

Grant Scope

Sam Houston State University
Office of Research and Special Programs

A Member of The Texas State University System



Mar/Apr 2009

A Message from the Associate Vice President



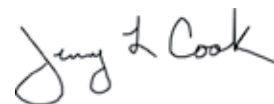
Greetings from ORSP. There is a lot of activity in the realm of research and research funding; hopefully, our office can assist in your involvement. The recent stimulus package has provided many opportunities for funding, and we are presently sorting through those options as they become available. This funding is

particularly unusual by Washington standards in that it became available quickly without many guidelines. Therefore, all of the agencies who will be distributing money are in the process of deciding how they will do so and what the process will look like. Our office will be sending out information as it becomes available, and some of you have already been contacted with opportunities that fit your area of expertise.

There are also longer term implications for funding caused by the stimulus. For example, the National Science Foundation (NSF) received about \$3 billion of stimulus money and the current Administration has made its view of the importance of supporting science well known. One stipulation of the stimulus is that money needs to be spent fairly quickly (within the next two years) to consequently stimulate the economy. Therefore, NSF has not created new programs but is investing the money into existing programs. This means that funding rates for 2009 and 2010 will probably be much higher and investigator success rates will increase. Additionally, this means that moneys already allocated to the programs may stretch further with many PIs being funded through the stimulus money that might not have originally been funded. The moral of this story is that now is an opportune time to apply for a grant. And, it is not only NSF that has these opportunities. Most federal agencies that have competitive grant programs have received funding. Our office would like to help you get funded, so please contact us.

Another activity of ORSP is our internal grants program. This year we had a total of \$200,000 to fund internal grants. The Faculty Research Council and its external reviewers did an outstanding job in trying to provide very professional reviews. These reviews were used to rank proposals, and awards were made from those rankings according to our guidelines. Like in previous years, this program was very competitive reflect-

ing the quality of the research at SHSU. Fortunately, ORSP found an extra \$30,000 plus to fund even more proposals. This newsletter lists those recipients of this year's awards. If you are interested in the next round of competition, we will soon be posting our revised guidelines for next year's proposals, which will be due in October.



Research Enhancement Grant Winners

Dr. Alessandro Bonanno

Sociology

Enhancement Grant for Research

"Social Factors affecting Survivorship in Patients with Orbital Cancer"

Dr. Madhusudan Choudhary

Biological Sciences

Enhancement Grant for Research

"Gene duplication analysis of *Rhodobacter sphaeroides*' genome"

Dr. John Degenhardt

Geography & Geology

Enhancement Grant for Research

"Geophysical Analysis of Hite Delta, Glen Canyon, UT"

Dr. Hui Fang

Physics

Enhancement Grant for Research

"Experiment and modeling of Hc2 for the two-band superconductor MgB2"

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CSI Meets Academia



Dr. Joan Bytheway has been an Assistant Professor of Forensic Anthropology in the College of Criminal Justice at Sam Houston State University (SHSU) since September 2006. She joined the faculty to support the growing graduate degree program in forensic science. She came to SHSU from the University of Pittsburgh

where she served as a research associate at UPMC's Primate Research Center and an adjunct faculty member in the Department of Anthropology. She has also worked as a forensic anthropologist and lab analyst investigating mass graves in Baghdad, Iraq. Dr. Bytheway received her B.A. and Ph.D. in Physical Anthropology from the University of Pittsburgh.

In our continuing coverage of the activity taking place at the Center for Biological Field Studies (CBFS), Dr. Bytheway explained in-depth her work with the **Southeast Texas Applied Forensic Science (STAFS)** facility; this facility was established to determine human decomposition processes in the South Texas environment. It is located on FM 2821/Fish Hatchery Road. By definition, the STAFS facility is a human decomposition center, and the research Dr. Bytheway will conduct is geared towards criminal activity involving humans. It is worth mentioning that this facility is "recognized by the Anatomical Board of Texas as a willed-body donor facility." (<http://www.cjcenter.org/stafs/index.html>) Although anyone can donate, some of the donated bodies are those of prisoners that have been donated by their families. The aforementioned research includes a lot of areas such as anthropology, geology, chemistry, and biology (particularly entomology, microbiology and DNA studies).

As evidentiary of the importance of this research to Sam Houston State University, the funding for the STAFS facility has come primarily from internal sources. Dr. Vincent Webb, Dean of the College of Criminal Justice (COCJ) reported that, "nearly all of the funds for development of this research facility have come from COCJ, the Provost, or the Graduate College. Of course, Arts and Sciences/biology has provided the land, etc. Joan does her STAFS-related work as part of her faculty research and service assignment. In short, CJ has provided monetary support as well as the faculty position for heading up this effort." (Webb, Vincent. "Re: STAFS facility." Email to the author. 19 March 2009.) Currently, Dr. Bytheway is working on obtaining external funding to construct a classroom at STAFS.

As stated on the its website (<http://www.cjcenter.org/stafs/index.html>), STAFS is enclosed within the CBFS, a restricted access facility. The STAFS facility is a one-acre maximum-security fenced area that has razor wire on the top of an 8-foot tall fence with privacy slats. There is a building that is under construction to

be completed in April, and this will contain a necropsy suite. It will have digital x-ray equipment so forensic researchers can take x-rays to see if there are any medical apparatuses in the body. In turn, this facility will have a walk-in freezer and cooler unit for body storage until research proposals are approved by the STAFS operations committee. Aside from a necropsy room and digital x-ray system, the facility will have state-of-the-art cameras that will allow researchers from around the world to access a secured website to watch the progress of his/her research if they can not travel to SHSU.

In a recent interview, Dr. Bytheway gave the following explanation regarding the aforementioned building: "The necropsy room goes straight out to the STAFS facility grounds and we will have the x-ray system in this room. There will be a room strictly for skeletal storage; skeletal material will be stored in what will be referred to as the Southeast Texas Successioned Collection and can be utilized for research by anthropologists around the world. We do not have a large contemporary collection in Texas. Anthropologists have based a good bit of research on 100-year-old samples. Because of the secular changes which occur in physical man, a contemporary population is needed with which to conduct anthropological research."



Dr. Bytheway & students engaged in research at STAFS.

As previously mentioned, this research covers many academic areas. At this point, there is some collaboration with SHSU's resident entomologist from the Biology department. Dr. Sibyl Bucheli and several graduate students are presently engaged in a study of insect succession in the southeast Texas environment, which is a subtropical humid climate. Other possible collaborators expressing their interest are as follows: Dr. JornYu (COCJ), a chemist interested in body decomposition chemistry and Dr. David Gangitano (COCJ), a DNA specialist. Dr. Bytheway hopes to engage Geology and digital forensics as well. There are also graduate and undergraduate students who are interested in participating in this research.

In an effort to maintain a natural setting for conducting research at STAFS, Dr. Bytheway said that the bird and insect research, which occurs nearby will accomplish this goal: "We want it to be as natural as possible – perpetrators do not choose places without



birds and insects. They just dump wherever they think the body won't be discovered; so birds and insects are part of our decomposition studies."



Students conducting research at STAFS.

One of the advantages of this most vital research at STAFS—from a criminal justice perspective, is that there will be many people who will benefit, either directly or indirectly. Dr. Bytheway reported that victims benefit through the development of new crime-solving techniques. "One of the main purposes for STAFS is training law enforcement officers. They will become better educated in search, identification, and recovery of human remains, so when they do find remains, they will know how to process them. Ultimately, for the judicial system they will have information and evidence that has not been compromised (when trying criminals)."

In order for law enforcement officers to benefit from this research, STAFS is offering three summer short courses beginning in June; there are three consecutive weeks of training. This is in conjunction with the Law Enforcement Management Institute of Texas (LEMITE) and the International Association of Identification (IAI). It is important to note these courses are open to students, law enforcement officers and forensic specialists. For law officers, these courses fulfill the educational requirement to become certified in crime scene investigation (CSI) at various levels. If they have fulfilled the experience requirements they can take the IAI certification exam at the end of the third week. The course description for each week is as follows:

- Week one: Crime scene investigation basics
- Week two: Pattern evidence
- Week three: Medicolegal death investigation, forensic anthropology/taphonomy, and entomology

Note: Applications can be obtained online through LEMITE's website: <http://www.lemiteonline.org/>.

In addition to training there are three research projects currently underway at STAFS:

1. Insect succession on buried and surface remains in Southeast Texas
2. GSR (gunshot residue) on clothing of a buried individual
3. Decomposition processes on surface and buried individuals during late winter-early spring environment of Southeast Texas.

As part of her research, Dr. Bytheway has worked on help-

ing to identify victims along the Texas border, and she also was involved with several cases in the aftermath of Hurricane Ike. It is extremely important that these victims are identified, and Dr. Bytheway has made great strides to aid in this process. In discussing the body identifications along the Texas border, she reported that, "we are interested in looking at how bodies decompose in the dry environment found in Hidalgo County. Post mortem interval is an important component in the identification of individuals, as well as using skeletal elements in trying to make identifications." As with cases that she processed in the aftermath of Hurricane Ike, Dr. Bytheway reported the following: "post mortem interval was a component of identification for Hurricane Ike victims, especially if a single bone was brought to the Medical Examiner's office in Galveston County. It was a matter of determining if the bone was Hurricane Ike-associated or from some other time. After Hurricane Ike, the M.E. would call me if a body was found that was badly decomposed. I would remove the bones used to identify a person, obtain a DNA sample, get dental records, and write a report. Information from this report would go into a missing person's file. I processed five Hurricane Ike victims. There were some that came in that were identifiable, and we could get fingerprints. But with the five victims I examined, all I could report was generic information: e.g. we have a white female, she is approximately 30-50 years old, with a height of 'such-and-such'. And if a family thought that an individual might be their loved one, then they would give a DNA sample and a match would try to be made."

Aside from its importance for individuals in the criminal justice system, it is worth mentioning the significance of this research to the University. As confirmed on the STAFS website, "the data that will come from this state-of-the-art facility can be used both nationally and internationally in places that share similar environmental factors."

(<http://www.cjcenter.org/stafs/research.html>) Dean Webb conveyed that, "Forensic science is becoming a SHSU signature program, and we expect that it will expand, along with the support for the program in the future."



Dr. Bytheway: SHSU's very own "bone detective."

Visit us online for more funding opportunities
http://www.shsu.edu/~rgs_www/



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Sarah Barragan
Max Fruchtnicht
T. Ben Nyabadza

Winners from Page 1

Dr. Rebecca Garcia

Co-PI: Dr. Brian Loft

Mathematics & Statistics

Enhancement Grant for Research
“PURE Math: Pacific Undergraduate
Research Experience in Mathematics”

Dr. Troy Quast

Co-PI: Dr. Fidel Gonzales

Economics & International Business

Enhancement Grant for Research
“Recessions and Hispanic Mortality: The
Case of Mexico”

Dr. Wanda Reyes

Co-PI: Dr. Ann Marie Major (Pennsylvania State Univ.)

Mass Communications

Enhancement Grant for Research
“Type 2 Diabetes Prevention Scale for
Young Adults”

Dr. Todd Armstrong

Criminal Justice

Enhancement Grant for Professional
Development
“Understanding the Resting Heart Rate/
Antisocial Behavior Relationship”

Dr. Ty Cashion

History

Enhancement Grant for Professional
Development
“The Future of Texas Letters: A Cultural-
Intellectual History”

Dr. Caroline Castillo Crimm
History

Enhancement Grant for Professional
Development
“The Quakers and the Quetzal: Biculturalization and Ecotourism in Monteverde,
Costa Rica”

Dr. Monte Thies
Biological Sciences

Enhancement Grant for Professional
Development
“A survey of small mammals from North-
western Botswana”

*The Faculty Research Grant is a highly
competitive internal grant with a ceiling
of \$5,000 which has to be utilized over
the summer of 2009. These grants are
specifically designed for tenure track fac-
ulty to help them start research.*

Dr. Sibyl Bucheli
Biological Sciences

“Diversity of Depressariinae
(Gelechioidea; Elachistidae) in Texas”

Dr. Rebecca Bustamante
Co-PI: Dr. Sylvia Taube
Curriculum & Instruction

“Examining Secondary Principal Support
for English Language Learners”

Dr. Lei Chen
Computer Science

“Securing Real-time Multimedia Data in
MANETs”

Dr. P. Raelynn Deaton
Biological Sciences

“Sexual conflict in coercive livebearing
mosquitofishes”

Dr. Mark W. Frank

Economics & International Business
“State-Level Income Inequality and Eco-
nomic Growth”

Dr. Donovan Haines
Chemistry

“Direct Cellular Biosynthesis of Biodiesel”

Dr. Lirong Liu

Economics & International Business
“Spillover effects across environmental
programs”

Dr. Audrey Miller
Psychology & Philosophy

“Ethnicity and Victim Blame”

Dr. Isabel Ruiz

Economics & International Business
“International Closed-end Country
Funds and U.S. Market Sentiment”

Dr. Nancy Zey
History

“A Comparative Study of Schools in An-
tebellum Natchez”

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