

# STARS NOTES

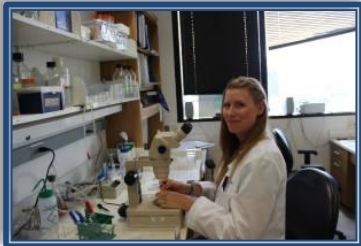
SCIENCE TEACHER ACCESS TO RESOURCES AT SOUTHWESTERN

STARS Notes  
September 2014  
Issue XVIII, Number 2

## 2014 STARS Summer Research Program for Teachers

Our 2014 SRP was a huge success! See what the teachers had to say:

*“Effects of Caenorhabditis elegans dauer, specific molecules on the Th2-type immune response in mammals”*



Christine Cook  
Richland High School

Hosted by:  
Rueyling Lin, Ph.D.  
Molecular Biology

“My participation in the UT Southwestern STARS program has been an invaluable experience, both personally and professionally. Working in the Lin Molecular Biology lab has allowed me the opportunity to be a part of a meaningful scientific research project; but more importantly it has given me the opportunity to get back in touch with myself as a student rather than the teacher. I will walk away from this experience not only with the pride of having contributed to what could potentially be a very significant project, but with a new found understanding, respect and appreciation for my students. As educators, we sometimes forget the fear, apprehension and uncertainty that our students encounter when walking into our classrooms for the first time. I am truly grateful to the STARS program; it has had a profound effect on how I view myself as a facilitator of science learning, my students as science learners, and the entire scientific research community.”

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

*“In vitro protein synthesis of Drosha constructs from seventeen different templates”*

Melissa Guerrero  
Skyline High School

Hosted by:  
Yunsun Nam, Ph.D.  
OB/GYN,  
Green Center



“When I first found out about the STARS program, I knew right away it was too amazing of an opportunity to overlook, and I was thrilled when I was accepted. I am so grateful for the investments of time, talents and energy that the STARS program personnel, my PI, mentors and colleagues have made on my behalf. Due to my participation in this program, I will carry such a new and powerful perspective into my future years as a science educator. I am immensely humbled, thankful, inspired, and challenged. Thanks again for everything!”

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*“Analysis of myelin basic protein using top down mass spectrometry”*



Christina Krone  
Uplift Summit International  
Preparatory

Hosted by:  
Steven Patrie, Ph.D.  
Pathology

“The UT Southwestern STARS program has provided me with an invaluable learning experience. My host lab has welcomed and encouraged me to grow my understanding of the field of proteomics. The novel technology and analysis of methodology required me to utilize the critical thinking skills I aim to build in my students. The exposure to the prestigious research setting at UT Southwestern gave me the knowledge of what skills and techniques are required to be successful in a lab so I can begin to introduce similar lab techniques and ways of thinking to my students before they graduate high school. Throughout the STARS program, I was able to relate to my students' experiences when encountering new scientific vocabulary for the first time, which I hope to translate into my teaching practices in the classroom. I am thankful for the opportunity to learn and grow beside teachers from around the DFW Metroplex as we shared our experiences and best practices from our classrooms. The collaboration with the STARS staff and other STARS teachers as well as the continuous encouragement from the lab provided fantastic support as I learned about the recent advances in the global scientific research community. I look forward to returning the classroom refreshed with new ideas gained from this experience.”

*“Effect of AuNP size on cytotoxicity with PC3”*

Neil Milburn  
Plano West High School

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



“What an incredible experience! My formal education is as an engineer and my informal background is in business, aerospace, physics and chemistry. As an AP Chemistry teacher at Plano West Senior High school, I also adopted the role of mentor to the LASER Club (Learning about Science & Engineering Research) that promotes and sponsors science fair students. However, the vast majority of my mentees were undertaking sophisticated projects in bioscience with the aid of local major scientific institutions, such as UTSW & UTD, and I felt ill-equipped to support them in a meaningful way. My goal with the STARS program was to gain first-hand experience working in a modern, bioscience lab setting so that I could better understand the processes and rigor involved. My summer internship in Dr. Oz and Dr. Sun's Pre-Clinical Radiology Lab has been both exhilarating and informative ... Goal accomplished! It has been both a pleasure and a truly rewarding experience to work alongside such a talented and dedicated team of professionals. My sincere thanks to the STARS program for affording me the opportunity to participate.”

*“Comparison of light emitting reagents for BLI of 4TI-luc mouse tumors”*



Richard Sulfstede  
The Colony High School

Hosted by:  
Ralph Mason, Ph.D.  
Radiology

“My decision to participate in the STARS summer program ranks as one of the best decisions I've made regarding my professional development as a science teacher. Reprising my role as a student reminded me that research science is full of wonder, frustration, incertitude and joy. Every day I learned something new that I could transform into a useful part of my curriculum. The Mason Lab staff was friendly, helpful and quickly accepted me as part of their group. Just like any other member of the group, they expected me to pursue results that were meaningful, insightful and relevant. In the future when I look back on this summer, I'll remember the challenge, the excitement, and, most of all, the people that made this summer a fun and exhilarating experience.”

*“Effects of MEF2c deletion on neocortical neuron morphology”*



Carolyn Hess  
School of Health Professions at  
Yvonne A Ewell Townview Center

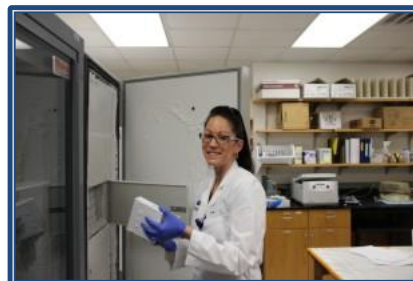
Hosted by:  
Kimberly Huber, Ph.D.  
Neuroscience

“The opportunity to experience life as a biomedical researcher firsthand has been enlightening. It has been invaluable in providing me with a thorough understanding about the rewards, challenges, and day-to-day experiences that exist in the research laboratory. I can now return to the classroom prepared to answer my students' questions about careers in research, and am better equipped to guide them toward the career path that they will find most fulfilling.”

*“Role of klotho in thiazide treatment of rats”*

Brandy Roye  
Summer Creek Middle School

Hosted by:  
Ming Chang Hu, M.D., Ph.D.  
Internal Medicine,  
Mineral Metabolism



“Be the change that you wish to see,” is the motto embraced in my classroom. By constantly learning and adapting to the necessities of our ever-changing world and environment, students are empowered to take their skills and adjust them to their needs at any given moment. STARS has enabled me to do just this, by giving me the opportunity to learn real-world applications of science and applying it to their learning, and thus changing my preconceived ideals of what research science is all about. I am so thankful for this opportunity, not only for myself, but for the benefit of my students. I cannot wait to share with them what I have learned!”

*“The role of Trim-28 / Kap 1 in HIV expression and reactivation”*



Alicia Sams  
Gaston Middle School

Hosted by:  
Ivan D’Orso, Ph.D.  
Internal Medicine

“It has been exciting to discover the degree to which our bodies interact with the environment at a cellular level. Exposure to cutting edge research has reignited my passion for science and my students will definitely benefit from my summer research experience. My lab experience was very challenging but the D’Orso lab was exceptionally supportive. I have learned a lot about the challenges of medical research and the passion and dedication that drive scientists to new knowledge. It was said in the lab that a negative result was still an important result. The comment and its context in the lab exemplified inquiry based learning and the value it has in science education.”

**2014 STARS Summer Research Program  
for Students**

<b>Name</b>	<b>School</b>	<b>Host</b>
Lydia Ademuwagun	South Grand Prairie High School	Hasan Zaki, Ph.D.
Irvin Akinseye	Frisco High School	Dominika Borek, Ph.D.
Madalyn Barnett	Richardson High School	Helmut Kramer, Ph.D.
Zach Bishkin	Jesuit College Preparatory School of Dallas	Qinghua Liu, Ph.D.
Gregory Blazek	Coppell High School	Nicolai van Ders, Ph.D.
Harris Chowdhary	Greenhill School	Matthew Lewis, Ph. D.
Yentl Dinsay	Uplift Summit International Preparatory	Jer-Tsong Hsieh, Ph.D.
Stejara Dinulescu	The Hockaday School	Tony Michael, Ph.D.
Sophie Druffner	John Paul II High School	Zhi-ping Liu, Ph.D.
Alan Estrada	School of Science and Engineering Magnet	Tae Hyun Hwang, Ph.D.
Sonia Gonzales	Irma Rangel Young Women's Leadership School	Jonathan Graff, M.D., Ph.D.
Andrew Kavas	Woodrow Wilson High School	Matt Petroll, Ph.D.
Mah-ro Khan	School for Health Professions at Yvonne A. Ewell Townview Center	Michael Buszczak, Ph.D.
Courtney Le	The Hockaday School	Jennifer Kohler, Ph.D.
Ashwin Leo	Texas Academy of Math and Science	Qing Zhong, M.D., Ph.D.
Jim Liu	Grapevine High School	Shawn Burgess, Ph.D.
Evan Lorient	Jesuit College Preparatory School of Dallas	Saikot Mukhopadhyay, M.D., Ph.D.
Jayant Madugula	Greenhill School	Genevieve Konopka, Ph.D.
Vidur Malhotra	Marcus High School	Aveesh Chhabra, M.D.
Claudia Mendoza	School of Health Professionals at Yvonne A Ewell Townview Center	Dwight German, Ph.D.
Abigail Mills	Amare Classical Home School	Benjamin PC Chen, Ph.D.
Sam Moon	Booker T Washington High School for the Performing and Visual Arts	Gomika Udugamasooriya, Ph.D.
Bilal Mukadam	Brighter Horizons Academy	Carla Green, Ph.D.
Marvin Paz	Richland High School	Xin Liu, Ph.D.
Christine Ramjee	Highland Park High School	James Amatruda, M.D., Ph.D.
Alexander Ravnik	School for the Talented and Gifted at Yvonne A Ewell Townview Center	Youxing Jiang, Ph.D.
Yaressy Raymundo	The Hockaday School	Kim Orth, Ph.D.
Dylan Roberts	Jesuit College Preparatory School of Dallas	Julian Meeks, Ph.D.
Melanie Shi	Flower Mound High School	Diana Tomchick, Ph.D.
Lauren Thornton	Timberview High School	Joel Goodman, Ph.D.
Quinn Torres	School of Science and Engineering Magnet	Rajiv Chopra, Ph.D.
Megan Vernino	Ursuline Academy	Deepak Nijhawan, M.D., Ph.D.
Jesse Zhang	Allen High School	Jenny Hsieh, Ph.D.



## 2014 STARS Summer Workshops

STARS was able to hold 3 Summer Workshops 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 25-30 rising 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> 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 science labs.

### Biology



#### Master Teachers



**Albert Leal**  
Frisco Centennial  
High School



**Jeanie Harding**  
Highland Park  
High School

### Chemistry



#### Master Teachers

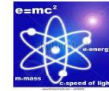


**Karen Compton**  
Plano East Sr  
High School



**Jane Smith**  
Frisco  
Centennial  
High School

### Physics



#### Master Teachers



**Fred Hurst**  
New Tech  
High School



**Dr. Kenneth Hahn**  
The Cambridge  
School of Dallas

## Biology Teachers

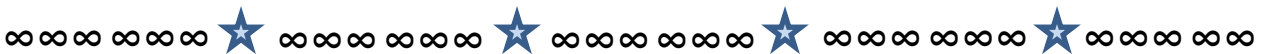
- Paige Baker  
Molina High School
- Pricilla Green  
Greenville High School
- Samuel Hernandez  
Molina High School
- Alexandria Hogye  
South Oak Cliff High School
- Sheel Jagani  
Sunset High School
- Juandell Parker  
South Oak Cliff High School
- Leslie Terronez  
Little Elm High School
- Michelle Thomas  
Holmes Middle School
- Nancy Williams-Freeman  
Lake Highlands Freshman Center

## Chemistry Teachers

- Marisela Aguilera  
Williams Preparatory
- Aliza Aponte  
Pinkston High School
- Christi Collins  
South Oak Cliff High School
- Christopher Cuadra  
Lakeview Centennial
- Adriane Davis  
Kennedy-Curry Middle School
- Dolores Echevarria  
Alternative Education Center
- David Edwards  
Singley Academy
- Erik Martinez  
Alternative Learning Center
- Eloisa Pena  
North Dallas High School
- James Villela  
Thomas Jefferson High School

## Physics Teachers

- Jamie Avalos  
South Hills High School
- Katrina Barry  
Madison High School
- Eburn DeBase  
Seagoville High School
- Steven Franklin  
Haltom High School
- Nancy Jane Hall  
Red Oak High School
- Bernard Jenkins  
Hebron High School
- Bob Soehnge  
Cedar Hill High School
- Therese Stockard  
Lewisville High School
- Patti Turk  
Holland High School



2014 Chemistry Workshop Teachers



2014 Physics Workshop Teachers

# STARS Upcoming Events

## Science Symposia

### Calendar of Events 2014 - 2015

<p><b>Mini-Symposium:</b> <b>Bioinformatics: Making Sense of It All</b> Monday, Sept. 8, 2014 5:30 - 8:00 p.m. Lecture Hall, D1.502</p>	<p>September</p>	<p><b>Basic Science Symposium:</b> <b>The Good and Breaking Bad</b> Saturday, Oct. 11, 2014 9:00 a.m. - 3:00 p.m. Lecture Hall, D1.502 Please Invite Students to Attend With You.</p>	<p>October</p>
<p><b>Mini-Symposium:</b> <b>Sugars: Beyond Nutrition</b> Monday, Nov. 3, 2014 5:30 p.m. - 8:00 p.m. Lecture Hall, D1.502</p>	<p>November</p>	<p><b>Teacher In-service:</b> <b>Worm Workshop</b> Saturday, Dec. 13, 2014 9:00 a.m. - 3:00 p.m. Meeting Room. To be Determined Limited Enrollment</p>	<p>December</p>
<p><b>Mini-Symposium:</b> <b>Better Health Through Epidemiology</b> Monday, Jan. 5, 2015 5:30 p.m. - 8:00 p.m. Lecture Hall, D1.502</p>	<p>January</p>	<p><b>Teacher In-service:</b> <b>Physics Workshop</b> Saturday, Feb. 7, 2015 9:00 a.m. - 3:00 p.m. Meeting Room. To be Determined Limited Enrollment</p>	<p>February</p>
<p><b>Special Symposium:</b> <b>How the Stomach Controls the Brain</b> Monday, Mar. 2, 2015 5:30 p.m. - 8:00 p.m. Lecture Hall, D1.502</p>	<p>March</p>	<p><b>Mini-Symposium:</b> <b>Opportunities in Biomedicine</b> Saturday, April 18, 2015 9:00 a.m. - 3:00 p.m. Lecture Hall, D1.700 Please Invite Students to Attend With You.</p>	<p>April</p>
<p><b>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: <a href="http://www.utsouthwestern.edu/STARS/register">www.utsouthwestern.edu/STARS/register</a></b></p>	<p>May</p>	<p><b>Other Important Dates</b> <b>Friday, Dec. 11, 2015</b> Deadline to submit requests for Science Fair Judges <b>Sunday, Feb. 1, 2015 by Midnight</b> Application deadline for the Summer Research Program <b>Monday, June 8, 2015</b> Summer Research Program begins <b>Friday, July 31, 2015</b> Summer Research Program ends</p>	<p>June</p>
	<p>July</p>		<p>August</p>

**Science Teacher Access to Resources at Southwestern**  
The University of Texas Southwestern Medical Center  
Voice: 214-648-9505 Fax: 214-648-9508

All events are held on the UT Southwestern Medical Center Campus.  
For directions and to register, visit the STARS Web page.

[www.utsouthwestern.edu/stars](http://www.utsouthwestern.edu/stars)



## Exploring Post @ UT Southwestern



Upcoming Meetings:  
6pm to 7:30pm



Monday-Sept. 22<sup>nd</sup>

Monday-Oct. 20<sup>th</sup>

Monday-Nov. 17<sup>th</sup>

Monday-Dec. 15<sup>th</sup>

Monday-Jan. 26<sup>th</sup>

Monday-Feb. 23<sup>rd</sup>

Monday-Mar. 23<sup>rd</sup>

Monday-April 27<sup>th</sup>

Monday-May 18<sup>th</sup>

### 2014-2015 Exploring Post Leaders

🌐 Imari Parham, President

🌐 Christine Ramjee, Admin. VP

🌐 Anika Reddy, Programs VP

🌐 Kelsey Shipman, Secretary

**Register For Exploring Post @**  
[explorer@UTSouthwestern.edu](mailto:explorer@UTSouthwestern.edu)

# STAFF

Joel Goodman, Ph.D.  
STARS Director  
Professor of Pharmacology  
Jan and Bob Bullock Distinguished  
Professorship in Biomedical Services  
[joel.goodman@utsouthwestern.edu](mailto:joel.goodman@utsouthwestern.edu)

Stuart Ravnik, Ph.D.  
STARS Associate Director  
Associate Dean, Graduate School  
[stuart.ravnik@utsouthwestern.edu](mailto:stuart.ravnik@utsouthwestern.edu)

Lynn Tam  
STARS Manager  
[lynn.tam@utsouthwestern.edu](mailto:lynn.tam@utsouthwestern.edu)

Kristie Conner  
Education Coordinator  
[kristie.conner@utsouthwestern.edu](mailto:kristie.conner@utsouthwestern.edu)

Pearlie Crawford  
Education Assistant  
[pearlie.crawford@utsouthwestern.edu](mailto:pearlie.crawford@utsouthwestern.edu)

Maria Miranda  
Education Assistant  
[maria.miranda@utsouthwestern.edu](mailto:maria.miranda@utsouthwestern.edu)



# 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

Proteins & Enzymes  
Protein Crystal Growth  
Genetics  
PCR & Gel Electrophoresis  
Suturing Techniques

## SCIENCE WORKSHOPS

Biology  
Chemistry  
Physics

5323 Harry Hines Blvd  
Dallas, Texas 75390-9137  
(214) 648-9505  
(800) 81-STARS  
FAX: (214) 648-9508

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Visit our web site at [www.utsouthwestern.edu/stars](http://www.utsouthwestern.edu/stars)