

HIGHER ENGINEERING EDUCATION ALLIANCE PROGRAM

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ASU sets stage to expand productive collaborations with Vietnam's higher education leaders

By Joe Kullman



Professor Huynh Thanh Dat (foreground, left), President of Vietnam National University Ho Chi Minh City, and Arizona State University President Michael Crow (right) sign a memorandum of understanding on December 18 on an agreement for the universities to pursue a range of joint academic, research and global education leadership ventures. Photographer: Jessica Hochreiter/ASU.

Arizona State University and Vietnam National University Ho Chi Minh City are forging a long-term agreement to pursue an array of collaborative ventures aimed at mutual goals in academics, research, global educational leadership and economic development.

On December 18, ASU President Michael Crow and VNUHCM President Huynh Thanh Dat signed a Memorandum of Understanding that paves a path toward establishing joint research projects, undergraduate and graduate studies programs, and faculty, student and academic support staff exchanges between the universities.

The VNUHCM agreement also provides a general framework for exchange activities that will include visits by faculty and students, year-long study-abroad opportunities and faculty sabbaticals, as well as joint seminars, courses and workshops, and sharing of technical support and services.

The new alliance builds on other ongoing related endeavors between ASU, VNUHCM and several other Vietnamese universities over the past several years.

Those multifaceted efforts focus on elevating higher education in Vietnam, particularly in engineering, science and technology. Projects involve developing advanced curriculum and improving

institutional quality assurance assessment to aid Vietnamese universities in attaining higher-level educational credentials and accreditations.

Major objectives set forth in the VNUHCM agreement include creating a “toolkit” for that university’s post-secondary education quality assessment and building an education data center to support assessment projects.

Aiding Vietnam’s efforts to upgrade its university education system so that it can supply a better-trained workforce and boost the country’s economic outlook helps to strengthen key U.S. governmental and marketplace relationships in Southeast Asia, says ASU President

Michael Crow.

"ASU's goals in the collaboration agreement with VNUHCM align with the international investment interests of U.S. industries," Crow says, "and just as importantly with our goals in preparing ASU students to thrive in a global marketplace."

The first major undertaking will be planning and development of a National Assessment Project to evaluate the quality of higher education in Vietnam.

Inspired by ASU's New American University strategy, the Vietnam National Assembly Chairman for Education asked ASU leaders to support Vietnam in its efforts to improve access to its universities in addition to ramping up educational quality.

The outcome of the assessment, along with specific recommendations for initiating improvements, will be presented at a national conference in October.

The delegation of 10 Vietnamese education leaders that attended the memorandum signing at ASU included a member of Vietnam's National Assembly Committee for Culture, Education, Youth, Adolescents and Children. The committee is responsible for the monitoring and evaluation of Vietnam's education system.

Vietnam's government wants to see its education system advance to a level where it can help to meet the requirements for the industrialization and modernization necessary for the country

to succeed in an international market economy.

VNUHCM President Dat views the collaboration with ASU as particularly pivotal in Vietnam fulfilling the quest to modernize its higher education system.

Dat and a contingent of Vietnamese education officials have been on an extensive trip across the United States, visiting San Francisco, the Boston area – including Harvard University and the Massachusetts Institute of Technology – and Washington, D.C., before coming to ASU.

"We came here to learn about the



ASU's goals in the collaboration agreement with VNUHCM align with the international investment interests of U.S. industries, and just as importantly with our goals in preparing ASU students to thrive in a global marketplace.

Michael Crow

Arizona State University President

American higher education system so that we can adapt it to our university and to the Vietnamese system. "We are trying to do everything we can" to achieve that transformation as completely as possible, Dat says.

He emphasized that the joint ventures with ASU will help Vietnam education leaders institute a more advanced university governing system, including improvements in administrative practices, financial management and fundraising strategies, as well as cultivating entrepreneurship and the generation of business startup ideas from within research and academic programs.

The memorandum signing ceremony was hosted by the office of Global Outreach and Extended Education in ASU's Ira A. Fulton Schools of Engineering, which has been at the forefront of ASU's collaborations with Vietnamese universities in partnership with the U.S. Agency for International Development and major industry partners.

USAID also sponsors the BUILD-IT Alliance at ASU, which is leveraging government, industry and academic partners to match science, technology, engineering and math instruction at Vietnam's higher education institutions to the needs and capabilities of the country's key industries. ■

SOURCE: fullcircle.asu.edu/fulton-schools/asu-sets-stage-expand-productive-collaborations-with-vietnam-higher-education-leaders

BUILD-IT Alliance launches second Maker Innovation Space in Vietnam

By Erik Wirtanen

Building off the success of its first Maker Innovation Space in Ho Chi Minh City, the USAID Building University-Industry Learning and Development through Innovation and Technology Alliance, better known as the BUILD-IT Alliance, has launched a second makerspace in Danang, Vietnam.

The new Maker Innovation Space at the University of Danang opened on

August 11 and will help students gain skills to launch and test new technologies and innovative solutions to community development challenges. These spaces enable students to design, prototype and create manufactured projects.

Students will be able to translate the theory they learn in the classroom into prototypes for technological solutions for real-world problems. It is not only an



Students showing Craig Hart (in gray suit) some of the capabilities of the new Maker Innovation Space in Danang. Photo courtesy of Hoang Tang Kim Nam Phung.



From left: Samuel Harris, Education Program manager, Amazon AWS; Thai Ba Canh, director, Danang City Department of Science and Technology; Jeffrey Goss, associate vice provost for Southeast Asia Programs at ASU and executive director of Global Outreach and Extended Education; Bruce Newton, vice president of Worldwide Human Resources, eSilicon; Guyen Thi Thanh Thanh, event interpreter and lecturer of English at University of Danang; Le Thi Uyen, event emcee and Danang University of Education student, Associate Professor Doan Quang Vinh, vice president, University of Danang at the opening of the Maker Innovation Space in Danang. Photo courtesy of Hoang Tang Kim Nam Phuong.

educational facility, but also a solutions and inventions laboratory.

“Technology is changing everything we know...countries and people that embrace innovation are in the driver’s seat. Innovators get to shape these changes,” said USAID Vietnam’s Deputy Mission Director Craig Hart at the launch event.

The BUILD-IT Alliance is a five-year project funded by USAID and implemented by ASU. It is designed to help Vietnam modernize its science, technology, engineering and mathematics higher education system.

In June, the BUILD-IT Alliance launched its first Maker Innovation Space in Ho Chi Minh City and selected Danang for

its second facility based on the city’s reputation for innovation and the strength of its partners there. Both the University of Danang and Danang University of Science and Technology invested considerable effort, expertise and resources in the new Maker Innovation Space.

With the introduction of Maker Spaces around the country, USAID aims to help coming generations of university graduates lead inclusive, technology-based growth, which fits squarely into Vietnam’s ongoing effort to revolutionize its economy under the Vietnam 2035 strategy.

“I know this makerspace will quickly become a place of collaboration, ideas and experimentation,” Hart said. “What

I also expect, though, is that Vietnam’s inventors and technology leaders of the future will come out of the Maker Movement.”

ASU has been an active part of recent STEM innovation initiatives in Vietnam, including the 2017 STEM Conference hosted by Arizona State University’s Higher Engineering Education Alliance Program and BUILD-IT, the Women in STEM Leadership Program, the Vietnam Engineering Education Conference. The university invited Vietnamese faculty to campus to learn more about the emerging field of internet of things with Intel. ■

SOURCE: fullcircle.asu.edu/outreach/build-it-alliance-launches-second-maker-innovation-space-vietnam

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The final HEEAP Vocational Cohort reflects on their time at ASU

By Khandle Hedrick



All 22 members of the last HEEAP cohort gather with ASU faculty, staff and student volunteers at the closing ceremony for a final photo with the ASU pitchfork symbol representing the ASU mascot, proudly held high. Photo courtesy of HEEAP.

The year 2017 marks the last year of the Intel-sponsored HEEAP Vocational and University Cohorts. For the past six years, two groups of approximately 25 engineering professors from vocational schools and universities in Vietnam have come to spend their summer break at ASU learning innovative ways to make their classrooms more engaging and to ultimately better prepare their students for a career in engineering immediately following graduation. Since 2012 there have been 301 Vietnamese professors who have participated in the HEEAP Cohorts.

The 2017 vocational cohort was comprised of 22 professors from Ho Chi Minh City. The professors studied at ASU for four weeks under the direction of HEEAP Academic Director, David Benson, and were challenged to embrace new teaching methods by taking the role of a student again themselves. HEEAP was able to catch up with two of this year's vocational cohort graduates - Son Hai Nguyen, a mechanical engineering professor at Cao Thang Technical College, and Anh Thuan Dinh Tran, a professor from the Industrial University of Ho Chi Minh City - to see how their



(From left) Son Hai Nguyen, Nguyen Le Viet Hoang, David Benson, Tyler Michael, and Anh Thuan Dinh Tran kick in for a team photo after completing their final emergency evacuation simulation project with HEEAP. Photo courtesy of Son Hai Nguyen.

participation in HEEAP has impacted their classes and students this semester.

HEEAP: How have you been using what you learned as part of the HEEAP Vocational cohort at your university?

Nguyen: After training with the HEEAP Vocational cohort, I applied new methods for my lectures at my school. I applied Flipped Classroom, Think-Pair-Share, group discussion to solving problems, Content and Language Integrated Learning Lessons, Project Desktop and Project Based Learning to my lessons. I've also used Kahoot.com to play mini games with my students.

Tran: I have been using active methods which I studied at ASU, such as

teambuilding, Think-Pair-Share, PBL and Quick Money. Additionally, I have found that my colleagues are also applying what they learned at ASU in their classrooms.

HEEAP: How have your students responded to the changes you have made in your classroom?

Nguyen: My students are very excited to discuss and tell me that they are interested in learning this method, as it is applied immediately and they are not left sleepy like when I taught with the usual method. They have the opportunity to work more and learn more.

Tran: I have found that my students are doing well. They still do their big applied project which is to make a refrigeration system (simulation only) from my requirements: lightest, smallest, cheapest. They will also get higher scores if parts are movable. Students are very excited in my classes.

HEEAP: Have you faced any challenges this semester since implementing these new methods in your classroom?

Nguyen: Implementing change is hard as engineering education in Vietnam is limited with few materials and equipment. Traditional training programs are a little

heavy in theory and have not gone into practice and application.

Tran: I face a problem that is the time of a course. There is not enough time if I always apply ASU teaching methods. So I have to combine traditional methods and ASU methods. Here we also have lack of facilities to teach.

HEEAP: If you could tell the sponsors of the HEEAP Vocational Cohort one thing, what would you say?

Nguyen: Thank you to the HEEAP program sponsor. I have had great experiences with this program. I have made great changes for myself in thinking and acting for the cause of education and training. This program is very meaningful to me, my school and Vietnam for its innovation and promotion of the development of education. ■



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Vietnamese scholars study at ASU to advance Ho Chi Minh City's Smart City efforts

By Monique Clement



Six Vietnamese scholars arrived at Arizona State University in August to study in Ira A. Fulton Schools of Engineering master's programs as part of the Intel Grand Challenge Master's Fellowship program facilitated by ASU's Higher Engineering Education Alliance Program. Pictured are five of the students arriving at Phoenix International Airport on August 7. Photo courtesy of Angela Harguess.

A recent \$1 million investment from Intel Products Vietnam helped Arizona State University to sponsor six Vietnamese scholars for one-year master's fellowships to speed the transformation of Ho Chi Minh City into an innovative Smart City by 2025.

Facilitated by ASU's Higher Engineering Education Alliance Program

known as HEEAP, the Intel Grand Challenge Master's Fellows began their studies within graduate engineering programs at ASU's Ira A. Fulton Schools of Engineering in August 2017.

Nguyen Quang Hung is studying chemical engineering, Dao Doan Duy is studying environmental resource management, Hoang Thi Khanh Ha and

Ho Hoang Hai Nam are studying materials science and engineering, Le Phuoc Tri is studying solar energy engineering and commercialization, and Pham Quoc Thai is studying civil, environmental and sustainable engineering.

"I chose chemical engineering to dig deeper into the industry and learn more about using chemistry to solve

environmental and energy problems," said Hung, who studied analytical chemistry at Vietnam National University Hanoi University of Science prior to this fellowship. "I hope that I can manage to help Ho Chi Minh City to build modern systems regarding wastewater treatment, air quality control and food quality control."

As part of their efforts to advance Ho Chi Minh City to become a Smart City, fellows will work on an applied project to develop their skills. After they finish the program by August 2018, fellows will return to Vietnam and begin work on Smart City projects for the HCMC government for at least three years.

"I am really honored," said Ha about the opportunity to work on HCMC's Smart City projects. "I want to be at ASU to learn more new things and then come back and contribute my ability to operate this project. I believe that this project will help my country increasingly become modern and developed."

All six fellows are excited about their time at ASU.

"ASU is No. 1 in innovation, and I also know that there are a lot of internet of things systems facilitating students around campus," Thai said. "I think that ASU's campus can be seen as a small Smart City. ASU also has many labs and



The Fellows were recognized by Dr. Le Quoc Cuong, Deputy Director of Ho Chi Minh City's Department of Information and Communications, and Sherry Borger, Vice President, Technology and Manufacturing Group General Manager, Intel Products Vietnam, at the Intel Products Vietnam Grand Challenges Master's Fellows Award Ceremony in Ho Chi Minh City, Vietnam, on August 4, 2017. Photo courtesy of Minh Quy.

clubs related to smart sensor applications where I can discover more about the internet of things."

Recent Vietnamese bachelor's degree graduates whose engineering-related studies focused on Smart City design were eligible for the fellowships. The final six scholars were recommended by their dean or department chair, met standard ASU admission requirements and were chosen based on their undergraduate GPAs, GRE scores, English proficiency and interviews with the HCMC People's Committee, Intel and ASU.

"It has been an honor to collaborate with Intel Products Vietnam and the Ho Chi Minh City People's Committee," said

Jeff Goss, Associate Vice Provost for SE Asia Programs at ASU. "This fellowship will help to further the development and decide of HCMC into one of the world's premier Smart Cities."

Founded in 2010, HEEAP is a collaboration of academic, government and corporate partners in the United States and Vietnam whose goal is to improve the quality of higher engineering education and technical vocational programs in Vietnam – a country that is quickly becoming a hub of innovation. Applied and hands-on workshops HEEAP offers at ASU and abroad help to create work-ready graduates with applied technical skills needed by industry.

HEEAP has previously supported fellowships at ASU to help female faculty at partner universities extend their master's education. During the 2016–2017 academic year, HEEAP facilitated the Advancing Women in Engineering Fellowship, a one-year opportunity for Vietnamese female students to earn their master's degree in electrical engineering, mechanical engineering or information technology at ASU. ■

SOURCE: fullcircle.asu.edu/outreach/vietnamese-scholars-study-at-asu-to-advance-ho-chi-minh-citys-smart-city-efforts/

More than 550 participants attend series of BUILD-IT workshops on accreditation and evaluation

By Nguyen Huu Diem Huong

From September 7 to October 2, 2017, the BUILD-IT project conducted a series of 14 in-country workshops on international accreditation, quality assurance and evaluation of student learning. More than 550 participants from BUILD-IT and non-BUILD-IT universities and education organizations in both STEM and non-STEM areas from Can Tho, Ho Chi Minh City, Danang, Hue and Hanoi participated in the workshops.

The workshops were led by Kathy Wigal, BUILD-IT project director, and Scott Danielson and Charles Nguyen, co-

leads of BUILD-IT Activity 4: Implementing Quality Systems. All workshop instructors provided useful knowledge and expertise on how to develop sustainable quality assurance systems that help to ensure continuous improvement at both program and institutional levels, which in turn are critical for successful international accreditation and recognition. The workshops also introduced new perspectives from U.S. educators that are relevant and applicable in the context of Vietnamese educational institutions.

The workshops introduced essential knowledge about how to develop

quality systems that meet international accreditation and recognition standards to universities and education organizations nationwide. A series of workshops on the principles of successful institutional quality assurance systems was delivered in Ho Chi Minh City, Danang and Hanoi. At the program level, administrators and faculty in Hanoi started to explore ABET accreditation, including mission, organizational structure and timeline, to consider the next step in the efforts to advance quality academic programs and curriculum, and worked on using templates developed by BUILD-IT to



More than 550 participants from BUILD-IT and non BUILD-IT universities and education organizations in both STEM and non-STEM areas from Can Tho, Ho Chi Minh City, Danang, Hue and Hanoi participated in the workshops. Photo courtesy of BUILD-IT.

draft partial outlines for their AUN-QA self-assessment reports. Meanwhile, participants in Ho Chi Minh City were given a forum to share and discuss success stories and challenges encountered as part of the preparation process for ABET and AUN-QA, and were exposed to experiences in establishing and maintaining relationship with employers via Industrial Advisory Boards.

In addition, the latest series of BUILD-IT workshops had a particular focus on providing tools that help faculty, administrators and quality assurance staff to effectively establish, run and connect the different stages in the quality systems – particularly at the program level. These are the stages that are often considered as gaps in the current practice of teaching and learning in most universities in Vietnam. In particular, workshop participants explored using a working automated data aggregation model developed by BUILD-IT to



Workshop participants in Ho Chi Minh City were also introduced to the application of the concepts of formative and summative assessment methods, where they had to rethink different activities in their teaching and learning process. Photo courtesy of BUILD-IT.

streamline the assessment process for student learning outcomes, practiced developing different types of valid, reliable and fair assessment rubrics, and re-evaluated and critiqued course evaluation tools currently being used at different BUILD-IT schools to develop high-quality instruments measuring instructional effectiveness based on rigorous research

in the field. Workshop participants in Ho Chi Minh City were also introduced to the application of the concepts of formative and summative assessment methods, where they had to re-think different activities in their teaching and learning process, including both classroom learning activities and assessment of student learning at courses and program level using a constructive alignment approach.

Many participants who attended the workshops have shared that they found the knowledge and skills learned very valuable, which was seen as “lifebuoy” to their teaching and learning activities, as one young faculty put it. Another participant shared that the workshops “helped me to learn new and useful knowledge which I had been searching for the whole life but had failed to find it – thank you.” ■

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ASU launches Workforce Development Council in HCMC

By Alexandra Stinchfield



Members of the newly formed Workforce Solution Council gather for a photo. This Council will define critical skill gaps and work with ASU to develop collaborative short-term and longer-term education and training programs to develop and sustain a world class STEM workforce. Photo courtesy of Alexandra Stinchfield.

In Vietnam, with strong foreign direct investment investment and rapid economic growth, employers are struggling to find the right workers with adequate and relevant skills. To address this challenge, the Saigon Hi-Tech Park (SHTP), Arizona State University (ASU) and Intel launched the inaugural Workforce Development Council meeting on August 18. The meeting was hosted at SHTP's training center convening industry and academia partners to discuss the current workforce challenges and future state requirements towards the formulation of a Workforce Development Council.

This Council will define critical skill gaps and work with ASU to develop collaborative short-term and longer-term education and training programs to develop and sustain a world class STEM workforce.

The companies represented were

Nike, FPT Software, Esquel Garment Manufacturing, Datalogic, G-7 Technology, GES, Microchip, National Instruments, Nidec, On Semiconductor, Samsung, Sonion and Minh Nguyen. The meeting was facilitated by Jeffrey Goss, associate vice provost, Southeast Asia at ASU, and Tran Cong Tuan, head of administration at Saigon Hi Tech Park.

The meeting consisted of two group sessions focused on reviewing workforce challenges and defining top workforce competencies. The first meeting initiated a great discussion on current workforce challenges, future state requirements and the role of universities and industry working together to develop human capital in HCMC. The next meeting on October 26 dove deep into specific solutions and trainings that addressed current challenges. ■



Upcoming Events

We invite you to visit our website to discover all that BUILD-IT is offering in 2018

Throughout Vietnam, BUILD-IT is hosting a number of workshops focused on Developing Quality Systems. Visit our website to learn more about these unique opportunities!

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Lac Hong University wins Robocon 2017

The Lac Hong University team defeated their Malaysia rivals on Sunday to win the 2017 Asia-Pacific robot contest (ABU Robocon 2017) on August 27 in the Japanese capital of Tokyo.

PANO-a team from Lac Hong University was crowned champions with an outright victory, known as APPARE, meaning splendid in Japanese. Japan and Thailand tied for third place.

Robocon 2017 attracted the participation of 19 teams from 18 countries and territories across the Asia-Pacific region and was hosted by the Japanese broadcaster NHK. At the quarter finals and semifinals, the Vietnamese team had outstanding performances, resulting in winning over teams from India and the host country team of Japan. With its all-out efforts, the Robocon Vietnam team defeated the

Malaysian team at the final match that lasted one minute and twenty seconds.

This is the sixth time that Vietnam has been the champion of the robot contest. Its five previous championships victories were in 2002, 2004, 2006, 2014 and 2015. Vietnam has also become the country with the most wins at the ABU Robocon. This is the second time that a team from Lac Hong University has won the Asia-Pacific robot contests for



The winners from Lac Hong University speaking with reporters about their win at Asia-Pacific Robocon 2017. Photo courtesy of Minh Giang.

college students, following their previous victory in 2014.

Under this year's game rules, a robot was required to throw discs at balls which were on seven spots consisting of circular tables attached to columns of

varying heights. Points were scored when a team's discs landed on a spot where its ball was knocked off, hence the theme "The Landing Disc." If a team successfully knocked off all the balls and landed its discs on all spots, they won the game

with an APPARE victory.

Vietnam's national TV broadcaster VTV will host the contest in 2018. ■

SOURCE: builditvietnam.org/news/lac-hong-university-wins-robocon-2017

Educational technology and English woven creatively in classrooms at HCMUTE

By James Cervin



The 17 participants of the Moodle training class proudly stand with their instructors, Ngoc Ngo (fifth from left) and James Cervin (tenth from left). Photo courtesy of BUILD-IT.

During the third of week of August, Ho Chi Minh University of Technology and Education hosted a Moodle training seminar for 30 English faculty members chaired by Tin Dang. Arizona State University Instructional Designer Ngoc Ngo and Global Educator James Cervin conducted a week-long training that focused on improving the digital pedagogy and delivery of language learning modalities through a learning management system. Ngo and Cervin tackled such topics as test and quiz design, embedding video, the utilization of discussion boards and creating a community of practice and engaged learning outside of the classroom walls.

Each day, participants were provided with guides, techniques and hands-on opportunities to not only learn how to use the Moodle features to enhance English language acquisition, but also to appreciate the academic value and multiple adaptations and uses for student engagement in their courses.

By the end of the fifth day, participants were able to design an aesthetically appealing course in which materials were organized to ensure maximal navigability with customized learning paths for various learners. Most importantly, the training has helped participants gain confidence in applying educational technology creatively in their teaching. ■

ASU STEM Alliance In Vietnam

Through this monthly email update we will keep you, our partners and participants, informed with news and links to upcoming events and opportunities for involvement as well as key accomplishments and achievements made possible by our joint collaboration and commitments.

Sign Up

Policy and Leadership Seminar III in HCMC tackles challenges in higher education policy realization

By Marcus Ingle and Phuong Nguyen



Led by Professor Marcus Ingle (front row, fifth from right) of Portland State University in collaboration with faculty from the Southeast Asian Ministers of Education Organization Regional Training Center in Vietnam and implementing partner Arizona State University, the seminar was the third in the series and gave participants an opportunity to build on the work of the previous events. Photo courtesy of BUILT-IT.

During September 6–8, leadership from eight Vietnamese universities participated in the Policy and Leadership Seminar III on Leading University Policy Realization as part of the BUILT-IT Alliance. Led by Professor Marcus Ingle of Portland State University in collaboration with faculty from the Southeast Asian Ministers of Education Organization Regional Training Center in Vietnam and implementing partner Arizona State University, the seminar was the third in the series and gave participants an opportunity to build on the work of the previous events.

Focused on leadership roles and skills needed to lead policy realization, participants highly appreciated learning the seven traits of change-preparedness, various non-monetary motivators, distinctions between policy implementation and realization, communicating a policy, mobilizing implementation, policy feedback and adaptation and policy sustainability.

The many innovation areas of BUILT-IT - including applied curriculum and project-based learning, quality assurance and



Strong participant enthusiasm, engagement and knowledge transfer between university teams included frequent sharing and questioning of one another's policy issues, advocacy strategies and completed exercises. Pictured is Phuong Nguyen, ASU Vietnam director, leading an exchange between university teams. Photo courtesy of BUILT-IT.

international accreditation goals, industry engagement and entrepreneurship opportunities, development of opportunities for women in STEM fields - all intersect in the world of policy. In fact, to realize institutional as well as country wide goals in any of these areas, institutions must be prepared with current and relevant university policy and related procedures to encourage and advance innovation and change. The series on Leading Policy Innovation has given participants practical concepts and tools to help identify, formulate and realize

innovative university policies that are of high value to their institutions and will help them to realize their short and long term STEM-related educational goals. Strong participant enthusiasm, engagement and knowledge transfer between university teams included frequent sharing and questioning of one another's policy issues, advocacy strategies and completed exercises.

Seminar participants were also joined by representatives from USAID and the Ministry of Education and Training. Le My Phong, head of the Division of Higher and Professional Secondary Accreditation, MOET General Department of Education Testing and Accreditation, Dang Van Huan and Nguyen Thi Thu Thuy, senior officials at MOET Higher Education Department, shared updates regarding the resolution on training human resources to meet requirements of Vietnam's planned Education 4.0 objectives supported by a recent MOET decree on university autonomy.

Industry representatives from Microsoft and Fablab Saigon shared their insights on challenges and opportunities

when working in partnership with higher education institutions; their investments and plans for their workers to have proper skills and expertise to succeed; and important factors for success in collaborating with higher education institutions. Notably, Seminar III participants benefited throughout the sessions by the presence of Phil Keisling, director of the Center of Public Service at Portland State University. Keisling is a specialist in "policy realization" having served as Oregon's elected Secretary of State for eight years. Keisling shared practical suggestions on policy implementation and compliance with the participants.

A highlight of the seminar was the sustained, high-level of engagement of the university participants in the learning process. They arrived well-prepared and participated actively in all of the applied learning sessions. The seminar ended with an action plan for each participant to implement the policy tailored to STEM improvement requirements of their own institutions. ■



Phuong Ho, director at SEAMEO, shares her insights at the seminar. A highlight of the seminar was the sustained, high-level of engagement of the university participants in the learning process. They arrived well-prepared and participated actively in all of the applied learning sessions. Photo courtesy of BUILD-IT.

Maker Innovation Spaces in action

By Alexandra Stinchfield



On Monday, August 21, 2017, Saigon Hi-Tech Park held a 3D design workshop in the Maker Innovation Space for university students. More than 40 students attended the workshop learning how to design and print products using 3D printers. This will be a first among many programming opportunities in a space designed to support innovation, design-build projects and provide a space for students to experience an applied project curriculum in the rapidly developing STEM fields.

The University of Danang Maker Innovation Space recently hosted U.S. Ambassador Ted Osius and Consul General Mary Tarnowka as they

interacted with students who were learning how to design, prototype and create products in the space.

The Maker Innovation Space is a critical part of the BUILD-IT project. The space is a key component in initiating a culture of innovation by providing an experiential space where students and faculty can design, create, innovate and develop work-ready competencies. The area is designed to empower faculty and students to engage in a range of activities such as sharing ideas, designing, building, and developing new products. Students will also have an opportunity to engage in a combination of hands-on processes, networking and participate in industry led programming. ■

Arizona State University supports Vietnamese student entrepreneurship competition

By Monique Clement

Vietnam is looking to become a country of innovators, and the country's student entrepreneurs are answering the call.

To celebrate the grand opening semester of the Maker Innovation Space at the University of Danang in Vietnam, the Maker to Entrepreneur Program put on a one-week competition for students to

show their ability to innovate.

The Maker to Entrepreneur Program supports prototypical startups and promotes their innovative ideas and scalable products. MEP came out of a series of Maker Innovation Forums sponsored by the U.S. Department of State and organized by Arizona State University in the cities of Ho Chi Minh



Seven teams competed in the final round of the Maker to Entrepreneur Program's competition in September 2017. The top three teams took home \$1,400 in prizes. Photo courtesy of Thao Nguyen.

City, Danang, Hanoi and Can Tho. At these forums, entrepreneurs, small business owners, startups, makers and inventors connected with government representatives responsible for developing and administering innovation and entrepreneurship policy.

Together, these stakeholders identified challenges and solutions to support Vietnam's burgeoning ecosystem, create economic value and drive development in science, technology engineering arts and mathematics, or STEAM.

Over the week of September 25, student teams from the University of Danang worked to create a viable idea to help real-world communities and businesses, and then build a tangible product.

For the final round, seven student teams brought their best ideas to prototype final products, pitch them and provide demonstrations of their prototypes at the University of Danang Maker Innovation Lab.

Products were scored on their originality, innovation, feasibility, social impact or business potential, and their prototype or proof of concept.

The competition was judged in part by Jeffrey Goss, ASU associate vice provost of Southeast Asia, executive director of Global Outreach and Extended Education in ASU's Ira A. Fulton Schools of Engineering and principal investigator of BUILD-IT, a project implemented by ASU



Team Prime's A ROGO-Robot, a modular robot to help teach kids engineering and technology skills, won first place at the Maker and Entrepreneur Program's competition. Photo courtesy of Thao Nguyen.

to help Vietnam modernize its science, technology engineering and mathematics higher education system. ASU's Kellie Kreiser, executive director of Thunderbird for Good, was among the additional competition judges.

First place and \$700 went to team PRIME, who created A ROGO-Robot, a simple, modular robot designed to teach community children the basics of programming, integrated circuits, mechanics and other technology skills.

Team PANT9X created a wireless sensor network to monitor soil and weather conditions for a landslide early warning system to take second place and \$400.

The Guardians team took home third place and \$300 for their work creating

a smart hydroponic system for growing vegetables that is easy and affordable enough for home use. The autonomous system allows households to grow their own vegetables free of harmful chemicals in an energy and water efficient manner.

Additional competing teams created an environmentally friendly tank for burning votive paper, along with a robotic arm and two versions of an internet of things platform for smart home technology and devices.

ASU Engineering Projects in Community Service Director Joshua Loughman and Associate Director Hope Parker contributed to the competition. ■

[SOURCE: fullcircle.asu.edu/outreach/arizona-state-university-supports-vietnamese-student-entrepreneurship-competition](https://fullcircle.asu.edu/outreach/arizona-state-university-supports-vietnamese-student-entrepreneurship-competition)



Vietnamese student teams presented product prototypes at the Maker to Entrepreneur Program's competition at the University of Danang's Maker Innovation Space in September. Photo courtesy of Thao Nguyen.