmony School of Innovation), Melissa Moreno (North Mesquite High School), Catalina Pineda (Irving High School)



**Mr. Karabulut works with students as they conduct an experiment over chemical reactions.**



# 2019 STARS Summer Camps



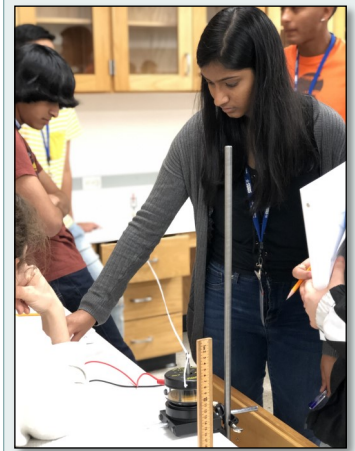
Physics Master Teachers



Dr. Ken Hahn  
John Brown University



Fred Hurst  
Newman Smith  
High School



Physics Teachers: Asher Azad (Gainesville High School), Michelle Chuah (Harmony Science Academy), Brian Ellis, Nicolas Gonzalez (Harmony Science Academy), Laura Hopkins (Moises Molina High School), Sheryl Schickedanz (Central High School), Richard Settele (Hulcy Middle School), Joel Strachan (MacArthur High School), Lauren Welch (West Mesquite High School)

*Right: Physics students testing the standing wave patterns on a string bound at both ends*



## Future Events — Fall 2019

### EXPLORING POST AT UT SOUTHWESTERN

The explorers (Post — high school students, Club — middle school students) meet monthly at UT Southwestern Medical Center in Lecture Hall D1.502 from 6:00pm to 7:30pm. Interested students may visit for free. Yearly Exploring membership is \$33. Parents are always welcome!

\*Please note the following event information for Exploring Post only:  
Saturday, November 16, 2019  
Medical Exploring Experience  
9:00am — 3:00pm  
South Campus, Auditorium, D1.600

**2019-2020 Exploring Officers**  
(left to right)  
President: Priya Mandava  
Admin. VP: Gabriela Castaneda  
Programs VP: Nathan Paul  
Secretary: Nicholas Hirai



If you're interested in attending an Exploring Post or Exploring Club meeting, be sure to register at:

<https://ais.swmed.edu/starsevent/user/welcome.do>

Please also confirm your attendance to our main email address to reserve your place for meal service.

Future Monday  
Exploring Dates:  
9/23/19  
10/21/19  
11/16/19\*  
12/16/19  
1/27/2020  
2/17/20  
3/23/20  
4/20/20  
5/18/20



# Calendar of Events 2019 — 2020



**Mini-symposium**  
*New Horizons in Protein Translation*  
 Monday, Sept. 9, 2019  
 5:30 — 8:00pm  
 Lecture Hall D1.502

**Symposium**  
*2019 Careers in Biomedical Sciences*  
 Saturday, Sept. 14, 2019  
 9:00am — 12:00pm  
 Lecture Hall D1.502

September 2019						
1						
	9		14			
						30

October 2019						
	1					
					26	
						31

**Basic Science Symposium**  
*Recent Advances in Cancer Research and Treatment*  
 Saturday, Oct. 26, 2019  
 9:00am — 3:00pm  
 Lecture Hall D1.502  
 Please invite students to attend; all participants must pre-register and confirm registration

**Mini-symposium**  
*How Mitosis Really Happens*  
 Monday, Nov. 4, 2019  
 5:30 — 8:00pm  
 Lecture Hall D1.502

November 2019						
						1
	4					
						30

December 2019						
1						
						7
						31

**In-Service**  
*Biology Labs Made Easy*  
 Saturday, Dec. 7, 2019  
 9:00am — 3:00pm  
 Meeting Room K2.610  
 Limited Enrollment

**Mini-symposium**  
*How We Balance Cholesterol*  
 Monday, Jan. 6, 2020  
 5:30 — 8:00pm  
 Lecture Hall D1.502

January 2020						
						1
	6					
						31

February 2020						
						1
						29

**In-Service**  
*Teaching CRISPR*  
 Saturday, Feb. 1, 2020  
 9:00am — 3:00pm  
 Meeting Room K2.610  
 Limited Enrollment

**Special Symposium**  
*Women in Science and Medicine*  
 Saturday, Feb. 29, 2020  
 9:00am — 3:00pm  
 Lecture Hall D1.700  
**Female student focused**  
 Male students are also invited. All participants must pre-register and confirm

## To Register for an Event

STARS events are offered  
 FREE of charge to  
 Texas teachers.

Please register for an  
 event at least two weeks  
 in advance on our website

[utsouthwestern.edu/STARS/register](http://utsouthwestern.edu/STARS/register)

## Other Important Dates:

Monday, Dec. 2, 2019

Deadline to submit requests for Science Fair judges

Saturday, Feb. 1, 2020

Application deadline for STARS Summer Research Program

Monday, June 1, 2020

Summer Research Program begins

Friday, July 24, 2020

Summer Research Program ends

March 2020						
1						
						31

April 2020						
						1
	6					
						30

May 2020						
						1
						31

June 2020						
	1					
						30

July 2020						
						1
						31

August 2020						
						1
						31



## STAFF

Joel Goodman, Ph.D.  
STARS Director  
Professor of Pharmacology  
joel.goodman@utsouthwestern.edu

Lynn Tam, M.Ed.  
Assistant Director  
lynn.tam@utsouthwestern.edu

Kristie Conner  
Senior Education Coordinator  
kristie.conner@utsouthwestern.edu

Pearlie Crawford  
Education Coordinator  
pearlie.crawford@utsouthwestern.edu

Maria Sandlin  
Education Coordinator  
maria.sandlin@utsouthwestern.edu

Mary Leyendecker  
Education Assistant  
mary.leyendecker@utsouthwestern.edu

# STARS 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 and Hospital System of Dallas  
Children's Medical Center — Dallas

## IN-SERVICE SESSIONS

Biology Labs Made Easy  
Teaching CRISPR

## SUMMER SCIENCE CAMPS

Biology  
Chemistry  
Physics

## UT SOUTHWESTERN STARS PROGRAM

5323 Harry Hines Blvd.  
Dallas, TX 75390-9137

Phone: 214-648-9505

Fax: 214-648-9508

E-mail:  
STARSmal@utsouthwestern.edu



## Follow Us on Social Media



Facebook: @utswstars

Twitter: @utswstars

Instagram: @stars\_utsw

Use the QR code to go to our STARS linktree with all of our popular links in one convenient place