

# MSU INVESTMENT PROPOSAL FOR INSTITUTIONAL PRIORITIES

## PROPOSAL OVERVIEW

<b>Title</b>	Stable Base Funding for the Undergraduate Scholars Program	<b>Request Date</b>	03 January 2012
<b>Department</b>	Undergraduate Scholars (USP)	<b>Email</b>	colin.shaw1@montana.edu
<b>Requestor</b>	Colin Shaw, USP Director	<b>Phone</b>	994-6760

## STRATEGIC ALIGNMENT

<p><b>Core Themes and Objectives (check all that apply)</b></p>	<p><b>Educate Students</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Our graduates will have achieved mastery in their major disciplines</li> <li><input checked="" type="checkbox"/> Our graduates will become active citizens and leaders</li> <li><input checked="" type="checkbox"/> Our graduates will have a multicultural and global perspective</li> <li><input checked="" type="checkbox"/> Our graduates will understand the ways that knowledge &amp; art are created and applied in a variety of disciplines</li> <li><input checked="" type="checkbox"/> Our graduates are prepared for careers in their field</li> <li><input checked="" type="checkbox"/> We will provide increased access to our educational programs</li> <li><input checked="" type="checkbox"/> Communities and external stake holders benefit from broadly defined education partnerships with MSU</li> </ul> <p><b>Create Knowledge and Art</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Students, faculty, and staff will create knowledge and art that is communicated widely</li> </ul> <p><b>Serve Communities</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> We help meet a fundamental need of the citizens of Montana by providing degree programs for our students</li> <li><input checked="" type="checkbox"/> We help meet the educational needs of the citizens of Montana by providing a wide range of educational opportunities to a variety of students</li> <li><input checked="" type="checkbox"/> Our students, faculty, staff, and administrators reach out to engage and serve communities</li> <li><input checked="" type="checkbox"/> Our students, faculty, staff, and administrator reach in to build the university community</li> </ul> <p><b>Integrate Learning, Discovery, and Engagement</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Each graduate will have had experiences that integrate learning, discovery and engagement</li> <li><input checked="" type="checkbox"/> Outreach activities will educate students and address the needs of the communities we serve</li> <li><input checked="" type="checkbox"/> Students, faculty, and staff will create knowledge and art that addresses societal needs</li> <li><input checked="" type="checkbox"/> MSU is a community that will be characterized by synergy within and across disciplines, roles and functions.</li> </ul> <p><b>Stewardship</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> The public trusts the institution to operate openly and use resources wisely</li> <li><input type="checkbox"/> The faculty and staff are well-qualified and supported</li> <li><input checked="" type="checkbox"/> MSU will support Native American students, programs, and communities</li> <li><input checked="" type="checkbox"/> MSU will be an inclusive community, supporting and encouraging diversity</li> <li><input checked="" type="checkbox"/> Our publicly provided resources are used efficiently and effectively</li> <li><input type="checkbox"/> Natural resources are used efficiently and sustainably</li> <li><input type="checkbox"/> MSU nurtures a culture of resource conservation and ecological literacy among students, faculty and staff</li> <li><input type="checkbox"/> Our physical infrastructure (e.g., building, equipment, open spaces) will be well-maintained and useful</li> </ul>
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**INSITUTIONAL BENEFIT**

<b>Campuses</b>	<input checked="" type="checkbox"/> Bozeman <input type="checkbox"/> Billings <input type="checkbox"/> Havre <input type="checkbox"/> Great Falls <input type="checkbox"/> FSTS <input type="checkbox"/> Extension <input type="checkbox"/> MAES
<b>Cross Depts</b>	Please List: <b>All Departments</b>

**TIMEFRAME**

<b>Proposed Dates</b>	Start: 1 March 2012	End: 30 June 2015
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**COST AND REQUIREMENTS**

Funding Type	One-Time (\$)	Multi-Year (\$)			Base (\$)	FTE
		Year 1	Year 2	Year 3		
Personnel (w/benefits)					19,000	0.5*
Materials & Supplies						
Travel						
Contracted Services						
Capital						
Other Operations	50,000				170,000*	
<b>TOTAL</b>	<b>50,000</b>				<b>189,000</b>	0.5

<p>Please comment, if necessary, regarding cost and requirements.</p>	<p>* We request an automatic annual adjustment indexed to enrollment/tuition to allow natural growth in the program.                  ** 0.5 FTE added to existing 0.5 FTE Administrative Associate II position + Progression pay increase for added responsibilities.</p> <p><b>BUDGET EXPLANATION</b></p> <p><b>One-Time-Only (OTO).</b> One-time only funds are requested to provide for the extraordinary increase in the number of student research proposals for FY12 over FY11. The USP FY12 budget (\$235,000) included a 5% increase over total FY11 expenditures. However, the total funding requested in student proposals for FY12 is on track for a 60% increase over FY11. This \$50,000 will fund approximately 40-45 awards and allow us to keep funding rates at an acceptable level (~75%).</p> <p><b>Base Funding – Personnel.</b> We request \$18,000 (salary + benefits) in base funding to increase the FTE of the USP Administrative Associate and provide a progression/reclassification salary step to reflect the substantial increase in workload and responsibilities related to rapid expansion of the program over the past five years.</p> <p><b>Base Funding – Operations.</b> We request \$170,000 in <b>permanent base funding</b> to replace funds that have been raised annually through <i>ad hoc</i> requests to the Deans (\$50k in FY09, \$26k in FY11), EPSCoR (total of nearly \$300k FY06-12) and 'backfill' requests from the Provost's reserve fund (\$92k in FY11). The amount includes a small allowance for growth and would bring the total budget for student awards to nearly \$275,000. Stable base funding will rationalize the USP budgeting process and allow us to make funding decisions based on known resources.</p>
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**PROPOSAL SCOPE**

**Describe the Proposal**

This proposal requests permanent base funding for the Undergraduate Scholars Program. USP embodies one of the core values of MSU by engaging undergraduate students in the research mission of the university. Incredibly, USP does not receive any base funding for student awards. Instead, more than half of the student award budget is funded through annual discretionary contributions from the colleges, EPSCoR and the Provost's reserve. Since 2009 contributions from the colleges have been cut in half and funding from EPSCoR has been eliminated. One-time-only (OTO) 'backfill' funding from the Provost has enabled USP to continue providing grants to students, but this ad hoc model is not sustainable. USP has been caught in the vice between phenomenal growth and scarce resources. Since 2006 the number of fundable USP proposals has nearly tripled. Competing demands for discretionary funds make it increasingly difficult to accommodate growing student numbers. This proposal lays out a plan to rationalize funding for USP and provide for the long-term security and growth of this mission-critical program.

Given the widely recognized value of USP-sponsored research for students (commendation in NWCCU accreditation report, 2010) our mission is to engage as many qualified undergraduates as possible in rigorous and challenging mentored research. To this end, we endeavor to keep the program highly selective, but we try to keep funding rates high enough that the program is accessible to a broad cross-section of students. We set the bar high, but seek to fund as many proposals as possible that meet rigorous standards. USP funding rates have historically been around 85% with about 5-10% funded after revisions and resubmittal. We view the proposal review process as a learning experience and try to give students as much guidance as possible. It is important to maintain a good chance of success as a reward for students that put in the hard work to write a strong proposal. We also think that funding should remain accessible to a board cross-section of students from diverse backgrounds and academic disciplines. To that end we hope to maintain a funding rate of at least 75% (including revised proposals) for the near future.

Maintaining the broad scope and accessibility of USP depends on securing stable base funding. Under the current *ad hoc* funding model it is not clear that we will be able to maintain funding rates at anything close to historic levels. It is impossible to make projections based on a nonexistent budget. A substantial investment of base funds in USP is vital if MSU is to sustain the commitment to undergraduate research that has earned national recognition for the university.

*The USP budget comprises two main components, student programs and staffing/operations*

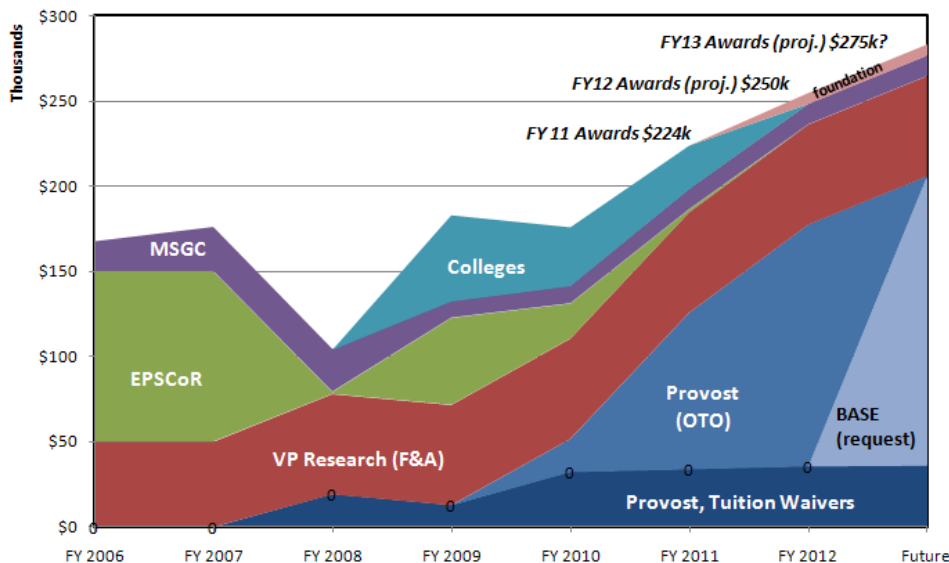
**Student Programs – A New Funding Model.** We propose a new stable funding model that relies on base funding for the majority of USP student awards. Base funding would be indexed to student enrollment and tuition revenue to provide for gradual expansion of the program to accommodate demand. The new model replaces OTO and discretionary funding with base funding while allowing for a small increase. We also request \$50k in OTO funding for FY12 to meet the unexpectedly steep increase in fundable proposals compared to FY11. This \$50,000 request will fund approximately 40 additional projects for spring-summer 2012. We anticipate that the requested FY12 OTO funding and long-term base funding requested here will allow us to keep funding levels above 75%. We argue that funding levels much lower than that would be unnecessarily discouraging for a first exposure to the world of competitive research funding.

<b>Funding Source</b>	<b>FY11</b>	<b>FY12</b>	<b>New Model</b>
Tuition Waivers	\$ 34,000	\$ 36,000	\$ 36,000
VPR (F&A - fixed)	\$ 59,000	\$ 58,800	\$ 58,800
MSGC	\$ 12,000	\$ 12,000	\$ 12,000
Provost reserve	\$ 92,000	\$ 92,000	\$ -
Colleges	\$ 25,500	\$ -	\$ -
OTO (this proposal)	\$ -	\$ <b>50,000</b>	\$ -
Base Funding (this proposal)	\$ -	\$ -	\$ <b>170,000</b>
<b>SUBTOTAL (Student Programs)</b>	<b>\$ 222,500</b>	<b>\$ 248,800</b>	<b>\$ 276,800</b>

**Operations & Staffing.** We request an increase in FTE for the USP Administrative Associate to accommodate the rapidly growing workload. Compared to 2006 the USP Administrative Associate processes nearly three times as many

applications (more than 300 projected for FY12 vs. 98 for FY06) and many more awards which require copious paperwork (140 thus far for FY12 vs. just 91 for the *entire year* in FY06). Additional responsibilities including planning and presenting the student research conference and handling the application process for the INBRE student programs have also grown apace. We request an increase in FTE from 0.5 to 1.0 and a normal progression pay increase for the USP Administrative Associate. The total cost will be \$19,000 including salary and benefits.

**Historical Perspective.** USP operations and staff salary are included in the Academic Affairs base budget. However, student awards currently do not receive any base funding. Instead the director solicits annual or multi-year pledges from a number of units on campus. USP has received reliable support from the Vice President for Research (current commitment \$58,800/year through 2013) and the Provost's office – about \$35,000 in tuition waivers with additional OTO support by request (*Figure 1*). The balance of funding has fluctuated year-to-year (*Figure 1*). From 2006-2010 Montana NSF EPSCoR provided nearly \$300,000 in funding, but USP funding was not included in the EPSCoR renewal proposal. In 2009 each of the seven colleges pledged support from discretionary funds totaling about \$50,000. However, budget constraints have since prompted the deans to cut back or eliminate their contributions. Funding from the colleges in FY11 totaled about \$26k. Based on conversations with the deans I expect this figure to diminish further as competing demands on limited discretionary funds increase. The present challenge is to replace lost funding from EPSCoR and the colleges (~\$80-100k/yr.) and convert support from the Provost from OTO to stable base funding ~\$90k/yr.) This new funding model will provide for the continued growth of the program and ensure that adequate funds are available for future innovation. In FY 2011 the shortfall caused by the loss of EPSCoR funding and reduction in funding from the colleges was covered by a \$92,000 transfer from Academic Affairs.



**Figure 1:** Chart showing historical trends in total funding for USP student programs (projects and travel) and funding sources (colored areas). F&A funding provided through the office of the Vice President for Research has remained stable. EPSCoR funding was sharply reduced after 2007 and eliminated entirely in 2010. Carryover amounts are **not** plotted. Income from foundation account is shown. Projected funding for 2012 & later assumes a steady increase over FY 2011 expenditures.

## PROPOSAL SCOPE

### Describe the broader impacts and benefits of this proposal

**A Record of Success.** The Undergraduate Scholars Program (USP) is the largest and broadest research program for undergraduates at MSU. Last year we funded over 180 student research projects and 13 travel grants in more than 40 departments across campus. Nearly 250 undergraduate and graduate students showcased their work at our 2011 Student Research Celebration and many of our students presented their work at national and international conferences. USP along with several more narrowly focused programs manifest the university's "demonstrated commitment" to undergraduate research that earned MSU one of four commendations in the *2009 NWCCU Accreditation Report*. The hands-on research that USP facilitates defines the MSU experience for many of our best students. Nearly all of the recent MSU recipients of Goldwater and Rhodes scholarships, Fulbright and NSF fellowships and other prestigious academic awards are USP alumni and many of these students cite USP as a central factor in their success. Each year we receive emails from former students reporting on the publication of their USP

research in peer-reviewed journals or crediting their USP experience as a central factor in winning admission to competitive graduate programs.

**Contribution to University Priorities.** USP is a cornerstone of the MSU undergraduate research experience. USP is the largest and most diverse program offering genuine faculty-mentored undergraduate research experiences. Faculty-mentored undergraduate research enhances the frequency and quality of faculty/student interactions, builds collegial peer networks among students engaged in research, demonstrates the relevance of knowledge gained in coursework, and integrates students into the campus culture of research. All of these benefits are identified by the *American Association of Colleges and Universities* LEAP project as high impact strategies for student success (<http://www.aacu.org/leap/hip.cfm>). Involvement in undergraduate research is a leading factor in retention and post-graduation achievement (Gregerman, 2010; Astin, 1997; Kuh, 2005; Pascarella and Terenzini, 2005; Kenny et al. 2001). MSU's commitment to *"integrating learning, discovery and engagement"* (Mission Statement, 2011) is exemplified in our recognized excellence in undergraduate research. Continued leadership in this area demands continued innovation and investment.

### REFERENCES CITED

- Astin, A.W., 1997, *What Matters in College?: four Critical Years Revisited*: New York, Jossey-Bass, 512 p.
- Gregerman, S.R., 2010, *The Role of Undergraduate Research in Student Retention, Academic Engagement, and the Pursuit of Graduate Education, Promising Practices in STEM Education*, National Academy of Sciences, p. 9.
- Kenny, S.S., Alberts, B., Booth, W.C., Glaser, M., Glassick, C.E., Ikenberry, S.O., Jamieson, K.H., O'Neil, R.M., Reid-Wallace, C., Tien, C.-L., and Yang, C.N., 2001, *Reinventing Undergraduate Education: A Blueprint for America's Research Universities*, Boyer Commission Report on Educating Undergraduates in the Research University., Stony Brook, p. 46.
- Kuh, G.D., 2005, *Student Success in College: Creating Conditions That Matter*, Jossey-Bass.
- Nagda, B.A., Gregerman, S.R., Jonides, J., von Hippel, W., and Lerner, J.S., 1998, Undergraduate student-faculty research partnerships affect student retention: *REVIEW OF HIGHER EDUCATION*, v. 22, p. 55-55.
- NWCCU, 2009, *A Full-Scale Evaluation Committee Report: Montana State University - Bozeman*, Northwest Commission on Colleges and Universities, p. 41.
- Pascarella, E.T., and Terenzini, P.T., 2005, *How College Affects Students (Volume 2): A Third Decade of Research*, Jossey Bass.

### ADDITIONAL INFORMATION

#### Implementation Plan *(Please describe with timelines)*



USP is an ongoing program. Implementation will be immediate. OTO funds from this proposal will be disbursed in spring/summer 2012. Base funding request is for FY13.

#### Assessment Plan *(Please describe with indicators)*

USP is currently implementing a campus-wide database that will be used to track student results and monitor outcomes. This system will be used for tracking and analysis of student success for USP and other participating undergraduate research programs. Benchmarks will be broader undergraduate population.

#### If assessed objectives are not met in the timeframe outlined, what is the plan to sunset this proposal?

The program has years of demonstrated success and it is unlikely that it will not meet objectives. However, if assessed objectives are not met, funding would end and the program would be mothballed.

SIGNATURES		
<b>Department Head</b> <i>(please print)</i>	<b>Signature</b> <i>(required)</i>	<b>Date</b>
Colin Shaw		12.07.2011
<b>Dept Head Priority</b> <i>(please circle one)</i> : <u>Very High</u> Medium Low Very Low		
<b>Dean/Director</b> <i>(please print)</i>	<b>Signature</b> <i>(required)</i>	<b>Date</b>
		
<b>Dean/Director Priority</b> <i>(please circle one)</i> : <b>Very High</b> High Medium Low Very Low		
<b>Executive/VP</b> <i>(please print)</i>	<b>Signatures</b> <i>(required)</i>	<b>Date</b>
<b>Executive/VP Priority</b> <i>(please circle one)</i> : Very High High Medium Low Very Low		