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 1st to February 1st 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.
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 newly found 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.

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!"

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.”

**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.”

**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.
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
<table>
<thead>
<tr>
<th>Name</th>
<th>School</th>
<th>Lab</th>
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<tbody>
<tr>
<td>Jaila Acevedo</td>
<td>Irma L. Rangel YWLS</td>
<td>Charlie Khemtong, PhD</td>
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<tr>
<td>Emmanuella Alawode</td>
<td>South Grand Prairie High School</td>
<td>Zhi-Ping Liu, PhD</td>
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<tr>
<td>Ariel Alexander</td>
<td>Harmony Science Academy Dallas</td>
<td>Linda Baker, MD</td>
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<tr>
<td>Yunbeen Bae</td>
<td>Reedy High School</td>
<td>Pradeep Mammen, MD</td>
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<tr>
<td>Janelle Baker</td>
<td>School of Science and Engineering at the Yvonne A. Ewell Townview Magnet Center</td>
<td>Jerry Shay, PhD and Beatriz Fontourra, PhD</td>
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<tr>
<td>Chaitanya Bashyam</td>
<td>Edward S. Marcus High School</td>
<td>Yuh Min Chook, PhD</td>
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<td>Ermias Belay</td>
<td>Jesuit College Preparatory School of Dallas</td>
<td>Dayoung Oh, PhD</td>
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<tr>
<td>Katelyn Candido</td>
<td>School of Science and Engineering at the Yvonne A. Ewell Townview Magnet Center</td>
<td>Todd Roberts, PhD</td>
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<tr>
<td>Emily Caplan</td>
<td>Greenhill School</td>
<td>Steven Gray, PhD</td>
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<td>Jack Casey</td>
<td>Jesuit College Preparatory School</td>
<td>Genevieve Konopka, PhD</td>
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<td>Daniela Padron-Castillo</td>
<td>Duncanville High School</td>
<td>Asaithamby Aroumougame, PhD</td>
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<tr>
<td>Katherine Corey</td>
<td>Highland Park High School</td>
<td>Vinod Mootha, MD</td>
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<tr>
<td>Peter Dadson</td>
<td>School of Health Professions at the Yvonne A. Ewell Townview Magnet Center</td>
<td>Madhukar Trivedi, MD</td>
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<tr>
<td>Varsha Danda</td>
<td>The Hockaday School</td>
<td>Kathryn O'Donnell, PhD</td>
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<tr>
<td>Sindhuja Darisipudi</td>
<td>Uplift North Hills Preparatory</td>
<td>Dominika Borek, PhD</td>
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<tr>
<td>Audrey DeJong</td>
<td>Richardson High School</td>
<td>David Mangelsdorf, PhD</td>
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<td>Ritesh Dontula</td>
<td>Coppell High School</td>
<td>Maria Chahrou, PhD</td>
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<tr>
<td>Delaney Feagans</td>
<td>Young Women's Leadership Academy at Arnold</td>
<td>Jennifer Kohler, PhD</td>
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<tr>
<td>Abel Fetahi</td>
<td>School for the Talented and Gifted at the Yvonne A. Ewell Townview Magnet Center</td>
<td>Genevieve Konopka, PhD</td>
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<td>Varun Gande</td>
<td>Greenhill School</td>
<td>James Kim, MD, PhD</td>
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<tr>
<td>Meera Gangasani</td>
<td>Episcopal School Of Dallas</td>
<td>John Minna, MD</td>
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<tr>
<td>Aileen Garcia</td>
<td>Emmett J. Conrad High School</td>
<td>Prasanna Alluri, MD</td>
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# 2019 STARS Summer Research Program Students

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<thead>
<tr>
<th>Name</th>
<th>School</th>
<th>Lab</th>
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<tbody>
<tr>
<td>Jon Graswich</td>
<td>Byron Nelson High School</td>
<td>David Corey, PhD</td>
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<tr>
<td>Amyia Green</td>
<td>Young Women's Leadership Academy</td>
<td>Xiankai Sun, PhD</td>
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<tr>
<td>Ryan Hammond</td>
<td>John Paul II High School</td>
<td>Kevin Dean, PhD</td>
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<tr>
<td>Megan Harvey</td>
<td>MacArthur High School</td>
<td>Jacques Lux, PhD</td>
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<tr>
<td>Hafsa Hashmi</td>
<td>Brighter Horizons Academy</td>
<td>Zhao Wang, PhD</td>
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<tr>
<td>Samara Huckvale</td>
<td>Wylie East High School</td>
<td>E. Sherwood Brown, MD, PhD</td>
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<tr>
<td>Haaris Jilani</td>
<td>Harmony Science Academy Euless</td>
<td>Ping Mu, PhD</td>
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<td>Toshiki Kato</td>
<td>MacArthur High School</td>
<td>Noelle Williams, PhD</td>
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<tr>
<td>Aaron Libed</td>
<td>Mansfield Lake Ridge High School</td>
<td>Ganesh Raj, MD, PhD</td>
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<tr>
<td>Katherine Long</td>
<td>Mckinney Boyd High School</td>
<td>James Brugarolas, MD, PhD</td>
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<tr>
<td>Steven Lu</td>
<td>Lebanon Trail High School</td>
<td>Ondine Cleaver, PhD</td>
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<tr>
<td>Priya Mandava</td>
<td>Allen High School</td>
<td>Michael Buszczak, PhD</td>
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<tr>
<td>Ashwin Mathew</td>
<td>Hebron High School</td>
<td>Wei Xu, PhD</td>
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<tr>
<td>Caitlin McAlanis</td>
<td>North Forney High School</td>
<td>Douglas Strand, PhD</td>
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<tr>
<td>Carlos Medrano</td>
<td>School of Science and Engineering Magnet at Yvonne A. Ewell Townview Center</td>
<td>Xun Jia, PhD</td>
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<td>Amber Miranda</td>
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<td>Evan Nair-Gill, MD, PhD</td>
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<tr>
<td>Riya Mohan</td>
<td>Grapevine Senior High School</td>
<td>Ezra Burststein, MD, PhD</td>
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<td>Zachary Nguyen</td>
<td>Garland High School</td>
<td>Melanie Cobb, PhD</td>
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<td>William Nickols</td>
<td>Jesuit College Preparatory School of Dallas</td>
<td>Yunsun Nam, PhD</td>
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<td>Jennifer Okolo</td>
<td>Wylie High School</td>
<td>Kevin Williams, PhD</td>
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<td>Nathan Paul</td>
<td>Cistercian Preparatory School</td>
<td>Joel Goodman, PhD</td>
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<td>Nidhi Pawate</td>
<td>Allen High School</td>
<td>Ivan D’Orso, PhD</td>
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<td>Name</td>
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<tr>
<td>Sameen Rahman</td>
<td>Uplift North Hills Preparatory</td>
<td>Srinivas Malladi, PhD</td>
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<td>Matthew Raroque</td>
<td>St. Mark’s School of Texas</td>
<td>Steven Vernino, MD, PhD</td>
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<td>Rebekah Rohrs</td>
<td>Nimitz High School</td>
<td>Carol S. North, MD</td>
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<td>Isabel Schaffer</td>
<td>The Hockaday School</td>
<td>Michael Brown, MD and Joseph Goldstein, MD</td>
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<td>Armaan Sood</td>
<td>Imagine International Academy of North Texas</td>
<td>Elizabeth Maher, MD, PhD</td>
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<td>Shanivi Srikonda</td>
<td>Irving High School</td>
<td>Lee Kraus, PhD</td>
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<td>Khyathi Thallapureddy</td>
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<td>Jordan Thompson</td>
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<td>Risha Dianne Valera</td>
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<td>Daniela Vallejo</td>
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<td>Sarah Visokay</td>
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<td>Michelle Wu</td>
<td>Carroll Senior High School</td>
<td>Shaheen Khan, PhD</td>
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<td>Nathan Wulfekammer</td>
<td>Plano Senior High School</td>
<td>Mark Henkemeyer, PhD</td>
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<tr>
<td>Layla Zonouzy</td>
<td>McKinney North High School</td>
<td>Jim Collins, PhD</td>
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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!

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 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 (Gruver 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

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.

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

Future Monday
Exploring Dates:
9/23/19
10/21/19
11/16/19*
12/16/19
1/27/20
2/17/20
3/23/20
4/20/20
5/18/20
# Calendar of Events 2019 — 2020

<table>
<thead>
<tr>
<th>Month</th>
<th>Date</th>
<th>Event</th>
<th>Details</th>
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<tbody>
<tr>
<td>September 2019</td>
<td>9, 14</td>
<td>Mini-symposium: New Horizons in Protein Translation</td>
<td>Lecture Hall D1.502</td>
</tr>
<tr>
<td>October 2019</td>
<td>1, 26</td>
<td>Symposium: 2019 Careers in Biomedical Sciences</td>
<td>Lecture Hall D1.502</td>
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<tr>
<td>November 2019</td>
<td>1, 4</td>
<td>Mini-symposium: How Mitosis Really Happens</td>
<td>Lecture Hall D1.502</td>
</tr>
<tr>
<td>December 2019</td>
<td>1, 7</td>
<td>Mini-symposium: How We Balance Cholesterol</td>
<td>Lecture Hall D1.502</td>
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<tr>
<td>January 2020</td>
<td>1, 6</td>
<td>Specific events</td>
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<td>February 2020</td>
<td>1, 29</td>
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<td>March 2020</td>
<td>1</td>
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<td>April 2020</td>
<td>1, 6</td>
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<td>May 2020</td>
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<td>June 2020</td>
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<td>July 2020</td>
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<tr>
<td>August 2020</td>
<td>1</td>
<td>Specific events</td>
<td>Lecture Hall D1.502</td>
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**Mini-symposium**
- **New Horizons in Protein Translation**
  - Monday, Sept. 9, 2019
  - 5:30 — 8:00 pm
  - Lecture Hall D1.502

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

**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

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

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

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

**Basic Science Symposium**
- **Recent Advances in Cancer Research and Treatment**
  - Saturday, Oct. 26, 2019
  - 9:00 am — 3:00 pm
  - Lecture Hall D1.502

Please invite students to attend; all participants must pre-register and confirm registration.

**Special Symposium**
- **Women in Science and Medicine**
  - Saturday, Feb. 29, 2020
  - 9:00 am — 3:00 pm
  - Lecture Hall D1.700
  - Female student focused

**Mini-symposium**
- **So Many Ways to Die!**
  - Monday, April 6, 2020
  - 5:30 — 8:00 pm
  - Lecture Hall D1.502

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

**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
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

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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