

# STARS NOTES

SCIENCE TEACHER ACCESS TO RESOURCES AT SOUTHWESTERN

STARS Notes  
September 2005  
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## A New Note for STARS

May of 2005 brought about a couple of big changes for STARS. We moved to new offices on campus and had Joel Goodman, Ph.D., join the staff as Coordinator. He replaces George Ordway, Ph.D., who "retired" as Professor of Physiology and STARS Coordinator to pursue a career as a physician assistant. Dr. Goodman, a Professor of Pharmacology, came to UT Southwestern in 1982.



Previously, he obtained his doctorate in pharmacology from the University Of Southern California School Of Medicine and received postdoctoral training at UCLA in molecular and cell biology. Dr. Goodman's research interest is intracellular protein trafficking and the biogenesis and organization of organelles. He is a world expert on peroxisomes.

Dr. Goodman's devotion and contributions to education began in 1983 when we he established a summer research apprenticeship program for minority high school students and teachers. After over 15 years of growing this program, it became an integral part of STARS.

Dr. Goodman teaches in the medical, graduate, and allied health schools, and since 2000, he has been the director of the sophomore medical pharmacology course. Goodman said he was thrilled to accept the position of STARS Coordinator because "biomedical science is moving very very quickly now and UT Southwestern has enormous potential to help primary and secondary school students, through their teachers, master the basics as well as the most recent developments in this exciting and critical field." Dr. Goodman is looking forward to listening to teachers and students and beginning new initiatives to enrich science education further.

Outside of UT Southwestern, Dr. Goodman plays classical piano. In 2000 he was a participant in the Van Cliburn International Competition for Outstanding Amateurs. He has played in many talent and variety shows on campus, and he and his wife Bobbi held several duo-piano recitals in the DFW area in the 1980's and 1990's.

Please feel free to contact Dr. Goodman if he can help you or your students in any way, and to welcome him to the STARS Program.

## Spring & Summer 2005 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 at Dallas 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 up-coming events, 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: Simple Models for Human Problems - Jan. 10, 2005

What is a model? It is something simple that resembles something more complicated. Scientists make a model of a disease to learn about it and test treatments. They want to learn as much as possible about it before attempting to

diagnose and treat patients with the disease. There are many different ways to model a disease, and for our first event of the Spring Semester, we looked at two simple models used for human heart disease. Pradeep Mammen, M.D., Assistant Professor of Internal Medicine - Cardiology began the evening with a talk on *The Cardioprotective Role of Myoglobin in the Heart*, which discussed the use of tissues as models. Our second talk by Rob Rawson, Ph.D., Assistant Professor of Molecular Genetics, focused on the use of *Drosophila* (fruit flies) in research entitled, *What Flies Tell Us About Heart Disease*.

### Mini-Symposium: HIV Update - Mar. 7, 2005

Our next event was an update on HIV. We focused the evening on the basics of virus infection, persistence, and new therapy. David Margolis, M.D., Associate Professor of Internal Medicine and Chief of Infectious Diseases, gave the first talk on *HIV Biology & Disease: A Persistent Foe Requires A Continued Response*, and Philip Keiser, M.D., Associate Professor of Internal Medicine & Medical-Director of Parkland HIV/AIDS Department, presented on the *Therapy of HIV Infection*. *Continued on Page 5*

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# STARS Participates in Greater Dallas Chamber's 2005 Job Shadowing Program



*Scanning & Electron Microscope Lab*

careers in science and medicine. The students visited the electron and scanning microscope lab with Mr. George Lawton and Mr. Tom Januszewski; the Plastic Surgery Lab with Dr. Spencer Brown; the CT Scan at Zale Lipshy University Hospital with Mr. Derric Lowe; and the Physical Medicine and Rehabilitation Lab with



*Testing his balance in the Physical Therapy Room*

Ms. Kristin Harder. The students also learned about Emergency Medical Technology with Mr. Austin Beard and about Nursing in Children's Medical Center of Dallas' Pediatric ICU with Ms. Donna Rahn. During lunch the students got the chance to visit with a couple of 4th year medical students, Ms. Amy Powers and Ms. Lyndsey Cox, about what it's like to be in medical school. STARS is pleased to support such an academically motivating educational activity dedicated to giving kids an up-close look at the world of work.

The mission of the Greater Dallas Chamber's Job Shadowing Program is to impact the future of workforce and economic development in this region by reaching out to today's students and tomorrow's workforce and bridging the gap between education and the business community. On Friday, February 11, 2005, forty-five 9th graders from W.W. Samuell High School in Dallas participated in the Greater Dallas Chamber's 2005 Job Shadowing Program. They came to UT Southwestern to learn about



*Austin Beard attaches probes to a "victim"*



in touch with hundreds of students across the US by sending photos and messages about his research and personal observations. He will be departing for his fourth trip to the one of the world's coldest places in October 2005 to continue his research.

**Physiology at the Extremes:** Three years ago, Dr. Shane Kanatous went to Antarctica to conduct research and kept

Check Out his website to learn more about his project and get your students involved in this scientific adventure by learning about his journey, trying to answer his weekly questions, and submitting questions for him to answer during his stay in Antarctica. (<http://www.utsouthwestern.edu/stars>)

## Summer 2005 Yearbook

"Learning is not attained by chance, it must be sought for with ardor and attended to with diligence."

-Abigail Adams (1744 - 1818), 1780

This summer, a group of 9 teachers and 10 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 2006 Summer Research Program will be available in December and will be due on February 3, 2006, at 4 pm.



**Bruce Boehne of the Zion Lutheran School, Dallas.**  
Host: James Richardson, D.V.M., Ph.D., Pathology

"After the summer STARS experience, I now have a much greater empathy for my students who may experience feelings on having no clue as to what is being presented. I will be more aware of these situations and adjust my teaching accordingly."



**Nathan Dunn of Cross Timbers Middle School, Grapevine-Colleyville.**  
Host: Ralph Shohet, M.D., Internal Medicine

"The STARS Program has been an overwhelmingly positive experience for me on both a professional and personal level. I learned things I didn't even know I didn't know. Working in a professional lab setting is a needed divergence from teaching middle school science. It was refreshing working on your own schedule, dictated by the tasks you needed to accomplish each day and not the timed rigid monotony of a bell. It was also encouraging to learn something for the sake of broadening

one's knowledge and experience and not necessarily for the purpose of attending a workshop and then implementing it into your instruction. I believe that teachers who totally immerse themselves in education workshops, who experience little outside their area of focus and interact with few individuals outside their chosen profession, are minimally effective in their classroom. While their resumes may boast of superior educational accomplishments, they have grown little as human beings and have not nurtured the most human of their qualities, the pursuit of life-long learning. Every new experience we have, every new relationship we nurture, positive or negative, allows us to grow, change, develop and make ourselves a better person. My experience in the STARS program has fulfilled all of these objectives. I've been frustrated, overjoyed, angry, excited, relaxed, engaged, challenged, confused, certain, empty, and enriched, sometimes all in the course of one day. The STARS program really reminds me of what it's like to be a student again, full of that unknown dread, yet full of excitement to conquer it, each day. The exceptional individuals I was able to work alongside in my lab helped me through all of my trials and celebrated my accomplishments with me throughout this enlightening journey. Even if I hadn't learned a significant body of new scientific knowledge through this experience, STARS made me better by introducing me to such a wonderful bunch of people. At times I didn't think I was good enough to take on all the challenges STARS threw at me, but in hind sight, I believe that was the best part. Being extended, challenged and seeing how much better you can be, isn't that really the point of life, striving to better oneself? I believe so and the STARS program helped reinforce this belief. I would definitely participate in STARS every year if they would allow me the opportunity. I can't wait to share the "real" science with my students!"



**Sandy Eberle of Central Junior High School, Hurst-Euless-Bedford.**  
Host: Shuxin Li, M.D., Ph.D., Neurology

"The STARS program has been a refreshing change of pace for me this summer. I never realized all the effort that goes into doing research, along with all of the pitfalls that arise along the way. It is a slow process and many times you do not even realize that what you stumbled upon was in fact just what you were looking for. One thing that has stuck out in my mind since the moment I set upon

UT Southwestern's campus was just the feeling of intelligence and intense pressure to be the first group to discover your particular area of study. It is amazing to me how so many individuals of this high of caliber can fit into a relatively small square footage of land. It has been most impressive to me to be a part of this program and to see all the inter-workings in the scientific community. This experience will lend me to bring such a wealth of information back to my students - especially the understanding of where they are coming from and realizing that there is so much out there that I don't understand. This experience has been extremely humbling, but so wonderful at the same time. It is astonishing to find that everyone here has been extremely generous, friendly, and willing to share and explain anything you need. Thank you for allowing me to be a part of this program!"



**Aurora Everett of Richardson High School, Richardson.**  
Host: Jeffrey Elliott, M.D., Neurology

"My summer experience in Dr. Elliott's lab this summer was extremely rewarding. I have learned more science information and applications in these two months than in most of my undergraduate science work. I am excited about passing on this enthusiasm to my biology students this year and for years to come."



**Kathy Hall of Liberty Christian School, Dallas.**  
Host: Skip Garner, Ph.D., McDermott Center for Biomedical Research/Biochemistry/Internal Medicine

"When asked the typical back-to-school question, "What did you do on your summer vacation?" I have a very different answer this year. I spent my summer gaining a renewed vision for the relevance of what I teach by participating in the STARS biomedical research program for teachers at UT Southwestern Medical Center! It has been a challenging yet very rewarding experience. I have used brain cells I didn't know I had while practicing so many of the thinking skills and-

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scientific practices I work so hard to instill in my students during the school year. I even had to use calculus to analyze the data I collected with a high-performance liquid chromatography (HPLC) apparatus. Remember that old, "When will I ever use this," question? What a thrill it was to find myself surrounded by scientists working to develop new technologies and strategies to impact society in so many ways: drug discovery; cancer research (in partnership with NASA); cardiac disease research; digital optical chemistry with quantum dots; biodefense webportals; and holographic television to name just a few. I highly recommend the STARS program to any teacher looking for a new challenge and a new vision of the importance of teaching the principles of science in the middle school or high school classroom."



**Mark Johnson of Rusk Middle School, Dallas.**  
Host: Subroto Ghose, M.D., Ph.D., Psychiatry

"It was amazing to have the opportunity to work in an area of science I didn't even think I would enjoy, but I loved it. The STARS Program afforded me the chance to rekindle an enthusiasm and excitement for science. A very rewarding experience indeed!"



**Jenni Orahoad of Providence Christian School, Dallas.**  
Host: Marlyn Mayo, M.D., Internal Medicine

"STARS gave me the opportunity to learn about scientific research through lab, clinic, and seminar experiences. I am grateful to Dr. Mayo and Iorna Handem for teaching me so much and allowing me to participate in their research on Primary Biliary Cirrhosis. In the years to come, I want to pass on my experiences to my students and encourage them to seek out scientific research projects."



**Jennifer Sutton of Collins Middle School, Corsicana.**  
Host: Ann Word, M.D., OBGYN

"The STARS summer research program has offered me the opportunity to experience real scientific research and discovery. It has been exciting to follow the steps of the research process from the operating room to the laboratory, gaining a better understanding of the time and dedication it takes to achieve meaningful medical or scientific advancement."



**Brian Vincer of Dowell Middle School, McKinney.**  
Host: Qing Richard Lu, Ph.D., Center for Developmental Biology

"It has been a goal of mine to return to a laboratory setting since graduating from college. Fortunately, the STARS program has given me this opportunity. My summer long research internship has allowed me to further my education in science with hands on research. I was trained in everyday laboratory tasks as well as precise techniques in genetics and molecular biology. This knowledge allowed me to be a biomedical researcher for eight weeks. The STARS program resulted in an abundance of fascination as well as engaging learning. It is important for science teachers to stay interested and up to date with science. This experience did that and more for me as a professional. I would highly recommend this experience for any science teacher for the purposes of learning and enrichment. Now I fully understand what goes on in a biomedical research lab and what it takes to be a research scientist. I hope to inspire my students about biomedical research to the same degree as this research experience inspired me."



2005 Summer Research Program for Students Participants

**STARS PARTICIPANTS**

Anthonia Anyanwu  
Ana Castro  
Sabina Khan  
Haley Marshall  
Stephanie Pagan  
Christopher Riley  
Alexandra Robinson

Senada Softic  
Jessica Wagner

Allan Wang

**OTHER STUDENT PARTICIPANTS**

Michelle Attah  
Hunter Banks  
Chris Booth  
Justine Lin  
Ian McCoy  
Perini Shah  
Michael Shay  
Jessie Wang

**SCHOOLS**

Carter High School  
Townview - Health Professions High School  
WT White High School  
Townview - Talented & Gifted Magnet  
Townview - Talented & Gifted Magnet  
Skyline Center  
Booker T. Washington High School for the Performing & Visual Arts  
Townview - Health Professions High School  
Booker T. Washington High School for the Performing & Visual Arts  
WT White High School

**SCHOOLS**

TAMS  
St. Marks  
Jesuit College Preparatory of Dallas  
Greenhill School  
Highland Park High School  
Plano Senior High School  
St. Marks  
MIT

**HOSTS**

Dolores Peterson, M.D., Ph.D.  
Weike Tao, M.D.  
Christine Garcia, M.D., Ph.D.  
Ravi Sarode, M.D.  
Dana Hardin, M.D.  
Jim Thornton, M.D.  
Robert Toto, M.D.  
Dawen Zhao, M.D., Ph.D.  
Diana Tomchick, Ph.D.  
Janice Kansy, Ph.D.

**HOSTED BY**

Rebecca Gruchalla, M.D., Ph.D.  
Joseph Albanesi, Ph.D.  
Victor Lin, Ph.D.  
Mala Mahendroo, Ph.D.  
Spencer Brown, Ph.D.  
Gail Tomlinson, M.D., Ph.D.  
John Minna, M.D.  
Kristen Lynch, Ph.D.

## Spring & Summer 2005 STARS Events—

Continued from Page 1



### Special Symposium: Women In Science & Medicine - April 16, 2005

In collaboration with UT Southwestern's WISMAC: Women in Science and Medicine Advisory Committee, our last event for the school year brought together faculty and students from an array of areas including scientific research, medicine, and graduate studies to speak with teachers and middle/high school girls about careers in science and medicine. WISMAC is composed of appointed representatives of the faculty, staff, fellows, and student body. Their goal is to promote representation and recognition for women in all campus activities.

The speakers for this event were:

**Carole Mendelson, Ph.D.**, *Co-Chair for WISMAC, Professor of Biochemistry and Obstetrics & Gynecology*

**Susanna Parker, M.D.**, *Associate Dean of Student Affairs*

**Joni Bhutra, Medical Student (M.D.)**

**Dennis McKearin, Ph.D.**, *Associate Dean of the Medical Scientist Training Program (MSTP)*

**Eileen Foy, MSTP (M.D., Ph.D.) student**

**Christine Kim Garcia, M.D., Ph.D.**, *Assistant Professor of the Eugene McDermott Center for Human Growth & Development*

**Patricia Smith, P.T., M.S., N.C.S.**, *Associate Professor and Vice Chair of the Department of Physical Therapy in the Allied Health Sciences School*

**Angela Paskos Anderson, PT Student**

**Melanie Cobb, Ph.D.**, *Dean of the Southwestern Graduate School of Biomedical Sciences and Professor of Pharmacology*

**Nicola Reading, Graduate Student (Ph.D.)**

**Shawna Nesbitt, M.D.**, *Assistant Professor of Internal Medicine*

**Jeanne Sheffield, M.D.**, *Assistant Professor of Obstetrics & Gynecology*

### Summer Basic Science Symposium: Nutrition: Facts, Fads, & Fallacies - June 13, 2005

The morning session of our summer symposium looked at our molecular responses to food intake. Our first talk was given by Jennifer Cuthbert, M.D., Professor of Internal Medicine - Digestive & Liver Diseases, entitled, *Digesting the Food Triangle: What Happens to What We Eat?* Our second presentation was on the Basic Biochemistry of Nutrition by Julian "Bill" Peterson, Ph.D., Professor of Biochemistry. Our afternoon session, which focused on outside influences to eating began with a look at some Fad Diets by Bernadette Latson, M.S., RD/LD, C.D.E., Assistant Professor of Clinical Nutrition, and ended with a talk by Stephanie Setliff, M.D., Associate Professor of Psychiatry, on *Eating Disorders*.

## Mark your Calendars! Fall 2005

**Sept. 12, 2005** Monday 5:30 pm - 8:00 pm  
**Mini-Symposium: Viruses & Organelles**  
Lecture Hall, D1.502

**Oct. 8, 2005** Saturday 9:00 am - 3:00 pm  
**Basic Science Symposium: Imaging: Structure & Function**  
Lecture Hall, D1.502

**Nov. 7, 2005** Monday 5:30 pm - 8:00 pm  
**Mini-Symposium: Hearts Gone Bad**  
Lecture Hall, D1.502

**Dec. 3, 2005** Saturday 9:00 am - 3:00 pm  
**Teacher Inservice: Wildlife CSI**  
Meeting Room, D1.200  
*Limited Enrollment*

### Other Important Dates to Remember

**Jan. 20, 2006** Friday  
**Deadline to submit requests for Science Fair Judges**

**Feb. 3, 2006 @ 4pm** Friday  
**Application Deadline for the Summer Research Program**

**June 5, 2006** Monday  
**Summer Research Program Begins**

**July 28, 2006** Friday  
**Summer Research Program Ends**

*All events are held on the UT Southwestern South Campus at 5323 Harry Hines Blvd. Dallas, TX 75390. For directions, call the STARS office or visit the STARS web page.*

## 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.

## STAFF

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Visit our web site at  
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# 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**  
Cell-ibration  
Biomechanics  
Kidney Under Pressure  
Genetics  
Biotechnology  
Exercise Physiology  
Gel Electrophoresis  
Human Physiology in Space  
Muscle Physiology  
Suturing Techniques

## Summer Stock 2005 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 2005 by contacting the STARS office.

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