

STARS NOTES

SCIENCE TEACHER ACCESS TO RESOURCES AT SOUTHWESTERN

SOUTHWESTERN

THE UNIVERSITY OF TEXAS
SOUTHWESTERN MEDICAL CENTER
AT DALLAS

STARS Notes
January 2004
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STARS Students Participate in Congressional Black Caucus Foundation 33rd Annual Legislative Conference and Texas Space Grant Consortium Fall Directors Meeting

During the summer of 2003, students from across the Dallas-Fort Worth Metroplex participated in a Protein Crystal Growth Experiment offered by the Texas Space Grant Consortium (TSGC). After learning about the importance and function of proteins in the body, they conducted the experiment, researched careers and dogma of biotechnology, and recorded the experiment results. Selected students then had the opportunity to work beside university and NASA scientists, mixing and loading biological samples that were frozen in tubes. In the event that the samples are scheduled for space flight to the International Space Station, the students will receive VIP invitations to attend the launch of their experiment.

TSGC was invited to share information about the Protein Crystal Growth Experiment during the Congressional Black Caucus Foundation 33rd Annual Legislative Conference in Washington, D.C. on September 24-26, 2003. Along with a couple of students from El Paso, Mayra Marquez and Joey Ponce, two students from the STARS Summer Research Program, Emily Hall and Richelle Thomas, traveled to Washington, D.C. to speak on the education panel during the Tribute to Space Exploration, which is chaired by Congresswoman Eddie Bernice Johnson. Congresswoman Johnson hosted a speaker's breakfast before the education panel session, which allowed the group to interact with leaders in government, industry, and education. The students quickly became the center of attention at the breakfast and during the panel meeting. Richelle commented that "the one-on-one atmosphere



Joey Ponce, Mayra Marquez, Astronaut Joan Higginbotham, Richelle Thomas, and Emily Hall

with adults listening and learning from my experiences was exciting."

Two months later, on November 13-14, 2003, the same four students traveled to The University of Texas at El Paso to speak at the Texas Space Grant Consortium Fall Directors Meeting. Richelle, a senior at Townview Science and Engineering Magnet in Dallas, explained to the conference participants why proteins are important and the classroom experiment. The procedure for loading samples for space flight was described by Emily, a senior at Townview Talented and Gifted Magnet in Dallas. "It was exhilarating to know that I had the opportunity to express the view that science is important to students," said Emily.

In addition to their speaking duties, the students were able to do some sightseeing during their trips to our nation's capital and El Paso. Visiting the landmarks, monuments, and museums was certainly a thrill for the girls, and they both declared that "the overall experience of speaking, sightseeing, and meeting new people was the best part of the trips."

Conducting this experiment has been a life changing opportunity for the students by opening their horizons to new careers and skills. It showed them the importance of space exploration and how it improves our life here on Earth. STARS and TSGC believe that while participation in a flight experiment is a worthwhile experience in itself, the effect of stimulating an interest in science and inspiring children who might not otherwise have the opportunity to carry out real research is our long-range goal.



Richelle and Emily at the Hard Rock Café in Washington, D.C.

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Fall 2003 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. A copy of the TEKS and TAKS correlations for all sessions are available at each event and upon request. If you wish to attend any event, please pre-register by calling 214-648-9505 or visiting our online registration page at www3.utsouthwestern.edu/stars/registration.html.



Kazmer Laszlo and Dr. Jere Mitchell.

Mini-Symposium: Muscles: Development & Wasting – September 8, 2003

Our first event of the fall started off on some great “notes”...literally. The song Help Me Rhonda by the Beach Boys played in the lecture hall as an introduction for our first speaker for the evening, Rhonda Bassel-Duby, PhD. Her presentation focused on Skeletal Muscle: Development, Adaptation & Disease: Gain Without Pain. Dr. Bassel-Duby is an Associate Professor in the department of Molecular Biology. Jennifer Burr of Richardson West Junior High School commented, “You can tell Dr. Bassel-Duby is very excited about her research and it translates in her lecture. She did a great job of breaking down this complex topic.” After learning about muscle development, the subject switched to muscle wasting with a talk by George Ordway, PhD, Professor of Physiology & STARS Coordinator that was entitled, Muscles & Aging: Going, Going, Gone. “Dr. Ordway was great. Very informative and useful for my anatomy & physiology and nutrition classes,” said Sherry Stewart from Navarro College.

Basic Science Symposium:

Gastroenterology - October 4, 2003

Many teachers declared this symposium on the Digestive System as was one of our best. The morning began with an Overview of Gastrointestinal Function by George DeMartino, PhD, Professor of Physiology. We then focused on other gastrointestinal problems, beginning with The GI Blues: Heartburn, Acid Reflux and Indigestion by Byron Cryer, MD, Associate Professor of Internal Medicine-Digestive & Liver Disease. William Harford, MD, Professor of Internal Medicine-Digestive & Liver Disease opened our afternoon session with a talk on the Surgical Treatment of Obesity, and Geri Brown, MD, ended the day with a presentation on Hepatitis. Dr. Brown is an Associate Professor of Internal Medicine-Digestive & Liver Disease. Jane Parker from Lewisville High School North said all four presenters gave “very nice step-by-step and clear explanations, and I’ve never been to such a successful (interesting) STARS Program.”

Mini-Symposium: Exercise Training & Detraining: 3 Weeks of Bed Rest Equals 30 Years of Aging – November 17, 2003

This event focused on two related studies done 30 years apart at Southwestern. During the summer of 1966, five college students participated in a study to determine the effects of bed rest and exercise training on cardiovascular and pulmonary function. Jere Mitchell, MD, Clinical Professor of Internal Medicine-Cardiology, one of the investigators in the original Dallas Bed Rest and Training Study, presented the key findings from this landmark research. Kazmer Laszlo, a participant in the study, was in attendance at the event. In 1996, the same five men participated in a 30-Year Update to the original study. Ben Levine, MD, Professor of Internal Medicine-Cardiology, succinctly described the effects of 30 years of aging on the cardiovascular and pulmonary responses to exercise in these five men. Ginger Jordan of Pilot Point High School said the event was, “engaging – very interesting to see relationships and reinforcements of data and philosophies of exercise benefits.”

Teacher Inservice: Protein Crystal Growth - December 6, 2003

During the morning session, middle and high school teachers were trained to use a Protein Crystal Growth kit made by the Texas Space Grant Consortium. Tommye Rafes, a teacher at Gene Pike

Middle School, presented the experiment to the group. Paul Sawyer of Sunset High School commented that “the teacher’s tips for helping children work through all the laboratory exercises were great! Thank you so much for one of the best teacher inservice sessions I’ve experienced in five years.” After the training, STARS provided each teacher with the kit to use in the classroom. “I loved having the materials to be able to take the experiment right back to the classroom and use,” said Shellie Toby from Jackson Middle School. The afternoon session began with a Tour of the UT Southwestern Protein Crystallization Lab, which was presented by Mischa Machius, PhD, Assistant Professor of Biochemistry; and Chad Brautigam, PhD, Research Scientist in Biochemistry. Barbara Pittenger from Plano West High School said, “the tour of the lab was inspiring and informative – a terrific learning experience that I can’t wait to share with my students.” Charles Dann III, PhD, Postdoctoral Researcher in Biochemistry concluded the inservice by bringing together all the concepts with a talk on the Application of Protein Crystallization Research.



Transferring the supersaturated solution to culture tubes.

STARS Website is Moving:

UT Southwestern Medical Center’s new website is now up and running. STARS will have a new web address and whole new look. Check it out at: <http://www.utsouthwestern.edu/utsw/home/stars/index.html>.

In the mean time, our current website (<http://www3.utsouthwestern.edu/stars>) will be updated for the next few months while the new one is still “under construction.”

State Surplus Material Available

UT Southwestern Medical Center warehouses a large quantity of unneeded equipment and furniture that will eventually be sold at auction or discarded. Since this inventory is the property of the state, public school personnel may obtain this equipment at no charge, as long as it is to be used for instructional purposes. The items consist mainly of computer equipment and office furniture, however there is some laboratory equipment and a plethora of other "stuff."

In order to view and obtain these items for your school, you need to do the following.

1. Copy the letter of introduction below onto your school letterhead. Have the letter signed by your principal.
2. Call the UT Southwestern Service Building at (214) 648-6191 or (214) 648-6042 to make sure someone will be there when you arrive. They will only be open during normal business hours. It is a university facility, and they do not accommodate for after hours.
3. Go to the Service Building at 4600 Harry Hines Blvd. You will find it on the east side of Harry Hines about 1 block south of Motor Street, near Market Center Blvd. As you face the front of the building, the warehouse entrance is at the far left.
4. Give your letter of introduction to the warehouse personnel. After signing in, you can peruse the inventory and pick out what you want. The personnel on hand will document which items you have taken.
5. Load up and go.

Sample Letter:

Date:

Dear Sir:

This letter is to verify that _____ is an employee of the _____ school district and all material received as a donation from UT Southwestern Medical Center will be used for educational purposes on our campus.

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 video of the event(s). Just give us a call or email.

Mark your Calendars! Spring & Summer 2004

January 12, 2004 Monday 5:30 pm - 8:00 pm
Mini-Symposium: Proteomics
Richardson Lecture Hall, D1.502

January 27, 2004 Tuesday 6:30 pm - 8:00 pm
Special Family Event:
The Science of Cloning & Stem Cell Research
Richardson Lecture Hall, D1.502
In partnership with the Dallas Museum of Natural History
There will be two simultaneous sessions – one for parents and older students (D1.502) and the other for younger students (D1.200). **Please register with the DMNH** Heather Franklin at 214-421-3466 ext.200; hfranklin@dmnhnet.org

February 7, 2004 Saturday 9:00 am - 3:00 pm
Teacher Inservice: Physiology of Fitness
Meeting Room, D1.200

March 1, 2004 Monday 5:30 pm - 8:00 pm
Mini-Symposium: Allergies & Asthma
Richardson Lecture Hall, D1.502

April 3, 2004 Saturday 9:00 am - 3:00 pm
Basic Science Symposium: Sensory Reception
Richardson Lecture Hall, D1.502

June 14, 2004 Monday 9:00 am - 3:00 pm
Basic Science Symposium: Sports Health
Richardson Lecture Hall, D1.502

August 2, 2004 Monday 9:00 am - 3:00 pm
Basic Science Symposium: Basic Genetics
Richardson Lecture Hall, D1.502

Other Important Dates to Remember

January 23, 2004 Friday
Deadline to submit requests for Science Fair Judges

February 6, 2004 Friday 4pm
Application Deadline for Summer Research Programs

June 7, 2004 Monday
Summer Research Program Begins

July 30, 2004 Friday
Summer Research Program Ends

All events are held on the UT Southwestern South Campus. For directions, call the STARS office or visit the STARS web page.

STARS Summer Research Program for Teachers

Secondary Science Teachers can spend 8 weeks during the summer on The University of Texas Southwestern Medical Center Campus working in a laboratory with a faculty mentor. Along with this incredible opportunity to help bring new ideas into the classroom and rekindle your interest in science, you will receive a \$4000 stipend, plus \$250 for classroom supplies for the coming school year. It is a full-time (8 hrs/day; 5 days/week) commitment that can be demanding but extremely rewarding. Take advantage of this unique opportunity by submitting an application to STARS by Friday, February 6, 2004 at 4pm. Visit our website at <http://www3.utsouthwestern.edu/stars> or Call the STARS office at 214-648-9505 for an application or if you have questions.

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UT Southwestern is an equal
opportunity institution.
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Visit our new web site at
<http://www.utsouthwestern.edu/utsw/home/stars/index.html>

STARS
SOUTHWESTERN

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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 and Hospital System of Dallas
Children's Medical Center of Dallas

INSERVICE SESSIONS

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

New This Summer

Rejuvenate your excitement for and expand your knowledge about science at two special STARS summer Basic Science Symposia. The first, **Sports Health**, will be held on Monday, June 14, 2004 from 9am-3pm. Tentative topics include exercise training, sports injuries, heat illnesses, and dietary supplements (TAKS Objective 1). The second summer Symposium, **Basic Genetics**, will be held on Monday, August 2, 2004 from 9am-3pm and will consist of a general overview of genetics, some techniques in genetic research, and genetic diseases (TAKS Objectives 1 & 2). Please be sure to leave your summer contact address and phone number as well as your school name when you register at 214-648-9505 or www3.utsouthwestern.edu/stars. Parking is available in the UTSouthwestern Visitor Lot and breakfast and lunch will be served. All STARS events are FREE of charge.

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