

Center for the Enhancement of Engineering Diversity Newsletter

Spring 2018 CEED News:

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Message from the Director



Hello Alumni, family and friends of CEED,

Well, 2017 is in the bag – and what a year it was! We made it through the fall semester with the largest freshman class in the College of Engineering history – over 2000 students. It was a challenge to say the least. But as always the CEED Team stepped up, stepped in and worked hard to ensure that all of our students had a successful semester. We had an amazingly successful Crowdfunding Campaign, raising 115% of our \$10K goal to support the Women's Preview Weekend – thanks to you, all the friends of CEED!!

Our new Dean Julie Ross has been an ever present visitor to our CEED programs showing first hand her interest in undergraduate students. She spoke to our Galipatia classes, attended Slush Rush and constantly inquired about what and how CEED was doing. I know that she has been thoughtfully examining every aspect of the College; the students, faculty and staff. As with previous Deans, Dean Ross is a strong supporter of diversity. I would imagine that her perspective is a bit different, nuanced by her journey as a female engineer. I think we will learn much more as the spring semester commences. And I look forward to seeing how CEED can be a vital and strong advocate of her vision.

We bid farewell to Khang Pham, who went from a freshman in the Galileo community to become a successful graduate student and an instructor of the Galileo freshman who came behind him. We wish him the best as he pursues his career with Exxonmobil.

It is a brand new year and everyone is thinking to make a fresh start – from making time to work out to stay healthy, to implementing new study techniques with the intent to get better grades. One of my goals is to better manage my time – the ASEE position is taking me away from the CEED job more than I expected. Again, I am fortunate that I have such a great Team to work with. We all need encouragement, support, sometimes even a little sympathy as we move through both easy and challenging times. All of these things I know I can find in the CEED office – students can find this as well. So come by if you need anything.

Here's to a fabulous 2018!

Undergraduate Programs

Galipatia's First Career Fair



On Monday, September 11, 2017, the first-year engineering students in Galipatia walked from Lee Hall to Cassell Coliseum dressed in blazers and suits to experience the very first Expo Preview. Recruiters from companies such as General Electric, Altria, Microsoft, Pratt & Miller, NAVAIR, Accenture and many more were present to greet students.

Each student was assigned two companies to research and talk to. Through this process, they were able to network with recruiters and follow up with questions. Recruiters gave the students an overview of their companies. They also shared tips for improving resumes and preparing for internships and full-time positions in the future. Interacting

with recruiters so early on in their college career will allow the students

to nurture the relationships with every career fair that passes, thus enabling them to increase the chances of landing internships and jobs later on. This event also showcases to recruiters how talented and ambitious our first-year engineering students are, which further encourages them to keep recruiting at Virginia Tech.

In the past, Galipatia has held Mini-Expo style events, but with only a handful of companies. This event was expanded and made mandatory for all students to attend in an effort to give them a glimpse of the actual Engineering Expo in a more relaxed setting.



The Engineering Expo can be a crowded and intimidating environment since over 300 companies and students from all engineering majors are present. Attending this Expo Preview event has equipped freshman students with knowledge and confidence that they can bring to fruition in the future career fairs that they will attend.

If you are interested in joining the 300 companies for the Engineering Expo in 2018, please contact Susan Arnold Christian at susanac@vt.edu.

The "O" Show-Opportunities Show



CEED kicked off the new school year by hosting the Opportunities Show (O-Show) for first-year engineering students in the Galipatia community and the Peer Mentoring Program. This year's event featured over 60 organizations spanning nearly all disciplines, including design teams and organizations for students with a multitude of interests and from all walks of life. As part of their first weekend together, each mentor led their group of first-year students to Goodwin Hall to take part in this awesome event. After the event was over, it was estimated that approximately 1,100 students attended alongside 166 mentors from both Galipatia and the

Peer Mentoring Program. The event received great feedback and is a truly remarkable event that allows incoming students to get involved on campus, even before their first day of classes.

Lee Hall Tour

The Video Team, which is one of the committees of our Student Leaders, has recently completed the production of the Lee Hall Tour video. The video was intended to highlight the spaces within Lee Hall and target freshmen and potential students. The video featured the Prarie Quad, Studio 1 and 2, a Lee Hall room, the to-be-renovated 2nd floor lounge, as well as the laundry facilities. This video is a great way for students who are intereted in learning what it is like to live in Lee Hall and of course become part of the Engineering Living Learning Community, Hypatia and Galileo.

Click here to view the Video of Lee Hall!

Lee Hall Tour video link: https://youtu.be/JzSNq4EQi4I

Peer Mentoring Program

Coming off of a very successful fall 2017, the Peer Mentoring Program is ready to begin planning what

is projected to be the largest program to date in 2018. Last semester the program, led by 6 undergraduate leaders and 74 undergraduate mentors, helped to guide nearly 600 first-year engineers through the first 10 weeks of the semester. In addition to providing a peer-to-peer mentoring group for each first-year student in the program, three large events were also held. The event themes ranged from helping students to get involved in campus organizations (The Opportunities "O" Show), to prepare students for career fairs and the internship search (Engineering Expo Prep), and to help students prepare for course registration and choosing an engineering major (The Major Scoop).



While the Peer Mentoring program does not offer a mentoring opportunity in the spring, much planning and preparation will take place to ensure that the fall experience continues to stay impactful for all stu-



dents. Early in the semester, the undergraduate team will work to hire and train the next round of talented mentors while also working to plan events and improve the program for fall 2018.

Beginning early in the spring semester, accepted students will have the opportunity to register for the program using the CEED Peer Mentoring website. Participating students range from nearly all walks of life and have the opportunity to participate in one of four teams: AHORA (Academic Hispanic OutReach Alliance), BEST (Black Engineering Support Teams), GUEST (General Undergraduate Engineering Support Teams), and WEST (Women in Engineering Support Teams).

<u>Major Scoop</u>

In its second year, the Peer Mentoring Program's Major Scoop event became a favorite for many students in the program. Using the catch phrase, "Grab a scoop of ice cream and learn the scoop about your major," the event was very well attended with between 150 and 200 first year students coming out. The event showcased all 14 engineering majors offered, nearly 10 minors spanning many disciplines and colleges within the university, and approximately 15 different organizations across campus. The event was made possible by the hard work of the mentors throughout the semester as they worked diligently to create posters that would spark interest for all



majors/minors/organizations at the event. The mentors also staffed each of the tables during the event and gave great feedback to the first year students in attendance.

Academic Jump Start 2018

The Academic Jumpstart Day is an event under the Galipatia Academic Recovery Program. The objective of this program is to provide mentorship to Galileo and Hypatia students who had trouble adjusting to the rigorous demands of Virginia Tech's freshmen engineering curriculum during the first semester. The Academic Jumpstart Day is designed to allow the student to network with those who are in similar situations, as well as build the necessary skills to achieve academic success.

The most important aspect of this event was the networking portion. The students who show up on a holiday (Martin Luther King Day) are those that are motivated to do better academically in the spring semester. This event allows the motivated students to get to know each other. During lunch, upperclass Galipatia leaders were invited to speak with the freshmen participants about how they overcame their academic struggles. Afterward the floor was opened up to allow the participants to mingle as they pleased. Many of the students took the initiative to form groups with those that had similar interests, majors, and courses that they learned from each other during the event. Additionally, many of them continued to seek advice from the upper-class leaders that were there.

The Academic Jumpstart Day is a useful event to help students, who struggled academically, reprioritize their goals, as well as build meaningful relations with their peers. They were offered many opportunities to continue developing their professional etiquette throughout the event. They learned valuable skills such as goals setting, root cause analysis, and networking. These skills could be incorporated into other aspects of their careers. This event is designed to equip the students with the skills to be a successful engineering student at Virginia Tech.

The inVenTs Studio

The inVenTs Studio is a one of a kind makerspace located on the second floor of Lee Hall, the heart

of the Galipatia (Galileo and Hypatia) and Curvinci (Curie and Davinci) living learning communities. The inVenTs studio is a space where students have the opportunity to work on different individual and collaborative projects. The studio is led by the inVenTs Leadership Team (ILT) with the support and supervision of 4 Graduate Assistants.

The studio provides different equipment such as simple hand tools, crafting tools, power tools and automated tools (two filament based 3-D Printers, 1 resin based 3-D Printer, a laser cutter and a CNC Router) for use by members of the community. The ILT and the Graduate Assistants provide students with the



necessary training to help facilitate the learning curve and enable students to succeed in the projects they wish to undertake in the space.

In addition to being a makerspace for projects, the studio is also space where students can interact with professionals. This last fall fall, representatives from Excella Consulting, Deloitte Consulting and GE Aviation were in the studio hosting corporate events. Corporate events typically consist of challenge based competitions and different workshops where students can develop their skills in specific subjects. These corporate events are a great opportunity especially for our first year students to get the experience of directly interacting with professionals in industry.

Pre-College Programs

Gearing up for Summer Programs 2018

As the spring semester starts, Dr. Kim Lester has already begun extensive planning for a great summer program here at Virginia Tech. The CEED office has started taking applications for their extensive STEM programs. Here are a few detailed descriptions of what CEED is offering this summer:



Imagination

Imagination is a one-week summer camp for middle school students. Targeted at under-represented students, the camp introduces participants to the exciting and fun world of technology, engineering, and science ... not by watching, but by doing! In addition to hands on activities and lab tours, the students complete a weeklong design project led by K-12 teachers who have previously attended training led by Dr. Jim Egenrieder of the Qualcomm Thinkabit Lab at Virginia Tech.

Rising 7th & 8th Graders * \$150/Week/Day Camp * July 8-14 (Residential) & July 22-28 (Day Camp)

BLAST

Building Leaders for Advancing Science and Technology (BLAST) is dynamic three-day residential summer experience for rising 9th and 10th grade students sponsored by the Virginia Space Grant Consortium. BLAST is geared toward students who may have an interest in STEM or an underlying aptitude for STEM academics, but have not yet discovered the excitement of STEM. Through innovative hands-on experiences taught by faculty members and staff, students are able to explore the fun and exciting aspects of STEM while residing on a college campus.



Rising 9th & 10th Graders * No Charge * July 15-18, 2018

Tech Girls



TechGirls is an international summer exchange program coordinated by Legacy International. It is designed to empower and inspire high school girls from the Middle East and North Africa to pursue careers in science and technology. The program runs for three weeks, with the CEED office providing programming for two of these. Participants complete an eight-day computer science course where they create an Android phone application. They are also exposed to various fields of engineering while learning about life at an American University.

High School Females * July 15-27, 2018

JROTC STEM Leadership Academy

JROTC STEM Leadership Academy is a weeklong residential camp for high school students who have previously participated in the Army 4th Brigade JROTC program in their high school. The goal of this program is to introduce students to the various fields of science, technology, and engineering and experience a modified military environment so that they can become involved in STEM, ROTC and the Corps of Cadets as collegiate undergrads whether at Virginia Tech or otherwise, leading to careers in STEM. Participants take part in hands on activities, lab tours and complete a design project, culminating in a showcase on the last day.



 $High\ School\ Students\ in\ the\ Army\ 4th\ Brigade\ JROTC\ Program\ * July\ 24-29,\ 2018$



CTech^2

Computers and Technology at Virginia Tech (C-Tech^2) is a two-week summer residential camp for rising junior and senior high school girls. A primary focus of the program is to help develop and sustain the interests of young women in engineering. Participants explore real world applications in a way that is fun and exciting. The majority of their time is spent in hands-on activities led by engineering faculty and graduate students. Students also complete an industry-sponsored design project and learn about preparing for life at college.

Rising 11th and 12th Grade Females * \$1,500 * June 24-July 7, 2018

SPARK



The SPARK program was started by former members of the Outreach Committee. Since the Outreach committee does not have enough members to handle all the event requests they received, SPARK was formed to handle more of them. The Outreach Committee had also begun to work on continuous events, but due to committee members only needing to lead a few events, it was difficult to have events last throughout the year.

Today, SPARK focuses on doing continuous events with three schools, and performs a few other events as needed throughout the year. We mainly teach 5th grade classes, but have done a lesson with second grade as well. In the future, we hope to

expand our programs further to include more grades. All lessons we teach meet the SOL objectives required by the Virginia School board and include a hands-on activity that teaches students about the engineering design process. The teachers we work with tell us what topic they would like us to focus on, and then we design the lessons around these topics. So far, for 5th grade, we offer lessons on mining, packaging design, ocean pollution, and nanoscience. The 2nd grade lesson focused on magnets and their uses. We plan to create a new 5th grade lesson this semester as well.



SPARK lessons are taught by student leaders; every classroom lesson is taught entirely by student volunteers. In order to continue expanding to more grades, we need more volunteers. If you or anyone you know are interested in volunteering, or who would like more details on our organization, please contact Erin Sullivan at erin96@vt.edu.

Pre-College Initiative

The Virginia Tech Chapter of the National Society of Black Engineers (NSBE VT) is an organization

committed to uplifting African-American students in all fields of engineering. New and innovative project ideas are implemented throughout the year from the chapter and include activities such as tutoring, group study sessions, high school/junior high outreach programs, technical seminars and workshops, an internal newsletter, resume books, career fairs, awards, and banquets.

The Pre-College Initiative (PCI) program aims to prepare students in grades 7-12 for college by stimulating interest in science, technology, engineering, and mathematics (STEM) fields. The NSBE VT chapter coordinates various



events throughout the school year which middle grades and high school students are invited to be a part of by engaging the PCI participants in various hands-on activities and various activities that relate technology and engineering concepts.

Throughout the academic school year, these events are targeted to assist the students in attendance with the necessary college preparation tools and resources while also introducing students to professors in various fields of engineering. The NSBE VT chapter's goal is to fuel the minds of young students and create a pipeline of academic success, deliver resources, and offer mentoring for students in grades 7-12 who wish to attend college.

For more information and upcoming dates, please click here.

Other CEED Happenings

NSBE National Leadership Conference 2017

The 2017 National Leadership Conference took place from Thursday, June 8th to Sunday to June 11th in Blacksburg, Virginia at Virginia Tech University. This year's theme was "Reach Your Highest Peak", a reference to the conference location in the heart of the Blue Ridge Mountains and an inspirational message for all attendees to be prepared to tap into their full potentials. This year's conference brought together around two hundred of our brightest national and regional leaders for a jam-packed schedule of leadership development workshops, team building events, and interactive planning sessions. This year's conference also saw the addition of several partnership events developed from the relationships with Virginia Tech University, Chevron Corporation, and Dent Education. The most impactful sponsor-led event, the Graduate School Fair, was hosted by the College of Engineering at Virginia Tech for all interested NLC attendees. Approximately sixty of our student leaders seized the opportunity to interact with department heads and faculty of the various engineering programs at the college. In addition to interacting with the engineering faculty, attendees also had the opportunity to hear from the Dean of the Graduate School and the Director of the Office of Recruitment and Diversity Initiatives. The two other partner-led workshops included Chevron's "Communication Across Cultures" and Dent Education's "Design Think Overview". The remainder of the conference featured workshops lead by a combination of our student leaders engineering professionals, world headquarters staff, and other society partners.

National Association of Multicultural Engineering Program Advocates (NAMEPA) National Conference 2017

The 2017 National Association of Multicultural Engineering Program Advocates Conference took place from Sunday, September 10 to Wednesday, September 13 in Blacksburg, Virginia at the Inn at Virginia Tech. The theme for the conference this year was, Blazing a New Path: Diversity in the 21st Century. NAMEPA is an organization that committed to developing a world for traditionally underrepresented minority backgrounds to have access and success in higher education and professional pursuits. The mission of NAMEPA is to provide quality services, information, and tools for our stakeholders, develop and matriculate a diverse pool of engineers and scientists from K-16, and achieve equity and parity in the nation's workforce. This year's conference brought around 90 NAMEPA members at the individual,

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institutional, and corporate levels. We had a total of 22 different sessions aimed at transfer students, pre-college, graduate school, innovative strategies, student success, and program management.

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