

Exploration & Discovery

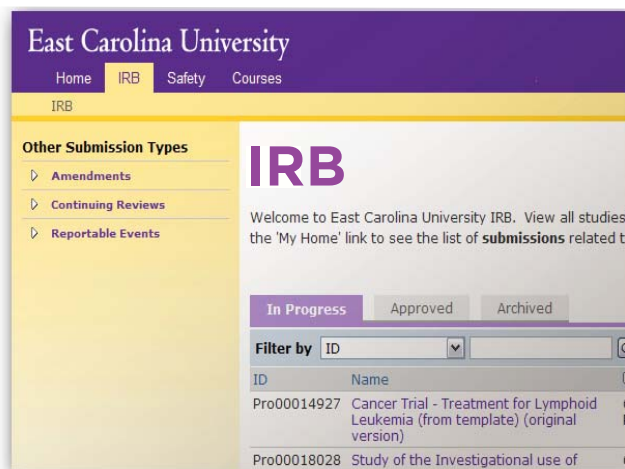
NEWS AND INFORMATION FROM THE DIVISION OF RESEARCH AND GRADUATE STUDIES VOLUME 5, ISSUE 2

University & Medical Center Institutional Review Board Going Electronic!

The Division of Research and Graduate Studies recently acquired an electronic IRB web-based application submission and data management system that will be implemented over the next few months. Submissions will provide investigators and research teams with a number of benefits to facilitate human research while streamlining the submission, review and oversight process.

The new web-based system will eliminate the need for paper copies of the entire UMCIRB application (including both initial preparation and ongoing review). Principal and sub-investigators, as well as key personnel, will now be able to contribute to the completion of the application, even if those individuals are in separate physical locations.

In addition to receiving automatic e-mail notifications, the system provides investigators with audit trails for all activities. For the UMCIRB staff, this will simplify the challenge of managing the growing volume of paperwork associated with research study review. The new system will permit electronic pre-review and sign-off by department chairs, division leaders, and other internal



approval processes. In addition, the system is compliant with the Food and Drug Administration regulations on security (21 CFR Part 11) so that principal investigators, UMCIRB members, and ECU staff will be able to extract audit reports in the event of an agency audit. Automatic e-mail notifications will alert research team members of approaching deadlines and requests for information or clarification, in addition to final IRB determinations.

Principal investigators will be prompted to provide information based on responses to key ques-

tions, with the goal of fully and correctly completing applications on the first attempt.

The electronic IRB web-based application submission and data management system is configured to provide comprehensive, accurate, system-generated error-checking, enabling the UMCIRB to focus on ethical concerns rather than correcting errors or following up to obtain missing information.

The most significant benefit to ECU and the research community, not to mention departmental budgets, is the prospect of going paperless. Based on previous UMCIRB submissions during the past five years, it is estimated that ECU colleges could save up to \$50,000 annually in printing supplies and copy costs alone.

The implementation of this electronic system represents a major enhancement of the services RGS provides to ECU's research community. Watch the UMCIRB website for more information as it becomes available.

Dr. Ron Mitchelson Joins RGS Administration

Dr. Ron Mitchelson, a professor of geography, longtime chair of the Dept. of Geography and Planning at ECU (1999-2009), and former interim chair of the Dept. of English (2009-2010), has been appointed as Senior Research Fellow in Residence in the Division of Research and Graduate Studies (RGS) effective July 1, 2010. In addition to maintaining his faculty appointment in the Dept. of Geography, his responsibilities within RGS will include divisional representation on key university committees, assistance with divisional operations, and research program development.

Dr. Mitchelson has served as a department chair for 18 years, as the director of a large PhD program (UGA), and as director of an

applied research center. His new RGS role will be to assist in advancing and integrating the ECU research enterprise and bringing new research perspectives to the university.

Dr. Mitchelson's accomplishments in academic administration, along with a notable research record, provide an excellent foundation to assist the campus in seeking new research opportunities and implementing research initiatives. During his tenure as Geography's chair, he led development of highly successful atmospheric science and geographic information science programs. His research involves the application of quantitative spatial approaches to a variety of social and environmental issues with a focus on transportation.

INSIDE THIS ISSUE

SPOTLIGHT ON ECU GRADUATE STUDENTS.....	2
NORTH CAROLINA CENTER FOR BIODIVERSITY.....	2
ECU'S INNOVATION DESIGN LAB.....	2
RISK FACTORS: OBESITY, DIABETES, CARDIOVASCULAR DISEASE, AND CANCER.....	3
ECU RESEARCH FACULTY & ACTIVITY HIGHLIGHTS.....	3
AVOIDING EXPORT CONTROL VIOLATIONS.....	4
UPCOMING EVENTS.....	4
FEATURE ARTICLES IN UPCOMING ISSUES.....	4

SPOTLIGHT ON ECU GRADUATE STUDENTS

Hillary Huffer, a PhD student in Coastal Resources Management, was recently named a NOAA Graduate Student Science Fellow. Hillary's constantly evolving research focuses on integrating social science components into marine spatial planning, such as where to locate marine protected areas and oil platforms. By understanding the conflicting nature of various uses of coastal and marine resources, coastal managers will be able to make better informed decisions regarding the coastal and marine environments. According to her, the research is especially important in the aftermath of the Deepwater Horizon incident which resulted in the BP oil spill in the Gulf of Mexico.

Hillary is a social scientist with NOAA's Office of Program Planning and Integration with a goal of becoming the office's Senior Advisor for Environmental Social Science. The recognition includes payment of tuition, a computer, a modest stipend, payment for dissertation expenses, and guaranteed employment upon graduation. Hillary loves working for NOAA and says her job is like no other she has previously held. She says, "Every day is different and filled with questions ranging from designing research questions, to working on implementing agreements, to ensuring that resources are used efficiently. I enjoy working on key environmental issues that cross my desk at NOAA."

Jennifer Cudney enjoys working with sharks, which may be daunting to some, but for this PhD student in Coastal Resources Management, it's a rewarding research area that helped her land a National Sea Grant College Program

Dean John A. Knauss Marine Policy Fellowship. As an executive Fellow, Cudney expects to work with a federal agency in the Washington, D.C. area during a one-year paid fellowship. The Knauss Fellowship program targets students who are interested in ocean, coastal and Great Lakes resources, and the national policy decisions affecting those resources. This is perfect for Cudney, whose research is to track the migration of spiny dogfish sharks, one of the east coast's few viable and legal shark fisheries. Cudney hopes to develop predictive behavioral patterns in the hope of expanding sampling to produce more accurate data for our state's commercial fishermen. She will incorporate the knowledge of commercial fishermen into the overall conceptual picture of her research since they have a day-to-day observational knowledge of these sharks that is typically not available to scientists. Jennifer says, "I've always been interested in sharks, and this research addresses a very interesting and controversial fishery problem. I also wanted to learn more about the technology (acoustic telemetry, GIS) that can contribute so much to fisheries science. The most rewarding thing about my research is that I learned how to make it relevant to the problems and concerns that real people have, and worked with commercial fishermen to develop the research design."



Jennifer Cudney

CENTER FOR BIODIVERSITY

The Thomas Harriot College of Arts and Sciences and Dept. of Biology have formed the NC Center for Biodiversity (NCCB) at ECU. The term "biodiversity" is used to characterize the variety of life on the planet across multiple levels of scale from molecules, to genes, whole organisms, and ecosystems. The diverse collection of organisms on our planet provides the attributes that define our quality of life. However, although we humans are dependent upon these essential ecosystem services, we know relatively little about our planet's diversity. If we are maintain human health and quality of life, it is our responsibility to take a leadership role and to help our region and community identify critical biodiversity resources, the services they provide, and how to use them in a sustainable manner.

The central focus of NCCB activities will be to support and promote all aspects of biodiversity research and education in NC. This mission includes training undergraduate and graduate students in biodiversity research and providing opportunities for students to participate in related outreach. Specific educational goals include a) development of an undergraduate curricular track in biodiversity studies, b) development of a Master's of Science concentration in Biodiversity Research, and c) establishing multi-user research laboratories for biodiversity studies. NCCB leadership is provided by Dr. Jason Bond (Biology), appointed as Director, and Dr. Heather Vance-Chalcraft (Biology), appointed as Asst. Director for Education and Outreach.

ENGAGEMENT, INNOVATION AND ECONOMIC OUTREACH

Innovation Ignited: ECU's Innovation Design Lab

With a goal of driving innovation and stimulating economic development in eastern North Carolina, ECU's Innovation Design Lab (IDL) uses the visual language of design-driven innovation to facilitate teams of researchers, inventors, and businesses to conceive and develop new products through visual thinking, practical sketching techniques, 2-D and 3-D digital imaging essentials, physical model building strategies, prototyping, and testing.

Wayne Godwin of the School of Art and Design is the IDL's new director. The lab is housed in the Office of Engagement, Innovation and Economic Development in the Willis Building. A companion facility is located at NC State University's College of Design. Both are fully connected via networked computing, video, and voice communication systems.

After last summer's successful launch of the pilot Innovators Design Academy (IDA) with ECU faculty and student participants, two new IDL pilot programs launched this summer: the Middle School Innovators Academy, a two-week ideation and innovation workshop for seventh and eighth graders from Pitt County's Hope Middle School, and the Global Innovators Workshop, a joint web-based classroom effort with students at the University of Shandong, China and Faculdade de Jaguariuna, Brazil. The Middle School Innovators Academy's curricula were devised and taught by Mr. Percy Hooper Jr., director of the Industrial Design Graduate Program at NCSU's College of Design. Academy participants learn to communicate their innovation design ideas effectively and increase the marketability of the innovation. The Global Innovation Workshop curriculum was developed and taught by Mr. Godwin. The workshop focused on creative thinking process. Interdisciplinary international teams developed creative solutions to a design problem.

How does this tie in to economic development? The academies' team-based education approach is designed to create entrepreneurs on the cutting edge of new product development and to mold a skilled, engaged workforce that will attract innovative companies with opportunities for creative work to eastern North Carolina and reduce brain-drain from the region.

"We're creating a culture of innovation on campus and in the community. We're teaching these participants, particularly the younger students, that we value innovation, creative thinking, and risk-taking," said Ted Morris, associate vice chancellor of ECU's Office Engagement, Innovation and Economic Development in the Division of Research and Graduate Studies.

Center for Health Disparities Research: Obesity, Diabetes, Cardiovascular Disease, and Cancer in Eastern North Carolina

Dr. Hope Landrine was recently appointed as the Director of the Center for Health Disparities Research (CHDR). Her objective is to build an interdisciplinary center in which faculty from both campuses and community organizations work collaboratively to reduce health disparities in Pitt County and the greater eastern North Carolina region. The CHDR will focus on disparities in obesity, diabetes, cardiovascular disease, and cancer through programs and projects in three areas (called cores): Research, Education/Training, and Community Outreach. Dr. Doyle Cummings (Professor of Family Medicine, Pediatrics, and Public Health) and Dr. Robert Hickner (Professor of Exercise and Sport Science and Physiology) will lead the center's research core; leaders for the Education/Training and the Community Outreach cores are being sought. To encourage research on health disparities and kick-start the new center, the center has announced two CHDR Pilot Study Grant Programs, one for faculty research projects and one for community-faculty partnership projects. Applications are due October 1. For more information and application forms, please visit the ECU CHDR website: (<http://www.ecu.edu/cs-acad/rgs/disparities>).



Hope Landrine

Dr. Landrine received a PhD in Clinical Psychology from the University of Rhode Island, postdoctoral training in Social Psychology at Stanford University, and postdoctoral training in Cancer Prevention & Control as a National Cancer Institute Fellow at the University of Southern California Medical School. She has received 5 national awards for her health disparities research, including the American Psychological Association Dalmas Taylor Award for Lifetime Distinguished Contributions to Research on Ethnic Minority Health. She has obtained more than \$10 million in research grants, and is the author of more than 100 publications. Prior to joining ECU, she was the Research Director of the Behavioral Health Institute at San Diego State University (2000-2007), and the Director of Multicultural Health Behavior Research at the American Cancer Society, national home office in Atlanta (2007-2010). Her research focuses on multi-level analyses of geographic and sociocultural factors in health disparities among African- and Mexican-Americans, with an emphasis on area-level segregation and poverty, individual-level acculturation and discrimination, and community-based participatory research approaches.

Thad Wasklewicz, PhD

NSF Sponsors Geomorphology Research & Laser Scanning

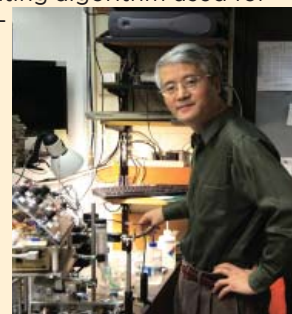
Dr. Thad Wasklewicz, a geomorphologist, joined the ECU Dept. of Geography in 2007. His research and teaching interests are in high-resolution mapping as it relates to environmental change in arid, semi-arid and alpine landscapes. In particular, he has focused on how debris flows initiate, propagate while moving down channels, and debris flow inundation rates on alluvial fans. This work is particularly important because many regions throughout the world have experienced uninhibited expansion of human settlements into areas prone to debris flow events. In cooperation with the USGS Landslide Hazards Program, he is developing new information to reduce risks by developing early debris flow warning systems, while advancing new theories of landscape change, a dominant component of geomorphological research. Since arriving at ECU, Dr. Wasklewicz has involved undergraduate students as research assistants in funded projects. This has provided students with the opportunity to work on projects funded through NSF and the National Geographic Society. He has also served as USGS Senior Scientist in Residence. Dr. Wasklewicz, in conjunction with Dr. Paul Gares (Geography), has developed the Terrain Analysis Lab to aid students, faculty, individuals, companies, and government agencies with digital terrain modeling and the application of Terrestrial Laser Scanning.



Xin-Hua Hu, PhD

Three Dimensional Imaging Flow Cytometer

Dr. Xin-Hua Hu, an ECU physics professor, has extensive experience with flow cytometers and the imagination needed to create a better one. Used in the study of individual cells, flow cytometers use laser and electronic detectors to measure particular characteristics of cells as they are funneled through a fast-moving stream of liquid. Standard devices use fluorescent light to gather info, but normal cells are mostly transparent and have no color for light to excite, so a stain must be applied to a cell to detect fluorescence. In collaboration with professor of physics Dr. Jun Quing Lu and ECU physics department staff member, part-time PhD student, and hardware guru Ken Jacobs, Hu created a flow cytometer that has the core principles of traditional flow cytometer mechanics and an improved flow chamber, but uses scattered light to analyze cell morphology. Scattered light is preferable because it contains more information about the three-dimensional structure of a cell than the high coherence of man-made laser light. Commercialization of the diffraction-image flow cytometer and its software is ongoing as Dr. Hu and his team work to refine the software, the computing algorithm used for 3-D modeling and diffraction pattern analysis. Their creation has been eight years in the making and funded by two grants from the National Institutes of Health. Hu is vigilant and has confidence in his flow cytometer's ability to improve patient care and compete in a \$1.1 billion annual market, thanks to its broader data-gathering capabilities.



How to Avoid U.S. Export Control Violations



Export control laws have been in existence since the 1940s to restrict the exporting of goods and technology that could contribute to the military potential of U.S. adversaries; to prevent the proliferation of WMDs; to protect the national security interest of the U.S.; to protect the economic interest of the U.S.; and to protect commodities in short supply. Recent infractions of export control laws by universities resulted in increased federal scrutiny of university activities outside the

U.S. border and within universities.

The U.S. Department of Commerce, Department of State, and Treasury Department all have regulations on what can and cannot be exported as well as conditions required to be met before exporting. Exporting is the sending or taking of goods, technology, technical data, or services outside the U.S. for the benefit of foreign nationals. A foreign national is anyone that is not a U.S. citizen or does not hold a green card or does not have permanent residency status. Special caution should be taken where North Korea, Sudan, Syria, Cuba, and Iran are concerned. These represent five countries where the U.S. government has implemented especially stringent export and travel regulations and restrictions.

Universities have to be especially careful about deemed exports and exporting dual use commodities and information. Deemed export is the exporting of information or services to a foreign national within the U.S. border. An example is sharing export controlled technology or information with foreign nationals in the laboratory or on campus. Dual use commodities are those commodities that have both civilian and military usage. Because universities encourage and foster international collaboration, have foreign nationals on campus, conduct research and creative activities involving both the military (Department of Defense funded research or projects) and the public, universities and their personnel are at greater legal jeopardy of violating export control laws than might otherwise be the case.

When planning to export information, commodities, or services to foreign nationals or when planning to travel outside the U.S. on ECU business, contact ECU Office of Research Compliance Administration (ORCA) for information on how to avoid inadvertent exporting. When traveling outside the U.S., the most common export control concern for university personnel is the taking of one's laptop containing unpublished research data with them on foreign travels. This may result in the loss of use of that laptop and the data within as well as violate agreements pertaining to the use of software terms and conditions.

Contact ORCA at 328-9473 for approval and clearance regarding foreign shipments, assistance with your foreign travels, or briefings on export controls and how those controls impact your university activities.

UPCOMING EVENTS

Training/Workshops/Conferences

(ref. contact info. below for dates/times)

- IRB Brown Bag Lunch and Learning: <http://www.ecu.edu/irb/>
- Inst. Animal Care and Use Training: email iacuc@ecu.edu to register.
- Clinical Trials Process and Budgeting Workshop: call 744-2330 to register.

Strategic Grant Fund Deadlines

- NIH, Health Disparities in NIDDK Diseases (R01, PA-09-262): 25-Sept-10
- NSF, Education and Interdisciplinary Research (EIR): 29-Sept-10
- NSF, Integrative Graduate Education and Research Traineeship Program

(IGERT): 30-Sept-10

- NSF, MRI: internal preproposal due 1-Oct-10
- NSF, SBE Minority Postdoctoral Research Fellowships and Follow-up Research Starter Grants (MPRF) due 8-Oct-10
- NSF, Math Sciences Postdoctoral Research Fellowships (MSPRF) due 20-Oct-10
- NSF, Advanced Technology Education (ATE) due 21-Oct-10
- NSF, Partnerships for Innovation: Letter of Intent due 04-Dec-10
- NSF, Informal Science Education (ISE): preliminary proposals due 07-Dec-10

FEATURE ARTICLES IN UPCOMING ISSUES

- Upcoming changes in ECU Facilities and Administration (F&A) Rate
- New web-based application form being implemented for IACUC
- Conflict of Interest: How does this Impact ECU Researchers?
- UNC General Administration Lab Space Inventory Project
- Masters Degree in Sustainable Tourism
- Statistical Support Services - STATLAB
- Joyner acquisition: the papers of American poet, novelist, and literary critic Robert Penn Warren
- Spotlight: Brett Keiper (BSOM)
- Spotlight: Tim and Sherri Jones (CSDI)
- Spotlight: Myleah Kerns (English)
- Spotlight: Sara McLeod (Human Ecology)
- Measuring Research Productivity
- Untapped Sources of Grant Funding

Exploration & Discovery

NEWS AND INFORMATION FROM THE
DIVISION OF RESEARCH AND
GRADUATE STUDIES

SEPTEMBER/OCTOBER 2010
VOLUME 5, ISSUE 2

MANAGING EDITOR

Ernest G. Marshburn
(252) 328-9014

E-mail: marshburne@ecu.edu

EDITOR

Judy Quinn
(252) 328-9478

E-mail:

quinnju10@students.ecu.edu

Telephone: (252) 328-9014

Web site: <http://www.ecu.edu/rgs/>

Please contact us with your comments, thoughts, and suggestions regarding story ideas.

Printed on recycled paper with nonstate funds.