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DISCOVERY

OFFICE OF VICE PRESIDENT FOR RESEARCH

Electronic versions available at wmich.edu/research/news.html

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OVPR VISION AND MISSION

VISION: TO BE A LEADER AND CATALYST FOR SCHOLARSHIP EXCELLENCE

MISSION: THE OFFICE OF THE VICE PRESIDENT FOR RESEARCH ADVANCES THE OVERALL SCHOLARSHIP AGENDA OF THE UNIVERSITY; SUPPORTS THE SCHOLARSHIP INITIATIVES OF WMU FACULTY, STUDENTS AND STAFF; AND ASSURES COMPLIANCE WITH ALL APPROPRIATE FEDERAL AND STATE REGULATIONS.

WWW.WMICH.EDU/RESEARCH

DISCOVERY ADVANCES

The excitement and energy of a new academic year bring new opportunities. How will each of us advance Discovery this year at our major research university, within our discipline, in collaboration with others, in the nation, and for the world?

The explosion of knowledge and technology increases the complexity of our systems and drives the need for analysis and synthesis. This can lead to integration through collaboration and then to communication and application. New resources are often required to establish evolving structures and networks that are needed in the process. We now have some new resources to help.

Now is a good time to review and prioritize our personal and unit Discovery plans that were created or updated during the previous academic year. They have been useful for several initiatives and contributed to analysis as we move forward. We suggest they be reviewed and updated as Academic Program Planning takes place, so they can be resubmitted by the end of this academic year.

Discovery Communities represent the integration of broad themes of current and emerging strengths and expertise across the University, which we plan to support and encourage for the future. Several communities were identified from the Discovery Plans and Focus Areas formulated last year. These included evaluation, health, education, STE(A)M, sustainability, and entrepreneurship. Others areas such as humanities have established strong interdisciplinary communities.

The WMU Discovery Experts database is a valuable tool to find collaborative partners

and funding sources. The database is designed to leverage the expertise of individual faculty and staff by empowering us to expand our reach and reputation in our disciplines. It is also a tool for those outside the University to identify us as their "expert" to consult or collaborate with on discovery projects.

This summer, many of us took the opportunity to add information and content to our individual profile. That content has now been rolled into the system and will be available for use shortly. You will be able to add additional content after the system update. If you have questions about the process of adding information to your profile, contact Dr. Jay Hoinville (jay.hoinville@wmich.edu).

Discover Discovery biweekly workshops were initiated last year to provide information about launching research programs and managing them once established. New and senior faculty members who attended were treated to presentations, interactive discussion, and information from seasoned faculty and staff about the real problems and keys to success in doing discovery. The feedback from participants was extremely positive. Please plan to join us beginning September 23; look for more information on the OVPR website. Also, please join us for Research and Dessert on October 31 for more information, networking opportunities, and the chance to see some of the other resources available for collaborating with colleagues on campus, at other universities, and with industry partners.

We look forward to working with you all this year!

~Dan Litynski, VP for Research

NSF GRANT FOCUSED ON CONTAMINANTS IN INDUSTRY AND AGRICULTURE

Dr. Gellert Mezei, associate professor of chemistry, has been awarded a \$284,833 grant from the National Science Foundation to study negatively charged ions that are potentially damaging to lakes and rivers when found in fertilizers and also are a toxic byproduct in waste from manufacturing and mining.

The grant was awarded to Mezei, who has been studying negatively charged ions, also known as anions, for over 10 years. Mezei's research ultimately could further understanding of how anions can be extracted from industrial and mining waste and removed from enriched bodies of water. Anion removal also has implications for the petroleum, pharmaceutical and nuclear power industries.

Anions are extremely common, Mezei says. They are often found in water, in the human body and the surrounding environment.

"They are ubiquitous," Mezei says. "They are everywhere in nature. Our body functions are based on several anions that are vital. Many anions are part of minerals. They are necessary ingredients in fertilizers."

But they can also cause big problems. Anions in the form of sulfates, nitrates, phosphates and chlorides can be extremely damaging in bodies of water and can contaminate lakes, rivers and streams, leading to excessive growth of algae and lake eutrophication.

"So it's important to monitor them and devise ways of reducing their concentration and also eliminate them from

contaminated areas," Mezei says. "For example, our own Asylum Lake has over 10 times more sulfate than what it should normally have. So these anions will lead to excessive growth of algae and ultimately can lead to eutrophication of the lake."

Anions in the form of chlorides from road salt also cause extensive damage to lakes and streams.

"We have these bad winters in Michigan, and we use a lot of sodium chloride, calcium chloride and other chlorides on the roads and these end up in our bodies of water," Mezei says. "And then there are the toxic anions."

Toxic anions common in industry and mining in the form of chromate, arsenate, selenate and dozens of other substances, are doubly charged negative ions that have a high affinity for water, are carcinogenic and have been linked to other diseases. In small amounts, they can attack the nervous and reproductive systems, kidneys and blood and cause birth defects. The permissible levels of toxic anions are continuously being lowered as their harmful effects are more fully understood.

Chromium, for example, is used extensively in industry for plating to produce glittering, sparkling surfaces, common on cars and other products. And nuclear waste contains several toxic anions, which interfere with the disposal process.

"They like to stick to water and stay in water, so that makes their extraction difficult," Mezei says.

Source: University News

SEPTEMBER 30 DEADLINE FOR FUNDING

Two of the internal funding awards have September 30 deadlines. Plan now to apply for these funding awards.

Support for Faculty Scholars Award (SFSA) is a \$2000 award. Guidelines for the application are outlined on the website, but the requirements for submitting an application includes an application limited to three pages or 1500 words. This award does not require submission of an external funding proposal.

The second award, also with a September 30 deadline for the fall round, is the **Undergraduate Research Excellence Award (URE)**. Students can apply for up to \$500 to work with an externally-funded faculty member. The faculty member can apply for an additional \$200 for supplies for the student's work.

Visit wmich.edu/research for program guidelines and application forms.

MDOT'S NEW ADVANCE NOTICE SYSTEM IN EFFECT

As of August 1, all MDOT funded principal investigators are required to file advanced notices to MDOT *prior* to undertaking research that involves a state trunkline right-of-way (research that will involve activity that takes place on "all M-, US-, I-, BL and any Connector routes"). Principal investigators will be required to provide advanced notice on their activities and the relevant activities of subcontractors on funded projects.

To access the MDOT guide and instructions for filing an advanced notice, you may go to our website. We've linked to the MDOT site that details the process for applying for *Advance Notice for a Permit*.

The instructions guide a university principal investigator through the steps to notify MDOT of work planned in the right-of-way. Every time work is done within the right-of-way, these "advance notice" steps must be taken to obtain a permit.

\$1.25 MILLION FROM NSF AWARDED

The National Science Foundation has awarded WMU \$1.25 million in support of a grant designed to study and understand underrepresented minority (URM) graduate students' identity integration and assimilation in STEM programs.

The grant, which begins September 1, is under the direction of Drs. Megan Grunert (chemistry), Jocelyn Steinke (School of Communication, and Susan Stapleton (chemistry/dean of Graduate College). Georgia State University will be a subaward on the grant.

URM graduate students face a number of challenges with identification and assimilation as they progress through graduate programs at predominately white institutions. This grant will trace the experiences of URM graduate students to understand better their negotiation of multiple and often conflicting identities.

Multiple, regularly-scheduled interviews over the course of three years at various universities will assess the process of

identity negotiation as graduate students become members of their disciplinary communities of practice. Both URM and non-minority graduate students will be interviewed. Studying these two groups over three years will offer data for comparison into identity integration, identity negotiation, and social networking.

Over time, the data will inform the development of a model for URM STEM graduate student identity integration. With this, strategies will be identified for institutional support needed to promote successful assimilation into a STEM disciplinary community of practice.

Broadening participation in STEM is a priority. The findings from this project offer the potential to transform our understanding of key factors critical for retaining URMs in the STEM areas. The data will also identify strategies for transitioning this population successfully from graduate programs into STEM professional communities.

JOURNAL FROM NATIONAL RESEARCH CENTER HELPS GRANDPARENTS RAISING GRANDCHILDREN

A national journal that focuses on the needs of millions of families headed by grandparents has just been launched at Western Michigan University as a free open-access online resource for scholars and public service professionals.

The first issue of **GrandFamilies: The Contemporary Journal of Research, Practice and Policy**, published in August, can be found online at scholarworks.wmich.edu/grandfamilies. The journal is a product of the National Research Center on Grandparents Raising Grandchildren, a nearly three-year-old collaboration between Georgia State and Western Michigan universities.

GrandFamilies is designed to provide a forum for research with sound scholarship, knowledge, skills and best practices from the field for scholars, clinicians, policymakers, educators, program administrators and family advocates. The journal co-editors are **Dr. Andrea Smith**, a WMU professor of teaching, learning and educational studies, and Georgia State's **Dr. Deborah Whitley**, associate professor of social work. They also are co-directors of the grandparenting research center. The need for such a journal and for online resources, they say, was one of the primary findings of a national survey done by the center shortly after it was established.

The editors are committed to filling that void with the journal by featuring standards of excellence for research and

practice related to grandparent-headed families; fostering new and innovative practice methods for serving custodial grandparents and their grandchildren; and promoting policy content that advances national and international perspectives of issues affecting grandparent-headed families.

The editors also made a commitment to providing that information twice yearly without charge. Smith and Whitley call the immediate response to news of the journal "off the charts." They report already having diverse submissions to populate the next two issues of the journal.

Approximately 2.7 million grandparents across the nation are responsible for the total care of their grandchildren, and more than half of all children living in grandparent-headed homes are under the age of 6 years.

Originally established by GSU in 2001, the National Research Center for Grandparents Raising Grandchildren promotes best practices in the kinship care field by linking researchers and field-based professionals. WMU has been working with Georgia State since the inception of a center there, and in late 2011, the two institutions joined forces and resources to focus on this underserved group.

Source: University News

DISCOVER DISCOVERY WORKSHOPS IN DEVELOPMENT

OVPR, in conjunction with the Office of Faculty Development, will offer its Discover Discovery series again this academic year. The series spans fall and spring semesters, and will be in the form of workshops or discovery communities.

Held bi-weekly at the Fetzer Center, 12:30-1:45 p.m., the research series is offered as part of the OFD's year-long new faculty orientation and is open to all faculty and staff interested in discovery activities and external funding to support those efforts.

Discover Discovery seeks to educate, inspire and innovate research at the University.

The first workshop on September 23 – *Stories from the Trenches: Strategies for Success* – will be led by a panel of researchers discussing WMU resources, collaborating with others on projects, identifying a mentor, and building a research team.

The second workshop in the series on October 7 focuses on the discovery program inventory.

Registration is done electronically from our website, which links to the OFD registration system. Registration is capped and will close the Friday before scheduled Tuesday meetings. Lunch is included in the sessions. Call (269) 387-8270 if you have questions, or contact your research officer directly.

Join us for a year-long experience of Discover Discovery.

SURVEY COMING SOON FOR FACULTY AND RESEARCH STAFF

Faculty members will receive a discovery survey during this semester to ask about your research needs and resources.

Responders to the survey will be included in a drawing to win a 16GB iPad Air.

The information you will provide us in the survey will be important for our planning, resource allocation, and capacity building to support you in your discovery activities.

Look for the survey and check our website for more information as it becomes available.

FACILITIES & ADMINISTRATIVE COST RATES (F&A)

The work of WMU faculty, staff, and students on externally-funded projects includes direct and indirect costs. Direct project costs are usually straightforward and easily attributed to a specific project. Indirect costs, termed Facilities and Administrative Costs (F&A), are also real costs that are essential for a project's implementation, but would take much time by faculty and staff to attribute and track in relation to specific projects.

F&A costs include such expenses as research space and equipment, utilities, custodial services, security, payroll, purchasing, fiscal management and tracking, and department administration. To relieve the burden on researchers, F&A costs are agreed upon through formal negotiations every four years with our cognizant agency, the U.S. Department of Health and Human Services. They are based upon data presented by the University via a cost analysis and are expressed as a percentage of total direct costs minus exclusions.

Having such a rate helps the university reduce the costs of having to determine how much of these resources each individual project uses or consumes. WMU recently concluded this process and new rates for research- and instruction-related projects funded externally for both the University and WMed have been established as follows:

- July 1, 2013 – June 30, 2015 = 50% of modified direct costs
- July 1, 2015 – June 30, 2017 = 51% of modified direct costs

Project budgets are required to include full recovery of F&A costs at the appropriate negotiated rate. More information about specific rates and F&A policies are available on the OVPR website (www.wmich.edu/research/policies/proposalsubmit).

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A complete list of constituency areas is posted online at wmich.edu/research

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