



Scholars Summit

CAMERON UNIVERSITY

*A Celebration of Faculty and Student
Research, Scholarship, and Creative Activities*

STUDENT & FACULTY

SCHOLARSHIP EXHIBIT
and PRESENTATIONS

April 2014

Cameron University Mission Statement

Cameron University provides a diverse and dynamic student body access to quality educational opportunities; fosters a student-centered academic environment that combines innovative classroom teaching with experiential learning; prepares students for professional success, responsible citizenship, life-long learning, and meaningful contributions to a rapidly changing world; and is a driving force in the cultural life and economic development of the region.

Cameron University Core Values

- Student learning
- Excellence in teaching, scholarship, service, and mentoring
- Leadership in our community and region
- Shared governance
- Diversity
- Responsible stewardship of public and private resources, the public trust, and Cameron's future.

Faculty and Student Scholarship Exhibit

Dr. Ronna Vanderslice, Vice President for Academic Affairs
Dr. Tony Wohlers, Academic Enrichment Director

Student Scholars

School of Education and Behavioral Sciences

› **Jacob Jardel**

› *Parent Cultural Differences in the Defensive
Self-Esteem/Child-Mortality Salience Connection*

The present research analyzed the differences between Eastern and Western cultures regarding defensive self-esteem and child-mortality salience. The hypothesis was that U.S. parents would display a culturally characteristic individualistic response by increasing self-esteem to deal with the threat of child mortality, whereas Indian parents would display the opposite reaction, a culturally characteristic collectivist response, by decreasing self-esteem after confronted with the threat of child mortality. One-hundred and two parents recruited from Amazon Mechanical Turk completed an online study that included a writing prompt (child mortality salience or child dental pain; Ditzfeld & Cavazos, 2013), followed by a series of questionnaires including state mood (PANAS; Watson, Clark, & Tellegen, 1988) and explicit self-esteem (Rosenberg, 1965). Results affirmed the hypothesis, showing the relation between increased self-esteem and thoughts of child mortality, albeit exclusively in parents from the U.S., who come to rely on the self when presented with particularly threatening thought of their child's morality, presumably due to the focus within Western culture on finding strength in self, consistent with individualistic norms.

In contrast, Indian parents' self-esteem diminishes in response to the threat of child mortality, presumably by the threat of broken relational bonds decreasing feelings of self-worth, consistent with collectivist norms.

School of Liberal Arts

› **Amelia Barr**

› *Analyzing Advertising Targeting Children*

I will analyze advertising targeted at children to find out the impacts it has on their cognitive and social development. What are the consequences of biased ads targeted at children? Do children know they are the targeted during playing a game or watching a television show? Children are exposed to advertisers who try to form an opinion in the child's mind about a product and use psychological methods to persuade. I am interested to find out the consequences of this type of advertising that has children as their target audience. I hope to find out if any harm is done through some of the tactics used in targeting children or there is anything beneficial about the advertising. Social Development is a concern because children can be easily influenced about who they are and what they want and or need. How does the social development change with children as advertisers commercial influence who they should be and what they need to become that person implicated in the advertisement?

› **Rhiannon Poolaw**

› *Roots: Warrior Woven*

Can a correlation be observed through a particular family's predisposition to enlistment in military service? Can this predisposition then be attributed to their heritage, in particular a Native American warrior culture? Can a cultural drive towards national defense be established in light of the influence inscribed through a nurturing home environment with engraved military ideals? I plan to present the military tradition of a family spanning over many generations. These individuals are noted in military records and documentation as going above and beyond the call of duty.

› **Rhiannon Poolaw**

Wichita Mountain Wildlife Refuge Clean-up

We seek to protect and restore wildlife. We love visiting the Refuge. Our families have taken pride in the Wichita Mountains and wildlife for generations. The Refuge is managed by the Fish and Wildlife Service which is “responsible for conserving and enhancing the Nation’s fish and wildlife populations and their habitats”. While we believe that the refuge has done an amazing job for generations at caring for wildlife, we seek to improve the overall habitat of refuge by cleaning up what others have left behind and fixing what has been damaged. Glass, bags, cigarette butts, and other types of litter have been left by visitors and are posing a threat to the soil, environment and wildlife on the refuge. We propose that the Wildlife Refuge organize litter relief efforts with Cameron University students and other concerned citizens two days a year focusing on cleaning up the most visited areas on the Refuge.

› **Kaitlyn Stockton**

Virtual Collaborative Writing: An Exploration Into the Future of Group Work

In today’s workforce and schools, group work is becoming a useful and popular tool. Collaboration allows members with different backgrounds to come together. This teamwork promotes diversity and enables groups to experience more creativity in their projects. However, group work has come to be labeled as a “double-edged sword.” Bringing together people with a multitude of personalities and ideas can create conflict. In the 21st century, gender and race play a large role in the diversity of group work as many of these voices have been marginalized. While it brings new voices to work groups, this inclusion has also been problematic. As group members may not get along while working with each other in person, the idea of adding members with different beliefs and personalities becomes even more problematic once group work becomes virtual, where team members do not even have the chance to interact with one another face-to-face. While there are many new tools to connect individuals from all over the country and world to each other, obstacles can still occur. Virtual collaboration offers many advantages and opportunities for future group projects. However, as most studies on the roles of women and minorities in group work are outdated ~ especially with the introduction of women and minorities into high positions in the business world in recent years ~ new research is required to assist in the future progress of the tool of virtual collaboration.

› **Rose Welch**

Results Not Typical: A Review of Obesity Science, Mythos, and Media

We are constantly blasted with the idea that an obesity epidemic is gripping our nation, presumably with fat fingers coated in French fry grease. This conventional wisdom would have us believe that each year without a solution to our so-called crisis brings with it almost a million American deaths and the advent of chronic diseases that cost our country over a hundred billion dollars in medical costs. But despite these entrenched ideas surrounding obesity in both our conventional and common wisdom, how solid is the science behind this idea? Are the fatties really squashing our national health and medical spending? Research scientists have been addressing this issue for over fifty years, and as one might expect, the data is clear: Obesity, as defined by body mass index, is not a cause for concern. After an extensive literature review, I was able to conclude that most 'common knowledge' regarding these topics was grossly inaccurate; surprisingly, this included information by some leading health experts. Further, my research indicated that the cause of this misinformation seems to be the media presentation of weight science, in an effort to sell the American public an imaginary disease and cure.

School of Science and Technology

› **Ioannis K. Argyros and Akinola Akinlawon**

Locating Roots of a Certain Class of Polynomials

The issue of finding roots of polynomials has been one of great concern and value over the years of progressive research. This issue cuts across several disciplines including medicine and pharmaceuticals, engineering, economics and even business finance. In this presentation, a further analysis of the celebrated Newton type method to finding roots of polynomials will be shown.

› **Brent Chappell**

Storage of Solar Energy in a Proton Exchange Membrane Fuel Cell

We make a proton exchange membrane fuel cell (PEMFC) that can utilize excess solar energy stored in the form of hydrogen in order to produce electricity at a later time, for example at night time. We compare the hydrogen production from crystalline silicon based photovoltaic cells with the dye sensitized solar cells. The purpose of this research is to find an efficient combination of the hydrogen production from solar energy and a PEMFC.

› **Jessica Gesell and E. Ann Nalley**
Using the Vernier Polarimeter to Determine the Effects of pH on Optical Activity of Amino Acids

Molecules that contain at least one chiral center exhibit a physical property known as optical activity. The optical activity can be measured experimentally using a polarimeter. It does this by measuring the rotation of plane polarized light produced by a solution containing chiral molecules. A biologically relevant molecule that contains a chiral center would include several different amino acids. The optical activity of amino acids is dependent on pH due to the effects of charge on the conformation of the structure. In this study, we measured the optical rotation activity using a Vernier Polarimeter for several amino acids with varying pH and then attempted to explain the results based on the structure of the amino acids.

› **Ciara Kelley, Sidney McCormack, Miwa Fukuda, Seth Geiger, John Whitlow and E. Ann Nalley**
Dye-Sensitized Solar Cells: Energy for the Future

In this research dye-sensitized solar cells were constructed using an organic dye, brilliant green with titanium dioxide nanocrystals. Different formulations of Titanium Dioxide with different sized particles were used and the properties and performance of the solar cells were compared. These cells consist of titanium dioxide nanocrystals that are coated with light-absorbing dye molecules and immersed in an electrolyte solution, which is sandwiched between two glass plates. Light striking the dye frees electrons and creates “holes”~ the areas of positive charge that result when electrons are lost. The semiconducting titanium dioxide particles collect the electrons and transfer them to an external circuit, producing an electric current. The cells can be connected in series to produce cells with voltages as high as five volts which can be used to power a small motor.

› **Melissa Merrifield**
Improving Student Engagement in Learning Multimedia

The purpose of this research is to measure multimedia learning by providing an extra learning environment. Research supports the effectiveness of accessible (available) learning environments in the learning process for all learners. This class of research, currently called Open Access Learning Environments, can be linked to a classic text titled, “The Open Classroom Reader” by Charles E. Silberman (1973). Throughout the text, the author explains how learners’ individuality and interests require provision

of appropriate learning environments before they become an obstacle to learning. The theoretical framework of the study includes a contemporary learning approach (a social-constructivist teaching and learning method: self-determination theory) and an open learning educational approach (an independent and interest-guided learning method). According to self-determination, when learners' three psychological needs (relationship, competence, autonomy) are met, intrinsic motivation occurs. Hence, social and contextual activities promote competence that in turn promotes autonomy. This study, as well, supports the core value of Cameron's Plan 2018: "Student learning as our top priority," Action 1.10, "Improve student learning through innovative uses of instructional...", and Action 6.1, "Focus resources to achieve optimal student learning."

› **Roosevelt Mathews, Truman Deeb,
Kristen Worthen and E. Ann Nalley**
Photochemical Synthesis in Undergraduate Organic Lab

In an effort to make our undergraduate organic laboratories more green we are writing our own laboratory manual which employs synthesis which are more green and utilizes procedures and techniques which the students are more likely to use in research. One set of laboratory experiments utilizes the Rayonet Photochemical Reactor to carry out photochemical syntheses. A series of experiments will be described in this poster utilizing photochemistry in carrying out the synthesis. Descriptions of other techniques will also be included which have help to convert our laboratories to a research based environment.

› **Son Park**
The Practice of Mindfulness

People tend to live their lives in the past and worried about the future. The major problem such as having fears can lead to increased anxiety and stress. Treatment from mindfulness practice has been used for thousands of years to improve physical and mental health. Today, mindfulness is utilized in medical treatment throughout Western countries. The objective of the experiment was to discover how mindfulness training can be an important tool used to improve one's life. In practicing mindfulness, one can improve both mental and physical health by treating eating disorders, increasing concentration, and relieving stress and anxiety. In the primary research, the researcher tested participants by survey in the Multimedia Department at Cameron University. The survey conducted included a raisin-eating exercise to measure the

awareness of the participants with and without mindfulness training. The secondary source articles offered information of the mental and physical benefits of mindfulness practice. The interview with a psychologist helped to provide details on conducting mindfulness research and the benefits of mindfulness training for everyday life. By practicing mindfulness, one can have a greater awareness of present moment and have enjoyable life.

› **Jessica Roy**

› *Breeding Home Ranges of Scissor-tailed Flycatchers*

The purpose of this study was to determine home range sizes of breeding Scissor-tailed Flycatchers (*Tyrannus forficatus*). Data were collected in southwestern Oklahoma between 15 May and 15 July 2013, in the Wichita Mountains Wildlife Refuge, (dominated by *Quercus* and *Ulmus americana* savannah) and at Fort Sill Military Reservation (in areas dominated by *Prosopis glandulosa* savannahs). Banded, nesting scissor-tailed flycatchers were followed and all locations used by birds were recorded on a Garmin 60CSx handheld GPS unit. Individual perch sites were plotted digitally using ArcGIS and total area used by each nesting pair was estimated using a minimal convex polygon of peripheral locations. Fifteen nesting pairs were observed. Home range sizes varied between and within habitat types and all home ranges were larger than published estimates based on breeding density. Variation may be due to habitat quality and/or density of birds. This is the first study to delineate home range size for Scissor-tailed Flycatchers using banded birds.

› **Walter Silas**

› *IT Capstone*

Most classes taken by the authors at Cameron University in the information technology degree curriculum are full of average in class learning. It is a whole new way of learning when the authors were asked to be thrown into a real-world setting and work as a group with their peers to accomplish a goal. In this article, the authors discuss the act of creating a database for the City of Lawton while in a non-conventional classroom setting. This different approach to learning gave the authors an early look at what it is like to be put in a real-world situation while still having the safety net of an instructor there to guide them. During this project, System Architecture was used along with MySQL by the authors in order to create the finished product. The authors' knowledge of how the development process works was enhanced along the way.

› **Dane Swinford, Taj Ahmad, Kristen Worthen and E. Ann Nalley**
› *Microwave Synthesis in Undergraduate Organic Labs. Truman Deeb*

Allowing many chemical reactions to be completed within minutes, microwave heating has revolutionized preparative chemistry. As a result, this technology has been widely adopted in both academic and industrial laboratories. Integrating microwave-assisted chemistry into undergraduate laboratory courses enables students to perform a broader range of reactions in the allotted lab period. As a result, they can be introduced to chemistry that would otherwise have been inaccessible due to time constraints (for example, the need for an overnight reflux). A number of the chemical transformations use water as a solvent in lieu of classical organic solvents. This contributes to greener, more sustainable teaching strategies for faculty and students, while maintaining high reaction yields. In this poster, four syntheses using microwave heating will be described.

› **Jetta Trammell**
› *Investigation of Differential Habitat Use by Lizards in the Wichita Mountains*

The Wichita Mountain Wildlife Refuge is home to many habitat choices and many animal species. In this study, we were particularly interested in the habitat choices of two lizard species, *Sceloporus consobrinus* and *Crotaphytus collaris*. Previous work has shown the prairie lizard, *S. consobrinus*, and collared lizard, *C. collaris*, prefer different microhabitats within the Wichita Mountains (White and Husak, in prep). Three hypotheses have been proposed as to why they select different microhabitats, and they include competition, predator avoidance, and thermal preferences (Angert et al., 2002). We hypothesized that these two lizard species might be selecting different microhabitats because they have different thermal preferences. Even though lizards are ectothermic organisms, they do thermoregulate using behavioral means and careful microhabitat selection to maintain a preferred body temperature. The body temperature of lizards is influenced by factors including air temperature, wind speed, solar radiation, conduction and organismal anatomy. Operative temperature is a thermal parameter that accounts for all of these factors. We obtained life-sized copper lizard models and used them as operative temperature thermometers to predict which microhabitats lizards should use based on their thermal preferences. We used four different areas within the Wichita Mountains to collect temperatures. Once we collected the thermal preference data, we were able to see what percentages of temperatures were available to *C. collaris* and *S. consobrinus* at each site. All sites

had more temperatures available for *S. consobrinus*, leading us to believe these species are choosing microhabitats based on something other than just thermal preferences.

› **Eugenio Vazquez Ruiz**

› *Work Order Database*

As a part of the IT degree curriculum, the Computing and Technology department faculty in a regional 4-year school are helping students to develop a real database for a local government agency in Lawton, Oklahoma. This approach is challenging for both the instructors as well as for the students to ensure a real world experience prior to graduation. In this article, the authors discussed the use of concepts that the students have learned and how they are practically implemented and applied at the same time. This creative learning enhanced the student's ability to connect to the real world. This project was conducted in such a way that all the students from different branches of Computer Science are involved and worked together for a product. In this process, the students had a definitive understanding about team work along with the core principles, methods, PHP, SQL, UML, CASE tools and various other concepts that were involved in the process.

› **Sarah Vrla, Brandon McDonald, Bryce Geiger and Joe Macedonia**

› *Potential UV-Vision in the Kangaroo Rat (*Dipodomys Ordii*),
Evidence from the Photoreceptor Proteins (Opsins) in the Retina*

Communication in the UV-spectrum is known in insects, plants, fish, amphibians, reptiles, birds, and very few mammal species. UV-communication requires both signaling mechanisms and perception mechanisms. Signaling mechanisms include UV-reflective morphological characteristics such as hair, feathers, skin, and flowers. Such reflection of UV for communication is only known to occur between 350-390 nm (UV-A). For such signaling to serve as a means of communication, the vision system of the intended signal recipient must be able to perceive light wavelengths as short as 350nm. The ability of the visual system to perceive UV-light depends on many factors including transmission of UV light by the cornea, lens and other ocular media and successful absorption of UV by photoreceptor proteins (opsins) in the retina. Here we used immunohistochemical labeling (IHC) to identify three major mammalian photoreceptor types in the cone and rod cells of the kangaroo rat retina. The species' retina is populated with cells expressing the short wavelength opsin

(i.e. Violet/UV opsin), middle/long wavelength opsin, and Rhodopsin. Through microscopy, we constructed opsin distribution maps of the kangaroo rat retina and compared it to published results of other small mammal species. The kangaroo rat displays a relatively high density of UV-opsins directly ventral to the optic nerve. From our data, we can conclude that *Dipodomys ordii* has the potential for UV-vision although more experiments are needed to validate this.

› **Adrienne Wells, Brandon McDonald and Joe Macedonia**
› *Modeling of the Vision System of the Kangaroo Rat*
(Dipodomys Ordii) and Implications for UV-Communication

The potential for the kangaroo rat (*Dipodomys ordii*) to communicate in the ultraviolet spectrum has been validated by McDonald et al. (unpublished). Experiments carried out thus far supporting this conclusion include: 1) observation and measurements of UV-reflective morphology 2) UV-transmittance of the cornea, lens and ocular media 3) high density of UV-photoreceptor proteins (opsins) in the retina. Here we present a Mathematical model that includes maximum absorption of the three retinal photoreceptors (UV-opsin; middle/long wavelength opsin; Rhodopsin) known to occur in the retina along with previously collective quantitative UV-reflectivity data of morphological markings and various environmental light intensity scenarios to extrapolate how each photoreceptor contributes to both the nocturnal and diurnal visual systems of the species. We discovered that even under nocturnal conditions, with illumination from the moon, the species could fully utilize the UV-opsin for communication functions. Results of a diurnal visual model are also presented.

Faculty Scholars

School of Education and Behavioral Sciences

> **Calix Shaun** *Dissertation and Presentation*

Shaun Calix and L. Ganong. 2013. Constructing a Grounded Theory of Father Involvement in the Treatment of Children with Type-1 Diabetes. A Dissertation Completed as Partial Fulfillment of Doctoral Degree Requirements at the University of Missouri.

Shaun Calix and L. Ganong. 2013. Constructing a Grounded Theory of Father Involvement in the Treatment of Children with type-1 Diabetes. A Paper Presented at the Annual Conference for the National Council on Family Relations.

> **Emily Cheshire Brown** *Presentation*

A. Alvarez, C. Grizzle, J. Lewis, J. Stringham and B. Swofford. 2013. Mood and Memory Recall. Poster Presented at the Bi-annual Psychological Research Mini-conference, Lawton, OK.

> **John Geiger** *Publication and Presentation*

John F. Geiger and R.M. Litwiller. 2014. Different Groups' Perceptions as to the Rehabilitation of Sex Offenders. *Psychology and Education*.

John F. Geiger and S.A. Peterson. May, 2014. The Effect of Elaboration and Distinctiveness on Levels of Processing. Paper Accepted for Presentation at the Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

> Adam Randell
Presentations

J. Adam Randell, A. D. Reich and D. R. Mather. 2013. The Role of Future-Event Expectancies in Ironic Effects on Social Judgments. Poster Session Presented at the Meeting of the Society of Social and Personality Psychology, New Orleans, LA.

J. Adam Randell and A.D. Reich. 2014. The Moderating Role of Actual-Desired Discrepancies in Priming Effects. Poster Session Presented at the Meeting of Oklahoma Research Day, Edmond, OK.

> Yoonsin Oh
Presentations

Yoonsin Oh and S. Yoo. 2014. The Prevalence of Obesity in Oklahoma Third Through Fifth Graders. Poster Presented at the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD), St.Louis , MO.

Yoonsin Oh, Stephanie Boss and A. Lopez, A. 2014. Body Composition in Health and Physical Education Undergraduate Students. Poster Presented at the Oklahoma Research Day, Edmond, OK.

Yoonsin Oh. 2014. Successful Use of Pokéwalker: One Girl's Story. Poster Presented at the Oklahoma Research Day, Edmond, OK.

> Jeff Seger
Presentations

E. Lovings, C. Murrill, J. Savage and S. West. 2013. Meta-Attention and Their Effects on Task Performance. Poster Presented at the Bi-annual Psychological Research Mini-conference, Lawton, OK.

A. Dowell, K. Handy, S. Harper and M. Negrete, M. 2013. Introversion and Multitasking Ability. Poster Presented at the Bi-annual Psychological Research Mini-conference, Lawton, OK.

D. Holly, S. Peters, H. Taylor, M. Vera and K. Wickham. 2013. Halo Effect Occurrence: Gender, Weight, and Manipulation of Traits. Poster Presented at the Bi-annual Psychological Research Mini-conference, Lawton, OK.

School of Liberal Arts

William Carney *Publication*

William Carney. 2014. Keyword: Critical Service Learning. Community Literacy Journal.

Hardy Jones *Publications*

Hardy Jones. Marriage Parable. 2013. Flash Fiction. Driftless Review. <http://driftlessreview.org/hardy-jones>.

Hardy Jones. 2013. Grandmother's Coconut Tree. Short Story/Anak Sastra.

Hardy Jones. Rendez-vous des Cadiens Prairie. 2013. Personal Essay. Louisiana Folklife Journal.

Katherine Liontas-Warren *Art Exhibit*

Katherine Liontas-Warren. 2013. New Works by Katherine Liontas-Warren: Paseo Originals Art Gallery.

Hyunsoon Whang *Performances*

Whang-McKelway-Whang Trio Concert

Recital at the Tassel Performing Arts Center

Performance With The Lawton Philharmonic Orchestra

Wendy Whitman Cobb *Publication*

Wendy Whitman Cobb. 2013. Unbroken Government: Success and the Illusion of Failure in Policymaking. Palgrave Macmillan: New York.

› **Tony Wohlers**
› *Publication*

Tony Wohlers, Aaron Mason, John Wood and Eric Schmaltz. 2014. Tragedy of the Commons Meets the Anti-Commons: Water Management and Conflict on the Southern Plains of the United States. *Journal of Environmental Assessment and Policy Management*.

› **Yingqin Liu**
› *Publication*

Yingqin Liu. 2013. East and West: Different Perceptions of Effective Ethos Exhibited in Chinese and American Students' Persuasive Essays. *Journal of Sino-US English Teaching*.

School of Science and Technology

› **Gary Buckley**
› *Publication*

Gary Buckley and C. Roland. 2014. Influence of Liquid Media on Lifetime Predictions of Nitrile Rubber. *Journal of Applied Polymer Science*.

› **Paritosh Das**
› *Presentations and Publication*

Douglas Cyr, Sweta Shrestha and Paritosh Das. 2013. Photochemical Ring Opening in 2,3-Diphenyl Aziridines. Transient-Spectral and Kinetic Behavior of Azomethine Ylides and Related Photointermediates., *J. Phys. Chem.*

Douglas Cyr and Paritosh K. Das. 2013. Reactivity of Azomethine Ylides with Singlet Oxygen, Southwest Regional ACS Meeting, Waco, TX.

Emvia Calixte and Paritosh K. Das. 2013. A Computational Study of Solvent Effects on Energetics of Zirconocene-Catalyzed Ethylene Polymerization. Southwest Regional ACS Meeting, Waco, TX.

› **James Dover**
› *Publication*

J. Dover and M. Özaydın. 2014. Stiefel Manifolds and Coloring the Pentagon. *Journal of Combinatorial Theory, Series A* 121.

› **Mike Dunn**
› *Publication*

R.T. Spencer, S-J. Wang, M. T. Dunn and J. Hilton. 2013. Species of the Medullosan Ovule *Stephanospermum* from the Late Permian Floras of China. *Asian Journal of Earth Sciences*.

› **Michael Husak**
› *Publications*

Alex E. Jahn, James W. Fox, Michael S. Husak, Daniel H. Kim, Diane V. Landoll, Jesús Pinto Ledezma, Heather K. LePage, Douglas J. Levey, Michael T. Murphy and Rosalind Renfrew. 2013. Migration Timing and Wintering Areas of Three Species of Flycatchers (*Tyrannus*) Breeding in the Great Plains of North America.

Michael S. Husak and D. V. Landoll. 2013. First Record of Scissor-tailed Flycatchers Nesting Inside of a Covered Building. *Bulletin of the Oklahoma Ornithological Society*.

Michael S. Husak. 2013. Faunal Diversity of the Wichita Mountains: A Resource for Tourism, Citizen Science, and Research. *Proceedings of the Oklahoma Academy of Science*.

› **Abbas Johari**
› *Presentation*

A. Johari, M. Thomas and M. Merrifield. 2013. International Authors and Critical Theories of Educational Technology. Presentation at the Annual Conference of the Association for Educational Communications and Technology, Anaheim, CA.

› **Tachun Lin**
› *Publication*

Tachun Lin, Zhili Zhou, Krishnaiyan Thulasiraman, Guoliang Xue and Sartaj Sahni. 2014. Unified Mathematical Programming Frameworks for Survivable Logical Topology Routing in IP-over-WDM Optical Networks. IEEE/OSA Journal of Optical Communications and Networking (JOCN).

› **Brandon McDonald**
› *Publication and Posters*

Brandon McDonald, Michael S. Husak, Jack D. Tyler and D. Darrin Gunter. 2012. Voucher Specimens of the North American Collared Peccary (*Pecari angulatus*) in Oklahoma. Proc. Okla. Acad. Sci. Volume 92.

Brandon McDonald, Bryce Geiger, Joe Macedonia, Ramiro Moro and Kelsey Carter. 2012. Potential UV-Communication in the Kangaroo Rat (*Dipodomys ordii*). Technical Meeting of the Oklahoma Academy of Science.

Erica Johnson, Daniel Kostos, Emily Maeda, Brandon McDonald and Joseph Macedonia. 2012. UV Reflectance Patterns Within the Fur of Kangaroo Rat (*Dipodomys ordii*) Populations. Southern Florida Undergraduate Research Day.

Research and Scholarly Activities of Students and Faculty of Cameron University

This publication includes selected research and scholarly activities of students and faculty of Cameron University. The dual goals of professional development at Cameron University are continued learning of students and faculty and contribution in their respective disciplines.

Office of Academic Enrichment
Director | Dr. Tony Wohlers

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