



Dinosaurs to Data: Tapping the Curiosity of Young Minds with Science

Louisiana EPSCoR's Speaking of Science (SoS) Program has reached over 25,000 students of all ages since 2001 with interactive presentations in the classroom. The SoS speakers' bureau provides schools and the public access to Louisiana's top science and engineering researchers for presentations on 90 topics ranging from dinosaurs to data at no cost.

The five presentations that are currently in highest demand are (in random order):

∞ The Chicxulub Impact: The Collision That Killed the Dinosaurs

ULL Professor Dr. Gary Kinsland finds inspiration in the schools when he gives his presentation about the Chicxulub Crater in Mexico. "I have given this presentation from Chalmette to Simmesport and from Monroe to DeRidder and I have enjoyed finding little educational gems all across the state. I have noticed that the interest of the students is not correlated to the physical facilities of the schools, rather they are correlated to the teachers themselves. The overwhelming majority of the teachers who take the time to seek out presentations for their students go the extra mile the rest of the time with their students and it shows. I have been impressed that some of the least wealthy schools have some of the most interested and enthusiastic students. This program is one of the few opportunities for these students to see presentations from outside of their schools because the program is free for the asking," said Dr. Kinsland.

∞ Chemicals, the Environment and You

Dr. Ron Darbeau, Head of the Department of Chemistry at McNeese, believes it is part of his responsibility as

"It is much cheaper and more effective to inspire children with ideas than with fancy buildings."

- Dr. Gary L. Kinsland, Pioneer Production Endowed Professor of Geology and Petroleum Engineering, University of Louisiana at Lafayette

a practicing scientist to be a part of the process of educating our youth about science. "I love reaching out to students in elementary, middle, and even high schools. This is the best age to awaken and inspire minds, when the world still holds wonder. I find the experience fulfilling and enriching and really feel as if I am making a contribution to legacy of science and reasoning in the state," said Dr. Darbeau.

∞ Believe It or Not: Plants Also Suffer From Stress

Dr. Dalton Gossett, Associate Dean, Professor, and Chair of the Biological Sciences Department at LSU-Shreveport adjusts his presentation for the different education levels of his audiences, which range from elementary to college. "Perhaps the most satisfying experiences have been when I give the talk to the elementary level classes. When I start talking about improving plants through genetic engineering, I see looks of awe and then lights start coming on. The students start asking very interesting questions that show they are really thinking about science. Hopefully by getting them to think about science at this age, some of them will eventually pursue a career in science," said Dr. Gossett.

∞ Geology Around the World

LSU Geology and Geophysics Professor Dr. Brooks Ellwood studies sites of geologic and archeological importance all over the globe, and he, too, finds the students' respectfulness and curiosity rewarding. "I am grateful to have had the opportunity of seeing and speaking to the children and teachers of Louisiana. I am delighted in seeing their interest in science and the feedback is wonderful. The teachers I have met have been exceptional and the educational experience they



SoS helps connect students of all ages to the research realm. (Above) A student experiences 3-D immersive virtual reality during the LA-SiGMA Research Experiences for Undergraduates summer program.

are providing their students is great. I compliment the NSF and the State for providing the funding to make the SoS program possible, and I hope more teachers will be able to take advantage of the program," said Dr. Ellwood.

∞ From Silly Putty to Superconductors: Careers in Material Science and Engineering

Dr. Brian Mitchell, Tulane University nanoparticle researcher and Professor of Chemical and Biomolecular Engineering, is a seasoned presenter and finds the younger classroom audiences are his favorite. "Although my SoS presentations have been to a wide variety of audiences, including the Girl Scouts, the American Chemical Society, and university students, my favorite presentations are at elementary and high schools. It's so interesting to travel across the state and see the diversity of students, teachers and facilities our state has to offer. The students are very bright and inquisitive, and I try to encourage them to build on their natural curiosity," said Dr. Mitchell.

"Asking "Why?" is what a career in science or engineering is all about," added Dr. Mitchell.

New Cyber Technology Component

The SoS program is constantly adding topics and speakers, and has recently added an entire new cyber technology component.

Leading Louisiana IT researchers and professors are kicking off the new subject area with a variety of topics that introduce students to computer-related professions and unique applications for computer technology in research and daily life, including: data mining, bioinformatics and genomic research, cyber citizenship issues, science blogging, cyber security, linking tangible science tools with computers, computer-aided design of new materials, and micro-aerial vehicles.

Data mining may sound a bit dry upon first glance to some, but put into context with Facebook, cyber warfare and the

Speaking of Science Program

SoS speakers are available free of charge to speak to students, educators, parents, and general audiences in Louisiana on a variety of topics. The SoS catalog of speakers and presentation topics is available on the EPSCoR website: <http://web.laregents.org/la-epscor>. SoS is sponsored by LA EPSCoR and funded by the National Science Foundation.

For information, or to book a speaker, please contact Susan Jernigan at (225) 342-4253 or e-mail susan.jernigan@la.gov.

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- Dr. Ron W. Darbeau, Professor & Head of the Department of Chemistry at McNeese State University



information superhighway, students will make fun and memorable cyber-connections with these concepts.

SoS Chain Reactions

Bringing researchers and professors into the classrooms is not only inspiring for the participants, but also creates personal connections and fresh ideas for all involved.

"After one of my presentations about 3-D visualization of geologic features, a high school student said, 'I didn't know that UL had anything like that.' What a great marketing tool to show Louisianans what Louisiana has!" said Dr. Kinsland.

"The SoS experience has been very positive and the interactions with the various high school students have seeded other projects with which I am involved. During my recent presentation at Walker High School, I was very impressed with the class and I extended an invite to our summer research program. Two students are currently working on projects in the Chemistry Department at McNeese and will be giving a presentation of their research at the end of the six week research experience," reported Dr. Omar Christian, Assistant Professor at

McNeese State University.

Dr. Robert Dalling, physics teacher at the Louisiana School for Math, Science, & the Arts (LSMSA) in Natchitoches, said that "some of the past speakers who came to our school have continued their relationship with us by mentoring students in conducting research during the summer. All parties are benefiting in many ways from the SoS speaker series."

These connections are continuing to grow: three LSMSA teachers recently attended the LA-SiGMA Research Experiences for Teachers (RET) program at LSU so they could develop modules and visual demonstrations for their computational programming classes. Mr. Brad Burkman and Dr. Dalling learned to program high performance graphics processing units (GPUs), and Dr. Chris Hines learned to run simulations of chemical systems on LAMMPS software.

Two LSMSA students traveled to LSU with the teachers and participated in the LA-SiGMA Research Experiences for Undergraduates (REU) program which runs concurrently with RET. The students learned how to use the most current cyberinfrastructure and participated in collaborative research.