



OARS Research News

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November 2009 Edition



Graduate School and Office for the Advancement of Research and Scholarship
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Message from Dr. James Oris, Associate Dean for Research and Scholarship



As the first semester 2009-2010 comes rushing to an end, I am happy to provide highlights of the year so far here in OARS. To date, we have had a very successful year in obtaining external funds to support research and education activities at Miami University. In the first quarter of FY2010 faculty and staff were awarded over \$8.8M in funds from external agencies. Nearly \$4M of these awards was from the Federal Stimulus Package (ARRA Funds), of which \$1M was awarded from NIH and \$3M was

awarded from NSF. Our ARRA Funds will be used to support the research and education of 50 graduate students, 42 undergraduate students, and 12 postdoctoral and research associates across campus. The efforts of our faculty and staff in making strong investments in providing talented, top-notch graduates into the workforce are commendable. Examples of our strong faculty are found within this newsletter, with a profile of the teaching and research of Dr. Mary Ben Bonham (ARC) and this year's winners of the Distinguished Scholar Awards.

Undergraduate experiential learning continues to be a focus in OARS as we provide support and funding for the long-standing Undergraduate Research Awards, Undergraduate Summer Scholars, and DUOS programs. We enter our third year of competition for the Miami University Interdisciplinary Technology Development Challenge (MUITDC) with a record number of entries (7) in the area of "Clean and Alternative Energy". We have initiated a new, First Year Research Experience (FYRE) to initiate first year students into the research and scholarship model. In this first year, 24 students have enrolled to take advantage of a variety of research experiences made available by more than 40 faculty volunteers. Thanks to Bill Houk (UGR Committee Chair), Robert Setlock (MUITDC Committee Chair), Joyce Fernandes (FYRE CoChair), Mike Kennedy (FYRE CoChair), Linda Dixon (FYRE CoChair), Martha Weber (OARS), and Rachel Shelley (OARS) for all of their efforts to support an outstanding undergraduate research program.

In addition to our regular workshops for faculty and staff on seeking funding opportunities, writing proposals, and post-award activities, we have hosted two regional workshops this semester. In September, OARS and the School of Fine Arts hosted Miami alumnus Robert Frankel, National Endowment of the Arts (NEA), and Jami Goldstein, Ohio Arts Council, who

led a day-long workshop on the NEA grant-writing process (see article in this newsletter). Over 80 people attended from Miami University and from universities and foundations throughout Ohio, Kentucky, and Indiana. On November 16-17, we hosted two NSF and OARS sponsored day-long workshops on faculty career development. Led by Timothy Anderson (Univ of Florida & NSF), the workshops provided an opportunity for early career faculty in STEM areas to learn about NSF's CAREER Award program, to discuss career pathways in academia, and to participate in simulated grant proposal and promotion and tenure review panels. Each of the two workshops was attended by twenty faculty from Miami University and from universities in Ohio, Indiana, Kentucky, and West Virginia. Thanks to Jim Lentini (SFA), Bob Wicks (Art Museum), Heather Kogge (SFA), Tricia Callahan (OARS), and Anne Schauer (OARS) for putting these great workshops together.

We continue to see new changes and regulations on the submission of proposals and the conduct of research from the Federal Government. NIH has introduced new procedures for applications effective **January 25, 2010** (article in this newsletter). Also beginning in 2010, the NSF has adopted a policy on Responsible Conduct of Research (Compliance Corner News), which will require plans for training all students, faculty, and staff in nine core areas of research activities. Attention to requirements for the control over the export of materials and information to foreign nationals or foreign countries is also increasing. If you host students from outside of the U.S. in your lab or you are planning on working in (or sending materials to) a foreign country, it is important that you contact OARS for information about restrictions. You will be hearing more from OARS about these changes throughout the coming months.

Finally, in our efforts to increase efficiency we continue taking steps toward a paper-less operation here in OARS. This includes a complete revamp of our database system and the way we will collect information from investigators who submit both internal and external funding proposals. Early next year, we will introduce the new system, complete with a newly revised Proposal Approval Form (PAF) that will help capture important information and increase our ability to coordinate pre-award activities with post-award accounting. Hopefully, you get the sense that we are busy and doing our best to encourage, facilitate, and support the Miami University community in its effort to obtain external funding for all forms of research, education, scholarly, creative, service, and outreach activities.

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Highlights on Miami Faculty Research

Mary Ben Bonham, Assistant Professor, Dept. of Architecture & Interior Design

Design and Environmental Technology-

Mary Ben Bonham teaches Design and Environmental Technology in the Department of Architecture and Interior Design at Miami University. She joined the department in 2007 as an Assistant Professor.



Bonham is a registered Architect (Kentucky, since 1994) and LEED-Accredited Professional (since 2001,

designation from the United States Green Building Council's Leadership in Energy and Environmental Design program). She received degrees in architecture from the University of Texas at Austin (B. Arch 1989) and the University of Pennsylvania (M. Arch 1994). Prior to beginning a teaching career at Miami, she practiced architecture in Texas, Kentucky and Massachusetts, and had an internship in Paris, France.

Her approach to teaching and research is integrative, stemming from her foundation in architectural practice, interests in energy-efficient, sustainable building design and experiences traveling and working in France. At Miami, these interests have generated several research tracks that Bonham is currently following.

The first area of research revolves around various aspects of double façade technology, wherein a building's façade is made with multiple layers forming a sizable airspace. These configurations create a thermal buffer zone protecting the building interior from undesirable fluctuations in exterior climatic conditions. The contemporary version of this technology using primarily glass materials has been developed and evolved in European building designs dating from around 1980. As elements of passive design, the buffer zones can significantly improve acoustical and daylighting performance of the interior as well as conserve energy usage by the building's mechanical systems. Bonham has studied a number of contemporary public structures using this technology in various regions of France. Using individual buildings as case examples, she investigates how the designs of the double facades vary according to climate region, the specifics of the urban site, the expertise brought by the architecture and engineering

design team, and the needs and activities of the building users.

She has discovered the value of the double façade as a highly adaptable device that can provide a myriad of aesthetic and performance qualities. Bonham has presented her research on this topic at architectural and interdisciplinary conferences in the United States and the U.K. Past investigations explored the technology's variations in cases in the Mediterranean, Alpine and central Continental climate regions of France. In her continued research on the topic of double facades, she plans to address the history and potential of the technology in other regions – both closer to Ohio and other regions globally.

She has been an invited speaker on the topic of contemporary French Architecture to student groups in Dijon (Miami University's French Language Program) and Paris (University of Cincinnati's Honors Program). In the future, she would like to lead a group of Miami students to learn about building technology through field study in France.

Lately, Bonham has been able to take her experience with research and writing about sustainable design back into the classroom. A new seminar course she is currently teaching for undergraduate and graduate students in the fields of Architecture and Environmental Science, "Case Studies in Sustainable Design," is organized around the student as scholar model. Each student in turn has taken on a teaching role, presenting deeper research into a self-selected topic to the class. Students also are engaged in individual research of their topic, learning through analysis of a sustainably designed building case study.

Miami's university setting provides plentiful opportunities for creative multidisciplinary work. These activities provide Bonham with the opportunity to collaborate with experts in other disciplines as she has done in professional practice. At Miami, however, the work becomes more research-oriented, striving to understand and promote the sustainable use of technologies. Her students are equally eager for these experiences that will mirror the role they will play professionally in the near future.

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Lessons Learned- Money Earned !

The National Endowment for the Arts Invited to Miami University to Discuss Funding.

The National Endowment of the Arts (NEA) is the largest funding support network for artists and arts administrators in America. Though the grants are prestigious, their amounts often generous, and their goals admirable, the NEA grant-writing process is notoriously convoluted and can be confusing. This dichotomy often leads grant-writers astray, leaving viable projects unfunded.

Miami alumnus Robert Frankel, a Discipline Director for the NEA, visited Miami University on September 25 to explain the NEA grant-writing process and to answer questions offered by those in attendance. In Frankel's relatable manner, he discussed not only the grant-writing process, but also the rationale behind the complex guidelines. What follows are the most important lessons this writer learned from Robert Frankel's time in the Art Museum that Friday morning:

The NEA is Government Run. It sounds obvious, but to individual artists who work long hours alone or with other individual artists, it is important to remember this fact. Government-run organizations automatically deal in higher levels of bureaucracy and oversight. Entering the NEA grant-writing process with this knowledge and a bit of patience will save a grant-writer much frustration in the long run.

The NEA is a Community. The NEA has assigned a director to oversee each discipline in the Arts. There are currently fourteen, with two additional positions sitting vacant. If a discipline is not directly listed, an artist can work collaboratively with multiple directors, or will be referred to the most appropriate person. Grant-writers are strongly encouraged to contact directors for assistance in preparing their grant. Furthermore, directors will pre-read a grant proposal and give writers appropriate feedback before submission. Grant-writers may also attend (via conference-call) the panel meeting in which their proposal is being discussed.

The NEA funds individuals working WITH non-profit organizations. The NEA does not fund individuals; however, many individuals have paired with a non-profit organization in a mutually beneficial collaboration. An example given by Mr. Frankel included a California based visual-artist in collaboration with a hospital located in a

culturally diverse area. The grant funded commissioned paintings to be housed in a new wing of the hospital.

Application Deadlines are NOT true. Grant proposals are submitted to the NEA electronically through www.grants.gov. While Miami is currently registered with this site, it can be slow or even non-responsive on agency due dates, so begin early. The NEA asks for grant proposals to be submitted ten days prior to the posted deadline. The proposal will NOT be accepted if there are errors that push the proposal past the deadline.

The NEA is an outstanding resource for finding OTHER funding. The National Endowment of the Arts website offers a "Resources" page. In addition to the grants offered through the NEA, this particular page directs users to federal grants, state and regional grants, and the New York Foundation for the Arts National Database of awards for artists.

Written by: **Dr. Christin Schillinger**,
Assistant Professor, Department of Music



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Miami Distinguished Scholar Award Recipients

Distinguished Scholar Awards for 2008-2009 have been presented to professors - **Robert Applebaum**, Sociology and Gerontology, **James Creech**, French and Italian, and **Christopher Makaroff**, Chemistry and Biochemistry - in recognition of a substantial and continuing record of research or creative activity. **Michelle Boone**, Zoology, received the Distinguished Scholar Award for a junior faculty member who has demonstrated great potential as a scholar or artist. The scholars, named by the committee on faculty research (CFR) and the office for the advancement of research and scholarship (OARS), receive a \$2,000 stipend for the pursuit of further research or creative endeavor.

Robert Applebaum, Director of the Ohio Long-Term Care Project of the Scripps Gerontology Center, has a national reputation for his work to expand the continuum of long-term care options for older adults. He is noted for translating his research into policy. Applebaum has provided testimony related to long-term care policy at the federal and state levels more than 20 times. He recently was the only university representative to serve on the Governor's Committee to Study Unifying Ohio's Long-Term Care Budget. He is author of four books, 58 reports, more than 65 peer reviewed articles, co-author of one book and an editor of the Encyclopedia on Aging. His research has been supported by \$3.6 million in external research funding.

James Creech, a specialist in eighteenth century French literature, has "moved forward in often unexpected and courageous ways," in the more than 30 years since he has been at Miami, according to one of his nominators. His first book, *Diderot: Thresholds of Representation*, published early in his career, has remained a staple of Diderot scholarship. His second book, *Closet Writing/Gay Reading: Herman Melville's "Pierre"* has influenced Queer and American literature studies. More recently, Creech has centered his research on the relation between shame and testimony in the first-person accounts of Holocaust survivors. He is currently preparing a book on the basis of this research and has presented work in this area at two colloquia in France.

Christopher Makaroff, Chair of the Department of Chemistry and Biochemistry is recognized as a leader in the field of genetics and biochemistry of plants. His research has been supported by more than \$4.5 million in external research and equipment grants. He has also been awarded another \$1.2 million in educational grants to support undergraduate students. He is author or co-author of approximately 50 research articles in top journals and three book chapters, and he holds a patent dealing with growth stimulation of plants. He also received the Sigma Xi Research of the Year award in 2004 and was named the Distinguished Scholar of the graduate faculty in 2005. Finally, he serves on the editorial board of *Plant Signaling and Behavior*, and has served as director/co-director of the department's National Science Foundation Research Experiences for Undergraduates program.

Michelle Boone has achieved recognition for her work early in her career, both nationally and internationally. Her research on the effects of pesticides on amphibian populations has had a significant impact on the field of conservation biology. She has authored 25 peer-reviewed journal articles and eight book chapters and her research has been supported by \$460,000 in funding from the National Science Foundation, the National Institutes of Health, the National Fish and Wildlife Foundation and the Professional Golf Association. She was a key participant in an international workshop sponsored by the Conservation International and the International Union for Concerned Scientists that resulted in a book publication and a synthesis paper in the journal *Science*. She also serves on the editorial board of *Environmental Toxicology and Chemistry*.

Excerpts reprinted with permission from:

Susan Meikle

Staff Writer/Public Info Officer
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Undergraduate Summer Scholars Program 2010- 115 New Awards



Miami University announces it will provide 115 awards to Miami students through the 2010 Undergraduate Summer Scholars (USS) program. This nine-week summer program enables Miami undergraduates to do research or other creative activities with an individual faculty mentor. USS awards include a \$2,600 student fellowship; up to 12 hours of academic credit with waiver of instructional fees and tuition; a \$400 student allowance for supplies, services and travel; and a \$600 faculty mentor allowance. Student participation costs vary depending on whether the student crafts a research project under Option A (a research project for 12 credit hours) or Option B (combination of International Course Work Experience with a research project for a total of 12 credit hours).

When asked to describe a major program benefit, a former USS student recognized and praised the program's intellectual focus for challenging her. She said, "Learning how to develop the research ideas on my own time, as well as learning the various systems to gather and conduct research was invaluable." To find out more about this program, interested students are encouraged to contact previous student award winners. Asking fellow students about the process of finding a mentor, creating and carrying out an intensive summer research project, offers first hand insights on the process of becoming a life long learner. View USS 2009 awardees names, project titles, and mentors at: http://www.muohio.edu/oars/undergrad_research/summer_scholars_program/awards/index.php.

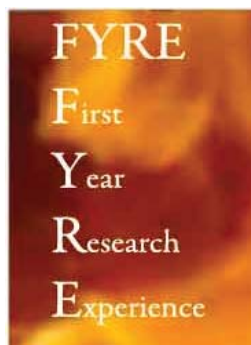
Now in its sixteenth year, past recipients highly recommend the USS experience. "This faculty mentored intensive summer research experience provides an experience documented to increase the intellectual maturity of its participants," says Martha Weber who coordinates the USS program as part of her duties as Undergraduate Research Coordinator in the Office for the Advancement of Research and Scholarship. "As an educational model under which students actively engage in discovering, evaluating and communicating, the program promotes the clear link between Miami scholarship, teaching and learning."

The USS program offers a late fall submission opportunity (Round 1) that is open to all eligible students. In addition, a spring (Round 2) submission opportunity is offered. However Round 2 is limited to students majoring in disciplines where the fall deadline has limited their participation due to the timing of their research methods course. Students submitting an application with a mentor in School of Fine Arts and Humanities, social science disciplines, and School of Education and Health departments may apply in Round 1 or Round 2. All other students must apply through their mentor's department by the fall submission deadline of **December 4, 2009**. For both deadlines all eligible students must submit their application to the department or program of the faculty member who agrees to work with them.

Direct program questions to: Martha Weber, weberme@muohio.edu, Office for the Advancement of Research and Scholarship (OARS), 102 Roudebush Hall. Download the application and guideline material at: <http://www.muohio.edu/UndergradResearch>.

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First Year Research Experience (FYRE) Program- Round 2



Miami announces the Round 2 student application deadline for the FYRE program. Developed by Miami faculty and staff, FYRE provides incoming students with opportunities to engage in research and to establish early contact with faculty mentors. This spring we hope to attract another 20 students to the FYRE program under the FYRE STEM

tracks. Student recruitment time frame to interview faculty happens fall semester between November 1 and December 4, 2009 with student applications due on **January 20, 2010.**

FYRE activities address advancing the academic success of students and raising the level of scholarly accomplishments, encouraged by President Hodge with his Student as Scholar learning model. Program goals and objectives are:

- Engage first-year students in faculty research early in their academic careers
- Allow students to experience the practice of research through workshops, seminars and activities.
- Enhance communication and presentation skills
- Foster the development of a community of student researchers/scholars within the first year experience by providing educational enrichment opportunities and ways for first year students to interact, network, socialize and collaborate together.
- Increase first year student participation in other research activities at Miami University throughout their undergraduate career.

First Year Students in the FYRE program are required to be involved in both of these components.

Laboratory Research: FYRE scholars will be involved in laboratory research projects during the Fall and Spring terms. Students in the FYRE-STEM and FYRE Team Research Projects will sign up for at least one credit hour of independent study in their respective departments.

Seminars and workshops: In addition, the FYRE program aims to foster the development of a community of student researchers/ scholars within the first year experience who socialize and collaborate together.

Several enrichment opportunities will be offered in the form of seminars and workshops. These offerings will qualify for one credit hour of independent study in the department of your major.

This fall, we paired up 24 students and mentors in either FYRE-STEM, FYRE-Shadow and FYRE-Team tracks. Currently available faculty projects and team projects are listed on the web at:

http://www.muohio.edu/oars/undergrad_research/first_year_research_experience/index.php

Note: In addition to faculty members listed on this web page, any faculty member engaged in research in the STEM areas can serve as a FYRE mentor for spring 2010.

How Do Faculty Get Involved? - FYRE Program Spring 2010 Application Round

Via an e-mail to Martha Weber, OARS Undergraduate Research Coordinator, Submit a brief summary of research projects available for spring 2010 including: 1) titles of projects 2) techniques that a student will learn, and 3) any information relevant for a First Year student.

- * Be available for students to interview during recruitment (Nov 1 – Dec 4, 2009 and Jan 11 – 20, 2010)
- * Sign off on the student's application IF YOU ARE AGREEABLE TO HOSTING THE STUDENT
- * Consult with students to plan and execute their projects
- * Regularly monitor student participation in spring semester 2010

How Do Students Get Involved? Read the FYRE program information on the web at http://www.muohio.edu/oars/undergrad_research/first_year_research_experience/index.php

Then, interview at least one faculty member or contact the current student project team leaders in Zoology or Chemistry. If the faculty member or that team leader agrees to work with you, fill out the FYRE application, and submit the completed form to Martha Weber (weberme@muohio.edu) Undergraduate Research Coordinator in the Office for the Advancement of Research and Scholarship, 102 Roudebush by **January 20, 2010.**

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NIH Update-Application Changes for January 25, 2010 Submissions

NIH is putting into production the final phase of the “Enhancing Peer Review Initiative,” implementing two major changes for due dates on or after January 25, 2010: (1.) Restructured/Shortened Applications, and (2.) New Forms and Instructions .

Why are the applications being restructured?

The new application format will align the structure and content of the application with review criteria, focusing applicants and reviewers on the same elements. This alignment will help ensure a more efficient and transparent review process.

What do applicants need to do?

Applicants targeting due dates of January 25, 2010 and beyond should:

1. Read about the current changes now and begin writing their Research Strategy.
2. In December, return to the updated Funding Opportunity Announcement (FOA) or reissued Parent Announcement and download the new application package and instructions.
3. Read the updated application instructions.
4. For due dates on or after January 25, 2010, submit electronic and paper applications using the new application forms.

What changes are being made to the application forms?

- Research Plan:
 - o Specific Aims will include new language about

the impact that the results of the proposed research will exert; page limit will remain at 1 page.

- o Research Strategy will be created as a new section and will include 3 of the current sections - Background and Significance, Preliminary Studies/Progress Report, and Research Design and Methods.

- o Select Agents Research will be changed to reflect the Environment criterion.

- Resources: The Facilities and Other Resources section will be changed to require a description of how the scientific environment will contribute to the probability of success of the project, unique features of the environment, and for Early Stage Investigators, the institutional investment in the success of the investigator (e.g. resources, classes, etc.).

- Biographical Sketch: New instructions require a Personal Statement and also provide guidelines for the inclusion of references, limiting the list to no more than 15.

What are the actual page limit changes?

The page limits for the new Research Strategy section generally will be 6 or 12 pages (with an additional 1 page for Specific Aims), according to the chart below. As always, if the FOA requires page limits that differ from the application instructions, the FOA page limits should be followed.

For more information, refer to: <http://enhancing-peer-review.nih.gov>

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Compliance Corner News



Winter, 2009

National Science Foundation and the Responsible Conduct of Research:

In August of 2009, after receiving and responding to comments from the research community, the NSF adopted a policy requiring that all institutions have a plan in place by **January 4, 2010** to assure all graduate and undergraduate students as well as post-doctoral researchers supported by the NSF will receive training in the responsible conduct of research (<http://edocket.access.gpo.gov/2009/E9-19930.htm>). This plan has to be referenced (but not described) in any submitted funding proposal. The requirements of the policy do not apply to existing funded proposals or incremental extensions. Dr. Bruce Cochrane, the Associate Provost for Research, is leading the development of the plan for Miami University. While still under development, this plan will be likely to involve a generic program administered by the Compliance Office but will probably include options for substituting approved departmental level training for some aspects of the requirement. Each of the core areas listed in the box below must be addressed in the training.

- Data Acquisition, Management, Sharing & Ownership
- Research Misconduct
- Conflict of Interest
- Human Subjects
- Animal Care
- Publication and Authorship Practices
- Mentor/Trainee Responsibilities
- Peer Review
- Collaborative Science

http://www.muohio.edu/compliance/rcr/RCR_Manual_Steneck.pdf

The training will involve a combination of online exercises as well as training in a classroom setting. The NSF policy requires that the funded institution be able to verify that the training has taken place for these researchers and this will be maintained by the Compliance Office.

It is generally anticipated that other federal agencies will adopt similar policies. Since knowledge and appreciation of these important issues are beneficial to any research program, faculty advisors, departments,

Hints for IRB Applicants:

When asked for information like: *“Describe the process that will assure the potential subjects that their identity will be held as confidential”*

The answer *“I will tell them their identity will be protected”* is not satisfying to the IRB or more importantly, probably not to the potential subjects. Rather, tell the subjects and the IRB the methods employed that will result in that protection.

A happy subject is a good subject.

Please contact me for ideas about how your subjects might be better informed and served.

and Miami administrators, may at their discretion adopt such training requirements for their researchers.

Human Subjects Research (IRB):

Beginning in January 2009, a new application form was introduced and tested for several months. In July, it became the format posted and downloadable from the human subjects research website. In **February 2010**, it will become the required format for new applications. This format contains the same basic questions although in a slightly different order. It also provides leading sub-questions to aid the applicant in addressing specific issues the IRB is expecting to be addressed.

As always, please contact me with any questions or suggestions regarding compliance issues (neal.sullivan@muohio.edu; 529-2488).

-Neal Sullivan-
Research Compliance Officer

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Spring 2010, Proposal Writing Workshop

The Office for the Advancement of Research and Scholarship (OARS) is sponsoring a Proposal Writing Workshop for faculty who are NEW to External Funding.

The workshops will consist of:

1. Hands on, interactive workshop with group meetings, approximately 7-8 times during the semester.
2. The identification of funding sources.
3. The step-by-step proposal development process, to include: writing each part of the proposal with on-going peer review by the workshop participants.

4. Building a proposal budget.
5. Learning about research compliance issues and the Miami internal approval and submission process.

Participants who complete the workshop and then submit a proposal to an external funding agency, will receive \$500 towards operating expenses.

The meeting day(s) and time(s) will be selected based on participant availability. To Sign up to participate in the Spring 2010 workshop, contact **Anne Schauer** (schauerap@muohio.edu) at 529-3735.

Locating Grant Funding Opportunities

OARS will host four workshops for faculty and staff on strategies for locating grant oppsorunities using the internet. The hands-on workshops will take place on **January 27, 2010, January 28, 2010, March 24, 2010, and March 25, 2010** from 2-4 pm. in the computer lab located at 201 Gaskill Hall.

Space is limited, so if you plan on attending **one** of the sessions, please contact **Helen G. Kiss**, kisshg@muohio.edu, Assistant Director & Information Coordinator, 529-3600 to make your reservation.



The Funding Corner

As the Fall semester comes to an end, faculty and staff may want to see me to discuss their current research and scholarship projects so that we can update the grant funding

information that is sent to them. As

the information will be coming to you electronically, it would be best if we work together at your office computer. All you need to do is send an e-mail to me (kisshg@muohio.edu) or call at 529-3600 to set up an appointment. Together we will discuss the type of funding for which you are looking.

Helen G. Kiss, Assistant Director, & Information Coordinator, 529-3600.