

STARS NOTES

SCIENCE TEACHER ACCESS TO RESOURCES AT SOUTHWESTERN

SOUTHWESTERN

THE UNIVERSITY OF TEXAS
SOUTHWESTERN MEDICAL CENTER
AT DALLAS

STARS Notes
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STARS Summer Research Program Student Helps Present Nephrology Research

By: *Mindy Baxter*
UT Southwestern Medical Center, Office of News and Publications

At 18, Diana Chong's main worries are related to her college classes, not medical research. Not yet, anyway.

Chong, a freshman at Oberlin College in Oberlin, Ohio, worked in the lab of Dr. Robert Toto, Professor of Internal Medicine and Director of Clinical Nephrology at UT Southwestern, during the summer of 2001 through the STARS Program.

A graduate of Dallas' Booker T. Washington High School for the Visual and Performing Arts, Chong tracked the accuracy of dialysis machines for a study being done by Dr. Toto.

She found many of the machines were inaccurate, often due to human error or miscalculations. The danger, Toto told her, was that patients might not be receiving the precise dialysis they need. Together, Chong and Toto put together a presentation on Chong's findings, which Toto then presented for possible review at the American Society of Nephrology meeting, held in Philadelphia November 1-3, 2002.

To Chong's surprise, the poster presentation was accepted, and Toto called to ask her if she'd like to help present it in Philadelphia.

"It's unusual to have someone her age presenting, but it's not unheard of," Toto said. "Diana was a key person who conducted the protocol and is a co-author. She's qualified to present these data."

Chong accepted Toto's invitation to present her data, and she left college for a weekend to travel to Philadelphia for the meeting.



Chong, a violinist, is planning a career in medicine or science and admitted the prospect of facing a room full of professional kidney specialists had her more than a little nervous.

"She can give the audience key information about the background and conduct of the study," he said. "I don't expect her to answer complicated questions about physiology or medicine."

"Diana is extraordinarily bright and is excellent in math and science. She knows how to collaborate, she thinks on her own, solves problems and asks excellent questions. She has tremendous potential."

Chong knows the opportunity is a unique one and has already added it to her resume.

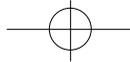
"Most people my age certainly don't get to do this," she said. "It's a great opportunity that I was not going to miss."

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.

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Fall 2002 STARS Events

Mini-Symposium: Physiology at the Extremes – Sept. 9, 2002



Benjamin Levine, MD, Professor of Internal Medicine – Cardiology, began the STARS Fall semester of events with a look at “Physiology at the Top of the World – Lessons from Mt. Everest.” Shane Kanatous, PhD, Post-Doctoral Researcher of Internal Medicine – Cardiology, then followed with a discussion on “A Life Without Oxygen: Physiology of Diving Mammals.” In addition, Dr. Kanatous presented his website that gave students and the public the opportunity to accompany him on his research expedition to Antarctica via the World Wide Web. Although he is back from his trip, you can still log on to <http://www.utsouthwestern.edu/stars> and click on Physiology at the Extremes to review his weekly progress during the expedition and some updates on how his research is proceeding after his return.

Basic Science Symposium: Surgery: Yesterday & Today – October 5, 2002

Robert McClelland, MD, Clinical Professor of GI / Endocrn. – Surgery, started the day with a general presentation on the “History of Surgery.” Adolph Giesecke, MD, Retired Jenkins Professor & Former Chairman of Anesthesiology & Pain Management, completed the morning talks with a presentation on “Anesthesiology: Yesterday, Today & Tomorrow.” “Minimally Invasive Surgery Operations,” was the first presentation of the afternoon session given by Robert Rege, MD, Chairman & Professor of GI / Endocrn. – Surgery, and Daniel Jones, MD, Associate Professor of GI / Endocrn. – Surgery followed with “A Revolution in Surgery: The New Era of Minimally Invasive Techniques & Technology.” Spencer Brown, PhD, Assistant Professor of Plastic Surgery, gave the final talk of the day titled, “New Advances In Wound Healing.” One teacher commented, “All presentations were interesting and very informative. I can truly take this knowledge back to the community and have up-to-date medical knowledge to share with my family and school.”

Mini-Symposium: Epidemiology: Tracking Down the Culprit – November 4, 2002

Robert Haley, MD, Professor of Internal Medicine – Epidemiology, began the mini-symposium with a presentation on the “Fundamentals of Investigating Epidemics.” After learning about how to conduct an epidemiological investigation, the participants were given the opportunity to analyze a case by “Tracking Down the Culprit.” Swapan Nath, PhD, Senior Lecturer in Microbiology and George Ordway, PhD, Professor of Physiology & STARS Coordinator facilitated the group activity. Dana Hamilton from Downing Middle School said, “What a great way to teach statistics and epidemics and get students/teachers interested in the field of epidemiology and science in general. Also good for teaching the scientific method – testing and retesting hypotheses.” Dr. Haley concluded the evening by presenting a “Modern Epidemic – Gulf War Syndrome.” Sarah Hutchings from Horn High School commented, “Excellent and easy to follow presentations. Great information and ideas to take to my students.”



Teachers work together on Tracking Down the Culprit.

Teacher Inservice: Muscle Physiology – December 7, 2002



A hands-on activity for muscle physiology.

Our final event was the Muscle Physiology Inservice. The session consisted of overviews on muscle types, metabolism, contraction, and neural control, as well as, activities such as a chicken leg dissection, muscle contraction skit, hand model activities, muscle fatigue lab, and cardiovascular responses to muscle contraction activities.

Chris Jackson from Watauga Middle School remarked, “This was extremely interesting and lots of fun! I especially enjoyed the parts that related to specific illnesses. All of the “hands on” activities were excellent.”

Mark Your Calendars! Spring 2003

All STARS events are offered free of charge to Texas teachers.

January 13, 2003 Monday 5:30 - 8:00 pm

Mini-Symposium: Earth & Man
Richardson Lecture Hall, D1.502

February 1, 2003 Saturday 9:00 am - 3:00 pm

Teacher Inservice: PaleoDay
Special Location: Dallas Museum of Natural History at Fair Park

March 3, 2003 Monday 5:30 - 8:00 pm

Mini-Symposium: Poisons: Effects, Antidotes, & Detection
Richardson Lecture Hall, D1.502

April 5, 2003 Saturday 9:00 am - 3:00 pm

Basic Science Symposium: Radiology: The Inside Scope
Richardson Lecture Hall, D1.502

April 24, 2003 Thursday 6:30 pm - 8:00 pm

50 Years of DNA For the Whole Family – For Parents & Middle School Students
Lecture Hall, D1.700 & D1.502

For this special event, there will be two simultaneous sessions – one for the parents and one for the students (grades 6-8).

April 26, 2003 Saturday 9:00 am - 11:30 am

50 Years of DNA For the Whole Family – For Teachers & High School Students — Lecture Hall, D1.700

For this special event, we ask that teachers attend with their student(s).

Other Important Dates to Remember

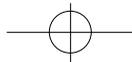
January 24, 2003 Friday
Deadline to submit requests for Science Fair Judges

February 7, 2003 @ 4pm Friday
Application Deadline for the Summer Research Program

June 9, 2003 Monday
Summer Research Program Begins

August 1, 2003 Friday
Summer Research Program Ends

All events are held on the UT Southwestern South Campus except otherwise noted. For directions, call the STARS office or visit the STARS web page at www.utsouthwestern.edu/stars/welcome.html.

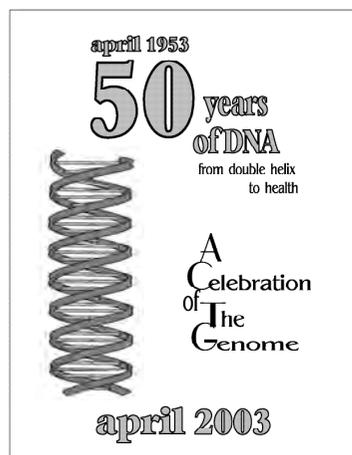


50 Years of DNA for the Whole Family

April 2003 will witness the historic culmination of one of the most important scientific projects in history: the sequencing of the human genome. In addition, April 2003 will mark the 50th anniversary of another momentous achievement in biology: James Watson and Francis Crick's Nobel Prize winning description of the DNA double helix.

Furthermore, the April 2003 publication of a landmark scientific report will describe the future of the field of genomics, and the role that the National Human Genome Research Institute (NHGRI) and the National Institutes of Health (NIH) will play in enabling that future.

To mark these three singular events in the history of science and medicine, the NHGRI is planning a month-long series of scientific, educational, cultural and celebratory events across the United States. Please visit the NHGRI website



at <http://www.genome.gov> to learn more about their plans. Courtesy of NHGRI.

In collaboration with the Dallas Museum of Natural History, STARS will be offering two events for parents, students, and teachers in the Dallas-Fort Worth Metroplex. Both events will be held on the campus

of The University of Texas Southwestern Medical Center at Dallas at 5323 Harry Hines Boulevard Dallas, Texas 75390.

On Thursday, April 24, 2003, from 6:30 pm - 8:00 pm, parents and their middle school aged children (grades 6-8) are invited to take part in activities and lectures that will excite and enlighten the participants about the future of science and science education.

Also, on Saturday, April 26, 2003, from 9:00 am - 11:30 am, teachers are encouraged to attend the event with their high school student(s). This half-day program will briefly explore the history of Watson & Crick's discovery, move forward to what has happened since, and culminate with what may happen in the future.

Mark your calendars for these special events and come join us in celebrating these historic achievements in science.

Check Out These Websites

Physiology at the Extremes
<http://www.utsouthwestern.edu/stars/02antarcticexpedition>

Shane's research expedition to Antarctica has come to a close, but you and your students can continue to share in his adventure to the ice shelf by reading, seeing and hearing about his time there. Plus, check back for updates on the data collected from Antarctica.

STD Ed
<http://www3.utsouthwestern.edu/starsstdb/index.html>

STD Ed is a database of teacher resource guides and materials available for health and science teachers in the state of Texas to use when teaching about sexually transmitted diseases (STDs). Teachers can search the database according to grade level, media, disease, language, ethnic focus, or by title and author. STD Ed is designed to grow. Educators are invited to review new resources and make additional comments about current entries for STARS to add to the database. This continual updating will only increase its usefulness through the years.

Cell Biology Education:
A Journal of Life Science Education
<http://www.cellbioed.org>

Cell Biology Education is an online, quarterly journal owned and published by The American Society for Cell Biology. The Journal publishes peer-reviewed articles on life science education at the K-12, undergraduate and graduate levels. The American Society for Cell Biology believes that learning in biology encompasses diverse fields, including math, chemistry, physics, engineering, computer science, and the interdisciplinary intersections of biology with these fields. Within biology, CBE is particularly interested in how students are introduced to the study of life sciences, as well as approaches in cell biology, developmental biology, neuroscience, biochemistry, molecular biology, genetics, genomics, bioinformatics, and proteomics. The age level of the target audience may be K-12, community college, comprehensive college or university students, graduate students, postdocs, or teacher training at any level. Courtesy of Cell Biology Education.

JUNE: The Journal of Undergraduate Neuroscience Education
<http://www.funjournal.org>

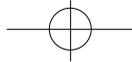
JUNE is a new electronic journal that publishes peer-reviewed reports of innovations in undergraduate neuroscience education. JUNE will feature articles on pedagogy, laboratory exercises, critical reviews of books and media, editorials, and announcements of interest to faculty who teach in any area of neuroscience. Courtesy of JUNE.

The American Physiological Society
<http://www.apsarchive.org/main/index.asp>

The American Physiological Society Archive was designed to provide resources for science educators at all levels. At the K-12 level, the Archive provides resources that have been developed through APS K-12 education programs. These resources focus on inquiry-based learning, hands-on exploration of science topics, authentic assessment, equity and diversity issues, and effectively integrating Internet resources into the science curriculum. Courtesy of APS.

National Human Genome Research Institute
<http://www.genome.gov/Education>
The Human Genome Project:
Exploring Our Molecular Selves

Produced by NHGRI, this award-winning, multimedia education kit includes a film describing the Human Genome Project and an animated video illustrating the basics of molecular biology. Also Featured: **Mentorship Program** – Access to a nationwide volunteer mentorship program of genetics/genomics professionals; A searchable timeline of genetics discoveries; High-school-level modules exploring evolution and genetic variation; Case studies to stimulate discussion on ethical issues; and An advanced series of narrated animations explaining how to sequence a genome. All videos and animation include transcripts, and close-captioned and Spanish-language versions. Courtesy of NHGRI.



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Visit our web site at
www.utsouthwestern.edu/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 and Hospital System of Dallas
Children's Medical Center of Dallas

INSERVICE SESSIONS

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

STARS Summer Research Program for Teachers

Secondary Science Teachers can spend 8 weeks during the summer on The University of Texas Southwestern Medical Center Campus working in a laboratory with a faculty mentor. Along with this incredible opportunity to help bring new ideas into the classroom and rekindle your interest in science, you will receive a \$4000 stipend, plus \$500 for classroom supplies for the coming school year. It is a full-time (8 hrs/day; 5 days/week) commitment that can be demanding but extremely rewarding. Take advantage of this unique opportunity by submitting an application to STARS by Friday, February 7, 2003 at 4pm. Visit our website at <http://www.utsouthwestern.edu/stars> or Call the STARS office at 214-648-9505 for an application or if you have questions.

Dallas Independent School District High School Juniors may apply to our Summer Research Program for Students. Please see our website or call us for more information.

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