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opportunity institution.

Core funding for the STARS program  
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Visit our web site at  
[www.utsouthwestern.edu/stars](http://www.utsouthwestern.edu/stars)

## SOUTHWESTERN

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## PROGRAMS

### SYMPOSIA

Basic Science Symposia  
Mini-Symposia

### TOURS

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

### 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

### INSERVICE SESSIONS

Cell-ibration  
Biomechanics  
Kidney Under Pressure  
Genetics  
Biotechnology  
Exercise Physiology  
Gel Electrophoresis  
Human Physiology in Space  
Muscle Physiology  
Suturing Techniques

## 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 pre-register by calling 214-648-9505 or visiting our online registration page at: [www.utsouthwestern.edu/stars/registration.html](http://www.utsouthwestern.edu/stars/registration.html).

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 line-up 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 September, and an all-new session, *Cell-ibration*, is planned for December.

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# STARS NOTES

SCIENCE TEACHER ACCESS TO RESOURCES AT SOUTHWESTERN

## BULLOCK GIFT ENDOWS DISTINGUISHED CHAIR TO SUPPORT SCIENCE EDUCATION IN TEXAS

By Mindy Baxter-

DALLAS - 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 and Bob Bullock Distinguished Chair for Science Education. Funds for the endowment 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. Kern 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, advanced placement students from Dallas are brought to UT Southwestern to meet with medical students and graduate students to learn more about



Mrs. Jan Bullock presented STARS with a Distinguished "Chair" for Science Education, so Dr. Kern Wildenthal, President of UT Southwestern, thanks Mrs. Bullock's act of generosity with a chair of her own.

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 endowment 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.

Bullock 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."

This news release is available on the UT Southwestern Medical Center News and Publication World Wide Web home page at [http://www.utsouthwestern.edu/home\\_pages/news/](http://www.utsouthwestern.edu/home_pages/news/)

## SOUTHWESTERN

THE UNIVERSITY OF TEXAS  
SOUTHWESTERN MEDICAL CENTER  
AT DALLAS

STARS Notes  
September 2001  
Volume VI, Number 2

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# Spring STARS Events

## Mini-Symposium: Developmental Biology – January 22, 2001



Jonathan Graff, M.D., Ph.D. shows off his energetic presentation style at the Mini-Symposium on Developmental Biology.

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 None?* Rachel Constantini of

Nimitz High School in Irving commented, "Dr. Graff was a wonderful presenter! He was energetic, enthusiastic, and humorous. He made complicated material easy to understand." The presentation centered around the ideas that signaling molecules and cascades are important, signals are conserved throughout evolution, and when mutated, lead to numerous diseases like colon cancer. His presentation, which gave the teachers a literal first look at his research work on the Smad 10 neural inducer, and teaching style were truly as interesting and captivating as his title. Dr. Graff and his research staff were submitting their work for publication the next day. "Both speakers were great! They really have an enthusiasm for their specialty. Just their way of thinking and how they go about doing experiments would be educational to my students," said Julie Cox of Quintanilla Middle School in Dallas. Our second speaker, Jim Richardson, DVM, Ph.D., Professor of Pathology, concluded the evening by giving a *Lesson From the Genetically Altered Mouse*. This former practicing veterinarian now spends his time solving the mysteries of what results when molecular biologists move or knock out genes in laboratory animals. He showed several examples of what happened to mice that had a specific gene deletion by homologous recombination in embryonic stem cells, discussed spontaneous mutations, and walked us through the tale of how researchers looking for the gene that regulates feeding behavior actually found the one relating to narcolepsy.

## Mini-Symposium: Learning Disorders – March 5, 2001

Learning Disorders is a term that is used constantly in the educational community but rarely is it truly understood. In order to put a clinical and scientific perspective on this topic, two pediatric neuropsychologists from Children's Medical Center of Dallas (CMCD) volunteered to present information on their area of expertise at the Learning Disorders Mini-Symposium on Monday, March 5, 2001. Peter Stavinoha, Ph.D., Assistant Professor of Psychiatry and Center for Pediatric Psychiatry at CMCD, focused his talk on the *Diagnosis and Management of Attention Deficit Hyperactivity Disorder (ADHD)*. He not only educated the teachers about the best practices for diagnosis and treatment for 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. He is 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 of the next presenter, "Dr. Silver was equally as good. Her "real" examples made the concepts more concrete." Cheryl Silver, Ph.D., Associate Professor of Rehabilitation Science and CMCD, gave the teachers insight on *Understanding Learning Disabilities (LD)* by giving numerous clinical examples of how she diagnoses and treats the different subtypes 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-Medical School on Aging in October 2000 and the *Nature* publication of "Nature Insight on Ageing" 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 Eules Junior High School in HEB ISD stated, "Dr. Wright is extremely interesting. Fabulous and humorous summary to his lecture." The second speaker of the morning was Ivor Benjamin, M.D., Associate Professor of Internal Medicine. His talk focused on the *New Developments in Cardiovascular Aging* by explaining his research work on the molecular mechanisms of oxidative and ischemic stress and the heat shock family of stress proteins. "Dr. Benjamin presented a good follow-up to the first presentation," said Karen Onco from Jackson Middle School in Grand Prairie ISD. The afternoon session started with Anne Lipton, M.D., Ph.D., Assistant Professor of Neurology and Psychiatry. Her talk on *Aging, Memory and The Brain* gave an insightful look at normal aging and Alzheimer's disease. She educated the teachers

on symptoms, diagnosis, stages, and treatment for Alzheimer's disease. Joseph Zerwekh, Ph.D., Professor of Internal Medicine, concluded our day with a presentation titled, *The Skeletal Response to Aging: There's No Bones About It!* He

began his talk with background information about how bones form, build, break down, mineralize, and interact with other body systems, and he finished by teaching about the cause, pervasiveness, cost, and risk factors of osteoporosis. Mrs. Arnell Sherman from TW Browne Middle School in Dallas, commented, "It's nice to hear from medical lectures who also have a sense of humor, and make learning interesting and fun. I really enjoyed Dr. Lipton referring to her personal work experiences, and Dr. Zerwekh was very descriptive, had simple understandable illustrations, great sense of humor, and very personable in his presentation."



Woody Wright, M.D., Ph.D. demonstrates that cell biology is not his only specialty.

Continued on page 3

# Spring STARS Events

Continued from page 2

## 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 Mini-Medical School on Genetics on March 2001. STARS extends our thanks to the Human Genome Management Information System at the Oak Ridge National Laboratory (<http://www.ornl.gov/hgmis>) for their assistance in obtaining information and materials and Golder Wilson, M.D., Ph.D., Professor of Pediatrics at UT Southwestern Medical Center and Course Director of the Mini-Medical School on Genetics (<http://www.peds.swmed.edu/groups/minimed>) for allowing the use of his genome gallery and packet of materials. Fred Grinnell, Ph.D., Professor of Cell Biology, presented a session on *Genetics and Human Research Ethics*. His lecture themes were encountering human research ethics, genetic-ethics revolution – the "new" medicine, and an update on gene therapy. Also, he



Teachers at the Genetics Inservice walk through the Genome Gallery.

briefly covered the Ethics Program's Interactive Case Study for students that can be viewed and commented on at [http://www.swmed.edu/home\\_pages/ethics](http://www.swmed.edu/home_pages/ethics). Jerry Grizzle of Plano West Senior High School said, "Dr. Grinnell gave an excellent presentation on ethical issues facing our population. I plan to use the ethical case studies next year in anatomy." Linda Scott Houston of Watauga Middle School said of the next speaker, Jonathan Cohen, Ph.D., Associate Professor of Internal Medicine, "he answered a lot of questions that students ask and brought up questions that aren't answered at this time." Dr. Cohen spoke on *Knowing Your Genes: Preventing Genetic Disease*. The next talk, titled *Clinical Genetics*, was by Ms. Gail Brookshire, M.S., Faculty Associate of Internal Medicine Clinical Genetics and Director of Genetic Counseling at Children's Medical Center of Dallas. She explained the methods of making a pedigree and briefly talked about genetic counseling. "I would have liked more time for Ms. Brookshire," was said by Catherine Allen of Kennedy Middle School in Grand Prairie and echoed by numerous other teachers. The Genome Gallery was the next session for the day. For this activity, teachers walked through a life-size representation of the human genome and researched, in the UT Southwestern Library a particular disease found on the chromosome they were assigned. Ginnie Bucek of Martin High School in Arlington commented, "Wonderful Genome Gallery activity! We plan to do this in our library next year." Andrew Zinn, M.D., Ph.D., Assistant Professor of Eugene McDermott Center for Growth & Development, presented on the *Genetics of Infertility*. He explained the causes and genetic factors & diseases related to infertility. "Dr. Zinn is a great teacher," said Susan Templar of Staley Middle School in Frisco ISD.

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.

# STARS Webpage Update

A number of new links have been added to the STARS Webpage. (<http://www.utsouthwestern.edu/stars/websites.html>) Here's a few that you might want to check out.

**IISME** : Industry Initiatives for Science and Math Education (IISME) was founded in 1985 by a consortium of San Francisco Bay Area industries in partnership with the Lawrence Hall of Science at the University of California at Berkeley. IISME seeks to transform teaching and learning through industry-education partnerships. <http://www.iisme.org/>

**JP Morgan Private Bank Mini-Medical School on Genetics: The Human Genome Project and Your Health.** Presented on March 14, 21, and 28, 2001 at UT Southwestern Medical Center. (<http://www.peds.swmed.edu/groups/minimed>)

**Cracking the Code of Life:** Program broadcast date: April 17, 2001 (a two-hour special) In June 2000 two fiercely competitive teams of scientists made the joint announcement that their labs had achieved one of the greatest prizes in history –the decoding of the human genome. <http://www.pbs.org/nova/genome/>

**Celera's Genome News Network:** Get the latest in Genome News, an on-line reference book, timeline, and education information from a company that's making it all happen. <http://www.celera.com/genomics/genomics.cfm>

**Science Magazine** - Check out this special issue on the Human Genome Project. <http://www.sciencemag.org/content/vol291/issue5507/> The Road to the Sequence: An interactive timeline of genomic history. <http://www.sciencemag.org/feature/plus/sfg/human/timeline.html>

**Nature Magazine** (<http://www.nature.com/genomics>) It is with great pleasure that Nature presents this online publication and full analysis of the initial sequencing of the human genome. [http://www.nature.com/genomics/human/papers/409860a0\\_fs\\_1.html](http://www.nature.com/genomics/human/papers/409860a0_fs_1.html)

**TxTell:** The University of Texas at Austin Homework Service: Doing the Math (and Science). Utilizing this free service, teachers can assign problems, grade the assignments online, and keep records of student progress. Because the system gives students immediate feedback and lets them resubmit their answers, working out difficulties online, there is more time for one-on-one interaction between students and teachers in the classroom. <http://txtell.lib.utexas.edu/stories/h0002-short.html>

## Spring Calendar of Events

<b>September 10</b>	Monday	Mini-Symposium: Sleep 5:30 - 8:00 p.m.	Richardson Lecture Hall, D1.502
<b>September 22</b>	Saturday	Teacher Inservice: Genetics 9:00 a.m. - 3:00p.m.	Meeting Room D1.200
<b>October 13</b>	Saturday	Basic Science Symposium: Substance Abuse 9:00 a.m. - 3:00 p.m.	Richardson Lecture Hall, D1.502
<b>November 12</b>	Monday	Mini-Symposium: Stem Cell Research & Micro-Array Analysis 5:30 - 8:00 p.m.	Richardson Lecture Hall, D1.502
<b>December 1</b>	Saturday	Teacher Inservice: Cell-ebriation 9:00 a.m. - 3:00 p.m.	Meeting Room D1.200

### Other Important Dates To Remember

<b>January 25</b>	Friday	Deadline to submit requests for Science Fair Judges
<b>February 2</b>	Saturday (@ Noon)	Application deadline for the Summer Research Program
<b>June 3</b>	Monday	Summer Research Program begins
<b>July 29</b>	Monday	Summer Research Program ends

**All events are held on the UT Southwestern South Campus. For directions, call the STARS office or visit the STARS webpage at:**  
[www.utsouthwestern.edu/stars/welcome.html](http://www.utsouthwestern.edu/stars/welcome.html)



# "What I did on my summer vacation"

**"Nothing ever becomes real till it is experienced -- even a proverb is no proverb to you till your life has illustrated it." ~ John Keats ~**

Instead 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 faculty mentor based on their area of interest.

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



"Participating in the STARS Program is an awesome opportunity. 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 glucose, 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 mechanisms 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 TAMS 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 better teacher, it has. I can also say that I would recommend 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 and intensity with which they work. Though I was the "low man on the totem pole," my ideas were welcomed, critiqued, and carried out. My knowledge and understanding of the central nervous system, particularly synaptic communication, has been increased beyond measure with the help of the great resources at UTSWMC and the many hours of diligent teaching provided by my many mentors. My paradigm for a "lab scientist" has evolved to include a much greater emphasis on creativity in problem solving than previously thought. The genuine curiosity and perseverance with which these people work is a reflection of what I as a teacher am trying to instill in my students on a daily basis."

**Roxie Gaona of Laredo Health Science Magnet High School, Laredo.**  
**Host: Marlyn Mayo, M.D., Internal Medicine**



"I am so grateful to the STARS program for allowing me to continue working in Dr. Mayo's lab for a second summer. I have seen some of her research come to its fruition. This year, I have been become a vital part of her lab by helping her write up some of her paper work

for the Institution Review Board. Again, the STARS program has given me the opportunity to make a difference here at Southwestern and I cannot wait to share my experiences when I get back to Laredo. My work this summer with the Institutional Review Board process has given me greater insight as to the ramifications and precautions that need to be taken when establishing DNA repositories. I have learned a great deal about the legalities of using human cells for research and how this country is working hard at safe guarding its citizens' rights on the molecular biological front. My students in Laredo will be made well aware of the issues that are in the forefront of DNA research by keeping abreast on what President Bush decides will be this country's stand."

**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 plastic surgery, laser surgery and microsurgery. 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 regulating 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 anyone 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."

**Jamie McNeill of Azle High School, Azle.**  
**Host: Roger Schultz, 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 to be associated with it."

**Elizabeth Mogilnicki 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 psychoneuroen-

docrinology 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."

**Elizabeth Walenta of Irving High School, Irving. Host: Helmut Kramer, Ph.D., Center for Basic Neuroscience**



"My summer research at UTSW this summer has focused on finding out more about the function of a novel class of membrane trafficking proteins called the Hook proteins. Overexpression of Hook 2 in mammalian cells induces the formation of aggresomes. Aggresome formation is a cellular "quality control" response to misfolded proteins. Furthermore, aggresome formation is a feature observed in many diseases such as cystic fibrosis, Huntington's and Alzheimer's. While investigating the function of this novel class of proteins, I have learned valuable techniques including Polymerase Chain Reaction (PCR), gel electrophoresis, and molecular cloning. I know that my experiences in the lab this summer have increased my grasp and understanding of molecular and cellular biology and will serve to enrich and enhance my future lessons."

## Summer Research Program for Students

What 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.

Name	School	Research Host
Lucy Angle	Townview Talented & Gifted Magnet	Akshay Vakharia, M.D.
Sofia Bitela	Thomas Jefferson High School	Yi Liu, Ph.D.
Veronica Cantu	Skyline High School	Lurdes Queimado, M.D., Ph.D.
Diana Chong	BT Washington High School	Robert Toto, M.D.
Erin Haley	Townview Talented & Gifted Magnet	Ravi Sarode, M.D.
Justin Lowrey	Skyline High School	Stephen Hammes, M.D., Ph.D.
Rene Padilla	Woodrow Wilson High School	Russell Scheffer, M.D.
Nauman Poonja	WT White High School	Michael J. Bennett, Ph.D.
Lessia Runnels	Pinkston High School	Maureen Finnegan, M.D.
Suzanne Seal	Seagoville High School	Linda Baker, M.D.
Andrew Tyner	Seagoville High School	Zerrin Yetkin, M.D.



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.