Review of the Weber State University Office of Undergraduate Research (OUR)
May 7, 2018

Program Review Site Visit Team

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The program review site visit team was invited to perform a Program Review of the Office of Undergraduate Research on May 7, 2018. Our review consisted of written materials supplied by the OUR, conversations with the office staff and a full day series of meetings with faculty, students and campus administrators. This report reflects our impressions and recommendations from those interactions. We will use the form recommended to us—a SWOT analysis—to do our review.

It is useful to make a few comments about undergraduate research (UGR) that might help frame this review. Interest in undergraduate research is exploding on campuses of all types as a high-impact practice that benefits students across demographic groups and disciplines—and can provide even greater gains for women, first-generation, and minority students. UGR is a compelling way to meld the interests of faculty to engage in scholarly work with the needs of students for challenging experiences that lead to substantial impacts on their cognitive and affective development. The benefits of UGR have been recognized to impact all key stakeholders in higher education and many campuses are now building and sustaining vibrant undergraduate research programs. Weber State University has been engaged in UGR for many years and the existence of the OUR is one sign of the health of the endeavor on campus.

Strengths

We will begin by describing what we identified as being the strengths of the Office of Undergraduate Research:

1. **University mission**. At the top of the list of strengths is the clear connection between the mission of Weber State University and the goals of Undergraduate Research (UGR) on campus. In particular, the Office of Undergraduate Research has as its mission: *To strengthen and enhance the learning environment at Weber State University by engaging and mentoring students as researchers and scholars within and across the disciplines while maintaining the highest ethical standards*.

   Multiple times during our visit we heard the message that undergraduate research is an effective learning experience, that it promotes student success, and enhances

student engagement on a campus with an open enrollment policy and a largely commuter population. WSU's motivation for investing in undergraduate research is aligned with its values and institutional priorities and we applaud WSU for their commitment.

2. **OUR staff/physical space.** The OUR is fortunate to have a seasoned and committed staff to run their operations and to help the office continue to move forward. The OUR is well connected to other units on campus and this synergy seems to be a great source of strength and energy. The current administrative structure and reporting lines seem to be well conceived and serve the office well. There are never enough resources to do everything that a unit wants to take on and this is certainly true of the OUR. With a half time director and a shared office manager, there is not excess capacity and some things just don't get the attention that they might if there were more staff. That being said, in our experience, WSU is in the middle tier of schools in terms of resources devoted to undergraduate research. Many schools are now moving to hiring assistant directors to support the work of the office and this model might be considered for WSU.

    Students praised the helpfulness and accessibility of staff and repeatedly commented on the student-centered attitudes of the OUR. The faculty similarly spoke highly of the assistance they receive and the professionalism of the office. This culture goes a long way in creating the synergies and relationships that are crucial to the success of an office such as the OUR.

    We will make a very brief comment on space and facilities. Certainly, there is not enough space as everyone is pretty crammed together. We are in no position to understand what WSU grade facilities look like all over campus so we cannot really make a recommendation in this area. One consideration that goes beyond square footage is accessibility to the space by those who you want to engage and we know that this has been a topic of conversation for many years.

3. **Faculty**. Undergraduate research programs cannot thrive without a deep and sustained commitment from the faculty. In our conversations with the many faculty members we spoke with, it was clear that this engagement is already in place and this speaks loudly for the future success of UGR at Weber State. The faculty should be lauded for the work that they have put in over the years, much of it with very modest levels of compensation. A continued emphasis on hiring faculty who understand and will participate in UGR will be important in sustaining these efforts as it diminishes the need for in-service training of faculty and the need to convince them of the importance of these endeavors.

4. **Recent initiative: Research Scholars Program**. This is a well-conceived program that exposes students to scholarly processes early in their career. Identifying and supporting students as research scholars early in their matriculation is an important way to help change the culture and make students and faculty more receptive to undergraduate research activities. Certainly, there is a cost to this initiative, but it

seems to be money well spent. It is our sense that although this is a very important program, the details of how it will work going forward will be modified as more experience is gained in working with the students. We do recommend that a yearly evaluation of the program be undertaken and changes made as more information is gathered as this is a complicated program to manage and sustain.

5. **Recent initiative: Integrating Undergraduate Research into the Curriculum (IURC).** One of the biggest changes in the world of undergraduate research is the move to develop research-rich curricula that bring a researcher's approach into the classroom. As it is very difficult, if not impossible, for many disciplines to offer mentored, one-on-one research experiences for all students, many are now moving towards using the curriculum to expose students to research. The formation of the new IURC Committee in 2017 and its current work will help keep WSU on the forefront of undergraduate research. Designating certain courses as "Research" courses is a wonderful way to do this and we are particularly impressed that this is being done in majors courses along with general education courses. WSU is way ahead of most institutions in this area and this initiative can serve as a model for other schools to embrace.

6. **Development officer focusing on UGR**. The outside reviewers were jealous of the fact that Weber State has a development officer who has finding external funding for undergraduate research as part of his portfolio. This is very rare on the many campuses we are familiar with and WSU is on the cutting edge of universities in this area. There are many challenges in identifying and cultivating potential donors, but doing so could provide rich benefits for the OUR. This is a long-range effort and we hope that no one is put off by the challenges of finding funding as we believe funding could lead to rich payoffs for the OUR and for UGR on campus.

7. **Hosted a CUR National meeting and the NCUR meeting**. It is impressive that in the recent past, the OUR was able to serve as the host of both the Council on Undergraduate Research national meeting and the National Conference on Undergraduate Research meeting. Hosting just one of them is an enormous undertaking and there are very few campuses that have hosted both meetings. Bringing thousands of people to WSU around the topic of UGR sent signals to the participants that WSU is a leader in the world of UGR. Capitalizing on these activities is an important component of what is possible for the host institution and it seems that this has happened over the years.

8. **Student Funding**. Student research grant funding is a signature program of the OUR and the process is very student-centered. If the quality of the student-written proposal is not up to standards, students are given feedback and an opportunity to resubmit so the process is in and of itself, a learning experience. One unit even works with the students to craft their proposal prior to submitting. Because there is no gpa or credit hours earned requirement to apply, the opportunity is truly open to all students, not just the top students. We give strong kudos for this approach. Students only need to have one letter of recommendation (from their mentor);

therefore, this also helps with accessibility. Student travel to conferences is a priority and it appears that money is moved around so that the maximum number of students can have the experience each year. A strength of WSU's student funding is that it really is open to all students and not reserved for only an elite subset of undergraduates. We also applaud the documentation and consideration given to ensuring students from all colleges are represented in both programs. A bit of tweaking with outreach and adjustment with the application/definition of undergraduate research should further ensure that the arts and humanities are well represented.

9. **Campus Outreach**. Considerable effort is made to advertise the programs and opportunities of the OUR. There is no doubt that the culture of the OUR is to engage with the campus, with other high impact practice areas and with other allies. This is a real strength of the office even as we comment on this issue a bit later in the report.

10. **Forms/data collection.** The quality of materials that the office generates for applications, requests and reporting is very strong and clearly a great deal of thought has gone into generating these materials. Faculty we spoke with noted that they have no trouble understanding what is needed and they appreciate how readily they can do what is needed. This is not a minor point as we are all bombarded with requests for all sorts of input, so making it as easy as possible is important.

11. **Student success initiative**. We did not get to spend much time discussing the expansive student success initiatives at WSU, but we will simply note that it is critical that you have the director of the OUR serving on the Engagement Subcommittee. This gives him direct access to other like-minded people and programs and certainly allows him to tap into the rich human capital that WSU has devoted to high impact practices. The connections between HIPs and other campus activities is a work in progress and we get the sense that there are constant conversations about this, including those in the OUR.

12. **Strong student learning outcomes**. There is a strong commitment to focusing on student learning outcomes when it comes to research activities on campus. This clearly is a hallmark of a WSU education and the OUR supports this approach in many ways.

13. **Commitment of Upper Administration towards UGR**. There is a strong connection between the upper administration and UGR on campus and this commitment goes a long way in supporting many of the items we list in this report. Strong programs need faculty buy-in from one end and administrative support from the other end. It is clear that the administrative support exists in large amounts.

14. **Connections to the Council on Undergraduate Research**. Weber State has a long history of being involved in the CUR and in the governance of CUR by having an institutional membership and by having so many people serving as Councilors in the organization. In this way, WSU is having a central role in the advancement of UGR nationally.

Weaknesses

1. **Number of faculty buying into programs**. The faculty who are involved in UGR activities are passionate about what they do and believe in the student outcomes they are helping facilitate. At the same time, there are large numbers of faculty and departments that are not engaged in UGR activities and who have not embraced these concepts. This is a common ailment that we see on just about every campus we visit. The long term sustainability of UGR is largely dependent on the number of faculty who participate in these efforts, so a continued commitment to show the faculty the impact of UGR on student learning and student outcomes along with its positive impact on faculty and the institution needs to remain front and center. This issue never really goes away no matter how hard it is worked, so constant attention to it is needed. The OUR makes this issue a priority so there already is an understanding of the importance of this issue.

2. **Budget-stability and size of programs**. The OUR has had a stable budget for many years with little growth in the overall expenditures. In some respects, this is acceptable as the OUR staff feels that they have been able to satisfy the needs of the students and faculty by moving some monies around and squaring some of the circles. At the same time though, a certain amount of social engineering could take place if there were more monies available to the faculty and students as more of them might be inclined to participate in the OUR programs. There is a certain comfort level on campus that might need a bit of a jolt to move beyond.

3. **Lack of growth in programs.** Related to Number 2 above is the relative stagnation in the number of participants in some of the OUR programs. Number 4 is one example.

4. **Celebration day steady state.** We were surprised to see that the numbers of students participating in the Celebration day giving posters/talks was not increasing over time as on most campuses where there is a somewhat steady rise of student participation. As shown in Table 14 of the OUR report, there were 100 projects displayed at the 2013 celebration and by 2017, that number had fallen to 91. This is very different from what we see around the country where these numbers have been exploding on many campuses to the point that many are running out of space to host their celebration days. We recommend that this issue be at or near the top of any prioritized list moving forward as these celebration days provide a host of important outcomes for the students, the faculty and the entire campus.

5. **Lack of training of mentors.** We received commentary from some faculty that more emphasis should be placed on training faculty to be better mentors. This includes mentoring individual students along with mentoring groups of students. We did not follow-up on this issue so it could be that considerable attention is already being placed on it but in any case, the training just might not be getting through to some of those who believe they desire it.

6. **Some faculty equate the OUR to money only**. It is not a surprise that some faculty see the OUR as a place to get money and grants to help them do their jobs. This is not uncommon and in reality, the OUR should be helping out the faculty and students with direct support and they do it quite well. It also is true that the OUR offers more than just financial support but for many of the faculty, this has not gotten through to them. Ways to change faculty perceptions should be explored and it might even be desirable, if it has not been done recently, to poll the faculty to see what offerings interest them the most. Additional (non-monetary) resources and workshops for students would also help to change this image.

7. **Total number of students doing research.** The OUR tracks its programs well and has a good understanding of who is participating in OUR offerings (research grants, travel funding, Scholars, Symposium, ERGO). What is occurring throughout the campus is much less known and indeed, the numbers of faculty and students involved in UGR activities is not known. One result of this is that when the OUR compiles numbers of participants, it greatly understates the activity on campus and it makes it look like there is much less interest then actually exists. We frequently have campuses we work with do an inventory of current activities and they are always amazed at the actual level of activities. We see this as an important issue as this underrepresentation masks the true level of activities on campus. It would also be nice to more accurately know who is participating as it might be a way to identify more allies for the office's activities.

8. **Lack of overall advisory group**. Although there is a grants committee, a scholars group and a group working on the curricular issues, there does not appear to be a functioning overall undergraduate research advisory group. Thought should be given to getting this group in place and functioning. We intended to have a conversation about this while on campus but it did not happen so we may have missed an advisory group's level of engagement.

9. **Determine value added to WSU by UGR**. This is a broad issue but one that does come to mind. As a high impact practice, we already know that generally speaking, activities such as UGR have substantial impacts on student learning and student outcomes. One of us thought that is might be possible to take this local and try to determine what the actual impact is at WSU. We don't have any particular suggestions on how this assessment might be done but the literature on UGR might be of help in designing some strategies.

10. **There is not a great deal of incentive for faculty to do UGR**. This is not exactly the purview of the OUR but more of a general need to bring faculty on board. Piling on additional expectations and work without some level of remuneration is not a great strategy (although we all tend to do it on some level) to get people to participate. Faculty generally don't expect full compensation but rather are fine with some small level of support.

11. **Academic credit for UGR.** It does not appear that all students (regardless of discipline) have the opportunity to earn academic credit for doing research. Working towards this goal might pay other dividends as it would engage faculty and departments in a conversation about UGR and its benefits.

Opportunities

1. **Ergo** - Ergo is the annual campus undergraduate research journal/publication and its presence provides a very useful public display of UGR on campus. ERGO provides a publication opportunity for students and opportunity for student learning (for example, students were excited to get constructive edits on their submissions). It also provides the campus with documentation of OUR travel awards to present at external conferences. We believe that there are several additional opportunities for ERGO to document and advocate for undergraduate research:
   a. The call for articles should also consider soliciting creative works accompanied by statements by the artists.
   b. The WSU logo and name should be prominently featured on the front cover and then distributed to donors, community and campus leaders and used for recruitment efforts (i.e., Presidential Scholars). It also can be distributed to higher education boards and state legislative leaders. We have seen other campuses use these publications quite extensively to enhance funding, admissions and overall visibility.
   c. Each article or abstract could include additional information on the student, mentor, and funding. This could include student hometown/high school/county; student major/year in school; information on the mentor (department, academic rank, and if they fill a named-chair position or hold a distinguished title... John B. Goddard Endowed Chair in Global Supply Chain Management, Nye Outstanding Faculty Member, UCC Presidential Awardee); and any funding or other recognition the student received (WSU travel award, conference award/funding, outstanding Economics senior, etc.).
   d. You might consider having all students that receive OUR travel funding having their abstract included. Or, at a minimum, a list of students that present at the campus Symposium could be included. Students that present at NCUR could also be included.
   e. There may be other opportunities to document outcomes and accomplishments related to undergraduate research in ERGO. The OUR staff and advisory board should carefully consider if ERGO is to be a peer

reviewed journal, a documentation/annual report of undergraduate research, or a hybrid.

    f. A cost/benefit analysis could be conducted that includes the scholarships for student staff (and student learning benefit), staff/faculty time, printing and dissemination costs, impact of distribution, and use as a record keeping device. If it is not already archived on a website, some thought might be given to archiving the table of contents.

2. **Dissemination**. The OUR is engaged in many different activities and does a very nice job in educating the campus as to its role in student learning. We can't help but think that there is always more that can be done in this realm as in our conversations with faculty, there was a mismatch between what the OUR shares with them and what the faculty are hearing. This is a common predicament and it certainly speaks more directly to how faculty frequently function, but the reality is that other approaches by the OUR might be fruitful.

3. **Development opportunities**. With the help of the development office, continued emphasis on raising funds for additional faculty and student support could be pursued. We can't help but imagine that faculty could be involved in these efforts as they can speak passionately about their work with students.

4. **Peer to peer experiences (students/faculty)**. There is no doubt that we are greatly influenced by our peers so embracing more student-student and faculty-faculty conversations could be invaluable in moving the needle towards more undergraduate research on campus. We were incredibly impressed by the passion of the students with whom we spoke when they described their UGR experiences and their relationships with their mentor and the other students with whom they worked. Thinking of ways to further these interactions could be quite productive.

5. **Summer activities**. We think that we understand the campus culture reasonably well and know that engaging students in research in the summer is a great challenge. However, UGR on many campuses, including those that are on the cutting edge of the UGR world, largely are built on summer research programs as the intensity of these experiences cannot be replicated during the academic year. If additional funds were available through fundraising or internal monies, building a summer research program might be one of the top priorities for new programs. It is hard to visualize WSU as a national leader in UGR without a vibrant summer program but we certainly can see you as a leader if more students impacted the intellectual climate on campus in the summer.

6. **Combine the research symposium with other presentations (on campus).** The research symposium where students present their work is well received on campus. As stated earlier though, the number of student presentations has stagnated for a number of years. One way to possibly build some new momentum is to combine some of the other campus activities where students are presenting their work (in the Nursing School for example) with the symposium. This might help create an

enhanced atmosphere for the students and additional energy that could help grow this very important event. We have seen many campuses struggle with this issue as there are competing interests among the many areas so we don't think this is a trivial issue to resolve.

7. **Scholars program needs to be refined**. We fully expect that this will happen over the years and are confident you are on the right path with this. At some point, stepping back and celebrating the successes could be important for all.

8. **Continued alignment with WSU mission could support funds**. We are impressed with how naturally UGR fits with the institutional mission so all we are saying is keep moving down this path.

9. **Develop credit opportunities for students regardless of department.** Although our task is to review the activities of the OUR, we also have impressions related to the UGR efforts throughout the campus. The OUR, through the appropriate academic offices, should consider reviewing how students receive research credit for the involvement in UGR. We picked up that many departments don't have a way for students to register and get credit for UGR or at a minimum, there is a lack of consistency as to how this issue is handled. This is an academic issue that is not necessarily within the purview of the OUR, but continuing to prime this conversation could have great value.

Threats

1. **Budget stability**. Our concern is the inertia that could be built up over time so we recommend a more aggressive call for additional funding. Justifying these requests seems to us to be reasonable as the workload in the OUR just continues to grow.

2. **Lack of shared buy-in**. Faculty are bombarded with initiatives and in some ways, one of the threats to UGR on campus is that faculty may move on to other initiatives that might give them greater support and other benefits. There are many faculty advocates who could be tapped to help with these efforts.

3. **WSU's plan for graduate programs**. As a comprehensive university, there is overlap between graduate student research and the campus research infrastructure and with undergraduate research. For example, the OUR handles graduate student travel applications for the campus. Research compliance is monitored by the OUR staff, but only for undergraduates that receive funding in their office. Some colleges/departments combine and host research events for faculty, graduate students, and undergraduates. Because graduate students do not have their own research dissemination infrastructure and support, there is the danger of mission creep of the Undergraduate Research Office to fill this gap. Maybe this is acceptable, but it should be done in an intentional way with everyone understanding the underlying issues and considerations. We recommend that the administration

acknowledge the current and potential overlaps of graduate and undergraduate research and match them with research infrastructure support. Additionally, consider aligning resources with the proper unit(s) after the responsibilities for research infrastructure are more fully articulated and assigned.

4. **Too many new things (don't lose sight of outcomes).** There are many components to UGR and in the OUR. We have seen UGR on other campuses become quite disjointed as so many programs are layered on top of each other. Yearly prioritization of items by the OUR will go a long way in maintaining a cohesive program.

5. **As so many initiatives and planned and implemented, there is concern with staffing in the OUR.** The OUR staff is already juggling grants and travel funding (including some work for graduate students), the Symposium, coordinating NCUR participation, ERGO (journal), general messaging and much, much more. The new Scholars Program has been added, along with robust discussion and planning for "R" designated courses. The review team is recommending additional data collection (see below). If and when additional demands are placed on staff and new initiatives are proposed, staff resources need to be considered or OUR runs the risk of overcommitting.

6. **Need to expand operational definition of students served/documented**. Currently students can be served by the office (and therefore documented) through funding (grants, travel, Scholars) or participation in the Symposium or submitting a publication for ERGO. There are other students at WSU that are likely participating in undergraduate research experiences and attempts should be made to reach out to them and document their participation. OUR needs to demonstrate it serves students beyond those it directly funds or it will not be seen as the campus umbrella for undergraduate research resources and initiatives. Reaching out and partnering with department research days, offering student workshops, and positioning the Symposium as THE undergraduate research event will help to solidify its position on campus. Additionally, requiring students who are selected for grant or travel funding, NCUR or Utah Conference participation or publishing an article in ERGO to present at the campus Symposium will increase participation and diversity of disciplines and raise the profile of the Symposium. As undergraduate research in the curriculum is implemented, students enrolled in these courses also become part of the population served.

Recommendations

1. **There are many recommendations embedded in the document that can be addressed, but we just wanted to highlight a few of them here.**

2. **Workshops and opportunities for student development.** The OUR is often viewed by faculty and students as the office that provides funding and puts on the Symposium, and little else. There is a great opportunity for the OUR to coordinate

and present a variety of workshops for students to aid in their professional development as undergraduate researchers and scholars. Topics such as getting started in research, working with your mentor, designing a poster, writing an abstract, presenting your research, etc. are standard offerings by most undergraduate research offices. Additional topics can be offered depending on student needs and strategic directions of the OUR (i.e., applying for summer research programs, applying to graduate school, presenting to a lay audience, making the most of conference attendance, team work). Workshops also will have the benefit of encouraging a peer community and bringing more students into the OUR sphere of influence.

3. **Create a faculty community and offer mentor development opportunities**. Faculty who are advocates for undergraduate research across a campus often don't know of other advocates in other departments. Fostering a monthly or once/semester gathering for interested undergraduate research mentors will encourage a faculty community, cross discipline discussions, valuable feedback for OUR, and strengthen faculty support. We heard of no efforts for faculty development as mentors. We suggest that OUR and a group of experienced faculty mentors coordinate a few opportunities for development/training each year. These could be tailored to new faculty, faculty who have students receiving funding, a targeted school or college, or an open call for participation. The sessions could be organized as a panel discussion, a luncheon speaker, or a workshop lead by an outside expert. While we do not have a recommendation on a particular delivery method or topic, we do strongly advise that attention be given to purposefully integrating mentoring into faculty professional development opportunities at WSU.

4. **Create an advisory board for OUR/undergraduate research at WSU**. While there are various committees for different programs/funding that seem to be working well, there is no overall advisory committee for OUR. We recommend forming a standing Advisory Committee that will include some overlap with the committee members, but also will strategically include influential leaders and advocates from across campus. WSU may wish to include non-faculty professionals in development, student affairs, enrollment management, advising, etc. on the Advisory Committee. External stakeholders may also prove to beneficial to include and help drive home the message to campus leadership that employers are seeking skills that undergraduate research can develop.

5. **Celebration Day**. Thought should be put into determining how to increase participation in student numbers and in departments represented at the annual Celebration Day.

6. **Student grant program**. After a number of years of the grant funding program, OUR has built up a sizable pool of awardees to begin to detail some data in addition to disciplines/colleges represented. We suggest that OUR start tracking (and go back a few years if possible) how the funding is being used: student travel, equipment and supplies, direct student support, fees to attend workshops, etc. This

information will help articulate funding needs and fundraising targets. Additionally, OUR may find out that some units/student populations are successfully getting funds for direct student support (stipends, salary), while other units have been reluctant to ask for student support. There may be inequities across student demographics or disciplines. This data may help inform OUR about any gaps in participation due to student financial need.

Currently there is no systematic tracking of student outcomes after a student receives a grant. OUR should be tasked with collecting basic information1-3 years after funding, which would include the graduation status (including final major/gpa) of student grantees, any awards/honors resulting from conducting the research (including conference presentations and publications), other honors and awards, and post-graduation plans. Additionally, a final "summary" of the student's project/results should be required. This type of information will help OUR advocate for continued/increased funding and provide data and personal stories that illustrate the benefits of undergraduate research. This tracking can also help to build an alumni network that will benefit current students and WSU as an institution.

7. **Documenting outcomes from grant dollars.** There may be value in digging deeper into the outcomes from the grant monies allocated by the OUR to faculty and students. Much of this already exists as the monies are frequently used for travel expenses to conferences but there are opportunities to further understand some of the other outcomes.

8. **Curriculum initiatives**. We strongly recommend that you stay the course on moving towards a research-rich curriculum in as many departments/units as possible. This is the main thrust of many of the advances in UGR and this approach is particularly well suited for institutions that do not focus on summer-based research programs.

Appendix 1 - Review Team

Craig Bergeson, Foreign Language Department, Weber State University

Linda Blockus, Director, Office of Undergraduate Research, University of Missouri
Dr. Linda Blockus is the founding director of the Office of Undergraduate Research at the University of Missouri. Her leadership in the Council on Undergraduate Research includes more than fifteen years as an elected councilor, a term as chair of the Undergraduate Research Program division and service on the Executive Board, election to the Nominations Vetting Committee, and leadership on the Student Programming Task Force. With Joyce Kinkead (Utah State University) she co-edited the book "Undergraduate Research Offices and Programs: Models and Practices" (2012). Dr. Blockus also co-authored CUR's "Characteristics of Excellence in Undergraduate Research (COEUR)", which serves as an aspirational blueprint for programs and campuses. In addition to articles published in the "CUR Quarterly" journal (now "SPUR"), she served as guest editor for a themed issue on measuring student participation.   At MU, she has provided leadership on undergraduate research grants from NSF, NIH, and HHMI.   She has lead a new campus initiative to celebrate the visual art and design scholarship of undergraduates. Dr. Blockus earned her PhD in higher education at the University of Missouri.

Sally Cantwell, School of Nursing, Weber State University

Mitch Malachowski, Chemistry Department, University of San Diego

Mitch maintains an active research program involving the bioinorganic chemistry of copper and iron containing proteins and in supramolecular chemistry and has received funding from the National Science Foundation, the Petroleum Research Fund and the Research Corporation. During his time at USD, he has worked with over 130 research students and he has published over 50 papers, many of them with undergraduate co-authors. Mitch also is interested in the relationship between research and student learning and has published articles on fostering administrative support for research, research vs. student-oriented scholarship, promoting research in non-science areas, the role of mentoring in research, starting a research across the curriculum movement and changing institutional culture. He recently received a $1.8 million grant from the NSF to assist schools interested in developing more comprehensive undergraduate research programs and research-rich curricula.

Mitch was president of the Council on Undergraduate Research from 2002-2003 and has taken on many roles in the organization. Mitch has received several awards including one for teaching excellence from the University of North Carolina, the administrator of the year award at USD, the 2014 Outstanding Reseach Mentor Award at USD, the 1999 Davies Award for Teaching Excellence at USD, three

University Professorships from USD and the Charles B. Willard award for distinguished career achievement from Rhode Island College. He was the recipient of the 2014 CUR Fellows Award and was named the 2014 CASE/Carnegie Foundation California Professor of the year.