The State of Faculty-Mentored Undergraduate Research and Creative Activity at CSUSM

A Report from the CSUSM Committee on Undergraduate Research (CUGR)

Spring 2013
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The CSUSM Committee on Undergraduate Research (CUGR) is comprised of representatives from campus units that support and promote undergraduate research.

CUGR Mission Statement

*California State University San Marcos values research. It aids in the discovery of new knowledge and is an important educational tool. Students who engage in undergraduate research are better prepared to rise to contemporary challenges. Faculty and students are supported and recognized by the University for their research and creative activities.*

The following faculty and staff have participated on CSUSM CUGR since 2010. These faculty and staff have been instrumental in advancing undergraduate research at CSUSM:

- Susan Andera, Nursing
- Todd Astorino, Kinesiology
- Bonnie Bade, Anthropology
- Ranjeeta Basu, Economics
- Judy Bauerlein, Visual and Performing Arts
- Elizabeth Bigham, Human Development
- Katherine Brown, Communication
- Amy Carney, Nursing
- Vassilis Dalakas, Management and Marketing
- Charles De Leone, Physics
- Ann Fiegen, Library
- Rocio Guillen-Castrillo, Computer Science
- Grant Hubbard, UARSC
- Sajith Jayasinghe, Chemistry and Biochemistry
- Kimberley Knowles-Yanez, Liberal Studies
- Konane Martinez, Anthropology
- Karen McGurk, Nursing
- Yvonne Meulemans, Library
- Carmen Mitchell, Library
- Arcela Nunez-Alvarez, National Latino Research Center
- Youwen Ouyang, Computer Science
- Kendra Rivera, Communication
- Liliana Castaneda Rossmann, Communication
- Juan Santos, Sociology
- Michael Schmidt, Chemistry and Biochemistry
- Mari Steffensmeier, Career Center
- Martha Stoddard-Holmes, Literature and Writing
- Keith Trujillo, Psychology and OTRES
- George Vourlitis, Biological Sciences
- Pamela Wells, Career Center
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Executive Summary

The CSUSM Committee on Undergraduate Research (CUGR) is comprised of representatives from campus units that support and promote undergraduate research. In spring 2009, CUGR conducted a survey of undergraduate research and creative activities among CSUSM campus units. Twenty-one units participated in the survey in 2009. The report of the 2009 CUGR survey results and findings can be found at: csusm.edu/gsr/student/cugr.html

In 2012, CUGR deemed it time to renew the survey of campus undergraduate research and creative activities. CUGR left most of the 2009 survey questions intact to permit comparisons between 2009 and 2013 survey data. The updated survey was distributed to campus units in fall 2012 and responses were received until February 2013. This report includes a summary of the 2013 survey findings. Comparisons between 2009 and 2013 survey data are reported, however, the data are interpreted with caution because fewer units responded to the 2013 survey.

In total 13 units (colleges, departments, and programs) responded to the 2013 survey (21 responded in 2009). The responding units included departments from three colleges (Education, Health & Human Services; Humanities, Arts, Behavioral & Social Sciences; and Science & Mathematics) and the Library. All respondents (100%) reported that faculty in their unit actively engage in mentoring students in undergraduate research and creative activities (compared to 95% in 2009). The number of tenure-track faculty by department, who engage in student research and creative activity ranged from 2 to 22. Excluding the Library, all units (100%) reported that they offer courses that provide undergraduate research opportunities (compared to 95% in 2009).

Currently, 42% of the units reported that they offer assistance for undergraduate research and creative activities (compared to 55% in 2009). Only 1 unit reported that it has clear written expectations for undergraduate research. However, some units report that they are working on developing more explicit expectations. Total responses suggest that nearly 1,000 CSUSM undergraduates participate in research or creative activity per semester. Given the sample size, however, this is an underestimate of the actual number of undergraduate research participants.

The units also identified many curricular and co-curricular undergraduate research opportunities available to students. Such experiences include course offerings designed to conduct supervised research and co-curricular opportunities to present research and performances at local, regional, and national professional meetings and exhibitions.

The respondents described the benefits of participating in undergraduate research. Among the benefits are: development of students’ skills sets (critical thinking, creativity, communication, and application of theory), preparation of students for careers and graduate school (co-authorship of peer-reviewed publications), and fulfillment of the university and department/program missions, such as faculty professional growth as well as student hands-on and lifelong learning.

The units also identified overwhelmingly that scarcity of faculty time, recognition, and resources are the most frequent barriers to offering research opportunities for students. Among the incentives that would facilitate faculty participation in undergraduate research and creative activity include supports for faculty time, resources, and recognition for mentoring intensive undergraduate research. Reduced workload and smaller class sizes are also important incentives.
This report also describes CUGR’s progress on its action plan goals. The short-term goals are to:

1. Establish a centralized undergraduate research office to coordinate undergraduate research and creative activities across the campus and strengthen our campus administrative and organizational infrastructure for faculty-mentored undergraduate research and creative activities
2. Develop benchmarks (e.g., baselines and metrics) for gathering, tracking, assessing, and reporting outcomes associated with undergraduate research and creative activities
3. Obtain external resources to support undergraduate research including faculty’s role, physical infrastructure (equipment/facilities), and dissemination of research

Overall, CUGR has made moderate progress on its action plan goals. For example, CUGR supported a philanthropic proposal to fund a CSUSM Center for Undergraduate Research, endorsed a CSUSM external grant proposal for a longitudinal study to assess the outcomes of undergraduate research experiences across the CSU, and provided leadership for developing a CSU peer-reviewed undergraduate research journal. However, these initiatives have not yet been funded or implemented. Nonetheless, CUGR continues to heighten the prestige of CSUSM undergraduate research and creative activities locally, regionally, in the CSU, and nationally.

Based on the survey findings and progress toward its action plan (short- and long-term) goals, CUGR offers the following recommendations to institutionalize undergraduate research and creative activities at CSUSM:

1. Create an Office for Undergraduate Research and Creative Activities (OURCA).
   A dedicated campus-wide unit that coordinates undergraduate research and creative activities is best suited to institutionalize and sustain faculty-mentored activities and opportunities.

2. Develop clear written expectations for faculty to engage in undergraduate research.
   Academic units report that expectations for undergraduate research and creative activities are not clearly outlined and communicated. Faculty expectations for engaging in undergraduate research and creative activities can be developed through departmental tenure/promotion standards as well as college and university tenure/promotion policies.

3. Secure funding for undergraduate research:
   To support student research, there should be training and resources to assist with securing external and internal funds to support research projects and student participation in research. Potential external sources include extramural grants and private donors.

OURCA can coordinate and implement CUGR’s goals and recommendations toward institutionalizing undergraduate research and creative activities. OURCA can lead and assist with the development of faculty expectations, funding, and assessment in support of undergraduate research. Without a dedicated OURCA, CSUSM may not be able to sustain the quality of our highly successful faculty-mentored undergraduate research and creative activities.
Survey Results

Several salient respondent characteristics and survey item responses were selected for presentation in this report. The survey data are summarized in narrative or tabular form.

Responding Colleges/Department/Programs

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<th>Humanities, Arts, Behavioral &amp; Social Sciences</th>
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| Library                                       |

Faculty Engagement in Undergraduate Research

The survey provided an opportunity for units to report examples of faculty engagement in CSUSM undergraduate research and creative activities. The responses are summarized for the following items:

*Do the tenure-track faculty in your department/program (center or college) engage students in research or creative activity? Please answer in relation to research inside and/or outside the classroom.*

All (100%) respondents reported that their tenure-track faculty engage students in research or creative activity. For example, Librarians work directly with students on their research/creative activity on a daily basis through a variety of ways, such as instruction sessions within full courses, in-depth consults with librarians (face-to-face, email, phone, chat), and drop-in reference/research help via the Research Help Desk in Kellogg Library. The librarians engaged in these activities are part of the Information Literacy Program.

*Does your department/program provide coursework that offers students opportunities to engage in research or creative activity?*

Excluding the library (which does not present these types of courses), all units reported they provide coursework that offers students opportunities to engage in research or creative activity.
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Does your department/program (center or college) offer any assistance (e.g. resources) to faculty for engaging students in such activities?

About 43% (n = 5) of the units reported that they offer assistance or resources for faculty to engage students in research or creative activity. Typically, support is in the form of modest funding for student assistance or supplies. In 2008, 55% of the respondents (n = 12) reported that they offered assistance for faculty to engage in undergraduate research or creative activity.

Does your department/program (center or college) have clearly written expectations for tenure track faculty regarding undergraduate research or creative activity (i.e. P&T Guidelines, department standards)?

Only 1 unit reported that it has clearly written expectations for tenure-track faculty to participate in undergraduate research or creative activity. However, several units reported that they are working on more explicit expectations including tenure and promotion standards. In 2008, 48% of the respondents (n = 10) indicated that they had clear expectations, but not necessarily written, for faculty to participate in undergraduate research or creative activity.

Respondents were also asked to estimate how many students in their unit participate in undergraduate research activities per semester.

The responses ranged from 6 to 150. Total responses suggest that nearly 1,000 CSUSM undergraduates participate in research or creative activity per semester. Given the sample size (15 units), this is an underestimate of the actual number of undergraduate research participants.

Coursework

Units also responded to course-related and co-curricular survey items:

What types of research/creative activity (coursework) opportunities are provided?

Units indicated that course-related research and creativity opportunities typically include independent study, capstone, upper-division laboratory, and/or research methods courses.

An example of an undergraduate course that focuses on research is Human Development 497 - Applied Research in Human Development. For the course, students participate in the development and implementation of an applied research study that they either initiate or is part of an ongoing research study. Students are also involved in data collection, data coding, data analysis and manuscript preparation. These students present their research at the CSUSM Annual Nu Upsilon Honor Society Undergraduate Research Conference.

In Literature and Writing Studies, students collaborate in a creative writing workshop group, a student reading series, and a student literary magazine. Three creative writing courses enable student to develop and produce creative activity and faculty help students to create original literature and art. Students also conduct original analyses of primary texts using a cultural studies approach in upper division capstone-type course for seniors.
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In Kinesiology, student-driven undergraduate research involving hypothesis testing is an integral part of the program. This is accomplished through coursework but students also have the opportunity to engage with faculty as research assistants.

Co-Curricular

Please provide a list of any department/program (center or college) level co-curricular activities over the past two years that enhance or encourage undergraduate research or creative activity (for example, a campus research fair or art show).

Most units report that their undergraduates have opportunities to present research at local, regional, or national (and international) symposia, conferences, or professional meetings.

For example, the Psychology department encourages majors to participate in the CSUSM Psychology Student Research Fair (now in its 20th year) as well as the regional Western Psychological Association (WPA) conference to present posters and papers.

Applied Physics students participate in the ViaSat Scholars summer research symposium sponsored by the College of Science & Mathematics. The Department also hosts a Frontiers in Science seminar where students present their summer research projects.

Chemistry students present their research at professional or student conferences, such as the regional meeting of the American Chemical Society, the annual CSUPERB symposium, and the annual Southern California Undergraduate Research Conference. Each semester, Chemistry hosts presentations for CHEM 499 student research projects.

Benefits

Units were asked about the benefits of engaging undergraduates in research or creative activity. The responses are illustrative of the benefits:

If the faculty in your department/program (center or college) engage students in research or creative activity, what do you see as benefits of these activities?

The largest number of reported benefits included student preparation for careers and graduate school (authorship of peer-reviewed publications), development of students’ skills sets (critical thinking, creativity, communication, and application of theory), and fulfillment of the university and department missions, such as faculty professional growth as well as student hands-on and life-long learning.

One vivid example of student creativity is Literature & Writing students’ development of an online undergraduate peer-review scholarly journal titled “The Critical Initiative.” The students sought to “create a space for the student-scholars’ critical voice and to integrate students into the academic community…” The students created an active and engaged student-driven editorial board process for peer-reviewing student submissions. The journal may be reviewed at:
http://community.csusm.edu/course/view.php?id=3
Barriers

The units also identified barriers that deter faculty from becoming more engaged with students in undergraduate research and creative activity experiences.

What are the barriers to becoming more engaged with students in these activities?

Among the factors mentioned consistently include: lack of resources, time, space, and infrastructure; the need for smaller classes and more courses where such endeavors would be appropriate; the lack of recognition or support – both financial and in the RTP process – for carrying out these activities; lack of funds to pay students for their work and lack of students who would be willing to work for academic credit alone; and the need for more tenure-track faculty who are trained to engage students in research and have the time to mentor students.

Why don’t the faculty in your department/program (center or college) engage students in research or creative activity?

Again, the major responses are limited or scarce faculty time and resources. Some units also report that large class sizes are not suitable for research or creative activity experiences.

Incentives

Respondents also indicated conditions and incentives that would facilitate faculty participation in undergraduate research or creative activity:

What would be the conditions under which your department/program (center or college) would participate in undergraduate research or creative activity?

The most reported enabling conditions are time, resources, recognition, and faculty to support intensive undergraduate research mentoring. Also, reduced or distributed teaching load and smaller class sizes are important conditions.

What types of incentives would be needed to engage faculty in undergraduate research activities?

Once again, time, recognition/credit, and funding are important incentives. Some units also reported that stipends to students and faculty, especially during summer, would incentivize faculty-student engagement in research.

Progress on CUGR’s Action Plan Goals

CUGR participated in a CSU CUR STEM Workshop program to institutionalize undergraduate research. The CSU was one of first three university systems accepted into the program. Workshops were held in fall 2011 and fall 2012 at CSU Los Angeles and the Chancellor’s Office, respectively. A CUGR team (AVP for Research Gerardo Gonzalez, Professor Charles
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De Leone, Professor Rocio Guillen, and Librarian Susan Thompson) attended both workshops. Campus action plans were drafted and updated at the two workshops. See attached CUGR Action Plan. The following narrative summarizes CUGR’s progress on its Action Plan goals.

Short-Term Goals

1. Establish a centralized undergraduate research office to coordinate undergraduate research and creative activities across the campus and strengthen our campus administrative and organizational infrastructure for faculty-mentored undergraduate research and creative activities

On behalf of CUGR, AVP for Research González submitted an internal fundraising proposal to support a CSUSM Center for Undergraduate Research. The proposal received broad support from CSUSM faculty and administrators. The proposal is under consideration as a potential campus fundraising activity, but no formal action has been taken to move forward with the proposal.

2. Develop benchmarks (e.g., baselines and metrics) for gathering, tracking, assessing, and reporting outcomes associated with undergraduate research and creative activities

A CSUSM team developed collaborations with CSU campuses on an NSF grant proposal to study the impacts of undergraduate research on student outcomes across the CSU. The proposal received the endorsement of 22 CSU campuses. The proposal was not funded, but will be resubmitted.

3. Obtain external resources to support undergraduate research including faculty’s role, physical infrastructure (equipment/facilities), and dissemination of research

CSUSM submitted external grant proposals for a STEM-focused McNair Scholars program and a STEM Research Experiences for Undergraduates (REU) program (PI - Dean of College of Science & Mathematics). These proposals were not funded, but will be resubmitted.

Long-Term Goals

As part of its action plan, CUGR also developed long-term goals for institutionalizing undergraduate research and creative activities. Among CUGR’s 5 to 10 year goals are:

1. Apportion internal and external resources and administrative support to sustain undergraduate research and infrastructure, such as faculty professional development and research facilities and library collections.
2. Provide stipends, travel grants, and fellowships for undergraduate students to conduct supervised research including honors research
3. Grow summer research programs for undergraduate students to collaborate on faculty-mentored research projects
4. Clarify faculty retention, tenure, and promotion guidelines to incentivize undergraduate research
5. Conduct ongoing assessment of undergraduate research outcomes including graduate school and professional careers
Our campus has already begun to work on these long-term goals. Among these activities are:

- **Increased support for undergraduates to present research at professional or scientific meetings.** The Office of Graduate Studies & Research has funded over 50 CSUSM since fall 2010.

- **AVP Gonzalez and Carmen Mitchell (CSUSM Repository Librarian) provided leadership in the development of a CSU undergraduate peer-review journal.** AVP Gonzalez led the CSU task force that finalized and disseminated an editorial policy for the journal.

- **CSUSM College of Science and Mathematics (CSM) began offering externally funded, on-campus undergraduate research experiences for students in conjunction with the UCSD Center for Theoretical Biological Physics in summer 2010.** This program has expanded and attracted new sponsors, including local technology companies such as ViaSat and private donors. CSM now sponsors privately funded summer research experiences for undergraduates with faculty in all of the college disciplines.

- **CUGR undertook preliminary discussions on clarifying expectations for faculty efforts on undergraduate research.** The College of Science and Mathematics (CSM) submitted new Retention, Tenure, and Promotion (RTP) standards that make specific mention of the value of undergraduate research activities to faculty. Individual departments within CSM are in process of developing departmental RTP standards, and it is probable that all departments in CSM will likewise emphasize the value of undergraduate research in these standards.

**CUGR Self-Study**

CUGR also conducted a self-study for CSU CUR STEM Workshop program. The following strengths, limitations, vision statement, and summary were key findings of our self-study:

**Strengths**

Our campus mission states “Students work closely with a faculty of active scholars and artists whose commitment to sustained excellence in teaching, research, and community partnership enhances student learning.” One of our university strategic priorities focuses on academic excellence and states that “We are committed to the success of students by encouraging their intellectual engagement and by supporting the teaching, research, and creative activities of a stellar faculty.” Our university president selects a faculty member for the annual President’s Award for Research, Scholarly, and Creative Activity. Every year our campus also offers University Professional Development grants. These awards include recognition of the involvement of undergraduate students in faculty research projects. Several campus units, such as the Office of Training, Research, and Education in the Sciences (OTRES) and the National Latino Research Center (NLRC) have secured external funding to support undergraduate student participation in research and presentations at professional/scientific meetings and conferences. Many faculty serve as Principal Investigators on student research training grants, such as NSF STEM Talent, CIRM Stem Cell, NIH RISE and MARC, NSF LSAMP, USDA NIFA, and NIGMS SCORE and Bridges programs.
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Limitations

CSUSM has limited administrative infrastructure and resources to sustain campus-wide undergraduate research and creative activities. Our campus must create the organizational, physical, and funding infrastructure necessary for institutionalizing undergraduate research and creative activities. CSUSM has not fully integrated research into the undergraduate curriculum. Moreover, faculty time for mentoring undergraduate students in research is extremely limited.

Faculty members are required to conduct research for reappointment, tenure and/or promotion (RTP). According to our University RTP policy, faculty members are required to demonstrate evidence of “success” in research, scholarship, and creative activity. Undergraduate student involvement in research is not a required activity, but should be recognized as an important and valued activity in the faculty RTP process.

Vision Statement

The following excerpt was adapted from CUGR’s self-study Vision Statement:

*Within 10 years our campus will have: an Office for Undergraduate Research; a research-supportive curriculum; a diverse array of research opportunities for our undergraduates including summer programs, fellowships and scholarships, sustained support for faculty research; and substantive faculty-mentoring in undergraduate research. There will be widespread engaged interest and support for diverse high-quality undergraduate research activities from external communities, such as non-traditional funding from industry, because of the immediate benefits demonstrated by our graduating students. Our campus will be a minority-serving institution with well-established undergraduate research programs designed to enhance undergraduate experiences, meet students’ educational and professional goals, and promote faculty-student research collaboration.*

Summary

Undergraduate research and creative activity are conducted in many forms at CSUSM. Student research is embedded throughout our undergraduate curricula. Our undergraduate programs in Anthropology, Biological Sciences, Biochemistry/Chemistry, History, Human Development, Literature and Writing, Nursing, Physics, Psychology and Sociology offer courses that require students to complete an individual or group research project from conceptualization, data collection, data analysis, write up, to presentation of the research. With respect to creative activity, the arts and humanities offer opportunities for student performances, exhibits, and creative writing. Furthermore, CSUSM is continuously bringing new majors on line. With the development of new academic programs, there will be opportunities to develop a culture of undergraduate research and creative activity from the inception of individual degree programs.

In addition, CSUSM has co-curricular activities that support a wide-ranging culture of student research. Our campus holds several annual student research symposia including the Psychology Student Research Fair (20 years) and the Kappa Omicron Nu Upsilon (Human Development/Kinesiology) Honor Society Undergraduate Research Conference. About 100
CSUSM students have participated in the annual Student Research Poster Showcases sponsored by the Office of Graduate Studies & Research. CSUSM undergraduate students have garnered research awards at scientific meetings in biological sciences, neuroscience and psychology. The CSU Student Research Competition (SRC) has been a successful program for our students. Historically, at least one CSUSM student has placed first in the CSU SRC undergraduate social sciences or sciences categories. CSUSM student success is a demonstration of the positive impact of faculty mentoring in undergraduate research. The CSU Chancellor’s Office website features 3 CSUSM faculty engaged in undergraduate research: calstate.edu/research/undergrad

External grants to faculty from NEH, NIH, NSF, and private foundations have also provided excellent opportunities for undergraduate students to be involved in research and creative activities. CSUSM is an Asian American and Native American Pacific-Islander Serving Institution (AANAPISI) and an Hispanic-Serving Institution (HSI). Therefore, students from underrepresented, low-income, or first generation populations also benefit from external grants and campus centers (NLRC and OTRES) that support our undergraduate research initiative.

However, CSUSM has limited administrative resources to sustain campus-wide undergraduate research and creative activities. CSUSM must create the organizational, physical, and funding infrastructure for institutionalizing undergraduate research. Also, faculty time for mentoring undergraduate students in research is constricted. Moreover, CSUSM has not fully integrated undergraduate research into the curriculum and expectations for faculty. Thus, proactive leadership and action must be taken to institutionalize undergraduate research opportunities.

**Recommendations**

Based on the survey findings and progress toward its Action Plan goals, CUGR offers the following recommendations to institutionalize undergraduate research and creative activities:

1. **Create an Office for Undergraduate Research and Creative Activities (OURCA).**

   A dedicated campus-wide unit that coordinates undergraduate research and creative activities is best suited to institutionalize and sustain these faculty-mentored activities and opportunities.

2. **Develop clear written expectations for faculty to engage in undergraduate research.**

   Academic units report that expectations for undergraduate research and creative activities are not clearly outlined and communicated. Faculty expectations for engaging in undergraduate research and creative activities can be developed through departmental tenure/promotion standards as well as college and university tenure/promotion policies.

3. **Secure funding for undergraduate research.**

   To support student research, there should be training and resources to assist with securing external and internal funds to support research projects and student participation in research. Potential external sources include extramural grants and private donors.
An Office for Undergraduate Research and Creative Activities (OURCA) can implement CUGR’s Action Plan goals and recommendations. OURCA would be a centralized campus-wide unit to institutionalize, coordinate, and support undergraduate research and creative activities. OURCA would build upon and complement our current campus successes involving undergraduate research. Also, OURCA has broad appeal for all CSUSM colleges and academic disciplines. OURCA solidly aligns with our university and academic missions to enhance student learning, e.g., “Students work closely with a faculty of active scholars and artists whose commitment to sustained excellence in teaching, research, and community partnership...”

A centralized office to coordinate undergraduate research has been instituted at many universities across the country including the CSU. Offices or centers for undergraduate research exist at CSU campuses in Monterey Bay, Pomona, and San Bernardino. The Council on Undergraduate Research (CUR) has a Division for Undergraduate Research Program Directors involving dozens of public and private universities with undergraduate research offices.

Administratively, OURCA would require a part-time faculty director and part-time administrative support staff. The OURCA faculty director would report to the Associate Vice President for Research in the Office of Graduate Studies & Research (or appropriate administrator). OURCA programs would serve students in colleges across campus. The OURCA director will be expected to work collaboratively with the deans and faculty from all colleges as well as other centers and units.

OURCA would offer resources for engaging undergraduates and faculty in high quality, innovative research and creative activities. Among the supports for students would be: stipends/scholarships, faculty mentors, summer research training program, and opportunities to showcase their research at student research symposia or professional/scientific meetings. OURCA would also be a resource for faculty through workshops on mentoring, external grant opportunities, and best practices to integrate undergraduate research in the curricula. OURCA programming will develop undergraduates into future professionals and leaders for our local community, region, state, and nation. CSUSM is viewed as a leader in undergraduate research across the CSU and nationally. Thus, OURCA will garner additional prestige for CSUSM.

OURCA would continuously assess student learning outcomes, such as student retention and graduation rates, especially among first-generation students; engagement of students in campus co-curricular activities; academic standing/performance in coursework; successful admissions to prominent graduate programs; and the development of skill sets that would be attractive to prospective employers (oral communication, writing, teamwork, and analytical skills).

OURCA would pursue and secure funding from prestigious public and private agencies including from the National Science Foundation (NSF), the National Institutes of Health (NIH), and private foundations. Also, program activities would be scalable depending on the level of external funding, such as the number of students and faculty mentors that could be supported.

Taken together, these actionable items will be powerful steps toward institutionalizing undergraduate research. Without these supports, CSUSM will not be able to sustain the quality of our highly successful faculty-mentored undergraduate research and creative activities.
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**CUR Workshop Program on Institutionalizing Undergraduate Research – Fall 2012**

**Institution name:** CSU, San Marcos  
**Who reports to key administrators?** AVP for Research

**Mission Statement for Undergraduate Research:**

California State University San Marcos values research for the discovery of new knowledge and as an important pedagogical tool. Faculty and students involved in research and creative activity pursuits will be supported and recognized by the university. We recognize that students who engage in undergraduate research are better prepared to rise to changing contemporary challenges.

<table>
<thead>
<tr>
<th>Desired Outcomes/Goals</th>
<th>Strategies to Achieve Outcomes</th>
<th>Who is responsible?</th>
<th>How will achievement of outcomes be assessed?</th>
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<tr>
<td><strong>Short Term Goals (1-2 years)</strong></td>
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<tr>
<td>1. Establish a centralized undergraduate research (UGR) Center/Office to coordinate UGR activities across the campus and strengthen our campus administrative and organizational infrastructure for faculty-mentored UGR</td>
<td>Work with the Committee for UGR (CUGR), faculty, Academic Senate, College Deans, Provost, President, University Advancement (UA), and UARSC to secure funding for a Center/Office for Undergraduate Research to coordinate student symposia, student research showcases, and expand the UG research-based curricula. Review best practices</td>
<td>CUGR, AVP-Research, Deans, President, Provost, Advancement, UARSC, Academic Senate</td>
<td>CUGR ongoing progress reports and AVP-R annual reports Within 2 years</td>
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<td>2. Develop benchmarks (e.g., baselines and metrics) for gathering, tracking, assessing, and reporting outcomes associated with UGR</td>
<td>Collaborate with our campus Institutional Planning &amp; Analysis (IPA) to develop, collect, track, and report data to assess the impact of undergraduate research. Review best practices</td>
<td>CUGR, AVP-Research, IPA</td>
<td>CUGR ongoing progress reports and AVP-R annual reports Implement and make tools available within 2 years</td>
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<td>3. Obtain external resources to support undergraduate research including faculty’s role, physical infrastructure (equipment/ facilities), and dissemination of research</td>
<td>Work with faculty to submit external grant proposals to support research infrastructure, dissemination of research (travel), and achieve greater sustainability for undergraduate research. Collaborate with college deans to support faculty efforts.</td>
<td>CUGR AVP-Research UARSC Advancement College Deans</td>
<td>CUGR ongoing progress reports and AVP-R annual reports</td>
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**Intermediate Term Goals (2-5 years)**

| 1. Promote the establishment of faculty retention, tenure, and promotion (RTP) guidelines to advance undergraduate research | Work with faculty, department chairs, college deans, Academic Senate, and Provost to review and refine extant college RTP documents Review best practices | CUGR-Faculty AVP-Research Department Chairs College Deans Academic Senate Provost | CUGR ongoing progress reports and AVP-R annual reports | Implement within 3 years |

| 2. Further the implementation of a research supportive undergraduate curriculum | Work with faculty, department chairs, and college deans to consider and submit curricular proposals and assess workload implications Review best practices | CUGR AVP-Research Department Chairs College Deans Academic Senate Provost | CUGR ongoing progress reports and AVP-R annual reports | Implement within 5 years |

<p>| 3. Continue to strengthen our research environment and, as a result, enhance our competitiveness for garnering external sources of support for undergraduate research including faculty resources. | Collaborate with University Advancement, President, Provost, College Deans, faculty, and UARSC to develop and implement an action plan Partner with private donors, foundations, industry, and public agencies. | CUGR AVP-Research Advancement President Provost College Deans UARSC | CUGR ongoing progress reports and AVP-R annual reports | Implement within 5 years |</p>
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<tr>
<th>Long Term Goals (5-10 years)</th>
<th>Work with President, Provost, and College Deans to develop and implement a sustainability plan</th>
<th>CUGR AVP-Research President Provost College Deans</th>
<th>CUGR ongoing progress reports and AVP-R annual reports Implement within 10 years</th>
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<tr>
<td>1. Obtain internal resources and administrative support to sustain undergraduate research including support for faculty professional development and research facilities</td>
<td>Collaborate with University Advancement, President, Provost, College Deans, faculty, and UARSC to pursue and secure external/internal funding</td>
<td>CUGR AVP-Research Advancement President Provost College Deans UARSC</td>
<td>CUGR ongoing progress reports and AVP-R annual reports Implement within 8 years Ongoing</td>
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<tr>
<td>2. Increase stipends, travel grants, and fellowships for undergraduate students to conduct faculty-supervised research</td>
<td>Work with University Advancement, President, Provost, College Deans, faculty, and UARSC to pursue and secure external/internal funding for faculty stipends and student support</td>
<td>CUGR AVP-Research Advancement President Provost College Deans UARSC</td>
<td>CUGR ongoing progress reports and AVP-R annual reports Implement within 7 years</td>
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<tr>
<td>3. Enhance summer research programs for undergraduate students to collaborate on faculty-mentored research projects</td>
<td>Work with University Advancement, President, Provost, College Deans, faculty, and UARSC to pursue and secure external/internal funding for faculty stipends and student support</td>
<td>CUGR AVP-Research Advancement President Provost College Deans UARSC</td>
<td>CUGR ongoing progress reports and AVP-R annual reports Implement within 7 years</td>
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**Expectations for CO**

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<th>Collaborate with Chancellor’s Office, COLD, CCRO, and pertinent stakeholders to develop, evaluate, &amp; execute a plan Develop campus and system dialogue Collaborate with Chancellor’s Office to develop, evaluate, &amp; execute a plan</th>
<th>CO COLD CCRO</th>
<th>Regular CSU meetings and progress reports Implement within 2 years</th>
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<tr>
<td>Continue to sustain a CSU undergraduate student journal</td>
<td>CUGR AVP-Research Advancement President Provost College Deans UARSC</td>
<td>CUGR</td>
<td>Regular CSU contact and progress reports Implement within 2-3 years</td>
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<td>Add assessment markers to PeopleSoft for tracking students</td>
<td>CUGR AVP-Research Advancement President Provost College Deans UARSC</td>
<td>CUGR</td>
<td>Regular CSU contact and progress reports Implement within 2-3 years</td>
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