

The 3rd Annual
**Promoting Undergraduate
Research Conference
for Faculty, Staff,
and Administrators**



***Retention Solutions
with Budget Constraints***

April 13, 2012, 8:30 am to 3:00 pm

Sponsored by
**Oklahoma State Regents
for Higher Education**

Located at
*Professional Training Center
Rose State College
Midwest City*

Organized by
Undergraduate Research Conference Steering Committee

Retention Solutions with Budget Constraints

3rd Annual Promoting Undergraduate Research Conference for Faculty, Staff, and Administrators

April 13, 2012, 8:30 am to 3:00 pm
Professional Training Center
Rose State College, Midwest City

Program		
8:30	Registration and Continental Breakfast	<i>Lobby</i>
9:00	Welcome – Dr. Linda Mason	<i>114</i>
9:15-9:45	Keynote Address: Honors, Undergraduate Research, and Retention Dr. Bob Spurrier, OSU, Dr. Linda Mason, Moderator	<i>114</i>
9:45-10:00	Break – visit posters and network Northeastern State University’s Undergraduate Research Day: A Celebration of Scholarly and Creative Activity”; “Study Tour of London & Dublin”; Student Panel posters	<i>Lobby</i>
10:00-10:50	OSU Student Researchers Panel – Results of Participating in Research <i>Tim O’Neil, Moderator</i>	<i>114</i>
11:00-11:50	CONCURRENT SESSIONS Dr. Ali Boolani, “Increasing Student Research Through Involvements in In-Class Projects” Moderator: Kathi Schoonover	<i>111</i>
	Dr. Amanda Evert, “No Budget, No Time, No Motivation..NO PROBLEM!” Moderator: Nancy Thomason	<i>111</i>
	Dr. Rich Hamerla, “First Year Research Experience (FYRE)” Moderator: Susan Foster	<i>114</i>
	Dr. Tracy Morris, Dr. Cynthia Murray, “Project SCHOLAR: An Undergraduate Research Model Involving Service Learning” Moderator: Beth Shumate	<i>108</i>
	Dr. Rahmona Thompson, Dr. E. Andrei Ghenciu, “Integrating Math and Science Using Mathematica™” Moderator: Dr. Tony Wohlers	<i>109</i>
12:00-1:00	Lunch Provided	<i>Lobby & 114</i>
12:15	Spotlight Program Recognition – Chancellor Glen D. Johnson	
12:45	RCR Training – Dr. Linda Mason, Nancy Thomason, Dr. Lori Gwyn	
1:00-1:50	CONCURRENT SESSIONS Michael Heppler, “NSF Graduate Research Fellowship Application Process” Moderator: Dr. Tony Wohlers	<i>110</i>
	Dr. Marc Klippenstine, Dr. Joanna Harris-Young, “Creating an Environment of Psychological Research: Mentoring Student Research from Concept to Presentation on a Budget” Moderator: Kathi Schoonover	<i>109</i>
	Dr. Daphne LaDue, “NSF-Funded Research Experiences for Undergraduates: Several Goals” Moderator: Dr. Gregory Wilson	<i>114</i>
	Dr. Rick Matzen, Dr. Rad Alrifai, “Defining Undergraduate Research: A Computer Science Perspective” Moderator: Susan Foster	<i>108</i>
	Tim O’Neil, “The Oklahoma State University Undergraduate Research Network: A Case Study in Developing Web Resources to Facilitate Undergraduate Research” Moderator: Dr. Amanda Evert	<i>111</i>

- 1:50-2:00 **Break** – visit posters and network
- 2:00-2:30 **Administrator Panel – Transcribing Undergraduate Research** **114**
Dr. Dex Marble, Dr. Amanda Evert, Dr. Melanie Page, Pamla Armstrong, Dr. Celeste Campbell. *Moderator: Dr. Linda Mason*
- 2:15-3:15 **Faculty Panel – Benefits and Challenges of Promoting Undergraduate Research** **114**
Dr. Ann Nalley, Dr. Darlinda Cassel, Dr. Virginia Whitekiller
Dr. Anton Wohlers, Moderator
- 3:15-3:30 **+Δ Evaluation, Comments and Adjourn** **114**

The Participants in the Promoting Undergraduate Research Conferences wish to thank the Oklahoma State Regents for Higher Education, and Dr. Johnson especially, for the unfailing support of research in Oklahoma's colleges and universities.



**Chancellor Glen D. Johnson,
Oklahoma State Regents for Higher Education**

Dr. Glen D. Johnson Jr. is the chief executive officer for the Oklahoma State System of Higher Education. Johnson leads a state system comprised of 25 state colleges and universities, 10 constituent agencies, one higher education center and independent colleges and universities coordinated with the state system. He reports to a constitutional board whose nine members are appointed by the governor and confirmed by the senate. Johnson provides leadership on matters relating to standards for Oklahoma higher education, courses and programs of study, budget allocations for institutions, fees and tuition, and strategic planning. He is responsible for an annual higher education budget in excess of \$1.9 billion as well as the state endowment fund, with a market value over \$200 million.

Dr. Johnson became the 8th chancellor of the Oklahoma State System of Higher Education in January 2007 after a national search. Before assuming the role of chancellor, Johnson served as the 16th president of Southeastern Oklahoma State University in Durant for 10 years.

Dr. Johnson served in the Oklahoma House of Representatives from 1982 to 1996 and was speaker of the house from 1990 to 1996. At the time of his election as speaker, he was the youngest sitting speaker in the United States. Johnson has been recognized both statewide and nationally as a strong, untiring advocate for funding for education, both secondary and higher education, in Oklahoma. He is an honors graduate of the University of Oklahoma, with an undergraduate degree in political science and a juris doctor degree from the OU College of Law. He was a member of Phi Beta Kappa at OU and received the Letzeiser Award as one of OU's outstanding seniors.

He is the son of former U.S. Congressman Glen D. Johnson Sr. and Imogene Johnson. He was born in Oklahoma City and attended grade school in Washington, D.C. He graduated from Muskogee High School in 1972. Johnson and his wife Melinda, a teacher at Edmond Memorial High School, live in Oklahoma City.

Proceedings



Welcome – Dr. Linda Mason is Coordinator of Grants and External Funding Assistance for the Oklahoma State Regents for Higher Education, and provides research and grant development assistance to all Oklahoma higher education institutions, focusing on the undergraduate institutions. She has written, assisted in writing and directed projects for hundreds of grants for hundreds of millions of dollars. She earned an Ed.D. in Curriculum and Instruction, in 1974 from Oklahoma State University. Her professional experience includes being a public school teacher, a tenured faculty member at all levels, a department chair, a dean, and a state administrator. Linda is a native Oklahoman from Coweta and a first generation college graduate. She and her husband have 2 children and 2 grandchildren.

Keynote Address: Honors, Undergraduate Research, and Retention



**Dr. Robert Spurrier
Director of The Honors College and Professor
of Political Science at OSU**

Dr. Spurrier has won numerous awards for outstanding teaching and academic advising, and he really enjoys teaching honors courses and seminars dealing with law and the American legal system, as well as serving as honors advisor for approximately 100 Honors College students each year.

He is a past president of the National Collegiate Honors Council (NCHC), was elected twice to the NCHC Board of Directors, and currently serves as NCHC Secretary. Dr. Spurrier was selected as a member of the first class of Fellows of the National Collegiate Honors Council, is one of approximately 40 NCHC Recommended Site Visitors (conducting external reviews of other institutions' honors programs and honors colleges

several times a year), and is co-author of NCHC's monograph ***Assessing and Evaluating Honors Programs and Honors Colleges: A Practical Handbook***.

In addition, he originated the "Developing in Honors" workshop for experienced honors professionals and the "Best Honors Administrative Practices" sessions that are regular features of NCHC's national conference each year.

Poster Presentations

“Northeastern State University’s Undergraduate Research Day: A Celebration of Scholarly and Creative Activity,” Mark A. Paulissen, Joan Williams, Vanessa Anton, and Amy Aldridge Sanford. In 2003, NSU held its first Undergraduate Research Day: A Celebration of Scholarly and Creative Activity at which undergraduates from NSU’s four undergraduate colleges present their projects to students, faculty, and administrators. Each application is screened by a faculty committee from the student’s college to insure only high quality projects are presented and to pick the college’s Outstanding Scholar. Cash prizes are awarded to each Outstanding Scholar, as well as for Best Speaker and Best Poster. Now in its tenth year, URD has provided a forum for 263 students to present their work and be recognized by the NSU community.



Dr. Mark Paulissen is an Associate Professor of Biology at Northeastern State University. He joined the faculty at NSU in 2006 and teaches Human Anatomy, Animal Biology, and non-majors General Biology. He and his students conduct research on learning and behavior of Oklahoma lizards that has resulted in six publications and 12 professional presentations, including five given by students, since 2008. He was named to the NSU Undergraduate Research Day Steering Committee in 2008 representing the College of Science & Health Professions; he became its Co-Chair in 2010.

Dr. Joan Williams is an Associate Professor of Hospitality and Tourism at NSU. She joined NSU’s faculty in 2000 and teaches undergraduate courses in all aspects of tourism development and hospitality management. Her research interests include studying the social impacts of tourism development on societies and cognitive learning styles. She was named to the Undergraduate Research Day Steering Committee in 2005 representing the College of Business and Technology; she was named Co-Chair in 2010.

Dr. Vanessa Anton, right, is an Associate Professor of Health and Kinesiology at Northeastern State University. She has been faculty at NSU since 1997 and teaches undergraduate Teaching Methods, Measurement and Evaluation of Physical Activity, Curriculum Development, graduate Research in Health and Kinesiology, and is the program’s Intern Coordinator. She has been on on NSU’s Institutional Review Board since 2004, and on NSU’s Faculty



Research Committee since 2000, serving as chair 2008-2011. She is the Journal Editor and chair Of the Journal Advisory Manuscript Review committee for her profession’s state peer-reviewed journal. She has had multiple state, regional and national research presentations/publications in her field. She was named to the NSU Undergraduate Research Day Steering Committee in 2005 representing the College of Education.



Dr. Amy Aldridge Sanford, left, is the chair and graduate director for the Department of Communication, Art, & Theatre in the College of Liberal Arts at NSU. Since joining the faculty in 2004, she has given nearly 50 invited lectures on topics, including diversity, professional communication, popular culture,

empowerment, critical thinking, teaching and learning, leadership, and gender equity. Her

current research focuses on social activism: she has been published in several peer-reviewed journals. Dr. Sanford has advised 11 master's theses and 11 undergraduate capstone students. Since 2007, 24 of her students have presented research 52 times at state, regional, and national conferences. She was named to the NSU Undergraduate Research Day Steering Committee in 2003.



“Study Tour of London & Dublin” Marty Ludlum, left, is an Assistant Professor of Legal Studies at the University of Central Oklahoma. Prior to serving at UCO, Professor Ludlum taught at Oklahoma City Community College (2000-2008). His research interests include international business, ethics, and regulated industries. In addition to teaching, Ludlum enjoys international travel and is an award winning magician.

Student Panel posters Students from ECU in Marc Klippenstine and Joanna Harris-Young’s project. See bios below.

OSU Student Researchers Panel – *Results of Participating in Research*

Cortney Cowley is a PhD student studying Agricultural Economics at Oklahoma State University. She received a MS degree in Civil and Environmental Engineering from Colorado State University in 2011 and a BS degree in Biosystems Engineering from OSU in 2009. Cortney is originally from Byng, Oklahoma, and has always been interested in how agricultural operations interact with and impact the environment. This interest led her to pursue multiple undergraduate research opportunities that cultivated her desire for learning through scientific investigation. Some of Cortney’s accomplishments include: being named a 2007 Udall Scholar, 2008 Truman Scholar, and 2009 National Science Foundation Graduate Research Fellow. She currently resides in Mulhall, OK with her husband, Jeremy.



Jesi Lay is a second year master’s student in the biosystems and agricultural engineering program at OSU and attending graduate school on a National Science Foundation Graduate Research Fellowship. She received her undergraduate degree from the same department in May 2010. Jesi’s research is focused on the water-quality aspect of rainwater harvesting, trying to quantify a first-flush volume for rainwater harvesting systems in Oklahoma. In addition to research, Jesi is a teaching assistant for Fluid Mechanics. Her career goal is to work in the field of international development, focusing on water-quality and water management projects in developing countries. Jesi has traveled to Sierra Leone, West Africa, twice with the OSU Agriculture Development team with Dr. Mike Dicks. She will return to Sierra Leone in August to work on a rainwater harvesting project with Njala University for 6-9 months.

Amanda Mathias, sophomore at OSU, grew up on a small farm in Inola, Oklahoma. Currently, Amanda is an Animal Science student. One of the highlights of her college career has been her selection as one of the fifty Freshman Research Scholars among 5,500 OSU freshmen. Amanda conducts her undergraduate research alongside Dr. Daniel Stein (Oklahoma State University, Animal Science) and Dr. John Gilliam (Oklahoma State University, Center of Veterinary Health Services) focusing on Alleviation of Pain Associated with Disbudding of Calves using Ethyl Alcohol. After presenting her research at the Freshman Research Scholars Colloquium, she was awarded Best Overall Presentation and was accepted to present her research at the National Conference on Undergraduate Research (NCUR) in March in Ogden, Utah. Amanda continues her research through the Animal Science Undergraduate Research Program at OSU, and is working with Dr. Stein and Dr. Gilliam on the second phase of the project. She will pursue a Master's Degree and Ph.D. in Animal Science.



Tyler Peck, graduate student at OSU, is a 2006 graduate of Blanche Thomas High School in Sentinel, OK, where he was actively involved in 4-H and FFA projects focusing on livestock and natural resources. Peck attended Redlands Community College, where he served in the Center of Excellence Program and was an Ambassador for the Ag College. He graduated from RCC with an Associate degree in Animal Science with a minor in Ag Business. He earned his BS in Animal Science with a minor in Ag Business from OSU in 2011. He represented Oklahoma State University on the OSU Rodeo Team and through his leadership created the OSU Chute-Out Rodeo. Peck participated in two mission trips to Nicaragua to work with villages and orphanages in upgrading their gardening, poultry and goat production. He is currently working on a Master's of Agriculture degree with an option in Agriculture Education.



Logan Michael Scott, sophomore at OSU, attended high school at Edmond Memorial. He was awarded a Freshman Research Scholarship to attend Oklahoma State University, where he works with Dr. Martin High and Dr. William Henley on a research proposal detailing the Ethanol Distillation for Organic Oils Produced from Blue-Green Algae. His research enabled him to be named one of Oklahoma State University's Top Ten Freshmen for the class of 2014. Scott is currently working as a law consultant and researcher specializing in International Patent Law. He plans to attend law school after receiving his bachelor's degree.

Katlynn Weathers, graduate student at OSU, graduated from Edmond North High School in 2007, and Redlands Community College (RCC) in May 2009 with an Associates of Applied Science in Animal Science. While at RCC she worked on research projects that ranged from animal fertility, animal growth, grazing trials, to plant and soil science trials. Katlynn also had the opportunity to work for the United States Department of Agriculture in El Reno, OK called Fort

Reno. She transferred to Northwestern Oklahoma State University (NWOSU) in 2009 and graduated in 2011 with a Bachelor's of Science in Agricultural Education. While at NWOSU, she worked on the school farm, researched selection of animal genetics, and had a semester of student teaching in the Agricultural Educational Classroom in Guthrie, OK. She is pursuing a Master's of Science in Plant and Soil Science, and working on numerous research projects in the area of Soil Nutrient Management. She plans to teach at the university level, work in the area of agronomy for a local cooperative or private company, or work in research.



11:00 a.m. Concurrent Sessions

Room 110--“Increasing Student Research Through Involvements in In-Class Projects”

Dr. Ali Boolani, Assistant Professor of Kinesiology and Exercise Studies, OCU

Abstract: The purpose of this presentation is to advance student research. Research in the Kinesiology and Exercise Studies (KES) department starts as experimental group research projects in various classes prior to culminating in a Capstone class with individual projects.

In the 2011-2012 academic year KES has 26 undergraduate research presentations at local/regional/national conferences, 4 abstracts published in journals and 2 undergraduate projects submitted for publication in peer-reviewed journals. Encouraging student creativity and involvement in research has helped promote the KES program. It has led to increased student research interest, encouraged knowledge application and Socratic thinking.

Ali Boolani completed his Ph.D. at Oklahoma State University (OSU) in 2009 and currently holds the position of Assistant Professor at Oklahoma City University.



Room 111--No Budget, No Time, No Motivation...NO PROBLEM!” Dr. Amanda Evert, VP for Undergraduate Research and Resource Development, RCC. **Abstract:**

Students experienced their first mini-research project as part of a Business Application Software course. The students selected a social networking tool and identified two comparable pages. Students then collected data regarding the number of friends, posts, responses and photographs. Student projects ranged from comparing Republican and Democratic perspectives on Health Care in Facebook to comparing rookie and veteran athletes use of Twitter. The mini-research project included reviewing literature, creating research questions, collecting and analyzing data, and formulating a conclusion. The projects sparked students interest in research and encouraged them to create research posters.

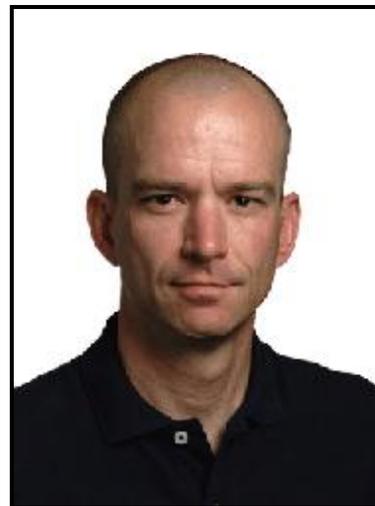
Dr. Amanda Evert joined the Redlands Community College team in 2005, and has served as a communications specialist, professor, division director and currently as the Vice President for Undergraduate Research and Resource Development. Dr. Evert is an advocate for

technology-enhanced learning, undergraduate research, and resource development initiatives designed to improve the educational experiences of students. She and her husband Jeremy are both natives of western Kansas. As products of the community college system, they are very proud of their Associates of Science degrees and Phi Theta Kappa memberships. Dr. Evert's most recent academic accomplishment included defending her dissertation and earning her Ph.D. at Oklahoma State University in the summer of 2011.

Room 114--“*First Year Research Experience (FYRE)*”

Dr. Rich Hamerla, Associate Dean, Honors College, OSU

Abstract: The First Year Research Experience (FYRE) allows select freshmen the opportunity to participate in research projects that would normally be available exclusively to more advanced students. Incoming freshmen apply for the program in the Fall semester and, if chosen, enroll in the program in the Spring term. For selection, participating professors review applications and interview students. They then choose a student who will work in the laboratory of the professor during the Spring term. The student receives three hours of Honors credit and gets hands-on experience in professional research work with a university professor. As this program pertains to the conference theme, it enhances retention likelihood at the earliest moment in a student's career and it is zero-cost to the university.



Rich Hamerla is an endowed professor and Associate Dean of the Honors College at the University of Oklahoma. Trained as an historian and philosopher of science, he has two books and numerous articles on the history of chemistry and biological weapons. As associate dean he oversees approximately ten undergraduate research programs at OU.



Room 108--“*Project SCHOLAR: An Undergraduate Research Model Involving Service Learning*” Dr. Tracy Morris, Dr. Cynthia Murray, Mathematics and Statistics, UCO

Abstract: SCHOLAR is a statistical consulting group consisting of faculty and students from a variety of departments at UCO. Students work collaboratively with specialists from different areas of research on projects submitted from both on- and off-campus. Since the beginning of SCHOLAR in the fall of 2009, fifteen students have participated and thirteen projects have been completed. Currently the students are working on two projects, one concerning the relationship between high school end-of-course assessments and college-level remediation in New Mexico and the other concerning the stress levels of nurse anesthesia students at Newman University in Wichita, KS.

Dr. Tracy Morris is an assistant professor in the Department of Mathematics and Statistics at (UCO), and is currently serving as the vice-chair of the department. She earned baccalaureate and master's degrees in mathematics from OSU and UCO, respectively, and completed her PhD in statistics at OSU. Dr. Morris' research interests are in statistics education, statistical consulting, and nonparametric statistics. She is particularly interested in the incorporation of experiential learning in the traditional statistics curriculum. To this end, she formed a student statistical consulting group, called Project SCHOLAR, in 2009.



Dr. Cynthia Murray is a professor in the Department of Mathematics and Statistics and is the director of the statistics program. She earned baccalaureate degrees in mathematics and medical technology from UCO and her master's degree and doctorate in biostatistics from OU. Prior to her teaching at UCO she worked as a biostatistician at the OU Health Sciences Center and the Oklahoma Foundation for Medical Quality. Dr. Murray's primary interests are in the field of medical research. She has co-authored 30 journal articles, and has worked with several graduate students from the Department of Kinesiology and Health Studies on their theses.

Room 109--*"Integrating Math and Science Using Mathematica™"* Dr.

Rahmona Thompson, Biology, ECU; **Dr. E. Andrei Ghenciu**, Math and Computer Sciences, ECU

Abstract: If you have never met a professional scientist or mathematician, how does an undergraduate know what it takes to become one? If your total exposure to science and math is memorizing facts and working problems, how does an undergraduate learn what it takes to excel in a STEM major? To address these problems, East Central University College of Health and Sciences has developed a sophomore level Interdisciplinary Mathematics and Sciences course. The content of the course covers: integrating math and science using Mathematica™; researching internship opportunities; reading original literature; developing research papers, posters and presentations; and conducting science ethically.

Dr. Rahmona Thompson is a Professor in the ECU Biology Department, the Biology Education Advisor, and Curator of the East Central Herbarium, in addition to teaching biology, botany and science methods courses. Her research is on the embryo development in the snapdragon plant family. She is the Director for the East Central Oklahoma Regional Science and Engineering Fair, Oklahoma State Science and Engineering Fair, and State Director of Oklahoma Junior Academy of Science. Her Ph.D. is in Plant Taxonomy from OSU.



12:00 -- Lobby and Room 114--Luncheon Provided

12:15 -- Spotlight Program Recognition

Oklahoma State Regents for Higher Education Chancellor Glen D. Johnson, Jr. will recognize a university for promoting and facilitating undergraduate research. This Spotlight recognition was inaugurated at the Second Annual Promoting Undergraduate Research Conference, with the honor going to the University of Central Oklahoma's undergraduate research programs.

12:45 -- Responsible Conduct of Research Training

Dr. Linda Mason, Coordinator of Grants and External Funding Assistance for the Oklahoma State Regents for Higher Education, (see complete bio above)



Nancy Thomason is currently the interim director of the Office of Sponsored Programs and Research at East Central University. Prior to this position, she was the executive director of ECU's Center for Continuing Education and Community Services. In 2000, she was the president of the Association of Continuing Higher Education (ACHE). She earned a B.S. from The Ohio State University in Columbus, Ohio and a M.Ed. from Saint Francis College in Fort Wayne, Indiana.

Dr. Lori Gwyn is Southwestern Oklahoma State University's Director of Sponsored Programs and Continuing Education. She holds a Ph.D. and MS in Chemistry from the University of Missouri, St. Louis, and a

BS from SWOSU. Before coming to SWOSU, she was a postdoctoral fellow at the University of Oklahoma Health Sciences Center under Dr. Karla Rodgers as mentor. They worked on a characterization of the V(D)J recombinase project. During Dr. Gwyn's career, she has received many awards, has published several journal articles and has developed an invited seminar on her research.



1:00 p.m. Concurrent Sessions



Room 110--“NSF Graduate Research Fellowship Application Process” Michael Heppler. Abstract:

This presentation is an overview of the NSF GRFP application process and successful strategies for submitting an application. The presentation will include general information about the application process. In addition, details will be covered about the criteria the NSF reviewers are using to judge the applications. Benefits of this fellowship will be presented as well. Successful application strategies used by winning applications will be covered during this session.

Michael Heppler served Oklahoma State University from 1997 to 2012. He has traveled throughout the United States speaking to students about successful fellowship and graduate school application strategies. He has presented his workshops to over 2,000 scholars across the United States. He coordinated an effort to increase the

number of NSF fellows at Oklahoma State University. This effort has resulted in OSU ranking near the top in the Big XII conference with the number of awards in both 2010 and 2011. Mr. Heppler has presented at many regional and national conferences. A few of his prior appearances are the Inaugural PhD boot camp held in the state of Oklahoma in 2010, National Society of Black Engineers Region V Conference, North Carolina A&T University McNair

Scholars Research Conference in Greensboro, North Carolina, Heartland McNair Scholars Research Conference in Kansas City, Missouri, **Ronald E. McNair Research & Leadership Conference in Albuquerque, New Mexico**, and the Oklahoma Louis Stokes Alliances for Minority Participation (OKAMP) state conference.

Room 109--“*Creating an Environment of Psychological Research: Mentoring Student Research from Concept to Presentation on a Budget*”Dr. Marc Klippenstine, Dr. Joanna Harris-Young, Psychology, ECU. **Abstract:** Research in the Psychology Department at ECU (a four-year regional university) starts at the program level with all students required to take a three course rotation that includes i) Statistics, ii) Writing & Design for Psychological Research, and culminating in iii) Experimental Psychology. During this last course, and using a team approach, students engage in all aspects of a research project, including the literature review, research methodology & design, and final data collection, the ultimate goal of which is a poster or paper presentation at a state-wide conference. A complimentary aspect of our research program includes in-depth research with honors students on a one on one basis. Our research model will be discussed with an emphasis on tips for the creation of an environment of research and the successful completion of undergraduate research in a one semester time frame and using little more than departmental resources.

tips for the creation of an environment of research and the successful completion of undergraduate research in a one semester time frame and using little more than departmental resources.



Marc Klippenstine, right, received his Ph.D. at York University in Toronto, Ontario, Canada and has been teaching at East Central University since 2007. His area of research is primarily in the intersection of Law and Psychology, but mentors students in all areas of psychological research.

Joanna Harris-Young, left, received her Ph.D. from the University of Oklahoma and her M.S. from the University of Houston. She has been teaching at East Central University since 1990. Her primary research interest is cognitive development, but she mentors undergraduate and graduate students in all areas of psychological research.

Room 114--“*NSF-Funded Research Experiences for Undergraduates: Several Goals*”

Dr. Daphne LaDue, OU. Abstract: At the National Weather Center in Norman, Oklahoma, we have used our NSF-funded Research Experiences for Undergraduates Site for several types of projects. A common type is small aspects of ongoing research that scientists cannot accomplish for lack of time. Other projects have carefully identified and delineated problems needing additional study, including research led by National Weather Service Forecasters. Our scientists also use REU to explore of new area of research and begin to build a track record in that area, thus increasing their chance of funding in the future. These and other aspects of REU will be discussed.

Daphne S. LaDue is a Research Scientist in the Center for Analysis and Prediction of Storms, and the Principal Investigator and Director of the Research



Experiences for Undergraduates Program at the National Weather Center in Norman, Oklahoma. She has been awarded three REU grants from NSF; the first was extended by a 2-Year Extension for Special Creativity. She returned to school in 2003 and completed her doctorate in Adult & Higher Education at the University of Oklahoma in October 2011. Through her coursework she found many ways to enhance her REU program, including improved mentor training, addition of critical thinking and metacognitive research skill development, and helping participants explore how to apply their meteorological knowledge in entrepreneurial ways. Prior to directing REU, she established a research record assisting on projects as diverse as radiative transfer of ozone in the mesosphere and investigation of the utility of satellite data in severe storm identification and tracking. Dr. LaDue has recently begun applying her social science research skills to the practice of meteorology with recent studies on forecaster cognition and use of weather radar.



Room 108--“*Defining Undergraduate Research: A Computer Science Perspective*”

Dr. Rick Matzen, Dr. Rad Alrifai, Computer Science, NSU.

Abstract: Should undergraduate research be designed to prepare select students for graduate school or to enrich the undergraduate experience for all students? What should be the criteria for classifying students’ work as undergraduate research? Faculty members at two national/regional conferences for computer science education responded to a comprehensive questionnaire that solicited their opinions about these questions. This presentation shows the results of this survey and discusses a successful program, a senior capstone course in computer science, to see how it fits these criteria. The results should also be useful for examining similar questions about undergraduate research in other disciplines.

Rick Matzen, Professor of Computer Science at NSU, received his M.S. and Ph.D. in Computer Science from Oklahoma State University. He serves as program chair of Computer Science, and he is PI for an NSF STEM grant for scholarships in Computer Science and Mathematics. His primary teaching interest is the introductory course sequence in Computer Science and how to improve retention in these courses, and his current research focus is defining best practices in computer science education.

Rad Alrifai received a Ph.D. in computer science from Illinois institute of Technology. He serves as an Associate Professor of Computer Science at Northeastern State University. He is particularly interested in computer science education, software engineering, and web services. He is the author or co-author of several scholarly articles and conference papers. Furthermore, he has directed over forty undergraduate capstones/research projects spanning multiple areas in computer science.



Room 111--“*The Oklahoma State University Undergraduate Research Network: A Case Study in Developing Web Resources to Facilitate Undergraduate Research*” Tim O’Neil,

OSU. Abstract: **The Oklahoma State University Undergraduate Research Network:** A Case Study in Developing Web Resources to Facilitate Undergraduate Research Budget-friendly web services, such as WordPress and Gravity Forms, allow those with average computer skills to create dynamic, intuitive web-based resources to facilitate undergraduate research at institutions of any size and organizational model. With the ability to easily integrate these



resources into widely-used social media platforms, such as Facebook and Twitter, institutions can create communities of faculty and student researchers on platforms that most undergraduates already use on a daily basis. At Oklahoma State University, we created just such a network (<http://ugrnetwork.okstate.edu>) that allows faculty to request undergraduate research assistants and aggregates projects into a browsable clearinghouse of research opportunities. This presentation explains how to create a similar resource for your institution.

Tim O'Neil is a graduate student in English literature at Oklahoma State University, where he serves as the Director of the Freshman Research Scholars Program in the Office of Scholar Development and Recognition—a position he has held since 2007. Tim is also the Editor of the *OSU Journal of Undergraduate Research*, which

will issue its inaugural volume this year. In 2007 Tim graduated from OSU with Honors degrees in English, History and Political Science and was named Oklahoma's first recipient of the Jacob K. Javits Fellowship. He is currently preparing a critical edition of Cotton Mather's letters to The Royal Society—collectively known as the *Curiosa Americana*.

1:50-2:00 Break – visit posters and network

**Room 114--2:00 p.m. Administrator Panel
Transcribing Undergraduate Research**

Dr. Dex Marble, Vice President for Academic Affairs, USAO, currently serves as Vice President for Academic Affairs at the University of Science and Arts of Oklahoma. From 1972 until 1997, he was a Professor of History at USAO. From 1997 until 2007, he practiced law. He holds an A.B. from Stanford University, a Ph.D. from Texas Christian University, and a J.D. from the University of Oklahoma. His experiences have ranged from coaching basketball at USAO to playing the violin in the Lawton Philharmonic orchestra to representing clients on death row.



Dr. Amanda Evert, Vice President for Undergraduate Research and Resource Development at Redlands Community College. See picture and bio above.



Dr. Melanie Page, left, OSU Professor of Psychology and Director of Institute for Creativity and Innovation. Dr. Page received her Ph.D. from Arizona State University in 1998. She is a Professor of Psychology and Founding Director, OSU Institute for Creativity and Innovation. Dr. Page teaches courses on quantitative methods (at the undergraduate and graduate levels) and in psychological testing. Through training in statistics and research methods, she has had the opportunity to be involved with several research teams.

The majority of Dr. Page's current work is looking at how girls and women become interested in science and how they fare when they are in the field. She is working with colleagues in the College of Education, Engineering, and in the department of Sociology looking at how young girls' interest in math and science changes over the elementary years (NSF funded). She is part of an NSF ADVANCE grant, which aims to increase the number of women faculty in the STEM fields. Finally, she is still working with colleagues in Human Development and Family Science and Nutrition on a large USDA funded project aimed at preventing childhood obesity, and she continues to enjoy collaborating with Dr. Mullins' and Dr. Chaney's research teams. She is currently the Director of the Institute for Creativity & Innovation (ICI). The goal of ICI is to help faculty, students, and staff take creative ideas to creative action.

Pamla Armstrong, right, ECU Registrar and Director of Admission and Records, began work in the Admissions and Records Office in 1980 and became Director of Admissions and Records/Registrar in 1989. She holds a bachelor's and master's degree from East Central University. She is active in OACRAO (Oklahoma Association of College Registrars and Admissions Officers), having served twice as President. In 2008 Pamela was awarded the Distinguished Service Award by the Oklahoma Association of College Registrars and Admissions Officers. She is also a member of SACRAO and AACRAO.



Dr. K. Celeste Campbell, left, serves as University Registrar at Oklahoma State University. Her Ph.D. is in Educational Psychology: Research and Evaluation with an emphasis in higher education administration. Student success and retention are her primary research interest areas. Her previous professional positions include director of the OSU Bureau for Social Research and assistant director of the OSU Honors College. She also has extensive teaching experience, ranging from college to middle school levels.

**Room 114--2:15 p.m. Faculty Panel
Benefits and Challenges of Promoting
Undergraduate Research**



her at several conferences. She is a member of Research Council for Mathematics Learning,

Darlinda G Cassel, Ph.D (University of Oklahoma, 2002) has been a member of the Department of Curriculum and Instruction at UCO since 2006. Previous to this, she served for 3 years as assistant professor at OSU and as a special lecturer at Oklahoma Christian University. Before entering higher education, she was an elementary teacher for 15 years. While at UCO, she has written and had published several articles and received several federally funded grants. Inclusive of the years 2006 through 2012, she has published articles with co-workers. Graduate and/or undergraduate students have presented with

National Council for Teachers of Mathematics, School Science and Mathematics Association, Oklahoma Council for Teachers of Mathematics and Kappa Delta Gamma.



Dr. Ann Nalley, Cameron University is currently a Professor of Chemistry in the Physical Science Department at Cameron University, a position she has held since 1969. Before coming to Cameron she taught high school chemistry and mathematics at Muskogee High School. She has held positions as a visiting scientist or professor in Chemistry Departments at the University of Oklahoma, the University of Texas at Dallas, and the University of Southern Mississippi. Dr. Nalley earned a Ph.D. in Radiation Chemistry from Texas Woman's University. Her research includes new product development and solving industrial problems in the area of cosmetic analysis, nanostructural materials, applied research in the petroleum industry and molecular modeling. In 1992, she was honored by the five sections of the American Chemical Society as the Oklahoma Chemist of the Year. She was the first and only woman to be so honored. She was presented with

the Division of Professional Relation's Henry Hill Award for Outstanding Contributions to Professionalism. She served as National President of the American Chemical Society in 2006. In her spare time, she maintains a refuge for over 40 displaced or deserted animals.

Dr. Virginia Drywater-Whitekiller (Cherokee) is an associate professor of social work at Northeastern State University. She has a bachelor of social work from NSU, a master of social work from the George Warren Brown School of Social Work at Washington University in St. Louis, and doctorate in educational leadership from Oklahoma State University. She has extensive social work practice with Native populations and has a special research interest in cultural resilience theory as applied to American Indian populations. Formerly the chair of the social work and criminal justice programs at NSU, she now serves as the principal investigator for the NSU Child Welfare Specialization Training Program of the National Child Welfare Workforce Institute.



3:15-3:30 + Δ Evaluation and Adjourn

Key to Abbreviations:

CU	Cameron University	RCC	Redlands Community Colleg
ECU	East Central University	SWOSU	Southwestern Oklahoma
LU	Langston University	State University	
NSU	Northeastern State University	TCC	Tulsa Community College
OCU	Oklahoma City University	UCO	University of Central
OSRHE	Oklahoma State Regents for	Oklahoma	
Higher Education		USAO	University of Science and Arts
OSU	Oklahoma State University	of Oklahoma	
OU	University of Oklahoma		

Undergraduate Research Conference Steering Committee



Chair of the committee, Linda Mason, is Coordinator of Grants and External Funding Assistance for the Oklahoma State Regents for Higher Education. See bio above.

Susan Foster, right, is the Director of the Office of Research Administration-Grants & Contracts for NSU in Tahlequah. In 1986, Susan earned a Bachelor of Science degree from NSU in Accounting with a minor in Mathematics and Business. She also has attended the OU and earned the designation of Certified Research Administrator (CRA). In addition to specializing in grant finance and management, Susan is a State of



Oklahoma Licensed Teacher in Mathematics and for the past twenty years has been a State Licensed Wildlife Rehabilitator. As Director of the Office of Research Administration-Grants and Contracts, her expertise in post- award management is called on daily by the university's administration, faculty and staff to ensure that policy and procedures are in compliance with federal, state, private and university guidelines. Susan lives on beautiful Lake Tenkiller. She has (2) sons and finds managing them more difficult than managing millions of dollars!



Pamela McDown, M.M. serves as the Coordinator, Research Programs in UCO's Office of Research & Grants (OR&G), Academic Affairs. Her current primary responsibility is the administration of over 140 Research Assistant (RA) projects awarded through the OR&G's faculty and student on-campus grant programs. She works with students, faculty and staff toward the desired outcome of transformative learning through research, creative and scholarly activities (RCSA) on the UCO campus. Even though her current position is primarily administrative, Ms. McDown is a veteran music educator with over 35 years teaching music students and freelancing as a performing professional musician. Her RCSA interests include topics in music with a special interest in researching European 18th and 19th century historical performance practice in clarinet. She holds a Bachelor in Arts

Degree in Music from California State University, Sacramento, and a Master in Music Degree from the University of Central Oklahoma (UCO).

Tim O'Neil is a graduate student in English literature at OSU, and Director of the Freshman Research Scholars Program in the Office of Scholar Development and Recognition, Editor of the *OSU Journal of Undergraduate Research*, and Oklahoma's first recipient of the Jacob K. Javits Fellowship. Full bio above.



Joy L. Pendley, University of Oklahoma. No picture or bio available.



Kathryn (Kathi) Schoonover-Redden (right) is the Director of Research and Sponsored Programs at Northeastern State University (NSU) at the Tahlequah campus since March, 2009. Ms. Schoonover-Redden served on the Council on Research for Regional Universities playing a critical role in the coordination of Oklahoma Research Day 2009. Ms. Schoonover-Redden is a member of the National Council of University Research Administrators, Society of Research Administrators, serving as a presenter for both professional organizations, and the Oklahoma Council of Grantsmanship and Research. She has grant experience as a principal investigator for Tulsa Community College, Nursing Division and Allied Health Services. She also served as grant administrator for a federally funded program for low income housing residents where she developed programs that encouraged and enhanced resident self-sufficiency. It was during this time that she

discovered the value of grantsmanship and began developing a professional career path in the “grants world”.

Beth Shumate, Tulsa Community College Beth Shumate, Director of Grant Development, started at Tulsa Community College (TCC) in February of 2005. To date, she has procured federal and state government grants for TCC totaling nearly \$7 million and serves on TCC's Faculty Innovation Grant committee. Beth has written successfully to funding agencies such as the U.S. Department of Education TRIO programs, the National Science Foundation, the U.S. Department of Labor Employment and Training Administration, the Oklahoma State Regents for Higher Education, the Oklahoma Department of Commerce, the Oklahoma Arts Council, and several other local government and private funding streams. She secured nearly \$5 million in funding for and implementation of the Tulsa Area's Workforce Investment Board in residence at TCC, which is funded by the U.S. Department of Labor. She was awarded grants training certificates, such as The Grantsmanship Center International, Inc. (TGCI), a world-class premier grant-training institute and the Oklahoma State Regents Summer Academy. Beth holds a baccalaureate degree in sociology and a minor in Spanish from the University of Tulsa. She is currently pursuing her Masters of Public Administration with a focus in Education Administration at the University of Oklahoma - Tulsa.





Nancy K. Thomason, East Central University, is currently the interim director of the Office of Sponsored Programs and Research at East Central University. Full bio above.

Dr. Greg Wilson earned a B.A. in Biology from Central College (Central University of Iowa), an M.S. in Biology from Fort Hays State University, and a Ph.D. in Zoology from Oklahoma State University. Dr. Wilson is a tenured Associate Professor in the Department of Biology. Recent research projects include



investigating host/parasite interactions of bats and bat flies and how climatic fluctuations which occurred during and following the Pleistocene impact the contemporary population genetic structure of several species of mammals in Oklahoma and adjacent states. Dr. Wilson has 11 publications in peer-reviewed journals. In 2005, Dr. Wilson received the Vanderford Faculty Award in Support of Undergraduate Research, Creative, and Scholarly Activity and in 2007 he received the Hauptman Fellowship Award for engaging students in research. From 2004-2007, he served as a Faculty Mentor for the Summer Bridge component of the NSF SURE-STEP Program. Dr. Wilson has given over 90 presentations, the majority of which are co-authored with students at regional, national, and international conferences. His students have presented their research at the Oklahoma State Capitol and at the annual Posters on the Hill event in Washington, D.C.



Dr. Anton Wohlers, Cameron University, is Associate Professor of Political Science and Academic Research Director at Cameron University. His academic work and publishing has focused on aspects of public policy, including e-government, biotechnology's role in society, and economic development policy. As part of this role as Academic Research Director, he has encouraged undergraduate research on the campus of Cameron University by organizing Oklahoma Research Day and other events aimed at involving students in research. He holds a Ph.D. in Political Science from Northern Illinois University (2004), where he studied the role of neighborhood groups in local agenda-setting.

Proceedings publication by **Gerry Cherry**, right, MA, CRA, member of the

Emeritus Faculty Association, University of Central Oklahoma, mentor, Oklahoma State Regents for Higher Education Summer Grant Writing Institute, 2005-2008 and 2010-2012.

