STARS Programs for FALL 2001

ALL STARS activities and events are offered free of charge to teachers in the state of Texas. The science symposia and inservice sessions are a great way for teachers to keep in touch with current research in the biomedical sciences, to learn new classroom activities, and to obtain professional development credit at the same time. If you wish to attend any event, please preregister by calling 214-648-9556 or visiting our online registration page at: www.utsouthwestern.edu/stars/registration.htm.

The STARS symposia consist of a series of lectures given by scientists and physicians currently doing research at UT Southwestern Medical Center and affiliated institutions. Included in the lineup of symposia topics for the fall are Sleep, Substance Abuse, and Stem Cell Research & Micro-Array Analysis.

A second offering of the Teacher Inservice on Genetics will be done in November, and an all new session, Cell-abration, is planned for December.

Bulloch Gift Endows Distinguished Chair to Support Science Education in Texas

By Mandy Baxter

ALLAS – March 14, 2001 - In the last decade, UT Southwestern Medical Center at Dallas Science Teacher Access to Resources at Southwestern (STARS) program has grown from an all-volunteer effort with no funding to a highly sought-after program encompassing more than 450 middle and high schools in the state. Like one of its leading supporters - former Lt. Gov. Bob Bullock, who died in 1999 - it has touched the lives of many Texans.

Jan Bullock, his widow, has ensured that he will continue to impact the lives of Texans by providing $1 million to UT Southwestern to establish the Jan Bullock Distinguished Chair for Science Education. Funds for the endowed chair were derived from Bullock’s campaign account at the time of his death, along with matching funds from an anonymous donor.

The chair will be held by the director of the STARS program and will provide funding to allow the program to grow.

"Bob Bullock believed in the power of education," said Dr. Kent Wildenthal, UT Southwestern president. "He also believed in the quality of our programs at UT Southwestern. Jan Bullock shares these beliefs, and we are honored this endowment has been established as a way to help UT Southwestern serve Texas."

STARS began in 1991 when a group of UT Southwestern faculty members decided they wanted to do something to improve the quality of science education in the state of Texas. Although the program was initially a volunteer effort, Bullock and other legislators helped the program acquire state funding in 1993.

"Bob regarded UT Southwestern as one of the world’s leading medical centers, and he always felt STARS was a great program," Mrs. Bullock said. "I know he would be happy that there will now be additional funding to enhance it still more."

Since its inception, STARS has created a number of successful initiatives that target both science teachers and students in Texas. In one program, advanced placement students from Dallas are brought to UT Southwestern to meet with medical students and graduate students to learn more about advanced degrees. In another program, UT Southwestern leads all-day in-service sessions for science teachers on hot scientific topics like DNA or genetics. Because of the Bullocks well-known commitment to education and the respect in which they are held, this endowed chair will raise the visibility of the STARS program," said Dr. George Ordway, STARS director and an associate professor of physiology. "We always want to do more and reach more students and teachers, and this gift allows us to do that." The endowed chair will provide a constant source of income for STARS and will enable the program to expand its current scope and to begin new initiatives. UT Southwestern plans to implement a new program that reaches out to science teachers who are underqualified and desire additional training. The school also hopes to establish links with community colleges and colleges that serve predominately minority populations in an effort to help upgrade science education in these institutions.

Bulloch was Texas lieutenant governor from 1991 to 1999. He also served in the Texas House of Representatives from 1956 to 1959, was Texas secretary of state in 1971 and 1972, and was Texas comptroller from 1975 to 1991. A Democrat, Bullock was revered for his ability to reach across party lines. President George W. Bush frequently cites him as a prime example of an individual who has worked productively in a bipartisan spirit to benefit all citizens. "Bob Bullock was one of the great Texas leaders of the 20th century," Wildenthal said. "UT Southwestern is proud to help carry on his and Jan's commitment to improve education in Texas."
Spring STARS Events

Mini-Symposium: Developmental Biology - January 22, 2001
The 2001 event calendar began with the Developmental Biology Mini-Symposium on Monday, January 22, 2001. Jonathan Graff, M.D., Ph.D., Assistant Professor for the Center for Developmental Biology, began the evening with a talk titled, Are Two Brains Better Than One? He not only educated the teachers with an original song, Barbara Hastings of Euless gave numerous clinical examples of how she diagnoses bones form, build, break down, mineralize, and interact. The Skeletal Response to Disease. The second speaker of the morning was Andrew Constantini of the University of California at Berkeley. IISME seeks to bridge the gap between science and society by bringing out difficulties online, there is more time for one-on-one interaction between scientists and the general public. The next talk, titled, Wonderful Genome Gallery was given by Catherine Allen of Kennedy Middle School in Grand Prairie and echoed by Fred Grinnell, Ph.D., Professor of Cell Biology, presented a session on March 2001. STARS extends our thanks to the Human Genome Project and Your Health. Presented on Nature Magazine, the Web site of the human genome. http://www.pbs.org/nova/genome/


To learn more about these and other topics covered and to download many of the presentations from the symposia and inservices, please visit the STARS website.

Mini-Symposium: Learning Disorders - March 5, 2001
Learning Disorders is a term that is used constantly in the teaching field. Parents, teachers, and other professionals have a lot of questions about this topic. To provide some answers, Dr. Benjamin Johnson, M.D., Ph.D., Professor of Psychiatry and Center for Pediatric Psychiatry at CMCD, focused his talk on the Diagnosis and Management of Attention Deficit Hyperactivity Disorder. Dr. Johnson not only educated the teachers about the best practices for diagnosis and treatment of ADHD, but also gave an informative look at the history, characteristics, etiology, and brain basis for this ever prevalent learning disorder. Dr. Stavinoha did an outstanding job of making it very articulate and was right on target in his explanations. I appreciated his use of humor throughout his presentation,” commented Stacy Williams of Bedford Heights Elementary in HEB ISD. She goes on the say the next presenter, “Dr. Silver was equally as good. His “real” example about the concept made it much more concrete.” Cheryl Silver, Ph.D., Associate Professor of Rehabilitation Sciences at William and Mary, presented her insights on Understanding Learning Disabilities (LD) by giving numerous clinical examples of how she diagnoses and treats the different types of LD, which are dyslexia, spelling dyspraxia, dysgraphia, and dyscalculia.

Basic Science Symposium: Aging - April 7, 2001
On Saturday, April 7, 2001, STARS presented a Basic Science Symposium on Aging. This came on the heels of UT Southwestern Medical Center’s Mini-Symposium on Aging in October 2000 and the Nature publication of “Nature Insight on Aging” in 9 November 2000. The morning began with Woody Wright, M.D., Ph.D., Professor of Cell Biology, speaking on the topic of the Biology of Aging. He explained how reproduction and maintenance relate to aging, the major theories of aging, and illuminated the teachers about his most well known area of expertise, which is, telomeres, telomerase, and how they relate to cancer. He concluded his talk by entertaining the teachers with an original song. Barbara Hastings of Euless Junior High in HEB ISD stated, “Dr. Wright is extremely interesting, Fabulous and humorous summary to his lecture.” The second speaker of the morning was Joseph Zerwekh, Ph.D., Professor of Psychology, who presented a talk titled, Diagnosis and Treatment for Alzheimer’s disease. Dr. Zerwekh, with the help of a life-size representation of the human genome and researched, in the Genetics Teacher Inservice on Saturday, April 28, 2001, from medical lectures who also have a sense of humor, and make learning interesting and fun. I really enjoyed Dr. Lipton referring to his own experiences, and Dr. Zerwekh was very descriptive, had simple understandable illustrations, great sense of humor, and very personable in his presentation.”

Spring STARS Events

Continued on page 3

Spring Calendar of Events

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<td>5:30 - 8:00</td>
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A number of new links have been added to the STARS Webpage:

http://www.utouthwestern.edu/stars/website.html

Please visit the STARS website for more information.

Teacher Inservice: Genetics - April 28, 2001
The Genetics Teacher Inservice on Saturday, April 28, 2001, centered around the Human Genome Project and the UT Southwestern Medical Center’s Mini-Symposium on Genetics on March 2001. STARS extends our thanks to the Human Genome Management Information System at the Oak Ridge National Laboratory (http://www.cmai.org/hgmp) for their assistance in obtaining information and materials and Golder Wilson, Ph.D., Director of the Human Genome Information Science Committee at UT Southwestern Medical Center and 9:00 a.m. - 3:00 p.m. | Richard Lee Laboratory, D1.502 |

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I

sted of taking advantage of their well deserved
summer break by resting and relaxing. 13 middle
and high school teachers from across the State of
Texas embraced the challenge to expand their
knowledge and skills in order to broaden the scope
of their effectiveness in the classroom. On July 1,
2001, they began their two-month venture into
experiencing the life of a researcher at UT
Southwestern Medical Center in Dallas. Each of the
13 participants, chosen from the largest applicant
pool to date (64), was placed with a volunteer facul-
ty mentor based on their area of interest.

Pamela Bissic of Hillcrest High School, Dallas.
Host: Nicola Abato, M.D., Internal Medicine

"Participating in the STARS Program is an awesome opportuni-
ty. I have been allowed to work with doctors that are leading their
field in patient care while also researching the possible pathology
of their patients’ diseases. I have been involved with researchers using human subjects
to study insulin resistance. Their technique of gathering data is an intense undertaking of infusing glu-
cose, insulin or lipids into the body while withdrawing
blood and measuring glucose levels. Further laboratory analysis gives researchers greater feedback.
The idea that these studies will impact the lives of so many people by understanding the development of
this condition is overwhelming because it could lead to a possible cure of diseases such as diabetes."

Anthony Chavez of Frisco High School, Frisco.
Host: Skip Garner, Ph.D., McDermott Center
Biochemistry & Internal Medicine

"STARS, simply put, is a “learning experience.” I don’t think of it as a
summer job, but as a summer of enlightenment. I was honored to
work in the Garner lab. His lab is as diverse in research topics as it is in
people. He and his team have taught me how a group of intelligent and motivated
people can turn an idea into an innovation. He and his team integrate disciplines of Physics, Chemistry,
Biology, and Computer Science and apply them to cutting-edge research. I recommend this program to
any teacher that wants to take real-world science experience into the classroom.”

Joe Coronado of Memorial Middle School, Laredo.
Host: Tony Babb, Ph.D., Internal Medicine

"Well as far as my research goes, I am working with Dr. Tony Babb,
an exercise physiologist, and he is doing a study on pulmonary mech-
anisms on obese people. He has two studies going on, one for obese
and the other for weight loss, which includes both obese and lean subjects. With
this research, Tony is trying to find out exactly where obesity impedes lung mechanisms. I am
processing all the breathing tests on the subjects, and a high school student from TAMIS is measuring
the subcutaneous and visceral fat on abdominal MRI’s. Nevertheless, as far as my experience here, I
am totally grateful for being here. Since the first
day, I’ve learned so much. As far as making me a
teacher, it has. I can also say that I would rec-
ommend this program to all teachers that are willing to
take their skills to the next level. It is difficult,
but it is very rewarding. I just wished there were a
program like this in Laredo or even San Antonio."

Alan Cotton of Carroll High School, Southlake-
Carroll. Host: Rolf Joho, Ph.D., Center for Basic
Neuroscience

"I have been pleasantly surprised at
the level of interaction that I have
had with laboratory personnel;
their patience, intelligence and
encouragement has been a blessing.
The lab personnel consider every
option and explanation when solving
problems. I am amazed at the level of passion
which people work is a reflection of what I am.
I am totally grateful for being here. Since the first
day, I’ve learned so much. As far as making me a

Jamie McNeill of Azle High School, Azle.
Host: Roger Schulz, Ph.D., McDermott Center
Human Growth & Development

"I’m learning to do cloning, gene
sequencing, G-banding, fluorescent
labeling of genes, and I am using a
fluorescent microscope. In my
research lab we are working on
tumor biopsies from a large group
of cancer patients representing 3
types of cancer. The research experience is incredible
and it is an opportunity of a lifetime. I never
realized there were so many brilliant people, doing so
many life changing things, so close to home. UT
Southwestern is an amazing place and I feel blessed
"}

Kathryn Garcia-Bradfield of Sam Houston High
School, Arlington. Host: Spencer Brown, Ph.D.,
Plastic Surgery

"The Summer Research Program for Teachers has been an experience I
will never forget. Every day was like a field trip. I had the opportunity to
participate in and observe many different things such as observing plast-
tic surgery, laser surgery and micro-
surgery. In addition, I worked in a
research lab that directly related basic science to
patient care. Acquaintances and friends that I have
made at Southwestern, doctors and medical students
alike, have given me lots of insight into the medical
profession that I can share with the kids back home.
Learning new laboratory technique was an added
bonus to a rich, all-around experience."

Mike Kneafsey of North Oaks Middle School,
Birdville. Host: Helen Hobbs, M.D., McDermott Center
Molecular Genetics

"I was placed in a lab where
they had just discovered
the gene that is responsible for regu-
lat ing cholesterol levels in the
bloodstream. When I joined the
team we began to try to map out
the gene as its structure was not
known. We were able to identify
the boundaries of two exons that
are thought to contribute to high
levels of cholesterol if a mutation is found there.
The second phase of my research involved screening
a population of 122 individuals for the mutation. I
would highly recommend the STARS program to any-
one who is serious about improving as a science
teacher and in their knowledge of how science is
really done in a cutting edge research setting.
Although rigorous and very challenging, the program
really will cause a person to grow professionally
and personally in an exponential way."

Continued on back page
Elizabeth Moglinicki of Quintanilla Middle School, Dallas. Host: Ellen Vitetta, Ph.D., Cancer Immunobiology Center

“This summer I have had the opportunity to work with a wonderful group of people. They have taught me more about science and what my students need to learn in order to become successful scientists, than I learned in all my years in college. I feel very fortunate to have been able to work in a lab that is testing a drug to treat multiple myeloma, a deadly form of bone marrow cancer. Over the past eight weeks I have cultured cells, run a variety of tests and shared my valuable data and with other researchers. I felt like a scientist instead of a science teacher. I want each of my students to experience the same feelings in my science class that I have had in lab this summer: the excitement, wonder, awe, the celebration, and even the frustration, that lab work can bring. This summer has made me remember why I wanted to become a science teacher!”

Gerry Paine of Southwest High School, San Antonio. Host: Robert Ilaria, M.D., Internal Medicine

“These last 8 weeks have been the most humbling and the most beneficial toward my teaching career. I came into the program feeling that I was well prepared for anything the Principal Investigator would assign me. I quickly realized I had much to learn in a short amount of time. I have learned to appreciate the art of research and have redefined my ability to be organized, prepared, observant and, above all, patient. I can now tell my students with assertion that the scientific method is used each day in research labs and is the primary step in science. My project allowed me to research the effects of a newly FDA approved drug on breast cancer cell growth. I was also one of the few people able to work on DNA Chip technology. This was an unbelievable experience, and I look forward to returning next summer!”

Kristi Phillips of Colleyville Middle School, Grapevine-Colleyville. Host: Sherwood Brown, M.D., Psychiatry

“The STARS program at UT Southwestern Medical Center has given me the chance to observe scientists in a variety of settings working on cutting edge research. I had the incredible opportunity to work in the psychoneuroendocrinology lab in the psychiatry research department. My primary investigator, Dr. Sherwood Brown allowed me to complete a research study looking at the possible link between children with asthma and depression. I was responsible for recruiting subjects, conducting the interviews and compiling the data for the study. As a part of the department, I also helped recruit patients for the other research studies by going to the psychiatric emergency room at Parkland hospital and other clinics on campus. Other current research studies I have learned about as a department member include, chronic corticosteroid use and the effects on mood, memory and brain structure, the treatment of dual diagnosis patients with different drugs and research on the treatment of alcohol abuse and major depressive disorder. Participation the STARS program has given me many valuable tools, insights and experiences that have helped me grow as a science teacher and will have an immediate impact on the students in my science classes.”

Ricky Stover of Lewisville High School North, Lewisville. Host: Jane Johnson, Ph.D., Center for Basic Neuroscience

“The embryology research I have had the opportunity to conduct as a result of the Summer Research Program for Teachers has been invaluable to my development as a biology teacher. I am fortunate enough to have been able to participate for the past two summers and am sincerely thankful for the resources that have been expended on my behalf. I know the time, money, and effort spent is worthwhile. The people I have met at UT Southwestern are certainly among the most impressive I have been surrounded by. Their professionalism and dedication are inspiring. I hope to convey my many positive experiences here to my students each and every day in the classroom.”

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<thead>
<tr>
<th>Name</th>
<th>School</th>
<th>Research Host</th>
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<tbody>
<tr>
<td>Lucy Angle</td>
<td>Townview Talented &amp; Gifted Magnet</td>
<td>Akshay Vakharia, M.D.</td>
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<tr>
<td>Sofia Biteta</td>
<td>Thomas Jefferson High School</td>
<td>Yi Liu, Ph.D.</td>
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<tr>
<td>Veronica Cantu</td>
<td>Skyline High School</td>
<td>Lurdres Queimado, M.D., Ph.D.</td>
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<tr>
<td>Diana Chong</td>
<td>BT Washington High School</td>
<td>Robert Toto, M.D.</td>
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<td>Erin Haley</td>
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<tr>
<td>Rene Padilla</td>
<td>Woodrow Wilson High School</td>
<td>Russell Scheffer, M.D.</td>
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<tr>
<td>Nauman Poonja</td>
<td>WT White High School</td>
<td>Michael J. Bennett, Ph.D.</td>
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<tr>
<td>Lessia Runnels</td>
<td>Pinkston High School</td>
<td>Maureen Finnegan, M.D.</td>
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<tr>
<td>Suzanne Seal</td>
<td>Seagoville High School</td>
<td>Linda Baker, M.D.</td>
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<tr>
<td>Andrew Tyner</td>
<td>Seagoville High School</td>
<td>Zerrin Yetkin, M.D.</td>
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Summer Research Program for Students

W hat do you want to do when you grow up? That’s the ultimate question that every high school student has to answer. In an endeavor to give a little guidance and experience to formulate that answer, STARS offers a Summer Research Program for Students. This year, of the 42 applicants from the Dallas Independent School District, 11 were selected to “test the waters” to see if the every growing field of science and medicine was the answer to that age-old question.

The Summer Research Program for Teachers is open to any teacher in the State of Texas, while the Program for Students is open to high school juniors in the Dallas Independent School District. Applications for the 2002 Summer Research Programs will go out to schools in January 2002.