

2014 Budget Form – President’s Performance Fund

New Mexico State University
 New Initiatives Supporting Vision 2020 Goals and Objectives
 For Allocation of President’s Performance Fund – Fiscal Year 2013-2014

Date of Request:	September 10, 2013	
Submitted By:	Patricia Sullivan/Anthony Hyde/Luke Nogales	Phone: 575/646-2913
College or Unit:	College of Engineering	
Department:	Engineering New Mexico Resource Network	
Project Name: (Short description): Aggie Innovation Space		
<input type="checkbox"/>	Recurring for:	Amount Recurring Funding Requested per year:
	<input type="checkbox"/> One Year	Year 1: \$
	<input type="checkbox"/> Two Years	Year 2: \$
	<input type="checkbox"/> Three Years	Year 3: \$
<input checked="" type="checkbox"/>	Non-Recurring	Amount Non-Recurring Funding Requested: \$ 50,000
Description of request		
<p>The College of Engineering is collaborating with NMSU Arrowhead Center to nurture a new era of innovation and entrepreneurship among the faculty, staff and students by creating an environment (physical space) where they can brainstorm effectively, access tools for low-resolution prototypes, create innovative technologies, and create/deliver/support activities in associated educational programs. While digital design and prototype fabrication tools may be within reach of some, a much greater need exists to provide a physical space for the upstream activities that is accessible to faculty, staff and students beyond a specific class or research effort.</p> <p>The <i>Engineering New Mexico Resource Network</i> within the College of Engineering is leading an effort to create a learning environment that will foster innovation, creativity, and entrepreneurship through the creation of the <i>Aggie Innovation Space</i>, to be located in the Foreman Engineering Complex. Commonly referred to as <i>maker spaces</i>, these learning environments are rich with possibilities and are emerging in university settings across the country where they serve as gathering points for new and experienced <i>makers</i> to connect and work on real and personally meaningful projects. Through engagement with well-versed mentors, these spaces promote the use of new technologies and encourage individuals to discover new applications for traditional tools (equipment, software, etc.).</p> <p>Following <i>Best Practices</i> for similar facilities at universities across the country, actual site visits to Stanford University’s renowned d.center and Tech Shops in the Bay Area, and discussions with Scott Witthoft (director of Stanford University’s Environments Collaborative and author of <i>Make Space</i> - a guide developed to help people intentionally manipulate physical space to ignite creativity), the <i>Aggie Innovation Space</i> is being designed to support the unique multi-cultural entrepreneurial demographic of southern New Mexico. Specifically, the space is being designed to incorporate novel and non-obvious strategies for changing surroundings specifically to enhance the ways in which teams and individuals communicate, work, play, and innovate.</p> <p>Programmatic Key Performance Indicators are aligned with and contribute to the Vision 2020 Strategic Plan as follows:</p> <ol style="list-style-type: none"> 1. Contribute to retention and timely graduation by engaging engineering students in exciting hands-on projects and programming that keep students interested in their major and 		

help them discover their personal passion for learning. This space will strongly align with the proposed ENGR 101 freshman design experience currently under development by the College of Engineering. Exposing entering freshman to the space will build academic confidence, hands-on skills, and effective team building as they work through their respective degree programs.

2. Supports **globalization** by exposing students to the global application of technologies and product design that can be nurtured through access to facilities and personnel available within the **Aggie Innovation Space**. Collaborations with NMSU Arrowhead Center will be leveraged to expose faculty, staff and students to global market opportunities as well as provide guidance in global intellectual property requirements. In addition, the **Halliburton Foundation has provided \$15k** to support a career development program that exposes students to global issues facing engineering careers. The program will complement globalization activities within the **Aggie Innovation Space**.
3. Contribute to the **Community Service, Extension and Outreach** by providing a venue for short courses, workshops, and hands-on learning for non-NMSU stakeholders; i.e. businesses, entrepreneurs, middle and high school teachers and students, etc.
4. Contribute to **Research and Creative Activity** by promoting discovery, encouraging innovation, sparking economic advancement, and inspiring creative achievement.
5. Contribute to the **Economic Development** goal by fostering innovation and entrepreneurship for business creation and expansion. Nurtured faculty, staff and student projects will be encouraged to transition to the NMSU Arrowhead Center Launch and Studio G programs, which focus specifically on successful transition to a new business start-up. Relevant workshops and short course offerings will be made available to external stakeholders, with an anticipated outcome of ensuring NMSU is recognized as the “go to” place for discovery, innovation and entrepreneurship.
6. Support **Resource Stewardship** by engaging financial and advisory support from alumni partners, providing opportunities for philanthropic giving that supports innovation and entrepreneurship, and providing for opportunities to further engage corporate partnerships. To date, the **Halliburton Foundation has provided \$10k** to support professional development for faculty who are engaged in educational programming associated with the **Aggie Innovation Space** as a means of ensuring that students are exposed to innovative and highly engaging strategies in a hands-on learning environment. In addition, discussions are underway with Intel and several NMSU alumni to partner in an expansion of the physical space to include hallway displays of corporate innovation, mentorship for faculty, staff and students, and assist in development and delivery of relevant and timely professional development short course and workshop offerings.

In order to ensure sustainability of the new **Aggie Innovation Space**, an *Operations Plan* is being developed that will address staffing, educational programming, scheduling of the equipment/space, and a sustainable plan for acquisition of materials, supplies and equipment. The **Aggie Innovation Space** will become an extension of M-TEC for management purposes, with a smaller satellite sister space at NMSU Arrowhead Center. A multi-disciplinary advisory group is being established to ensure that educational programming, equipment and use of space supports multi-disciplinary functions (see attached).

To date, engineering student organizations are actively using the new space as a gathering site for project planning meetings for capstone projects, class brainstorming, and engineering competitions (mini-baja, steel bridge, etc.). It is anticipated that the **Aggie Innovation Space** will become a

popular gathering site for students who simply want to get together to invent and exercise their ideas in a creative and nurturing environment.

In addition, engineering faculty have expressed willingness to hold office hours in the *Aggie Innovation Space* so that they can be on-hand to mentor students. Faculty are also interested in creating a venue for “Pop-up” classes on a variety of topics. Such classes would be informal, non-credit 1-2 hour sessions that simply allow faculty to present a topic on short notice (1-week) that would support innovation and entrepreneurship. Programming and the development of a mobile app are two such “Pop-up” courses being discussed as possible offerings this fall.

A one-time funding request of \$50k will support immediate acquisition of equipment and basic facility materials and supplies to support quality educational programming and program sustainability.

Equipment proposed for acquisition under the requested funds include:

Description	Qty	Unit Price	Total
3-D printers (Aggie Innovation Space and Arrowhead Center)	4	\$ 2,800.00	\$ 11,200.00
Lego robotic sets	10	\$ 250.00	\$ 2,500.00
Drill Press	1	\$ 500.00	\$ 500.00
Electronics testing station	1	\$ 2,500.00	\$ 2,500.00
Laser cutter	1	\$ 5,000.00	\$ 5,000.00
3-D scanner	1	\$ 5,000.00	\$ 5,000.00
Basic hand-tools and shop supplies (Drills, soldering irons, screw drivers, pliers, tool boxes, safety glasses, nuts, bolts, screws, etc.)		\$ 5,000.00	\$ 5,000.00
Basic art/craft/design materials and supplies		\$ 2,700.00	\$ 2,700.00
Stackable chairs	40	\$ 40.00	\$ 1,600.00
Folding tables	10	\$ 75.00	\$ 750.00
Inventory Vending Machine (returnable and consumable items)	2	\$ 5,000.00	\$ 10,000.00
PLA plastic materials for 3-D printers		\$ 3,000.00	\$ 3,000.00
Projector	1	\$ 250.00	\$ 250.00
TOTAL			\$ 50,000.00

The physical space has been reassigned to the Engineering New Mexico Resource Network for program oversight and an operations management plan is being developed by M-TEC. Anticipated facility considerations include:

1. Installation of eye-wash station (if applicable)

The College of Engineering has acquired six (6) new computers for use in the *Aggie Innovation Space* and will be allocating software seats for all relevant engineering disciplines (Solid works, Team Center Design, NX, etc.). In addition, an existing research engineer will be reassigned part time to staff the facility, ensure equipment/facility operational safety, and provide technical assistance to faculty, staff and students who use the facility.

2014 Budget Form – President’s Performance Fund

Request Justification	
Support Vision 2020 Goals (select as many Vision 2020 goals as apply below).	
<input checked="" type="checkbox"/>	1. Graduation – Teaching, Learning & Programs - <i>Provide effective academic programs, stellar teaching and learning, and enhanced student engagement to advance highly capable graduates</i>
<input type="checkbox"/>	2. Diversity – <i>Be a model of student, faculty and staff diversity at all levels</i>
<input checked="" type="checkbox"/>	3. Internationalization - <i>Effectively prepare students for a global society</i>
<input checked="" type="checkbox"/>	4. Research & Creative Activity-- <i>Be the catalyst for promoting discovery, encouraging innovation, sparking economic advancement, and inspiring creative achievement</i>
<input checked="" type="checkbox"/>	5. Economic Development -- <i>Be a driving force for economic progress in New Mexico</i>
<input checked="" type="checkbox"/>	6. Resource Stewardship -- <i>Increase philanthropy and alternative revenue to support teaching, research and service</i>
<input checked="" type="checkbox"/>	7. Community - Service, Extension & Outreach -- <i>Be a model for community engagement at all levels through innovative and exceptional outreach activity</i>
<input type="checkbox"/>	Specific objectives: (Complete attached Performance Data Matrix)

2014 Budget Form – President's Performance Fund

Approvals (please print and sign)			
Submitted by	<u>Anthony Hyde</u> Print	X <u><i>Anthony Hyde</i></u> Signature	<u>9/30/13</u> Date
	<u>Luke Nogales</u> Print	X <u><i>[Signature]</i></u> Signature	<u>9/30/13</u> Date
Director/ Department Approval	<u>Patricia Sullivan</u> Print	<u><i>Patricia Sullivan</i></u> Signature	<u>9/30/13</u> Date
College Dean/ Division VP Approval	<u>RB Jaeger</u> Print	<u><i>RB Jaeger</i></u> Signature	<u>9/30/13</u> Date
Internal Use Only			
University Budget Committee:	Tier Assignment:	<input type="checkbox"/> Tier I <input checked="" type="checkbox"/> Tier II <input type="checkbox"/> Tier III	
	Ranking No.:	_____	Date: _____
Comments:			
President's Academic Council:	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved	Date:	_____
Comments:			

2014 Budget Form – President's Performance Fund, supplement

**New Mexico State University
New Initiatives Supporting Vision 2020 Goals and Objectives
Performance Data Matrix
Fiscal Year 2013 - 2014**

The Vision 2020 Strategic Plan provides goals, objectives and key performance indicators for the University. Using the goal(s) you have check marked on the request form, please indicate which of the stated objectives this request is projected to positively impact, how the request is tied to the selected objective and propose a performance measure(s). Then indicate the target performance improvement goals over an annual timeline not to exceed three (3) years. Add rows as needed.

All Presidents' Performance Fund awards are subject to annual review of comparative performance as a condition of continuing award. The required conditions of continuing funding will be identified at the time of award from the President's Performance Fund.

Goal Number	Vision 2020 Objective	Explain how request is tied to this objective	Performance Measure	FY2013-2014 Target	FY2014-2015 Target (if applicable)	FY 2015-2016 Target (if applicable)
Graduation	1 - Provide a learning environment and course offerings supportive of timely degree completion.	Engaged students have been known to retain a stronger interest in their major, thus transitioning to graduation in a timelier manner. The Aggie Innovation Space is designed specifically to create an environment where students can gather to foster innovation, creativity, and entrepreneurship in an engaged and meaningful manner.	1. Enrollment 4. Degrees and Certificates	150 students actively using the Aggie Innovation Space Align space use with proposed ENGR101 design course currently under development for fall 2014	n/a	n/a
	2 – Provide strong academic programs through continuous innovation and evaluation.	Engage students in exciting hands-on projects and educational programming that helps them discover their personal passion for learning. Focused programs are proposed to complement existing curriculums and/or enhance student learning.	1. Enrollment 4. Degrees and Certificates	10 workshops that complement existing curriculum and/or enhance student learning through hands-on strategies that foster innovation	n/a	n/a
	3 – Recruit students and support retention through financial, curricular, and wellness programs.	The Aggie Innovation Space is anticipated to be a showcase gathering for both existing and potential students.	1. Enrollment	Engage a minimum of 500 high school and/or middle school students in hands/on activities that support interest in pursuing a degree in engineering	n/a	n/a

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<p>Internationalization</p>	<p>4 – Provide globally focused academic programs, curriculum, and learning opportunities to enhance student preparedness.</p>	<p>The Aggie Innovation Space will expose students to global application of technology and product design. Collaborations with NMSU Arrowhead Center and funding will be leveraged regarding global markets and intellectual property topics.</p>	<p>8. Globalization Activity</p>	<p>Enhance and/or develop academic programs and/or learning opportunities to enhance student global preparedness</p>	<p>n/a</p>
<p>Community Service, Extension and Outreach</p>	<p>1 – Showcase, market, and garner recognition for NMSU’s strong programs and achievements among potential students, faculty and staff, current students, alumni, donors, legislators, and accrediting bodies</p>	<p>Provide a physical venue for faculty, staff and students to create an environment where they can brainstorm, access tools for low-resolution prototypes, create innovative technologies, and create/deliver/support activities associated educational programming.</p> <p>The venue is anticipated to be a showcase facility to recognize the advanced curriculum development being developed within the engineering curriculum at NMSU</p>	<p>9. Service, Extension and Outreach Activity</p>	<p>Develop a robust communications plan to showcase the activities taking place within the Aggie Innovation Space. Partnerships with NMSU Arrowhead Center and other campus partners will be leveraged where applicable to highlight the multidisciplinary nature of innovation and entrepreneurship. Efforts will showcase NMSU as the “go to” place for innovation, entrepreneurship and discovery</p>	<p>n/a</p>
<p>Community Service, Extension and Outreach</p>	<p>2- Recognize and reward high quality achievements and encourage community outreach efforts</p>	<p>Provide a physical venue for short courses, workshops, and hands-on learning for key stakeholders; businesses, entrepreneurs, and middle and high school teachers and students.</p>	<p>9. Service, Extension and Outreach Activity</p>	<p>5 workshops/short courses for non-NMSU entities 2 workshops for middle and/or high school teachers 3 workshops for middle and/or high school teachers</p>	<p>n/a</p>

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Economic Development	2-Educate a diverse, internationally competitive, and qualified, and entrepreneurial workforce	The Aggie Innovation Space is specifically designed to expand the educational experience (breadth and depth) of students at NMSU. The physical space supports development of a qualified, competitive and entrepreneurial workforce	14. Workforce Development	Establish baseline number of students by disciplines that utilize the space. Future targets will focus on improving the baseline number. Develop process to track participating students career progression (internships, co-op, and permanent hire)	n/a	n/a
Economic Development	3 – Transition the discoveries and innovations of NMSU researchers into the marketplace 4 – Employ the resources of NMSU to attract and retain a diversified pool of commercial partners and industries	Expand existing partnership with NMSU Arrowhead Center to effectively transition projects into the market place through Launch and Studio G programs. Establish new and build on existing partnerships to leverage programmatic delivery and implementation. The College of Engineering has a robust corporate partnership that will be networked alongside the Aggie Innovation Space to ensure stakeholders or provided maximum access for assistance.	13. Business Development	Track number of projects that transition into Launch and Studio G programs as business start-ups or incubators	n/a	n/a
Economic Development			13. Business Development 14. Workforce Development	Engage 5 new corporate partners Expand relationships with 5 existing partners in collaboration with NMSU Arrowhead Center, NMSBA, and NM MEP programs	n/a	n/a
Resource Stewardship	Program supports all objectives	The Aggie Innovation Space strongly supports all Resource Stewardship objectives and KPIs. Alumni and corporate partners will be leveraged to maximize personnel and financial resources, maximize instructional investment, as well as provide an opportunity to attract philanthropic gifts to support sustainability of the facility.				