



The LAS Insider

A Newsletter for Undergraduates in the College of Liberal Arts & Sciences

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INSIDE THIS ISSUE

- 1 Amanda Dampzt Measures the Craters on Mars
- 3 Momaday Awarded Honorary Degree
- 4 Opportunities for English Majors
- 5 Bang for Your Buck: LAS Tuition Differential
- 6 News of the 2010 LASURI Competition
- 7 Tips for Pre-Health Students
- 8 Graduates—Where to be on May 9
- 8 Seize the Day!—INTERN

The LAS Insider is a newsletter compiled by the Academic Advising staff of the College of Liberal Arts & Sciences.

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Measuring the Craters on Mars and the Value of a Research Internship

Fifth year senior in earth and environmental sciences Amanda Dampzt recently earned a semester-long internship with the [NASA Undergraduate Student Research Program](#) at the [Goddard Space Flight Center](#) in Greenbelt, Maryland. While there, she toured the base, saw satellites as they were created, and attended exciting lectures on the recent discovery of water on the moon. She also conducted research on craters found on Mars and the role of water in their formation. This spring, Dampzt is busy taking 18 hours and serving as president of UIC's [Terra Society](#). In addition, she writes as an undergraduate contributor for the [Women in Planetary Science](#) blog. Recently, Dampzt was kind enough to take the time to speak to an LAS insider about her work with NASA.

Q: How did you hear about NASA's Undergraduate Student Research Program?

A: I was actually just doing a Google search. I was looking for an internship because I knew I needed to intern somewhere. It's what you need to do to get your foot in the door anywhere. I was already doing research in planetary science under Associate Professor [Andrew Dombard](#) in the [Department of Earth and Environmental Sciences](#) and I knew I needed to take the next step.

I stumbled upon the internship online; I talked to Professor Dombard about it and then I applied. When you apply, you pick three space centers you'd like to go to. I was looking at some sort of geology program and [Goddard Space Flight Center](#) happened to be a good fit for me.

I was in the lab one day working and I got an e-mail letting me know I had been accepted. It was a huge surprise.



Q: How did your earth and environmental sciences background complement the internship?

A: I have a background in planetary sciences, which helped out tremendously, but research was the biggest thing. Professor Dombard pushed me to write, and he pushed me to submit to conferences, and that was the biggest thing. Of course the classes helped and having the background was very important, but it was more about getting in that mindset to do research.

Q: What happened on an average day at Goddard?

A: When I first started, it was "You're going to read for two weeks. You're going to read, you're going to learn everything and then we're going to figure out the best way to approach it."

Essentially, I was doing a study on impact craters on Mars, and these craters are interesting because they're fluidized, meaning there's water present.

Continued on page 2

Measuring the Craters on Mars continued

When I first started, I had to find all the craters' locations. I put them in a neat spreadsheet so that when I go back to model it, I can just pull it out and go. I looked at each crater individually, characterized it and put down all the necessary data. I was measuring the radius of the crater, the distance from the radius to the rampart of the crater and the radial thickness of it.



I was doing the necessary preliminary work so that when I go back this summer, I can actually model it to see how much water it took to form the topographic features of the craters. Water is present on both Mars and the impactor—which is the object that struck the planet and formed the crater. The impactor has water on it in the form of ice, assuming it didn't evaporate when coming through the atmosphere. There will be computer modeling of the craters done too, although I'm still not quite sure what kind of a system we're going to use. We're essentially just trying to recreate the initial formation of the craters.

Q: What advice would you offer to your fellow UIC students interested in such an internship?

A: I think it's good to have research experience. I approached Professor Dombard and I said "I want to do some sort of research. I'm not sure what I'm interested in, though." I told him my strengths and weaknesses, and he threw out some ideas that he thought I might like. He really catered to those strengths and weaknesses. I recently gave some advice to someone at a [Terra Society](#) meeting about how to approach a professor. I told them that I e-mailed my professor and said, **"I know that research experience is necessary for my future. What do I need to do?"**

Q: What are your future plans?

A: At UIC, I just recently finished a project on the moons of Jupiter and Saturn. I examined how, in the past, scientists have investigated the flexure on the icy

moons using static models. I attempted to prove that this assumption does not work for these bodies and that any interpretations that have been made using these models should be viewed skeptically. I'm currently writing about it to submit to a journal.

Also, in March I'm going to the [Lunar and Planetary Science Conference](#) in Woodlands, TX. I went last year and did a poster session, but this year I get to give an oral presentation. I'm rather nervous about presenting in front of a large group of scientists.

This summer I'm going back to Goddard for a 10-week internship. My mentor was happy with the work I was doing. I loved what I was doing and I decided to apply for another internship to work with her.

After I graduate, I want to earn my PhD. I'm looking into a bunch of schools and I have my fingers crossed. I don't know what specific area I want to pursue yet, but I know I want to go into planetary science. I still have one more year here at UIC and I'm sure it will work out.

I'm very content with where I am right now. It may take me two extra years to graduate, but it's worth it.

Photos courtesy Amanda Dampfz

2010 LAS Honorary Degree Recipient N. Scott Momaday



N. SCOTT MOMADAY is one of the most distinguished writers in the United States and the first Native American author to receive the Pulitzer Prize for his novel, *House Made of Dawn*. That novel and *The Ancient Dawn* helped to create identity for many Native Americans during times of increasing cultural awareness. He is most well known for

his novels and poetry that communicate legends of his Kiowa heritage.

Born in Lawton, Oklahoma, Navarre Scott Momaday spent the first year of his life at his grandparents' home on the Kiowa Indian reservation, where his father was born and raised. When he was one year old, Scott's parents moved to Arizona. His father was a painter. His mother, who is of English and Cherokee descent, became an author of children's books. Both worked as teachers on Indian reservations when Scott was growing up, and the boy was exposed not only to the Kiowa traditions of his father's family but also to the Navajo, Apache, and Pueblo Indian cultures of the Southwest. Momaday developed an early interest in literature, especially poetry.

After graduation from the University of New Mexico, and a year teaching on the Apache reservation at Jicarilla, Momaday won a poetry fellowship to the creative writing program at Stanford University. Under the guidance of poet and critic Yvor Winters, Momaday earned a doctorate in English literature in 1963. His appointments at professorial ranks have been at the University of California, Santa Barbara, University of California, Berk-

ley, Stanford University, and the University of Arizona with other positions as far-reaching as at the Library of Congress and the State University of Moscow.

In addition to his array of publications, Momaday has also exhibited his drawing and paintings in a variety of venues. Among the awards presented to Professor Momaday are the Academy of American Poets prize, Guggenheim grant, American Academy Award, Western Heritage award, Mondello Prize (Italy), World Literature Award and no fewer than nine honorary degrees. In 2007, President George W. Bush awarded N. Scott Momaday the National Medal of Arts.

At this year's LAS Commencement ceremony, The University of Illinois will confer upon Professor Momaday the honorary degree of Doctor of Humane Letters.

The Delight Song of Tsoai-Talee

By N. Scott Momaday

I am a feather on the bright sky
I am the blue horse that runs in the plain
I am the fish that rolls, shining, in the water
I am the shadow that follows a child
I am the evening light, the lustre of meadows
I am an eagle playing with the wind
I am a cluster of bright beads
I am the farthest star
I am the cold of the dawn
I am the roaring of the rain
I am the glitter on the crust of the snow
I am the long track of the moon in a lake
I am a flame of four colors
I am a deer standing away in the dusk
I am a field of sumac and pomme blanche
I am an angle of geese in the winter sky
I am the hunger of a young wolf
I am the whole dream of these things

You see, I am alive, I am alive
I stand in good relation to the Gods
I stand in good relation to the earth
I stand in good relation to everything that is beautiful...
You see, I am alive, I am alive

Cool Accolades for Past and Present English Majors

Justin Sherwood (B.A. 2010) was chosen to read his poetry in the 2010 Columbia College City-wide Poetry Festival in April, 2010. In the fall, he will be enrolling in the New School's M.F.A. program in poetry, where he has also been awarded a Departmental Merit Scholarship.

Erika Sanchez (B.A. 2006) received a Fulbright to Madrid, Spain for 2006-2007 where she taught English at a secondary school and worked on her poetry manuscript. Her work has been published in *Other Voices*, *Hanging Loose*, *Crab Orchard Review*, *Hayden's Ferry Review*, and other publications. This spring she is graduating (with distinction) with an MFA in Creative Writing from the University of New Mexico.

At a Loss for Words?— Where English Majors Go When They Need Advice

Office of Undergraduate Studies, Department of English, 1931 University Hall

The most basic purpose of the Office of Undergraduate Studies, run by Professor **Christina Pugh** (Director) and **Jeffrey Gore**, PhD, (Academic Advisor), is to help students monitor their own progress towards graduation by giving them access to their permanent records. However, according to Jeffrey Gore, another purpose of the Office is to help English majors discover how their day-to-day assignments contribute to larger frames of reference: "I regularly meet with students around vacations when they have to explain to friends and family, 'What are you going to do with an English degree?' Some students go on to graduate school and careers in teaching and research. But many will find 'information age' jobs in journalism, public relations, and the media."

Advising Information and Registration: In individual appointments, Dr. Gore will help you to evaluate which classes will best contribute to your progress towards graduation and your own goals. Hours are posted outside the office, 1931UH, or write Dr. Gore for an appointment (jgore1@uic.edu).

Workshops on Jobs in English and Applying to Graduate School: Announcements are made each semester for workshops that offer tips for getting into graduate school or landing a first job. Contact Dr. Gore for details.

Internships: Our students regularly intern with major media outlets and international non-profit organizations, and our internship program is one of the most competitive among Midwestern universities. Contact **Linda Landis Andrews** for details (landrews@uic.edu).

Scholarships and Awards: Stop by our office for details on scholarships and awards for which you might be eligible. We strongly encourage students to compete for these awards.

Get Connected: The "e-majors" listserv provides current English majors with announcements about opportunities available on and off campus, along with information about registration, office hours, and graduation. If you are not subscribed to the listserv, please contact Dr. Gore at jgore1@uic.edu.

AMAZING Research Opportunity for English Majors

The Newberry Library Undergraduate Seminar is a unique opportunity for students from UIC and other universities in Chicago to explore the humanities at one of the country's foremost research libraries. The topic and the instructors change every year, but each year's seminar topic is related to the Newberry's holdings. The Spring 2010 topic is "Islands: Missionaries, Migration, Labor in the Atlantic World and on the Pacific Rim," and the instructors are Erik Gellman, Assistant Professor of History at Roosevelt University, and Lori Pierce, Associate Professor of American Studies at DePaul. Each spring's class is limited to 20 total participants from UIC, DePaul, Loyola and Roosevelt. The course is especially attractive because it offers credit equivalent to two UIC courses. While there are lectures and common assignments, students in the seminar create their own individual research projects. One of the advantages many students find is that they become "insiders" at the Newberry Library: with the help of the Newberry's expert librarians, they learn how to do archival research, and they have their own carrels as Newberry Library Fellows. Spring 2010 participants from UIC include So Jung Choi, Karen Cralli, Rebecca Jozwiak, Elisabeth Kasperrek, Nicole Krause, and Erin Vogel.

Getting More Bang for Your Buck: What Happens to Differential Tuition Dollars?

In the College of Liberal Arts and Sciences, undergraduate students in certain majors or specialized curricula are assessed a differential tuition in addition to their base tuition. In these fields of study the cost of instruction and the teaching facilities are more expensive than in other disciplines and include Biochemistry, Biological Sciences, Chemistry, Earth and Environmental Sciences, Neuroscience, Physics, and Psychology. The money from differential tuition is strictly committed to improving teaching laboratories, related equipment, and attracting high quality teaching faculty who are leaders in their fields and require funds to establish their laboratories. Many students already have benefited by being taught at renovated lab stations with new equipment including microscopes, autoclaves, incubators, spectrographs, stereoscopes, oscilloscopes, calorimeters and new computers. These funds also have been used to support faculty research where students benefit by participating in projects and by learning about research in their coursework.

Case Study—Here's how Biological Sciences has used differential tuition to fund improvements in undergraduate education:

The Department of Biological Sciences used differential tuition funds to purchase several pieces of new equipment for their laboratory classes. The most prominent pieces of equipment include three Nikon inverted microscopes. In BioS 489, for instance, these microscopes enable students to examine the opening of individual voltage-activated proteins using single channel analysis, channels essential in regulating the electrical excitability of nerve cells. The microscopes also permit students to examine whole-cell electrical currents from individual isolated retinal neurons in culture using voltage-clamp techniques.

The differential tuition funds also allowed the purchase of several power supplies and pumps which will enable students to examine nerve cell activity in the lamprey spinal cord preparation.

All three sets

of experiments—whole-cell recordings from retinal neurons, single-channel analysis of neuronal proteins, and intracellular recordings from cells

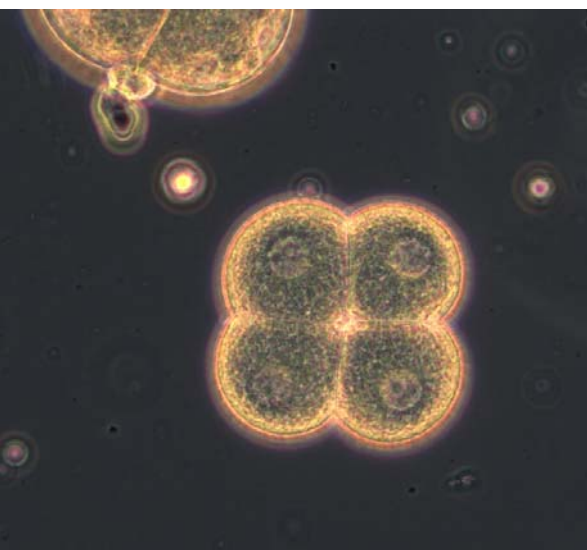
in the lamprey spinal cord network—are new to the laboratory and could not have been conducted without the items purchased through the differential tuition funds.

In addition the Biological Sciences Department purchased new Biopac Physiology systems, allowing students in BioS 443, Psch 351 and Psych 363 to conduct experiments to study the physiological changes that occur in themselves under a variety of conditions. This hands-on approach has created excitement in the lab for understanding nervous system function, as well as a deeper understanding of how our nervous system underlies a broad range of behaviors. Sharing these systems across LAS departments has helped to maximize resources and succeed in achieving academic excellence.

In one session, students calculated the conduction velocity of a compound action potential along segments of the ulnar nerve (see Figure 3). Data were averaged across students and the results were discussed and compared to published reports of ulnar nerve conduction velocity. The students gained a first-hand understanding of how nervous system activity is generated to transmit information in our brain and throughout our body.

For more information on how tuition differentials are used in the departments of Chemistry and Physics, see the LAS webpage: <http://www.uic.edu/las/students/differential.shtml>.

Photos courtesy Brian Kay



SHOUT OUTS to LAS's Newest UNDERGRAD RESEARCHERS!

Congratulations to the 2010 LASUR-I Recipients!

Natalie Alvarado—*Latin/o American Icons** (Advisor: Dianna C. Niebylski)

Yasmin Mehta—*Linguistic Resources of Bilingual Speakers** (Advisor: Kay Gonzalez)

Anton Kociolek—*Commodifying Social Justice: The Cultural Politics of Fair Trade Coffee** (Advisor: Molly Doane)

Andrea Shelton—*Motherhood and Citizenship** (Advisor: Crystal Patil)

David Carlson—*Investment Treaty Ratification and Features: Data Collection and Hypotheses Testing* (Advisor: Zeev Yoram Haftel)

Brianna Jackson—*Ancient Ideas and Modern Forgeries* (Advisor: Nanno Marinatos)

Timothy Oravec—*Producing the Map of Israel/Palestine* (Advisor: Rachel Havrelock)

Yasin Patel—*Crusaders Against the Needle: Anti-Vaccination Activism in American History* (Advisor: Robert Johnston)

Tatiana Karpouzian—*The Neurocognition of Language Acquisition: A Longitudinal Study of Spanish as a Second Language* (Advisor: Kara Morgan-Short)

Grace Allawirdi—*Molecular Mechanism Regulating Neuronal Activity and Function in the Retina* (Advisor: Robert Paul Malchow)

Syed Khalid—*Mechanisms for Synaptic Vesicle Recycling* (Advisor: Liang-Wei Gong)

Aaron Kunamalla—*Structure, Function, and Bioinformatics of MDR Proteins* (Advisor: Jeffery Constance)

Annie Lin—*Expression Patterns of *Asxl2* During Mammalian Heart Development* (Advisor: Tian Wang)

Thaddeus Maguire—*Screening for Nicotinic Receptor Clustering Factors* (Advisor: Janet Richmond)

Sujithra Reprakash—*Neuronal Circuitry Underlying Feeding in *Helisoma** (Advisor: Don A. Murphy)

Nicole Cedar Smith—*Understanding Invasive Species' Mechanism of Success* (Advisor: Dennis W. Nyberg)

Aunica Jones—*Molecular Studies of Spectrin* (Advisor: Leslie Fung)

David Smith—*Discovery of Diurnally Varying Content of Fruit Fly Hemolymph* (Advisor: Scott A. Shippy)

Shauna Kapica—*Effect of Methane on Clay Minerals* (Advisor: Stephen Guggenheim)

Rigoberto Padilla—*New Tensions in Old Gateway: Immigration, Institutions, and Inter-Group Relations* (Advisor: Nilda Flores-Gonzalez)

Sheila Butler—*From the Central to the City: Work and Social Geography of Trans-National Puerto Rican Workers* (Advisor: Molly Doane)

Elizabeth Leenheer—*Mitochondrial Haplotype Diversity in SE Kenya* (Advisor: Sloan R. Williams)

Wen Jun Chen Norman—*Tigers, Spies, and Snowmen: Representations of Nepal in U.S. Popular Media, 1950-1980* (Advisor: Mark Liechty)

Elizabeth Topczewski—*Chicago Gang History Project* (Advisor: John Hagedorn)

Michelle Weissman—*Interpersonal Violence Prevention and Intervention* (Advisor: Heather J. Risser)

Dan Aiello—*Creativity and Collaboration* (Advisor: Jennifer Wiley)

Natalie Drozda—*Immigrant Adolescent Adaptation to School: The Newcomer Center* (Advisor: Ed Trickett)

Leah Gold—*The Role of Cross Modal Transfer in Memory and Comprehension* (Advisor: Gary Raney)

Laurel Wright—*Investigating Stereotype Threat Among Women in Science, Technology, Engineering and Math (STEM)* (Advisor: Mary Murphy)

*Caterpillar Funded Project

For more information on The Liberal Arts & Sciences Undergraduate Research Initiative (LASUR-I) Competition, visit <http://www.uic.edu/las/students/lasuri/>

**Winners of the 2010
UIC Student Research Forum**

Humanities: Social Science and Business Practices:
First Place: Kathleen Lee from Psychology
 (Advisor: Gary Raney)
Abstract 107: False cognate detection: Examining bilingual lexical systems

Life Sciences:
Third Place: Aunica Jones from Chemistry
 (Advisor: Leslie Fung)
Abstract 81: Purification and analysis of PurE, a recombinant protein for drug discovery studies

Physical Sciences and Engineering:
Honorable Mention: Nicholas Spizzirri from Physics
 (Advisor: Henrik Aratyn)
Abstract 180: Generating rational solutions to the fifth Painleve equation

Some Timely Tips for First & Second Year Pre-Health Students

- Take prerequisite courses for intended professional school.
 - If applicable: take necessary chemistry and math courses as soon as possible.
- Explore multiple health professions and talk with healthcare providers.
- Form study groups with friends and classmates and develop good study habits!
- Consider becoming involved in a student organization.
 - Many UIC organizations are related to the health professions. For a list of clubs and organizations see: <http://www.uic.edu/depts/chcc/programs/Campus/Files/>
- Shadow healthcare professionals.
 - Take notes or journal on what you observe.
- Volunteer and/or pursue research and internship opportunities.
- Become involved in student leadership on campus.
- Attend a Pre-Health Workshop sponsored by the College of Liberal Arts and Science.
- Begin to save money for application and exam fees.

What Do Admissions Committees Want? A Checklist for Pre-Health Profession Students



Under the category of “Strong Academic Record”

- Demonstrated mastery of the basic science requirements
- An ability to read rapidly and understand sophisticated material in the humanities and social sciences (especially important for those taking a test such as the MCAT)
- Successful independent scholarship and/or research experience
- Evidence of a close working relationship with at least three faculty members (or in the case of veterinary medicine or physical therapy, some professionals in the field) who know you well enough to write a comprehensive letter of evaluation

Under the category of “Firm and Clear Motivation”

- Demonstrated commitment to the well-being of others through chosen life experience
- Deep understanding of health profession of interest from direct personal contact

Under the category of “Outstanding Personal Qualities”

- Proven personal traits such as maturity, stability, integrity, responsibility, trustworthiness, leadership, enthusiasm, etc.
- Evident skills and abilities which will allow me to contribute to the life of my health professions school and my intended profession
- Outstanding interpersonal skills as demonstrated by the ability to carry out a sophisticated conversation (interview) with others considerably older than myself (faculty)
- Proficiency in language other than English and the ability to work well with those of different cultural backgrounds



Congratulations Grads!!!

Forgetting what you need to do on
Sunday, May 9th?

Follow the link below for Day of
Ceremony Instructions for Under-
graduates :

[http://www.uic.edu/las/students/
commencement/
students.shtml#undergrad](http://www.uic.edu/las/students/commencement/students.shtml#undergrad)

Wondering how to stay in touch?
Get connected through the LAS
Alumni Association:

[http://www.uic.edu/las/alumni/
lasaa/](http://www.uic.edu/las/alumni/lasaa/)

Forgetting something else on May
9th?

It's Mother's Day too. While
graduating from college is a nice
gift for your mom, it might be
even nicer with a card and/or
flowers.

Too Busy to Intern . . . Think Again!

Today interning is on most college students' to-do list. Why? Mostly because Academic Advisors talk about their importance; career counselors point out that employers are looking for them on students' resumes; and parents ask about them when visiting colleges with their children. Yet, many students do not really know what an internship is, or why an internship experience can be beneficial to their academic *and* professional development.

An internship:

- Is on-site work experience that is either directly related to your major field of study or your career interest
- Is an extension of what you have learned in the classroom
- Offers the opportunity to apply what you have learned in the classroom
- Provides you with the real-world experience you will need to successfully attain a full-time job in your field
- Alerts you to the skills employers demand of prospective employees
- Is a meaningful, well-supervised part-time learning experience
- Allows you to test out possibilities by exploring your interests and using your skills in a professional environment
- May be paid or unpaid, may or may not offer academic credit
- May include opportunities in the corporate, government and non-profit sectors
- Offers employers fresh ideas to creatively respond to real business problems
- Gives you invaluable opportunities for networking
- May result in a full-time employment offer

Students benefit from internships because they provide opportunities to:

- Apply what they have learned in the classroom to a real work experience
- Find out how to prepare for a career in a certain field
- Determine and appropriate career path
- Build a strong resume
- Develop a network of professional contacts for future opportunities and references
- Learn which workplace skills they need to develop
- Find out what to expect when making the transition to a full-time job

For more info on LAS Internships:

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