Benches dedicated

Late in the afternoon of April 7, 2018, many friends, family members, former students, and individuals from the University and Stillwater communities gathered on campus to remember two exceptional people, Marvin and Bonnie Stone. The event was held to dedicate two special memorial benches that had been placed in front of the Public Information building, where Bonnie worked for many years. This is on Monroe Street, directly south of Ag Hall where Marvin was officed throughout his career. One bench has an inscribed plaque remembering Bonnie, and the other has one for Marvin. The benches are in close proximity to each other to reflect the fact that Marvin and Bonnie were together so much of the time.

The program for the dedication was designed to honor the memory of the Stones and to celebrate the many positive impacts they had on the lives of OSU students, faculty, and staff. Following opening remarks by department head John Veenstra, personal reflections were shared by Ron Elliott (one of Marvin’s long-time faculty colleagues), Rhoda Hughes (Bonnie’s good friend and co-worker for many years), and Travis Tsunemori (who was mentored by Marvin and remained close to the Stones after his time as an undergraduate and graduate student).

Courtesy of local photographer Jeanne Dibble, the Stone family was presented with an attractive framed picture of the benches as installed in their campus environment. John Womack, emeritus professor of Architecture, had created a striking original painting of the benches (complete with Pistol Pete), which he gave to the family. Mary Elizabeth Mach, John’s daughter and BAE alumna, participated in the presentation of this special gift and spoke of the importance of the Stones in her life.

The benches are located in a beautiful setting, thanks to the wonderful design ideas and cooperation from Steve Dobbs’ crew at OSU Landscape Services. The department also wishes to thank vice president Joe Weaver for his strong support of the project. BAE staff member Jana Moore deserves a great deal of credit as the driving force behind the planning for the benches and the dedication event. Ostate TV graciously provided their services; to view a video of the ceremony, go online to https://ostate.tv and do a simple search for “Stone.”

The memorial benches will provide a lasting, functional tribute to an OSU couple who epitomized service to others. As written on the program: “Those we love don’t go away, they walk beside us every day. Unseen, unheard but always near, still loved, still missed and very dear.”
Greetings Alumni and Friends!

The 2017-2018 academic year has drawn to a close! Back in September 2017, at the beginning of the school year, we sent out a brief update on the department. We thought we would provide you with some highlights from this past year.

During the Fall and Spring semesters, 24 undergraduates received their Bachelor of Science degree. Additionally one Masters of Science and four Doctoral degrees were conferred to graduate students! Our students, as usual, continue to bring national recognition to the BAE Department. Collin Craige was selected as a 2018 Cotton Incorporated Fellow. Congratulations Collin!

Faculty members have also been busy representing our department at home and abroad. We wish to extend our congratulations to: Dr. Dan Thomas, elected to the rank of Fellow of the Environmental and Water Resources Institute of the American Society of Civil Engineers. Dr. Nurhan Dunford was elevated to the rank of Fellow of the American Oil Chemists’ Society. Dr. Saleh Taghvaeian was reappointed as an Assistant Professor. Dr. Ray Huhnke was appointed as a Regents Professor. Dr. John Long, a member of the 2018 Multi-disciplinary research team awarded the OSU President’s Cup. Additionally, the Grain Bin Safety Trailer which is a partnership between BAE and Fire Service Training in the College of Engineering, Architecture & Technology (CEAT) won the 2018 CEAT Outstanding Team Achievement Award. This unique platform has provided training for over 700 first responders, elevator workers and farmers.

Some of the BAE faculty and staff have changed. Dr. Glenn Brown and Dr. Dan Storm have both retired. We wish them well on their new adventures! Dr. Ali Mirchi will be joining the department at the end of July as a new Water Resources faculty member. Dr. Sara Alain, whose expertise is GIS, will be joining the department at the end of July as a non-tenure track teaching faculty. Dianna Galloway joined the department in February as the new Administrative Assistant. Jason Walker, a long time research technician at the BAE Laboratory will be leaving to work for the Field Research Service Unit of the Division of Agricultural and Natural Resources.

If you are attending the 2018 ASABE Annual International Meeting come join the Oklahoma State University Alumni and Friends Dinner to be held on Sunday, July 29, 2018 at 6:30 p.m. The dinner will be held at “The Detroit Seaford Market” restaurant located at 1435 Randolph Street. The restaurant is within walking distance of the conference hotel, the Renaissance Center. If you would like to walk as a group to the restaurant, please meet in the lobby of the Renaissance Center at 6:00 p.m. Sunday. There will be a set menu of $25 with 3-4 entrees to choose from for dinner. Come and see old friends and make new ones! Hope to see you there.

Lastly, the Department is continuing our campaign to highlight the work of BAE students, faculty, and staff. This includes an expanded social media presence on Facebook, Twitter, Instagram, and YouTube. We welcome your feedback as we continue to showcase the value of Biosystems and Agricultural Engineering.

John N. Veenstra
Department Head
News in Brief

Recent Hires:
Tamrya Fancher, Accounting Specialist
Dianna Galloway, Administrative Assistant
Sharon Mathis, Accounting Specialist

Recent Retirements:
Dr. Glenn Brown, Regents Professor, Environment & Natural Resources
Don Lake, Applications Engineer
Dan Storm, Professor, Environment & Natural Resources
Al Sutherland, Assistant Extension Specialist, Mesonet

We are deeply saddened by the passing of Wendell Bowers. Wendell served on the faculty from 1967-1985. He was an outstanding extension engineer and also served as Assistant Director of Agricultural Programs for the OAES.

COMING SOON!
We will be offering limited edition, professionally printed, numbered and signed 11” x 15” prints of the painting (as seen on back cover) by John Womack, emeritus professor of Architecture. This is a beautiful rendition of the benches that are in memory of Marvin & Bonnie Stone. All donors who contribute $100 or more to the Marvin Stone Scholarship Fund will receive a Remembering print. The amount of your donation in excess of $20 will be tax deductible. Professor Womack has generously offered to waive all artist’s fees. Shipping fees may apply. If interested please contact Jana Moore at jana.moore@okstate.edu no later than September 1st. Please consider doing it now while you’re thinking about it!

Student News

Sumon Datta, Dr. Saleh Taghvaeian’s PhD student, submitted a research proposal, Conserving Agricultural Water Resources in Oklahoma using Smart Technologies, to Oklahoma Water Resources Center and his proposal was selected for funding. The results of Datta’s study will provide valuable information on the accuracy, usability, and reliability of several major types of soil water sensors.

Joanna Quiah, a Biosystems Engineering junior, was OSU’s delegate for the 2017-18 CABLE program, which trains students to pursue leadership roles in bioeconomy-related industry and academia. Dr. Ray Huhnke, Director of Biobased Products and Energy Center, served as Joanna’s mentor for a series of leadership development experiences. Both attended a leadership workshop at the 2017 Advanced Bioeconomy Leadership Conference on Next Generation Technologies (ABLC Next) in San Francisco, CA and the 2018 CABLE meeting at University of Tennessee and Oak Ridge National Laboratory. Also, Joanna organized the OSU Bioeconomy and Sustainability Expo held on April 4, 2018.

BAE student Jenna Fowler, one of the 30 CEAT Scholars in the upcoming Junior class spent a week in Puebla, Mexico. The purpose of this trip was to learn about the engineering challenges in Puebla, Mexico as well as to experience Mexican culture. This week long trip was a wonderful and unique opportunity for students to see firsthand what engineering in another country is like and the challenges faced in other parts of the world.

Alumni News

Alumnus visits campus after 35 years
Elijah Biamah received his B.S. and M.S. degrees in Agricultural Engineering in 1982 and 1983, respectively. Accompanied by his family, he recently returned to Stillwater and the OSU campus for the first time in 35 years! Elijah was Ron Elliott’s first graduate student. He returned to Kenya following the completion of his M.S. and later earned his Ph.D. at Wageningen Agricultural University in The Netherlands. Dr. Biamah has had a distinguished career as a university faculty member and administrator, book author, and international consultant.

L to R: Elijah, his wife Gladys, and their sons Michael and Brian, along with Brian’s fiance’ Kathy.
Unmanned Aerial Systems Fighting Fire

In 2012, Dr. Carlson joined the OSU interdisciplinary team focused on unmanned aerial systems (UAS) and their applications. Consisting of faculty from BAE, Mechanical and Aerospace Engineering, Geography, Aviation and Space Program and Fire Service Training, this team is developing a campus-wide research and education program highlighting various aspects of UAS systems.

Dr. J.D. Carlson is an Associate Researcher who has worked in the Department of Biosystems and Agricultural Engineering at Oklahoma State University for 26 years. A meteorologist by training, Dr. Carlson works with the Oklahoma Mesonet, the state’s automated weather station network. In his first decade at OSU, Carlson worked with DASNR faculty and graduate students to develop weather-based models for insect and disease monitoring, irrigation scheduling, and other agricultural applications. These models were implemented on the Oklahoma Mesonet website known as “AgWeather.” In the mid-1990s, Carlson began working with the US Forest Service to develop a fire danger model for implementation on Mesonet. With funding from a federal grant, this model and other related fire products resulted in the creation of the “OK-FIRE” program in 2006, of which Carlson is the program manager. Now integrated into the general Mesonet website, “OK-FIRE” was originally developed as a stand-alone website for wildland fire management, with applications to wildfire, prescribed burning, and smoke management. Dr. Carlson has remained an active member of the department throughout his career. He has given numerous presentations at professional conferences as well as invited lectures on meteorology, fire meteorology, and OK-FIRE in undergraduate classes at Oklahoma State University and the University Of Oklahoma. As part of his extension appointment, he has given numerous workshops to wildland fire clientele on how to use the OK-FIRE system.

Carlson’s specific work is related to the use of small UAS for measuring wildland fire variables and for tactical wildfire suppression activities. The team has flown UAS over a number of prescribed fires in the Stillwater area to collect data. In addition, various team members collaborated on three large grant proposals in 2014, 2015, and 2016 centering on the use of UAS in wildfire applications. In 2016 the team was awarded first place in the OSU President’s Cup competition.

While OK-FIRE is already having a huge impact and being used by thousands of wildland fire managers across Oklahoma for wildfire suppression and prescribed burns, Carlson sees potential for further improvement. Field and satellite data from a recent federal grant project are being analyzed to develop dynamic models for grassland fuels that could directly improve predictions of the fire danger model in OK-FIRE. In addition, unmanned aerial systems can be used for measuring wildland fire variables such as fuel characteristics and thereby help improve modeling components within OK-FIRE.

A Little Canine Therapy

Pete’s Pet Posse, Oklahoma State University’s pet therapy program, has received another addition to their every-growing family. Dr. Carol Jones and her pup, Otis, have just completed their first year with OSU’s renowned canine therapy group. We are very excited that this addition is part of the department of Biosystems and Agricultural Engineering.

Otis is a two year old Yorkipoo who loves to fish, ride motorcycles and sit in people’s laps. A happy pup with a happy-go-lucky attitude, Otis loves everyone and has never met a stranger. Otis always knows when someone needs a little extra love and is extra friendly to all he encounters. Otis’ owner, Dr. Carol Jones, is an OSU professor of 15 years and currently serves as the Orville L. and Helen L. Buchanan Chair. Dr. Jones holds a three-way teaching, research and extension appointment, teaching the BAE course, Physical Properties of Biological Materials. Her research and extension program is known internationally, focusing on agricultural safety and product storage, with an emphasis on grain storage.

Dr. Jones saw the magic that Pete’s Pet Posse pups worked with OSU students, faculty and staff after the Homecoming Parade tragedy in 2015. As a direct result of these events and her firsthand experience of the pressure and frustration engineering students experience day-to-day, Dr. Jones was driven to become part of the Pet Posse. When Otis came to live with Jones, she knew that he would be a great addition to OSU’s therapy dog family. Dr. Jones states that she knew this opportunity would be fun and rewarding, but did not anticipate the pure magic the dogs have with people. The relationship between dogs and humans is something that human-to-human interaction just cannot match.

Since their time on the Posse, Otis’ favorite part is sitting in student laps and lavishing them with kisses. Dr. Jones enjoys hearing students say how happy they feel when Otis works his magic with them. She loves sharing Otis with our Cowboy family. Dr. Jones says it is a privilege and honor to work at a university that cares enough about its employees and students to provide this kind of support. “The world needs that kind of completely accepting love and, in some small way, I like to think we’ve made life better for a little while for our students and employees.”
Hall of Fame Inductee

Dr. John B. Solie was a 2017 Biological Systems Engineering Hall of Fame Inductee for the University of Nebraska-Lincoln. Solie is an Oklahoma State University Regents Professor Emeritus and Sarkeys Distinguished Professor Emeritus for the Department of Biosystems and Agricultural Engineering.

He served as a faculty member with distinction from 1982 to 2010 and is a worldwide pioneer in the development of precision agriculture technology. More specifically, Solie provided leadership to the Oklahoma State University variable rate technology team in which they developed Greenseeker technology. The technology established innovative techniques for finding high-spatial-resolution nutrient management. He has an extensive and impressive record of conducting high-impact research and meritoriously sharing his knowledge and experiences with students and other professionals through his teachings.

ASABE Presidential Role

Oklahoma State University Alumnus Dr. Stephen Searcy served as the 2017-2018 President of the American Society of Agricultural and Biological Engineers.

Dr. Searcy graduated from OSU in 1980 with a PhD in Agricultural Engineering. In addition to his presidential role for ASABE, Searcy serves as a professor and head of the Department of Biological and Agricultural Engineering at Texas A&M University in College Station, TX. Searcy offers administrative support and guidance for a 37 membered faculty as they seek to fulfill the mission of the land-grant university by teaching, researching and serving the public. Additionally, Searcy is a published, world-renowned researcher in precision agriculture.

Lifetime of Passion

Dr. C.T. Haan received the Agricultural and Biological Engineering Lifetime Achievement Award from Purdue University in October of 2017.

Haan served as a former Department Head of the Biosystems and Agricultural Engineering (BAE) Department from 1978 to 1985. He was a faculty member in the department from 1978 to 2000. A passionate educator, Dr. Haan continues to support students through a endowed scholarship, the Tom and Jan Haan Scholarship. This scholarship was first awarded in 2001.

Department Heads: Past & Present

From left: John Veenstra, Dan Thomas, Ron Elliott, Bill Barfield, Tom Haan
The event was held April 9, 2018, to recognize scholarship recipients and donors, student organization leaders, Alpha Epsilon Honor Society members and initiates, and graduating seniors.
2017-2018 ASABE Student Officers
Front Row, L to R: Carol Jones, Jordan Cash, Bo Davenport, Elizabeth Alder, Sarah Riley, Sam Stratton, Scott Frazier
Back Row, L to R: Alec Cannon, Mitchell Ratke, Michelle Allen, Layne Kisling

Greg & Kristen Hart Scholarship Recipients
L to R: Laymon Barnett, Lilly Schneberger, Morgan Broadbent, Matthew Berna. Also Pictured: John Veenstra

Don & Kim Yarbrough Scholarship Recipients
L to R: Chase Visina, Jacob Auer, Barry Bachman, Emily Leupp, Sawyer Searcy

2018-2019 ASABE Student Branch Officers
Front Row, L to R: Elizabeth Alder, Courtney Andrews, Sarah Riley, Trent Darby
Back Row, L to R: Carol Jones, Jacob Auer, Jay Clardy, Michelle Allen, Heath Moorman, Dan Thomas
2018-19 Scholarship Recipients

Incoming Students
Leon Crain Memorial Scholarships (Endowed)
  Gregory Aldridge
  Lakelin Conrad
  Richard Finn
  Krystal Hensley
  Austin Kirk
  Keeley Kirkland
  Sara Stevens
  Gracen Walker
  Emma Warnsman
  Hannah Wiesner

Gregory Aldridge
Lakelin Conrad
Richard Finn
Krystal Hensley
Austin Kirk
Keeley Kirkland
Sara Stevens
Gracen Walker
Emma Warnsman
Hannah Wiesner

Oklahoma State University

Continuing Students
Fred & Leatrice Bouse Scholarship in Agricultural Engineering
  Garrison Hill

Dr. John B. Solie Scholarship (Endowed)
  Brent Gwinn

James A. & Hattie Barker Scholarship
  Braden Fountain

Terry D. Allen Agricultural Engineering Scholarship (Endowed)
  Harleigh Moore

Wendell Bowers Scholarship
  Cameryn Taylor

Sam & Sheila Harp Scholarship (Endowed)
  Michelle Allen

Dudley Barefoot Memorial Scholarship (Endowed)
  Aubrey Herlocker

Oklahoma Municipal Power Authority Scholarship
  Jack Godfrey

Greg & Kristen Hart Scholarships (Endowed)
  Laymon Barnett
  Mathew Berna
  Morgan Broadbent
  Lilly Schneberger

David McKay Scholarship
  Elisabeth Alder

Oklahoma Grain & Feed Association Scholarship
  Layne Kisling

Marvin Stone Scholarships (Endowed)
  Alec Cannon
  Sage Counts
  Lane Holt
  Erik Knatvold

Tom & Jan Haan Scholarship (Endowed)
  Sarah Riley

Glen Morgan Memorial Scholarship
  Ashton Lofquist

James & Ruby Garton Scholarship (Endowed)
  Jay Clardy

AGCO Engineering Scholarships
  Micah Arthaud
  Heath Moorman
  Austin Pickering

E. W. Schroeder Scholarship (Endowed)
  Trent Darby

Annette & Bill Barfield Scholarship
  Courtney Andrews

Lawrence O. Roth Scholarships (Endowed)
  Josh Taber
  Matthew Studyvin
  Makinzi Morrow-Williams

Oklahoma Association of Electric Cooperatives Scholarship
  Joanna Quiah

BAE Development Fund Scholarships
  William Fulk
  William Parnell
  Makena Sherrell
  Tyler Walterscheid

Halliburton Power of Six Scholarships (Endowed)
  McKenna Charles
  Marla Huffman
  Alissa Meek

James & Ruby Garton Scholarship (Endowed)
  Jay Clardy

AGCO Engineering Scholarships
  Micah Arthaud
  Heath Moorman
  Austin Pickering

E. W. Schroeder Scholarship (Endowed)
  Trent Darby
Barefoot Scholarship Endowment

Professor Dudley Barefoot served as a faculty member in the department from 1969 to 1986 and for many years was the primary undergraduate academic advisor. He was a teacher, mentor, advocate, and friend for nearly a generation of OSU agricultural engineering and mechanized agriculture students. Many departmental alumni retain fond memories of the support and encouragement they received from Professor Barefoot and his wife Betty.

Following his passing in 2002, donations from colleagues and friends enabled the Dudley Barefoot Memorial Scholarship to be first presented in 2003. The scholarship then continued to be awarded on an annual basis. The department has made a special push to insure that the Barefoot Scholarship will live on in perpetuity. We’re very pleased to announce that the principal balance has now surpassed the $25,000 minimum required for an endowed scholarship. In fact, as of February 2018, the balance in the OSU Foundation’s Barefoot Scholarship fund is approximately $31,600!

All past and future donations and pledges to this fund (#21-64300) are greatly appreciated and serve to further enhance Professor Barefoot’s legacy. The Barefoot Scholarships are the most fitting way to honor the memory of a faculty member who was dedicated to student success and well-being.

I’D LIKE TO MAKE A DIFFERENCE AT OSU BY SUPPORTING BIOSYSTEMS & AG ENGINEERING:

Name
Address    City    State Zip
Home Phone  Cell Phone  Email

I WOULD LIKE TO MAKE A GIFT OF:
☐ $1,000 ☐ $500 ☐ $100 ☐ Other: $__________

PLEASE DESIGNATE MY GIFT TO:
☐ Terry D. Allen Agricultural Engineering Scholarship (21-76550)
☐ Dudley Barefoot Memorial Scholarship in Biosystems & Ag En (21-44300)
☐ Ervin W. Schroeder Biosystems Engineering Endowed Scholarship (21-45000)
☐ Dr. James and Ruby Garton Endowed Scholarship Fund (21-50700)
☐ Si & Kay Grider Endowment Supporting Intl Experiences / Biosys Eng (21-50600)
☐ Tom & Jan Haan Biosystems & Agricultural Engineering Scholarship (21-42900)
☐ Halliburton Power of Six Scholarship in BAE (21-63900)
☐ Sam & Sheila Harp Biosystems & Agricultural Engineering Scholarship (21-54800)
☐ Greg and Kristen Hart Scholarship Endowment Fund (21-62000)
☐ Larry Roth Endowed Scholarship (21-01600)
☐ Leon Crain Endowed Scholarship Fund (21-40300)
☐ Dr. Marvin Stone Endowed Scholarship Fund (21-48300)
☐ Dr. John B. Solie Scholarship in Biosystems and Agricultural Engineering (21-66650)
☐ Fred and Leatrice Bouse Scholarship in Agricultural Engineering (21-00580)
☐ Ron and Zona Noyes Scholarship (21-65350)
☐ Other: ____________________________

*Unspecified gifts will be designated to the general scholarship fund

FULFILLMENT OPTIONS:
☐ one-time ☐ in monthly installments of $____________
Pledged for: ☐ 1 yr ☐ 2 yr ☐ 3 yr ☐ 4 yr ☐ 5 yr ☐ indefinite
$__________ beginning __ mm/yyyy
* Pledge reminders will be sent based on your fulfillment schedule

PAYMENT OPTIONS:
☐ Check - payable to OSU Foundation, is enclosed
☐ Credit Card

Card Number / Exp. Date
Name on Card    3-Digit CVC
Signature

*Gifts to the OSU Foundation may be tax deductible

Have you included OSU Foundation in your estate plan?
Have you looked to see if you or your spouse’s employer will match your contribution and double your impact? See a list of matching employers at OSUgiving.com/matching

PLEASE RETURN COMPLETED FORM TO: OSU FOUNDATION | P.O. Box 258818 | Oklahoma City, OK 73125-8818
Give online at OSUgiving.com/bae
ASABE Member of the Year

Senior Montana Wells was selected as ASABE Student Branch Member of the Year. He is from a small town in the southern part of the Oklahoma City Metro area known as Washington, OK. Growing up, math and science were his favorite classes, which developed into a passion for food and agriculture through his involvement in FFA.

With this background, pursuing a degree in Biosystems and Agricultural Engineering was the perfect fit. During his time at Oklahoma State University, he became heavily involved in on-campus communities and sought out leadership roles within these communities. Montana served as a CASNR Career Liaison, working with students on career readiness. He worked in CEAT Student Services, helping with academic advising and other CEAT initiatives. Also, Montana served as a Biosystems and Agricultural Engineering Ambassador, educating people about the major and the opportunities that come with it. Montana is a 4 year, actively involved member of ASABE. As an ASABE member, he served as both the Oklahoma State Student Chapter President as well as the International Preprofessional Community Vice President. Montana states that “Both roles have been extremely rewarding both professionally and personally due to the leadership experience that I have gained and the peers and mentors that I have met and learned from.” After graduating this May, Montana plans to work as a Design Engineer in the food processing industry, working towards getting his PE. His long term plans include going back to school to obtain a PhD so he can become a Professor and aid in the development of the next generation of Biosystem Engineers.

Top Sophomore

Braden Fountain was recognized as BAE’s Top Sophomore at this year’s BAE Banquet. He is a Biosystems and Agricultural Engineering Major with the Bioprocessing and Food Processing option from Maize, Kansas.

Braden’s passion for agriculture stems from his experiences involved with his grandfather owning and operating a wheat farm in central Kansas. He’s always wanted to pursue a career in the agricultural industry so when he discovered that Oklahoma State University offered Biosystems and Agricultural Engineering as a major, he was sold. Braden is highly involved in the American Society of Agricultural and Biological Engineers. He intends to graduate in May of 2020 and pursue a career in the food industry as a processing engineer at a large-scale brewery.

Graduate Student Spotlight

Adrian Saenz began his Master’s studies in Biosystems and Agricultural Engineering (BAE) in May of 2016. He is a talented, motivated and impressive student who has maintained a 4.0 GPA in a rigorous M.S. degree program. He has received several awards and scholarships in recognition of his scholastic achievement, including the Robert & Jean Schuetz Graduate Fellowship, the Bridge to Doctorate Fellowship, and the Williams Graduate Fellowship.

Furthermore, he has presented his research work at numerous academic conferences across the country. Adrian was a primary organizer of the Oklahoma Water Conference in 2017 through the BAE Graduate Student Association, serves as Treasurer of the Hispanic Graduate Student Society, is the Graduate Student Advisor for an OSU fraternity, and serves as a graduate research mentor in the OK-LSAMP Bridge to Doctorate program. He is very passionate about his academic research, safe-guarding the environment, and using engineering to improve society. His passion for educating others is most evident when he is speaking with pre-collegiate students. On behalf of OSU, Adrian has met with and directly impacted approximately 400 students who were interested in STEM majors. He is also an active volunteer within the community, and will have completed the 300 hours of voluntary community service necessary to receive OSU’s orange CORD upon his graduation.
<table>
<thead>
<tr>
<th>Client/Sponsor</th>
<th>Team Members</th>
<th>Project Description</th>
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<tbody>
<tr>
<td>CBM Mfg.</td>
<td>Dakota Burditt, Jordan Cash, Todd Mitchell</td>
<td>Cowboy Motorsports was contracted by CBM Mfg. to design and build a cost effective, reliable, and innovative powertrain and tractor configuration control system for the Oklahoma State University Quarter Scale tractor design team.</td>
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<tr>
<td>ASABE 1/4 Scale Tractor</td>
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<td>BAE Dept. / Dr. John Long</td>
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<td>Animal Ortho Care, Inc.</td>
<td>Ben Strickfaden, Ally Terry, Hunter Zinke</td>
<td>Animal Ortho Care challenged Wheel Waggers to design and build a wheelchair for dogs that allows for running, walking, sitting, and lying with ease. This design includes all-terrain access, fully weatherproof, and allow the dog to relieve itself without soiling the wheelchair.</td>
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<tr>
<td>Veterinary Prosthetics Doggie wheelchair</td>
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<td>Sterling, VA</td>
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<td>Friends of Lake McMurty</td>
<td>TJ Buser, Hunter Parsons, Ricky Hosack</td>
<td>Keepin' it Clean was tasked to build a pervious pavement cleaner for the Friends of Lake McMurty. The designed machine will be pulled behind their John Deere 5055D tractor. The permeable parking lot was completed in late February/early March 2018. The parking lot consist of PaveDrain Pervious Pavers and is 4,900 square-ft.</td>
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<tr>
<td>Design of a trailer-mounted cleaning device for pervious pavement</td>
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<td>Stillwater, OK</td>
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<td>Capstan Ag Systems, Inc.</td>
<td>Cooper Morris, Colt Peterson, Kade Shelton</td>
<td>The Flow Fellas were tasked with determining and testing a suitable linear distance measurement sensor. The measuring device is to measure the middle of a rotameter float. The measurement needs to have high accuracy, repeatability, and low response time.</td>
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<tr>
<td>Digital Rotameter design &amp; validation</td>
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<td>Topeka, KS</td>
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<td>MacDon Industries Ltd.</td>
<td>Laymon Barnett, Caleb Curren, Bo Davenport</td>
<td>The goal of this project was to design and create a prototype 3-point hitching device for MacDon Industries Ltd. windrower that can allow multiple implements to be mounted on the windrower. This system would be like no other piece of machinery currently available in industry.</td>
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<tr>
<td>3-Pt Implement mounting attachment</td>
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<td>Winnipeg, Manitoba, CAN</td>
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<tr>
<td>U.S. Roasters</td>
<td>Emily Rowe, Emmanuel Awoniyi, Alec Cannon</td>
<td>The objective of ARC Engineering is to research, design, build, and test a double-barrel smokeless coffee roaster. This roaster must reuse some of the escaping heat and include a pre-roasting barrel. Ideally, the double roaster will use the same amount of floor space as the single barrel roasters and have all parts running purposefully at all times. The work will focus on an innovative design and construction of a pre-roasting drum, emphasizing the heat and mass transfer between the two drums. The design will also incorporate heat recovery between the top and bottom roasting drums and be a potential parent for a 500-kilogram double barrel coffee roaster.</td>
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<tr>
<td>Double Barrel (smokeless) coffee roaster with heat recovery</td>
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<td>Oklahoma City, OK</td>
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<td>City of Stillwater</td>
<td>Morgan Broadbent, Tyler Ogle, Sam Stratton</td>
<td>Stillwater’s Wastewater Treatment Plant (WWTP) produces class B biosolids in addition to clean water. The WWTP currently disposes of the biosolids by land applying it to five fields. The WWTP’s current permit allows for the disposal of approximately 500 dry tons of biosolids per year through field injection. Currently, the WWTP has no intensive harvest plan for removal of nutrients. This project will investigate ways to increase the biosolids application capacity of the injection fields. Develop a nutrient management plan for the injection fields, including a harvesting plan for nitrogen and phosphorus removal.</td>
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<tr>
<td>Wasterwater plant biosolids (sludge) land application</td>
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<tr>
<td>Stillwater, OK</td>
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