

the KERN FAMILY FOUNDATION

keen
Kern Entrepreneurship Education Network

THE HOWL



Newsletter Overview

Whoa! Where has the summer gone? Around the corner are a new semester and two new KEEN meetings. Both of the KEEN meetings promise to build on the past but offer something new. The Foundation is prepared to host three members from each institution this year for the first time at the October meeting. The theme will be “Climbing the Summit Together.” Our emphasis will be developing synergies among the KEEN schools. An evening night out at the Harley-Davidson Museum promises to be another KEEN special memory.

There will be a pre-meeting workshop to discuss possible linkages with PLTW for accessing the best engineering candidates for your schools. Baylor University will also host a Saturday afternoon post-meeting workshop focusing on the deployment of the Supercoach ® curriculum, a tool that has proven effective in transforming technical and market “data” into a compelling story and forming the understanding needed to make a business actually work. Cindy Fry and Greg Leman will help KEEN schools tell their intrapreneurial stories about changing their campus culture.

From our Foundation’s perspective, we have seen significant movement in our KEEN Network this past year. Among the highlights has been the overwhelming acceptance of the **KEEN-TTI Performance DNA**. Please note: based on feedback from those who participated in the meeting at Calvin on June 4, TTI has morphed the assessment called the Trimetrix™ into a more student-friendly and specific assessment now called the KEEN –TTI Performance DNA Assessment. More details on assessment follow in the body of this newsletter.

We will be spotlighting Ohio Northern University in this issue. You will also hear how one of their faculty members, Christine North, was invited by Villanova ECE Chair, Pali Singh, to join them on a trip to Nicaragua and what she experienced and observed as a consequence of this teamwork. More good stuff.

Finally, we’ll give more particulars on our upcoming meetings. It isn’t too early to begin planning your schedules.

-Tim

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Winter KEEN Conference: January 5-6, 2011

The theme of the Winter KEEN Conference will be “Innovate Like Edison.” I don’t think anyone would disagree Edison was a prolific inventor, but did you know he created six entire industries as well? We will be privileged to have Thomas Edison’s great-grandniece, Sarah Miller Caldicott, address the conference attendees. She will link Edison’s innovation strategies to our seven KEEN key educational outcomes. Each participant will receive a copy of her book *Innovate Like Edison: The Five-Step System for Breakthrough Business Success*. We also are scheduled to have the Chief of Engineering of Mayo Clinic, Kevin Bennet, speak about special type of engineering talent needed for some of the translational research that is underway in their very extensive research facilities. Finally, if that’s not enough, we will have an entrepreneur, Paul Wessel, talk about the journey it took to get a new blood glucose monitor on the market targeted specifically for adolescents. It is based on gaming software he needed to learn to code in order to embed the software in the device. The journey took 10 years, 9 months and 4 days. More details are available on the [Winter KEEN Conference](#) page on the Foundation website.

Faculty Workshop on Shaping Entrepreneurial Engineers: January 3-4, 2011 in Tempe, AZ

As you may know, the Kern Family Foundation and the *Journal of Engineering Entrepreneurship (JEEN)* are sponsoring a workshop to help faculty **incorporate innovation and the entrepreneurial mindset into the engineering classroom**. Co-organized by Foundation staff and Sridhar Condoor, Professor at Saint Louis University, the workshop will include in-depth presentations from best-in-class KEEN members, advisors, and other experts. It will take place prior to the Winter KEEN Conference over a day and a half (January 3 - 4) at the Tempe Mission Palms in Arizona.

Attendance will be limited to two faculty members per university based on an application process. The Foundation is covering the costs of the workshop, including participant travel, lodging, and meals. A small number of faculty members from non-KEEN schools are also invited to attend for a registration fee. For more information on the agenda, participant benefits, and the application process please visit the [Faculty Workshop](#) page on the Foundation website.



Mark Your
Calendars
for
January
2011!



Assessment Update

The new moniker for our assessment instrument will be the KEEN – TTI Performance DNA Assessment. This instrument will replace the Hartman Assessment in the Trimetrix™ with the DNA assessment instrument developed and validated by TTI. This instrument is a more student friendly version of the assessment, and it attempts to assess a student from the view of a third party. In addition, it should be easier to provide feedback in terms that will make sense to the students. Professor Ron Bonnstetter of the University of Nebraska - Lincoln, TTI President Bill Bonnstetter and David Pistrui have been working hard to create instructional materials for use this fall. We are evaluating the meeting software application iLinc™ (see www.iLinc.com for more details) as a resource to use for remote informational meetings as frequently as necessary. If this all works as planned, we should be able to help retain more engineering students for the duration of their undergraduate years instead of losing a high proportion of high D and high I students which has been a historical legacy. We feel this may be another way in which KEEN engineering colleges will be able to distinguish themselves from other engineering programs. We ask that you continue to patiently work with us. As David Pistrui recently wrote in an e-mail to yours truly, “This is good stuff!”

Update on www.KEENnetwork.com

User Activity on the Site

Since the first of the year, the number of users on the KEENnetwork.com website has more than doubled (from 44 to 91). There are currently 22 unique web pages on the site that host 92 separate resources. (Each resource is a file that contains a case study, module, document, photo, etc.) There have been 1,414 unique visits by 681 visitors to the site (so there are many people outside the KEEN network who are finding our site via Google searches, etc.). All told, visitors generated 7,906 unique page views and averaged 6 pages visited per session.

Web Video-Conferencing Server

Each Kern Fellow can now host online meetings on the new KEEN web-conferencing server (hosted by Dimdim, a popular, open-source hosting service). Each online meeting room supports 2 web cameras (for presenters), 2 microphones (for questions) and up to 100 viewers. Each viewer can call in on the toll free conference call line associated with each meeting room. The presenters can share a whiteboard, show PowerPoint slides, visit websites and share their desktop with attendees. To obtain an account on the web-conferencing server, contact blissing@msoe.edu to set up your account. To learn more about how to use Dimdim, visit <http://onlinehelp.dimdim.com/> or view the instructional videos at http://onlinehelp.dimdim.com/videos/tutorials_index.html.

Questions on Assessment?

Call Tim at the Foundation at (262) 968-6838 ext. 15.

Check out KEEN's web collaboration tool at www.keennetwork.com

Select Impact Stories from 2010 Annual Reports

Testimonial from Student at Baylor University

"[The SuperCoach] workshop (as well as my time at Baylor) has confirmed in me that I can't squander the gifts I've been given. It is my obligation and vocation to reach out to those most in need through my engineering career. I plan to continue my work at Whole Tree as long as they wish to keep me. We hope that an automotive contract comes through in the near future. It is possible that a position will open for me at Whole Tree when I graduate next December. I have been trained as an engineer, a businessman, and a servant of the Lord. It is my goal at Whole Tree to help reach as many people as I can, transform their lives, and inspire others to use their gifts to build the Kingdom of God here on earth."

"I have been trained as an engineer, a businessman, and a servant of the Lord."

-Student at Baylor University

Student Impact at Boston University

Six student teams developed entrepreneurial global health medical device designs as part of their design course this semester and five presented their ideas at the KEEN-supported World Health Medical Technology Conference this spring. Four of these teams plan to continue their projects during the coming year under grant support from other sources.

Reflection from a Student at Gonzaga University

"It has been my pleasure hanging out and working with all of you [faculty] these past two years as a Manager within the New Venture Lab. Now that I am a Gonzaga graduate and transitioning into the next part of my life, I have had time to reflect on what the NVL experience has done for me. I am happy to say that it has been a lot of fun and that I will be missing it a great deal in the time to come. Thank you to everyone who helped me or was involved in any way in making the program what it is and positioning it for where it will go. Planning, organizing, and executing these demonstrations provided an opportunity for the members of Tau Beta Pi to enhance and develop their entrepreneurial skills. In order for these demonstrations to be a success, it was necessary for the members of Tau Beta Pi to operate with an entrepreneurial mindset of innovation and creativity, along with strong communication skills in the planning process."

Student Impact at Illinois Institute of Technology

The KIEA Boot camp is an extra-curricular activity that gets students excited for the year's programming events. This exercise was supposed to get students to effectively collaborate in a team setting, construct and communicate a customer-appropriate value proposition, and effectively manage projects. Indeed, KIEA students demonstrated these attributes as they worked in teams to redesign an existing product. They identified their market and competition, built a prototype and presented their ideas to their peers. The event was so successful that one of the teams even submitted their Boot camp idea to [IIT's] Idea Challenge and placed in the top 7.

Lawrence Tech Hosts Innovation Encounter on October 29, 2010



The Innovation Encounter will bring together teams of students from six universities to compete for cash prizes as they address a problem identified by the competition sponsor, Visteon. Teams will participate in two pre-competition webinars to gain a better understanding of inventive problem solving and learn more about the industry in which they will be problem-solving. The day of the competition will pit the teams against one another as they race to come up with the solution that most closely reaches ideality. They will do so by creating an innovative product or process, a solid business plan and a compelling elevator pitch.

The event will focus on the process of inventive problem solving, and will feature educational and mentoring support from Applied Innovation Alliance. Participating KEEN schools include Saint Louis University, Illinois Institute of Technology, Ohio Northern University, University of Detroit Mercy, and Calvin College. The planning committee is spearheaded by Greg Feierfeil.

ASEE Conference Recap

The Kern Family Foundation sponsored the Entrepreneurship Division Reception on Tuesday, June 22 at the ASEE Conference in Louisville, KY. We were pleased to see that seven of the twenty Entrepreneurship Division papers were spurred by KEEN-sponsored activity. Thanks to those who presented! Kristen Mekemson is co-chairing this division's membership committee. This is an excellent venue to disseminate information about your entrepreneurial engineering programs and to learn from others who are doing similar work. We encourage KEEN members to join this division and to participate as presenters at future conferences. Next year's conference is scheduled for June 26-29 in Vancouver, BC, Canada.



KEEN Collaboration in Nicaragua: One Faculty Member's Testimonial

As a faculty member in Ohio Northern University's communications department, Dr. Christine North participated in her second NCIIA conference in March 2010. She attended as part of ONU's commitment to incorporate entrepreneurship across the curriculum, an effort supported by the Kern Family Foundation. There, she met Dr. Pritpal (Pali) Singh, the KEEN PI at Villanova University, who invited her to join his university's team on a May trip to Nicaragua. The invitation stemmed from a recommendation from Dr. Rob Kleine, a business and marketing professor at ONU who was familiar with North's work in health communication in Mexico. Singh explained to North that they would be doing work with micro-hydro projects and starting a new venture to provide cell phones to some of the local health care workers to improve health care in the remote community of Waslala and the surrounding villages. She was immediately interested.

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KEEN Collaboration in Nicaragua: One Faculty Member's Testimonial (cont.)

The following testimonial recounts Dr. North's participation in this trip and the insights she brought back with her. It is an excellent example of the power of inter-institutional collaboration and its impact on instilling elements of the entrepreneurial mindset.

"The experience was amazing. I loved seeing the projects that are being done and how students can be involved in helping people improve their quality of life. I had a great time interacting with like-minded colleagues from Villanova's engineering, business and nursing programs and making new contacts in another country. Being able to speak Spanish helped me interact with the locals and assist with translating as well.

"I also learned a great deal about providing help in another part of the world, particularly how values and culture shape people's definition of a 'good quality of life.' A major lesson I learned through this experience is how differently Americans interpret a 'good quality of life' compared to Nicaraguans. Throughout the Waslala region, there is evidence of various humanitarian projects where groups have come in to set up projects to improve the locals' 'quality of life.' These groups introduce technologies that local residents do not have the knowledge or resources to maintain. Ultimately, many of these efforts fail. For example, after a major hurricane destroyed many of the homes in the region, a group came in to build housing and latrines. From an American's perspective, this seemed like a good idea. However, Nicaraguans rarely use the outhouses. Many live in remote parts of the rainforest and are not offended by using the bathroom in nature. Indeed, a local resident told us the latrines were 'inconvenient and smelly.' Villagers who used them for a period of time found that doing so cut into their work time and they were offended by the noxious odor the outhouses were emitting.

"Thus, in order for us to help people of different cultures, we must truly understand the culture and the needs of the people. What we as Americans from a technologically-developed country view as important and necessary may not be accepted as so in another country. We must be able to suspend our own notions of what is 'best,' and try to understand fully the lifestyle, values, and needs of those we are trying to help. This means spending time with them, asking them about their unmet needs, and not assuming we know what works best. If we fail to do these things, at a minimum, we will expend human and fiscal resources toward futile efforts. Or worse, we may actually do harm to the lifestyles of those we seek to help. Another important aspect of this that I observed firsthand is sustainability. If outreach projects are expected to continue beyond the assisting group's short stay, local people must believe in and support them.

"I loved seeing the projects that are being done and how students can be involved in helping people improve their quality of life."

**-Dr. North,
ONU**

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KEEN Collaboration in Nicaragua: One Faculty Member's Testimonial (cont.)

"I have been inspired by the projects being presented at the NCIIA conference, by the faculty and the efforts of Villanova University, and by the projects I saw and the people I met in Nicaragua. This trip motivated me to work with faculty and students at ONU to get involved in similar projects. Whether we work with another university, such as Villanova, or do complementary projects, I have established connections with other faculty who can help us forge a program at ONU and allow more students to help out with sustainable projects internationally.

"I am excited that my colleagues in engineering and business sought me out to be a part of the entrepreneurship efforts at ONU, which led me to the NCIIA conference. I am grateful to have met so many inspirational faculty and students on my trip to Nicaragua, and I am thrilled that the Kern Family Foundation is so committed to the entrepreneurial education that will allow today's students to make a significant and meaningful difference in the world. Networking and collaboration are the keys to leveraging these entrepreneurial efforts to make a greater impact for all involved. I look forward to what the future brings!"

Spotlight on Ohio Northern University

John Estell, Professor of Computer Engineering and Computer Science, attended ONU's *Engage the Entrepreneurial Mindset* faculty development workshop along with approximately 25 faculty from ONU and other KEEN schools held July 19-20. He reflects, "I really enjoyed attending the *Engage the Entrepreneurial Mindset* workshop. The diverse set of speakers presented us with multiple viewpoints of the process, gave us a lot of new ideas to consider, and promoted meaningful cross-disciplinary discussions with our colleagues. The one-on-one interaction with my facilitator provided the inspiration for a new entrepreneurial mindset assignment I created. Thank you for helping to make this workshop possible; I'm looking forward to the opportunity to bring the knowledge I gained about the entrepreneurial mindset to my students."

On the first day of the workshop, four speakers from a variety of disciplinary backgrounds—Michael Morris of Oklahoma State University, Gary Beckman from University of South Carolina, Liz Kisenwether of Pennsylvania State University, and Andrew Matheson of Boston Silicon Materials, LLC—spoke about bringing the entrepreneurial mindset to the classroom. During the second day of the workshop, faculty attended smaller breakout sessions where they worked with facilitators to find a way to bring at least one aspect of the entrepreneurial mindset to one of their classes. This workshop, partially funded by ONU's KEEN grant, was the second of its kind. The first was held in May 2008. By the end of this year, ONU's KEEN team expects that the 2010 workshop will result in the entrepreneurial mindset being taught, and assessed, in over a dozen additional courses on campus. Faculty members from other campuses were also able to plan changes to a course.

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Spotlight on Ohio Northern University (cont.)

This workshop and its results evidence the transformation occurring on ONU's campus. In 2005, there was no formal entrepreneurship education program at the University. Now, nearly 50 faculty members have been introduced to the entrepreneurial mindset through a workshop and many of them are integrating components of the mindset into their courses.

In addition to the faculty development efforts, the KEEN team at ONU, Dr. John-David Yoder of the College of Engineering and Dr. Robert Kleine of the James F. Dicke College of Business Administration, with strong support of Dr. Eric Baumgartner and Dr. James Fenton, their respective deans, have been able to implement several other programmatic elements. On the curricular level, they have created a minor in entrepreneurship administered by the College of Business as well as an option administered by the College of Engineering. This included the creation of two new courses: *Principles of Entrepreneurship* and *New Venture Creation*.

At the co-curricular level, all freshman engineering students participate in the "Ideas to Change Your World" poster competition. The posters represent the results from their work in a core course where they develop innovative solutions to alleviate the problems of the 3 billion people who live in poverty. The inclusion of this entrepreneurial problem in this course stemmed from the 2008 faculty development workshop.

ONU has also developed affinity housing for students interested in entrepreneurship; the University opened this new housing facility in September of 2009 with 16 of the 28 available beds filled by students with a declared interest in this area. This program is fully funded by ONU and includes a guest room set aside for visiting entrepreneurs. They also have space in this building to host entrepreneurship related events such as an entrepreneurial lecture series and meetings for their active CEO club.



President Kendall Baker confirmed the institution's commitment to entrepreneurship education by approving a faculty line in entrepreneurship in the business school. Professor Dan Ferguson, a trained engineer with extensive business experience, held the inaugural position. Now in its third year, this role will be filled by Dr. Tammy Schakett. As Assistant Professor of Entrepreneurship, Schakett assumes responsibility as the point person for entrepreneurship activities – curricular, co-curricular, and extra-curricular – on the ONU campus. Schakett has an Associate and Bachelors degree in Business Administration, an MBA, and a Ph.D. in Business Administration with a concentration in marketing. Schakett has owned an accounting and tax practice specializing in small businesses and start ups, which she sold after seven years.

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Spotlight on Ohio Northern University (cont.)

She and her husband also owned a travel agency for ten years. They sold this business to concentrate on a consulting business that assists people with disabilities in starting small businesses. During this period she has been active with several organizations and served on a variety of boards. Schakett has been an adjunct at several colleges for over ten years. She teaches a variety of entrepreneurship, management, and marketing courses. She has also taught computer literacy and accounting courses for several nonprofit organizations.

In 2009, ONU received a continuation grant to continue the momentum created by the initial KEEN grant. Faculty development through the on-campus workshop and travel to other conferences is an integral part of this grant as well as support for idea pitch contests and student travel to entrepreneurship-related conferences. An equally important element of this grant is their focus on development assessment tools in conjunction with the KEEN network. Their dedication to assessing the impact of the efforts on the ONU campus as well as similar efforts on other campuses and the work that has come out of it is an invaluable contribution to the network.

Four KEEN Colleges Receive Continuation Grants

Four KEEN colleges received notice after the July Kern Family Foundation Board Meeting that they received continuation or planning grant funding. The schools are: Baylor University, Boston University, St. Louis University and The University of Dayton. Congratulations are extended to the KEEN teams at these schools.

Living the Mission

Kern Family Foundation Mission:

The Kern Family Foundation seeks to enrich the lives of others by promoting strong pastoral leadership, educational excellence and high quality, innovative engineering talent.

Kern Entrepreneurship Education Network Mission:

To graduate engineers equipped with an entrepreneurial mindset who will contribute to business success and in so doing transform the U.S. workforce.



SEE YOU ON OCTOBER 29th



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2010 Fall Conference—October 8-9


As you know, we have another KEEN conference planned for PIs and Kern Fellows October 8-9, 2010 in Milwaukee, Wisconsin. It will be held at the InterContinental Hotel. The Kern Family Foundation will cover the expenses of **three** participants from each school and hope that schools fill all three slots.

Please visit the conference page on the Foundation website by [clicking here](#). This is your one-stop shop for all conference information and registration, including the agenda. Registration is open from now until **September 10, 2010 at 5:00 pm central** so please make your plans accordingly. You will also be able to sign up for the KEEN-PLTW pre-meeting (Oct 7) and Baylor-hosted post-meeting session on Supercoach® (Oct 9) through the registration link on this site.

The theme of the meeting will be: “**Climbing the Summit Together**.” Our goal will be to demonstrate how our colleges and universities are already working together and to develop ways in which the Network relationships can be strengthened. **Please come prepared to answer two questions: 1.) what is your college especially good at in relation to entrepreneurial engineering? and 2.) how may you use your strengths to help other schools in the Network?** We remain a Wolf Pack. We need to depend on one another. This meeting will address ways in which we might strengthen the synergistic alliances between our universities.

Please direct questions about travel and logistics to Karen "KC" Cartwright at kcartwright@kffdn.org and questions about the meeting itself to Tim Kriewall at tkriewall@kffdn.org. We very much look forward to seeing you in October!

WWW.KFFDN.ORG

 <p><i>The Journal Of Engineering Entrepreneurship</i></p>	<p>Call for Papers 2011 SPECIAL ISSUES</p>
<p>Special Issue SUSTAINABILITY & ENTREPRENEURSHIP</p>	<p>Special Issue BIOMEDICAL ENTREPRENEURSHIP</p>
<p>Paper submission deadline – January 2011 Publication date – Summer 2011</p>	<p>Paper submission deadline – April 2011 Publication date – Fall 2011</p>
<p>The goal is showcase the challenges and opportunities in the areas of eco- and biomedical-entrepreneurship. To this end, you are invited to submit practitioner-oriented papers on a range of topics that might include (but not limited to) case studies, educational paradigms, and tools for current and future eco- and biomedical-entrepreneurs and intrapreneurs.</p> <p>Go to www.jeenonline.org or contact Sri Condoor at condoor@slu.edu for submission guidelines.</p>	