



ADVANCING RESEARCH CREATING SOLUTIONS

20 November 2006

The Great Plains Network

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By Derek Nelson, GPN Undergraduate Assistant

Have a Happy Thanksgiving!!!

Memorable Quote:

"America was founded on the notion of ensuring equity in opportunity for all. And yet, we risk both when we allow different students in different states to graduate from high school with very different educations."

Senator Christopher Dodd introducing S. 4061 on November 16, 2006, in support of rigorous and voluntary content standards in mathematics and science covering kindergarten through grade 12.

1. Latest News

[NSF & NIH Award Trends for the Great Plains: 2002 to 2005, by Greg Monaco, Ph.D.](#) Census data, graduate student enrollment data, and award data for 2005 from the National Science Foundation and National Institutes of Health (NIH) are analyzed in this report to look at trends and predictors of funding. The award data is compared to similar data gathered and reported by Dennis Brewer (University of Arkansas) for 2002.

[The National Human Genome Research Institute \(NIH: NHGRI\)](#) today (Nov. 20) announced the results of the recent competition for support of its three large-scale sequencing centers, strengthening efforts to use the power of DNA sequencing to unlock the genomic

secrets of human diseases. Also today, NHGRI and the National Cancer Institute (NCI), both part of the National Institutes of Health (NIH), announced that all three sequencing centers will devote a significant part of their efforts to The Cancer Genome Atlas (TCGA) Pilot Project, which is testing the feasibility of a large-scale, systematic approach to identify important genomic changes involved in cancer. One center will be located at the ***Washington University School of Medicine*** in Saint Louis, MO.

2. Campus Notes

[MU Researcher Uses Radio-Like Device to Learn About Health and Disease](#) – Columbia - Steven Van Doren, associate professor of biochemistry at the University of Missouri-Columbia, uses NMR technology to better understand the structure and movement of proteins, particularly those that contribute to cancer, emphysema, aneurysms and atherosclerosis, which cause heart attacks and strokes. The information, he said, can be used for pharmaceutical development. Van Doren's research team in the College of Agriculture, Food and Natural Resources (CAFNR) also uses the technology to study proteins that plants use to fight infections.

[Terry Young Appointed Director of Research Development at the University of South Dakota](#) - VERMILLION - The University of South Dakota has taken another step toward meeting its strategic goals of innovation management and research commercialization by creating the position of director of research development. Terry A. Young has joined the staff of the Office of the Vice President for Research in the

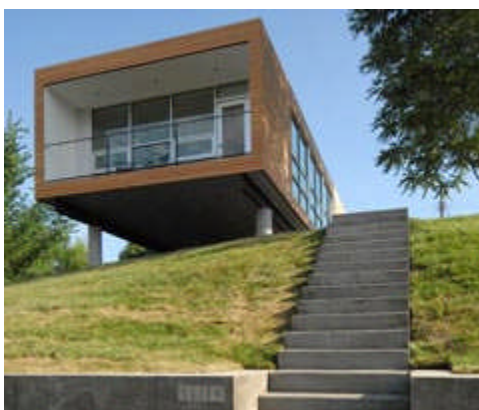
new position after a 20 year career in technology transfer and innovation management.

KIDNEY EXPERT PRESENTING K-STATE CLARENBURG LECTURE NOV. 29

– Manhattan - Kansas State University's College of Veterinary Medicine is bringing an expert in kidney function to campus for the Rudolf Clarenburg Lectureship. Physician and researcher Mark A. Knepper will present "Aquaporins in Health and Disease" at 4 p.m. Wednesday, Nov. 29, in the Practice Management Center at Trotter Hall.

KU architecture students win 'Home of the Year' for second time

– Lawrence - For the second time in three years, Architecture magazine has named a house designed and built by 20 University of Kansas architecture students as "Home of the Year." The students are enrolled in Studio 804, taught by Dan Rockhill, professor of architecture. Their house,



Modular 3, was completed in May. Perched on a hilltop at 534 Riverview Ave. in the historic Strawberry Hill neighborhood in Kansas City, Kan., the dwelling will be featured in the magazine's November 2006 issue. Studio 804's first modular house won the top award in 2004.

Microsoft Donates Data Technology to University of Arkansas

– Fayetteville -

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The Sam M. Walton College of Business and its information systems department at the University of Arkansas and Microsoft Corporation have formed a joint venture to establish a consortium of universities around the world. Consortium institutions will have the ability to leverage large-scale real datasets (for example, Sam's Club and Dillard's Department Stores) on an enterprise-level Microsoft SQL Server 2005, which is part of the technology gift that Microsoft has donated to the University of Arkansas. Now, Students in the Enterprise Systems Initiative of the Walton College and around the world will benefit from the Microsoft software, hardware and curricula.

National Institutes of Health ranks UND College of Nursing 11th nationwide

– Grand Forks - The National Institutes of Health (NIH) recently ranked the University Of North Dakota College Of Nursing 11th among the country's top 100 nursing programs in terms of research funding. It's the first time for UND on this list, which includes leading schools such as Johns Hopkins University, the University of California, and Yale University.

3. Recent Awards

NSF: There are no new NSF awards that were registered between October 14, 2006 and November 13, 2006.

NIH: There are no new awards in our region for Bioinformatics and/or Computational Biology from NIH's CRISP database.

4. New Funding Opportunities

Biophotonics – NSF – This research program focuses on the development of complex new integrated bio-optical technologies utilizing advances in optical technology such as nanoparticle fluorescent quantum-dots, novel waveguiding structures, plasmon surface resonance, nanofluidics, lens microarrays, nanochannel interconnects, and multi-



function focal plane detector/emitter arrays, together with surface science, nanotechnology, and microelectronics to yield integrated optics solutions for a variety of purposes. (deadline: Sept. 15, 2007).

Biomedical Engineering – **NSF** - The mission of the Biomedical Engineering program is to provide opportunities to develop novel ideas into projects that integrate engineering and life science principles in solving biomedical problems that serve humanity. The program focuses on high impact transforming technologies and include models and tools for understanding and control of biological systems; fundamental improvements in deriving information from cells, tissues, organs, and organ systems; new approaches to the design of structures and materials for eventual medical use; new methods of understanding and controlling living systems, and new methods of reducing health care costs through new technologies (deadline: Sept. 15, 2007).

Bootstrapped Learning (BL) – **DARPA** - The goal of Bootstrapped Learning (BL) is to develop an “electronic student” that can be taught complex concepts incrementally over a very wide range of problem domains – without designing domain knowledge into algorithms (deadline: Jan. 18, 2007).

Emerging Models and Technologies for Computation (EMT) – **NSF** - The EMT program seeks to advance the fundamental capabilities of computer and information sciences and engineering by capitalizing on advances and insights from areas such as biological systems, quantum phenomena, nanoscale science and engineering, and other novel computing concepts (deadline: Feb. 14, 2007).

Engineering Research Centers (ERC) - **NSF** - The goal of the Generation Three (Gen-3) Engineering Research Centers

(ERC) Program is to create a culture of innovation in engineering research and education that links scientific discovery to technological innovation through transformational engineered systems research in order to advance technology and produce engineering graduates who will be creative innovators in a global economy. These ERCs will be at the forefront as the U.S. competes in the 21st century global economy where R & D resources and engineering talent are internationally and domestically distributed. Recognizing that optimizing efficiency and product quality is no longer sufficient for U.S. industry to remain competitive, these ERCs will optimize academic engineering research and education to stimulate increased innovation (deadline: Oct. 30, 2007).

New Technologies for Assessing Manual Therapies (SBIR [R43]) – **NIH** - This Funding Opportunity Announcement (FOA) solicits Small Business Innovation Research (SBIR) grant applications from small business concerns (SBCs) that propose to develop new technology, research tools, instrumentations, devices, or to apply new or innovative uses of existing technology to illuminate the mechanisms of action of the biological effects of manual therapies, or to develop new and innovative approaches to diagnosis, monitor, manage, treat and/or prevent a wide-variety of neuro-musculoskeletal conditions that are treated by manual therapies (deadline: Jan. 18, 2007).

Nanoscale Architectures for Coherent Hyper-Optic Sources (NACHOS) – **DARPA** - The objective of the NACHOS program is to develop novel, ultra small lasers that are sub wavelength in all three dimensions, including the feedback structure integrated with the gain medium. Specific program goals include: Gain and feedback structures smaller than the wavelength of emitted light, sub wavelength in all three



dimensions; defect free media and low-loss feedback structures; structures with lithographically defined placement and size; full computational modeling; sub injection laser operating CW at room temperature with the free space wavelength emission wavelength that is less than or equal to 1.55 microns. Proposals which do not provide a well defined path to sub wavelength lasers are discouraged and will not be considered for this program (deadline: Jan. 5, 2007).

Young Faculty Award – DARPA – DARPA seeks innovative proposals in the following areas: 1. Electronics, 2. Photonics, 3. Micro-electro-mechanical systems, 4. Architectures, 5. Algorithms. Additional information on these technology areas is provided in the Areas of Interest section of the RA 06-39 Proposer Information Pamphlet referenced below. PROGRAM SCOPE The Young Faculty Award initial research should focus on a clearly defined problem which can be answered in a 12-18 month effort. (deadline: Dec. 5, 2006)

5. Upcoming Meetings

GPN Representative Council Teleconference — Fourth Wednesday of every month at 10:00 a.m. Next: November 22, 2006.

Bioinformatics/Computational Biology Teleconference — First Wednesday of every month at 2:00 p.m. Next: December 6, 2006.

Middleware/Grid Teleconference — Alternate Fridays at 1:30 p.m. Next: December 13, 2006.

Middleware/Grid Tech Administration - Alternate Fridays at 1:30 p.m. Next: December 1, 2006.

The First Great Plains Network/GENI Workshop will occur at Kansas State University on November 30, 2006. For

more information contact: Caterina Scoglio, caterina@ksu.edu, or Don Gruenbacher, grue@ksu.edu.

NSF Regional Grants Conference — The second National Science Foundation Regional Grants Conference of fiscal year 2007 will be hosted by Oklahoma State University on **March 19 - 20, 2007** in Oklahoma City, with optional FastLane workshops on March 18th.

6. Subscription Information

[Join the GPN email list.](#)

Please send any notices you would like to share with the GPN community to den5555@ksu.edu.