

The Annual OK-LSAMP Newsletter

2018 - 2019

The Link

25 YEARS

of Excellent
Undergraduate Research



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MESSAGE FROM THE PI

Dr. Jason F. Kirksey

Greetings OK-LSAMP Scholars, BD Fellows, Faculty, and Guests,

The Oklahoma Louis Stokes Alliance for Minority Participation (OK-LSAMP) experienced an exciting year as we completed our 25th year as an LSAMP alliance. This past year provided the opportunity to witness a number of successful and noteworthy accomplishments of many scholars and program alumni. The significant impact of the OK-LSAMP program on our scholars continues to yield compelling results. Alliance scholars are seamlessly and successfully transitioning to graduate programs, including at some of the country's most prestigious institutions. Others are embarking on careers in the public sector and private industry. Another exciting occurrence this year was the National Science Foundation (NSF) recently awarding the Oklahoma Alliance funding for five more years. The \$3.9M NSF award to fund Phase VI provides additional resources and opportunities for OK-LSAMP Scholars to build upon a quarter-century of research excellence.

The OK-LSAMP program continues to expand the number of underrepresented and underserved students pursuing and earning degrees in Science, Technology, Engineering, and Mathematics (STEM) across the state. We are proud of the spectacular achievements of OK-LSAMP scholars and we look forward to their future success as researchers and scientists. The achievements of our scholars are also attributable to the dedicated and self-less support and commitments of the Alliance Campus Program Managers and research faculty mentors. We are grateful for their willingness to encourage and inspire our scholars to achieve excellence. I would also like to thank our Program Director, Brenda L. Morales, and Program Data Coordinator, Darlene Croci for their tireless efforts to support and enrich the experience of OK-LSAMP scholars. The incredible support they give to the campus program managers, our program evaluator, and other campus administrators and staff across the Alliance significantly elevates the upward trajectory of the program. Our goal of increasing the number of baccalaureate and graduate STEM degrees awarded to OK-LSAMP Scholars across the Alliance keeps us motivated to work even harder.

It is our privilege to share the numerous success stories and accomplishments within the past academic year of our Scholars. As principal investigator, I look forward to the next five years of scholastic excellence from all the Campus Program Managers, faculty, staff, scholars, and Bridge to the Doctorate Fellows across the Alliance.

Sincerely,

A handwritten signature in blue ink that reads "Jason Kirksey". The signature is fluid and cursive, written in a professional style.

Jason Kirksey, Ph.D.

Vice President for Institutional Diversity and Chief Diversity Officer

Principal Investigator for the Oklahoma Louis Stokes Alliance for Minority Participation

About OK-LSAMP

Oklahoma Louis Stokes Alliance for Minority Participation (OK-LSAMP) is funded by the National Science Foundation and it is a partnership of Oklahoma Colleges and Universities working together to develop programs aimed at increasing the number of students from underrepresented populations who receive degrees in STEM disciplines.

Current goals of the program are to focus on:

- ◇ Undergraduate research experiences
- ◇ International experiences
- ◇ Graduate school preparation

Activities include:

- ◇ Faculty mentoring
- ◇ Conference and presentation travel
- ◇ Meetings focused on professional development and networking
- ◇ Performance based stipends for students

SCHOLAR REQUIREMENTS

Eligibility Requirements

1. Minimum GPA 3.00
2. US citizen or permanent resident
3. Able to participate in and contribute to program activities
4. Full time student in an approved STEM field (see approved majors next page)
5. Demonstrated intent in pursuing investigative studies and a graduate degree in STEM
6. Demonstrated desire to promote the efforts of LSAMP and NSF in underrepresented communities

Requirements for Continued Support

1. Maintain GPA of 3.00 or higher
2. Regular class attendance
3. Retain full-time status (Immediate notification of any drop/add changes required)
4. Remain in eligible STEM major (Immediate notification of major change is required)
5. Continued active participation in the required program activities. Any scholar whose participation rate is below 75% may be dismissed from the program the following semester.

Required Activities for All Participants

Scholars Meetings – once a month unless specified otherwise

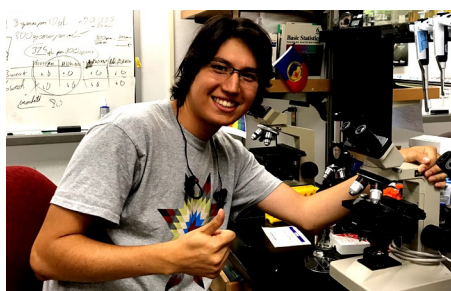
Mentoring Component - Under the guidance of faculty mentors, all scholars are expected to participate in 5-10 hours of research-related experiences per week. Enrollment in 3 hours of departmental Special Problems permitted.

Graduate School Preparation - Scholars will be involved in vigorous preparation for graduate studies. Specific activities will be based on academic classification. By the end of the semester BEFORE you graduate, you are required to submit a minimum of five applications for admission to graduate school.

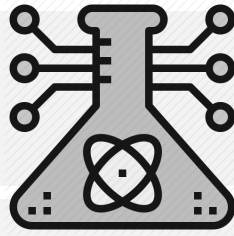
Summer Research Internships – All scholars will be involved in a two-month summer internship and must present their research at the annual research symposium held at OSU.

Occasional leadership, peer-mentoring, or other program activities - This will not interfere with your academics.

Acknowledgement of support by OK-LSAMP and NSF - (Cooperative Agreement HRD-1408748) in appropriate publications and public events is required. Display of the OK-LSAMP and NSF logos on posters and on last slide of PowerPoint Presentations is required. Logos will be provided by the OK-LSAMP office.



Aproved Majors



Agricultural Sciences

- Animal Sciences
- Food Science and Technology
- Plant and Soil Sciences

Natural Resources and Conservation

- Natural Resources
- Wildlife and Wildlands Science and Management

Architecture

- Architecture
- Environmental Design
- Architectural Sciences and Technology

Computer and Information Sciences

- Computer and Information Sciences
- Computer Programming
- Computer Software and Media Applications

Mathematics

- Mathematics
- Applied Mathematics
- Statistics

Physical Sciences

- Physical Sciences
- Astronomy and Astrophysics
- Atmospheric Sciences and Meteorology
- Chemistry
- Geological and Earth Sciences/Geosciences
- Physics
- Materials Science

Engineering and Engineering Technologies

- Aerospace and Aeronautical Engineering
- Agricultural Engineering
- Architectural Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical, Electronics and Communication Engineering
- Materials Engineering
- Mechanical Engineering
- Nuclear Engineering
- Petroleum Engineering
- Construction Engineering
- Geological/Geophysical Engineering
- Mechatronics, Robotics, and Automation
- Biochemical Engineering
- Biological/Biosystems Engineering
- Construction Engineering Technologies
- Nanotechnology

Biological Sciences

- Biology
- Biochemistry and Molecular Biology
- Botany/Plant Biology
- Cell/Cellular Biology and Anatomical Sciences
- Microbiological Sciences and Immunology
- Zoology/Animal Biology
- Genetics
- Physiology, Pathology and Related Sciences
- Bioinformatics and Computational Biology
- Biotechnology
- Neurobiology and Neurosciences
- Biological and Biomedical Sciences

Business and Management

- Management Sciences and Quantitative Methods

**Above is a condensed list of approved majors. If your major is not listed, visit with the program staff.*

RESEARCH PRESENTATIONS

OK-LSAMP 24th Annual Research Symposium

The 24th Annual Research Symposium was held on November 3, 2018 at Oklahoma State University in Stillwater. The Keynote address was given by Dr. Michael Ceballos, faculty affiliate of the UA Cell and Molecular Biology program as well as the UA Space and Planetary Sciences program. Using his prior experience in neurobiology and virology, Dr. Ceballos currently studies neurotropic dsDNA virus systems and emergent infectious disease dynamics, in humans and other vertebrates (e.g., fish and mice). Dr. Ceballos engaged OK-LSAMP scholars and other attendees by speaking on his experiences and what has made him a successful scientist.

OK-LSAMP welcomed 185 attendees to survey student research with 18 oral presentations and 42 poster presentation. At the end of the Symposium, 1st, 2nd, and 3rd place awards were presented for Life Science Poster Presentations, Non-life Science Poster Presentations, and Oral Presentations.



Dr. Michael Ceballos

Life Sciences Poster

- 1st - Myshal Morris (Langston University)
- 2nd - Sierra Posey (Oklahoma State University)
- 3rd - Emily Eix (The University of Oklahoma)

Non-Life Sciences Poster

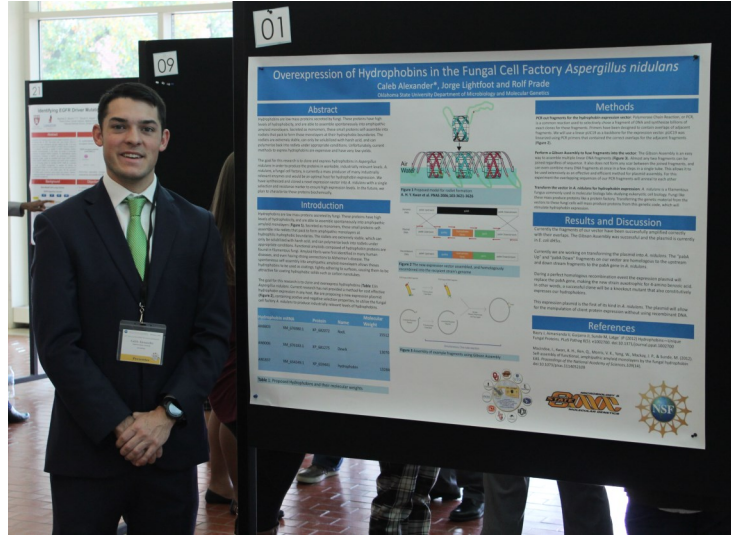
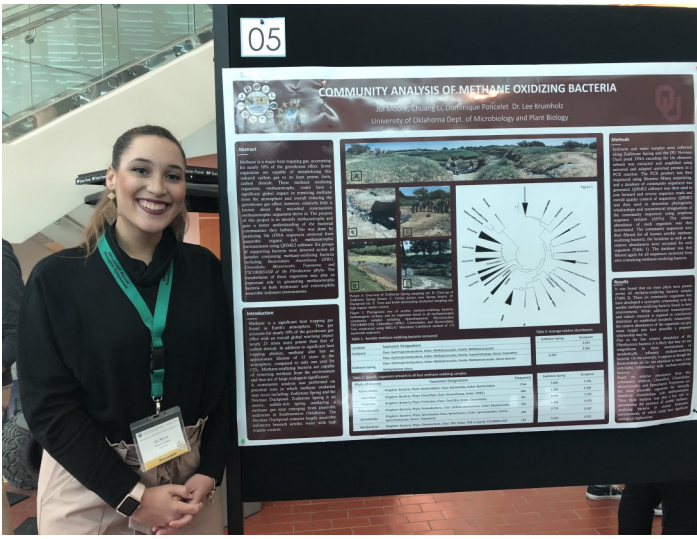
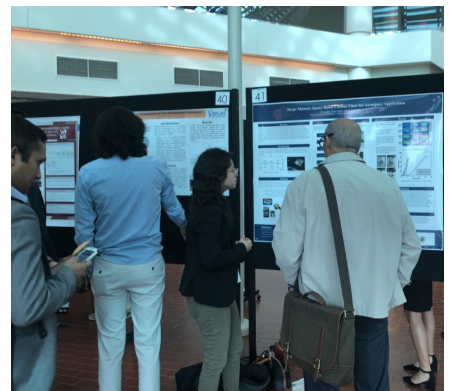
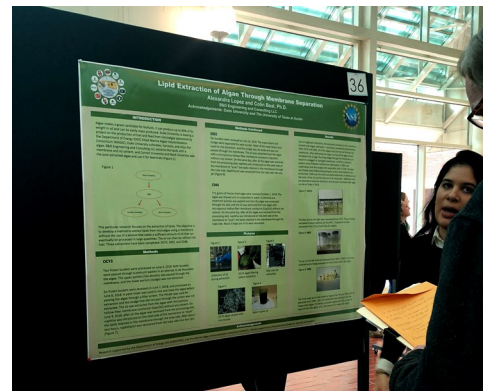
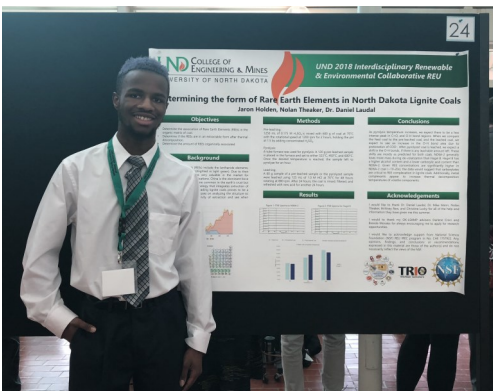
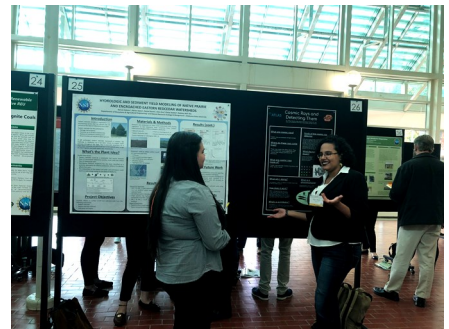
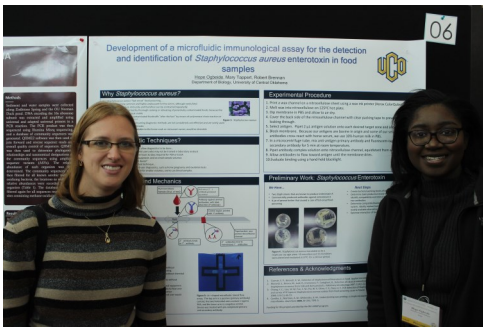
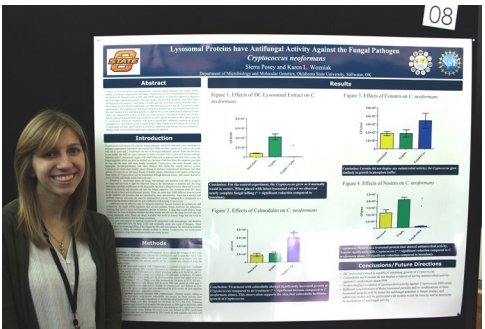
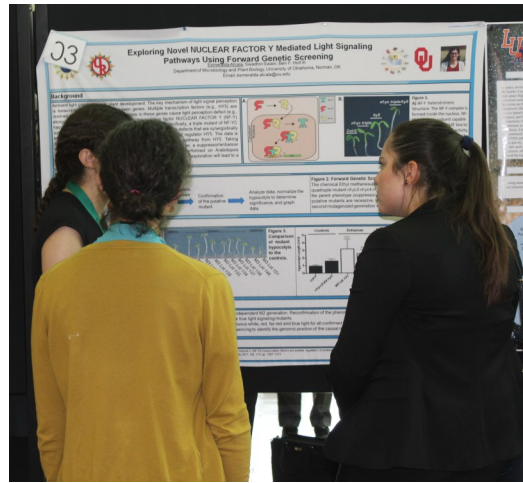
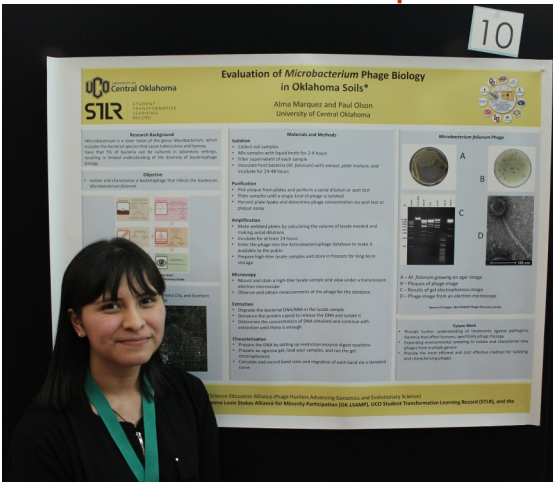
- 1st - Rosa Lopez (The University of Oklahoma)
- 2nd - Joseph Wagner (The University of Central Oklahoma)
- 3rd - Christen Parmley (Oklahoma State University)

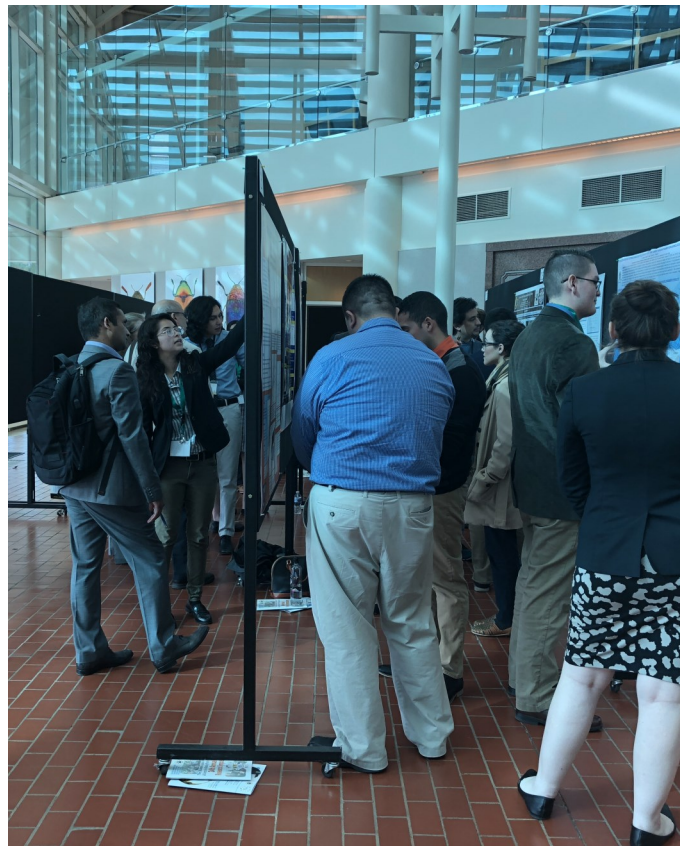
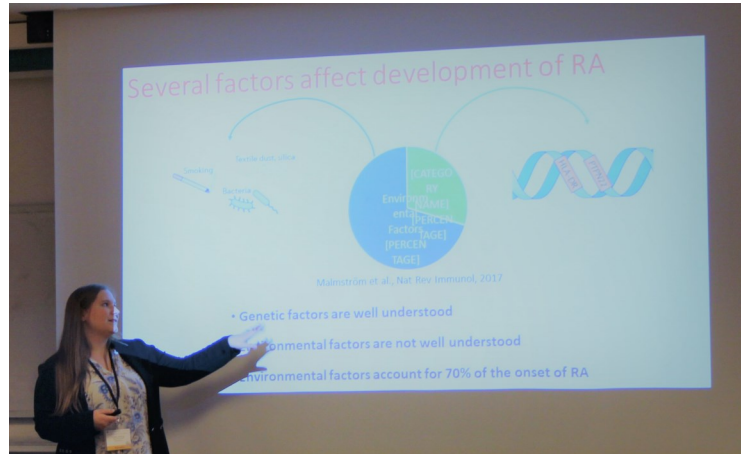
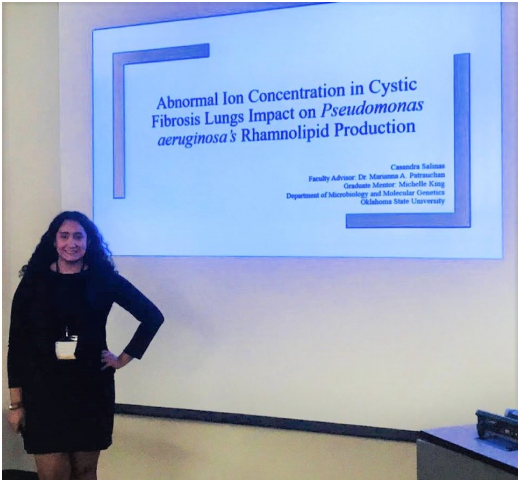
Oral Presentation

- 1st - Karina Flores (The University of Oklahoma)
- 2nd - Charles Bales (The University of Tulsa)
- 3rd - Cayla Moore (Langston University)



RESEARCH PRESENTATIONS





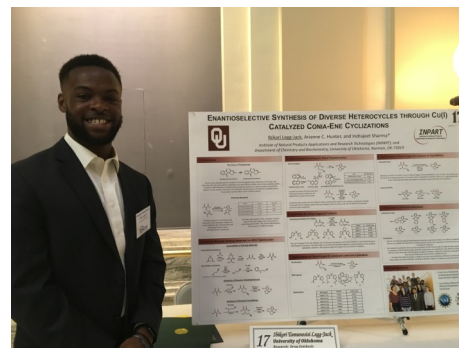
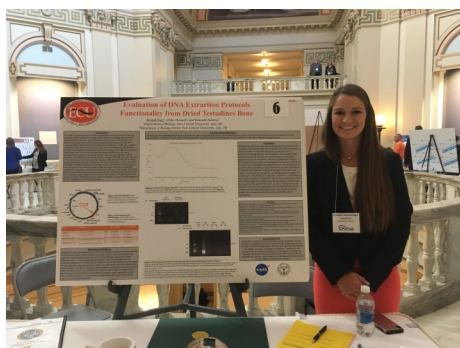
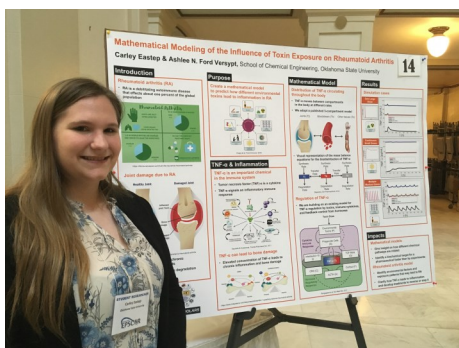
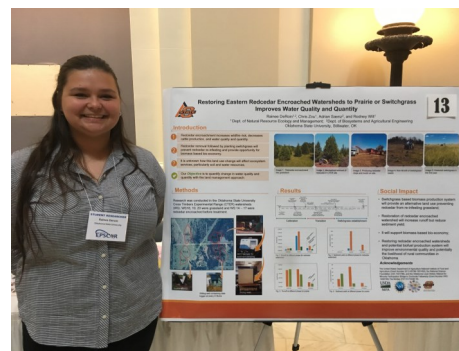
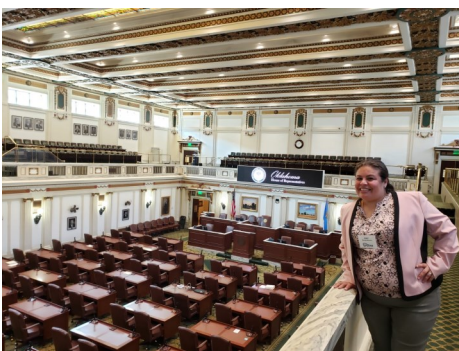
RESEARCH PRESENTATIONS |



2019 Oklahoma Research Day at the Capitol



The 2019 Research Day at the Capitol was held on Tuesday, March 26, at the State Capitol of Oklahoma. The event was established over 20 years ago to showcase the outstanding undergraduate research being conducted at Oklahoma's colleges and universities in the areas of science (including social science), technology, engineering, and mathematics. Students are nominated by their institutions' leadership to participate in the prestigious event, which is sponsored by the Oklahoma State Regents for Higher Education, Oklahoma Established Program to Stimulate Competitive Research (OK EPSCoR), and the National Science Foundation.



RESEARCH PRESENTATIONS



2019 OKPVRI Annual Meeting and Symposium



The 2019 Oklahoma Photovoltaic Research Institute Annual Meeting and Symposium took place April 5 -6th at the Tulsa campus of Oklahoma State University.

Dr. Luther and Dr. Wilt were the plenary speakers. The program included oral presentations by graduate students and poster presentations.

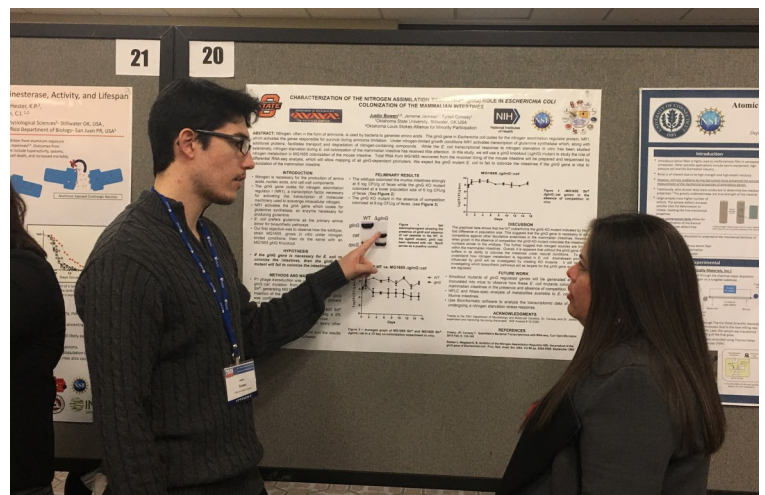
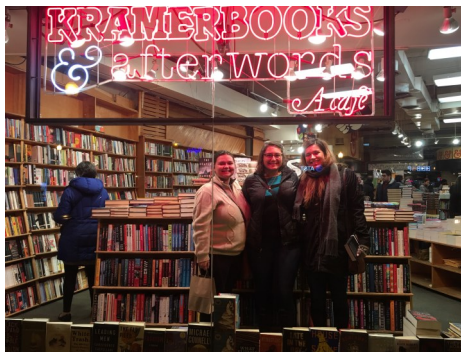
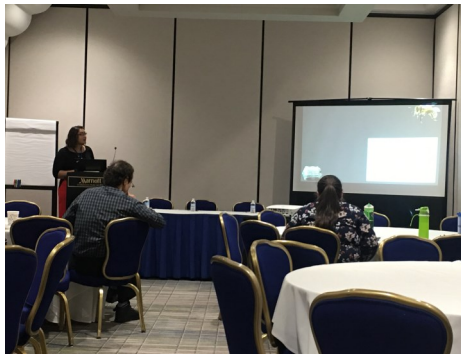
To the left Aaron Austin presenting his research poster "Photoemission Spectroscopy study on Cobalt doped ZnO nanorods".

Emerging Researchers National (ERN) Conference in STEM

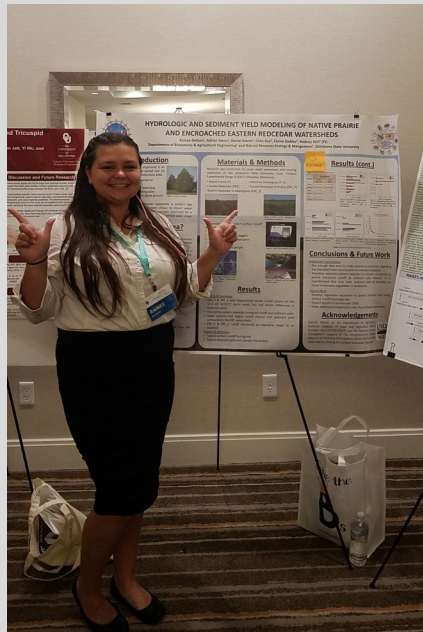
The Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics (STEM) is hosted by the American Association for the Advancement of Science (AAAS), Education and Human Resources Programs (EHR) and the National Science Foundation (NSF) Division of Human Resource Development (HRD), within the Directorate for Education and Human Resources (EHR). The conference is aimed at college and university undergraduate and graduate students who participate in programs funded by the NSF HRD Unit, including underrepresented minorities and persons with disabilities.

The objectives of the conference are to help undergraduate and graduate students to enhance their science communication skills and to better understand how to prepare for science careers in a global workforce.

The conference featured student poster and oral presentations and educational workshops for succeeding in graduate programs and career preparation.



2018 OK-WISE Conference



The 2018 Oklahoma Women Impacting STEM and Entrepreneurship Conference took place September 14, 2018, in Oklahoma City, Oklahoma. Conference speakers included Gene Nora Jessen, original member of the Mercury 13 testing program for female astronauts; Michelle Millben, former White House Adviser; and Carolyn Rodz, founder of Alice, an AI-based business accelerator in partnership with Dell. Panel discussions focused on the impacts of women on scientific fields, policy and society, and startups around the state and it feature prominent tech founders, biotechnology experts, social entrepreneurs, meteorologists and political activists. Above pictures of OK-LSAMP scholar Rainee Deroin from Oklahoma State University presenting her research poster.

2019 AIAA Science and Technology Forum and Exposition



The 2019 SciTech Forum took place on January 7-11, 2019 in San Diego, California. Spanning over 70 technical discipline areas, the conference provides scientists, engineers, and technologists the opportunity to present and disseminate their work in structured technical paper and poster sessions, learn about new technologies and advances from other presenters, further their professional development, and expand their professional networks that furthers their work. OK-LSAMP scholar Daniel Salinas (right) presented with graduate student Alvin Ngo on the development of a geared turbopan for small unmanned aircraft.

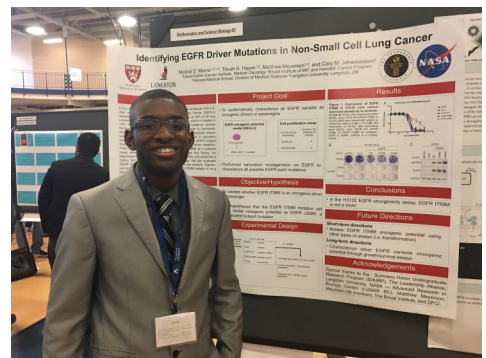
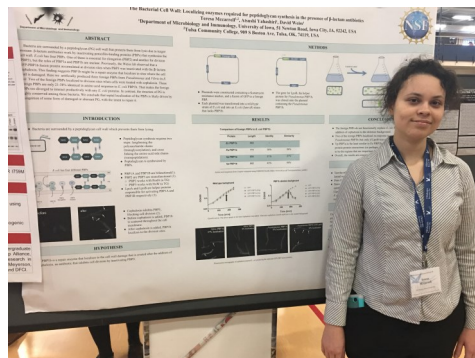
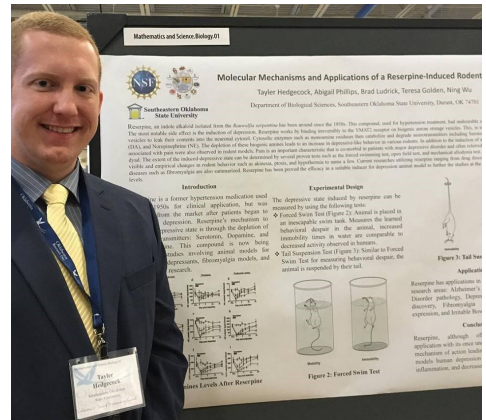
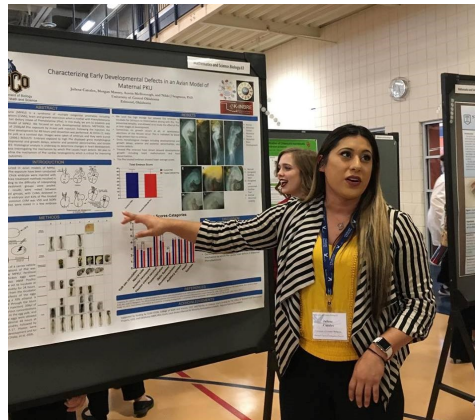
Joint Meeting of the Missouri and Missouri Valley Branches of the American Society for Microbiology 2019



The Missouri branch and the Missouri Valley branch of the American Society for Microbiology welcomed scientists and students to the annual meeting on March 15-16, 2019 in Omaha, NE. The meeting was hosted by Creighton University and the University of Nebraska, Omaha. The meeting featured two ASM distinguished lecturers and several prominent local microbiology researchers and oral and poster presentations by students from the region. Above pictures of OK-LSAMP student Casandra Salinas with her lab team members and giving an oral presentation of her research.

2019 Oklahoma Research Day

Oklahoma Research Day promotes cross-campus and cross-disciplinary research among all institutions of higher learning in the State of Oklahoma. The event seeks to encourage networking among researchers and interchange of ideas among those studying and researching in their respective academic disciplines. Now in its 20th year, Oklahoma Research Day is a premier annual event celebrating student and faculty research, creative, and scholarly activities. The 2019 event was hosted by Southwestern Oklahoma State University at the SWOSU Wellness Center and the Pioneer Cellular Event Center in Weatherford on March 8th, 2019.



RESEARCH PRESENTATIONS



World Conference on Undergraduate Research 2019



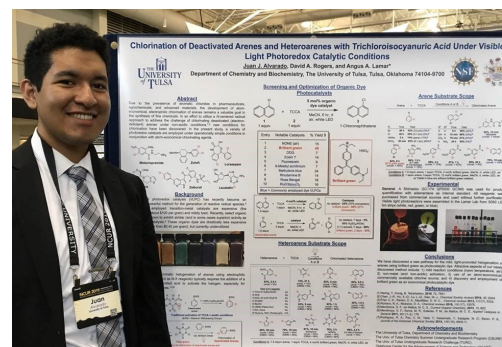
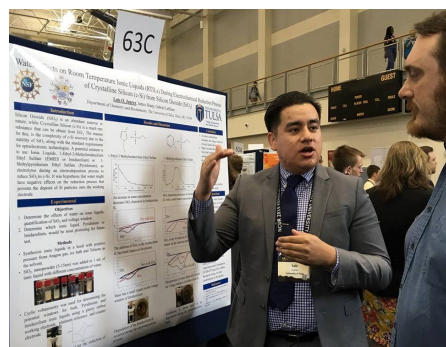
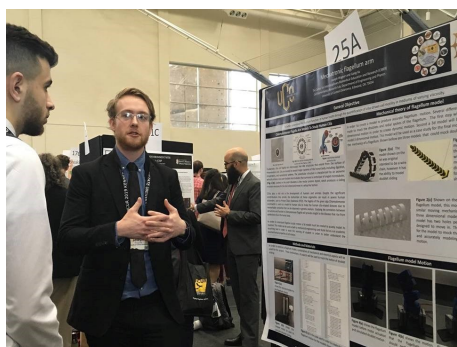
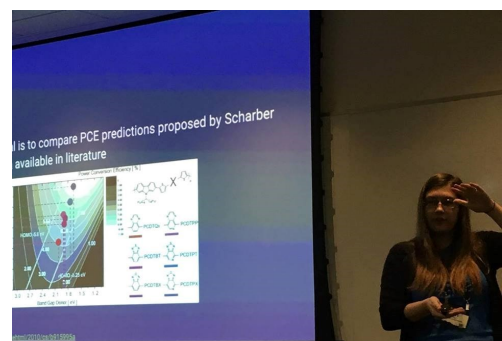
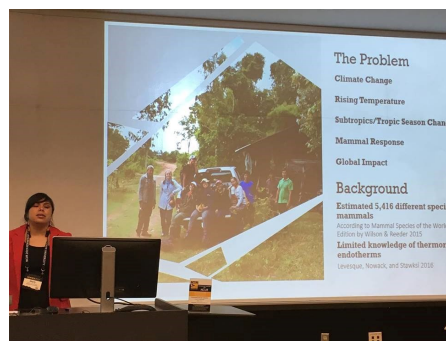
Students from 35 countries used the unique chance and presented their research in over 200 presentations, discussed global issues within six interdisciplinary research themes, and created individual research partnerships as well as the World CUR Alumni. The World CUR 2019 took place at University of Oldenburg, Germany, from 23 - 25 May, 2019. Congratulations to Rainee Deroin!



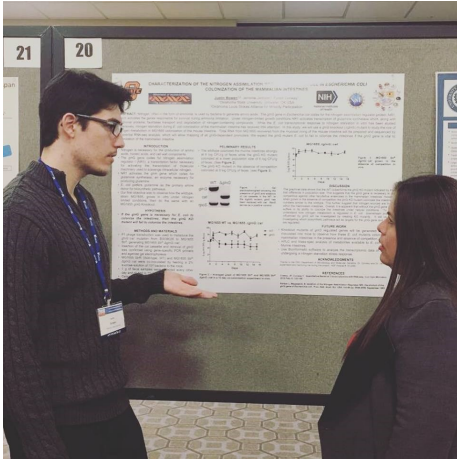
33rd National Conference on Undergraduate Research



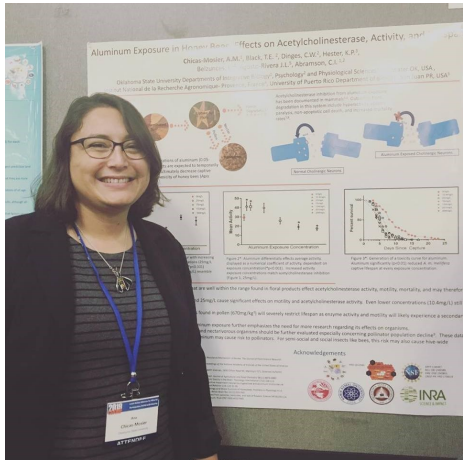
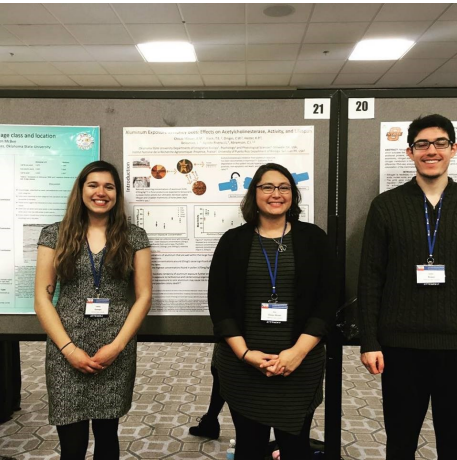
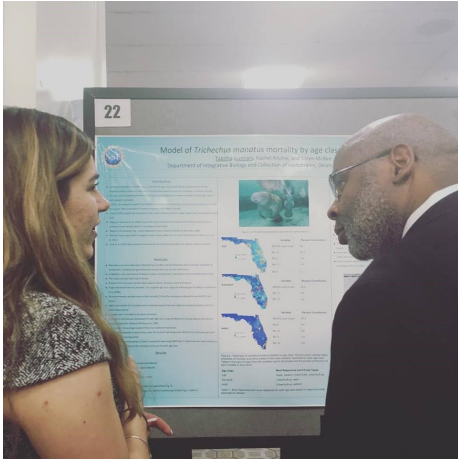
More than 4200 undergraduate researchers, faculty mentors, and other supporters of undergraduate research achievement participated in the 33rd National Conference on Undergraduate Research (NCUR). NCUR serves its members by providing valued services, programs, and advocacy to more than 13,000 individual members at close to 1000 affiliated colleges, universities, and associations. We are very proud of our scholars for participating in such an impactful event April 11-13, in Kennesaw, GA.



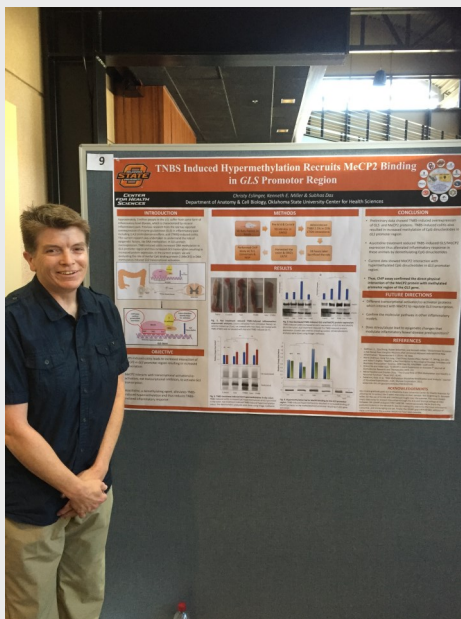
2019 LSAMP PI/PD and BD Meeting



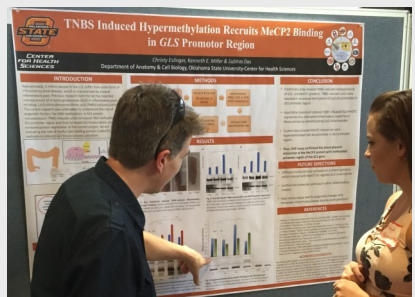
The 2019 LSAMP PI/PD and BD Meeting was held on February 19-21, 2019, in Washington, D.C. Bridge to the Doctorate (BD) Fellows had the opportunity to share STEM research results, make connections and expand their network.



3rd Annual Joint Meeting of OSP, TABERC, and the Tulsa Chapter of the Society for Neuroscience



Christy Eslinger, participated at the 3rd Annual Joint Meeting of the Oklahoma Society of Physiologists (OSP), Tulsa Area Bioscience Education & Research Consortium (TABERC), and the Tulsa Chapter of the Society for Neuroscience in Tulsa, OK July 26th, 2019.

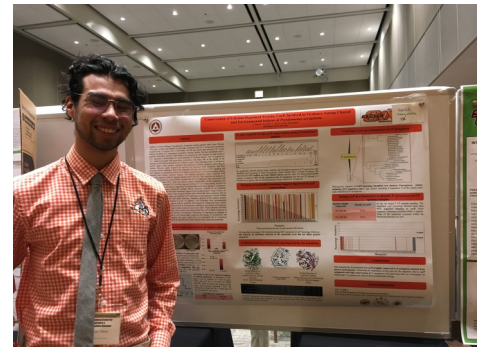
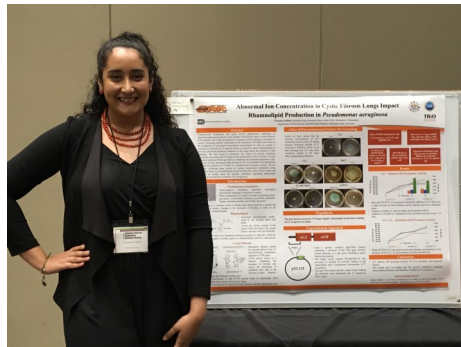


Society of Developmental Biology 78th Annual Meeting

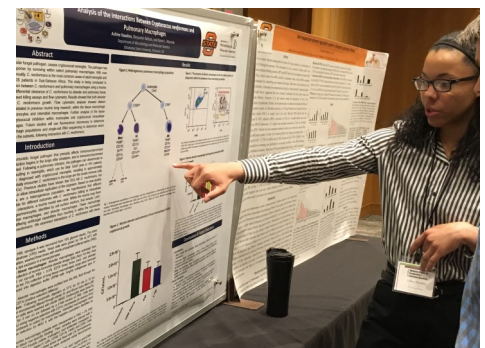
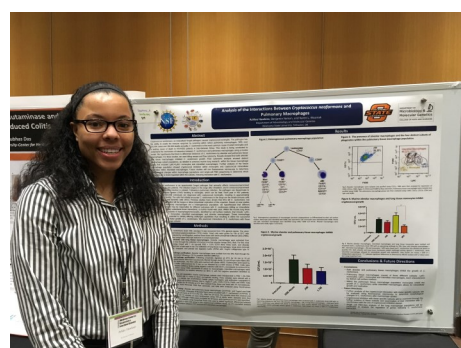
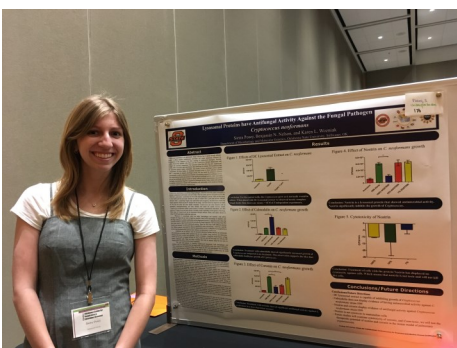
Jailene Canales attended and presented her science at the Society of Developmental Biology 78th Annual meeting in Boston July 26-30, 2019.



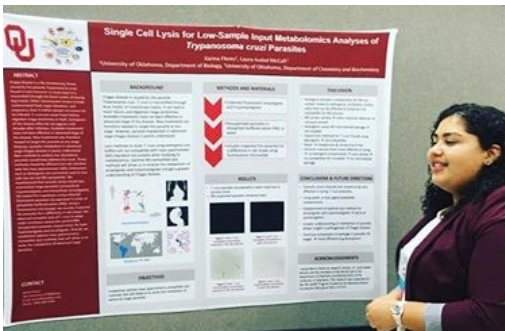
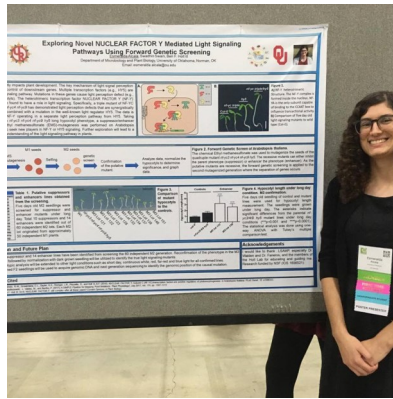
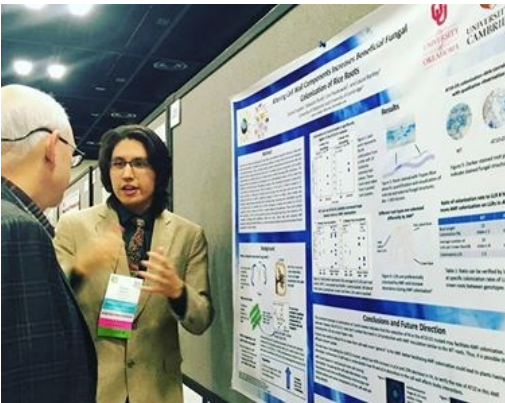
OCRID 6th Annual Research Symposium 2019



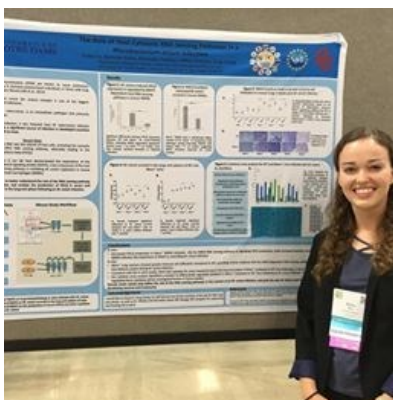
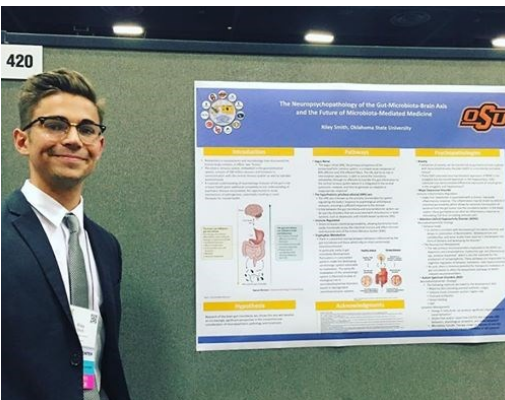
The 2019 Oklahoma Center for Respiratory and Infectious Diseases 6th Annual Research Symposium took place April 9th, 2019 in Stillwater Oklahoma. Several OSU OK-LSAMP scholars and BD, Ashlee Hawkins, had the opportunity to attend and present findings. Below pictures of Jacee McCoy, Sergio Mares, Sierra Posey, Ashlee Hawkins and Casandra Salinas.



2018 SACNAS: The National Diversity in STEM Conference



Over 4,200 attendees gathered in San Antonio, Tx for the 2018 SACNAS : The National Diversity in STEM Conference. We are proud of BD and OK-LSAMP presenters.



SCHOLAR HIGHLIGHTS

Jay Moore and Javier López



The Diversity Abroad Conference provides great information to all students and OK-LSAMP scholars who are exploring international experiences. Above scholars Jay Moore and Javier López exploring international opportunities!

Marly Fixico-Hardison

Marly Fixico-Hardison, a senior at Oklahoma State University in Stillwater, Oklahoma, studying Industrial Engineering and Management, was featured in a recent article. The student was highlighted in the, "AISES National Conference Preview," by Winds of Change, the article mentioned the OK-LSAMP scholar previous years with the AISES National Conference.

In the article, Marly states, "the AISES National Conference is one of the best conferences for the Natives in the fields of science, technology, engineering, and mathematics," she has been in attendance for 3 years. Now, she is a senior and plans to not only help during her final year as an undergrad, but to also present an oral presentation of her research that took place over the summer at the University of Arkansas Ceballos Lab Research Experience for Undergraduates: Indigenous America to Indigenous Mekong Basin (Thailand/Vietnam) – Adventures in Biology and Biodiversity.



Carley Eastep

Carley Eastep is 1 out of the 14 students named 2018-2019 Niblack Research Scholars. The OK-LSAMP scholar will receive a grand total of a \$8,000 scholarship and will have a chance to conduct research led by faculty sponsors and graduate student mentors. Being a part of the program, Carley will have the opportunity to use what she learned in the classroom to apply the materials to an actual research project.



*Austin Carriere and
Karina Flores*

Austin and Karina, majoring in Biology at the University of Oklahoma, had the opportunity to participate in the Organization for Tropical Studies REU program in Costa Rica during the Summer 2018. In this intensive program, they conceived, designed, executed, and reported a research project accomplished in the jungle nature preserve Las Cruces.

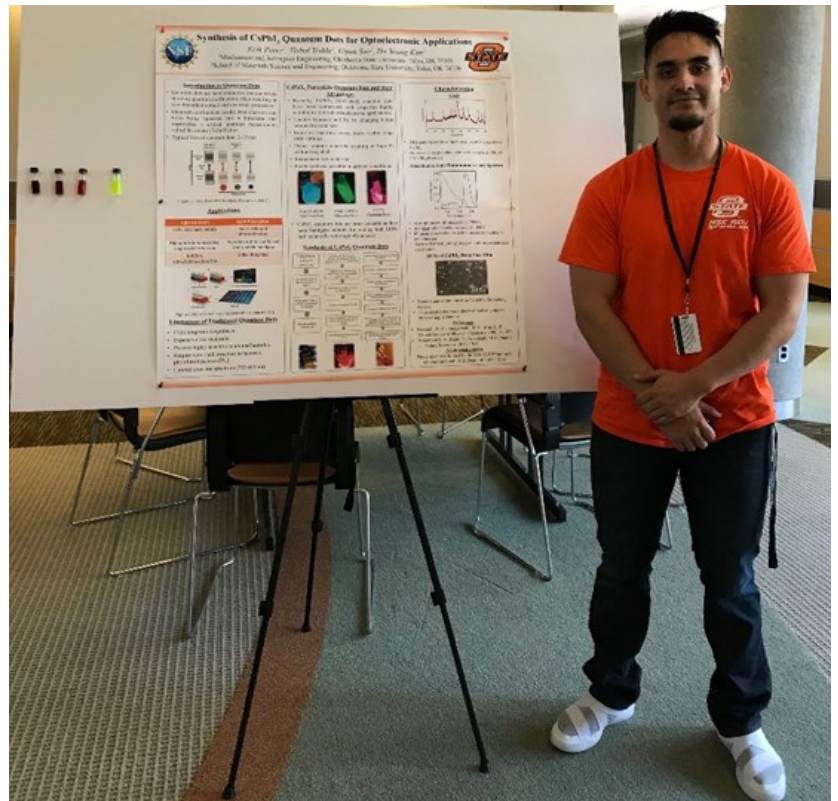


Alex Lopez

Alexandra Lopez is a senior studying Bio-systems and Agricultural Engineering. This is her second summer interning with Oklahoma's Grand River Dam Authority (GRDA). GRDA is an agency of the state of Oklahoma that transmits and sells electricity to parts of Oklahoma and manages over 70,000 surface acres of land water. She worked under the chief hydro engineer assisting him with projects regarding GRDA's three hydroelectric facilities. Alex helped handle the recent flooding, assisted in the start a new geology project, and aided in the dam's yearly review.



Erick Perez



Erik Perez, during the summer 2018, had the opportunity to present his research poster twice in Stillwater, Oklahoma and at the Helmerich Research Center in Tulsa, Oklahoma. The OK-LSAMP scholar also was interviewed by Fox 25, a local news channel in Tulsa. In the interview, Erik talks about the development of brighter and cheaper display technology.

Carley Eastep and Ibrahim Asad



Congratulations to OSU OK-LSAMP scholars Ibrahim Asad and Carley Eastep, who are a part of the exec team of the American Institute of Chemical Engineers (AIChE) Chapter for winning the Outstanding Student Chapter Award from the national chapter of AIChE. This program, AIChE, is a student-led organization dedicated to the professional development of the members, maintaining relationships between the students and chemical engineering faculty, and contributing to the development of chemical engineering through activities involving not only the students, but the faculty. The award the chapter received is presented annually to student chapters that show an extreme level of participation, enthusiasm, program quality, professionalism and involvement through the university and community.

Trey Buddy

Trey Buddy is a junior at Southwestern Oklahoma State University majoring in Engineering Technology . He is also a member on the NASA Human Exploration Rover Challenge team. This summer 2019 he was accepted to intern at Gore Nitrogen in Seiling, OK. “There I learned about slick-water fracturing. It has been a great experience that has improved my knowledge on the oil and gas industry .”



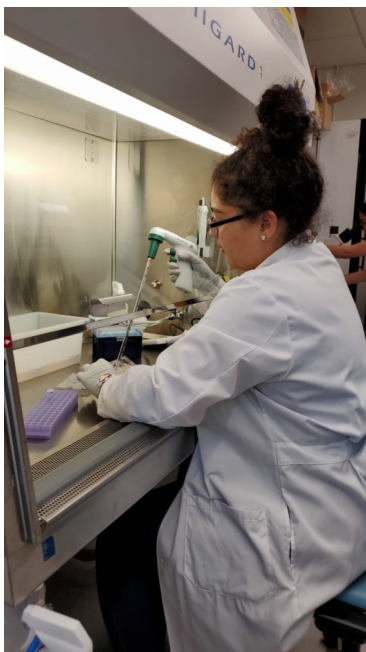
Jonathan Bernal

Jonathan Bernal, is a Senior FPST major, completing his fourth internship in New York City, at WJE Associates for 12 weeks. WJE has been historically an architecture and civil engineering firm known for working on high-value projects. Since 2014, WJE has added Fire Protection and Life Safety into their multi-disciplinary firm. During his internship Jonathan has worked on over 9 different projects that included CAD designing, building/fire code consulting, and life safety analysis for various cities outside of NYC like Chicago, Minneapolis, Dallas and Houston. Jonathan's most enjoyable moment was Assisting on code analysis for Minneapolis' First Mass Timber Residence .



Karina Flores

“This summer 2019 I had the privilege of conducting research at New York University in Dr. Kenneth Stapleford's lab. My project this summer was developing tools to study Zika Virus (ZIKV) infections *in vivo* based on Cre-lox reporter systems. In this project, I characterized two Cre-expressing ZIKV variants for stability, impact on viral fitness, and functionality. During my time in the lab, I learned many new techniques and skills that will enhance my future research. When I was not busy doing experiments in the lab, I was enjoying the city views and exploring all the fun things New York has to offer. Throughout my time here, I got the opportunity to connect and network with graduate students and faculty. I gained a research community that has helped me develop my research skills and long lasting friendships. This summer has reassured me that I want to pursue a career in research and study infectious diseases. I am sad to be leaving New York but I can not wait to share and utilize my new skills in the lab.”



DeRoin has been selected to present her findings at the Second World Congress on Undergraduate Research this May in Germany.

“Our aim is to bring together the world’s best undergraduate research and to work on some of the most significant challenges the global community is facing today,” program organizers promise.

DeRoin — a first-generation college student from Tulsa — credits the Oklahoma Louis Stokes Alliance for Minority Participation (OK-LSAMP) with giving her direction when she first got to OSU. OK-LSAMP includes 11 Oklahoma universities led by OSU working together to increase the number of underrepresented students earning degrees in science, technology, engineering and math fields.

“They are actually the reason I started doing research because I didn’t know where to start but knew I wanted to do it,” she said.

OK-LSAMP Director Brenda Morales is thrilled DeRoin’s efforts are being rewarded.

“Her zealous attitude towards her research has provided her with many opportunities to present,” Morales said. “I am so excited to see what Rainee has in store for her future and how her research can impact the world.”

We are very proud of all of your accomplishments!

Rainee DeRoin

Oklahoma State University scholar was featured in an news article “OSU Undergraduate Presenting Research at Global Event”.

From the article: *For the past two years the 21-year-old junior has monitored seven small watersheds — including lands that have eastern redcedar, prairie and switchgrass — at OSU’s 1,820-acre Cross Timbers Experimental Range southwest of Stillwater as part of a long-running research study.*



Berenice Quinonez

“This past summer, I earned a position as a research intern at the Dean McGee Eye Institute at the University of Oklahoma Health Science Center. I was able to work under Dr. Faizah Bhatti, MD, MS and Dr. Johannes W. Kung PhD. My research involved the localization of Surfactant Protein A in the retina, brain, and lung, through western blotting utilizing several different antibodies.”



Jasmyn Lee



Jasmyn Lee, Civil-Environmental Engineering major from Lawton, Oklahoma was selected for Seniors of Significance Award which recognizes students who have excelled in scholarship, leadership, and service to campus and community and have brought distinction to OSU. Forty-four students total were selected and represented the top one percent of their graduating class and include all six OSU undergraduate colleges.

The OSU Alumni Association Student Awards and Selection Committee selected the 15 winners after meeting with 44 of the Seniors of Significance selected and Jasmyn Lee was one of the awardees!

Taylor and Alexis Coles



Twins, Taylor and Alexis Coles, juniors majoring in Entomology, had the opportunity to participate as mentors for the Bugs are Good, Shunshi Abina 2019, Choctaw Bug Camp. Continue doing STEM outreach!

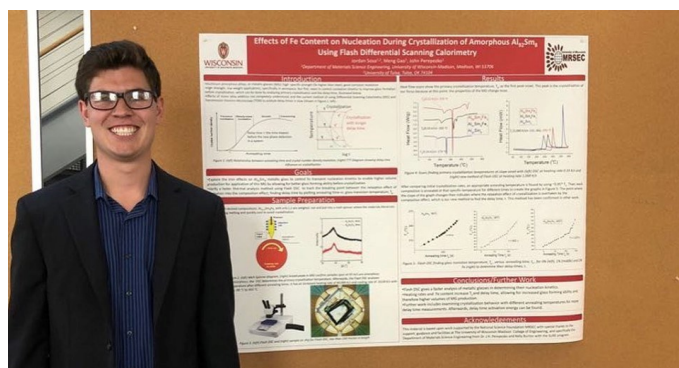


Jasmyn Lee



"I traveled as a sophomore to Puerto Rico with OSU CEAT Study Abroad. Going on this trip was probably one of the best memories I made while attending OSU. I had the opportunity to experience a new culture, meet new people, and do some sightseeing that I probably would have never done before. While on the trip, we went scuba diving, visited one of five bioluminescent bays in the world (three are in PR), and toured the only National Rainforest in the United States, El Yunque. All in all, I enjoyed my study abroad experience, and I recommend that anyone take one, if possible, before they graduate!"

Jordan Sosa



University of Tulsa OK-LSAMP scholar received the GRFP (Graduate Research Fellowship Program) award and will be headed to Harvard for a PhD in Material Science and Engineering. "As a first generation college graduate, I'm probably most excited just to have access to good education and be able to do good science! I'm most scared of being in a new highly competitive environment and trying to convince myself I belong there."

BRIDGE TO DOCTORATE HIGHLIGHTS

Tabitha Gunnars

OK-LSAMP Bridge to the Doctorate fellow Tabitha Gunnars was featured by the Desert News, the largest newspaper in Utah, in an op-ed that highlights Tabby and Dr. Jason's recent research. The op-ed was written by American Humane.

From article: *Scientists are stumped. Since February, more than 260 dolphins have been found dead along the Northern Gulf of Mexico, according to the National Oceanic and Atmospheric Administration.*

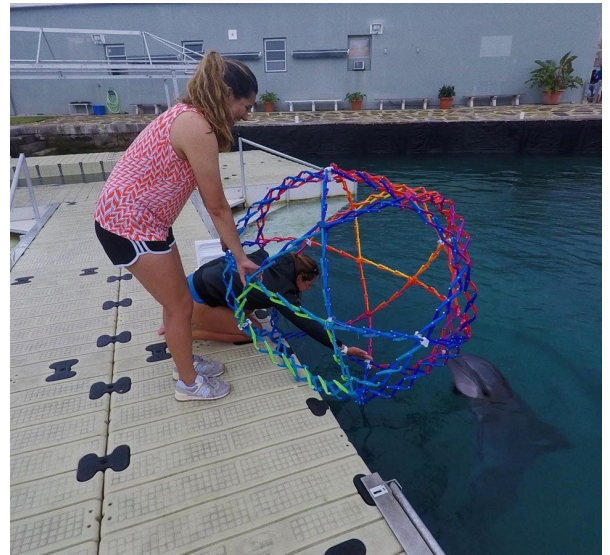
Animals die in the wild, that's a fact of life. But to die in such high numbers is unusual — the recent spate of strandings is three times higher than expected.

The mystery surrounding these deaths is a reminder of the important research that zoos, aquariums and animal sanctuaries conduct, even as activist groups cry for all animals to live outside of human care. This research equips scientists with tools and information that they can use to better observe, document and protect wild animals.

On June 17, researchers announced a new study that will change the way scientists work with bottlenose dolphins in the wild.

Jason Bruck, a researcher from Oklahoma State University's department of integrative biology, and his graduate student Tabitha Gunnars are partnering with Dolphin Quest, a company that provides interactive experiences with dolphins, in a study of dolphin vision. Because a dolphin's eyes are on opposite sides of the head, the project involves mapping a dolphin's overall field of vision in the hopes of discovering natural blind spots. This area has been hypothesized by researchers, but its exact configuration remains undefined.

Marine mammal specialists at Dolphin Quest Bermuda are training bottlenose dolphins to play a "game" that will allow Bruck to map this suspected blind area. First, the dolphins swim into a large plastic Hoberman sphere. To imagine the structure, picture a giant toy



you might find at a science museum gift shop — rainbow colored and fully expanded to over 4 feet in diameter. Along its perimeter are numerous LED lights.

The dolphins whistle when they see a single light turn on. By selectively turning on and off individual lights and monitoring the dolphins' responses and body position, the researchers will be able to nail down the shape and boundaries of the blind area. Once they do that, they hope to leverage that knowledge by employing near-silent drones to collect materials expelled from the blowholes of wild dolphins when they come to the surface to breathe. The data will also be useful for determining just how their visual field contributes to the risk of boat strikes in the wild.

Adrian Saenz



Congratulations to Adrian Saenz for his successful Master Thesis Presentation! Saenz was also named a Fulbright Scholar.

From article: *"Oklahoma State alumnus, Adrian Saenz has been named a Fulbright Scholar for 2019.*

Saenz grew up in Oklahoma City, Oklahoma but his family originates from Julimes, Chihuahua, Mexico. He earned his bachelor's degree in civil engineering with an environmental option from OSU in May 2016, and his master's in biosystems engineering in December 2018.

"This award is my opportunity to conduct research abroad, to nurture mutual understanding and build networks, and to represent my community while inspiring others to follow their dreams," Saenz said. "This award grants me two important benefits; first, this award grants me



President's Leadership Recognition Ceremony
Oklahoma State University
April 25, 2018



the opportunity to learn ideas, practice new research methods, and simultaneously explore new cultures and trains of thought. Second, the recognition associated with this award opens new networks and career opportunities depending on what direction I choose to take my future."

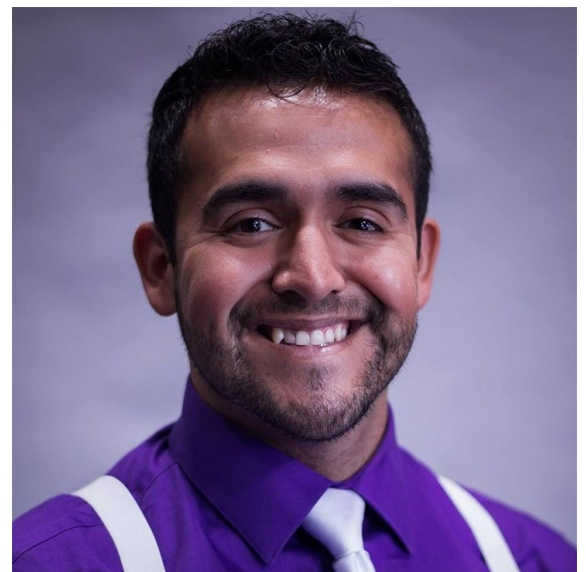
Saenz's research focus is ground water modeling in Panama. The project focuses on building a network of groundwater wells in the country's driest region with the goal of creating a robust model that will provide real-time information on the water resources of that area. A secondary focus is the feasibility of well monitoring networks like this for applications in other areas of the country - ultimately serving as a tool for better water resource management in Panama. Saenz will be working under the mentorship of Dr. Jose Fabrega, Principle investigator at el Centro de Investigacion Hidráulicas e Hidrotécnicas (CIHH) [Center for Hydrologic and Hydrotechnic Research] at the Universidad Tecnológica de Panamá.

"[Saenz] is a highly inquisitive, open minded and motivated individual who possesses excellent technical skills and is a gifted communicator," said John Veenstra, department head of biosystems and agricultural engineering. "Being named a Fulbright Scholar will be an honor [Saenz] will carry for his entire life and will allow him to interact with

others on a global scale while being an excellent ambassador for OSU and demonstrating his great passions to the world. I am very excited to see what [Saenz] accomplishes as nothing possesses more potential than an open human mind."

The Fulbright Program awards approximately 8,000 grants annually. Roughly 1,600 U.S. students, 4,000 foreign students, 1,200 U.S. scholars, and 900 visiting scholars receive awards, in addition to several hundred teachers and professionals. Approximately 370,000 "Fulbrighters" have participated in the Program since its inception in 1946.

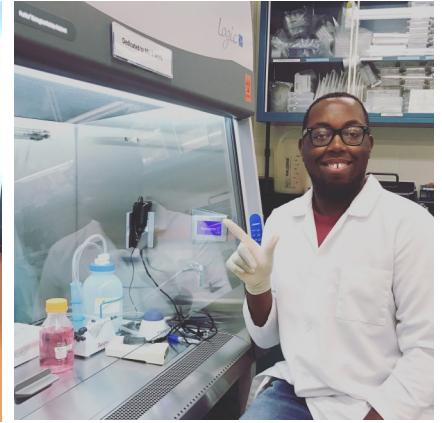
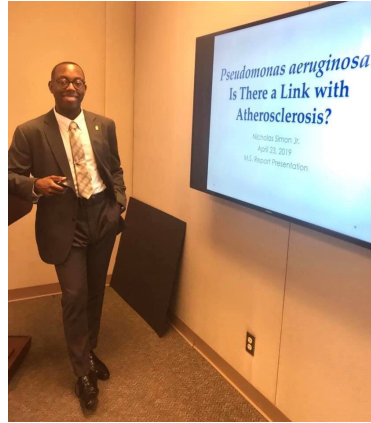
"This award would not have been possible without the help of the Oklahoma Louis Stokes Alliance for Minority Participation and its wonderful network of researchers, faculty, and staff whom helped me meet with Dr. Randy Duran, Director of Research Engagement at Louisiana State University, and eventually communicate with Dr. Jose Fabrega," Saenz said. "My plans for the future are to finish a year working with the United States Army Corps of Engineers, then begin my Fulbright in early spring," "Afterwards, I can return to work for my company or pursue an advanced degree in a related field of water. I am not 100 percent sure what two years from now will entail. I have several goals and aspirations, but if there is anything that life has taught me it is that opportunity happens when it happens and it's up to us to be willing to follow new paths.



Congratulations!

Article from Oklahoma State University News and Information

Nicholas Simon Jr.



Nicholas, alumnus of Langston University and BD Fellow at Oklahoma State University, has graduated with a Masters of Science in Integrative Biology. His research emphasis is cardiovascular physiology.

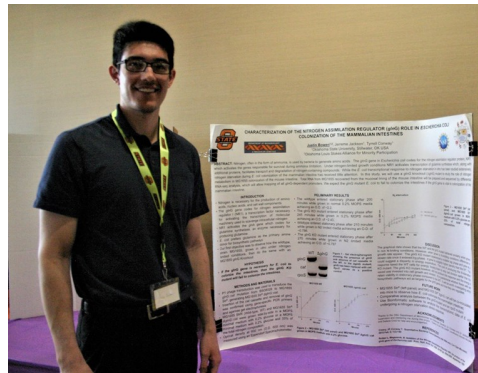
Congratulations!

Current Bridge to the Doctorate Fellows



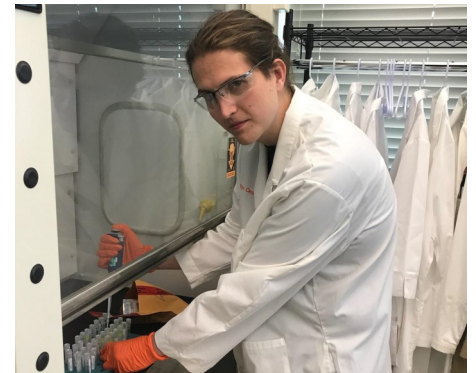
Ana Chicas-Mosier

Ana is pursuing a PhD in Integrative Biology (Zoology). She conducted research during the summer of 2017 in Puerto Rico, and then in the summer 2018 she did research in France. This year she participated at ERN and attended the LSAMP Meeting.



Justin Bowen

Justin won the 1st place poster at the American Society for Microbiology Regional Meeting on April 20, 2018. He is pursuing a Masters of Science in MS Microbiology/Cell and Molecular Biology at Oklahoma State University. This year he participated at the LSAMP Meeting.



Zachary Ridge

Zachary is an alumnus of Oklahoma State University. He is currently pursuing his MS in Forensic Sciences at the OSU Center for Health Sciences Graduate College.

Michael Joseph Gorbet

Michael Joseph Gorbet is pursuing a PhD in Veterinary Biomedical Sciences at the College of Veterinary Medicine.



Giovanni Tolentino

Giovanni is an alumnus of the University of Oklahoma completing a Biology graduate program.

Steven Bittner

Steven is an alumnus of the University of Massachusetts Amhurst, currently he is pursuing a graduate program in Biology at the University of Oklahoma.

Carlos Villanueva

Carlos is pursuing a graduate program at the University of Oklahoma in Mathematics.

Luis Figueroa

Luis is an alumnus of the University of Central Oklahoma and is now pursuing a graduate program in Chemical Engineering at the University of Oklahoma.

Donald Jones

Donald received his undergraduate degree from the University of Oklahoma and continues there now completing a graduate program in Mathematics.

OK-LSAMP AND BD ALUMNI

Alejandra Mera

Alejandra Mera works as a coordinator assistant for the MSc/PhD marine microbiology (MarMic) program at the Max Planck Institute for Marine Microbiology in Bremen, Germany. This is where she did her Master's degree. She decided to follow the organization/administration route. "I'm overall very happy with this job, and doing the MSc beforehand was definitely an advantage. It gave me first-hand experience into the program, so I find this is helpful when speaking with potential, new, or current students."



Dexter Hunter

Dexter started with Lockheed Martin 15 years ago in 2003 as a Field Engineer II on Taiwan's Po Sheng Program. He is currently a Staff Hardware Installation Engineer. Education: BS Mechanical Engineering - Oklahoma State University, 1999, MS Systems Engineering - George Washington University, 2017. "For the past year I have been installing hardware and providing technical assistance, supporting F35 products such as the Full Mission Simulator (FMS), Weapons Loader Trainer (WLT), and the Multi-Function Training Aid (MFTA) for Japan, Australia and the United Kingdom." He is originally from Frederick, OK and resides in San Diego, CA.

Tanya Chapman



Tonya Chapman graduated with a Master of Science in Water Resources from East Central University.

Haifah Sambo



Juan Salinas



Paul Delgado



Daniel Hayden



Jessica Price



PROGRAM NEWS

Minority Scholars Program Wins \$3.9 Million NSF Grant

From article: *The National Science Foundation has awarded a \$3.9 million grant to the Oklahoma Louis Stokes Alliance for Minority Participation (OK-LSAMP), ensuring that the Oklahoma alliance will be able to continue its mission of preparing minority scholars to enter STEM fields and engage in research around the world. The new grant, which will benefit Oklahoma State University, as well as 11 additional higher educational institutions in Oklahoma, was awarded to Dr. Jason F. Kirksey, vice president for institutional diversity and chief diversity officer at OSU.*



Kirksey, who serves as principal investigator for OK-LSAMP, said the five-year grant for Phase VI enables the OK-LSAMP program to expand on 25 years of success.

Kirksey said the program, which is named after the late congressman and civil rights pioneer Louis Stokes, opens the eyes of students to STEM fields and the research opportunities available at OSU and all Oklahoma Alliance institutions.

“We’re helping OK-LSAMP Scholars understand that there are different ways that research happens, and it’s not always what you imagined or what you were told,” he said. “So when our scholars get to see and hear industry professionals talk about where they started, the students recognize that their backgrounds, including the struggles of their parents, are exactly the same. At that point, our students become motivated and inspired that they are able to accomplish the achievements of the career professionals talking to them.”

Kirksey said the program does more than merely open the door — it keeps the door open, and it instills not just awareness but confidence.

“This program creates an opportunity to really fuel those passions and lets the students experience things that few programs offer,” he said.

NSF implemented the LSAMP program nationally in 1991. The Oklahoma Alliance was established in 1994 to develop programs aimed at increasing the number of students from underrepresented populations earning degrees in STEM disciplines. With Oklahoma State University as the lead institution, OK-LSAMP now includes 12 universities across the state, which have awarded a total of more than 13,000 bachelor’s degrees to underrepresented minorities in STEM fields.

OK-LSAMP was required to demonstrate continued growth and forward momentum to secure this round of funding from the National Science Foundation, Kirksey said, and the program continues to boast strong numbers.

The enrollment of underrepresented students in OK-LSAMP institutions increased 370 percent since 1994.

As one of eight senior alliances, which are those in existence at least a decade, OK-LSAMP places greater focus on international research, and its numbers reflect that priority. From 2015-18, 62 scholars participated in 69 research experiences in 25 countries and over 40 locations. In addition, scholars participated in study abroad seminars, panel discussions and workshops to more effectively equip them for these scientific and cultural experiences.

Article from Oklahoma State University News and Information

Dr. Tim Hubin Named Chair of SWOSU Department of Chemistry & Physics

From article: *Dr. Tim Hubin has been named chair of the Department of Chemistry & Physics at Southwestern Oklahoma State University in Weatherford.*

Hubin received two Bachelor's degrees in Chemistry and in Secondary Science Education from Kansas State University in 1994 and a PhD in Chemistry from the University of Kansas in 1999. Hubin also has postdoctoral research experience from the California Institute of Technology.

Hubin, who has taught at SWOSU for 14 years, believes students learn best by doing. He is a pioneer in incorporating scientific research into his class work.

His current research, which has generated over \$1.2 million in external research funding at SWOSU, focuses on developing molecules that bind metal ions tightly and has applications in diverse areas such as treating cancer, biomedical imaging and oxidation catalysis. His 49 and counting SWOSU undergraduate research students have had articles published in numerous national and international peer reviewed scientific journals and presented at many national conferences.



Hubin is a winner of SWOSU's highest teaching honor, the Bernhardt Academic Excellence Award, the Oklahoma Medal of Excellence and is a recipient of the national Henry Dreyfus Teacher-Scholar Award, among other honors.

Among his contributions to SWOSU's Chemistry Department, Hubin has overseen curriculum development, adding innovative courses such as Structure and Bonding Theory, Principles of Laboratory Safety and a research project based Inorganic Chemistry Lab. His current curricular project is the development of a Scientific Ethics course for SWOSU STEM majors, which is being supported by the OK-INBRE NIH program.

Article from SWOSU News and Information

OK-LSAMP Participating at the OklaOMA Fair



Program Director, Brenda Morales, Program Coordinator, Darlene Croci, and OK-LSAMP student Employee, Casandra, promoted OK-LSAMP at the Okla-OMA (Office of Multicultural Affairs) by discussing research opportunities within the STEM field.

OSU hosted National American Indian Science and Engineering Fair



From article: Oklahoma State University hosted a Science and Engineering fair April 6 at the Wes Watkins Center in Stillwater. The onsite fair added to the participating students' experience while still offering virtual participation for students in remote locations. The OSU location also offered space for students to engage with American Indian culture, interact with STEM professionals, mentors and peers, and tour STEM facilities on campus.

The event is a pre-college program of the American Indian Science and Engineering Society, where American Indian students in fifth through 12th grades present science and engineering research. Senior division participants — ninth through 12th grades — had the opportunity to win free trips to the International Science and Engineering Fair in May in Phoenix, with travel and registration paid by the society. The fair supports American Indian students in discovering, pursuing and sustaining interest in science, technology, engineering and mathematics (STEM).

The need for fairs like this one is twofold, said Cara Cowan Watts, president of the Oklahoma Professional Chapter of the American Indian Science and Engineering Society, who earned her doctorate in biosystems engineering from Oklahoma State University in 2015.

Article from About Indian Country Today

Dr. Nelson Recognized as Outstanding Mentor



From article: Toby Nelson, assistant professor of chemistry at Oklahoma State University, has been recognized as the outstanding mentor for Oklahoma State University's Louis Stokes Alliance for Minority Participation, a program that pairs faculty mentors with minority students.

In nominating him for this honor, Brenda L. Morales, program director at OSU, lauded Nelson for his success in discovering new research topics and developing new technologies as well as for the work and energy he puts into his students (including OK-LSAMP Scholars) to ensure their success.

Nelson has served as mentor for OSU student Jeron Holden for two years. When Jeron was still seeking direction for his research, Nelson encouraged him "to think critically about his course choices and discouraged him for being rough on himself," Morales says.

Article from Oklahoma Foundation for Excellence

OK-LSAMP Mentors win 2019 NSF Career Award



Ashlee Ford Versypt, assistant professor in Oklahoma State University's school of chemical engineering and Shuodao Wang, assistant professor in Oklahoma State University's school of mechanical and aerospace engineering, have been awarded the National Science Foundation Faculty Early Career Development Program award, NSF's most prestigious award in support of early-career faculty.

Ford Versypt received her doctorate from the University of Illinois at Urbana-Champaign and performed postdoctoral work at Massachusetts Institute of Technology. She came to OSU in 2014. Her project, entitled "CAREER: Multiscale Modeling of a Virtual Kidney during the Onset and Progression of Diabetic Kidney Disease," has been awarded \$550,000 for the next five years.

Ford Versypt's project will develop a new approach for studying diabetic kidney disease through a virtual kidney to detect and monitor damage to the glomeruli (where most damage occurs) during the onset and progression of diabetic complications in the kidney. The tool will aid in understanding how diabetic kidney damage begins and changes over time. In the long term, results from this project will help predict the impact of many factors on kidney health during diabetes management.

The project will also involve a set of educational activities related to the scientific work. Several undergraduate and graduate students will be recruited to conduct the research and educational activities. Educational modules related to the research will be delivered to a variety of groups including K-12 students, college students, and grandparents through OSU's Grandparents University. Physical models of kidney tissues will be 3D-printed and shared with students and educators. The activities will expose many students and members of the public to biomedical engineering and computational science through engaging scientific demonstrations and interactive experiences.

Wang received his bachelor's in engineering mechanics from Tsinghua University in Beijing in 2007 and his doctorate in mechanical engineering from Northwestern University in Illinois in 2012. He came to OSU in 2014.

This CAREER award will support his integrated research and educational efforts on how material and thickness non-uniformity (also referred to as heterogeneity) in thin, bio-compatible materials and bio-tissues affect their mechanical behaviors under various conditions. Examples of such materials include ultra-thin wearable bio-sensors, the eardrum membrane and the heart valves. The award supports fundamental research that will enable a currently unavailable, non-destructive material characterization protocol for obtaining the material property maps, which will allow the deformation and stability of these materials to be better understood. The innovative approach in this project is expected to promote scientific advancement in new mechanics knowledge that is important for a wide range of health care and biomedical applications.

The project will provide opportunities to train graduate and undergraduate students in the interdisciplinary areas of mechanics, materials science and biomedical devices. The educational outreach activities are designed to engage young children and under-represented minorities in STEM education.

The CAREER Program offers awards to early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.





2018-2019 CEAT Diversity Banquet

During the 2018-2019 CEAT Diversity Banquet, the Society of Hispanic Professional Engineers (SHPE) received the 2018-2019 CEAT Diversity Programs Organization of the Year award. Also congratulations to OSU OK-LSAMP scholar Daniel Salinas for receiving the CDP Student of the Year Award.

SHPE OSU Chapter at the Regional Leadership Development Conference



Congratulations to SHPE OSU OK-LSAMP scholars for receiving an award for leading the region in community outreach!

Dr. Amy McGovern Receives Research Award



Dr. Amy McGovern is a professor in the School of Computer Science at the University of Oklahoma and an adjunct professor in the School of Meteorology at the University of Oklahoma. Dr. McGovern is an NSF CAREER award winner and her research focuses on developing novel spatiotemporal data mining method for real-world applications, particularly focusing on severe weather. Congratulations for receiving the University of Oklahoma Vice President for Research Award for Interdisciplinary Scholarship, Spring 2019!

End of the Year Meeting



Thank you for an awesome year
OK-LSAMP Scholars!



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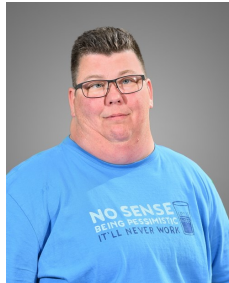
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UPCOMING EVENTS



Conference Co-hosted by Indiana STEM LSAMP
and Louis Stokes Midwest Regional Center of Excellence

***Building a Diverse STEM Talent Pool:
Classrooms to Careers***

October 25-27, 2019
Sheraton Keystone Crossing
Indianapolis, Indiana



Professional Development Mentoring Community Building Broadening Participation



2019 SACNAS

The National Diversity in STEM Conference

Hawai'i Convention Center | Honolulu, HI

October 31 - November 2



ABRCMS 2019

ANAHEIM, CALIFORNIA
NOVEMBER 13-16, 2019



NCUR2020

MONTANA STATE UNIVERSITY • BOZEMAN, MONTANA

March 26-28, 2020

Save the Date for NCUR 2020,
a national gathering celebrating undergraduate research and creativity

ERN Emerging Researchers National Conference in STEM Washington, D.C.
February 6-8, 2020

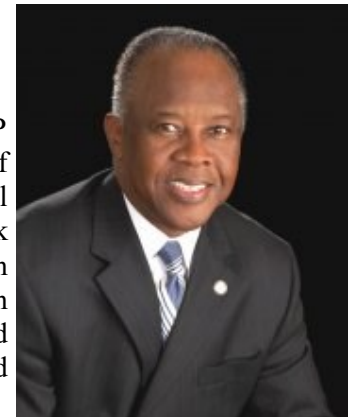


LOUIS STOKES & LSAMP



In 1991, the National Science Foundation created six multi-institutional Alliance for Minority Participation (AMP) programs. In 1998, **Congressman Louis Stokes'** name was added to the program.

Louis Stokes (1925 - 2015) was an American attorney and politician. He served 15 terms in the United States House of Representatives and was the first black congressman elected in the state of Ohio. Congressman Stokes played a pivotal role in the quest for civil rights, equality, and social and economic justice throughout his tenure in the United States Congress. You can read all about Congressman Stokes' career at: <http://history.house.gov/People/Detail?id=22311>



Dr. A. James Hicks was named LSAMP program director in 1997. He received a Ph.D. in biology from the University of Illinois at Urbana and additional training at Harvard University, the National Institutes of Health, and the Missouri Botanical Gardens. When Dr. Hicks took over LSAMP, there were 25 Alliances in the nation. Today, there are more than 40 active LSAMP alliances with over 800 colleges and universities involved in increasing the quality and quantity of students from underrepresented populations who receive degrees in science, technology, engineering, and mathematics.

A Brief History of OK-LSAMP

In 1992, the Oklahoma State Regents organized the Oklahoma Alliance for Minority Participation in Science, Engineering, and Mathematics (OKAMP SEM). Dr. Earl Mitchell, Oklahoma State University (OSU) Professor, was chosen to serve as Chair of the Alliance. In 1993, Dr. Mitchell, with the help of Dr. Ann Ackerman from South Oklahoma City Junior College, wrote and submitted an AMP proposal to the National Science Foundation (NSF). Included in the proposal was additional matching support for the program at the regional universities provided by the Oklahoma State Regents for Higher Education. In 1994, OSU, as the lead institution, along with seven partner institutions was awarded the grant. The OKAMP program was established to address the critical undersupply of minority students pursuing BS degrees in Science, Mathematics, Engineering, and Technology (SMET).

Today, 11 Oklahoma institutions of higher education make up the Oklahoma consortium. Through the years, many changes have been made including the addition of Congressman Louis Stokes' name to the AMP programs nation-wide, and the change of SMET to Science, Technology, Engineering, and Mathematics (STEM). A graduate school initiative - the Bridge to the Doctorate (BD) program was implemented with Oklahoma providing graduate support for 9 cohorts of BD Fellows since the BD initiative began.

Throughout the 2017-2018 academic year, the Oklahoma alliance increased the number of scholars by 16% in comparison to the 2016-2017 academic year. Of those 314 Scholars, 88 completed Bachelor of Science degrees and 24 of the graduates were admitted to graduate schools for a total of 27% of scholars. During the academic year 151 (48%) of the alliance scholars participated in research activities, and 96 (31%) of the scholars, participated in summer internship experiences at national and international locations.

OK-LSAMP Overview

The Oklahoma Louis Stokes Alliance for Minority Participation (OK-LSAMP) is designed for students majoring in Science, Technology, Engineering and Mathematics (STEM) fields. Funded by the National Science Foundation (NSF), the LSAMP program began in 1994 when Oklahoma institutions of higher education joined forces to significantly increase the recruitment, enrollment and retention of underrepresented minority students in STEM disciplines. The LSAMP program is named after late Ohio Congressman, Louis Stokes, who is responsible for numerous minority-focused programs through NSF and the National Institute of Health (NIH). The Oklahoma program nurtures and assists students through the undergraduate program while creating opportunities for students to pursue graduate degrees in their selected STEM disciplines. OK-LSAMP scholars are provided opportunities to interact with faculty and scientists, participate in research activities, present at national conferences, and prepare for the transition into graduate programs and/or become leaders in the STEM workforce.



Student Spotlights

Catherine White, Biological Sciences undergraduate, conducted research abroad in Costa Rica.

Brianna Cole, Biology undergraduate, conducted research abroad in China.

Erika Costain, Biology and Chemistry undergraduate, conducted research abroad in China.

Riley Smith, Microbiology undergraduate, studied abroad in Peru.

Marly Fixico-Hardison, Industrial Engineering and Management undergraduate, participated with Native Explorers.

Jordan Moore, Microbiology undergraduate, was awarded Point Foundation Scholar.

William Starr, Microbiology undergraduate, received the National Goldwater Honorable mention.

Melissa Chanderban, Microbiology graduate, was awarded NSF Graduate Research Fellowship for 2017-2022.

Akanimoh 'Sanmi Adeleye, Computer Engineering graduate, was awarded NSF Graduate Research Fellowship for 2017-2022.

Autumn Only A Chief, Nutritional Sciences graduate, received Senior of Significance and Gates Millennium Scholarship.

Jordan Fleming, Microbiology graduate, received a Wentz research grant.

Ayrianna Swanson, Microbiology undergraduate, recipient of the Women of OSU Science scholar.

Logistics



51%

of all graduates had at least one summer internship while participating in the program



23%

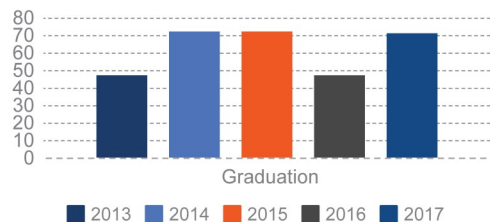
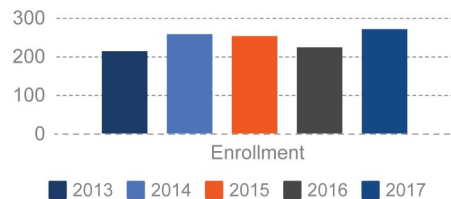
of our graduates were accepted into graduate school



86%

of our graduates had at least a 3.0 GPA

Enrollment and Graduation Rates



ATTENDEES OF THE 2017 SACNAS CONFERENCE



ok-lsamp.okstate.edu

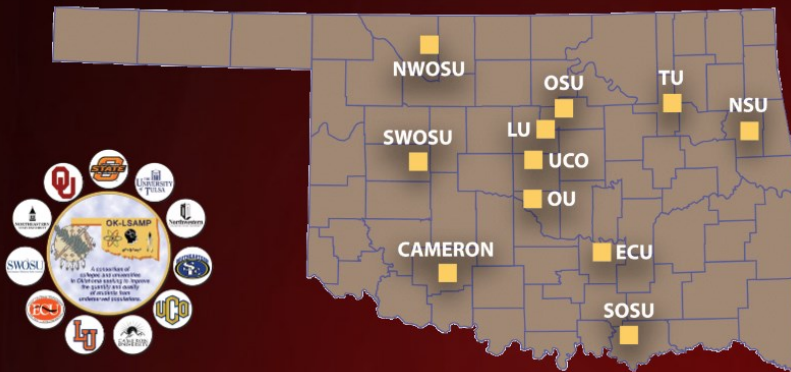
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WHAT IS OK-LSAMP?

OK-LSAMP is a National Science Foundation funded alliance-based program with a consortium of eleven Oklahoma higher education schools. The overall goal of OK-LSAMP is increase the number of historically underrepresented student baccalaureate and graduate degrees in the STEM disciplines. The program supports students in scholarly research activities and STEM careers by providing mentoring, research skills, presentation opportunities, preparation for graduate school and may include post-baccalaureate fellowship support.

WHO IS LOUIS STOKES?

LSAMP is named in honor of former congressman, Louis Stokes, who spent his life supporting veteran, civil rights and minority issues. A Democrat from Ohio, he served 30 years in the United States House of Representatives. The Honorable Louis Stokes retired from the House in 1999 and resumed work as a lawyer along with serving as a faculty member at Case-Western Reserve University in Cleveland, Ohio. He passed away in 2015.



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