Summer Stock 2007 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 2007 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.

Spring 2007 STARS Events

At 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 mini-symposia 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 preregister by calling 214-648-9505 or visiting our online registration page at www.utsouthwestern.edu/stars.

Mini-Symposiums

New Advances in Cancer Treatment – Jan. 18, 2007
Towards the Development of Targeted Therapy in Childhood Cancer by Gal E. Tomlinson, M.D., Ph.D., Associate Professor of Pediatrics
Re-engineering Nature’s Poisons for Biomedicine and Biodefense by Ellen Vittla, Ph.D., Professor & Director of the Cancer Immunobiology Center

A Special Thanks to the Museum of Nature and Science for partnering in this special event. The theme of the month was the Digestive System. After a free viewing of the Body Worlds Exhibit and poster presentation by UT Southwestern post-doctoral fellows and graduate students, Robert M. Genta, M.D., Professor of Pathology & Internal Medicine-Gastroenterology, gave a presentation that tied the theme of the evening to current research with his talk on Butterflies in the Stomach and other Nutritional Tails.

Special Symposia in Women in Science and Medicine

Feb. 3, 2007
Thank You to the Women in Science and Medicine Advisory Committee (WSMAC) for organizing this event. Speakers included: Carmen Mendelston, Ph.D., Co-Chair, WSMAC; Professor of Biochemistry; Suanna Parker, M.D., Associate Dean, Student Affairs; Kalpana Mathur, Second Year Medical Student; Dennis McKeever, Ph.D., Associate Dean, Medical Scientist Training Program; Maggie Waung, Medical Scientist Training Program (M.S.T.P.) Student; Melanie Caba, Ph.D., Dean; Southwestern Graduate School of Biomedical Sciences; Professor of Pharmacology; Nicola Reizing, Graduate Student, Graduate School of Biomedical Sciences; Paul Cannam, M.D., Ph.D., Dean, Southwestern Allied Health Sciences School; and James Mosby, MPT, Faculty Associate, Dept. of Physical Therapy, Allied Health Sciences School.

Basic Science Symposium / Mini-Symposium

Viral Hepatitis by Mamta Jain, M.D., M.P.H., Assistant Professor of Infectious Diseases

Basic Science Symposium / Mini-Symposium

HIV & Disease Progression: Lessons from the Monkey Models by Donald Sodora, Ph.D., Assistant Professor of Infectious Diseases

Mini-Symposiums

Redesigning Nature’s Poisons for Biomedicine and Biodefense by Ellen Vittla, Ph.D., Professor & Director of the Cancer Immunobiology Center

A Special Thanks to the Museum of Nature and Science for partnering in this special event. The theme of the month was the Digestive System. After a free viewing of the Body Worlds Exhibit and poster presentation by UT Southwestern post-doctoral fellows and graduate students, Robert M. Genta, M.D., Professor of Pathology & Internal Medicine-Gastroenterology, gave a presentation that tied the theme of the evening to current research with his talk on Butterflies in the Stomach and other Nutritional Tails.

What’s Like To Be a Basic Scientist.

Breakout sessions:

- Poster Viewing
- Session at Body Worlds

What’s Like To Be a Physician.

Breakout sessions:

- Poster Viewing
- Session at Body Worlds

What’s Like To Be a Clinician.

Breakout sessions:

- Poster Viewing
- Session at Body Worlds

What’s Like To Be a Prosthetist-Orthotist, Clinical Dietician or Physician Assistant.

Breakout sessions:

- Poster Viewing
- Session at Body Worlds
HHMI Grant to UT Southwestern to Give DISD Schools New Avenues to View Science

Science will be coming to Dallas classrooms in a new way soon, thanks to a recent $750,000 grant to UT Southwestern Medical Center and a collaboration with the Dallas Independent School District (DISD) and several medical and scientific organizations.

Virtual microscopes operated with the click of a computer mouse, traveling “Science Suitcases” containing portable laboratories and interactive exhibits, and hands-on training in UT Southwestern research labs are about to become available to selected biology teachers and their students at DISD high schools.

Five teachers will be selected the first year and 10 teachers in subsequent years to participate in the new “STARS Science Triathlon,” a series of training events starting in summer 2008. The program will include a 12-day summer workshop, a series of symposia and other activities during the school year, and an eight-week research program the following summer.

The grant was provided by the Howard Hughes Medical Institute (HHMI) and will be administered by UT Southwestern’s STARS (Science Teacher Access to Resources at Southwestern) program in collaboration with Advanced Placement Strategies (APS), Dallas’ Museum of Nature and Science, and National Instruments, an Austin-based producer of software packages that allow computer-simulated interaction with scientific instruments.

“We will be targeting teachers who would like to improve their skill set in teaching biology, as well as developing and maintaining Advanced Placement (AP) biology programs in their schools,” said Dr. Joel Goodman, professor of pharmacology and director of STARS, a program established in 1996 to improve science education in North Central Texas. “It’s a 15-month program and will cycle and repeat for the next five years.”

AP programs are offered at numerous high schools across the country and consist of college-level courses taught in more than 20 subject areas, with students given the opportunity to take advanced final exams to earn college credit. Not all high schools, however, offer AP programs, and there is a need to reach out and assist schools that do not, Dr. Goodman said.

In addition to training Dallas teachers and students, funds will help develop “Science Suitcases,” mobile demonstration modules of scientific principles taught during the Triathlon, including introduction to chemistry, biochemistry, enzymes, membranes, organelles, cell respiration and photosynthesis.

The suitcases will be created by students in UT Southwestern’s Graduate Program in Biomedical Communications, in collaboration with staff from the Museum of Nature and Science. They will include lab equipment, manuals, posters, 3-D models, videos and related Web site information to be used by UT Southwestern graduate students and postdoctoral fellows in classroom presentations at DISD schools.

Some funding will be used to develop four virtual lab instruments, including a virtual optical microscope, which will allow students to use their computers to “operate” the equipment as if it was in the classroom. UT Southwestern is supplementing the HHMI grant with donations received from the O’Donnell Foundation and Chisato to assist with development of these instruments. UT Southwestern’s Live Cell Imaging Core Facility also will provide archived optical microscopy slides to use with the virtual instruments.

“There are numerous schools that either don’t have enough scientific instruments for their students or often have trouble maintaining the equipment they have,” said Dr. Goodman, who holds the Jan and Bob Bullock Distinguished Chair for Science Education. “These virtual instruments will allow students to operate them directly from their computer screens.”

Teachers selected to participate in the STARS Science Triathlon will be part of three events:

- A 12-day June workshop held at UT Southwestern, which will include the days of computer one-training by APS facilities. The workshop will be followed by nine days of teaching workshops working with 30 rising ninth-grade students in presenting the laboratory training interaction with UT Southwestern faculty and a final day spent at the Museum of Nature and Science.
- Six symposia on science and science technology offered at UT Southwestern for teachers as part of the STARS Program, including presentations by faculty, a special symposium on careers in science and two events at the museum that will involve teachers, students and their families.
- Participation in the STARS Summer Research Program. This calls for teachers to spend eight weeks in individual UT Southwestern laboratories on research projects.

“While the program itself is focused on 45 teachers and their students, its effect will be much broader,” Dr. Goodman said. “Assuming each teacher influences 150 young minds each year, in a decade our program can impact nearly 7,000 students. We also hope the Science Suitcases and virtual instruments, which would be broadly available, will extend the program’s influence much further.”

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Fall 2007 Calendar of Events

Sept. 10, 2007 Monday 5:30 - 8:00 pm
Mini-Symposium: Mini-Symposium: Systems Biology
New Insights Into Biology, Lecture Hall, D1.502

Oct 13, 2007 Saturday 9:00 am - 3:00 pm
Basic Science Symposium: Embryonic Development, Lecture Hall, D1.502

Nov 5, 2007 Monday 5:30 pm - 8:00 pm
Special Family Event: Vital Signs
Lecture Hall, D1.502

In Collaboration with the Museum of Nature and Science

Dec. 1, 2007 Saturday 9:00 a.m. - 3:00 p.m.
Teacher Inservice: Microscopy: From Virtual to Reality, Meeting Room, L4.176
Limited Enrollment

Other Important Dates to Remember
Jan. 18, 2008 - Deadline for Science Fair Judge Requests

Friday, Feb. 1, 2008, at 4 p.m.
Deadline for Summer Research Program Applications

June 9, 2008 - Summer Research Program Begins

August 1, 2008 - 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.

Congratulations to all the participants & Thank you to all their mentors
Stefanie Boyd - Host: Jeffrey Elliott, M.D., Neurology
Jeanette Cervantes - Host: Paul Blount, Ph.D., Physiology
Joshua Lord - Host: Beatriz Fontoura, Ph.D., Cell Biology
Scott Stephan - Host: Laurie Davis, Ph.D., Internal Medicine - Rheumatology
Summer 2007 Yearbook

“Nothing ever becomes real till it is experienced -- even a proverb is no proverb to you till your life has illustrated it”
- John Keats

A group of 5 teachers, 19 Dallas ISD high school students, and 4 Eastfield College students embarked on a summer of opportunities and embraced the challenge of working with world-class researchers at UT Southwestern Medical Center at Dallas to learn about and gain perspective on how science is done “in the real world.” The eight-week program consisted of activities, presentations, and an individualized research project that contributed to the advancement of science. These experiences supplied them with a newfound confidence in their abilities to rise to the challenge and a rejuvenation of their love of science.

The program is open to all secondary Texas teachers and Dallas Independent School District juniors.

Applications for the 2008 Summer Research Program will be available in December and will be due on Feb. 1, 2008, at 4 p.m.

Tiffany Kiser
Ford Middle School, Allen
Host: Fiemu Nwariaku, M.D., F.A.C.S., Surgery

“I want to thank the STARS Program and Dr. Fiemu Nwariaku for giving me the opportunity to work in a research lab at UT Southwestern this summer. I learned how to cut and stain thyroid tumors to learn more about there angiogenesis. I also saw first hand the processes labs have to undergo in order to be able to do research, like writing grants and then getting a paper published. The people I worked with in my lab, Ian, Chris, Liu, and Tim, were very helpful and willing to show me the ropes, or at least introduce me to someone who could. This experience has opened my eyes toward research. My students will benefit greatly from my experiences.”

Constance Adamu
Carter High School, Dallas
Host: Linda Baker, M.D., Urology

“Thanks to the STARS program, I have gained a world of experience in scientific research this summer at UT Southwestern. As a teacher, I have learned from the department of Urology how a section of a gene can be amplified, how a mutation can be detected on a gene. I learned how to test for the presence of hormones and protein receptors on specific locations, and much more. These techniques have given me more confidence as a science teacher and something to refer (or relate) to when I teach. The warmness and simplicity of the UT Southwestern researchers and other workers is beyond my expression. I wish I could come back for another summer.”

Julia Lawrence
Cedar Hill 9th Grade Center, Cedar Hill
Host: Shuxin Li, M.D., Ph.D., Neurology

“I am so thankful to the STARS program for the opportunity to be able to perform biomedical research. I enjoyed working with Dr. Li and the Neurology department. I learned a lot. The most important lesson for me is that research is flexible. There is no set time when discoveries are made so you have to be flexible and available. Also, sometimes you do not always get “results” the first time around. You have to be able to re-adjust your thought process and come up with new ways to try and get results. Again, I really had a good time here and learned valuable information that will stay with me for a longtime.”

Rudolph White, Jr.
Skyline High School, Dallas
Host: Helmut Kramer, Ph.D., Center for Basic Neuroscience

“Thank you to Dr. Kramer and his lab for a great summer research experience.”

Dusty Vincer
Williams High School, Plano
Host: Marlyn Mayo, M.D., Internal Medicine
### STARS PARTICIPANTS

| Genevieve Armstrong | Hillcrest High School | David Mangelsdorf, Ph.D. |
| Caleb Brackens      | Townview Talented & Gifted Magnet High School | Joel Goodman, Ph.D. |
| David Briseno       | Molina High School    | Ondine Cleaver, Ph.D. |
| Angel Cook          | WW Samuell High School | Amelia Eisch, Ph.D. |
| Katie Fife          | Townview Talented & Gifted Magnet High School | Alexander Pertsemlidis, Ph.D. |
| Anthony Haskins     | Townview Talented & Gifted Magnet High School | Alexander Pertsemlidis, Ph.D. |
| Blesson John        | Townview Science & Engineering Magnet High School | Qing Richard Lu, Ph.D. |
| Elizabeth Kaiser    | Woodrow Wilson High School | Dinesh Rakheja, MBBS, M.D. |
| Kate Kitsuntriphol  | Roosevelt High School | Kristine Kamm, Ph.D. |
| Cameron LanCarte    | Hillcrest High School | Zbysek Otwinowski, Ph.D. |
| Priscilla Maya      | Townview Talented & Gifted High School | Skip Garner, Ph.D. |
| Daphne McGee        | Roosevelt High School | Vidu Garg, M.D. |
| Javier Montano      | Molina High School | Dominika Borek, Ph.D. |
| Mary Nguyen         | Townview Science & Engineering High School | Jef De Brabander, Ph.D. |
| Ashley Olivo        | WT White High School | Michael Roth, Ph.D. |
| Luis Serna          | Townview Talented & Gifted High School | Diana Tomchick, Ph.D. |
| Lance Sillings      | Adamson High School | Thomas Carroll, Ph.D. |
| Adriana Vega        | Townview Health Professions Magnet High School | Kristine Kamm, Ph.D. |
| Jordan Wilkie       | Townview Science & Engineering Magnet High School | Diana Tomchick, Ph.D. |

### ASSOCIATES

| Geoffrey Dunham | Lake Highlands High School | Thomas Kodadek, Ph.D. |
| Natalie Toto    | Episcopal School of Dallas | Helen Hobbs, M.D. |
| Lisa Varghese   | Faith Christian School     | Robert Hammer, Ph.D. |
| David Watson    | Texoma Christian School    | Skip Garner, Ph.D. |

For more information about our teachers and students, including their research projects, please visit our website.