HIGHER ENGINEERING EDUCATION ALLIANCE PROGRAM

Quarterly Newsletter | June 2017

Read more about the Young Southeast Asian Leaders Initiative on page 4

what's inside?

Amazon partners with ASU to present new education technology in Vietnam

By Cristal Ngo & Tam Ngo

Participants of the AWS Educate workshop all gave positive feedback. They look forward to integrating the technology into their curriculum.

On March 13 and 15, 2017, BUILD-IT and the Amazon Web Services (AWS) Educate program co-organized two one-day workshops in Ho Chi Minh City and Danang respectively, with the participation of 87 faculty members from seven higher education institutions in Vietnam.

According to Amazon trainers, AWS Technology was the most sought skill on LinkedIn in 2016. As such, the workshops were designed to equip faculty with fundamental proficiency in AWS Technology as well as knowledge of how to integrate the technology into their curriculum. These workshops are part of

The workshop was informative and interactive. Participants were gathered in groups to determine how they can implement the AWS technology in their classrooms.

BUILD-IT's continuous effort to prepare workforce ready graduates with high quality programs, as well as their strategic goal of enabling university and private sector collaborations.

The workshop in Ho Chi Minh City was hosted at the Ho Chi Minh City University of Technology and Education (HCMUTE) with 46 participants from six BUILD-IT academic partners. The workshop in Danang was hosted at Danang University of Science and Technology (DUT) with 21 participants from two BUILD-IT academic and industry partners.

In each workshop, trainers from the AWS Educate program (Sam Harris,

AWS Educate program manager, Sam Harris (second from left), watches as a participant explains the last session to the class.

AWS Educate Program Manager, and Julian Lau, Principal Solutions Architect, ASEAN) presented the benefits of cloud computing and its various uses in education, enterprise and startups. Workshop participants not only learned to leverage the AWS Educate program to prepare students with cloud technology, but also gained access to lessons and curriculum on cloud topics including security, big data, internet of things and developing on the cloud. By the end of the workshop, participants understood, though practical case studies, the core concepts of cloud computing and different attributes such as reliability, fault tolerance, elasticity, scalability and pay-as you-go pricing.

In addition to the practical curriculum, participants also found the AWS pricing model very affordable. With the free AWS credit awarded to instructors, professors can explore and experience various AWS technologies. One participant from DUT mentioned that the AWS internet of things SMS texting scheme could be used by the school as a basis notification system for students via SMS, as many students do not check their email regularly. Many lecturers also shared that utilizing AWS was a more cost-effective option for universities than investing in the infrastructure needed to set up a high-performance computing facility.

At the end of the workshops, participants were given the opportunity to sign up for the AWS Educate Instructor Scheme. The workshops have opened up exciting opportunities for BUILD-IT partners to a world of advanced technology and inspired them to apply as well as integrate the technology into their curriculum to produce generations of cloud-ready graduates. ■

University of Danang awarded AUN-QA certification

By Huong Nguyen

Representatives from Danang University of Technology receive the Certificate of AUN-QA.

On February 13, 2017, an AUN-QA Certification Ceremony was held at Danang University of Science and Technology (DUT) for two advanced programs in Electronic and Communication Engineering, and Embedded Systems.

The two programs have been successfully assessed by ASEAN University Network – Quality Assurance (AUN-QA) and received the highest score to date in Vietnam. This is also the second highest assessment result throughout the ASEAN region based on AUN-QA standards.

Speaking at the ceremony, Deputy Minister of Education and Training, Professor Bui Van Ga emphasized the indispensable trend for universities to invest in enhancing the quality of faculty and staff, as well as facilities - especially for pioneering academic programs identified - to meet international standards. ■

SOURCE: thanhnien.vn/giao-duc/hai-nganh-dh-bach-khoa-da-nang-dung-thu-2-dong-nam-a-theo-chuan-aunqa-790978.html

> **The advanced programs in Electronic and Communication Engineering, and Embedded Systems at DUT successfully received the highest assessment result so far, given the highest score among the 65 academic programs assessed by AUN-QA in Vietnam. This success serves as a very good practical experience for us to replicate this advanced, high quality training program model in Vietnam.**
>
> Bui Van Ga
>
> *Deputy Minister of Education and Training*

Young leaders from 10 ASEAN countries leave ASU impacted

By Sussely Morales

All 42 young leaders of the YSEALI 2017 cohort at ASU gather together for a final photo in front of the White House.

Let me start by setting the scene. 42 fellows. Ten ASEAN countries. Five weeks. Mix that with a robust program schedule, community service projects, road trips and an affinity for karaoke, and you get the ASU YSEALI program.

The Young Southeast Asian Leaders Initiative, or YSEALI for short, is a leadership program set forth by the U.S. Department of State. The collaboration between nations provides a free and open exchange of educational and cultural ideas through academic programming and active learning. Armed with a playbook that held all of the YSEALI secrets, but mostly just the schedule, the staff were eager to meet the fellows just as much as the fellows were eager to meet their colleagues.

In early March, fellows from Thailand, Vietnam, Indonesia, Singapore, Brunei, Malaysia, Myanmar, Cambodia, Laos and the Philippines trickled into the Valley of the Sun with their sights set on Arizona State University. Setting up home base in Tempe, the young leaders were split into their respective cohorts of Social Enterprise and Economic Development (SEED) and Civic Engagement (CE). David Benson headed up the SEED institute at the Ira A. Fulton Schools of Engineering and Christine Buzinde lead the way for the CE institute at the College of Public Service and Community Solutions.

The YSEALI CE group spent time volunteering with Tiger Mountain Foundation, a local Arizona nonprofit that empowers South Phoenix by teaching life skills through initiatives like community gardens.

After just a few days of adjusting, the fellows began navigating their way through the main and downtown campuses, ready to immerse themselves in the classes of the day. While most academic sessions were done with their respective groups, like transformers, all 42 would band together when it came to the community service projects such as packing food with Feed My Starving Children and cleaning up the neighborhood for House of Refuge.

The trip wasn't all work and no play, however. After all, what kind of hosts would we be if they didn't have a little fun? So with signs reading "#1 fan from the Philippines" and "Traveled 7,683 miles for this!", YSEALI headed to Talking Stick Resort Arena to watch the Phoenix Suns take on the Golden State Warriors. Coincidentally, their visit to Chase Field had a similar Bay Area showdown when the Diamondbacks played the Giants. For many, attending professional sporting events was a first, but they soon got a taste of other leisure activities in the valley when they got to spend a weekend with local families for their homestays. Fellows visited museums, went to hockey games, got to enjoy mani/pedi's (who doesn't love that?) and hiked some of Arizona's most popular trails. The cultural exchange was

twofold as some of the fellows cooked delicious dishes native to their countries for their host families to try!

While each fellow traveled thousands of miles to get to the U.S., Arizona was not their final destination. They experienced the desert heat in Phoenix, the sunny beaches of Southern California, the urban landscape in San Francisco and the capital of the U.S., Washington D.C. Each environment told a different story about American history, like the natural wonders of Sedona narrated by the Navajo Nation or the cultural landmarks of the entertainment capital in California.

"It really makes me see the world with a different lens now," said Mary Kris Lucagbo Gebe of the CE cohort. "Coming back to the Philippines is not a 'back to reality' kind of thing for me, but a whole new reality. I'm ready to embark on a journey with the U.S. in my heart."

On their first trip to the Grand Canyon, several members of YSEALI found a perfect spot for a quick picture. The Grand Canyon was one of many educational and cultural field trips organized by ASU for the YSEALI program.

The weeks-long journey culminated in Washington D.C. There, the fellows presented to the U.S. Department of State, sharing their experiences, their takeaways and their inspiring stories of how they will continue to be active leaders of change in their communities. True to their love of music, the presentation was wrapped up with an original composition by the CE group titled, "Beautiful People," a name Buzinde had used to affectionately refer to the cohorts.

A lot can transpire in a little over a month's time. Roommates become friends, funny moments become inside jokes, the seeds to blossoming friendships were planted, turning the sadness of saying goodbye into the fuel that helps those relationships grow long past the program. When asked about her experience, Angelini Sollistifani of the SEED cohort said, "YSEALI fellowship at ASU? I couldn't ask for more! They organized the program perfectly. ASU folks and YSEALI fellows bonded very well, feels like home and like we have a family in the U.S."

So, what do you get with 42 fellows from ten ASEAN countries in five weeks? The answer is one beautiful family. ■

Women compete in hands-on engineering semifinal

By Go Fab Labs News

The contestants blew the WEPICS Board of Judges away by the excellent quality, creativity, and feasibility of their ideas.

Women Engineering Projects in Community Service (WEPICS) is a project within Arizona State University's Building University-Industry Learning and Development through Innovation and Technology (BUILD-IT) program's Women in STEM initiative. Achieving greater gender balance in STEM is currently a global trend. It is undeniable that female roles have been underrepresented in STEM majors, including in Vietnam. WEPICS was created in order to nurture the innovation and entrepreneurship of STEM women students, engineers and entrepreneurs, as well as researchers to support the sustainable development of the local community.

WEPICS background

The WEPICS 2017 Competition is seen as the successor to the Women in STEM Conference held in August 2016 in Danang, Vietnam. The Women in STEM Conference was one of the first conferences in Vietnam with a primary focus on promoting women's roles in science, technology, engineering and mathematics. The event successfully gathered about 300 guests, including representatives from various

Upcoming Events

We invite you to visit our website and discover all of our upcoming events.

Our activities are driven by the active voice of our four multi-stakeholder solutions councils, supported by a network of maker innovation labs and the HELIX web-based repository.

- Student-Industry engagement events
- Executive Leadership training
- Women in STEM mentorship programs and Leadership forums
- Developing Quality training
- Certified Facilitator programs
- Project-based curriculum
- Maker Innovation Network
- HELIX Portal

Visit builditvietnam.org to learn more and register!

governmental departments, enterprises and educational institutions. WEPICS creates opportunities for women to help the community and satisfy their passion to research, create and build, to be motivated in STEM fields through projects and entrepreneurship, and to build networks and relationships.

In reference to the WEPICS Competition, Ezra Simon, representative of the main sponsor of the competition: United States Agency for International Development (USAID) Vietnam, said "This is about further motivating each and every one of you to explore, to discover, to figure out ways to work hand-in-hand and make new connections. This will reduce the isolation of ideas, so that in the future you'll know how to collaborate better and to get beyond the traditional classroom settings to all the exciting places where changes can happen."

At ASU's international STEM Conference on March 1, 2017 at the InterContinental Hanoi Westlake, the founder of WEPICS from the University of Danang (UD) and UD-Danang University of Technology – one of the pioneers in promoting the women in STEM trend across Vietnam – was invited to share about her promotion model and related activities to other universities and partners.

Competition details

To join the WEPICS Competition, a project team needed to be led by women and consist of four or fewer individuals. All prize eligible team members are Vietnamese and proposed ideas and products had to be original, and not previously submitted to any other competitions or programs.

In preparation for the competition launch, the WEPICS organizing committee hosted a community field trip for interested participants. The purpose of the field trip was to explore the local community and find areas where there may be opportunities to bring innovative improvements or solutions to community issues using STEM. On December 21, 28 participants joined the Danang field trip to Tho Quang Fishing Village, Hoa Vang District Health Center, Quang Chau Village, Quang Chau Temple and Tuy Loan Organic Farm. Participants were able to interview community members to get a better understanding of the challenges and unique needs of each location.

When the WEPICS Competition officially launched on January 1, 2017, a total of 26 teams from different provinces registered to participate. To support the competition and generate a space where all project teams could share their ideas and request community votes, the "Vietnam Women in STEM: Wepics Competition" Facebook page was created on February 8, 2017. After only a month, the number of likes on the page jumped to over 2,100, more than half of which were females. The count also included 100 international likes from countries including the United States, Taiwan, South Korea and Japan. Within Vietnam's market, 44 percent of the likes are from Danang viewers, 23 percent from Ho Chi Minh City, and the last 33 percent from other provinces. It appears that WEPICS 2017 has become viral not only in Vietnam, but has also drawn the attention of people from around the world.

The Semifinal idea round

The WEPICS semifinal took place in Danang on March 5, 2017. Each of the 26 teams were given a chance to prove their confidence, preparation and improvisational skill, while presenting their project idea through a 10-minute Q&A with the WEPICS Board of Judges. The ideas were judged based on their applicability in the community, innovation and economic feasibility. Final assessment of the ideas was calculated based on the score given by the WEPICS Board of Judges and the results of online community popular vote.

Only 12 teams were selected to continue to the second round to develop their ideas into viable projects. Each of the teams selected to continue on was awarded a budget for project materials, facilities and mentoring from a technical supervisor team. In addition, two outstanding ideas were chosen to each be awarded $250 in cash. All 12 advancing teams are eligible to compete for the final project award prize of $1,000 and a $500 value business start-up package from Evergreen Labs.

Jonathan Neale, member of the WEPICS 2017 Board of Judges, enjoyed listening to the idea presentations. Before the final results were revealed, he shared his final thoughts with all of the WEPICS contestants. "The competition has been very, very interesting with lots of very, very good ideas. I've been on the jury of many similar competitions and overall I would say that the quality of these ideas is superior to what I've seen in the last two to three years. You should all be really proud of yourselves. I have one piece of advice for all of you here today: However you do in the competition, whether first place, somewhere in the middle or wherever you end up, don't stop here. Keep working! And you will all do very well in the long run."

The WEPICS semifinal round participants and judges gather together for a quick group photo at the end of the day.

28 participants joined the Danang field trip to Tho Quang Fishing Village, Hoa Vang District Health Center, Quang Chau Village, Quang Chau Temple and Tuy Loan Organic Farm.

Semi-Final idea round winners

WEPICS 2017 would like to congratulate the following 12 teams on advancing to the final round:

1. **RSL - "Reuse for Sustainable Living"**: Reusable cotton waste for mushroom cultivation and fertilizer
2. **Biogas**: Using biogas efficiently in a rural area
3. **Cyber**: Public smart trash bins
4. **Quicksilver**: Silver nano-coated bio-tape
5. **Starlight**: Reading and writing technical equipment for the blind
6. **IS-UTE**: Transportation monitoring by using image processing technology
7. **Log Team**: Automated medication distribution system
8. **A.T GROUP**: Geometry math learning kit for the blind or visually impaired
9. **Cactus**: The Smart Tutor Robot for children from 5 to 15 years old
10. **Thanh Nien Dong Bang Song Cuu Long:** Floating vegetable garden
11. **Green Agriculture**: Harvesting used sawdust biocarrier of ganoderma lucidum culture for straw mushroom
12. **DCT-Smart Wristband**: Technical support equipment for children with autism

Congratulations to **RSL - "Reuse for Sustainable Living"** and **Biogas Group** on being chosen to receive the award of $250 for the two most outstanding idea presentations.

Kathy Wigal, BUILD-IT Project Director at Arizona State University, spoke on behalf of WEPICS to all the project teams, saying, "We appreciate your commitment and your work with your team, your creative ideas, your wonderful ability and your passion for the problems in community service that you're trying to solve." ■

SOURCE: gof.world/news/2017/3/13/wepics-2017-competition-women-engineering-projects-in-community-service-semi-final-round

USAID visits ASU academic partners in Vietnam

By Ngo Thanh Tam

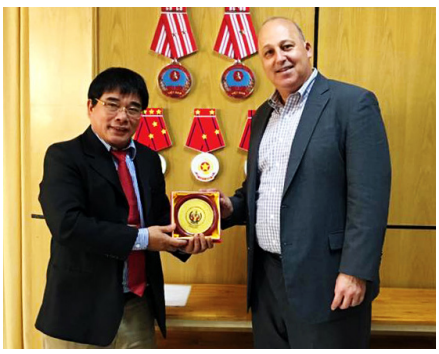
USAID and ASU Vietnam gather with leadership at HCMUTE to discuss advancements made in higher education.

On March 7–8 2017, Mitch Kirby, Senior Academic Advisor from the United States Agency for International Development (USAID) and his colleagues in Vietnam visited two of ASU's academic partners with HEEAP, VULII and BUILD-IT: Ho Chi Minh City University of Technology and Education (HCMUTE) and Ho Chi Minh City University of Technology (HCMUT). The ASU Vietnam team also attended the meetings.

In the meetings, Kirby asked the leaders of the two schools how the programs run by ASU affected their universities. Rector Do Van Dung from HCMUTE and his staff explained how they have applied new teaching approaches that they learned from the training programs, including blended teaching methods, using Pearson online and the addition of capstone projects. In addition to the transforming of teaching methodology in the school, Rector Dung also shared that the school has since created their own television channel that they use to connect students with industry. When students defend their thesis, companies are invited to watch, and as a result, many students have received job offers right after graduation. In the meeting with HCMUT, Rector Vu Dinh Thanh talked about the school's vision and achievements through their seven year partnership with HEEAP, VULII and BUILD-IT.

USAID concluded their tour by visiting the Distant Learning Studios, sponsored by Intel through the HEEAP project, as well as other labs sponsored by General Electric and Rockwell Automation to see how proactive the schools have been in transforming their teaching methods.

The visit was a wonderful chance for ASU to reflect on its efforts in developing higher STEM education in Vietnam. From the feedback provided by long term partners like HCMUTE and HCMUT, ASU has identified best practices, and ideas for improvement and future collaboration. ■



President of HCMUTE, Do Van Dung (far left), presents a gift of appreciation to Mitch Kirby.

Representatives from USAID, ASU and HCMUT visit the HEEAP and Intel sponsored Digital Learning Classroom at HCMUT.

Integrated STEM secondary education workshop "well received"

By Phuong Tran

There were 70 participants in total, representing leaders and experts of the Department of Secondary Education, MOET; administrators and lecturers of Thai Nguyen University of Education, STEM education specialists, principals and teachers of sciences of the secondary schools, and representatives from ASU; Microsoft Vietnam Company; and British Council.

Together with the Secondary Education Department of the Ministry of Education and Training (MOET) and Arizona State University, Thai Nguyen University of Education hosted a half-day workshop titled "Integrated Education: Experience and Emerging Issues in Vietnam." The workshop took place on March 7, 2017, with 70 participants, including leaders and experts from the Department of Secondary Education, MOET, administrators and lecturers from Thai Nguyen University of Education, STEM education specialists, secondary school principals and STEM teachers, and representatives from ASU, Microsoft Vietnam and the British Council.

The workshop was aimed at raising the awareness and skill for senior managers and secondary teachers to apply the integrated teaching of STEM in the orientation of developing student capacity, and also included recommendations on K-12 integrated STEM education for MOET.

After the opening remarks by Professor Pham Hong Quang, Rector of Thai Nguyen University of Education, David Benson, Academic Director of the Vietnam Higher Engineering Education Alliance Program (HEEAP) at ASU, led an interactive session on the topic "New Instructional Methods for STEM Secondary Education." Through this popular hands-on session, workshop participants eagerly learned the applied teaching strategies and approaches to consider for secondary education curriculum.

Through presentations by Associate Professor Le Huy Hoang, Dean of the Engineering Department of Hanoi University of Education and Ho Vinh Thang, Officer of the Secondary Education Department, participants gained a better understanding of the background and application of integrated education. They were also updated on how the integrated education pilot project was well received at all 15 schools where it had been implemented.

The opening remarks were given by Professor Pham Hong Quang, Rector of Thai Nguyen University of Education

A highlight of the conference included presentations from five of the secondary schools from the northern provinces of Vietnam who participated in the pilot project. The schools shared the advantages and disadvantages they faced with the application of the new teaching method. They discovered that while teachers saw value in the project, teachers with more years of experience found it more difficult to adapt their teaching methods. All teachers reported it challenging to include both standard curriculum material and new learning activities in the limited amount of class time available. Benson, who has been teaching project-based learning and integrated education for years at universities in the U.S. and Vietnam, shared his insight and recommendations to ease the transition to integrated teaching.

The success of the workshop was emphasized at the close of the day when Nguyen Trong Hoan, Deputy Director of the Secondary Education Department, Ministry of Education and Training, stated that he and the workshop participants fully supported the integration of science, technology, engineering and math into

curriculum for secondary schools. Participants requested additional training sessions and suggested that HEEAP be redesigned for secondary schools in Vietnam.

As a next step, ASU will develop a project proposal to support MOET to continue building integrated STEM education into the base curriculum at the secondary level. ■

David Benson's interactive session on "New Instructional Methods for STEM Secondary Education" was well received.

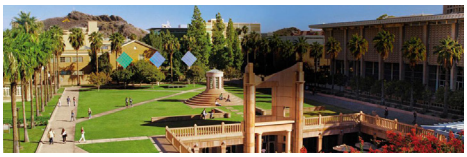
Intel's Grand Master Challenge Fellowship launched in Vietnam

By Angela Harguess

The Intel Grand Master Challenge Fellowship offers 19 graduate students a scholarship to attend Arizona State University for a year-long graduate program, as well as a living stipend. University visits throughout Vietnam were conducted by the Fellowship program staff in the last two weeks of March in order to promote the scholarship to senior year undergraduate students.

Students were invited to explore the opportunity to embark in programs such as aerospace, biomedical, chemical, mechanical or sustainable engineering. As well as materials science and engineering, sustainability solutions or solar energy engineering and commercialization. Students were vetted by university staff to ensure they met GPA and English proficiency standards. Ten students, and seven other hopeful applicants, have begun the process of submitting their pre-screening application.

In the next phase, there will be two additional stages including an interview with the Ho Chi Minh City People's Committee and Intel, and lastly by submitting applications to their chosen ASU degree program. ■



Hayden Library at the ASU Tempe campus. Join the fellowship and come enjoy the weather and beautiful scenery that Arizona has to offer.

BUILD-IT excels at solutions council

By Kathy Wigal

The Building University-Industry Learning and Development through Innovation and Technology (BUILD-IT) marked the completion of its first project year with a retrospective look at progress to date and a look forward to our upcoming initiatives and opportunities during the annual solutions council meeting, held on February 28, 2017, at the Intercontinental Hotel in Hanoi, Vietnam. Executive level leadership from industry, academic and government partners convened with the project leadership team prior to the Science, Technology, Engineering & Mathematics Conference (formerly VEEC).

Kathy Wigal, Project Director for BUILD-IT and Associate Director for Curricular Innovation in ASU's Ira A. Fulton Schools of Engineering, highlighted key accomplishments of ASU initiatives in Vietnam. According to Wigal, to date, ASU initiatives, including HEEAP, VULII and of course BUILD-IT, have trained 6,973 participants – 30 percent of whom are female. BUILD-IT activities reached

6,973 participants
30% female

739 tertiary institution faculty or teaching staff since the project launched last April, including executive leadership training and training in quality, pedagogy and curricular innovation.

This year saw the launch of the first Women in STEM Conference (WISTEM) in Vietnam, and the start of the Women in Engineering Projects in Community Service (WEPICS) program. These are exciting firsts for promoting female competition teams.

Hands-on learning opportunities and applied curriculum development dominate the landscape in regards to past success and future planning, with workshops and competitions in partnership with National Instruments, Intel, Amazon Web Services and Oracle Academy. Faculty have experienced new methodologies and pedagogy for teaching cloud computing, robotics and other areas.

Quality and accreditation remain a key focus. The 11 BUILD-IT partners have targeted a total of 21 programs for ABET accreditation and 42 STEM program for ASEAN University Network (AUN) Quality Assessment. To date, nine STEM programs from Ho Chi Minh University of Technology, Ho Chi Minh University of Technology and Education, Ho Chi Minh University of Science, and Danang University of Science and Technology were assessed by AUN in 2016 and 2017. Vietnam National University Hanoi-University of Science is also being evaluated for AUN, an institutional recognition for quality assessment – the first in Vietnam.

HEEAP also provided an update and an exciting announcement from founding partner Intel Corporation: the creation of the Intel Grand Challenges Masters Fellowship for high achieving university seniors.

13th annual VEF Conference hosted at ASU

By Ly Nguyen & Khandle Hedrick

Organizers, participants and volunteers of the VEF 2017 Conference gather together for a final photo at the gala dinner with Vanessa Vo. (Photo credit: VEF)

From February 9-12, 2017, Arizona State University successfully hosted the 13th Annual Vietnam Education Foundation Fellows and Scholar Conference. The Vietnam Education Foundation (VEF) is an independent U.S. Federal Government agency created with the mission of strengthening the U.S.-Vietnam bilateral relationship through educational exchanges in the fields of science, technology, engineering, mathematics and medicine (STEMM).

The annual conference aims to provide a network and support for Vietnamese nationals pursuing graduate and post-graduate studies in STEMM fields in the United States.

This year, approximately 120 participants from across the country came to ASU to attend the three-day conference. The fellows participated in a wide range of social, cultural and educational activities during the conference, including scientific workshops, laboratory tours, an idol night competition and an excursion to the Grand Canyon. The conference was kicked off with a special visit and keynote presentation by Nobel Prize Laureate, Leland Hartwell, who addressed the fellows on trends and challenges future engineers and scientists will need to tackle to create a sustainable future. Fellows were also fascinated by the different viewpoints and topics discussed by high profile guest speakers during the ASU-sponsored panel sessions.

In an effort to provide an opportunity for the scholars to learn more in depth about the areas of study of their colleagues, VEF organized an educational fair for the fellows to showcase and present their

research conducted at their respective universities to all participants and guests at the conference. The fellows were praised for the quality of their presentations and research and the expertise with which each scholar showed to be advancing his or her specific field of study.

Another highlight of the conference was the extraordinary musical performance at the closing gala dinner by Emmy Award winner, Vanessa Vo. Vo invited a large group of the audience to accompany her on stage where she taught that the beauty of music can be created even with simple, everyday objects. However, the cultural essence evoked by her mastery of the Dan Tranh Zither, a traditional Vietnamese stringed musical instrument, left dinner guests speechless.

The 13th Annual VEF Conference was a great experience not just for fellows and scholars, but also for the volunteers who helped make it possible. ASU aerospace engineering student, Ly Nguyen, volunteered all three days of the event. She commented, "This was a great memory for me to volunteer at this special conference. I got a chance to interact and make connections with talented people. As a Vietnamese student, this was a great opportunity for me to learn about the VEF fellows' research and get inspired by them. Each and every person that I met taught me something. They are all making a difference in the lives of others, in their communities, in U.S.-Vietnam relations and in the future of Vietnam."

Thomas Kraemer (far left), director of finance and accounting with VEF, poses with the winners of the educational fair science poster contest. (Photo credit: VEF)

Hanoi students practice project-based learning through international collaboration

By Khandle Hedrick

Faculty and students from HUST and SIT pose proudly with their vehicles. The project was such a success, that both schools have plans to produce the activity again next year. (Photo credit: Truong Duc Phuc)

Twenty students and two professors from the School of Mechanical Engineering's (SME) Shibaura Institute of Technology (SIT), flew to Hanoi from Japan in late February to participate in a global project-based learning (PBL) collaboration with Hanoi University of Science and Technology (HUST) and SME. The challenge of the project was to design and create a vehicle that was able to store and use its own energy and was capable of running a distance of exactly five meters.

Twenty students from HUST were also a part of the collaboration that was sponsored by both schools. Together with the students from SIT, ten teams of four students were formed to take on the challenge. Each team included two students from HUST and two students from SIT. Before any building began, returned HEEAP University Cohort participant and lecturer at HUST, Truong Duc Phuc, gave a brief presentation about the program, engineering design process and project management. Students were given access to use the labs at HUST and just 11 days to turn their ideas into fully functional energy self-storage vehicles.

Students snap photos and record with their phones to see how far the first team's vehicle can run. (Photo credit: Truong Duc Phuc)

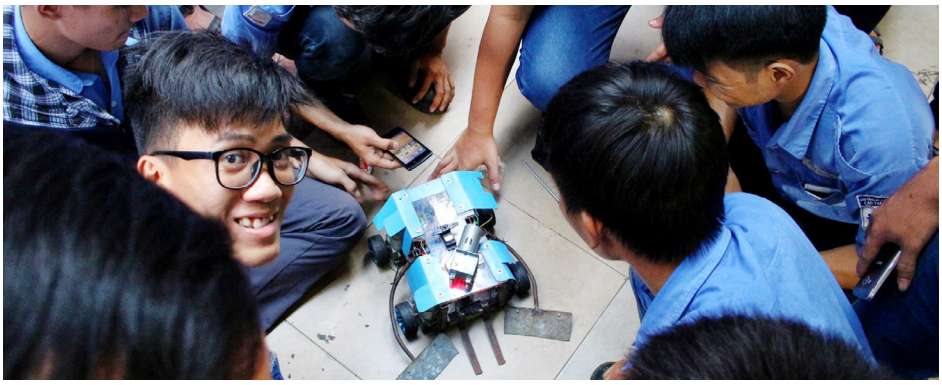
The final competition took place on March 4, 2017, and the students were ready just in time to showcase their inventions. All of the teams managed to create vehicles that actually ran, but the first place prize certificate went to the only team whose vehicle ran the required exact distance of five meters. Another certificate was awarded to the team with the best vehicle design. All students, however, learned first hand how to collaborate on a global team, how to manage a project and how the engineering design process is completed from idea conception to product delivery.

The project was such a success that both schools have plans to sponsor the collaboration again next year. Phuc was so impressed with his students' participation in the event, that he has plans to begin a PBL Club at HUST-SME, where students will be able to engage in and learn from even more hands-on design engineering projects and programs. ■

Team members from HUST and SIT figure out an innovative way to make their energy self-storing vehicle. (Photo credit: Truong Duc Phuc)

Students apply engineering knowledge to robotic sumo wrestling

By Tien Nguyen



A team of students from CTTC test their sumo robot with an application they created on their phone. (Photo credit: Nguyễn Mậu Tuấn Vương)

In January, 71 teams from Cao Thang Technical College (CTTC) competed in Robot Sumo 2017, sponsored by Han My Viet Automation Co., Ltd. Inspired by Japanese Sumo wrestling, this is the third year of Robot Sumo where students apply their engineering knowledge to solve real-world problems.

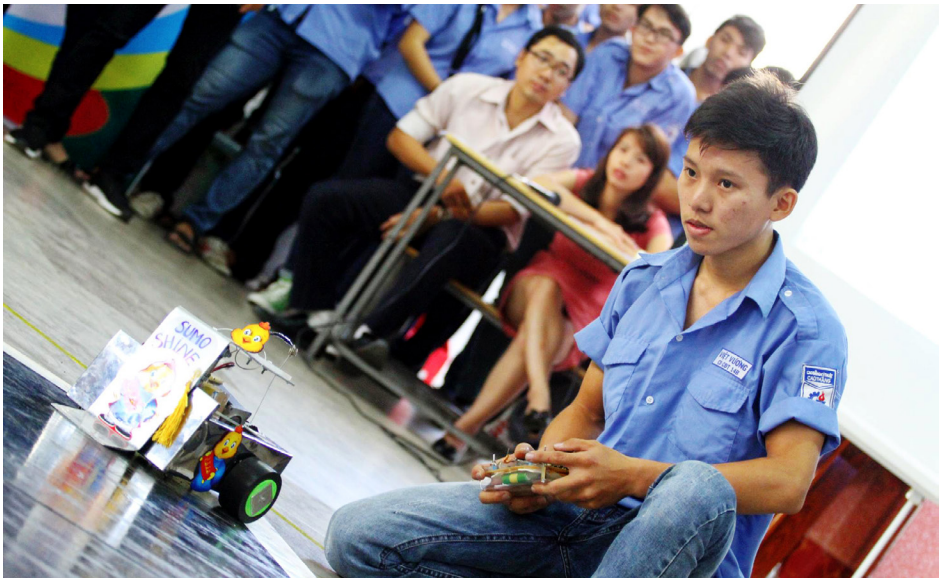
More than 250 engineering students formed teams consisting of two to four members to design and build robots. Robot Sumo, usually an all male competition, saw three female students register and participate this year. The robots had to conform to certain requirements of size, weight, control system, power supply and safety. Most of the teams built their own Android apps to control their robots. The ultimate goal was to push the opponent's "Sumo wrestler" out of a 2.4 by 2.4 meter ring without violating any of the rules. In preparation, and to better support the teams, CTTC held classes with robot-related topics in advance of the competition.

The qualifying round was held on December 16, 2016. The sixteen best teams advanced to the final round held on January 6, 2017, to compete and be judged by faculty from the mechatronics department at CTTC. HEEAP Vocational participant, Nguyen Mau Tuan Vuong from CTTC, served as a judge in the competition. "We wanted to provide our students with a way to have fun with engineering," Vuong said. "With Robot Sumo they worked together and laughed and actually applied what they learned in the classroom by building a real robot."

Overall, there were eight prizes for the winning teams: 2,000,000 VND for the champion, 1,500,000 VND for the runner-up, 1,000,000 VND for third place; 500,000 VND for fourth place; and four consolation prizes of 200,000 VND.

With the success of Robot Sumo 2017, CTTC plans to keep this as an annual competition to enhance student learning experiences.

More than 250 engineering students joined to watch and participate in Robot Sumo 2017. The ultimate goal was to push the opponent's "Sumo wrestler" out of the ring without violating any of the rules. (Photo credit: Nguyễn Mậu Tuấn Vương)



Judges and fellow competitors look on intensely as a student from CTTC prepares his robot named "Sumo Shine" for battle. (Photo credit: Nguyễn Mậu Tuấn Vương)

The winning teams of Robot Sumo 2017 show off their champion robots, trophies and prizes. (Photo credit: Nguyễn Mậu Tuấn Vương)