

# Spirit of INNOVATION

Research, Creativity and Commercialization News

OFFICE OF RESEARCH ADMINISTRATION NEWSLETTER September 2007 (Volume VII, No. 3)

The Office of Research Administration provides leadership and support in the development, execution and operation of programs in sponsored research, technology transfer and economic development throughout the University of Missouri-St. Louis. The goal of this newsletter is to inform the campus community of grants received, to highlight the accomplishments of our faculty, graduate students and staff, and to share with you a calendar of important events and deadlines. Please direct any comments or questions regarding the newsletter to Tamara Wilgers ([wilgerst@umsl.edu](mailto:wilgerst@umsl.edu)).

## RECENT AWARDS

July 2007 EXTERNAL FUNDING Sources	
Association	\$1,355,352
Federal	\$1,023,484
Foundation	\$75,000
MO Local Government	\$28,475
Other University	\$14,052
State of Missouri	\$350,864
<b>TOTAL</b>	<b>\$2,847,227</b>

July 2007 EXTERNAL FUNDING Purposes	
Instruction	\$282,608
Other Sponsored Activity	\$1,429,291
Research	\$1,135,328
<b>TOTAL</b>	<b>\$2,847,227</b>

### EXTERNALLY FUNDED AWARDS, July 2007

**Nasser Arshadi**, Office of Research Administration, awarded \$1,023,852 for "MO Enterprise-St. Louis Regional Office" by the Missouri Enterprise Business Assistance.

**Susann Farberman**, College of Nursing, awarded \$61,964 for "Advanced Education Nursing Traineeship FY 2006" by the Health Research Services Administration.

**Susan Feigenbaum**, Economics, awarded \$75,000 for "Sensitivity of Eye Research Findings to Outlier Observations" by the Midwest Cornea Research Foundation.

**Tara Galovski**, Psychology - Center for Trauma Recovery, awarded \$15,120 for "Trauma Recovery in Jail Diversion Project" by the City of St. Louis.

**Joel Glassman**, Center for International Studies, awarded \$16,500 for "Lentz Fellow in Peace and Conflict Resolution Research" by the Lentz Peace Research Association.

**George Gokel Jr.**, Center for Nanoscience, awarded \$286,351 for "Dynamics and Biology of Synthetic Cation Channels" by the National Institutes of Health.

**Sharon Johnson**, Social Work, awarded \$143,065 for "Developmental Psychopathology & Maternal Sub. Use" by the National Institutes of Health.

**Robert Marquis**, Biology, awarded \$68,256 for "Timber harvesting effects on the Missouri oak herbivore fauna associated with the Missouri Ozark Forest Ecosystem Project" by the Missouri Department of Conservation.

**Virginia Navarro** and **John Ingram**, Teaching & Learning, awarded \$282,608 for "Career Transition Certification Program" by the Missouri Department of Elementary and Secondary Education.

**Michael Ohnersorgen**, Anthropology, awarded \$104,096 for "Intrasite Organization and Interregional Interaction: Archaeological Investigations at Chacalilla, Nayarit, Mexico" by the National Science Foundation.

**Robert Paul**, Psychology, awarded \$14,052 for "Cognitive Effects of Bariatric Surgery" by Kent State University.

**Diane Scollay**, Continuing Education & Outreach, awarded \$65,000 for "National Writing Project" by the National Writing Project Corporation.

**William Simon**, Office of Research Administration, awarded \$250,000 for "General Office Help" by the Center for Emerging Technologies.

**Xuemin Wang**, Biology, awarded \$6,000 for "REU Supplement: Regulation and Function of Membrane Lipid Hydrolysis in Lipid-Based Signaling of Plants" by the National Science Foundation.

**Xuemin Wang**, Biology, awarded \$216,786 for "Metabolomic Profiling of Lipids and Their Compositional Dynamics in Plant Stress Responses" by the National Science Foundation.

**Xuemin Wang**, Biology, awarded \$205,222 for "Regulation and Function of Membrane Lipid Hydrolysis in Lipid-based Signaling of Plants" by the National Science Foundation.

**Laura Westhoff**, History and Teaching & Learning, awarded \$13,355 for "Perspectives on American Democracy" by the Cooperating School Districts.

**Total Awarded: \$2,847,227**

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## FUNDING OPPORTUNITIES

Opportunities listed are a sampling only. For additional opportunities, visit Grants.gov (<http://www.grants.gov>), Grant Advisor Plus (<http://www.grantadvisor.com/tgaplus/>), InfoEd ([http://www.infoed.org/new\\_spin/spinmain.asp](http://www.infoed.org/new_spin/spinmain.asp)) and the RFP Bulletin of the Foundation Center (<http://www.fdncenter.org/pnd/rfp/index.jhtml>), or contact Tamara Wilgers ([wilgerst@umsl.edu](mailto:wilgerst@umsl.edu)) for a customized database search.

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**FOR HELP GETTING SET UP TO RECEIVE CUSTOM EMAIL ALERTS FOR FEDERAL GRANT OPPORTUNITIES, CONTACT BRENDA STUTTE AT 516-5897 OR [STUTTE@UMSL.EDU](mailto:STUTTE@UMSL.EDU).**

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### EXTERNAL FUNDING OPPORTUNITIES

#### **Agency for International Development (USAID)**

- Peru USAID-Lima, Building Stronger and More Representative Political Parties in Peru Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15306>

#### **Department of Agriculture (USDA)**

- Forest Service, 2008 Challenge Cost Share Grant Program Request for Pre-Proposals  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15040>

#### **Department of Defense (DOD)**

Air Force Office of Scientific Research (AFOSR)

- Research Interests of the Air Force Office of Scientific Research Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15290>

Department of the Army

- PTSD/TBI Clinical Consortium-Coordinating Center Award Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15032>
- PTSD/TBI Clinical Consortium-Study-Site Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15033>

**WHEN PREPARING A GRANT PROPOSAL, YOU MUST SUBMIT YOUR BUDGET TO GINNY SCHODROSKI AT LEAST 2 WEEKS BEFORE THE PROPOSAL SUBMISSION DEADLINE. ANY EXCEPTION MUST BE APPROVED BY VICE PROVOST NASSER ARSHADI.**  
[ginny@umsl.edu](mailto:ginny@umsl.edu) or x.5284

Office of Naval Research

- National Oceanographic Partnership Program (NOPP) and Interagency Committee on Ocean Science and Resource Management Integration (ICOSRMI) Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15252>

#### **Department of Health and Human Services (HHS)**

National Institutes of Health (NIH)

- Mental Retardation and Developmental Disabilities Research Centers 2008 (P30) Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15151>
- International Extramural Associates Research Development Awards (IEARDA) (G11) Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15156>
- Research on Interventions for Child Abuse and Neglect (R01) Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15253>
- Collaborative Research on Tinnitus (R01) Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15302>

#### **National Aeronautics and Space Administration (NASA)**

- Undergraduate Student Research Program (USRP) Grant  
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=15152>

#### **National Endowment for the Humanities (NEH)**

- Digital Humanities Start-Up Grants <http://www.grants.gov/search/search.do?mode=VIEW&oppld=15038>

#### **National Science Foundation (NSF)**

- ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers Grant <http://www.grants.gov/search/search.do?mode=VIEW&oppld=15154>

#### **NEW ANNOUNCEMENTS: FOUNDATIONS & OTHER: DEADLINE MEMO**

<http://www.grantadvisor.com/tgaplus/works.pdf>

#### **GRANT SUBMISSION POLICY**

##### **PeopleSoft Signature Routing Sheet (PSRS)**

Must be delivered to the Office of Research BEFORE the grant will be submitted. Applies to any grant being submitted to any agency. Must include ALL signatures (all PIs Co-PIs, Dept. Chairs, Deans of each person, dept, and/or school who has time/resources committed through direct costs or cost sharing/match).

**Budgets: SUBMIT YOUR BUDGET TO GINNY SCHODROSKI TWO WEEKS PRIOR TO SUBMISSION DEADLINE.** Large or complex budgets should be finalized a week before submission so that the PSRS can be prepared and routed for ALL required signatures. Proposal review time must be allowed before asking someone to commit their unit.

**Note:** If you are going to be away from the University at the time of submission, you must arrange before leaving to sign the PSRS signature page.

**Questions?** Contact Ginny Schodroski at 516-5284 or [ginny@umsl.edu](mailto:ginny@umsl.edu).

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## RESEARCH AND COMMERCIALIZATION NEWS

### UNIVERSITY OF MISSOURI NEWS

- **After First Year, UMSL's Center for Nanoscience Positioned for Discovery**
- **New Associate Director for Translational Research at CNS to Boost Technology Commercialization Campus-wide**

### OTHER NEWS OF INTEREST

- **NIH Regional Consultation Meetings on Peer Review**
- **USPTO Says New Measures Will Improve Patent Quality**

## After First Year, UMSL's Center for Nanoscience Positioned for Discovery



Center for Nanoscience

<http://www.umsl.edu/divisions/artscience/nanoscience/>

What for a decade existed as the Center for Molecular Electronics, the renamed and reorganized Center for Nanoscience (CNS) is being positioned as a nexus for interdisciplinary scientific research at UM-St. Louis. The CNS, located in the William L. Clay Building, expects to foster new areas of research, collaboration and commercialization of research.

"Nanoscience is an intrinsic interdisciplinary field of research where chemistry, physics, and biology converge," said Dr. Jimmy Liu, CNS director and professor in the Department of Physics & Astronomy. "The Center for Nanoscience at UM-St. Louis attracts scientists of different disciplines to study the fundamental nanoscale phenomena in biological and non-biological systems. The CNS focuses on converting the outcome of fundamental research

into practical applications that have economic impact. The Center will work closely with local industries to develop novel technologies and to train capable scientists to serve the economic growth of St. Louis and Missouri."

### Organizing in Research Clusters

Liu and Dr. George Gokel, CNS associate director, have worked over the last year with Center researchers ("members") to organize the scientists into research clusters that will form the basis for scientific interaction and grant proposals.

CNS members are organized in the following research clusters:

#### **Nanocharacterization & Molecular Imaging**

*Members: Phil Fraundorf, George Gokel, Jimmy Liu, Nigam Rath, Zhi Xu, Dan Zhou*

#### **Theoretical & Computational Nanoscience**

*Members: Phil Fraundorf, Tom George, Peter Handel, Eric Majzoub, Chung Wong*

#### **Nanoscale Materials & Systems**

*Members: Peter Handel, Jimmy Liu, Eric Majzoub, James O'Brien, Keith Stine, Janet Wilking*

#### **Membrane & Cellular Function**

*Members: Cindy Dupureur, George Gokel, Keith Stine, Chung Wong*

Members of the CNS are expected to engage in basic research, attract extramural funding, publish in scholarly, and proactively collaborate with other CNS members on interdisciplinary research programs. It is expected that such collaborations will lead to patents and licenses for the University. The Center is currently working to recruit new members from within the University research community, and all University and industry researchers are encouraged to contact the Center to share ideas or evaluate instrumentation services (314-516-4626).

### **Enhancing Productivity: CNS Goals, Sept. 2007-Aug. 2008**

Over the next year, CNS leadership and members will work toward several goals, including assigning "cluster" leaders and submitting several major collaborative funding proposals. Emphasis also will be placed on increasing the number of grant proposals submitted by each member, adding internal and external Microscope Image and Spectroscopy Technology (MIST) laboratory users, cultivating potential external donors, facilitating increased collaborative work, developing new research initiatives and directions, recruiting new CNS members, and strengthening ties between the CNS and members' home departments.

An example of a funding proposal that addresses several goals of the CNS is the XRD/SAXS instrumentation proposal that the Center submitted in 2007 both to the UM Research Board (not funded but with good reviews) and to the NSF (pending). The proposed instrument would significantly increase the CNS' capabilities and appeal to the regional research community, as demonstrated by many strong support letters provided by local companies.

### **Facilitating CNS Success Behind the Scenes**

To make the newly formed CNS function as a solid research center, support Center members and help the CNS meet its long-range goals, three critical positions have been created and filled, including one appointed position designed to be held by an active CNS member.

*Instrumentation Manager:* oversees the Microscope Image and Spectroscopy Technology (MIST) laboratory and other CNS centralized analytical facilities.

Because the MIST lab is an important resource for UMSL scientists and a source of revenue through services provided to external academic and industry scientists, Dr. Dan Zhou was recruited in January 2007 to manage and develop this facility within the CNS. Extensive work has been done to reorganize and clean the facility.

With the relocation of two electron microscopes from Monsanto to the CNS and the hiring of Zhou, the MIST lab is poised to attract additional internal and external users and increase the amount of revenue-yielding service work. Annual revenue already has increased from less than \$5,000 to more than \$30,000 in 2006-2007. The CNS has set an aggressive goal to double the amount of external income during the next 12 to 24 months.

*Center Manager:* oversees and supports the daily functions of the Center and is responsible for communications and interactions with state and local government agencies.

Since coming on board as manager of the CNS in January 2007, Kendra Perry has overseen numerous renovation projects with the William L. Clay Building and worked to enhance the Center's visibility by arranging for University officials to tour the facility. Perry was recruited to this position not only for her versatility in handling a wide range of projects, from renovations and communications to CNS accounting and grants and contracts issues, but also for her experience in fundraising and with state legislators. This experience was sought because it provides for a broad contact base within the community, along with the potential to tap local donors for an endowment and legislators for state appropriations.

*Associate Director for Translational Research:* coordinates technology transfer activities within the CNS, serves both as a scientific advisor to the Office of Research Administration (ORA) on commercialization issues and as an advisor on tech transfer to campus faculty, and takes a leadership role in seeking external funding for CNS instrumentation. The associate director position is designed to be held by an active CNS member. Dr. Zhi Xu was appointed in August 2007 to this role. (See "New Associate Director for Translational Research at CNS to Boost Technology Commercialization Campus-wide")

### **Making the Space Work**

With ORA support and Kendra Perry's oversight, the William L. Clay building has been dramatically upgraded in appearance and function over the last several months.

Highlights of the renovations include:

- Scientific posters, which describe the work of active Center members, and scientist name tags now hang by members' labs.
- Appropriate safety procedures have been implemented.
- The CNS conference room has been equipped with a state-of-the-art plasma screen television and other presentation facilities.

- Hand-me-down furnishings have been replaced and artwork has been hung on the walls to provide for a vibrant, comfortable work space.
- Window areas on the 2nd and 3rd floors have been refurbished to function as the Center's "lounge" and "reception" areas to facilitate member interactions and accommodate visitors. The "lounge" areas will be used by students and member faculty to discuss interdisciplinary and collaborative research projects.
- A work office on the 2nd floor is fully equipped with a printer, fax machine, copier, etc., to support CNS members.

### Reaching Out

The Center for Nanoscience has completed several initial projects that will help build communications with both the campus community and external target audiences. These projects include the new CNS web site (<http://www.umsl.edu/divisions/artscience/nanoscience/>), an [advanced instrumentation brochure](#) and a summer workshop series on advanced electron microscopy.

#### *Advanced Instrumentation Brochure*

To facilitate outreach efforts and inform prospective stakeholders of CNS research capabilities, the Center created an advanced instrumentation brochure. The brochure, which features the analytical capabilities of the Center and the Department of Chemistry and Biochemistry, will be available for download from the CNS web site and printed copies will be distributed to CNS visitors and potential industry partners. ([Advanced Instrumentation Brochure - PDF](#): <http://www.umsl.edu/services/ora/about/documents/CNSBrochure.pdf>)

#### *CNS Special Summer Workshop on Advanced Electron Microscopy*

A special one-week summer workshop on advanced electron microscopy was held June 4-8, 2007, to boost the knowledge of individual researchers who want to use scanning and transmission electron microscopy techniques. Scientists from regional institutions and companies responded positively to this special event, although the number of workshop attendees had to be held to about 40 because of space limitations. A similar or expanded workshop will be held during the 2007-2008 academic year.

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The CNS will hold an **open house** on Oct. 30, 2007, to officially kick off the Center's new identity, organization and initiatives, not to mention the building's new high-tech conference room and interior design. For more information, contact Kendra Perry at 314-516-4626. •

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## **New Associate Director for Translational Research at CNS to Boost Technology Commercialization Campus-wide**

Last month, leadership at the Center for Nanoscience (CNS) appointed Dr. Zhi Xu as the first CNS associate director for translational research. In this role, Xu will coordinate technology transfer activities within the CNS and serve both as scientific advisor to the Office of Research Administration (ORA) and advisor/mentor on technology transfer to campus faculty. While Xu will work closely with the ORA, this position reports to the CNS director (Dr. Jimmy Liu) and associate director (Dr. George Gokel).

After the University System decentralized all technology commercialization activities to each of the four campuses in 2006, this new resource is designed, in part, to take tech transfer at UMSL to the next level. Xu will work to enhance UMSL's patent portfolio for long-term financial return, educate and mentor campus faculty members on technology transfer, develop and implement strategies to increase the number of commercially viable disclosures and patents, and help advance academic research in cutting edge areas, some of which could lead to successful commercialization.

Xu is an associate professor in the Department of Chemistry and Biochemistry and an active member of the CNS. Currently, he has two industry joint development agreements in place, 15 active invention disclosures on file with the University, two issued patents, five additional patent applications filed and two patent applications being drafted, and three technologies licensed to industry that have been brought to market and bring licensing revenue back to the University. Xu's experience makes him a valuable resource to campus faculty, the CNS and the technology transfer arm of the ORA.

Specifically, Xu's added responsibilities include:

#### *Faculty Outreach & Education*

- Work with the CNS director and associate director, in coordination with UMSL's director of technology transfer (Tamara Wilgers), to educate campus faculty through consultation, workshops, etc., about the benefits, processes and policies related to technology transfer with the goal of expanding the number of invention disclosures.
- Serve as faculty consultant/mentor on technology transfer topics (e.g., invention disclosures, research collaborations with industry, relevant University policies and procedures, etc.).

#### *Policies & Procedures*

- Work with the CNS director and associate director, vice provost for research and appropriate campus faculty committees to develop recommendations on how to include technology transfer work in the tenure/promotion process.
- Work with the director of technology transfer to develop and refine UMSL's technology transfer policies and procedures, culminating in FY08 with a comprehensive technology transfer manual for the UMSL campus.

#### *Strategic Focus and Infrastructure*

- Take a leadership role in actively seeking external funding for CNS instrumentation.
- Advise CNS director and associate director on strategic areas of technology as related to commercialization.

#### *Commercialization*

- Advise the director of technology transfer on patentability and marketability of technologies.

The appointed associate director for translational research should be a member of the CNS who is expected to maintain an active funded research profile and scholarly productivity.

If you would like to set up a consultation with Dr. Zhi Xu, email [xuz@umsl.edu](mailto:xuz@umsl.edu) or call 516-5328. •

## **NIH Regional Consultation Meetings on Peer Review**

The National Institutes of Health (NIH) is undertaking a comprehensive look at the NIH's entire system of research support, including the peer review system, in order to enhance its efficiency and effectiveness.

The NIH formed the Peer Review Working Group of the Advisory Committee to the Director (ACD), which is seeking advice from the scientific community on all aspects of the peer review process. As one approach, the Working Group is hosting three 4-hour consultation meetings:

- Chicago, September 12, 2007, at the Fairmont Princess
- New York City, October 8, 2007, at the Embassy Suites
- San Francisco, October 25, 2007, at the Renaissance Parc 55

These consultation meetings will be excellent opportunities for you to advise NIH on ways to meet the challenges of identifying and supporting outstanding, innovative science in the 21st century in the face of a sharply increased load on the peer review system.

To attend one of these meetings, register at <http://enhancing-peer-review.nih.gov/>.

If you are unable to attend, the NIH encourages you to contribute written comments on the peer review process through the Request for Information (RFI) link on the web site above, or directly at <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-07-074.html>.

If you have questions, contact Dr. Vesna Kutlesic at the NIH (301-435-3670). •

# USPTO Says New Measures Will Improve Patent Quality

Aug. 20, 2007

The United States Patent and Trademark Office (USPTO) has published in the Federal Register new rules dealing with the number of claims allowed in a patent application and with continuing applications, which will be effective on November 1, 2007.

The new rules have been modified, relative to the rules that were originally proposed early last year, in response to the extensive comments the USPTO received from the public. Under the new rules, applicants may file two new continuing applications and one request for continued examination as a matter of right. Also, under the new rules, each application may contain up to 25 claims, with no more than five of them independent claims, without any additional effort on the part of the applicant. Beyond these thresholds, however, the new rules require applicants to show why an additional continuation is necessary or to provide supplementary information relevant to the claimed invention to present additional claims.

According to a USPTO news release, <http://www.uspto.gov/main/homepagenews/bak2007aug20.htm>, placing conditional boundaries on a previously unbounded process provides for more certainty and clarity in the patent process. The result is that application quality will be improved and piecemeal or protracted examination will be avoided, enhancing the quality and timeliness of both the examination process and issued patents.

"Patent quality is the shared responsibility of applicants and the USPTO," noted Jon Dudas, Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and Trademark Office. "Higher quality applications result in a more effective examination. These rules better focus examination and will bring closure to the examination process more quickly, while ensuring quality and maintaining the right balance between flexibility for applicants and the rights of the public. The U.S. patent system plays a tremendous role in motivating innovation, and these changes to examining patent applications will help ensure that America remains on the leading edge in the knowledge driven global economy."

The new rules are available in the Federal Register, online at <http://www.uspto.gov/web/offices/com/sol/notices/72fr46716.pdf>. •

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