



# GRADUATE SCHOOL AND INTERNSHIP FAIR

University of Houston-Downtown

Friday, October 24, 2008

Auditorium and Special Events Center, A300  
8:30 AM - 12:00 PM



**Purpose:** The purpose of the 9<sup>th</sup> Annual UHD Scholars Academy Graduate School and Internship Fair (GSIF) is to help promote students to prospective graduate schools and internships. It additionally serves a second purpose of showcasing the academic projects undertaken by UHD students in science, technology, engineering, and mathematics. Qualifying activities are projects completed as part of internships and independent or directed study at UHD, or any undergraduate research on or off campus. This conference is sponsored by UHD Scholars Academy in the College of Sciences and Technology, and funded by the Brown Foundation, National Science Foundation, U.S. Army Research Office and the U.S. Department of Education. A limited number of research posters will be on display for invited guests.

**Potential Audience:** Invitations were sent to over 100 graduate schools or internship programs nationally. In addition to the our faculty/students from UHD College of Science and Technology attending last year's GSIF, we had over 30 guests representing over 25 different programs, such as Baylor College of Medicine, Rice University, Prairie View A&M, Texas A&M, Texas Tech, UC-Berkeley, UT-Austin, UTHSCH, and UTMB. If you participated in off-campus research/internship and would like to invite those you worked/networked with, please forward us the contact information to [scholars@uhd.edu](mailto:scholars@uhd.edu).

**Invited Student Presenters:** Scholars Academy members who will be graduating in the Fall 2008 semester are required to present a poster at GSIF. All other CST posters will be by invitation only. Invitations to present a poster will be made by UHD CST faculty. Student poster presenters will be also invited to a lunch with the visiting guests and UHD faculty.

**Recognition of Participation:** This conference is non-competitive. Participants will receive a copy of the proceedings, a certificate of participation and recognition, and an important experience to include within their resumes. Abstracts included in the proceedings may be listed as a publication.

**Important Deadlines:** Participants must submit an application and an electronic abstract by Thursday, October 2, 2008. Late applications will not be accepted. The application form requires signatures of a UHD faculty sponsor and the student's academic department chairperson. The faculty sponsor should agree to review their student's abstract and poster before submission to the Scholars Academy office in 725N.

Applicants will be notified of acceptance by October 6, 2008. If accepted, posters must be submitted (in printed and electronic format) to the Scholars Academy (Room 725N) by October 16, 2008 in order to categorize and display. We expect to accept only 25 posters. Each take 20-100 minutes to print (hence only 7-8 posters can be printed each day). Participant sign-up sheets to schedule printing in the TTLC will become available on October 9 (place TBA).

**Abstracts:** Abstracts must also be submitted electronically to [scholars@uhd.edu](mailto:scholars@uhd.edu) by October 2, 2008. Please be sure to include your name and project title within the submission. Abstracts must not be more than 150 words. Ideally, the abstract should include the objective(s), problem, overview, and an interesting/enticing summary to catch a reader's interest. Accepted abstracts will be published in the GSIF Program and may be listed by the student as a publication. Abstracts that are poorly written will not be accepted.

**Posters:** Any posters already prepared for other purposes, but which also satisfy the above criteria, are welcome. Participants are strongly encouraged to attend activities leading up to the day of GSIF, including a panel of graduate students and a workshop on preparing graduate school applications.

Students are required to prepare posters using a PowerPoint template provided by Scholars Academy. This template produces a 40-inch tall and 46-inch wide poster (maximum allowable poster size) to be displayed on bulletin boards that will be provided at the GSIF. Students can obtain the template from the Scholars Academy website ([www.uhd.edu/scholars](http://www.uhd.edu/scholars)).

Prior to printing of posters, students must have a **Poster Printing Approval Form** signed by their faculty sponsor and the Scholars Academy. Participant sign-up sheets to schedule printing in the TTLC (Room A700, Academic Building) will become available on October 9 (place TBA). At your scheduled appointment to print, be sure to bring your electronic poster and the completed printing form. Plus do not simply drop off your file. Allow time to work with the TTLC representative to ensure that there are no complications with your poster (improper dimensions, etc.). If there are complications, you may be asked to reschedule.

These posters are expensive to print. Students will be provided only one printing opportunity in order to allow all presenters an equal opportunity to print their poster on time. If you have to reschedule your appointment for any reason, it will be on an availability basis. If a poster needs to be reprinted, it also will be on an availability basis (see above) and at the student's cost (approx. \$20).

After printing your posters, submit it in person (in printed and electronic format) to the Scholars Academy (Room 725N) by October 16, 2008.

**Acknowledgment of Assistance and Sponsorship:** Faculty advisors of these projects (or those acting as on-campus surrogates) will mentor the participants during the preparation of their posters. Participants must list all acknowledgements on their poster; this includes any assistance of individuals and/or organizations/agencies that worked on the research or sponsored the project. Proper acknowledgment of co-authorships should also be included.

#### **Timeline of Deadlines and Events:**

September 2008	Applications for Presenters become available.
October 2008	Pre-event activities
October 2, 2008	Application and electronic abstracts are due.
October 6, 2008	Applicants are notified of acceptance.
October 9, 2008	Sign-up sheets become available for poster printing.
October 16, 2008	Last day to print posters (5PM).
October 16, 2008	Posters are due (in printed and electronic format).
October 24, 2008	UHD SA Graduate School and Internship Fair

#### **Program Schedule for Friday, October 24, 2008:**

8:30 – 9:30 AM	Registration and Set up posters in A300
9:30 – 10:30 AM	Student Poster Session and Mixer
10:30 – 12:00 PM	Graduate School and Internship Exhibits
12:15 – 1:00 PM	Lunch for Invited Guests, UHD Faculty and Student Presenters

**Property:** All posters produced will become the property of UHD, unless other arrangements are made due to scheduled presentations of the poster elsewhere. These posters will be on regular display in the areas of the hosting departments.

**Photographs/Publications:** Photographs/video of participants may be taken during presentations and throughout the event. These photographs/videos, abstracts, posters and release of information deemed necessary for publications may be used in associated UHD promotional media.



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Application due in N725 and electronically by October 2, 2008.

Presenter's Full Name	
Major and Degree	
Career Plans	
Expected Graduation Date	
Email Address	
Phone Number(s)	
Project Supervisor(s)	
Project Location(s)	
Official Title of Project	
Co-authors (see guidelines)	

Abstracts (150 word limit) must be sent electronically by October 2, 2008 to scholars@uhd.edu. Sample abstracts are attached.

### UHD FACULTY SPONSOR:

By signing below, I agree to serve as the faculty sponsor for the above applicant. I agree to review the applicant's abstract (due October 2) and poster (due October 16) and ensure that these are in accordance with standards similar to those in my academic discipline. I also agree to attend the Conference to support this student (unless other arrangements are made) and to encourage other CST students and faculty to attend.

\_\_\_\_\_  
UHD Faculty Sponsor (please print name and sign) Date

\_\_\_\_\_  
UHD Department Chair (please print name and sign) Date

\_\_\_\_\_  
Applicant Signature Date

If accepted to present, I fully intend to attend the SRC and meet all deadlines and requirements. If accepted, I further authorize use of photos, submitted material, and release of information deemed necessary for publications by the university and the SRC staff/sponsors.



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## SAMPLE ABRACTS

### 1. Stabilization of Thiol/Acrylate Systems Using N-PAL

Hilda Hinojosa, Christopher Lopez, Colin Carandang, and Lucio Patino

Dr. Byron Christmas, Research Mentor, Center for Applied Polymer Science Research, UHD

**Abstract:** Using *tris*-nitroso-N-phenylhydroxylamine (N-PAL) as a free radical polymerization inhibitor, an investigation was conducted to characterize the shelf-life stability and relative reactivity of UV-polymerizable, thiol/acrylate-based formulations containing various concentrations of N-PAL. These formulations were characterized for their relative reactivity using differential photocalorimetry (DPC) techniques. The shelf-life stability data generated thus far indicate that N-PAL provides adequate stability without significantly reducing the relative reactivity of the formulations.

### 2. Diatoms as Indicators of Wetland Mitigation Success

Tudon Martinez, Alisha Romero

Dr. Heidi Ziemer, Research Mentor, Department of Social Sciences, UHD

**Abstract:** We studied whether gender determines the likelihood of a driver stopping to assist a casually dressed gentleman stranded on the side of the road. Many studies report differences between men and women when helping others is involved. The probable explanation lies in the nature of the help required in the situation. Active doing, spontaneous, and anonymous acts are more likely to be carried out by men than by women. Women are more likely to help than men when helping is more planned, formal, personal, and less likely to involve direct intervention. We considered a number of variables: situation, type of help necessary, time of the day, physical condition of the person offering help, and previous experiences. Some studies have found that interveners in several kinds of dangerous events had more exposure to crime, both in personal experience and in witnessing others' victimization, they were also taller, heavier, better trained to cope with emergencies (e.g. trained in life saving skills, medical and/or police trained) and were more likely to see themselves as physically strong, aggressive, emotional and principled.

### 3. Diatoms as Indicators of Wetland Mitigation Success

David Lang

Dr. Brad Hoge, Research Mentor, Department of Natural Sciences, UHD

Location: UHD, Greens Bayou Wetlands Mitigation Bank, and Anahuac National Wildlife Refuge

**Abstract:** Diatoms were chosen to assess wetlands mitigation success in The Greens Bayou Wetlands Mitigation Bank, a project of The Harris County Flood Control District. Diatoms respond rapidly to environmental changes, thus diatom succession provides a good model of wetland mitigation success. Samples were collected from surface water and the first 10 centimeters of soil at the GBWMB and The Anahuac National Wildlife Refuge, a relatively undisturbed wetland comparable to those at the GBWMB. Results show statistically different assemblages at the GBWMB compared the ANWR. These results suggest the GBWMB, although planted with climax community plants, is still undergoing succession.

### 4. Combating Spam Through Proofs of Effort

Cyril Harris III

Dr. Ping Chen, Research Mentor, Department of Computer and Mathematical Sciences, UHD

**Abstract:** Spam is rapidly degrading the value of the Internet. Current methods to block spam are becoming less and less effective. Because of this several researchers from Microsoft Research proposed a new type of solution at Crypto 2003. To combat spam these researchers proposed that prices be accompanied with the act of sending email. These prices are easy to verify proofs of computational effort which would be hard to compute for the sender but easy to verify for the receiver.

### 5. Parallel Power

Khoi Huu Nguyen

Dr. Hong Lin, Research Mentor, Department of Computer and Mathematical Sciences, UHD

**Abstract:** The search for more computing power has daunted the technology world since the introduction of computers. Currently, the typical Von Neumann architecture of computers has directed us to increase processing power and throughput via increased transistors, addressing space, and physical memory. However, a more efficient way is through message-passing between multiple processors. The concept of message passing is to achieve parallelism through a function that explicitly transmits data from one process to another. Message-Passing Interface (MPI) is simply a "library" of functions that can be called from C/C++ and FORTRAN. This poster studies the construction and processing power of different clusters running MPI programs.

### 6. Cheating; Yes Unicellular Organisms Do It Too

Tek Williams and Vedangi Sample

Dr. Akif Uzman, Faculty Mentor, Department of Natural Sciences, UHD

Dr. Gad Shaulsky, Research Mentor, Department of Molecular and Human Genetics, Baylor College of Medicine

**Abstract:** Altruistic behavior is exhibited in *Dictyostelium* during reproduction. This form of group selection, also observed in higher organisms, ensures that genetic traits shared by a related group of individuals persist through subsequent generations via the sacrifice of some members. Certain mutations often become over-represented compared to other mutants. Mutants were created using restriction enzyme-mediated integration. Cultures containing different mutants were randomly mixed, then allowed to undergo 10 rounds of replication. Cultures were then characterized using cheating assays to screen for dominant mutants. *Dictyostelium* strain AX4 was used to compare the level of cheating. Swindling ones way into the spores ensures that your genetic make up will be directly passed on to the next generation.

Sponsored by the UHD Scholars Academy.

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