

OFFICES FOR FACULTY AND STUDENT RESEARCH AT BRIDGEWATER STATE COLLEGE

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At Bridgewater State College (BSC), the Office of Grants and Sponsored Projects (OGSP) is a separate entity from the undergraduate research program (known as the Adrian Tinsley Program), which shares space and resources with the BSC Honors Program.

Institutional Support of Sponsored Research

The BSC Office of Grants and Sponsored Projects supports the development of projects at all levels – from a mere notion of what might be through to the final report. In this process, the staff and faculty work together to ensure that the project becomes part of the College – its approach to teaching and learning, to scholarship and creative works, and to community service. In order to support these programs and the faculty, the OGSP staff keeps abreast of the research methodologies, as well as the particular issues, in all disciplines. The Director of the OGSP is also a non-voting member of the BSC Center for the Advancement of Research and Teaching (CART). CART provides competitive internal funding opportunities for BSC faculty and librarians: travel grants (\$500 per year), small grants (\$2,000), summer grants (\$3,000), and Faculty/Librarian Research Grants (\$8,000).

Adrian Tinsley Program for Undergraduate Research

The Adrian Tinsley Program for Undergraduate Research (ATP) provides opportunities to BSC undergraduates who wish to pursue independent research, scholarship or artistic activities under the guidance of a full-time BSC faculty or librarian mentor. The Tinsley Program is funded through the Bridgewater State College Foundation and the President's Office, and administered by two coordinators and a faculty Advisory Committee.

The Adrian Tinsley Program is jointly housed with the BSC Honors Program. Although both programs retain their separate identities, the Honors Director and ATP Coordinators consult with each other and develop long-term initiatives for both programs where interests overlap, while the daily operation of each program is undertaken by its respective head(s). These offices were combined as the two programs share the common objective of promoting and providing opportunities for undergraduate research; ATP primarily through competitive grants, and Honors primarily through curricular frameworks that support research. The Honors Center serves as a central home for students in both programs, who find it a common repository of information on undergraduate conferences, ATP grants and information regarding undergraduate research in general, as well as a meeting place to share such information with each other.

Honors and ATP share clerical/administrative support, and daily secretarial help. Bringing the Programs together helps raise the campus profile of each, as faculty and students currently involved in one will become more aware of the opportunities of the other.

The Tinsley Program provides year-round support of undergraduate research through a variety of competitive opportunities:

Summer Grants are awarded to students for work done over ten weeks of the summer on an in-depth, independent research project, under the supervision of a BSC faculty or librarian mentor. The grant includes a \$3,200 stipend awarded to the student, up to \$500 in research expenses, and a mentor stipend of \$1,000.

Semester Grants are awarded each semester to offset the costs of research-related supplies and travel (\$250 max).

Travel Grants support students who present their research at regional or national conferences, and fund travel, lodging, registration and related fees (\$750 max).

The Undergraduate Research Symposium takes place in late April, and showcases undergraduate research through oral and poster presentations.

The Undergraduate Review: A Journal of Undergraduate Research and Creative Work considers for publication articles on completed student research and creative work from all undergraduates at Bridgewater State College.

THE EVOLVING CULTURE OF RESEARCH AT THE COLLEGE OF ST. SCHOLASTICA

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Over the past 10 years, undergraduate research at The College of St. Scholastica (Duluth, MN) has moved from disparate efforts and discipline-specific projects to an institution-driven encouragement to develop more intra-disciplinary research between faculty and undergraduate students, and to develop more interdisciplinary scholarship. The College recently facilitated the creation of the Center for Scholarly and Creative Excellence (CSCE), whose staff works with the College Honors Program, the Faculty “Writers” Cohort I and II, the Faculty “Thinkers” Cohort, the McNair Scholars Program (McNSP), the Computer Science, Engineering and Math Scholars Program (CSEMS) and individual department chairs to increase awareness about undergraduate research, to distribute information about research opportunities to faculty members and students, and to provide opportunities for sharing research. The collaboration is in its infancy, but a number of events/activities have been added or enhanced and there is a growing shift in thinking about undergraduate research/scholarship and its importance to faculty members and students. The College anticipates a continued strong and sure development of a culture of research and scholarship.

“Move research at The College of St. Scholastica (CSS) from individual efforts, through the newly created Center for Scholarly and Creative Excellence (CSCE) to include expanded, campus-wide activities.”

This statement from the VP for Academic Affairs began a shift in thinking about undergraduate research at CSS. Key faculty and staff members now assist CSS faculty and students to incorporate more intra-disciplinary research and scholarly activities to meet departmental academic requirements, and to demonstrate how to promote interdisciplinary scholarship outside the classroom.

For purposes of this article, undergraduate research is defined as scholarly, empirical and non-empirical research, and creative works are defined as music performances, displays of art, or literary performances done under the auspices of faculty mentors. All academic disciplines are included in the activities of the CSCE, and all endeavors by undergraduate students or faculty include an expectation of publication or public presentation.

Department-Specific Activities for Undergraduate Students

For many years only a few academic departments encouraged undergraduate research, scholarly, or creative works: chemistry, biology, psychology, art and music. Only a handful of dedicated faculty found the time to work with undergraduate students on their research: some independent projects, and some extensions of the faculty member’s ongoing projects.

For a decade, the McNair Scholars Program (McNSP), a federally-funded graduate school preparatory program, has provided information on multidisciplinary research opportunities locally, regionally and nationally and promoted professional presentations and publications for 155 undergraduate researchers. Using faculty mentors to guide their independent research, undergraduates create poster displays, present their findings at discipline-specific conferences and publish their research in hardcopy and electronically. Workshops provide participants with the skills-building information they need to become successful in graduate school.

For four years, the Computer Science, Engineering and Math Scholars Program (CSEMS) has worked with 31 undergraduates from these targeted disciplines. Participants have completed research, internships or provided tutoring to other students. Faculty mentors have assisted those completing research or those involved in internships. Preparation enhances their ability to get discipline-related employment or enter graduate school.

Individual Faculty Members Conducting Research

For several years, faculty research efforts have been limited, with only a fraction of the CSS faculty members completing scholarly works in their discipline at this primarily teaching institution and only a handful doing research with undergraduate students. Then in one decade, 51 faculty members became mentors for McNair scholars. As faculty members worked with students on research, they became increasingly aware of undergraduate research opportunities at brown bag luncheons facilitated by CSS grant writers and senior faculty. CSS became a member of the Council on Undergraduate Research (CUR) and attends National Conferences on Undergraduate Research (NCUR) – activities which increased the flow of information about undergraduate research, funding sources and successful research at other institutions. Through the offices of Institutional Advancement, the College has received funding for 20 research-based grant proposals in the last decade. This has been a major contributing factor in shifting the College's thinking about the importance of research at a primarily teaching college.

Creation of the Center for Scholarly and Creative Excellence (CSCE): A Turning Point

When the McNair Scholars Program moved administratively to Academic Affairs in 2001, the VP for Academic Affairs, the Director of the McNair Scholars Program, and the Chair of the Behavioral Arts and Sciences Division outlined the creation of CSCE using as its model the successes of the McNair Scholars Program. CSCE was unveiled at the annual CSS Undergraduate Research Poster Session (October, 2003) and now facilitates and promotes interdisciplinary and intra-disciplinary scholarship excellence, whether research or creative activities, among all undergraduate students and faculty.

Campus-Wide Activities for Undergraduate Students

More academic departments have developed or increased their emphasis on undergraduate research: math was added to chemistry and biology. The psychology department helped spearhead a regional psychology undergraduate research conference - the Twin Ports Undergraduate Psychology (TPUP) and formed a chapter of Psi Chi. Undergraduate research is promoted at the annual CSS Undergraduate Research Poster Session (the number of presenters has increased from 15 to 31 in two years), the Minnesota Private Colleges *Scholars at the Capitol* (the focus has shifted from McNair scholars only presenting to include students outside that program and also includes undergraduate presenters from the 17 MN private colleges), and through workshops teaching research and graduate school success skills. Reformatted electronic, searchable databases for summer research opportunities, academic year grant funding, and scholarships are available to undergraduates. The Honors Lounge provides space for students from three honors programs (McNair, CSEMS, and CSS Honors) to meet and discuss research or collaborate on projects. Students are encouraged to join discipline-specific professional organizations.

Students are increasingly aware of nationally competitive scholarships available to them as undergraduates or those which are portable to multiple graduate institutions: e.g., Rhodes, Udall, Jack Kent Cooke, Goldwater, NASA. One CSCE faculty member belongs to the National Association of Fellowships Advisors (NAFA), and serves as the liaison between the College and several major scholarship programs. Through CSCE, students become aware of the benefits provided by such organizations as the Council on Graduate Schools (CGS), the Educational Testing Service (ETS), GEM, the Council on Undergraduate Research (CUR) and the National Conferences on Undergraduate Research (NCUR).

Prospective and current students can electronically access information about research opportunities, fellowships and scholarships through the College's undergraduate research site. This site links students to the following programs: CSS Honors; McNair Scholars; Computer Science, Engineering and Math Scholars as well as to off campus sources of research possibilities such as CUR, NSF, NIH and others. Study abroad programs have been a part of campus life for many years with many students completing research projects based on those experiences. Efforts are in place to increase the number of undergraduate students pursuing research-based study in Ireland, England, Mexico, Germany, Russia and Israel.

Support to Faculty Members Conducting Research

CSCE encourages faculty members to expand their research in the following ways by: providing information for interdisciplinary research; granting competitive release time awards for faculty research and scholarship; encouraging student-faculty research teams; co-sponsoring local discipline-specific conferences; facilitating workshops which build research and publication skills, and promoting interdisciplinary research and the development of research ideas; and supporting the writing and publication processes. From these foci, two groups formed to assist and promote faculty research: Faculty "Thinkers" Cohort, which fosters and encourages scholarly pursuits, and the Faculty

“Writers” Cohorts I and II, which provide support both for experienced and advanced faculty who want to add to their scholarly publications.

Scholarly Exchange Luncheon Opportunities (SEL-O) allow faculty members to share their research with other faculty members in an informal setting that encourages a free exchange of ideas. Finally, the electronic Faculty Scholarly Works Database aggregates data on peer reviewed and non-peer reviewed publications, presentations and performances.

The College’s Institutional Review Board (IRB) has had oversight on proposed undergraduate and faculty research projects. In the future, the IRB will take a more active role in educating faculty members about the function of an IRB vis-a-vis research, and will spend time instructing faculty about how to complete an IRB proposal.

The annual CSS Faculty/Staff Art Show has been reinvigorated in light of a College-wide effort to showcase creative activities of its faculty members. More emphasis will be placed on this event as an avenue for faculty members to exhibit paintings, drawings, original compositions, textiles and ceramics.

Through the offices of Enrollment Management and the VP for Academic Affairs, the College has publicized the creation of the Center by developing a brochure entitled *Research and Advanced Academics at St. Scholastica*, which is used by College Admissions recruiters, and has printed a second brochure summarizing the Center’s accomplishments. Further, College Communications has dedicated a web developer to design a research-based website to link faculty and student researchers to each other and to global links for information on research, grants, fellowships and discipline-specific conferences. Finally, through the offices of Institutional Advancement, three staff members are dedicated to assisting faculty members complete grant proposals written to sponsor research.

In the near future, CSCE will reinforce the activities of the past year, and will look for more ways to foster and encourage interdisciplinary and intra-disciplinary faculty and undergraduate student research and scholarship opportunities.

NORTH CAROLINA STATE UNIVERSITY: HISTORY AND ACTIVITIES OF THE NEW OFFICE OF UNDERGRADUATE RESEARCH

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The Office of Undergraduate Research <http://www.ncsu.edu/undergrad-research/> within the Division of Undergraduate Affairs http://www.ncsu.edu/undergrad_affairs/ was founded in August 2003. Although undergraduate research has always been popular on campus, NC State did not have a central office or a comprehensive website to easily promote and support students, mentors, grants and awards programs, and symposia. NC State has had 13 Annual Undergraduate Research Symposia (held in the spring), and an Undergraduate Summer Research Symposium to showcase the research conducted by students who participate in our 11 REU or REU-like grants; the 2004 summer symposium is in its third year.

With 60% support from the Provost and 40% from the Vice Chancellor for Research and Graduate Studies, a half-time director was hired to establish an Office of Undergraduate Research within the Division of Undergraduate Affairs. The Vice Provost for Undergraduate Affairs assigned a half-time administrative assistant to the director. The director's responsibilities are to:

- Coordinate the spring Undergraduate Research Symposium; <http://www.ncsu.edu/ugrs/indexspr.htm>
- Work with the College of Agriculture and Life Sciences in developing a campus-wide Undergraduate Teaching Symposium <http://www.cals.ncsu.edu/academic/ugts/>
- Help organize and run the Undergraduate Summer Research Program and Symposium; <http://www.ncsu.edu/ugrs/summer/>
- Support and coordinate with Duke University's initiative to establish a continuing fall symposium featuring Duke, UNC-Chapel Hill and NC State (Triangle Undergraduate Research Symposium); <http://www.aas.duke.edu/trinity/research/turs/>
- Represent NC State in the UNC-Office of the President's Undergraduate Research Consortium (16 state-supported universities); participate in submitting a NSF Undergraduate Research Center Grant; <http://www.northcarolina.edu/content.php/aa/departments/research/initiatives/urc.htm>
- Organize participation in the Research in the Capital Symposium at the NC Legislature in the spring of odd years; <http://www.northcarolina.edu/content.php/aa/departments/research/initiatives/urc.htm>
- Coordinate the NC State Undergraduate Research Awards Grants competition, Fall; <http://www.ncsu.edu/undergrad-research/studentsop/undergrad-research-awards.html>
- Coordinate the further development of web-based course modules in Lab Safety, Research Ethics, Animal Care and Use in Research, Philosophy of Science;

course development was supported by a Howard Hughes Medical Institute grant; <http://www.ncsu.edu/project/ungradreshhmi/evaluationModule/login.php>

- Assess all mission objectives and outcomes for the Office of Undergraduate Research; <http://www.ncsu.edu/undergrad-research/mission.html>
- Support Howard Hughes Medical Institute - NC State initiatives; <http://www.ncsu.edu/project/bio-outreach/HHMI.htm>
- Build and maintain a dynamic web site that provides sign-up capabilities for students http://www.ncsu.edu/undergrad-research/students/electronic_form.html and mentors <http://www.ncsu.edu/undergrad-research/mentor/directions.html> to find each other; provide sites on graduate and professional school education <http://www.ncsu.edu/undergrad-research/graduate-careers/advising.html>, scholarships, national REUs <http://www.nsf.gov/home/crssprgm/reu/start.htm> and awards competitions http://www.ncsu.edu/undergrad-research/studentsop/competitions_organizations.html
- Get students connected to the field faculty of Extension and Engagement <http://www.ncsu.edu/extension/>
- Work closely with the NC State Office of National Fellowships Advising <http://www.ncsu.edu/oufa/>, the University Honors Program (with its required research mission) <http://www.ncsu.edu/honors/>, and the committee on Inquiry-Guided Learning <http://www.ncsu.edu/igl/>
- Help link students to other institutions, and our faculty to excellent students from other institutions; this is a common goal of the UNC-Office of the President's Undergraduate Research Consortium
- Attend national meetings of CUR, The Reinvention Center's national and regional meetings <http://www.sunysb.edu/Reinventioncenter/>, NCUR, etc.
- Join the CUR Speakers Bureau <http://www.cur.org/speakers.html>
- Work with the Vice Chancellor for Research and Graduate Studies to gain institutional supports for sending student symposium winners to national meetings, to support summer research grants (home and abroad), to purchase a poster printer, to help support web site development and costs, and to provide awards for symposium winners
- Increase the involvement of non-science/technology colleges in undergraduate research
- Sponsor news releases for the NC State Home Page <http://www.ncsu.edu/>, the *Technician* (student newspaper) <http://www.technicianonline.com/>, and beyond
- Report progress regularly to the Vice Provost for Undergraduate Affairs
- Work with Study Abroad to get research mentors identified abroad for summer and semester opportunities
- Write grants and facilitate grantsmanship by helping faculty with data acquisition, logistics related to the grant and budgeting, and with assessment of the grant
- Develop a new *NC State Journal of Undergraduate Research*

After less than one year in existence, the new Office of Undergraduate Research has already succeeded in fulfilling many of the above initiatives. The website www.ncsu.edu/undergrad-research/ is truly loaded with tools and opportunities for both students and mentors. NC State invites participation from high school and community

college students, and our database for helping to position students with mentors (faculty or off-campus scholars/professionals) and vice versa is now in place. The website serves as the real hub for building a culture and a center to recognize excellence. The new *NC State Journal of Undergraduate Research* will have its first issue in late summer 2004 by featuring the award winning studies of student participants of the spring and summer symposia.

Undergraduate Research Awards Grants: The Division of Undergraduate Affairs provides \$500 stipends to undergraduate students and up to \$500 operating cost stipends, as needed, to support faculty members for undergraduate research projects for spring and/or summer sessions <http://www.ncsu.edu/undergrad-research/studentsop/undergrad-awards-application.html>. In 2003, this program invested \$64,000 on 128 student stipends and \$37,527 on remuneration support of 71 faculty members. The deadline for applications is in mid-October. For those selected to participate, a brief but mandatory information session describing expectations and reporting mechanisms is held in late November.

All undergraduate students enrolled in at least 6 hours are eligible for this funding; there is no GPA requirement, but students must have the commitment (and signature) of a tenured or tenure-track faculty sponsor for their research. Students who are awarded a summer stipend but complete requirements for graduation in the spring lose their eligibility to retain the grant.

For spring awards, payments are made in four installments: \$125 at the end of January, February, March, and April. For faculty members, operating cost stipends are made in one installment in January. For summer awards, payments are made in a single lump sum of \$500 to students and up to \$500 to faculty in January. Faculty members requesting a stipend for operating costs must indicate the specific needs on the Undergraduate Research Award Application.

At the end of the project, the student must submit a report, signed by the faculty mentor, to provide a brief overview of the research project and the student's work and findings, and the value of the experience. The student and faculty mentor must each submit a brief, separate, confidential evaluation of each other's work. An assessment report is sent to the Provost, the Vice Chancellor for Research and Graduate Studies, and to the Vice Provost for Undergraduate Affairs.

Other Sources of Dollar and Logistical Support:

- The Vice Provost for Information Technology, through Educational Technology Fees' Grants Competition http://www.ncsu.edu/provost/admin_resources/etf/, awarded \$21,080 to the Office of Undergraduate Research for the purchase of a high quality poster printer, paper, toner cartridges and hourly wages for student technical assistance, and \$9,080 on a continuing basis.
- Learning Technology Services <http://my.ncsu.edu/index.cfm?nocol=1&category=451&tab=1&select=451> developed a database program that is linked to the website and the electronic

forms that students and faculty use to find each other; services were paid from funds provided by the Provost.

- The Office of Undergraduate Research, using Provost funds, purchased 175 retractable easels and white-faced corrugated poster backboards to which posters can be pinned. This has eliminated the need to rent large bulletin boards for all symposia. The large purchase resulted in substantial savings and, in their first year of use, the easels have paid for themselves by eliminating rental costs. Easels are loaned to other campus programs.
- The Office of Sponsored Programs <http://www.ncsu.edu/sparcs/> is in the process of developing a new electronic form as a way to determine the number of grants on campus that support undergraduate research, the number of students supported, and the dollars invested. This office also provides the director with weekly COS grant opportunities for undergraduates, and it alerts the director about campus-sponsored grants that could include requests for undergraduate research support. These opportunities are posted weekly on the undergraduate research website.
- The University of North Carolina Office of the President (16 state campuses) provides dollar support for the Research in the Capital Undergraduate Research Symposium (alternate odd years in April).
- The Provost, through the Division of Undergraduate Affairs, funds the spring symposium. The spring and summer symposia are supported by the Provost, the Vice Chancellor for Research and Graduate Studies, and the Dean of the Graduate School. The summer program is strongly supported by faculty grants. The Vice Chancellor for Research and Graduate Studies provides thirteen \$200 awards for best research posters at the spring symposium. The Society of Sigma Xi, NC State Chapter <http://www.ncsu.edu/sigmaksi/>, provides a free dinner and awards certificates to the spring symposium winners at its annual spring banquet. Each participating institution and a grant from the Roberson Scholars fund the fall Triangle Undergraduate Research Symposium.
- The Provost supports the new *NC State Journal of Undergraduate Research*. This includes printing and software costs, and a stipend to the student Editor-in-Chief.

INSTITUTIONAL SUPPORT FOR THE COMBINED SPONSORED RESEARCH OFFICE AND UNDERGRADUATE RESEARCH CENTER AT OCCIDENTAL COLLEGE

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The Undergraduate Research Center (URC) was created in 1998 under the direction of the Associate Dean of the College as the centerpiece of Occidental's NSF-AIRE initiative. The AIRE (Award for the Integration of Research and Education) grant recognized Occidental's longstanding commitment to providing undergraduates with opportunities for discovery-based learning. Indeed, Occidental's Strategic Plan encourages undergraduate research as a key component of the Occidental experience:

"The College's long-held commitment to undergraduate education is also reflected in the emphasis on providing opportunities for students to participate in research and related scholarly endeavors . . . This focus on undergraduate participation in the creation of knowledge is a principal ingredient of the academic experience of an Occidental student".

The establishment of the URC has allowed Occidental to organize the many undergraduate research opportunities offered at the college. Instead of leaving it to the discretion of individual professors to invite promising students into their labs, or to encourage independent projects, the URC makes these opportunities known to the entire campus community via its website and works to ensure that student projects across all disciplines are conducted in a way that conforms to the highest standards of ethical and intellectual practice. Coordinating outreach efforts, facilitating interdisciplinary efforts, disseminating outcomes, documenting the activities that comprise the linkage between research and education, conducting evaluation, and presenting the results in publications and conferences are all responsibilities of the URC.

The URC's charge is to (a) coordinate and support undergraduate research both during the academic year and summer, (b) extend these opportunities to off-campus sites, (c) expand the experience to include students from all disciplines at the College as well as first and second-year students, and (d) gather data and assess the outcomes of the undergraduate research experience. The primary goal of the URC is student development. In collaboration with a faculty mentor, students write a 5-page proposal that identifies a research question, describes the research methodology and expense budget, and provides a personal statement of how the research experience will advance their education. In conjunction with the mentor's letter of support and an academic transcript, the proposal is reviewed and evaluated by a committee of faculty that recommends awards up to \$6,000. URC funds support academic year research projects, travel expenses to attend conferences or conduct research projects at off-campus locations (including international locations), stipends (both summer and academic year), and summer room/board. The URC's two-member staff and technical resources support student presentations at local, regional and national meetings;

provide presentation tools and materials; disseminate (primarily via email and website) opportunities for research support; publish student work on its web-site; and organize the annual College-wide summer research program involving ~110 students and ~40 mentors, as well as programs for the Trustees of the College and the Admitted Students Open House.

An important aspect of the Summer Research Program at Occidental involves training in research ethics. The importance of appropriate and ethical behavior is stressed throughout the program and our researchers are held to high standards by their mentors and the URC. Throughout the academic year, the URC staff seeks out articles detailing situations of inappropriate research ethics and then compiles them into a booklet for distribution to our summer researchers and their mentors. The booklet serves as a jumping off point for mentor discussions and is used as preparation for a group lecture on this subject. We try in particular to find examples that involve undergraduate researchers so that our students can see that this is a very real problem and that ethical behavior is important in research, even at the most introductory level; and that the consequences of unethical behavior can be far-reaching.

Another responsibility of the URC is to ensure that all student proposals involving research with humans or animals are submitted to the appropriate Institutional Review Board for approval. The Human Subjects Research Committee (HSRC) reviews all research involving human subjects, including interviews and analysis of existing data sets, insuring compliance with the Code of Federal Regulations: Title 45, Part 46 - Protection of Human Subjects. Students planning to conduct research must submit their project to the committee chair, who determines if expedited review is possible, or if a complete review of the methodology and safeguards are required. The Institutional Animal Care and Use Committee fills a similar role for research involving animals. The URC will not release funds to student researchers until this approval has been received.

URC activities (including staff salaries) are annually financed by the College's operating budget (~\$250K), dedicated endowment revenue (~\$70K), fundraising by the College's Development Office (~\$30K) and the URC (\$10K), and external grants/awards (\$200K) from a variety of Federal and private foundations.

In response to the increasing number of external grants, the expanding scope of grant compliance responsibilities, the importance of integrating external awards into the College's Strategic Plan, and a desire to advance faculty development, the Sponsored Research Office (SRO) was established in 2000 and incorporated into the URC. The two-person staff of the URC also serves as the staff for the SRO leading to close coordination of activities. The SRO activities are annually financed by the College's operating budget (~\$40K). In order to provide a system of checks and balances, the SRO activities are conducted independently and in parallel with the grant accounting activities of the Business Office.

The SRO is charged with (a) developing and disseminating policies to ensure institutional compliance with all applicable Federal regulations governing research

including institutionally sponsored research, (b) facilitating and submitting proposals to Federal and private agencies, (c) providing and coordinating matching funds, faculty start-up funds and capital equipment funds, (d) providing training to faculty and staff members on preparation, submission and management of external awards, (e) integrating, assessing and reporting on these activities and their relationship to the College's mission, and (f) advancing scholarship and faculty development. To achieve its objectives, the SRO has developed resources to facilitate student-faculty development through external grants, including an extensive website with data bases and the text of successful proposals, links/PDF files to all applicable documents and policies, as well as providing one-on-one or small group training for faculty members and staff.

Together, the URC and SRO's objectives are to promote faculty scholarship, to engage outstanding students in undergraduate research, enhance the research experience across the entire college, and promulgate the inclusive research model. Thus, faculty scholarship and external support enhance undergraduate research, which then serves as a pump to develop student potential as well as a means to identify and support the most talented students. Occidental's long-standing, consistent mission of excellent opportunities for all students (equity) constitutes the core value for this effort.

For more information about Occidental's URC and SRO programs, we invite you to visit our website at <http://departments.oxy.edu/urc/>.

RHODES CENTER FOR ACADEMIC RESEARCH AND EDUCATION THROUGH SERVICE (CARES)

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Recently the college submitted a successful grant proposal to the Robert and Ruby Priddy Charitable Trust to support and expand a number of pre-existing programs and to create new programs that promote undergraduate research and service. These funds have enabled us to establish a central office for the oversight of student research and service, Rhodes CARES (Center for Academic Research and Education through Service). While this office does receive budgetary support from college resources, its creation would not have been possible without this generous external funding. However, a modest initial college investment in pilot projects led to external support for individual programs, and, in turn, the success of those individual programs enabled us to compete successfully for this more substantial funding. Receipt of this funding was contingent on a commitment to a capital campaign which would endow these programs at the end of the funding period. A key element in this process has been the formation of partnerships with community organizations.

The primary function of this office is the oversight of three core programs funded by the Robert and Ruby Priddy Charitable Trust (two of which were already in place before receipt of this grant – they are now largely funded from this resource):

Partnership with St. Jude Children's Research Hospital. Through this partnership our students have the best of two worlds: the small classrooms and close interactions with faculty at a small liberal arts college and access to the research facilities and faculty characteristic of a major university. This office focuses on two projects with our St. Jude partners:

Rhodes/St. Jude Summer Plus Program. This intensive student research program is in its fourth year. Each year, six students commit to two summers of full time research in the laboratory of a mentor at St. Jude, receiving a stipend as well as room and board on campus for 12 weeks each summer. During the academic year they continue to work 8 to 10 hours per week for academic credit on the project they began during their first summer. Students in this program have been placed in almost every department at St. Jude (including Genetics and Tumor Cell Biology, Immunology, Infectious Diseases, Diagnostic Imaging, Molecular Oncology, Pathology, Pharmacology, Radiation Oncology, Structural Biology and Behavioral Medicine). Each student is also assigned a Rhodes faculty advisor for this program. Students are required to present the results of their individual projects at a conference and to submit a final research report with a comprehensive literature review at the end of their second summer. We primarily admit rising sophomores in hopes that they will continue their work at St. Jude beyond their initial commitment; indeed, one of the first students in the program is now completing her senior honors thesis in the lab she entered in the summer prior to her sophomore year. One index of the success of the Summer Plus program is the increase each year

in the number of St. Jude faculty volunteering to serve as mentors and in the quality and number of students who apply.

Interdisciplinary Senior Seminar. In addition we offer an Interdisciplinary Senior Seminar on campus each fall staffed by St. Jude and Rhodes faculty. In this course, eight to ten students from the departments of Biology, Chemistry, Physics and Psychology are paired with faculty from St. Jude, and each week a recent paper by one of the St. Jude faculty is the focus of class discussion. For the first two years the focus of this seminar was Cancer Research and Treatment. Last year the topic was Developmental Neurobiology, and this coming fall the topic will be Behavioral Medicine. Rhodes faculty members oversee this course and grade oral and written work (St. Jude faculty members grade the term paper submitted by the student with whom they are specifically paired). Postdoctoral Fellows at St. Jude provide support for the students and contribute to review sessions at midterm and at the end of the semester in which conceptual and methodological themes that run through the course are highlighted and reinforced. As with the Summer Plus program, the number of St. Jude faculty members and post-docs who have expressed interest in contributing to this course continues to grow, and at the end of each semester participants typically offer to serve again.

The Rhodes Institute for Regional Studies. (Timothy Huebner, Ph.D., Director) The second major program supported by this office is The Rhodes Institute for Regional Studies which is now entering its second year. Students compete for 15 to 18 slots in this 8-week intensive summer research program. Six Rhodes faculty members supervise their proposed projects which must address regional issues: economic, political, cultural, educational, environmental, etc. They spend two weeks examining regional issues collectively followed by five weeks of field research. During these five weeks they return to the classroom one day a week to meet as a group and discuss their progress. In the final week students must give a formal presentation of their work to the group which is subject to peer and faculty critique. They must also submit a comprehensive written report of their project and are required to present this work at the Rhodes Undergraduate Research and Creative Activity Symposium. The top papers are selected for inclusion in a regional studies journal published by this office. We hope to expand this program to include faculty and students from other institutions. Some of the topics for these projects are suggested by community organizations with which we are establishing partnerships.

Rhodes Service Scholars. (Marie Lindquist, M.S., Director) The final core program that this office oversees focuses on service and thus falls outside the domain of undergraduate research. However, it is important to note that this office is in Academic Affairs, and the involvement with this typically Student Affairs sponsored program is motivated by many of the same pedagogical concerns that lie at the heart of our efforts to promote undergraduate research. Through this office we hope to bring student and academic affairs closer together by adding faculty members to the supervision of student service projects and by asking students to integrate their service work with their course work. We hope that their service engagement will serve as field research on issues raised in their classrooms, and we encourage these students to pursue

independent research projects based on their service experiences. We feel that this supports the leadership training that is an integral part of this service program. For those of us who hope to promote undergraduate research, alliances with faculty members and staff working in the area of service learning who appreciate the value of individualized, engaged learning experiences can only help our efforts.

Additional Benefits of the Center. The Associate Dean of Academic Affairs for Undergraduate Research and Service serves as the Director of Rhodes CARES. There is also one full time Administrative Assistant. This office provides integrated support for research and service activities and a locus for exploring potential synergies among these programs.

We have a growing body of successful student programs that supports further grant applications. Moreover, by examining the impact of these programs on students across the full range of engaged learning activities that we support, we have a sufficient population to conduct more meaningful evaluation of engaged learning programs – a practice that is also critical for attracting and maintaining external support.

In addition, representing the interests of all student research and service initiatives has made it possible to negotiate more effectively for these programs. We have obtained funds from the college for student travel to present research findings at conferences and for a research assistantship program in which faculty members can apply for work-study support for a major in his or her department to assist in substantive aspects of his or her research.

This office supports faculty members in a number of other ways. Summer Plus advisors receive stipends for their work with students, and more importantly, their participation in this program has facilitated collaborative research projects with faculty members at St. Jude. Indeed, a number of our faculty members have done sabbatical research at St. Jude. In addition, we are in the process of negotiating opportunities for St. Jude postdoctoral research fellows to teach at Rhodes. This can provide support for existing courses, freeing up faculty time for scholarship and the supervision of student research activities.

Similarly, the Rhodes Institute for Regional Studies provides summer salaries to faculty members who supervise projects in the area of their expertise. As with the Summer Plus program, this can support current faculty research activities and facilitate new areas of research in partnership with community organizations. Faculty members from Urban Studies, Political Science, Music, English, History, Economics, and Religious Studies have participated in this program and formed important new links to the region.

A full time administrative assistant provides clerical and programming support to the faculty members who direct these programs. This is particularly important because typically these programs are initiated by an ambitious and dedicated professor who handles every aspect of the program. This is not an efficient allocation of faculty resources, and the demands of the programs often push them to the brink of burn-out.

This office assumes a wide variety of support activities that lighten the faculty member's load and that allow them to focus on the more substantive aspects of their programs.

In addition, the resources of this office have been used to promote a major revision of the curriculum at Rhodes. The visibility and success of the three CARES programs contributed enormously to the willingness of the faculty to streamline the curriculum and structure it in a way that facilitates student research and service learning and that allows faculty members to structure their time in a way that supports both their own scholarship and the mentoring of student researchers.

The success of these programs has similarly convinced the Board of Trustees to support this new curriculum. Moreover, they have committed to a capital campaign to endow these programs when the six year grant from the Robert and Ruby Priddy Charitable Trust runs out.

Further information about Rhodes CARES can be found at the Rhodes college website: <http://www.rhodes.edu/Rhodes/Academics/Rhodes-CARES/index.cfm>.

THE UNIVERSITY OF NEW MEXICO PROFOUND (PROGRAM OF RESEARCH OPPORTUNITIES FOR UNDERGRADUATES) OFFICE

Theresa Lopez, University of New Mexico (tlopez@unm.edu)

The University of New Mexico PROFOUND office was established in August 2003 with funding from five administrative officials on campus, namely Dean of Arts and Sciences Reed Dasenbrock who named PROFOUND, Dean of Engineering Joe Cecchi, Provost Brian Foster, Vice Provost for Research Terry Yates, and Vice President for Student Affairs Cheo Torres. In what follows, we present the three-fold reasons for establishing PROFOUND, largely context-driven, an outline of services that are provided and those planned, and details about how this program performs its central role in assisting faculty members and students with communications about research opportunities, and lessons learned.

PROFOUND is a campus-wide program, including not only the main campus but also the UNM Health Sciences Center, which is comprised of the School of Medicine, the colleges of Nursing and Pharmacy. The program is administered by Program Coordinator, Theresa López, under the direction of the Associate Dean for Research in the College of Arts and Sciences. Theresa has worked hard to establish the office, and to secure participation from faculty members and students who stand to benefit from the new program. For details, see our web site at <http://www.unm.edu/~profound/>.

PROFOUND was designed to fill a gap between the numerous undergraduates, who must work while attending the university, and more than 320 faculty members whose projects have funding for undergraduate research positions. The office addresses three key issues.

First, the most important problem identified was a need to improve student retention rates. PROFOUND was envisioned to be a complement to, and an extension of the Freshman Year Experience, in which groups of students attend and study the tough math and science classes together, to maintain good academic standing. Studies have shown a strong negative correlation between student retention and off-campus employment. Recognizing the inspiration for the Reinvention Center at SUNY-Stony Brook, UNM administrators realized that if students worked on campus in a setting that reinforces their studies, we would see an improvement in both retention rates and their GPAs, in contrast to off-campus jobs that can distract and divide their attention. This is especially important in New Mexico, a state that is among the poorest in the country, so that a large percentage of undergraduates who attend UNM must work to attend school.

New Mexico is also one of the first minority-as-majority states in the nation, and UNM is one of only eight universities in the nation designated as a minority-serving institution, one of two Hispanic Serving institutions that are also categorized as Carnegie Doctoral/Research Intensive, 5th in the nation for number of Hispanic faculty (8.5%) (*Black Issues in Higher Education*, 2000; 17, 24) and 10th in the U.S. for the number of bachelors degrees awarded to underrepresented minorities who then go on to receive

doctorates. The practical experience that our upper division undergraduates obtain while working with their faculty mentors on research and creative works provides an effective bridge into graduate study. We therefore believe we have an extraordinary responsibility to advance the opportunities of all our students as a method to improve the economic and career prospects of all New Mexicans, and PROFOUND fills a critical niche in this regard.

Second, there is a need for better communication, both among faculty members and between faculty members and students about research opportunities. PROFOUND has opened new avenues of communication regarding opportunities for student employment on faculty-sponsored research projects. PROFOUND capitalizes on the \$250 million plus of research funds awarded to UNM faculty members, including more than 320 grants that have budget lines for student employment, to enhance undergraduate students' education. As a centrally located, campus-wide and web-based program, PROFOUND unifies the research community by providing an inter-departmental, inter-college and intra-campus communication system, which advertises new programs, new research opportunities, and new initiatives. Additionally, students can post their interests and credentials for working on a research project. Many PROFOUND students are engaged in undergraduate research with faculty members who are outside their home departments, and this has resulted in intellectual cross-fertilization that has led to new inter-disciplinary approaches to research at UNM.

Third, PROFOUND assists faculty members who wish to include an undergraduate component in their research proposals, or to write training grant proposals. This has been accomplished through a website with information on funding opportunities and resources, including initiatives at other research universities. In addition, the PROFOUND Program Coordinator is tracking students in undergraduate research positions to measure outcomes, specifically the retention rates, academic standings, future career choices of students, and to determine whether these career choices relate to their undergraduate research experience. These statistics will be available for future grant proposals to generate funding to support more student research opportunities.

PROFOUND offers a broad range of services that include the following:

- Posting on-line student research opportunities;
- Posting on-line student applications;
- Assisting faculty with applying for student laboratory research funds;
- Organizing and hosting an annual Research Forum for UNM and visiting student researchers (The first forum was held April 19, 2004.);
- Preparing a quarterly electronic newsletter highlighting student achievements and other program activities;
- Hosting a speaker's forum that brings nationally recognized researchers to speak about their research and career options;
- Hosting summer research opportunities for high school students;
- Publicizing the PROFOUND program to high school students, high school counselors, and other pre-college career development personnel;

- Identifying and posting opportunities for UNM students to present the results of their research;
- Coordinating GRE preparation workshops; and
- Coordinating Graduate School application preparation workshops.

How does PROFOUND connect students and faculty members? The keys to the success of PROFOUND are (a) numerous faculty members who have funding lines for student research support in their research projects, (b) many students that attend UNM who must earn income to attend school, and (c) a user-friendly website that brings them together--<http://www.unm.edu/~profound/> .

Two steps still need to be achieved to streamline this process. The first involves developing a method to identify funded research grants that have a line for student research, even though it may not have been requested in the original proposal (e.g., REUs). The second is to provide boilerplate materials that can be used by faculty members to facilitate preparing post-award student research funding requests. We are currently working on these final items.

The PROFOUND Office may need to branch out in the future to include such activities as: assisting with preparing students for research and graduate study; coordinating various workshops (Research Methods, Research Ethics, GRE Preparation, etc.) and symposia; coordinating professional speaking engagements. The establishment of this office clearly filled a gap. Its flexibility, campus-wide appeal and importance are already being recognized as valuable for the quality of life of our students and the research productivity of our faculty. Clearly, PROFOUND has increased the tempo of the University by encouraging students to pursue their interests directly with leading faculty members in their disciplines here at UNM. We are confident that this will enhance UNM's ability to attract excellent students while increasing the retention rates, and level of student performance overall.

Mechanics

The steps that students take to find a position are to go to the basic web site and (1) under the sidebar category "For students," pull up and complete the registration form; (2) then go to the web page for "Research Faculty," which is a list with e-mail link of faculty members with research funding, and send e-mail messages indicating availability (and that the student has completed the registration form) and an interest in having a laboratory research position; (3) under the sidebar "For students," check the categories "UNM Research Programs," "Non-UNM Summer Programs in the U.S.," and the postings for "Undergraduate research positions"; and contact faculty or program managers about applying for these opportunities. For a faculty member with an interest in hiring a student for a laboratory research position, the faculty member can (1) review the credentials of currently registered students under the sidebar "For Faculty" – "Student database – faculty login"; and/or (2) advertise the opening(s) by completing the forms under the sidebar "For Faculty" – "Post a job"; or (3) hire student they have identified through other means (class, lab, etc.). If the faculty member has identified a

prospective student from the database and wishes to proceed with an interview, then (4) the faculty member will arrange by e-mail or telephone a meeting time and place; and (5) when the faculty member is prepared to hire the student, either identified from the database or otherwise, the form needed to complete the process, "Hire a student," is also posted under the sidebar "For Faculty." The last step in the process for faculty members involves reviewing the process and the experience with the student hired, and (6) this need is met with faculty completing the form "Survey of Student Research," which is also under the sidebar "For Faculty."

UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE: UNDERGRADUATE RESEARCH PROGRAM

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The University of North Carolina Asheville Undergraduate Research (UNCA UR) Program began in the 1984-85 academic year. The Program currently has a half-time Director, who is a research-active member of the faculty, a one-quarter-time Assistant Director, also from the faculty, and a half-time program assistant, who also works one-quarter-time with the NCUR Proceedings. All policy is set and all grant proposals are reviewed by the Undergraduate Research Program Advisory Council (URPAC), made up of six faculty members and four students. The faculty members include the director of the UR Program, the director of the Honors Program, and editor of the NCUR Proceedings, and three additional faculty members chosen from across campus. The students are selected to represent a variety of disciplines and class years.

The UR Program supports student-faculty research through academic year research and presentation grants, summer support for students and faculty members, campus and state-wide symposia, an annual trip to NCUR, the UNCA Journal of Undergraduate Research, student scholarships, faculty load credit for supervising undergraduate research, graduation with Distinction as a University Research Scholar, and cooperative ventures with other institutions in the UNC system.

UNCA Office of Sponsored Scholarship and Programs

The UNCA Office of Sponsored Scholarship and Programs (OSSP) was formed as a separate entity in the spring of 2000. It supports UNCA faculty members and staff in their pursuits of external funding for research and sponsored programs. The office also serves as the central coordination point for all research and sponsored program grants and contracts.

The OSSP provides support to faculty members and staff by offering process and policy workshops and proposal writing consultations; by maintaining reference materials; providing administrative support; and by researching funding resources.

The OSSP has developed two effective procedures in identifying potential sponsors for external funding by faculty members and staff. The first involves a formal meeting, while the second is less formal.

The formal meeting enables a member of our staff to sit down with a faculty member and develop a dialog on obtaining external funding for scholarly activities. Our office sets up one of these meeting per week. Before the meeting, we review the research activity of the faculty member in an attempt to gain valuable insight into past scholarly endeavors. These meetings normally last an hour or more and are faculty driven. The information from these meetings is used to develop a list of potential sponsors for faculty projects and to inform the campus community about the scholarly work

conducted by our faculty members and staff. After approximately one week, the faculty member receives an email describing a suitable list of possible sponsors.

The less formal process involves the faculty member or staff member contacting the office staff about a proposed project. This process is normally initiated by an email, phone call, or conversation about what is available for a given idea. Using the information and specifications, a list of several funding sources is developed. This information is normally forwarded to the individual requesting support within a week of the request.

It is our hope that these two procedures will encourage faculty members and staff to pursue external funding for their scholarly and institutional programs.

UNDERGRADUATE RESEARCH OFFICES AT THE UNIVERSITY OF SOUTH DAKOTA

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The University of South Dakota (USD) is primarily an undergraduate teaching institution with a typical enrollment of 4000-5000 undergraduate FTE, and approximately 1500 graduate FTE. While we consider undergraduate research to be institutionalized at USD, we do not have a single specific institutional office which supports undergraduate research. Management and coordination of institution-wide undergraduate research programming at the University of South Dakota is essentially an integrated effort involving three offices – the Faculty Development Center, the Student Action Office, and the Office of Research. The following discussion is limited to efforts which are considered to be institution-wide, and is therefore not a comprehensive discussion of management of all opportunities related to undergraduate research activity at USD. Other activities such as departmentally-based National Science Foundation (NSF) Research Experience for Undergraduates sites, and our University Honors Program, which includes a thesis requirement, are important components of undergraduate research activity at USD, but are not included in this discussion.

The Faculty Development Center

A Director and Coordinators staff the Faculty Development Center for each of five areas of faculty development –academic advising, interdisciplinary teaching, instructional technology, teaching effectiveness, and undergraduate research. Each faculty coordinator is responsible for budgeting and programming within his or her area. Typical programming within the area of undergraduate research has included on-campus forums, panel discussions, workshops, and retreats, as well as funding for faculty to attend events such as CUR April Dialog, NCUR, and the CUR National Conference. The Faculty Development Center is funded primarily through a grant from the Bush Foundation, and approximately \$20,000 is available annually for faculty development activities related to undergraduate research.

The Student Action Office

The Student Action Office was developed to provide administrative support for the USD's IdEA (Interdisciplinary Education & Action) program. IdEA is a nine credit hour institutional graduation requirement wherein students complete a series of interdisciplinary courses centered on a theme, and must complete the equivalent of a one credit hour action component, which consists of involvement in community service-learning, research, or creative activity. Program themes include American Indian World Views, Arts and Identity: Developing Cultural Competency, The Ecology of Human Development, Global Health, Living a Life of Leadership, Living in a Quality Environment, The Natural and Cultural Heritage of the Missouri River, Peace & Conflict, and Wealth & Justice in America. The Student Action Office is partially staffed through

the University of South Dakota's AmeriCorps * VISTA Program, a federal program funded through the Corporation for National and Community Service.

The Office of Research

The Office of Research provides oversight to a wide range of research-related activities including such things as research compliance issues (e.g. treatment of human subjects, etc.), administration of grants and contracts, and management of internal grant programs. The Office of Research proactively encourages and assists faculty researchers to involve undergraduate students in research activities and to pursue external funding to support those activities. The office identifies undergraduate research funding opportunities and works with faculty to develop and submit proposals to federal and private organizations. Financial support is provided for activities such as visits to federal program officers and attendance at proposal preparation workshops, such as those offered by the Council on Undergraduate Research.

South Dakota is one of 23 states involved in the NSF Experimental Program to Stimulate Competitive Research (EPSCoR). Several programs supported through South Dakota NSF EPSCoR are managed through the Office of Research, and include a focus on involving undergraduate students in research. One of these is the annual Undergraduate Research Poster Session held in the state capitol rotunda during the legislative session, which showcases undergraduate research at public and private colleges throughout the state.

The Office of Research has two advisory groups – the University Research Council and the Undergraduate Research Council. The Undergraduate Research Council consists of faculty representatives from the College of Arts & Sciences, the College of Fine Arts, the School of Business, the School of Education, the School of Medicine, the Student Action Office, the University Honors Program, and the Faculty Development Center. The Undergraduate Research Council has responsibility for decision making with respect to undergraduate research programming, including IdeaFest (USD's undergraduate research conference held annually since 1992 with an annual budget of approximately \$7,500), selection for competitive University-funded undergraduate research minigrants (an annual allocation of approximately \$5,000), and funding for student travel to NCUR (typically allocated approximately \$10,000). Sources of financial support for these activities varies from year to year, and have included South Dakota EPSCoR, the Office of Research, the University Honors Program, and the university budget.

Closing Comments

This integrated, but tripartite structure has the unique advantage of ensuring that we address faculty development specific to undergraduate research, it contextualizes research as relevant to an institutional graduation requirement (IdeA), and it is clearly grounded in the belief that “research and service should contribute to the students’ education, and students should contribute to the university’s research and service

mission” (USD 2000, p.1). Approximately 40 undergraduate students are involved in structured and paid research programs at USD during the summer of 2004, with a typical stipend of about \$3,000. Several other publications are available which discuss a variety of undergraduate research activities at USD in more detail (Ronco & Engstrom, 2000, 2003; Straub & Engstrom, 2002). We are proud to say that undergraduate research is institutionalized at the University of South Dakota. However, we must acknowledge that our present level of programming represents decades of individual and collective faculty efforts to educate administration about the value of undergraduate research, and is only possible because numerous faculty members and administrators have aggressively sought funding through several external sources. We do not have the luxury of a dedicated “office of undergraduate research” or endowed funding for undergraduate research activities. However, we have dedicated faculty members and staff, and through a variety of coordinated efforts, we are able to make institution-wide undergraduate research programming a reality.

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INSTITUTIONAL SUPPORT OF SPONSORED RESEARCH AND UNDERGRADUATE RESEARCH OFFICES

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At the University of Southern Indiana, the hallmark of undergraduate research initiatives is institutional collaboration. The primary administrative unit responsible for promoting these undergraduate research initiatives is the University's Center for Teaching and Learning Excellence (CTLE). The mission of CTLE is to promote effective teaching, support continued faculty development, and facilitate the university community's efforts to provide effective learning experiences for students. One significant component of their mission includes undergraduate research initiatives that take the form of two competitive grant programs and a student conference and showcase.

The Research, Innovation, Scholarship, & Creativity (RISC) Grant Program provides competitive funding to students for scholarly projects meeting the tenets of RISC. The RISC Showcase is a conference that provides an opportunity for undergraduate students in all disciplines to present, demonstrate, or display their work to students, faculty members, and the public. In coordination with the student symposium, the Showcase includes a keynote address, typically given by a scientist, artist, or author of national/international distinction. The RISC Travel Grant Program provides assistance with travel to conferences, meetings, exhibits, or performances where the results of a student project will be presented (only eligible to those students that have either received a RISC grant or presented at the showcase). Students can also apply for funding to support travel to research sites, museums, and other research-related destinations. The RISC program developed as an act of collaboration between Academic Affairs and Students Affairs with additional funding from the USI Foundation.

For a number of years the centralized Sponsored Research Office (SRO) conducted grant-writing workshops, sponsored by CTLE, about the RISC Grant Program for undergraduate students and faculty sponsors. Recently, CTLE established a fellowship program for faculty members focusing on various areas related to their mission. As part of the undergraduate research initiative, two faculty fellows serve as resources for the RISC program. Part of the fellowship responsibility is to develop and coordinate 2-3 workshops involving their specialty area and assist in development and programming activities related to their area of expertise. The RISC committee is faculty chaired and the proposals are faculty reviewed, with fiscal support from CTLE through Academic Affairs. Sponsored Research provides the pre-award administrative support to the RISC Grant Program. SRO attends the RISC proposal review sessions in order to stay abreast of the current needs and trends of undergraduate research at the University. The collaborative effort of CTLE and SRO ensures cohesion for RISC's granting programs, which is predicated by USI's commitment to undergraduate research. CTLE fulfills the primary role in these undergraduate research initiatives with SRO serving as an intermediary contact to students and faculty and administrative support to the RISC program.

In furthering undergraduate research through grant-related activities, SRO staff conduct workshops on external opportunities available to students and provide assistance in navigating the submission/approval process at USI. Moreover, SRO encourages faculty members submitting proposals to external funding agencies to incorporate student research where appropriate and applicable. Additional support for undergraduate research occurs through the Institutional Review Board for the Protection of Human Subjects (IRB), which is supported administratively by SRO. At USI, the IRB reviews student research projects involving human subjects. Approximately 90% of the protocols submitted for IRB consideration are student research projects. Sponsored Research aids students and their faculty sponsors in any and all aspects of the application process, including design, content, and format, and serves as liaison to the IRB. SRO also conducts workshops on ethical issues in human subject research and the IRB process for student investigators and faculty sponsors.

SRO and CTLE are two distinct offices serving the diverse yet often interrelated needs of the same faculty and student population. This collaborative effort eliminates the potential differences in each office's purpose in pursuit of student learning thereby strengthening the undergraduate research initiatives at USI. Together they work with Student Affairs and the University Foundation to provide a platform for promoting, supporting, and progressing undergraduate research in accord with the University's mission.

EVERYONE ELSE ALREADY HAS A SPONSORED PROGRAMS OFFICE, RIGHT?

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In one workshop, there's a cluster of four hands representing schools without grants offices. The panelist in another session has only been in her part-time job a few years. I met someone else without a sponsored research office while we were standing in line for dinner that first night, just chatting about our colleges. Wow, there are other small schools that don't have a sponsored programs office or a grants office committed to facilitating successful faculty research proposals and identifying funding opportunities!

When I went to the CUR National Conference in June, I wondered why I should even write an article on "how to start a grants office". It seemed everyone I spoke with had a decades-old office with veteran staff. Ursinus College's Grants Office started with me, just 2 ½ years ago. We've grown in that time, with the Assistant Controller working on post-award financial issues for 25% of her time and my time increasing to 21 hours a week. But that still puts us at a three-quarter-time position. And for our school, at our level of funding and federal compliance issues, it works very well!

How Ursinus College Got Started

Ursinus College is a highly selective, nationally ranked, independent, co-educational, residential, liberal arts college of 1,450 students located about 25 miles from center city Philadelphia. We had successfully obtained NSF and HHMI grants during the past few decades, a couple at a time, but just enough to meet the primary needs of the college. With the arrival of a new President and a new Vice President for Academic Affairs in the mid-1990s, expectations began to change. As we hired nearly 50 new tenure-track faculty members, we were clear during the interview process that faculty research with undergraduates was an important component and that external funding was an important way to facilitate this goal.

In order to assist faculty members in pursuing external funds, the Academic Dean gathered a small working group of faculty to explore issues related to external funding. One of their recommendations was the creation of an internal grant program, "Grants 1000". No prior experience or grant writing success was required, but the faculty member had to explore possible funding sources and develop a solid research concept. These concept papers were reviewed by a standing faculty committee and the faculty member received a \$1,000 summer stipend for completion and submission of one major proposal or a few shorter proposals. This was a competitive program, but the group tried to fund all strong proposals. The dean also sent interested faculty members to CUR Proposal Writing Workshops and CUR National Conferences to learn more about external funding.

Where We Are Now

Each new person is brought into Ursinus College with the expectation of seeking external funding. And the result has been a dramatic growth from 3-4 external grants

on campus just a few years ago. We now maintain approximately 15 grants each year, and during 2003 -2004, our faculty members submitted 30 proposals.

In addition to editing proposals and ensuring that faculty members follow submission guidelines, the Grants Office assists faculty members by informing them of grant opportunities and investigating possible funding options for specific research projects. The office also coordinates interdisciplinary proposal submissions, such as the Freeman Foundation Award. Federal compliance with human subject protections (IRB) and the development of draft policies, like *Maintaining High Ethical Standards of Honesty and Integrity: Misconduct in Science and Other Activities*, also falls within the Grants Office.

This position is unique in that I am only on campus 2-3 mornings a week. The college has a laptop initiative, so each incoming student and faculty member receives a laptop. I use my laptop computer to telecommute the remainder of my time. I respond to email almost daily and find I can be quite effective with most faculty by handling many details via email and limiting the number of meetings I either attend or initiate.

Five Things for the First Year

I am a practical and organized person, characteristics which helped me create the Grants Office and manage this job as a telecommuter. As I spoke with those folks I met at CUR who did not have a Sponsored Research Office, they helped me focus on what it took to get started and what would be most helpful for other colleges just starting out. So, here are the five main activities I would suggest for a new Grants Office during the first year:

Set Policies and Procedures – Yes, this is a boring, mundane part of the job, but it really is the place you need to start. You need to have a way to make sure you are aware of who is submitting proposals and who needs what type of funding. These procedures and forms are good things to post on your website.

For example, at Ursinus we ask that the principal investigator get four signatures for proposal submission (department chair, academic dean, business office, grants office) ten days in advance of the deadline. This ensures that each of these people has seen a fairly solid draft of the proposal, can provide their feedback to the PI with adequate time for proposal adjustments, and they agree to the expenses and/or time commitment required if the grant is awarded. This sign-off form is common practice at most schools, but it needs to be created and distributed.

Meet Often With Key People – The list of “key people” will vary at each college, but an example would be the development office, the academic dean, department chairs, and the business office (post-award person). I am “housed” in the Academic Affairs Office, so I meet with the Academic Dean twice a month.

Working closely with my colleague in the development office lent a lot of credibility to my first forays at the college. He has been at the college for over 30 years, and has worked with many of the faculty on those sporadic NSF and HHMI grants. He attended a few of

my workshops and he always redirected faculty research requests to me, instead of handling them himself. He continues to be a good resource for me when searching for local family foundations or for small and/or quick pots of money for equipment or research or special projects.

Offer Workshops – My workshops are billed as “get to know the Grants Office and what we can do for you”. I basically offer our resources, via a short PowerPoint presentation, and talk with faculty members about what they are doing and what they need. This often spurs requests to the Grants Office for help in identifying funding sources.

Research Funders and Issues – I came to this position from the social services arena, so I needed to learn a lot about higher education. There are dozens of e-zines and discussion groups on the internet providing a great way to learn about the vast array of issues which small grants offices face. You should also become familiar with at least one web-based database for funding opportunities. Ursinus College has the Foundation Center and the Big Database on-line services, but other options include SPIN, IRIS, and GrantsNet. Shop around and talk with others about what may work best for you.

If you are responsible for federal compliance issues, like animal welfare and human subjects research, make sure you search out these issues on the web and find those appropriate forums, too.

Network – There are two types of networking for the start-up SRO. For you as a professional, the best source of information is from others in the same situation. Attend trainings like the CUR Dialogues and National Conferences, NCURA Regional Meetings, and SRA International Section Meetings. Talk with others via internet list-servs and perhaps visit some neighboring colleges.

For you as a resource to the faculty on your campus, you need to be available for those informal discussions via lunchtimes and social or athletic events on campus. You may need to reach out and find those faculty members who wouldn't typically visit the Grants Office.

Five Things That Can Wait

Newsletters – Everyone thinks newsletters are very important for showing off the successes of your grants office, but if you only have limited time and a small campus, announcements of awards at faculty meetings work well too.

Pet Projects – Be cognizant that not every faculty member's research project fits the direction of the college, so make sure you get guidance from those key people on where to spend your time and energy.

Fancy Websites – Some basic info posted on your website is fine. But if you make the promise to post all funding opportunities and create your own database or website of funders, you will spend much of your time copying info into your site and not much time

assisting faculty. It seems best for a small office to show the faculty where they can access the daily and weekly funding announcements which are relevant to their discipline.

Trips to DC – Unless you know your faculty and your campus well, you may end up presenting a fuzzy, vague picture of your needs to those folks who may fund you in the future. Wait until you are well grounded and until you know who would be most beneficial to talk with in order to spend your time wisely.

A Full-Scale Office – You need to have some filing cabinets, phone, and such, but at Ursinus, I have always shared a cubicle with someone (first student workers and now another staff person). This has forced me to leave my office to meet with faculty. It's helpful to visit folks in their own domain, see their personality on the walls, and offer your services in their world.

I hope these pointers have been helpful as you contemplate starting a Grants Office. Best of luck to you and please use the resources in these web articles and the *CUR Quarterly* to get started and to network during your first years!

INSTITUTIONAL SUPPORT OF SPONSORED RESEARCH AND UNDERGRADUATE RESEARCH OFFICES

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General Background

Youngstown State University has launched a program to institutionalize undergraduate scholarship during the 2003 – 2004 academic year. The program is designed to reach all disciplines of the university including arts, sciences, engineering, education, business, fine and performing arts, and health and human services. This initiative is a directive from the University Provost and has resulted in the establishment of the Office of Undergraduate Research within the School of Graduate Studies and Research.

Structure of Office

Dr. Jeffrey Dick, Director of Undergraduate Research, heads the office. The director reports to Dr. Peter Kasvinsky, Dean of the School of Graduate Studies and Research.

The director works directly with university deans, department chairs, faculty members, and undergraduate students to disseminate information regarding undergraduate scholarship and research opportunities and encourage student involvement in scholarly activities.

Support of Office

The office operates on an independent budget provided by the university provost.

Services Provided

The program is in its infancy, however, a number of services have been instituted and are under development:

Directory of Undergraduate Research and Scholarship: A web-based directory designed to match student research interests with existing and future faculty research programs. Once completed (Fall 2004), the directory will empower students to investigate opportunities and make contact with faculty. The directory function is not exclusive to students outside Youngstown State University.

QUEST: A Forum for Student Scholarship: An existing program that has been rebuilt from the ground-up as an opportunity for undergraduate and graduate students to showcase scholarly activities. This year's program produced 144 presentations that involved over 250 students and more than 80 faculty mentors/advisors.

Academic Alliance Regional Symposium: A symposium showcasing the scholarly efforts of the top undergraduate students from four (4) institutions; Slippery Rock University, Thiel College, Walsh University and Youngstown State University. This program encourages sharing of faculty expertise, areas of specialization, and facilities to the mutual benefit of the institutions involved.

Undergraduate Student Research Grants Program: twenty \$500 grants were awarded (Fall 2003) to undergraduate students from all academic disciplines to encourage and support student scholarship and research.

The office is also involved in the establishment of summer research opportunities program, coordination of undergraduate student scholarship opportunities, and coordination and dissemination of grant/support opportunities for undergraduate research and scholarship programs.

Process that occurred at the institution that led to the establishment of the office

The office was established as a directive from the University Provost. Youngstown State University has a long established tradition of involvement of undergraduate students in faculty directed research and scholarly activities. The Provost desires to build on this tradition by coordinating these activities, developing new opportunities, and empowering students to become actively involved.