

UVU

College of
**TECHNOLOGY
& COMPUTING**

UTAH VALLEY UNIVERSITY



T & C

Fall 2017

HIGHLIGHTS

uvu.edu/TC



Annual Faculty & Staff Awards

Senate Award of Excellence: Full-Time Faculty
Afsaneh Minaie,
Computer Science

Senate Award of Excellence: Adjunct Faculty
Dana Doggett,
Computer Science

Alumni Award: Outstanding Educator of the Year
Todd Low,
Automotive Technology

Dean's Faculty Award: Teaching
Robert Price,
Engineering Design Technology

Dean's Faculty Award: Scholarship
Reza Kamali-Sarvestani,
Computer Science

Dean's Faculty Award: Service
Todd Leonard,
Culinary Arts Institute

Dean's Award: Full-Time Staff
Cody Thatcher,
Culinary Arts Institute

T&C Names New Dean

Saeed Moaveni has been appointed as the new dean of the College of Technology & Computing, effective May 1, 2017. Moaveni comes from Minnesota State University, Mankato, where he has been serving as professor of mechanical engineering.



"Dr. Moaveni is an accomplished engineer and academic administrator with a commitment to addressing the workforce needs of Utah Valley's technology sector," said Jeffery Olson, UVU senior vice president of academic affairs. "He will be a valuable partner in the continuing expansion of opportunities in our community."

Moaveni has held a variety of positions during more than 25 years of service at Minnesota State Mankato, including chair of the Department of Mechanical & Civil Engineering and graduate coordinator. He also served as Dean of the David Crawford School of Engineering at Norwich University from 2010 to 2012. Moaveni has taught as a visiting professor at universities in Japan, Ghana, and Taiwan, and he has also held visiting roles at Yale and East Carolina University.

He is the author of popular textbooks including "Engineering Fundamentals, An Introduction to Engineering" and "Finite Element Analysis, Theory and Application with ANSYS," which have been translated into other languages including Chinese and Korean, and a recently published book entitled "Energy, Environment, and Sustainability." He has been a faculty member at Colorado State University, University of South Carolina, Syracuse University, Norwich University, and Minnesota State. Dr. Moaveni has been serving as a reviewer and panelist for National Science Foundation. He is also a registered professional engineer in the State of New York.

UVU's College of Technology and Computing is a diversified, dynamic, award-winning college offering over 100 degrees and certificates across nine departments comprising both trades and traditional academic training. There are a total of 150 faculty and staff who serve over 4,100 students.

uvu.edu/TC

T&C Receives NSF Grant for Nano-Technology

Not only is the world getting smaller, but the technology that makes it seem that way is also smaller, much smaller. It's called nanotechnology. T&C recently received a \$700,000 National Science Foundation grant that is allowing the creation of a new course in nanotechnology.

"There is only a three to five percent chance of getting money from the NSF," said Reza Kamali, associate professor of computer engineering at UVU. "We are very pleased. We are going to make a state of the art new course."

The students will learn the field of nano-microfabrication, or creating items on that small scale. They will design and produce nano sensors on a variety of media that can be used by millions around the world.

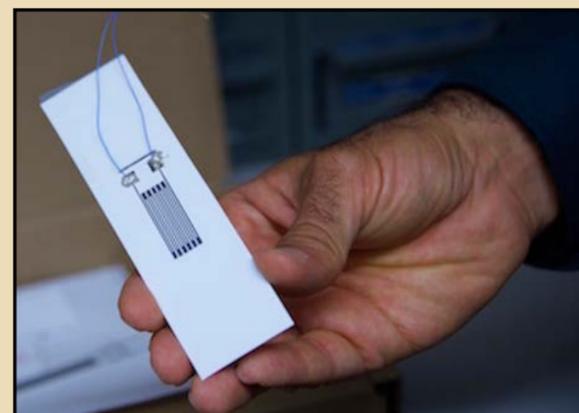
"Every electronic device in production today has nanotechnology as an integral part of it," Kamali said. "This grant will help provide the resources for students to learn the necessary skills to make a huge impact for companies here in Utah County, especially Silicon Slopes. Our graduates already have multiple job offers, but this will truly give them a huge advantage in nearly every technology industry. This grant is just a wonderful thing for everyone who lives in Utah."

It will affect many who live in Utah, along with multiple departments at UVU. The class will be a collabora-

tion between digital media, engineering, computer science, computer engineering and physics.

"I am absolutely thrilled to be a part of this outstanding grant," said Marty Clayton, assistant professor of digital media at UVU. "This will allow our students to positively utilize the engaged learning aspect that we promote here at UVU as they develop VR modules for this new class. I fervently believe that virtual reality learning is a major portion of the future of higher education."

The class won't start until 2019, but the plans are already underway. It will have three components. One is the material



presented in class lectures. The second is hands-on laboratory practices and the third is educational games.

"We decided to have those educational games so students could practice how to use the tools," Kamali said. "As they pass each level in the games, they go on to real-world experiments."

Part of the funding will go to help digital media students create virtual reality modules. Nanotechnology students will be able to use those modules without actually being in the lab.

Many of the uses of nanotechnology are in the biomedical field. Kamali said one example was tools to measure a person's glucose levels. Another is a probe, about



one-thousandth the size of a human hair, which can detect signs of early DNA damage that can lead to cancer. Some nanotechnology-created biomaterial is used in tissue engineering as it closely mimics the properties of native human tissue. They can be used to repair damaged heart walls, blood vessels and skin, among other uses. Human bodies use natural nano-sized materials, including proteins and other molecules, to control its systems.

Scientists at MIT have been researching the use of nanotechnology in minuscule wires to create a new way of producing electricity, according to "Nature Materials."

For UVU, it will be cutting edge technology. "This is the future," Kamali said.

uvu.edu/TC

T&C has Nation's Top Student Chef

Madeline Black, a first year student at T&C's Culinary Arts Institute was named the nation's Student Chef of the Year at the American Culinary Federation's national convention held in Orlando this summer.

Black, a rising sophomore from Provo, Utah, becomes the second straight national champion from the Culinary Arts Institute. Last year, UVU's Michelle Stephenson won the same title, the first in UVU history.

"Nobody expected UVU to do what we have done," exclaimed an exuberant Chef Todd Leonard, department chair of UVU's Culinary Arts Institute. "From not knowing who we were just a couple years ago, to having back to back national champions! This has just put UVU on the culinary map to stay. We have suddenly become one of the most intriguing places in the culinary world!"

As one of five regional winners, Black had only ninety minutes to prepare a world class dish that would impress a team of seasoned top level chefs. Each competitor came up with their own recipes utilizing an ingredient list given to them just a few weeks earlier. This year's list



was built around duck as the main protein. Black's final winning menu consisted of; Truffle scented duck roulade finished in duck fat, with Utah honey lacquered duck thigh-ribblet, pan seared foie gras with port and morel mushroom sauce, accompanied by potatoes gratin, celeriac and pea puree, with rhubarb chutney and summer vegetable medley.

"This is really a dream come true," said Black. "I was breezing along and then the last 10

minutes things just weren't coming together like I'd practiced a hundred times and it got a little crazy! But the judges said they were very impressed with the complicated dish I created and I think that's what made the difference. How cool is it to bring back to UVU another national championship!"

Black was awarded her gold medal at a banquet in front of more than a thousand of the top chefs in America who gave her a standing ovation.



"I have been around hundreds of the best up-and-coming student chefs for many years," said one judge. "I've got to say, Madeline is one the very best I have ever seen. And to be named the best student chef in the country after only one year of training, she has an amazingly bright future in this business."

UVU's Culinary Arts Institute also sent a student team to compete in the ACF Culinary Knowledge Bowl where they finished second in the nation. It's the second straight year the team has made it to the finals, winning the national title last year.



Construction Management Students Win Regional



A team of Construction Management students took first place in the annual Associated Schools of Construction Management Competition, in Sparks, NV. The Mixed Use team took first place in their competition, with Northern Arizona finishing second and BYU third.

"This competition is the equivalent of an NCAA athletics championship for our construction management students," said Eric Linfield, UVU construction technologies department chair. "They work long hours in hopes of winning their competition and taking home bragging rights."

The team strategized, researched, and practiced for competition during the Fall 2016 semester and early January 2017 in preparation for this competition.

"It is an exhausting experience for these students," said Linfield, "but our students were up to the task and they amazed not only me, but the judges as well. It's certainly a real feather in our cap to beat the teams from some of the more recognizable schools like Auburn, Florida and USC. In fact we did so well, some of our students got job offers on the spot."

Winning team members included Colin Gilmore, Jake Calobee, Anne Cottam, McKay Johnson, Chris Keeler, Gentry Houghton, and Everett Hinckley. Alternate Mitch Cozzens also took first place with his assigned team in the alternates competition. This team was partially sponsored by Big D Construction.



Cybersecurity Students Take 2nd Place

T&C's cybersecurity students placed second at the Rocky Mountain Collegiate Cyber Defense Competition in Denver.

"Our team made a very strong showing," said UVU cybersecurity program director Robert Jorgensen. "The fact that this is the first year UVU has competed makes this achievement even more impressive."

Teams begin with identical sets of hardware and software and are scored on their ability to detect and respond to outside threats, maintain availability of existing services, respond to business requests, and balance security needs against business needs.

T&C offers multiple classes and degrees related to cybersecurity, and starting in Fall 2017, T&C will offer a Master of Science in Cybersecurity.

uvu.edu/TC



EDT Students Advance Vineyard Library Plans

The Engineering Design Technology program presented working plans for a library and community center to the Vineyard Planning and Zoning Commission. The class undertook the project as an engaged learning opportunity, that is, to have a hands-on, real-world experience rather than just a classroom lecture. Students presented elaborate plans for a potential new 20,000-square-foot library, which has an emphasis on adaptability and resources beyond books. The City Council was so impressed, they included a motion that the EDT students be included in future public workshops regarding the addition of a library to Vineyard.

9 National Champions!

Nine T&C students took home national championships at the 53rd Annual SkillsUSA national competitions held June 19-23 in Louisville, Kentucky. Showcasing their career and technical skills, nine T&C students came away as national champions, earning gold medals in their competitions. In addition, three other T&C students finished third in the nation, winning bronze medals. Those 12 T&C students who earned medals helped lead UVU to a fifth place finish in the nation. During the last 17 years, UVU has always been ranked among the top five in the nation, thanks mainly to T&C students.

And perhaps more impressively, 22 T&C students who competed in Louisville ultimately finished in the nation's top-10 in their respective competitions!

"We celebrate with those students that brought home this national recognition for them, their departments, the state of Utah and UVU" said Darin Taylor, coordinator of UVU's SkillsUSA program. "Although UVU did not repeat as national champion this year, we are thrilled to have nine individual champions."

Nearly 6,000 students from across the nation competed in over 100 different trade, technical and management fields. The UVU students competed in 19 categories.



T&C GOLD MEDAL WINNERS (NATIONAL CHAMPIONS):

- Architectural Drafting - Hunter Huffman
- Audio/Radio Production - Chase McKnight
- Audio/Radio Production - Andrew West
- Chapter Business Procedure - Derek McGovern
- Chapter Business Procedure - Jacob Ricci
- Chapter Business Procedure - Kaleb Sorensen
- Chapter Business Procedure - Landon Vernon
- Chapter Business Procedure - Autymn Weaver
- Chapter Business Procedure - Kimberley Yefimov





Digital Media Students Win UVU's First Emmy

Students from T&C's Digital Media program received UVU's first Emmy at the Annual College Television Awards in Hollywood, as the student-animated film "The Ghost Next Door" was named one of the top three animation projects in the country.

"In this industry there are two awards that stand head and shoulders above all others — the Oscar and the Emmy," said UVU professor of animation and game development Rodayne Esmay. "To be a part of this celebration in Hollywood and see our students rewarded for their monumental effort is extremely gratifying."

"It's difficult to fully explain how hard it is to produce a title like this," said UVU digital media faculty member Anthony Romrell. "It literally takes years of persistence on the part of these students, to acquire the skill set necessary to pull off something like this. For those that made the film, for our department, our college and our university, this is really a big deal."



Additionally, the British Academy of Film and Television Arts announced "The Ghost Next Door" had made the shortlist for the 2017 BAFTA Student Film Awards. This year's 45 films were selected from over 400 submissions by film schools in 15 countries across the world, including Argentina, Austria, Canada, China, Germany, India, Israel, Lebanon, South Africa, and the United Kingdom.

Engineering Fairs a Huge Success

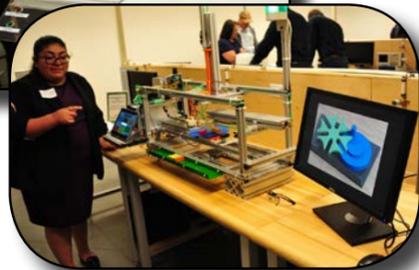
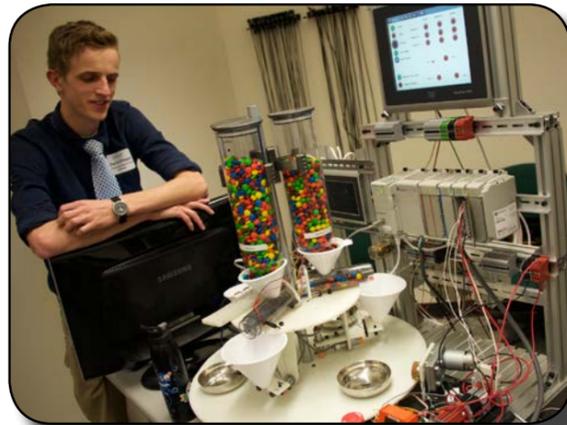
Engineering Technology students showcased their skills at the two annual Engineering Technology Fairs.

Hands-on projects were on display from the Engineering Technology Department's Mechatronics major as well as Electrical Automation and Robotic major.

"Our students put a great deal of work into these projects. They've invested a lot of time to create these and it shows what they have learned while at UVU," said David Adams, Department Chair of UVU Engineering Technology.

Over 40 projects were on display including; a candy sorter by color, dancing water to music, palletizing program, and car wash simulator.

Many local employers also attended, looking for their next great hire. "Our students have a 98% hire rate and they secure great jobs, and we have people come from all over the state to hire these students," Adams said.



It was part "Welcome Back to School" and part "Check out T&C" Over 1,000 students came to our biggest celebration of the year!

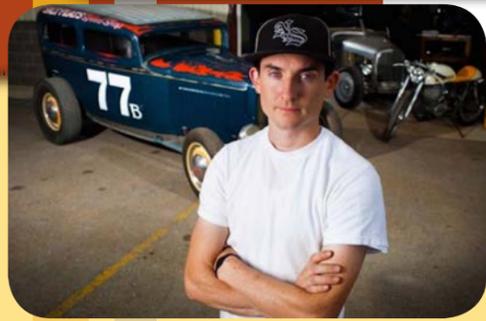


DEAN'S DAY



uvu.edu/TC

T&C Alumni Spotlight



Chris Davenport, Owner, Salt Flats Speed Shop

Tucked away on a nondescript Orem road with no street sign is the Salt Flats Speed Shop. Amidst a rusty backdrop of warehouses and industry, Chris Davenport creates shiny works of rolling art.

A T&C Automotive Technology graduate, Davenport specializes in building custom hot rods based on cars from the 1930s. At 28, he is half the age of many of his peers in the industry, but his aptitude for shaping sheet metal and creating functional art has brought him business from all over the country.

"Ever since I was a little kid I was always enthralled by automobiles, the shape of them and the styling," Davenport said.

He collected Hot Wheels, started building models, then worked in his dad's garage. After high school, Davenport went into the automotive program at T&C that specialized in hot rodding.

"It became apparent very early on in my workings at the college that I had a knack for the sheet metal," Davenport said. The ability to shape flat pieces of metal into complex parts was not something that everybody took to naturally.

"You have to be able to visualize how the part is made, what different actions you need to perform," he said. "And you can't just say some mathematical equation that, OK, I need to put it in this machine this many times. It's probably more on the artistic side than the mechanical side."

Realizing his skill in this area and the lack of places that could perform this work, Davenport decided to start his own shop, specializing in '30s-era hot rods. Cars from the 1930s and '40s were some of the first to go under the chopping block by those who wanted cars that were both fast and stylish.

"To me a well-done '30s car is essentially a rolling piece of artwork," Davenport said. The ability to make something that is uniquely his own is one of the joys of his work. "I want the experience when you drive it to feel like you're no longer in the present time, that you've somehow traveled back in time and are feeling what they experienced."

Running this type of business in a big shop brings with it a lot of overhead costs and can be very stressful. But for Davenport, building custom cars is more than just a job.

"I really couldn't see myself doing anything else," he said, shaking his head. "I enjoy what I do and I'll be doing this essentially for the rest of my life."

photo and article appeared in the Provo Daily Herald



T&C graduate Tanner Wheadon's definition of "innovation" is surprisingly simple.

"Innovation is a buzz-word; you'll see it on every commercial or advertisement." Wheadon said. "But innovation really comes down to developing empathy for people and solving their unmet needs."

Wheadon was the first student from Utah chosen to participate in the Stanford University Innovation Fellows program, a nationwide engineering initiative focused on helping students develop entrepreneurial skills and creative confidence.

"When students enter the workforce, the problems they encounter won't have single, clear answers they can look up in a book or website," Wheadon said. "Students must learn to answer questions of their own. We need to shift our focus from having students store and regurgitate information, to teaching students new ways of thinking and reframing problems. This type of learning will empower students and give them the confidence that they can solve any problem in any field."



Tanner Wheadon at Google

Wheadon, who graduated from T&C with a bachelor's degree in technology management, has taught these innovation techniques across the country, including at workshops for Stanford, Microsoft and Google. Attendees included students, faculty, executives and entrepreneurs.

Wheadon himself has a strong background in hands-on work. As a teenager, he had a passion for restoring classic cars, and he spent his senior year of high school studying automotive technology at T&C. After serving an LDS mission, he completed an associate degree in street rod automotive technology, along with a full restoration of a 1963 Ford Thunderbird.

While in T&C's Technology Management program, professors assisted Wheadon in obtaining grants to start the University Innovation Fellows Program. Not only has Wheadon been able to participate in the Program himself, but he also secured funding to put five more UVU students through the program.

Last year, Wheadon taught a six-hour design thinking workshop in a meeting that included UVU president Matthew S. Holland and 25 members of his cabinet, administration and faculty. During the workshop, he led the participants through the design thinking process and helped them apply it to challenges students and faculty face at the university.

With the experiences he gained at T&C, Wheadon has been offered jobs at companies and universities across the country. He spent the summer teaching workshops at Stanford's program that teaches faculty how to incorporate design thinking and experiential learning in the classroom. This fall, Wheadon will pursue a MBA at UVU.

"The engaged learning opportunities I've had through T&C make it an easy choice for me to stay," Wheadon said. "If the graduate programs are as engaging as the undergraduate programs, it would be foolish for me to leave. UVU has provided me with endless opportunities to grow, and I can't wait to see what's next."

written by Layton Shumway

uvu.edu/TC

Auto Expo

uvu.edu/TC



Thousands of auto enthusiasts once again flocked to UVU for the annual Auto Expo. Featuring cars from every decade for the past 100 years, this year's expo also featured the largest auto-related swap meet in the state! Proceeds from the event helped support Automotive's scholarship fund.



Student Excellence Awards 2017

Presented to students who have distinguished themselves through excellence in scholarship or outstanding service to the College of Technology and Computing. Students are nominated by faculty and staff in their respective departments.

Automotive Technology

Kareen Larson

Computer Science

Lindsay Crook

Construction Technologies

Jacob Calobeer

Culinary Arts Institute

Madeline Black

Digital Media

Jared Mark Olson

Engineering Graphics & Design Technology

Cody Pitts

Engineering Technology

James Armitstead

Information Systems & Technology

Jacob Dimick

Technology Management

Brian Jeffrey Hill

T&C

CAI Grad Named Miss Utah County

Madison Tormey, a Culinary Arts Institute graduate was named 2017 Miss Utah County. As such, Madison advanced to compete for the title of Miss Utah and then hopefully on to Miss America.

Madison, 21, is from Mapleton, UT and hopes to own a successful bakery in the future. She played the piano for the talent portion of the competition and spoke with a presentation titled, "HOPEFUL - Helping Others Positively Endure Feelings of Uncertainty and Loss."



Hundreds Attend DGM Showcase

Digital Media seniors presented their projects to a huge crowd. Projects included work in Jerusalem at the Beit Lehi site, new animation and games, and several new apps for local and national clients.

T&C to Offer Two Masters Degrees

The Utah State Board of Regents approved two new master degree programs at T&C: Master of Computer Science and Master of Science in Cybersecurity.

"These programs have been carefully formulated in direct response to community needs," said Jeff Olson, senior VP for academic affairs.

UVU's Master of Science in Cybersecurity will be the first of its kind in the state of Utah offered both face-to-face and online. The program is designed to provide students with advanced technical and managerial knowledge, preparing them for senior technical and leadership roles. Industries in Utah, including the National Security Agency, are increasingly in need of employees with advanced skills in the field of cybersecurity. Utah County's technology industry is also demanding more trained computer science professionals. The focus of UVU's Master of Computer Science program will be to prepare students to enter the local, national, and global workforces as leaders and innovators.

Indy 500 Champ Visits T&C



Among the many guests and speakers who visited T&C was Indianapolis 500 Champion Sam Hornish, Jr.

Hornish spoke to a roomful of enthusiastic students (and faculty) on the importance of setting and

working toward goals especially in the face of adversity. Afterwards, he stayed to sign autographs for everyone.

