

# STARS NOTES

SCIENCE TEACHER ACCESS TO RESOURCES AT SOUTHWESTERN

## Fall 2013 STARS Events

All STARS activities and events are offered free of charge to teachers in the state of Texas.

**STARS SYMPOSIA** consists of a series of lectures given by scientist and physicians currently doing research at UT Southwestern Medical Center and affiliated institutions. The science symposia and in-service sessions are excellent resources for teachers to learn about cutting-edge research in the biomedical sciences, to discover new classroom activities, and to obtain professional development credit at the same time. If you wish to attend any event, please pre-register by visiting our online registration page at [www.utsouthwestern.edu/STARS/register](http://www.utsouthwestern.edu/STARS/register)

### Mini-Symposium: Cell Architecture - September 9, 2013

This month our symposium was based on Cell Architecture. We started with a talk from Luke Rice, Ph.D., Assistant Professor in Biophysics and Biochemistry, on *Looking Under the Hood of Microtubule Polymerase*. Michael Rosen, Ph.D., Professor and Chairman in Biophysics and Biochemistry, Green Center for Systems Biology, gave a presentation on *Physical Mechanisms of Cell Organizations on Micron Length Scales*. The symposium was closed by Joel Goodman, Ph.D., STARS Director.



### Basic Science Symposium: Frontiers of Biomedical Imaging - October 12, 2013

Our all-day October Symposium consisted of presentations and break-out sessions. The morning presentation session started with Gaudenz Danuser, Ph.D., Professor of Cell Biology, presenting on *Seeing the Invisible*. Soon after, Marcel Mettlen, Ph.D., Senior Research Scientist, discussed *Zoom in, zoom in, and zoom in a little more. How microscopes reveal the life of a cells*. After a break, we followed up with Dean Sherry, Ph.D., Professor in Advanced Imaging Research Center, centering his talk on, *From molecules to man: The importance of molecular imaging in clinical medicine*. After lunch, the afternoon break-out sessions consisted of tours of the Advanced Imaging Research Center as well as different imaging topics presented by medical, graduate, and postdoctoral students.

### Mini- Symposium: Neurogenetics - November 4, 2013

Neurogenetics is a field that is rapidly growing and expanding. Robin Hiesinger, Ph.D., Associate Professor in Physiology, started our symposium with a presentation on *Neurogenetics of Brain Wiring and Maintenance: A Look through the Fly's Eye*, followed by *Molecular Evolution of Human Cognition* from Genevieve Konopka, Ph.D., Assistant Professor of Neuroscience, to end our session.

### Teacher In-service: Yeast: The Ultimate Model System - December 14, 2013

Our teacher in-service session was led by Dr. Goodman, STARS Director, and Dr. Pamela Marshall, Associate Professor of Mathematics and Natural Sciences, at Arizona State University. Participants learned how to use bakers yeast to teach principles of biology in the classroom. Using a simple microscope, participants first observed and reported phenotypes. They then learned about free iPad apps to relate their phenotypes to structure and function of proteins responsible. The session included lessons in basic genetics, protein structure and function, and introduced bioinformatics in a way that their students can understand.

## STARS Notes


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## WHAT'S INSIDE

Science Fair.....	2
Upcoming Events.....	3
Staff & Programs.....	4



**3<sup>rd</sup> Annual**  
**uplift education**  
**SCIENCE FAIR**  
**January 25, 2014**

The 3<sup>rd</sup> Annual Uplift Education District Science Fair was a success as UT Southwestern Medical Center STARS program collaborated with Uplift Education and hosted their district science fair at UT Southwestern Medical Center. There were 194 projects entered in the Primary, Middle and High school divisions and over 550 students, teachers, and family members who attended this Third Annual event. With the help of 60 grad/med/post-doc students, the judging of the projects was a success. As some of the projects were being judged, different educational programs were provided for the community members. Katie McKee, started off with a presentation on *Healthy Eating* which was followed by *Managing Stress in Teens and Tweens* presented by Drs. Charlotte Haley, Assistant Professor, Psychiatry and Nicholas Wignall. To close the educational program, *Careers in Science and Medicine* was presented by Dr. Stuart Ravnik, STARS Associate Director. Other hands-on programs included Computer Animation, Computer Alive, Engineering 101, Vision and the Human Eye, Diagnose like Doctors, and Surgery. At the secondary awards ceremony, the opening address was given by Mr. Ruben Esquivel, VP for Community and Corporate Relations, followed by the announcement of the winners. This year's "STARS Award" winners were Yandav Argula & Blake Pope (pictured below) from Summit Preparatory and Sakshi Kulkarni from North Hills Preparatory (picture not available) for her project on *Managing the Quake Shakes*.



**Middle School Stars Award:**

**Pictured from Left to Right:** Lynn Tam (STARS Manager),  
 Tandav Argula & Blake Pope (winners), and Dr. Stuart Ravnik  
 (STARS Associate Director)

**Project:** *King of the Hill..Um..Tree*

**School:** Summit International Preparatory



**Awards Ceremony Opening Address:**

Mr. Ruben Esquivel, VP for Community and Corporate Relations



**Science Fair Project Judges:**

UT Southwestern Medical Center Student Volunteers

# STARS Upcoming Events

## Science & Health Careers Exploring Post at UT Southwestern



Upcoming Meetings:  
6pm to 7:30pm

Monday-May 19<sup>th</sup>



- Learn about careers in science and medicine
- Meet and network with professionals in different areas of medicine.
- Come and meet students from different Dallas and surrounding area schools that share a passion of health careers and science.
- Enjoy free snacks and engage in some fun hands-on activities and experiments.

The explorers meet monthly at UT Southwestern Medical center in Rm D1.502 from 6pm to 7:30pm. Interested students may attend for free and yearly membership is \$20.00 Parents are always welcome!



## Summer 2014

### Summer Research Program for Teachers and Students

June 9 thru August 1

This summer, STARS will have 8 teachers and 34 students participate in the Summer Research Program. This eight-week program is designed to give teachers and students an opportunity to work side by side with a faculty host in a research laboratory. An important purpose of this program is to help teachers rekindle their love of science and encourage students in North Texas to pursue science-related fields. Teachers give poster presentations and develop classroom activities related to their research experience. Students give poster presentations and act as emissaries at their home school the following year by giving presentations outlining their research experiences. The summer experience will take place in biomedical research laboratories only and will not include any clinical or shadowing opportunities. Participation is limited by funding resources.



## STARS Workshops

These are 2-week summer workshops where students learn concepts through hands-on labs, health careers information, project based challenges, and science lab tours.

### Biology

June 12 thru June 27



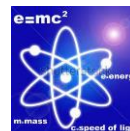
### Chemistry

July 2 thru July 18



### Physics

July 24 thru August 8



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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

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)