

# STARS NOTES

SCIENCE TEACHER ACCESS TO RESOURCES AT SOUTHWESTERN

STARS Notes  
February 2007  
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## Fall 2006 STARS Events

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

STARS symposia consist of a series of lectures given by scientists and physicians currently doing research at UT Southwestern Medical Center and affiliated institutions. The science symposia and inservice 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 calling 214-648-9505 or visiting our online registration page at [www.utsouthwestern.edu/stars](http://www.utsouthwestern.edu/stars)

### Mini-Symposium: Gene Silencing – Sept. 11, 2006

Two faculty members from the department of Pharmacology kicked off our new year with a look at RNAi. Dean Smith, M.D., Ph.D., gave an overview of *RNA Interference: Quieting Genes in a New Way*. Then, David Corey, Ph.D., spoke about translating this information by *Moving RNAi from the Laboratory to the Clinic*.

### Basic Science Symposium: Membranes – Oct. 14, 2006

This event focused on everything dealing with cell membranes. The morning session began with a presentation on *Membrane Proteins in the Flesh* by Phil Thomas, Ph.D., Professor of Physiology. Joseph Albanesi, Ph.D., Professor of Pharmacology, gave the next talk on *Membrane Dynamics: Pushing, Pulling, and Pinching the Bilayer*. The afternoon session started with a lecture on *Pumps and Channels, The Plumbing and Electrical Systems of the Cell* by Paul Blount, Ph.D., Associate Professor of Physiology, and Elliott Ross, Ph.D., Professor of Pharmacology, ended our day with a look at *The Cell Membrane as an Information-Processing Computer*.

### Mini-Symposium: Antibiotic Resistance – Nov. 6, 2006

Antibiotics were the topic of the evening. Joel Goodman, Ph.D., Professor of Pharmacology, opened the session with a look at *Cell Wall-Targeted Antibiotics and Mechanisms of Resistance*. Afterwards, Mark Swancutt, M.D., Ph.D., Assistant Professor of Microbiology, presented on *MRSA & VRE: Two Emerging Life-Threatening Antibiotic-Resistant Organisms*

### Special Event: ScienceFest – Nov. 9, 2006

For the third year in a row, STARS and Winston Science collaborated on an exciting experience that was a celebration of science. This convention-style event gave the 800 student participants the opportunity to choose between multiple presentations, activities, and demonstrations.

STARS and The Winston School extend thanks to all the presenters, participants, and students that made the event possible.



Dr. Botterman shows the heart to a group of high school students.



Fun With Polymers!

### Teacher Inservice: Proteins & Enzymes – Dec. 2, 2006

Our Fall inservice session began with an *Introduction to Proteins and Enzymes* by Joel Goodman, Ph.D., Professor of Pharmacology. Afterwards, David Russell, Ph.D., Professor of Biophysics & Molecular Genetics, gave a presentation about his research entitled, *A Case of Mistaken Identity* before taking the group on a visit through his lab. For the afternoon sessions, Chad Brautigam, Ph.D., from the department of Biochemistry gave the group a presentation and tour of the *Protein Crystallography Lab* before the teachers moved on to doing an Alkaline Phosphatase Activity with Dr. Goodman.

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# STARS Announces a Collaboration Between UT Southwestern and New Charter School

STARS will be leveraging and expanding its programs to begin a new collaboration with a charter public school focused on science and health that will open near the UT Southwestern Medical Center campus in August. The new charter school will be operated by Uplift Education.

Uplift Education has been highly successful thus far in founding and operating two charter schools in the area: The North Hills School in Irving, ranked by Newsweek as the 12th best high school in the U.S.; and the Peak schools – Peak Academy (K-5) and Peak Advantage (6-12) - in East Dallas.

Uplift Education and its associate The CoLLABorative have been in discussion with STARS for several months to plan a partnership between UT Southwestern and Uplift for a new T-STEM (Texas Science, Technology, Engineering, and Mathematics) charter school located close to UT Southwestern's campus. These discussions have been successful. The T-STEM Academy (final school name to be decided shortly) will open in August at its new campus on Viceroy St., close to Harry Hines Boulevard and Regal Row. For this first year, about 100 students will matriculate in each of grades K, 6, and 9. The school will support grades K, 1, 6, 7, 9, and 10 in the following year. More grades will be added similarly in future years until all grades K-12 will be supported.

Uplift Education receives funding to initiate new campuses through the Texas High School Project, supported by the Bill and Melinda Gates Foundation, the Dell Foundation and others. Since it is a public school, it will receive operating funds based on student population from the State of Texas. Other private donations have been obtained for the building and other infrastructure costs.

Uplift campuses base their curricula on the International Baccalaureate program, which is recognized by virtually all colleges and universities. The new campus will further specialize

in training students for careers in science and health. Through STARS, the T-STEM Academy will have access to the expertise of faculty, postdoctoral fellows and students at UT Southwestern to enrich their curriculum. Activities will include special lectures and seminars by UT Southwestern personnel, tours of selected campus sites, participation of academy teachers in STARS symposia and inservices, input into modifying the school curriculum, long-range (2-3 year) student research projects in laboratories on our campus, and special training of academy students by STARS in basic laboratory techniques and procedures. UT Southwestern faculty will sit on the T-STEM advisory board and on a steering committee to plan the enrichment activities.

Joel Goodman, STARS director, said that the collaboration with the T-STEM Academy is "a great opportunity to combine the expertise of UT Southwestern faculty and students - and the need of many of our students to gain teaching experience and to consider a teaching career - with the ability of young people to soak in nearly unlimited amounts of information. This program will significantly enrich the science education of primary and secondary students in our area and expose students to wonderful careers in science and health that they may not even have been aware of."

At present enrollment is open to any child living in Texas, although a large response may necessitate a lottery to choose students. Additional information is available at the Uplift Education website – [www.uplifteducation.org](http://www.uplifteducation.org).

Requests for further information on the T-STEM Academy should be directed to Mauricio Dominguez, the new school leader, at [mdominguez@uplifteducation.edu](mailto:mdominguez@uplifteducation.edu). UT Southwestern faculty, postdocs and students who would like to participate in this partnership should contact STARS through our website: [www.utsouthwestern.edu/STARS](http://www.utsouthwestern.edu/STARS).

## UT Southwestern / STARS Exploring Post

Are your students interested in careers in the science or medical field? Would they like to do hands-on activities related to health careers? Do they want insight into some of the fastest growing careers?

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

**Upcoming Meetings:**  
Monday-February 26th      Monday-March 26th  
Monday-April 30th         Monday-May 21st

The Exploring Post meets monthly at UT Southwestern Medical Center in room D1.200 from 6-7:30 pm and is organized by a core group of UT Southwestern faculty, student and staff volunteers. Interested students may attend free and yearly membership is \$7.00. **Parents / Guardians are always welcome!!**

Exploring is a career-based program for high school students both male and female. No other Scouting experience is necessary to participate in the Exploring program. It is designed to help teenagers make educated decisions about their future by allowing them to gain practical experience in different career fields.

Check out the website for more information and pictures from past meetings: <http://www.utsouthwestern.edu/stars> (click on Exploring POST)



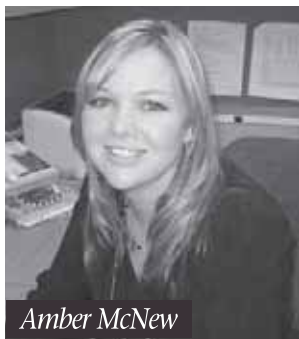
*Learning how to draw blood*



*Making ice cream using liquid nitrogen!*

## New STARS Staff Member

Meet the newest member of our STARS staff, Amber McNew! She joined our staff in mid September 2006 as the STARS education assistant. Amber graduated from Texas Woman's University in 2005 with a major in psychology and a minor in nutrition. She previously worked as a probation officer for Tarrant County, which gave her a wealth of experience in administrative and people skills.



Amber McNew

Amber is excited to join STARS and believes it is extremely important for students to have the opportunity to see what options are available, and what they need to do to achieve those options, as they become adults. There are so many different career opportunities represented by our medical center, she said. "Exposure to new things and surroundings can spark a passion that classrooms alone may not. That is what STARS is about. Who wouldn't want to be part of creating that passion?"

For Amber, this past semester working in the STARS office has been an adventure! She said, "I have enjoyed getting to know the teachers as well as the students, and I have been learning along with them – not to mention finding my way around our large campus. I am excited to be here and to assist as many teachers and students as I can reach. UT Southwestern is an exciting place to be and I have the privilege and opportunity to get as familiar with each and every department that will allow us to visit. I cannot wait to see what this next semester has in store for us!"

Feel free to contact Ms. McNew, to welcome her to the STARS Program, set up medical center tours\*, register for our basic science symposia and teacher inservice sessions, or request science ambassadors or science fair judges. She is here to help you or your students in any way.

### \* Student Tours of UT Southwestern Medical Center

STARS custom-designs tours of UT Southwestern Medical Center to fit the needs of the teacher. The Tour Topic List, which is on our website at [www.utsouthwestern.edu/stars](http://www.utsouthwestern.edu/stars), contains a number of potential topics that may be explored during a visit. We welcome groups of all sizes (Max Limit 45); however, those of up to 20 students allow us to provide a greater variety of learning opportunities and activities. Much larger groups will mainly be limited to more general tours and lecture presentations. Due to the high level of content during tours, we must limit students to grade 7 and above. To schedule a tour, please call the STARS office at 214-648-9505 or email ([STARSmial@UTSouthwestern.edu](mailto:STARSmial@UTSouthwestern.edu)) OR ([Amber.McNew@UTSouthwestern.edu](mailto:Amber.McNew@UTSouthwestern.edu)). There is a limit to the number of tours that we can schedule during the year. Please call early (approx. 2 months in advance) to reserve a spot.

## Spring 2007 Calendar of Events

**Jan. 8, 2007** Monday 5:30 pm - 8:00 pm  
Mini-Symposium: New Advances in Cancer Treatment,  
Lecture Hall, D1.502

**Jan. 23, 2007**  
Tuesday 5:30 pm - 9:00 pm  
Special Family Event: Body Worlds  
In Partnership with the Museum of Nature &  
Science

**Feb. 3, 2007** Saturday 9:00 am - 3:00 pm  
Special Event: Women in Science & Medicine  
Lecture Hall, D1.502  
*Please Invite a Female Student to Attend With You*

**Mar. 5, 2007** Monday 5:30 pm - 8:00 pm  
Mini-Symposium: The Kidney  
Lecture Hall, D1.502

**April 28, 2007** Saturday 9:00 am - 3:00 pm  
Basic Science Symposium: Viruses  
Lecture Hall, D1.502

### Other Important Dates to Remember

**Jan. 19, 2007** - Deadline for Science Fair Judge Requests

**Friday, Feb. 2, 2007, at 4pm**  
Deadline for Summer Research Program Applications

**June 4, 2007** - Summer Research Program Begins

**July 27, 2007** - Summer Research Program Ends

*All events are held on the UT Southwestern South Campus except Body Worlds Event. For directions, call the STARS office or visit the STARS Web page.*

## The 7th Annual Biotechnology: Potential & Challenge Conference

"Genetic Solutions for Today's World"

Thursday, June 14, 2007 • 8:30 am – 4:00 pm.

### Location:

Texas A&M Dallas Agricultural Research & Extension Center  
17360 Coit Road, Dallas, TX 75252.

**Target Audience:** Teachers, educators, county extension agents, and outreach professionals.

**Benefits:** Six hours of CEU's, prepared lesson plans, and a CD containing files of all speakers' presentations.

University scientists and industry educators knowledgeable in the area of biotechnology will expose participants to interactive activities and instruction. Cooperating institutions include: Region 10 Education Service Center; Collin County Community College; Texas A&M at Dallas; UT-Dallas; Texas A&M at College Station; and UT Southwestern.

**Registration:** Region 10 Education Service Center.  
Please check their website at <http://www.region10.org/science> for more information.

## STAFF

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UT Southwestern is an equal opportunity  
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Visit our web site at  
<http://www.utsouthwestern.edu/stars>



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## PROGRAMS

### SYMPOSIA

Basic Science Symposia  
Mini-Symposia

### OUTREACH

Bureau of Science Fair Judges  
Distance Learning Initiative  
Research Assistance  
Science Ambassadors  
Student Mentoring

### SUMMER RESEARCH

Summer Research Program for Teachers  
Summer Research Program for Students

### TOURS

UT Southwestern Allied Health Sciences School  
UT Southwestern Medical Center  
Parkland Health & Hospital System of Dallas  
Children's Medical Center Dallas

### INSERVICE SESSIONS

Physiology of Fitness  
Protein Crystal Growth  
Genetics  
Gel Electrophoresis  
Muscle Physiology  
Suturing Techniques

## Summer Stock 2006 Available

A compilation of the classroom activities developed by the participants in the STARS Summer Research Program for Teachers is available free of charge. The activities range in level of applicability from middle school science to Advanced Placement classes. You may obtain a FREE copy of Summer Stock 2006 by contacting the STARS office.

## Missed it or Want to See it Again?

If you missed a STARS Basic Science Symposium / Mini-Symposium or want to share it with your students and/or colleagues, you can order a FREE DVD of the event(s). Just give us a call or email.

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