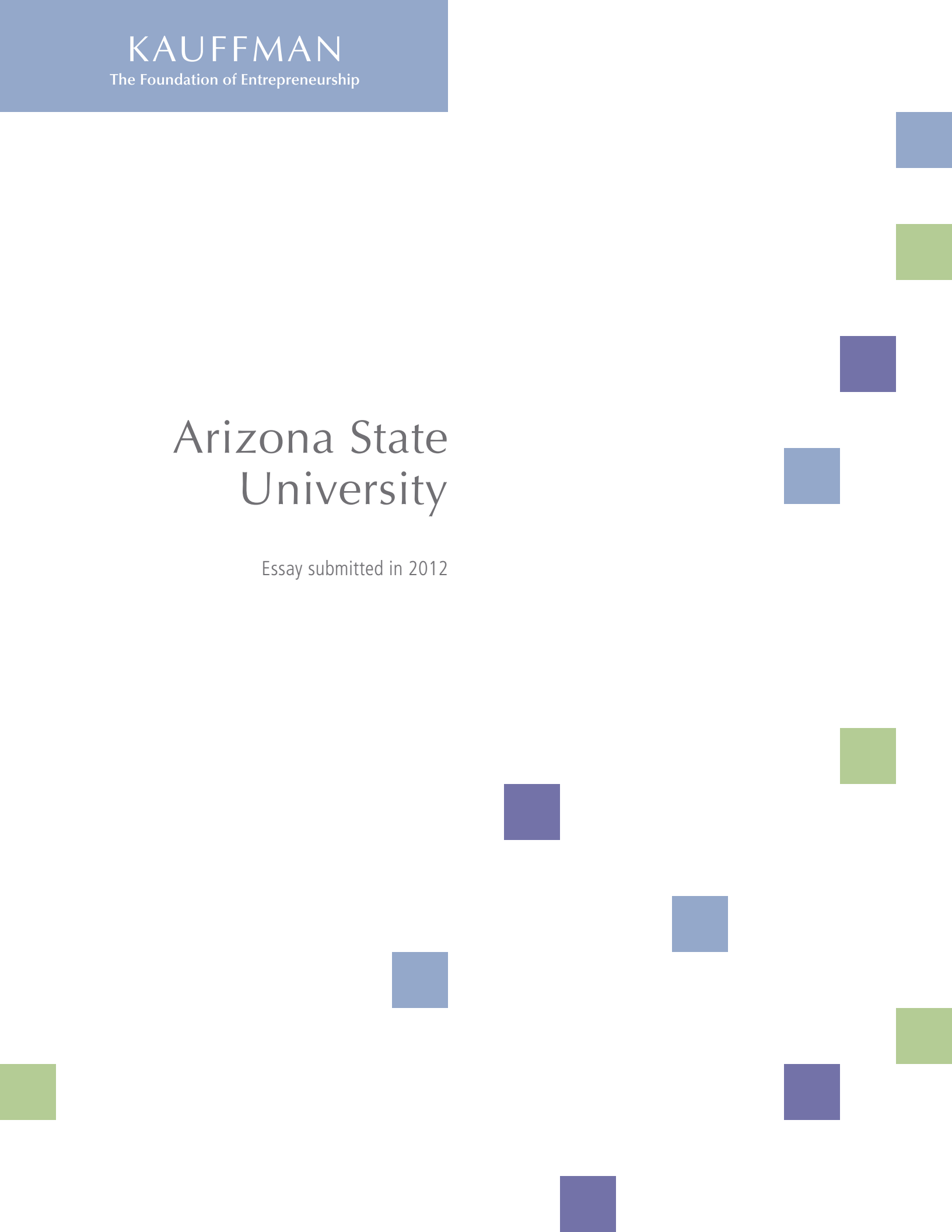


# Arizona State University

Essay submitted in 2012



## **Arizona State University as a Kauffman Campus, 2007-2011**

Over the last decade, Arizona State University has undergone a radical transformation to become what its president Michael Crow calls “a New American University.” With 72,000 students on four campuses in the Phoenix metropolitan area, ASU is a big place in a fast growing city. With 60,000 students on its Tempe campus, it is the largest public university campus in the country. So, this radical transformation affects not only ASU and Phoenix, but potentially the entire country.

The vision of a New American University encompasses excellence, access and impact – excellence of faculty and students, access for students and communities, and impact with communities and the region. To reach these goals, ASU embraces eight design aspirations: 1) leveraging place; 2) transforming society; 3) valuing entrepreneurship; 4) conducting use-inspired research; 5) enabling student success; 6) fusing intellectual disciplines; 7) being socially embedded; 8) engaging globally. This essay will focus on how ASU values entrepreneurship.

In 2006, ASU was named a Kauffman Campus by the Ewing Marion Kauffman Foundation of Kansas City. While ASU was not new to entrepreneurship, the designation, and more importantly, the partnership with the Kauffman Foundation, instantly created more visibility of entrepreneurship on campus and provided a spark for interdisciplinary entrepreneurship amongst ASU’s colleges.

To promote cross-campus entrepreneurship and to really change the way students at ASU could experience entrepreneurship, ASU pursued a unique approach: non-centralized, interdisciplinary, embedded. Because of the university’s size and rapid change (significant numbers of new schools, departments and centers were being created<sup>1</sup>), ASU opted not to create a single center of entrepreneurship, believing that a dozen mini power centers could have more effect at the large university rather than one single center. ASU’s new interdisciplinary schools, from the School of Human Evolution and Social Change and the School of Social Transformation, to the School of Arts, Media and Engineering and the College of Technology and Innovation, provided a backdrop for entrepreneurship to move from one discipline to another and to be enmeshed amongst multiple disciplines. And efforts to transform the culture of ASU through, for example, the university’s mission statement, courses for freshmen and pervasive communications, provided a means to embed entrepreneurship as a value that students could embrace.

Before ASU settled on this approach, an open call for ideas was made to a select group of faculty (100 ideas were received), a series of focus groups were conducted with students and faculty from a multitude of disciplines, and a random sample survey of all ASU students, faculty and staff was taken. The open call for ideas showed us that faculty had a broad view of entrepreneurship. The focus groups told us that there was some interest but not a lot of knowledge of entrepreneurship amongst students and faculty. The survey also illustrated interest but not engagement in entrepreneurship at ASU.

So ASU undertook an approach that could be non-centralized, interdisciplinary and embedded, but also experimental. Investments would be made in programs and leaders across the university, with an

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<sup>1</sup> Macilwain, Colin, “The Arizona Experiment”, *Nature*, Vol. 446, Issue 26, April 2007.

expectation that some of those investments would pan out and some would not. ASU planned to evolve the focus of university-wide entrepreneurship efforts as things evolved. The primary lessons learned, with examples, include the following:

**Lesson 1: Embed entrepreneurship in the mission of the university in order to create cultural change.**

Because entrepreneurship is what ASU considers a design aspiration, it filters into many core parts of the university.

- In promotion and tenure, one criteria is how faculty help their academic unit to meet its strategic plan. Units' strategic plans are tied to the design aspirations, so there is a natural connection to entrepreneurship. For the Fulton Schools of Engineering, entrepreneurship is now an explicit factor in promotion and tenure as well as hiring.
- All colleges and schools at ASU as well as major administrative units have a poster of ASU's New American University design aspirations hanging on their wall. "Value Entrepreneurship" is seen every day by thousands of faculty, staff and students.<sup>2</sup>

**Lesson 2: Embed entrepreneurship in university and presidential communications to create consistency, access and understanding.**

- Entrepreneurship is now a major section in ASU's annual report.<sup>3</sup>
- ASU president Michael Crow regularly speaks about entrepreneurship to students, faculty and staff as well as community members, companies and governments.<sup>4</sup>

**Lesson 3: Embed entrepreneurship not only in multiple disciplines, but across the curriculum.**

- ASU students can find entrepreneurship embedded in the graduate curriculum in journalism, the nursing program, and the arts. Students can take courses in law, business, design, engineering and technology.<sup>5</sup> Certificates, minors and majors are offered.<sup>6</sup>
- ASU 101, a mandatory course for ASU's freshman class of 10,000, introduces students to entrepreneurship opportunities at ASU.

**Lesson 4: Embed entrepreneurship in students' co-curriculum through the creation of a pipeline.**

Entrepreneurship is a part of ASU's recruiting materials for high school students, freshmen hear about entrepreneurship in ASU 101, any student can walk into Changemaker Central (a physical place on each of ASU's four campuses for students to connect with entrepreneurship), any student, faculty, staff or community member can post their ideas through 10,000 solutions<sup>7</sup> (an online platform to connect), the

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<sup>2</sup> [http://ui.asu.edu/admin/wp-content/uploads/2010/07/ASU\\_Design\\_Aspirations\\_121508.pdf](http://ui.asu.edu/admin/wp-content/uploads/2010/07/ASU_Design_Aspirations_121508.pdf)

<sup>3</sup> <http://annualreport.asu.edu/knowledge-enterprise/>

<sup>4</sup> Most recently, in January 2012, [http://president.asu.edu/sites/default/files/KeynoteE\\_EnterpriseEmail.pdf](http://president.asu.edu/sites/default/files/KeynoteE_EnterpriseEmail.pdf)

<sup>5</sup> <http://entrepreneurship.asu.edu/degrees-classes/entrepreneurship-classes>

<sup>6</sup> <http://entrepreneurship.asu.edu/degrees-classes/degrees-certificates>

<sup>7</sup> <http://10000solutions.org/>

ASU Innovation Challenge<sup>8</sup> is open to students from any major, the Edson Student Entrepreneurship Initiative<sup>9</sup> awards up to \$20,000 to student teams to advance their venture, and at ASU SkySong<sup>10</sup> and through the Venture Catalyst<sup>11</sup>, there are a myriad of opportunities for students, faculty, staff and community members to grow their companies.

ASU has made significant, sustainable, institution-changing progress in its entrepreneurship efforts during the last five years. The progress has been significant because entrepreneurship is now a major theme on campus. It is sustainable because entrepreneurship is now embedded at ASU. And it is institution-changing because we now make decisions based upon our approach to entrepreneurship. However, there is still work to be done. ASU lacks a single point of contact for faculty and staff. Students can connect with entrepreneurship through a single point, Changemaker Central, but for faculty and staff, there are many contact options, which can sometimes be confusing. ASU lacks major new resources to advance its entrepreneurship goals. Existing programs can be sustained, but not easily scaled, or reach new audiences, without new resources. ASU lacks broad faculty expertise. There are certainly a few committed, knowledgeable faculty, but not enough given the size of the university.

ASU's ability to embed entrepreneurship so broadly, deeply and quickly can be a lesson for other higher education institutions. Every university is different and their approach should be different, but the fact that the country's largest university can change should inspire others and should provide an example for others to learn from.

Summary written for the Ewing Marion Kauffman Foundation

by Kimberly de los Santos, February 2012

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<sup>8</sup> <http://innovationchallenge.asu.edu/>

<sup>9</sup> <http://studentventures.asu.edu/>

<sup>10</sup> <http://skysong.asu.edu/>

<sup>11</sup> <http://asuventurecatalyst.org/p/>

## **ENTREPRENEURSHIP AND THE SHAPING OF A NEW AMERICAN UNIVERSITY**

Kimberly de los Santos, Associate Vice President and Executive  
Director of University Initiatives

Margaret Burch, Director of Evaluation and Budget for  
Entrepreneurship

Samantha Miller, 2009-2010 University Innovation Fellow

### **The knowledge entrepreneurs of a New American University**

*To establish ASU as the model for the New American University,  
measured not by who we exclude, but rather by who we include;  
pursuing research and discovery that benefits the public good;  
assuming major responsibility for the economic, social and cultural  
vitality and health and well-being of the community.*

*-Arizona State University's vision statement*

A New American University is an academic enterprise. What does an academic enterprise do? It actualizes the spirit of creative risk-taking through which knowledge is brought to scale to spur social development and economic competitiveness. To remain on the edge of newness, it perpetually reinvents itself to create value. Within a competitive arena, it is an essential player as it drives ecologies of innovation. An enterprise requires bold and daring actions undertaken by stakeholders who are not satisfied with routine and despise inertia. The willingness to accept things as they are destroys an enterprise and stakeholders with an entrepreneurial spirit are necessary for it to succeed. These characteristics of an academic enterprise are evident at Arizona State University.

As a comprehensive knowledge-based enterprise, a New American University adds value by producing knowledge capital, including goods and services, and, most importantly, human capital. Through learning and discovery, the faculty, staff and students at ASU improve their own understanding of the world. Using this knowledge, they also generate and implement solutions to modern-day challenges. Armed with the entrepreneurial mindset cultivated at ASU, students launch their own innovative ventures, such as KVZ Sports, which specializes in custom branded products for snow sports; Vantage Realized, a company that aims to be the leading provider of quality-of-life products for people with disabilities; and Blogic, a site matching technology company that an ASU alumnus recently sold to Jobing.com.

The Kauffman Campus Initiative, an effort by the Ewing Marion Kauffman Foundation to institute cross-campus entrepreneurship at universities, came at an opportune time for ASU. ASU's president since 2002, Michael Crow, was pushing the university to be an "enterprise" rather than an "agency," and included "knowledge entrepreneurship" in the design aspirations for ASU as a New American University.

Because faculty and staff are committed to student learning and success at ASU, they embraced the Kauffman Campuses Initiative. They recognize that students must be entrepreneurial to achieve their goals, have an impact and prosper in today's economy. The words of Janel White-Taylor, an assistant professor in the Mary Lou Fulton Teacher's College, express the sentiments of many at ASU.

*“Especially in today's economy and today's time, being in one job for the rest of your life is just not really feasible. You're going to constantly have to morph and to change, and if you can look at something entrepreneurially and solve a problem with a viable solution, then that brings you one step ahead of the game, and it helps really bring our country to the forefront and do things that are going to keep us leaders.”*

Through its partnership with the Kauffman Foundation, ASU demonstrated the role of entrepreneurship in a New American University, where entrepreneurship is more than start-up companies; it is embedded into the very fabric of the institution. Entrepreneurship at ASU includes valuing entrepreneurship, making it a part of the institutional culture, spreading entrepreneurial opportunities across the campus, increasing awareness of the benefits of entrepreneurship and encouraging innovative thinking. Under the umbrella of the Kauffman Campuses Initiative, ASU infused entrepreneurship into the institutional mission, created a new institutional identity through communications, suffused entrepreneurship throughout the curriculum and created a pipeline of co-curricular programs that support entrepreneurial students.

The approach of ASU's faculty and staff was experimental and unique. It was a process of continuous evolution and included the acceptance of failure. However, ASU is now positioned at the forefront of entrepreneurship education in higher education; and the faculty, students and staff continue their efforts. As awareness of the achievements of ASU's faculty, students and staff grows, more visitors come to ASU to learn about entrepreneurship. When they experience the infectious energy and enthusiasm at ASU, they often leave inspired and advocates of the New American University model.

## **ASU's Approach: Create an Entrepreneurial Portfolio**

*"(Entrepreneurship is) a mainstay of our culture. We need to innovate, think outside traditional educational models. By infusing entrepreneurial concepts and spirit throughout the university, we are taking risks and improving higher education."*

*-Amy Hillman, executive dean, W.P. Carey  
School of Business*

The Kauffman Campus Initiative at Arizona State University reflects the design of a New American University. From the beginning, the energy and enthusiasm for the KCI was evident at Arizona State University. The proposal team embraced the Kauffman Campus Initiative's goal of changing the way students learn about and experience entrepreneurship in higher education. With this goal in mind, ASU decided to make entrepreneurship a value embedded in the culture of ASU. Believing this could not happen using a single center or institute for entrepreneurship, ASU established multiple programs in colleges, schools and departments across the university.

The energy and enthusiasm was found initially within the members of the proposal team and eventually within all who engaged in the initiative. It stemmed from the recognition of the alignment of the Kauffman Campuses Initiative with a New American University. The goal of the KCI was to change how students experience and learn about entrepreneurship in higher education. Similarly, as part of a New American University, faculty and staff at ASU set out to change the student learning experience at the university, emphasizing the education a student leaves ASU with rather than the education they come to ASU with, while maintaining a commitment to excellence, access and impact.

By accepting ASU into the KCI, the Kauffman Foundation was enabling ASU to demonstrate the role of entrepreneurship within a New American University, thus helping to fulfill ASU's goal to be a model for a New American University. The design aspirations for a New American University were even revised to include "Value entrepreneurship." Entrepreneurship at ASU was intentionally not confined to the customary disciplinary silos often found within institutions of higher education. Faculty and staff wanted to create entrepreneurship programs that were interdisciplinary, accessible and embedded, but had few precedents to draw from. Additionally, interest in entrepreneurship did not mean there was an expertise in entrepreneurship. This created some challenges in program implementation and sustainability, but ultimately opened up the university wider than it would have been in terms of experiencing entrepreneurship.

Acknowledging the untested nature of our approach, the original twelve leaders of the initiative launched several experimental projects in the College of Nursing and Health Innovation, College of Liberal Arts and Sciences, Walter Cronkite School of Journalism and Mass Communication, Herberger Institute for Design and the Arts, W.P. Carey School of Business and at ASU SkySong.

Through additional funding given to faculty and staff through the Pathways to Entrepreneurship Grants program, the Sandra Day O'Connor College of Law, College of Technology and Innovation, Mary Lou Fulton Teacher's College, Fulton Schools of Engineering and the New College of Interdisciplinary Arts and Sciences were soon added to the list.

The early years of the KCI comprised the greatest risks. Faculty who showed interest and some capability received small grants to explore their entrepreneurial ideas. Some of these panned out and some did not. For example, an effort to demonstrate new ways for entrepreneurs to tell their stories lasted only one year. Another project to create an interdisciplinary capstone course open to both business and software engineering students was discontinued. The reasons for a program not surviving are diverse, including department reorganizations, faculty leaving ASU, lack of alternate funding and staff inexperience. However, each project increased our knowledge and understanding of how to embed entrepreneurship across ASU. Each was an important step in the evolution of the KCI at ASU.

Even in the final twelve months of the KCI, ASU launched new projects such as the Experts Network, which brings experienced entrepreneurs to ASU to meet with students, and 10,000 Solutions, a website for submitting and collaborating on solutions to modern day challenges. The KCI at ASU was never static. It was perpetually reinvented as the leadership learned from past successes and failures and aimed to fill gaps in ASU's entrepreneurial ecosystem.

A key element in ASU's approach which had a significant impact on the overall success of the KCI at ASU was the launch of the University Innovation Fellows program in fall 2009. The fellowships last for one-year and bring smart, creative individuals to ASU who are dedicated to transforming how the university operates. With the support of the innovation fellows, ASU revised its entrepreneurship website, embedded entrepreneurship in communications across the university, opened Changemaker Central (a project that connects entrepreneurial students with opportunities to make a difference), launched 10,000 Solutions (a website for submitting solutions to contemporary challenges) and, importantly, provided support to faculty, students and staff engaged in entrepreneurship efforts. The influence of this program was felt throughout the university; now several departments and academic units are clamoring for a fellow of their own.

ASU's approach to the KCI was evolutionary, deliberate, reflective and iterative. The leadership of the KCI at ASU set out to discover the role of entrepreneurship and innovation within a New American University. Along the way existing management systems were sometimes strained, new policies and procedures developed and students, faculty and staff challenged to think in new ways. Experimental programs succeeded or failed, but in the process, the faculty and staff created a full, diverse portfolio of entrepreneurial programs and transformed the culture of ASU.



## **ASU's success factors**

When the Kauffman Campuses Initiative launched at Arizona State University, each program leader had individual plans for their programs. Each approached the task of embedding entrepreneurship into their school, college or department in a different way. For example, some created centers, such as the Center for Digital Media Entrepreneurship in the Walter Cronkite School of Journalism and Mass Communication, while others focused on integrating entrepreneurship into existing courses, a strategy used by the performing arts venture experience in the Herberger Institute for Design and the Arts. Additionally, these plans were flexible and adapted as the initiative moved forward. For this reason, throughout the term of the KCI at ASU, it was challenging to identify best practices.

However, while reflecting back on the Kauffman Campuses Initiative, four overarching success factors began to materialize. These factors form a framework that encompasses many programs at Arizona State University. They were essential to forming a strong network that created cohesion among the many actors and experimental projects. This cohesion provided additional leverage to the individual programs as they were able to access the resources of a broader network and collaborate.

The first factor was making entrepreneurship a cultural value. It is the values of an organization that cross department boundaries. By revising the design aspirations of a New American University to include valuing entrepreneurship, entrepreneurship instantly had a foothold in every college, school and department at ASU. With this achievement, we had a solid foundation for deepening the unit's engagement in entrepreneurship and innovation.

Next is communications. At ASU, entrepreneurship and innovation was communicated in a way that helped students understand its relevance to their lives. Entrepreneurship was not sequestered in the business or engineering schools or discussed in ways that excluded students who were not in those programs. Through websites and social media, students could learn about how others at ASU were being entrepreneurial and innovative. Through communications, entrepreneurship was made accessible.

Finally, ASU suffused entrepreneurship throughout the curriculum while creating co-curricular programs that supported students who were ready to act on their knowledge. Students could learn about entrepreneurship inside or outside of the classroom. They could apply their knowledge to creating solutions to real-world challenges and then implement their solution, thus enhancing the learning experience.

These success factors may be implemented by other universities, even though each university is unique. They can be adapted to fit any institution that wants to create an entrepreneurial culture and through the innovative actions of its students, faculty and staff, spur social development and economic competitiveness.

### Entrepreneurship as a cultural value, not a goal or outcome

*Entrepreneurship is a value at ASU and so it has permeated all of the university...the word (entrepreneurship) is in most college materials, not for show, but because of its value. Our recruiting materials for students emphasize this. Faculty who are entrepreneurial are rewarded for it and held up as role models.*

*—Elizabeth Capaldi, ASU Executive Vice President and Provost of the University*

Cicero defined culture as *cultura animi philosophia est*, or “philosophy of the human spirit” and this is a good way to describe the cultural evolution toward entrepreneurship that was experienced at ASU. It’s been a transformation of the inner, intangible, pillar—the very spirit—of our university. Because this transformation occurred during a period of years and across a broad span of areas using diverse means, it is difficult to measure directly. However, there is evidence of its effect on all ASU campuses.

When ASU became a Kauffman Campus in 2007, the first major decision was to focus on a model of entrepreneurship that was diffuse, rather than centralized. Unlike many universities that create an entrepreneurship institute or center, ASU was reimagined with entrepreneurship at the heart of our institutional mission. From here, entrepreneurship at the university radiates to generate the widest reach and largest impact. This decentralized model had its benefits in making entrepreneurship truly cross-campus, however the model also meant that coordination and information-sharing can be an issue.

One of the first changes that came about because of the Kauffman Campuses Initiative was updating the design aspirations for a New American University to include valuing entrepreneurship. In departments throughout the university, faculty, staff, students and visitors to ASU may find posters that define the design aspirations. All incoming faculty and staff learn about ASU as a New American University during new employee orientation. Those wanting a better understanding of what it means to value entrepreneurship may visit the New American University website that defines each of the design aspirations. For students, an entrepreneurship module was incorporated into ASU’s introductory freshmen course, ASU 101. ASU 101 is a required class for all freshmen students that not only introduces them to the

resources of our university, but connects students to the benefits and opportunities entrepreneurship at ASU has to offer them.

A diffuse, value-based model of entrepreneurship enabled entrepreneurship program leaders to leverage the resources already available at our university. Many transformed existing courses and programs. For example, the Edson Student Entrepreneurship Initiative expanded to create opportunities that welcomed students from all disciplines and interest areas. In the Herberger Institute for Design and the Arts, the performing arts venture experience (p.a.v.e.) wove entrepreneurship throughout the curriculum of theatre and film majors. Standard courses, such as the Student Production Board, which produces plays on campus, now incorporate entrepreneurship. The faculty lead for Engineering Projects in Community Service (EPICS) took a standard community service course and introduced entrepreneurship by asking students to think about how to form a sustainable enterprise from their idea and go one step further by applying to the ASU Innovation Challenge to fund the venture.

The decentralized model and shared values also encouraged new partnerships to form across campus and colleges to create courses and certificate programs open to students in any major. For example, ASU's American Indian Policy Institute partnered with SkySong, American Indian Studies and local tribal governments to form First Innovations—a successful interdisciplinary collaboration that generates entrepreneurial solutions for the long-term sustainability of Arizona's tribal communities. Another example is the certificate in knowledge entrepreneurship and innovation. Although coordinated by the W.P. Carey School of Business, students from any major can earn this certificate. In the introductory course, My Life Venture, for this certificate students explore the role of entrepreneurship in their lives and also earn general studies credit, thus satisfying a requirement for their major.

ASU also created new entrepreneurship-related extracurricular opportunities in administrative units that ASU students and faculty may use to achieve their academic and professional goals. With the belief that competition inspires smart ideas and creative solution, ASU introduced the Innovation Challenge, a venture competition that awards up to \$10,000 to student teams. Although it is based in the Office of University Initiatives, an administrative unit, many entrepreneurship course instructors incorporate the ASU Innovation Challenge into their curriculum as a way for students to practice entrepreneurial skills, such as preparing a business plan, pitching an idea and launching a venture.

Experiential learning opportunities may also be found in Changemaker Central. Serving as a centralized resource hub for involvement in entrepreneurship, civic engagement, service learning and community service, Changemaker Central catalyzes student-driven social change

via the sort of innovative thinking that makes entrepreneurship possible. 10,000 Solutions is a signature program of Changemaker Central that ignites the power of collaboration to create a sort of solutions bank. ASU 101 instructors and student resident hall advisors used the platform as a way to encourage in-coming freshman engagement at ASU. These are just a sample of the kinds of diverse co-curricular opportunities we've created to spark interest and engagement in ASU's entrepreneurship initiative.

To further diffuse entrepreneurship throughout the university, we also introduced the Fellowship in University Innovation, which engages future policy-makers, analysts, communicators, writers and leaders in the processes involved with transforming higher education. Beginning in 2010, five fellows were selected to work closely with university and community members in exploring, documenting and contributing to various efforts, such as program-building, community partnerships, faculty and student engagement, among others. The overall focus of the fellowship is to foster and develop the skills needed to engage and enact institutional and societal change. For the entrepreneurship initiative, the fellows worked to enhance student communications and awareness, organize the inaugural ASU Innovation Challenge, improve networking and information sharing among faculty, students, staff and community members, increase the visibility of social entrepreneurship at ASU.

It is impossible to speak about the change that spurred entrepreneurship at ASU without mentioning engagement at the executive level. ASU's president, Michael Crow, is a vocal champion of university entrepreneurship. Throughout the Kauffman Campuses Initiative, President Crow publically advocated for entrepreneurship in higher education and called for universities to be entrepreneurial and spur economic, social and cultural development. Most recently, in January 2012, President Crow presented to a key group of ASU supporters, the President's Community Enrichment Program, and highlighted the essential role of entrepreneurship in ASU's development as a model for a New American University.

Amy Hillman, executive dean of the W.P. Carey School of Business, has been consistent in recognizing the value of cross-disciplinary entrepreneurship. Dean Hillman believes that all students, from music to physics majors, can benefit from developing a mindset and skills that encourage entrepreneurship and innovation. In an interview for this essay, she noted that the KCI influenced students to change their approach to opportunities and apply their analytical skills to create solutions to challenges. Because of the ASU's integration of entrepreneurship across the university, Dean Hillman states that students are now "equipped to make valuable contributions to Arizona, the United States and global economies."

Christopher Callahan, dean of the Walter Cronkite School of Journalism and Mass Communication, enthusiastically supports entrepreneurship at ASU. Dean Callahan was part of the proposal team and an early leader of the Kauffman Campuses Initiative at ASU. Because the Cronkite School has taught entrepreneurship since the beginning of the initiative, the knowledge and expertise of Cronkite faculty are well known. Under his leadership, the Cronkite School recently launched the Scripps Howard Journalism Entrepreneurship Institute, which brings journalism professors from around the country to ASU for intensive training in the principles and practices of teaching journalism entrepreneurship.

ASU's provost, Elizabeth Capaldi, encourages academic units to actively engage in cross-campus entrepreneurship. She notes that students like the emphasis ASU places on all students, regardless of their major, being entrepreneurial and innovative. With her backing, the Kauffman Campuses Initiative enabled faculty to develop curriculum that features entrepreneurship and innovation. By providing clear messaging that made it clear that entrepreneurship didn't only mean business and wasn't anti-academic, Provost Capaldi helped overcome the resistance of some faculty to entrepreneurship.

ASU's strategy for embedding entrepreneurship into the institutional mission of the university was multifaceted. A crucial factor in the university's success was the executive level support and while only a few examples are provided here, the deans of all colleges and schools endorse the design aspirations for a New American University. Another factor was the inclusion of valuing entrepreneurship in the design aspirations for ASU's model for a New American University. Finally, ASU hired enthusiastic and energetic people who were committed to innovation in higher education. ASU continues to be flexible and adaptable since ASU's model of entrepreneurship is one that evolves to meet modern day challenges. Even with the end of the Kauffman Campuses Initiative at ASU, faculty and staff will continue to seek out new ways for entrepreneurship to enrich and inspire efforts at ASU because it is woven into the institutional mission.

### Communicating the relevance of entrepreneurship

*The KCI provided focus for communication about entrepreneurship between all university units. We leveraged the KCI to build a network and embed entrepreneurial thinking as a core value across all units. We built a communications program that greatly accelerated awareness and education about entrepreneurship both within the university and among the communities we serve.*

*—Terri Shafer, associate vice-president in charge of marketing and strategic communications*

Much of the success of ASU's entrepreneurial initiative may be attributed to changing the notion of what it means to be an "entrepreneur." Prior to the start of the KCI, if someone asked an engineering, or fine arts, or journalism student at ASU if he or she had entrepreneurial aspirations, a very small percentage would have come forward. With the KCI, however, we've been able to change the question, which has been a key development in every area of ASU's entrepreneurship initiative. The question is no longer, "Do you want to be an entrepreneur?" but rather "How do you want to change the world? How would you like to make a difference? Do you think you're innovative and creative?" This led to a dramatic shift in how ASU students think about what it means to be an entrepreneur and what they believed was possible in entrepreneurship.

Anthropologists will attest that the language of a community is one of the most significant influences upon and reflections of its culture. With this in mind, faculty and staff began to create a culture of entrepreneurship at ASU by recreating the language around the term, entrepreneurship. They dug deep into the idea of entrepreneurship and uncovered its authentic core—that it can be a passion for anyone, from any major who wants to add value to our society. They held focus groups, workshops and circulated surveys, challenging participants to articulate what entrepreneurship meant to them. Here is a sampling of what they found:

*...the attempt or successful creation of an opportunity for advancement where no such opportunity seemed to exist...the ability to recognize a need in your community and to create a product or service that fills that need...something new and innovative that brings a positive value to the community...creative, risk-taking, self-directed, individual ideas...using resources more effectively...the willingness and ability to transfer innovative ideas to society...it is about creativity, innovation and being able to think outside established routines in the spirit of cooperation...*

This information convinced us that entrepreneurship could apply to more than business majors and faculty.

At ASU, we define entrepreneurship as the spirit of creative risk-taking, the flexibility of innovative thinking and the ability to envision a better world. A world where universities act on the knowledge we create. One where universities create economic, social and cultural capital.

This vision of entrepreneurship has turned out to resonate with both students and faculty. This has been confirmed by survey results which show that both students and faculty strongly believe that an organization can be both profitable and benefit society.

*Students and faculty were asked how much they agreed or disagreed with the statement, “An organization may earn a profit while doing social good.” The mean score for faculty was 8.0 and 8.3 for students (on a scale from 1 to 10, with 1 meaning they completely disagree and 10 meaning they completely agree).*

On the same survey it was also determined that both faculty and students prefer to launch a venture with the combined goals of making a profit and benefitting society.

*When asked how interested they were in “establishing a new venture” the mean score for students was 6.4 (on a scale of 1 to 10 with 1 meaning they are not at all interested and 10 meaning they are very interested). The mean score increased to 7.2 for the question, “Launching a new venture with the goal of making a profit and doing social good.” When the same set of questions was posed to faculty, the mean score increased from 5.2 to 6.0.*

This more resonant vision of entrepreneurship was incorporated into the language of ASU’s communications—the design aspirations of our New American University, presidential exchanges, university annual reports, websites, course and program descriptions, social media—thereby reintroducing the idea of entrepreneurship by reinventing the language around it.

ASU created educational, informative and persuasive articles, videos, print and online publications that expressed this re-imagined vision of entrepreneurship at the university—from features on ASU’s website homepage to articles in the alumni magazine to entrepreneurship modules in the freshman introductory course, ASU 101. A dynamic and interactive website for entrepreneurship was established. It engages interest and provides entry points for entrepreneurship activities for individuals at every level, from every background. A monthly e-newsletter, Pulse, provides updates on entrepreneurship resources, opportunities and news and has a distribution quickly reaching a community of 10,000 people. Social media such as a Twitter accounts and Facebook page (recently at 1,300 fans) also played a large role in exciting students to engage entrepreneurship.

But changing the language of entrepreneurship was only the first step in ensuring entrepreneurship was accessible and applicable to all. Next a sweeping momentum of grassroots effort emerged as ASU students and faculty began to integrate the ideas and values of entrepreneurship into their own agendas, education and career goals. They began to see their work as entrepreneurial, their thinking as innovative and their approach to solving

problems as aligned with the spirit of creative risk-taking. In short, the members of our ASU community began to see themselves as entrepreneurs.

*Initially staff was skeptical of promoting entrepreneurship as a viable career option. Some of the resistance was due to a lack of knowledge, and some of it was values-related, rooted in the stereotypes of entrepreneurs seeking to make money without being concerned about societal costs. To overcome this resistance, we educated staff through training and articles about both the societal and economic value of entrepreneurship, social entrepreneurship, the value of entrepreneurship in transforming lives, and campus resources available to direct students to that provide resources to help students with developing and launching a venture.*

*—Susan Simmerman, associate director,  
ASU’s Career Services*

Bringing this language to life ultimately proved highly beneficial to our goal of diffusing entrepreneurship throughout our university. Empowering students, faculty and staff to be entrepreneurial by connecting them with resources, training and mentors and by motivating them to join a dynamic community of innovative thinkers and doers became a crucial driver for the transformation that occurred and continues to occur at our university. With this identification, a community formed, one that instigated on-the-ground efforts as students, faculty members and staff all took up the challenge and led the movement toward growing our entrepreneurial culture at ASU.

What began as a top-down university directive is now distributed into the hands of everyone at ASU—from freshmen students who are introduced to entrepreneurship in our ASU 101 course, to graduating seniors and alumni who took part in ASU’s Innovation Challenge, to adjunct lecturers who teach classes like My Life Venture or Digital Media Entrepreneurship, and tenured professors and department heads who spearhead new programs and initiatives that provide an array of opportunity for students—everyone who embraces the vision of leveraging knowledge for opportunity. Everyone who wants to make their mark in this world by generating productive outcomes from innovative dreams.

As a result of these efforts, barriers were lowered, access increased and the appeal of entrepreneurship widened at ASU. This new language of entrepreneurship enabled students and faculty to understand entrepreneurship as a professional opportunity, one in which they might leverage their academic knowledge to create solutions that positively impact our communities.



How do we know this? In a survey sent to a random sample of students, the mean score to the question, “I have no idea how entrepreneurship relates to my major” dropped from 4.3 to 3.4 (using a scale of 1 – 10, with 10 meaning totally agree and one meaning totally disagree) between spring 2007 and 2011. For faculty, the mean score to the question, “Entrepreneurship does not apply to some disciplines” decreased from 5.3 to 4.8 (using a scale of 1 – 10, with 10 meaning totally agree and one meaning totally disagree) between spring 2007 and 2011.

*I think having that cohesion of entrepreneurship spread across all of the things we do is a great catalyst in bringing all of these efforts together and making them more accessible and inviting to students...what entrepreneurship has done over the last couple of years (at ASU)...it's changed the conversations about issues. That's what's different about the culture. It's expected that when you start some of these conversations, you lead toward a solution.*

*—Leah Luben, undergraduate, School of Liberal Arts and Sciences, director/student leadership team of Changemaker Central*

Culture is indeed, “personality, writ large” and the personality of our New American University grew into a dynamic force with sights set on nothing less than graduating knowledge entrepreneurs – graduates who apply their knowledge to make a difference. Our students, our faculty, our staff and our communities—everyone has contributed to and is being transformed by what is now a vibrant, entrepreneurial culture at ASU.

#### Suffusing entrepreneurship throughout the curriculum

*The entrepreneurship classes at ASU are wonderful to help people think outside the box and truly be an innovator. They've opened so many doors for students and I think that they would be great for anyone of any degree who is seeking to start something new with their passion.*

*— Christine Van Halderen, undergraduate, W.P. Carey School of Business*

At the heart of creating a culture of entrepreneurship in a New American University lie the familiar tools of academia—courses, colleges and departments. These tools already exist within any institution of higher learning. At the start of the KCI, ASU’s entrepreneurship coursework and programs existed in colleges traditionally associated with entrepreneurship – engineering and business. The KCI allowed ASU to broaden this contact to reach students in all majors by

supporting innovative faculty members as they created and enhanced an array of courses across the university.

As entrepreneurship was suffused throughout the curriculum, one strategy employed was to create interdisciplinary courses and departments to encourage innovative thinking and the cross-pollination of ideas. For example, ASU's College of Technology & Innovation formed the Technological Entrepreneurship and Management program, which was designed to better educate individuals to be entrepreneurial in their thinking while discovering and creating solutions to our local and global challenges. Additional trans-disciplinary colleges and departments that inspire and sustain entrepreneurship include the School of Arts, Media and Engineering in ASU's Herberger Institute for Design and the Arts—leading the way in research and education in digital culture; the College of Nursing and Health Innovation—forming dynamic community partnerships that advance healthcare through innovative products and educational programs; and the School of Social Transformation which now offers a 15-credit certificate that prepares leaders and innovators from any major in applying innovative approaches to societal and economic challenges.

A second strategy was the Pathways to Entrepreneurship Grant (PEG) program. Pathways to Entrepreneurship Grants supported the development of diverse new courses across ASU, such as First Innovations. First Innovations, a partnership between the American Indian Policy Institute, ASU SkySong and American Indian Studies, offers a three course sequence that teaches students to develop and implement ideas that solve challenges in a sustainable tribal context. For their innovative curriculum, successful collaboration within ASU and with tribal governments, and entrepreneurial spirit toward creating successful solutions, First Innovations recently received the ASU 2011 Presidential Award for Innovation. It has also succeeded in winning a NCIIA grant and is being considered for more significant funding by local tribes.

The third strategy was approving new courses in entrepreneurship for general studies credit. All ASU students are required to complete 35 credit hours in general studies, which are designed to complement a student's major by helping him or her master critical learning skills, investigate traditional branches of knowledge and develop a broad perspective. Designating entrepreneurship courses as general studies credits means students will now satisfy a core graduation requirement while exploring entrepreneurship. This further integrates entrepreneurship into the fundamental student experience at ASU and provides an entry for students to discover interest in the area. So far, this designation has been used to a limited extent, but it may expand in the next few years as work on ASU's general education curriculum continues.

Fourth was incorporating entrepreneurship into ASU 101, the university's introductory course for all incoming freshmen. ASU 101 introduces them to the resources of our university and

connects students to the benefits and opportunities entrepreneurship at ASU has to offer them. While not an in-depth study of entrepreneurship by any means, ASU 101 is able to immediately share these opportunities with the students who come to our university already considering entrepreneurship as a future career. Just as importantly, however, this course creates a conversation about entrepreneurship with students who may have never considered such a track. Because ASU 101 is taught differently in every ASU college and school, entrepreneurship is experienced differently by every freshman. On one hand, this means that the introduction is not standard, but on the other, the disciplinary connection to entrepreneurship is more clearly made.

Fifth, we encouraged faculty to integrate entrepreneurship and entrepreneurial experiential opportunities into existing coursework. The performing arts venture experience (p.a.v.e.), ASU's arts incubator, successfully implemented this approach by enhancing existing courses, such as Audition Techniques and Career Development, Theatre Organization and Management and Student Production Board to include entrepreneurship. Engineering Projects in Community Service (EPICS) in the Fulton Schools of Engineering and GlobalResolve in the College of Technology & Innovation also enhanced their existing coursework. They were originally launched to challenge students to solve real-problems. However, entrepreneurship added a new twist. Students were asked to provide solutions that were also self-sustaining and/or profitable. Additionally, they created plans that were used to apply to the ASU Innovation Challenge.

The members of our faculty proved themselves invaluable to cultivating an entrepreneurial environment in the classroom. G3Box, for example may not have been conceived if not for two engineering professors who challenged their students to think entrepreneurially when considering a use for the thousands of shipping containers abandoned at ports all over the world. The award-winning and clean-burning light source, Twig Light, may not have flared to life had professors in a GlobalResolve capstone course not created the opportunity for their students to generate marketable solutions to needs in developing countries. If not for our faculty's dedication for empowering students to turn their ideas into ventures, entrepreneurship at ASU would not exist.

Entrepreneurship at ASU has changed lives. Linda Essig is an example of this. She became interested in arts entrepreneurship around the same time that ASU was applying to be a Kauffman Campus. She currently heads up the p.a.v.e program (Performing Arts Venture Experience) in ASU's School of Theater and Film, which offers courses, an arts incubator, a speaker's series and symposium. In June of 2012, Essig will launch the first and only research journal in the field of arts entrepreneurship, Artivate. When Essig initiated the arts incubator at ASU in 2006, it was only the second university-based incubator of its kind in the country, a

success Essig credits directly to the KCI. Because of the KCI, Essig was able to codify several of the courses and initiatives at the Herberger Institute into a powerful engine that is responsible for an array of projects—The Progressive Theater workshop in New York City, Sustainable Symphony, the Phoenix Fringe Festival, Urban Stew—and two national symposia on arts entrepreneurship. Essig is often quoted as saying artists are self-producers, making the arts an inherently entrepreneurial field and ASU a proving ground for successful artistic careers.

Another professor-entrepreneur at ASU is Dick Filley, director of the EPICS Gold program (Engineering Projects in Community Service). Housed with ASU's Fulton Schools of Engineering, EPICS fits into the schools' overall initiative to provide a hands-on educational experience for their students. Having been with ASU for more than 26 years, Filley is among many veteran ASU faculty members who have embraced entrepreneurship. Filley believes that programs like EPICS, which challenge students to solve real-problems (even as early as the freshmen year) are key to changing the way students perceive the role of entrepreneurship in their lives. "With a program like EPICS, we're able to move away from the abstract, teach-from-a-textbook approach to entrepreneurship and become much more experimental. We're in the community, interacting with the deal-makers, taking part in the process and bringing ideas to the table." This type of learning is invaluable to the students at ASU and one of the main reasons entrepreneurship enjoys such success at our university.

Thanks to the work of our innovative faculty, students from more than 100 majors now fill the seats of ASU's entrepreneurship courses and that roster continues to grow. Our students are offered courses such as "Innovations in Policy" from our College of Public Programs to "Entrepreneurial Educators" in our teachers college to "Technology Ventures Clinic" in our law college, "Innovation Space" offered through our design school, "My Life Venture" from our business school and "Innovation and the Individual" coming out of our College of Nursing and Innovation. But courses such as these are only possible through the creative enterprises produced by ASU's faculty and staff. As they implemented courses, faculty and staff overcame various challenges such as how to cross-list courses in multiple colleges, recruiting students from other colleges and the perception that entrepreneurship only belongs in the business school. However, their enthusiasm for cross-campus entrepreneurship didn't wane. Because of the KCI, ASU has been able to re-imagine the compositional foundations of a college and the organizing principles of an academic department. ASU now has institutional structures and faculty and staff that are flexible and able to adapt to the ever-changing dynamics of entrepreneurship.

## Establishing a pipeline of co-curricular programs

*Right now, economically, is a very good time to be thinking outside of the box about financial opportunities in different fields. It's an exceptionally good time to pull up your bootstraps and innovate some sort of living. I have a hard time feeling confident that when I graduate a magical employment door will open up for me. It's just a very hard time for folks right now. I'm giving everything I have to make sure I can have something set up for myself upon graduating—whether that's the incredible fortune of having a job in my fields of expertise, or that's the ultimate dream of running my own company—who says the two have to be mutually exclusive?*

*—Julie Cruse, creator of DanceLoop.net,  
ASU doctoral student, Media Arts and  
Sciences, and p.a.v.e. recipient*

Ideas are abundant in higher education. Many of the durable and versatile skills universities want to instill in students, such as critical thinking, analysis and reasoning, are cognitive. But how do students learn to translate information into action? To foster both a love of acquiring new knowledge and acting on that knowledge, ASU established a pipeline of co-curricular programs for students that provide opportunities to practice entrepreneurial skills outside of the classroom. These programs are extracurricular, so students do not receive credit or a grade for their participation, but many faculty members use these programs to augment the classroom experience.

The first program to launch was the Edson Student Entrepreneur Initiative. Through the Edson program, student entrepreneurs receive funding, office space, training, coaching and advising to develop their ventures. Funded by an endowment, the Edson program provides a total of \$200,000 in seed funding annually through grants ranging from \$5,000 to \$20,000 to 10 – 15 student teams.

Some of the enterprises produced by Edson student entrepreneurs include G3Box which turns abandoned shipping containers into mobile medical units for communities in need, the founders of which were recently named “College Entrepreneur of the Year for 2011” by Entrepreneur Magazine. Seymour Innovation Engineering has developed a low-cost SIDS early-detection device that will save the lives of at-risk infants and work in conjunction with Smartphone technology. Other successes include Arizona Pro DJ, a teen entertainment company, recently nominated for best small business Facebook page for 2011 by the Social Media Examiner. And in August of this year, the White House recognized Edson’s Zach

Hamilton, founder of the concrete cleaning service company DevilWash, as a White House Champion of Change-Young Entrepreneur.

Edson is also a place where doctoral students find support in commercializing their research. Mercury Innovative, for instance, a language analysis and language arts software venture, is one of many examples of how Edson enables ASU scholars to connect rigorous academic thinking with marketable products. To date, 124 ventures have received a total of \$1.2 million in funding through the Edson initiative and an impressive 71% of these ventures remain in business today.

Early in the implementation of the Edson Student Entrepreneur Initiative, the leadership of the program developed a concern over the quality and quantity of student applications. They also determined that some student teams would benefit from support for ventures that were not ready for the Edson program. To address these challenges, the leadership of the KCI decided to reverse engineer a pipeline for student entrepreneurs.

Each program in the pipeline is run independently of the others, but all are mutually reinforcing. They are not islands in and of themselves. The common ground for all programs is valuing entrepreneurship, one of the design aspirations for ASU as a model for a New American University. They also have overlapping goals and these intersections are a catalyst for student engagement. For example, Changemaker Central refers students to entrepreneurship program, thus helping to build awareness and recruit students. Changemaker Central also hosted a late night prep session for the ASU Innovation Challenge on the night before applications were due. Winners of the ASU Innovation Challenge may use the funds to advance their idea and prepare to apply to the Edson Student Entrepreneur Initiative, which improves the quality of Edson applications. The Edson program hosts events, such as the Demo Day, where ASU student-run companies compete for funding and participate in workshops and networking opportunities. Demo Day also provides incentives for students to advance their idea, as the competition focuses on the progress they made over the past six months

The ASU Innovation Challenge and its predecessor, the Entrepreneur Advantage Program, funds student teams to advance their innovative idea. Student teams may receive grants of up to \$10,000 to create a prototype, run a pilot project or, if they are ready, to launch a for-profit or non-profit enterprise. The competition is open to undergraduate and graduate students who are dedicated to making a difference in our local and global communities through innovation. Engaging in the ASU Innovation Challenge prepares our students for professional futures by providing them with a venue to practice their skills in teamwork, leadership, project development, business plan creation, public speaking and network creation.

Winners of the Innovation Challenge come from academic backgrounds as diverse as the ventures themselves—fine arts, environmental sciences, public programs, business, law, engineering, healthcare—which indicates a ubiquity of interest in entrepreneurship across our university and student interest continues to grow. In fall 2011, the Innovation Challenge received 188 applications, an increase of 23% from the prior year. Examples of winning ventures include the ASU Gel Fuel Stove, which generates clean-burning energy while creating a sustainable market for itself; Science Detectives, an after-school science program that inspires children to master scientific concepts; and the sustainable technology venture, Project Upepo that combines education, employment and electrification via wind technology. Additionally, faculty from academic programs, such as Engineering Projects in Community Service (EPICS), GlobalResolve and the Center for Digital Media Entrepreneurship require or strongly encourage students to submit applications to the ASU Innovation Challenge or Edson Student Entrepreneur Initiative. Many of the successful applications were generated by students involved with entrepreneurial academic programs.

Another student venture funding program at ASU is the performing arts venture experience (p.a.v.e.). Artists, by the very nature of the term, are entrepreneurs and know the importance of believing in the value of their work at a time when they are perhaps the only ones who do. This is why the arts at ASU have been prime areas for advancement in entrepreneurship since the start of the KCI. Through p.a.v.e., ASU made certain to provide our student artists with the tools to develop new ventures. By investing in ASU's student artists, the performing arts venture experience (p.a.v.e.) supports arts entrepreneurship education and provides a means with which these creative individuals might engage in entrepreneurial activities. The winners of the fall 2011 p.a.v.e. grants include BlockLight, an iPad application that assists stage managers in stage blocking; Pop Music Academy, which provides teaching tools for students based on popular songs; and Volt, an immersive, interactive dance environment. ASU supports these artists and many other student entrepreneurs in creating their own paths to success as they follow their passions while securing a means to sustain long-term, productive careers.

Once the student venture funding programs were in place, the leadership of the KCI at ASU started to research ways to increase awareness of entrepreneurship opportunities, support idea development and create entrepreneurial student communities. With 72,000 students on four campuses in the Phoenix metropolitan area, this was not an easy task. Due to the scale of ASU, the decision was made to embed the first step in the student pipeline in a university-wide department with extensive student contact points, Educational Outreach and Student Services.

Opening a student-led Changemaker Central on every campus was one solution implemented at ASU. Serving as a centralized resource hub for involvement in entrepreneurship, civic engagement, service learning and community service, Changemaker Central catalyzes student-

driven social change via the sort of innovative thinking that makes entrepreneurship possible. By empowering students to apply their knowledge and passions toward marketable solutions, Changemaker Central cultivates a culture that tackles some of our world's local and global challenges through collaboration, innovation and diverse approaches to problem-solving.

10,000 Solutions is a signature program of Changemaker Central that ignites the power of collaboration to create a sort of solutions bank. Users can share their ideas to impact local and global communities in variety of innovative ways as well as build on others' ideas. This innovative, problem-solving approach to entrepreneurship inspires the type of change-making we value at ASU and offers its "changemakers" the chance to win \$10,000 for their idea. More than 1,500 solutions, running the gamut from bike-sharing on campus and mug shot security cameras, to a microcredit initiative that offers small loans and business training to Phoenix entrepreneurs were submitted to the site since its launch in fall 2011. The site was used by departments and academic units in diverse ways. 10,000 Solutions has been used as a tool to educate students about entrepreneurship in ASU 101 courses, engage students through a retention program launched in student housing and support a fund raising campaign for the university.

Another program that helps students connect to entrepreneurship programs at ASU and determine how entrepreneurship fits in with their long-term goals is High Impact Careers in Career Services. Students may receive advising on how to incorporate entrepreneurship into their academic and professional career through High Impact Careers. In addition, they can receive information on other careers with impact and that require an entrepreneurial mindset, such as with Teach for America, Peace Corp and military service. Career Services also helps students find internships with local entrepreneurs.

Although the pipeline highlights exemplar programs created at ASU, entrepreneurship leaders continue to seek out ways to strengthen individual programs and the network overall so students are able to connect with entrepreneurship and innovation programs regardless of their program of study or physical location. The decentralized structure of the KCI at ASU creates challenges. For example, the wide array of entrepreneurship opportunities can make it difficult for students, faculty and staff to find programs and people who share their interests. Entrepreneurs and other experts who can mentor, coach and advise faculty, students and staff are also in short supply. Finally, although programs are sustainable, funding has not been secured that would support the scaling of the pipeline and further integrate entrepreneurship into the student experience at ASU through expanded co-curricular activities.

The creation of the entrepreneurship pipeline is an excellent example of ASU's evolutionary and experimental approach to implementing the KCI. It was not conceived of in its entirety during proposal preparation. Portions of it existed, such as the Edson Student Entrepreneur Initiative



and the predecessor program of the ASU Innovation Challenge, the Entrepreneur Advantage Program. From this foundation, the idea for the pipeline developed as we sought ways to address challenges and issues that threatened to impede the progress of the initiative. The work paid off. As a result, entrepreneurial students now have programs that can support their innovative endeavors every step of the way, from idea to enterprise.