

# With Honors

Volume 17, Number 1

The University of Louisville UNIVERSITY HONORS PROGRAM

Winter 2004

## Sampling Honors Student Research

Undergraduate U of L researchers-- who are they? What do they do?

Here at the University of Louisville -- a research institution -- research ranges from the scientific to the creative. It leads to international travel, off-campus exchanges, the Summer Research Opportunity Program, papers at national and regional conferences, prestigious post-graduate fellowship study, grants for travel or research, even the fascinating depths of the archives and rare book collection. Your imaginative limits may be the only boundary.

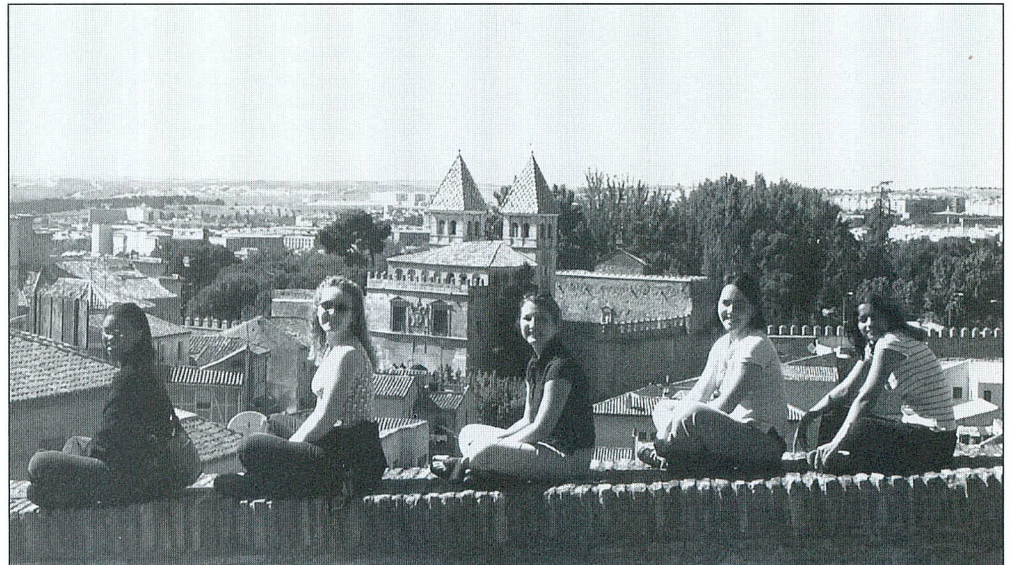
Glimpses of U of L Honors students' work highlight a sampling of their research experiences.

### Summer at Columbia University Suzanne Nichols Physics

The bright lights of New York served as my guide on this particular adventure. I spent the summer working for the prestigious Columbia University Nevis Laboratory.

My work was on a project called eBubble, which is the next generation of neutrino detector. This detector will sit behind the beam dump at the Large Hadron Collider at CERN when it is completed in late 2007. The eBubble detector exploits a special property of liquid helium, in which the liquid forms bubbles around free electrons. These bubbles are nanosized and result from the Pauli exclusion principle allowing you to view tracks of

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Five members of the Overseers International Seminar "Islamic Iberia" take a break during the field work segment of the course. For seminar participants semester-long academic work is followed by subsidized travel for hands-on study.

## Portugal and Spain

# Reflections of an Islamic Past

By Abby Crawford  
Spanish and  
Political Science

Muslims in Spain? The topic of the spring International Honors Seminar immediately snagged my curiosity. After years of Spanish classes, I had only briefly heard about the "Moors," and they were usually presented as almost a glitch in Spanish and Portuguese history. Now there would be a whole class dedicated to their civilization and culture!

The truth is, not many people realize that these two countries on the tip of Western Europe, at one time the greatest Catholic powers in the world, once comprised the Islamic land of Al-Andalus. Before the seminar, I myself had never understood the wealth of cultural and intellectual influences left by the 800-year presence of Muslims in Portugal and Spain.

As our 20-person group ventured across the peninsula in late May, the evidence was to be found everywhere. From unmistakable horseshoe arches to intricate tile work, the styles of Al-Andalus echoed throughout both European countries. Even store and restaurant signs professed the influence of a vibrant Islamic culture.

During the trip we experienced firsthand many of the historical sites we had studied in class: Muslim fortresses adorning hilltops, ancient palaces, gardens, and mosques, and even an excavated royal city. At each site, we imagined what it would have been like centuries ago, occupied by royalty, crowds of people, and a remarkable spirit of cultural and religious coexistence.

Naturally, I couldn't leave the heartland itself without going to a flamenco

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## Islamic Past

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performance. One night in Seville, a friend and I walked down a narrow cobblestone alley to a place fittingly named "La Casa de la Memoria," referring to the memory of al-Andalus. The doorway of what appeared to be a plain stone structure led to a beautiful Andalusian courtyard with Islamic artwork, burning incense, and pale candlelight.



In the middle of the square, on a tiny wooden platform, a man sang of love and sorrow as if they were his own, in a chilling yet romantic tone. The incredible performance of the guitarist and dancer completed the atmosphere. It was there, in that dreamy courtyard, where Spain's Islamic heritage came alive to me. In a stirring Castilian love song, I could almost hear a 12th-century Berber Muazzin calling the city to prayer from the tower of the local mosque.

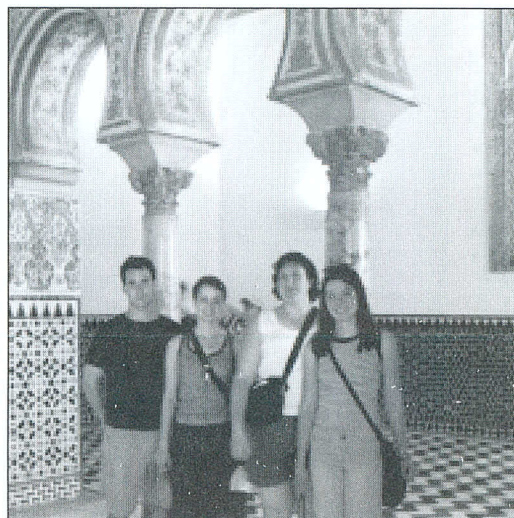
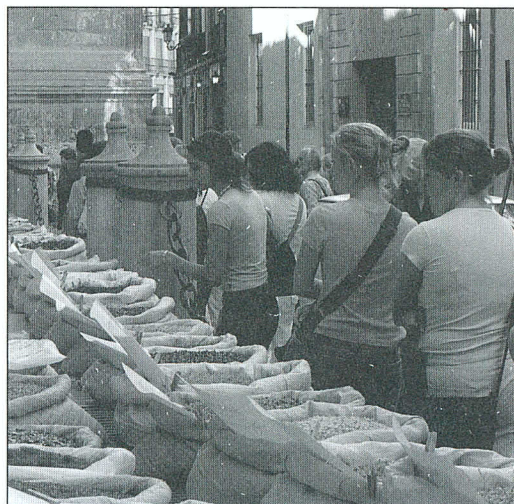
There is no learning experience quite like traveling across oceans to see for yourself what books can only describe with mere words and pictures. The greatest lesson I gained from the seminar and trip was the importance of searching deeper, taking the time to really investigate things, asking questions such as "Where did this tradition come from?"

Who knows, there may be a fascinating answer waiting -- one that you may never have expected.

At right, Honors seminar students check out the spice market in Granada.

At left below, the seminar visits the Andalusian-inspired Casa do Alentejo in Lisbon.

Dr. Greg Hutcheson, Modern Languages, and Dr. Shawn Parkhurst, Anthropology, taught "Islamic Iberia."



Abby Crawford, author of "Reflections of an Islamic Past" is pictured at second from the left at the Royal Palace in Seville.

### Wall Street Journal Ranks U of L Near Top!

U of L is among the top "feeder" institutions to America's most elite graduate schools, the Wall Street Journal reported on Sept. 26, 2003. The article, "Want to Go to Harvard Law?," ranks U of L as 30th among all public colleges and universities in the nation whose graduating students made it into top graduate programs this fall at Harvard, Yale, Columbia, Chicago and similarly prestigious universities. The newspaper based the article on a survey it conducted to determine where students entering 15 of the nation's most elite medical, law and business schools had attended school as undergraduates.

## U of L Summer Fellowships

# SROP – Summer Research Opportunity Program for U

Reflecting on the question "Did you like participating in SROP?," Honors students from departments as diverse as Pan African Studies and Neurological Surgery immediately lit up with grins and an emphatic "yes."

Jason Wells responded: "I learned more in two months than I learned in two semesters of class," adding that he would have been doing data entry during summer break at his mother's office without the research opportunity. This fall, Wells continues his work in Neurological Surgery and now expects to follow a career in the field, a topic he knew little about before this summer.

James Cripps, 28, a non-traditional undergraduate Honors Program SROP participant, leaves no resource unexplored when looking for a summer placement. A pre-med student, he scoured the web, checked out the library and the University Honors Program online resources to find the right placement. Cripps enthusiastically endorsed SROP.

He capped the poster presentation

week with another meaningful activity, his wedding.

The following two project descriptions by James Cripp and Jason Wells provide a glimpse into typical medical research SROPs.

### The Institute for Molecular Diversity and Drug Design(IMD3)

James Cripps  
Pre-Med

I am currently working on a research project with Dr. Rafael Fernandez-Botran at the University of Louisville Department of Pathology and Laboratory Medicine. It was presented at Undergraduate Research Day as well as at an Immunology meeting in Chicago. A brief summary of the project follows.

Auto-immune disease results from the recognition of normal, self-tissues as foreign by the immune system. The subsequent immune response and

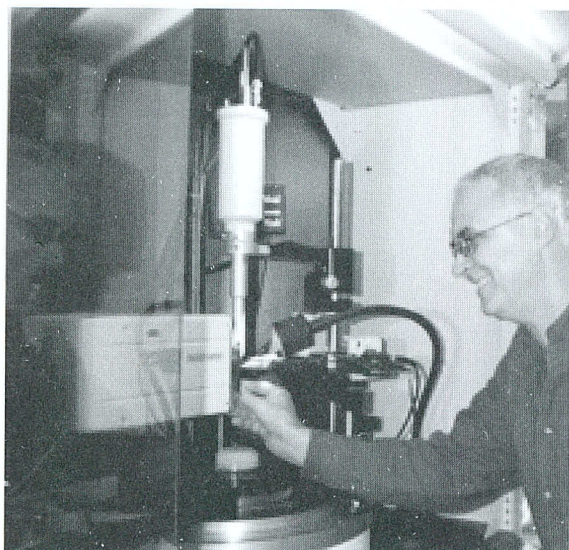
inflammation leads to severe pathologic consequences for the host. Interactions between Glycosaminoglycans (GAGs), complex polysaccharides present in most tissues, and regulatory proteins known as cytokines play an important role in the regulation of local inflammation and immune responses.

In our laboratory, we focus on inhibiting these interactions via use of a peptide developed in collaboration with IMD3(Molecular Diversity and Drug Design). The targeting of these interactions represents a valid approach to immune system regulation and possible treatment for inflammatory diseases.

### U of L Health Science Center

Jason Wells  
Pre-Med

Jason Wells' abstract for his poster presentation at the SROP event was titled: "Assessing Sensory, Motor, and Proprioceptive Recovery after Thoracic SCI."



### Research Resources

At far left, Dr. John Richardson, U of L Honors director and chemistry faculty member, works on research during his 2003-2004 sabbatical. He is shown here working with the new quarter million dollar X-ray diffractometer.

Both the Honors House (behind pedestrians) and the Honors residence hall (far right) are within a paper airplane flight of the new \$41.4 million 106,000-square-foot research building going up on the Belknap Campus.

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# Undergraduates

The student is expected to become intellectually involved in design and execution of the research project, not just serve as "another pair of hands."

From U of L undergraduate research scholar grant information

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For those of you who are rabid science buffs, here is another highly technical abstract. Jason began his sophomore year at U of L in the fall 2003 semester.

## Assessing Sensory, Motor, and Propriospinal Recovery after Thoracic SCI

In the United States, there are an estimated 11,000 spinal cord injuries reported each year (SCI Network, 2001). Spinal cord injury (SCI) results in the destruction and disruption of ascending sensory and descending motor axonal pathways responsible for locomotion. Depending on the SCI level, propriospinal axons and neurons involved in the coordination between upper and lower extremities during locomotion are also damaged. Electrophysiological and behavioral assessments are critical for measuring dysfunctions and functional recovery after SCI. They have the potential to predict the recovery. They also provide important information about neurotransmission along specific axonal pathways, which, when combined with anatomical assessments, may be helpful for developing SCI repair strategies.

Using an adult rat model of the clinically relevant contusion SCI, the goal of this project was to simultaneously examine neurotransmission along sensory, motor, and propriospinal axonal pathways over time after varying injury severities, and to correlate this information with results from a locomotion behavioral test and histology.

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Scientists are people of very dissimilar temperaments doing different things in very different ways. Among scientists are collectors, classifiers and compulsive tidiers-up; many are detectives by temperament and many are explorers; some are artists and other artisans. There are poet-scientists and philosopher-scientists and even a few mystics.

Peter Medawar, *Pluto's Republic*, Oxford University Press, New York, 1982 p. 116. (No, "Pluto" is not a typographical error.)

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## Honors Scholars Prepare Senior Honors Projects

*Nearly 50 students are completing a senior honors thesis this year, and most are active members of the Honors Program. Foremost among them are Honors Scholars who complete 24 hours or more of Honors coursework while maintaining at least a 3.5 GPA. Each Honors Scholar receives recognition at graduation and on his or her diploma and transcript as a "University Honors Scholar."*

*The following Honors Scholars and their project titles illustrate the broad scope of academic interests among Honors Program students:*

**Jonathan Ballard** (Biology) Effect of Delivery System of Photosensitizer in Photodynamic Therapy and Tumor Response

**Sarah Beck**, (Psychology) Can Self-Rated Health Predict the Onset of Depression?

**Jill Clark** (Political Science) The Estate Tax: How its Elimination Could Affect the Nonprofit Sector and the U.S.

**Abby Crawford** (Spanish, Political Science) The Mexican Metrical Consular ID Card and the Future of U.S-Mexican Relations

**Kris Fannin** (Sociology) Predicting Mental Health Outcomes of Disaster

**Leslie French** (Anthropology, English) The Evolution of the Character Septimus Smith in the Works of Virginia Woolf

**Patricia Isaacs** (Biology)

Can Division I College Coaches Prevent ACL Injuries in Female Athletes?

**Kathleen Jewell** (English, Math)

Hans Christian Andersen's "The Wild Swans"

**Natalie Kenner** (Biology, Spanish)

Behavioral Response in the Newborn Period

**Emily Nall** (History) Inquisition to Witch Craze: How a Civilized Process Led to Public Hysteria

**Sarah Pope** (Communication) Grieving in Cyber-Space: Memorial Photography and Memorial Websites on the Internet

**Brad Stepp** (Psychology) The Effects of Age, Gender, and Patient's Knowledge on Medication Adherence

**April Weatherman** (Political Science, French) Twentieth-Century France: Traditional Authoritarian or Modern Pacifist?

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<http://www.louisville.edu/a-s/honors/>

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"Fries with that?" Not these Honors students.

## Glimpsing Honors Research

Honors Research continued from page 1

electrons that recoil from neutrino interactions. I worked specifically on an acoustic gating scheme for detecting the bubbles.

Besides my research, I made it a point to see the New York sights. I bought bootlegged DVDs in Chinatown, went to free concerts in Central Park and saw as many Broadway plays as I could. The moral of the story is that research experiences for undergraduates highlight outstanding research and, for me, the New York experience.

### **Purdue University Summer and Winter Break 2003**

Alex Spurrier

Chemistry with Concentration in Biochemistry

The college town of West Lafayette, Ind., was my home for this past summer as I worked in the Medicinal Chemistry department at Purdue University.

While my summer was fun, from celebrating Golgi's birthday to camping and water skiing, it was also an unforgettable learning experience.

My research goal was to isolate an age-related protein with the potential to be used in treatment for age-related diseases, including atherosclerosis. The most rewarding moment was when my protein was isolated and my procedure for its isolation was developed. My project then evolved much further and my research done over the summer has been sent to Belgium to be analyzed by researchers there.

This summer showed me how much I love research as it was always exciting and challenging. My experience was so wonderful, that I will be returning to Purdue over Christmas break to continue my research. My summer experience enabled me to learn so much more than could be learned in the classroom.

### **Fulbright Award South Korea**

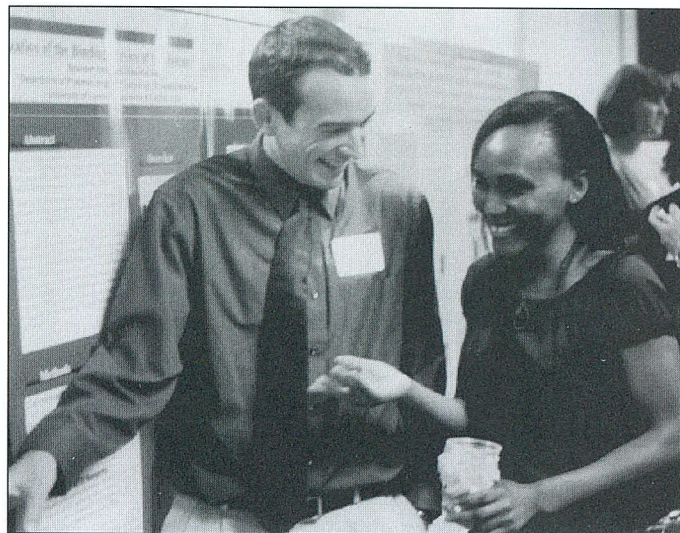
SaMee Burrage

Theatre

In an e-mail letter from South Korea, SaMee describes how the Fulbright teaching assistantship/research opportunity has opened up brand-new avenues in her thinking.

Mr. Jackson (Fulbright program director in NYC) is quite

Honors student Brandon Kellie describes his research at the Health Sciences Center presentation for the undergraduate Summer Research Opportunity Program (SROP). A highly-valued SROP replaced biology major Brandon Kellie's alternate summer plans, classwork and a short stint in Nicaragua where Kellie has worked four years as a translator in a medical clinic.



correct about what the South Korea program does for its students. I have learned so much and have been exposed to so many new things that I never really considered before. . .

Now I am seriously considering programs focusing on diplomacy/foreign affairs and cultural anthropology. I'm toying with the possibility of intertwining arts and international diplomacy. That has been my new inspiration since I've been here. . . .

### **Costa Rican Agriculture Summer 2003**

Disha Pancholi

Political Science and Biology

My research destination was a tropical paradise in the middle of the Caribbean Sea and the Atlantic Ocean. Although my research wasn't quite as romantic as the weekends of fun, when I explored protected beaches and took trips to the canopy to see algae-covered sloths, it was still a once-in-a-lifetime experience.

My research aims were to compare the health of women working on non-organic banana, palm oil and coffee plantations with those working on organic farms. I traveled all around Costa Rica, meeting women aged from 11 to 78. My research partner and I not only explored the health risks that these women faced, but we also attempted to discover some of the potential social causes and effects related to these two very different methods of agriculture.

Our results so far show a clear difference in the health of women on organic farms compared to those on non-organic plantations. Besides being healthier, the women on the organic farms were also socially far better off since they were better educated with smaller family size.

More Honors Research continued on page 3



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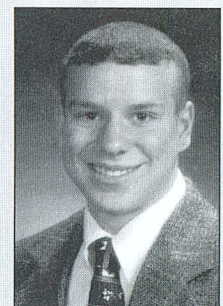
More National Scholars Named .....6

## Three National Fellowships Added to the Honors Array

In the spring/summer issue we had the pleasure of announcing a Truman Scholar, three Fulbright awards and two English-Speaking Union Scholarships. At press time we had not yet heard about the following student scholarship successes. We are pleased to announce the following prestigious national student scholarships.

**Disha Pancholi, Udall Scholar** Disha received the Udall Scholarship for American students committed to preserving and protecting their national heritage through effective environmental public policy conflict resolution. See the story on her summer research in Costa Rica on page 5 in "Costa Rican Agriculture, Summer 2003."

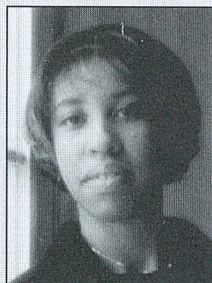
**Ashley Gray, Gilman Scholar** Ashley, a Porter Scholar and junior majoring in Justice Administration and Spanish, has won a Benjamin A. Gilman International Scholarship for the fall of 2003. The scholarship supports her study in Chile for the fall semester as she enrolls in the International Study Abroad (ISA) classes with Chilean Students program.



**Jonathan Ballard**  
**Reagan Future**  
**Leaders Scholar**  
Second Year Awarded



**Disha Pancholi**  
**Udall Scholar**



**Ashley Gray**  
**Gilman Scholar**

**Jonathan Ballard, Reagan Future Leader Scholar** (Second Year Awarded) Jonathan, a McConnell Scholar, has for a second year been named a Ronald Reagan Future Leaders Scholar by the Phillips Foundation. In November 2003, he was selected to compete for the Rhodes Scholarship in Washington, D.C. at district level. Ten universities were represented, including U of L, with four Rhodes Scholars named. Jonathan also traveled to Ghana for three weeks with the medical Sister Cities team during summer 2003.