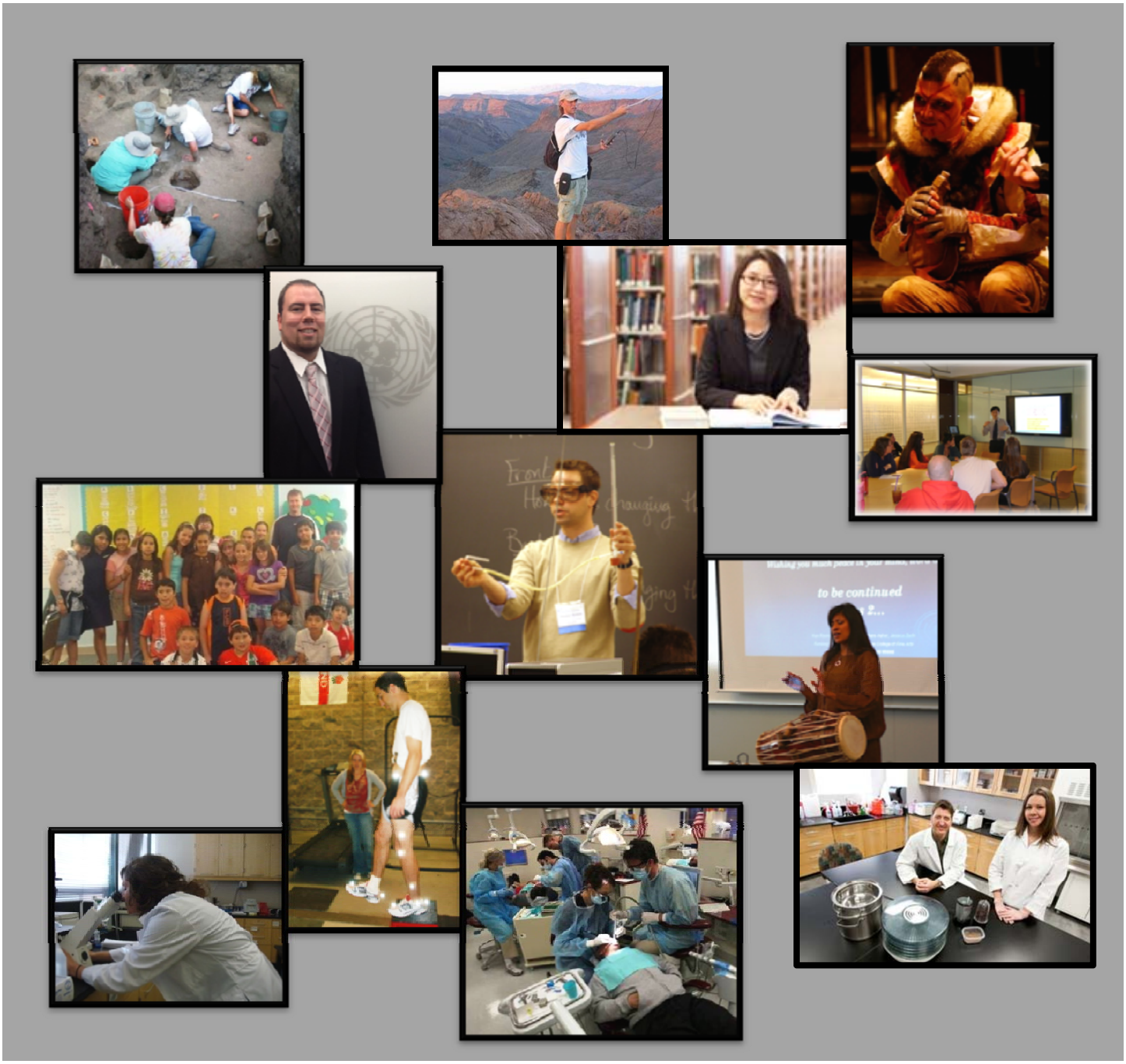
Graduate & Professional Student Research Forum



Saturday, March 16, 2013: 8:30am – 1:30pm
Student Union 2nd floor
University of Nevada, Las Vegas

UNLV

University of Nevada Las Vegas

The Graduate & Professional Student Research Forum is co-hosted by the Graduate & Professional Student Association and the Graduate College

We'd like to thank the faculty judges and student volunteers. Without your support this event would not be possible.

2013 Graduate & Professional Student Research Forum
Schedule of Events

2013 Graduate & Professional Student Research Forum
Schedule of Events

Poster Sessions (cont.)

9:00 – 10:00am	Science and Engineering Session B: Ballroom	
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10:00 – 11:00am	Science and Engineering Session B: Ballroom	
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9:00 –10:00am	Social Science Session A: Ballroom	
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9:00 – 10:00am	Education, Art and Hotel Session A: Ballroom	
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Noon – 1:30pm **Luncheon and Awards Ceremony** **Ballroom**

2013 Graduate & Professional Student Research Forum *at a Glance*

Science & Engineering Platform Session A: Room 205

9:30 – 9:45am	Beryilium Inhibits Kinase Activity of Glycogen Synthase Kinase Beta Enzyme. *Authors:* Ataur Rahman Mohammed Abdul and Ronald K. Gary, Department of Chemistry
9:45 – 10:00am	The Stiffening Effect of a Caliche Layer on Pile Foundations. *Author:* Rouzbeh Afsharhasani, Department of Civil and Environmental Engineering and Construction
10:00 – 10:15am	What do Biochemistry Students Learn from Some Common External Representations of Protein Translation? *Authors:* Thomas Bussey and MaryKay Orgill, Department of Chemistry
10:15 – 10:45am	**Break**
10:45 – 11:00am	An Examination of Walkability in the Las Vegas Metropolitan Area. *Author:* Courtney Coughenour, School of Public Health
11:00 – 11:15am	Nevada's GEAR UP: Developing and Formalizing a Needs Analysis for Professional Development in STEM Education. *Authors:* Eshani Gandhi, MaryKay Orgill, Department of Chemistry and PG Schrader, Department of Teaching and Learning
11:15 – 11:30am	Do These Genes Make My Fatbody Look Big? Lipid Homeostasis in *Drosophila Melanogaster* Selected for Starvation Resistance. *Author:* Christopher Hardy, School of Life Sciences
11:30 – 11:45am	Comparing the Surface and Bulk Properties of Cu-poor and Cu-rich Prepared CuInSe2 Solar Cell Absorbers. *Authors:* Kim Horsley, Valerie Depredurand, Regan G. Wilks, Michael G. Weir, Sarah L. Alexander, Roberto Felix, Dominic Gerlach, Monika Blum, Lothar Weinhardt, Marcus Bär, Susanne Siebentritt and Clemens Heske, Department of Chemistry

Science and Engineering Platform Session B: Room 207

9:30 – 9:45am	Liquid Flow in Coarse Porous Stones: Experimental Investigation of Macro- and Micro-Scale Characteristics. *Authors:* Jeevan Jayakody and Michael Nicholl, Department of Geoscience
9:45 – 10:00am	Dynamic Model Development of Performance Indices for Planning of Sustainable Transportation Systems. *Authors:* Romesh Khaddar, Pankaj Maheshwari, Pushkin Kachroo, Alexander Paz and Shyalan Neveen, Department of Electrical and Computer Engineering

2013 Graduate & Professional Student Research Forum *at a Glance*

Science and Engineering Platform Session B: Room 207 (cont.)

10:00 – 10:15am Vulnerability of Older Flat Plate Buildings to Progressive Collapse. *Authors:* Jinrong Liu and Ying Tian, Department of Civil and Environmental Engineering and Construction

10:15 – 10:45am **Break**

10:45 – 11:00am Early Mississippian Positive Carbon Isotope and Its Link to Cooling Events. *Author:* Dev Maharjan, Department of Geoscience

11:00 – 11:15am New N-nitrosodimethylamine (NDMA) Precursors that React with Ozone: Evaluation of NDMA Yields and Implications to the Application of Ozone in Water Reuse. *Author:* Erica Marti, Department of Civil and Environmental Engineering and Construction

11:15 – 11:30am LAT1 mRNA Expression in Oral Squamous Cell Carcinoma Cells. *Authors:* Samuel Oh, Nicholas P. Booth, Wells Brockbank, Matthew Thacker, Vivi Baldwin and Karl Kingsley, School of Dental Medicine

11:30 – 11:45am Vitamin D3 Effects on Oral Cancer Proliferation in Vitro. *Authors:* Javid Osafi, Ali Hejazi, Derek D. Stutzt, Mark Keiserman, Christine Bergman and Karl Kingsley, School of Dental Medicine

Science & Engineering Platform Session C: Room 208A

9:00 – 9:15am The Shale Record of Proterozoic Biospheric Evolution and Ocean Oxygenation Through Metal-Iron-Sulfur Geochemistry in the Vindhyan Basin, India. *Author:* Swapan Sahoo, Department of Geoscience

9:15 – 9:30am Kinematics and Timing of Intra-Core Shear Zones in the Footwall of the Boundary Canyon Detachment, Funeral Mountains Metamorphic Core Complex, Death Valley, CA. *Authors:* Katrina M. Sauer and Michael L. Wells, Department of Geoscience

9:30 – 9:45am Structure of Minimotif Important for Predicting Protein-protein Interactions. *Author:* Surbhi Sharma, School of Life Sciences

9:45 – 10:00am Framework Development for Cost Comparison of DOT Contracting Methods. *Authors:* Kishor Shrestha and Pramen Shrestha, Department of Civil and Environmental Engineering and Construction

10:00 – 10:30am **Break**

2013 Graduate & Professional Student Research Forum *at a Glance*

Science & Engineering Platform Session C: Room 208A (cont.)

10:30 – 10:45am Green Chemistry Approach: Amine Syntheses via Reduction of nNitro Compounds using Sodium Sulfide in Water Medium. *Authors:* Ontida Tanthmanatham, Pradip K. Bhowmik, and Haesook Han, Department of Chemistry

10:45 – 11:00am The In Vitro Cytotoxic Effects of Cisplatin Analogues in Cancer and Normal Cells. *Authors:* Van Vo, Ontida Tanthmanatham, Haesook Han, Pradip K. Bhowmik and Bryan L. Spangelo, Department of Chemistry

11:00 – 11:15am Developing Interview Guides to Investigate Instructors' and Students' Perceptions of Acid/Base Concepts in General and Organic Chemistry. *Author:* Sarah A. Wood, Department of Chemistry

11:15 – 11:30am An Area-Time Efficient Architecture for 16x16 Decimal Multiplications. *Authors:* Ming Zhu and Yingtao Jiang, Department of Electrical and Computer Engineering

Social Science Platform Session A: Room 208B

9:00 – 9:15am Testing the Relationship between Direct and Indirect Relational Memories Evidence from Eye Movements. *Author:* Wei An, Department of Psychology

9:15 – 9:30am Mortuary Ritual and Identity among the Ancestral Tarahumara. *Author:* Cheryl Anderson, Department of Anthropology

9:30 – 9:45am Commemorating the Dead at the Harris Site: Bioarchaeological and Mortuary Contributions**.** *Author:* Kathryn Baustian, Department of Anthropology

9:45 – 10:00am Comparison of Postnatal Ketamine Dosage on Behavioral Deficits in Adulthood. *Authors:* Monica M. Bolton, Chelcie F. Heaney, Jonathan J. Sabbagh, Andrew S. Murtishaw, Christy M. Magcalas and Jefferson W. Kinney, Department of Psychology

10:00 – 10:30am **Break**

10:30 – 10:45am The Relationships between Body Surveillance, Body Shame, and Contextual Body Concern during Sexual Activities in Ethnically Diverse Female College Students. *Authors:* Kimberly Claudat, Cortney S. Warren and Robert T. Durette, Department of Psychology

2013 Graduate & Professional Student Research Forum *at a Glance*

Social Science Platform Session A: Room 208B (cont.)

10:45 – 11:00am Violence on the Kiel Ranch: Memory Work, Deathscapes & Suburban Development in Northern Las Vegas, 1976- . *Author:* John Crandall, Department of Anthropology

11:00 – 11:15am Examining Household Identity Through Lithic Technology at the Harris Site. *Author:* Justin DeMaio, Department of Anthropology

11:15 – 11:30am The Quest for the Missing Cattle on Cyprus from the Later Neolithic until the Early Bronze Age. *Author:* Katelyn DiBenedetto, Department of Anthropology

Social Science Platform Session B: Room 208C

9:00 – 9:15am A Bird Cannot Fly With One Wing: A Study of Women's Responses to and Attitudes Towards Sexual Infidelity in Montego Bay, Jamaica. *Author:* Dana Foster, Department of Anthropology

9:15 – 9:30am Using a Learning Task to Alter Implicit Associations for African American Males. *Authors:* Veronica A. Glover, Jennifer L. Rennels, Verin W. Valdez and Krystal Kamekona, Department of Psychology

9:30 – 9:45am Gifts From the Living to the Dead: Animistic Practices in Ancient Thailand. *Authors:* Krystal Hammond, Jennifer Thompson and Debra Martin, Department of Anthropology

9:45 – 10:00am Alterations to GABAB Receptors in Development Produce Deficits in Adults. *Author:* Chelcie Heaney, Department of Psychology

10:00 – 10:30am **Break**

10:30 – 10:45am Employing Freedom of Information Act (5 U.S.C. § 552) Data in Archaeological Research. *Author:* Levi Keach, Department of Anthropology

10:45 – 11:00am The Use of Mental Imagery in the Construction of Spatial Representations. *Authors:* Kathleen Larson and David Copeland, Department of Psychology

11:00 – 11:15am Guided Emotion Regulation and Physiological Response: A Validation Study of Behavioral and Psychophysiological Reactions to Unpleasant and Neutral Stimuli. *Authors:* Bern Lee, Gregory Strauss and Daniel Allen, Department of Psychology

2013 Graduate & Professional Student Research Forum *at a Glance*

Social Science Platform Session B: Room 208C (cont.)

11:15 – 11:30am Antlerworking at Körtik Tepe (SE Turkey) during Pre-Pottery Neolithic A (PPNA). *Authors:* Sarah MacIntosh and Levent Atici, Department of Anthropology

Social Science Platform Session C: Room 209

9:30 – 9:45am Ketamine-induced Behavioral and Cellular Alterations of Learning and Memory. *Authors:* Andrew S. Murtishaw, Jonathan J. Sabbagh, Chelcie F. Heaney, Monica M. Bolton, Christy M. Magcalas and Jefferson W. Kinney, Department of Psychology

9:45 – 10:00am Korean Christian Masculinity: Protestantism and Gender Identity in Korea's Reform era, 1884-1910. *Author:* Alex Nelson, Department of Anthropology

10:00 – 10:15am The Role of Retroactive Interference in Recognition Memory: Consolidation, Degree of Mental Effort, and Similarity. *Author:* Caleb J. Picker, Department of Psychology

10:15 – 10:30am Implicit Theories of Intelligence and Learning a Novel Mathematics Task. *Author:* Nathan O. Rudig, Department of Psychology

10:30 – 11:00am **Break**

11:00 – 11:15am Functional Capacity in Schizophrenia: Relationship Among Effort, Reinforcement Learning and Self-Beliefs. *Authors:* Sally Vogel, Erik Ringdahl and Daniel Allen, Department of Psychology

11:15 – 11:30am Psychometric Properties of the Body Checking Questionnaire in Non-clinical College Women. *Authors:* Emily K. White, Kim Claudat, Sarah C. Jones, Kimberly A. Barchard and Cortney S. Warren, Department of Psychology

11:30 – 11:45am Preparation, Consumption, or Storage? Organic Residue Analysis of Archaeological Ceramics from the Harris Site, Southwestern New Mexico. *Authors:* Aaron R. Woods and Barbara J. Roth, Department of Anthropology

Social Science and Hotel Platform Session D: Room 211

8:30 – 8:45am The Online Gambling "e-Servicescape". *Author:* Brett Abarbanel, Department of Hospitality Administration

Social Science and Hotel Platform Session D: Room 211 (cont.)

8:45 – 9:00am Chinese Soft Power: Friendship Instead of Fearship. *Author:* Jonathan Bradley, Department of Political Science

9:00 – 9:15am Historical Patterns of the Culture Industry in America. *Author:* Christopher T. Conner and David R. Dickens, Department of Sociology

9:15 – 9:30am What Attitudes towards Prostitution Tells Us about our Society. *Author:* Denise Cook, Department of Sociology

9:30 – 9:45am Accommodating Highly Apprehensive Students in the Basic Course. *Author:* Lauren Galloway, Department of Communication Studies

9:45 – 10:00am Ethical Glass Ceiling. *Author:* Michael Gordon, School of Environmental and Public Affairs

10:00 – 10:30am **Break**

10:30 – 10:45am New Media History: Methods, Best Practices and Technical Obstacles Found in Accessing Identity and Community through Voices of NEW Leadership Nevada**.** *Author:* Kristin Guthrie, Department of History

10:45 – 11:00am A Study of U.S. State Renewable Portfolio Standard Stringencies Using Policy Innovation, Diffusion and GeoSpatial Models. *Author:* Laurence Helwig, School of Environmental and Public Affairs

11:00 – 11:15am Inawemaagen and Meyaagizid (Relatives and Strangers): Ojibwe Peoplehood from 1850 to 1950. *Author:* Margaret Huettl, Department of History

11:15 – 11:30am Emerging Distribution Channels and Rate Parity. *Authors:* Lan Jiang and Mehmet Erdem, Department of Hospitality Administration

11:30 – 11:45am Sexecology & the Ecosexual Movement: Making Global Social Critique More Sexy, Fun and Diverse. *Author:* Jennifer Reed, Department of Sociology

Social Science and Law Platform Session E: Room 213

9:00 – 9:15am The Syrian Conflict and Sectarian Divide. *Author:* Autoosa Kojoori-Saatchi, Department of Political Science

9:15 – 9:30am My Lai: Critical War Coverage of Vietnam Atrocities. *Author:* Jennifer Liese, School of Journalism and Media Studies

2013 Graduate & Professional Student Research Forum *at a Glance*

Social Science and Law Platform Session E: Room 213 (cont.)

9:30 – 9:45am Policy Priorities to Address Childhood Obesity. *Authors:* Courtni Low and John Wagner, School of Environmental Studies and Public Affairs and Jennifer Lucas, School of Public Health

9:45 – 10:00am A Place at the Table, A Table of Our Own: Claiming Space and Transnational Identity in the Las Vegas Filipino Community. *Author:* Rachel Macfarlane, Department of Sociology

10:00 – 10:30am **Break**

10:30 – 10:45am Planning a City and Building a Community. *Author:* Angela Moor, Department of History

10:45 – 11:00am You Can Make This Stuff Up: The Intersection between Fiction and News in the Eighteenth Century. *Author:* Jean Norman, School of Environmental Studies and Public Affairs

11:00 – 11:15am United Sides: Constitutive Rhetoric and President Barack Obama's November 22, 2011 Speech. *Author:* Milene Ortega Ribeiro, Department of Communication Studies

11:15 – 11:30am "I am my own Master, Left to my own Direction": Periphery, Center, and the Liberalization of the American Catholic Church, 1773-1789. *Author:* Nicholas Pellegrino, Department of History

11:30 – 11:45am International Human Rights and Comparative Law Practicum in New Delhi, India - Project Report. *Authors:* Morgan Petrelli and Marisa Rodriguez-Shapoval, School of Law

Social Science and Hotel Platform Session F: Room 218

8:30 – 8:45am A Different Kind of Education: Exploring the League of Women Voters Struggle for Equal Education in Las Vegas. *Author:* Carrie Sampson, School of Environmental and Public Affairs

8:45 – 9:00am Agriculture and Activism: Community Gardening, Choice, and the Complexities of Combining Causes. *Author:* Tyler Schafer, Department of Sociology

9:00 – 9:15am The Acceptance of Mobile Learning from Older Workers Perspectives. *Author:* Jung Eun Song, School of Environmental and Public Affairs

2013 Graduate & Professional Student Research Forum *at a Glance*

Social Science and Hotel Platform Session F: Room 218 (cont.)

9:15 – 9:30am Casino Employee Perceptions of Gambling and Problem Gambling. *Authors:* Sarah St. John, Department of Sociology and Brett Abarbanel, Bo Bernhard and Debi LaPlante, Department of Hospitality Administration

9:30 – 9:45am Killing Me Softly: Historic Preservation of the San Pedro Los Angeles & Salt Lake Railroad Cottages. *Author:* Joseph Thomson, Department of History

9:45 – 10:00am Communication within the Medical Field: Implications Derived from Communication between Physicians, Parents, and Pediatric Patients. *Author:* Chelsi Walls, Department of Communication Studies

10:00 – 10:30am **Break**

10:30 – 10:45am The Historic Strife: Massachusetts and the Civil War's Temporal Modes. *Author:* Jordan Watkins, Department of History

10:45 – 11:00am The Visible Athlete and the Racial Politics of College Football. *Author:* Joseph Watson, Department of History

11:00 – 11:15am Blogging the Branded Self: Goffman in Hypermodernity. *Author:* Jennifer Whitmer, Department of Sociology

11:15 – 11:30am Marriage, Homestead, and (In)Dependent Citizenship: Newspaper Coverage of Impacts of the Expatriation Act of 1907 on American Women in the U.S. West. *Author:* Shiori Yamamoto, Department of History

11:30 – 11:45am The Abatement Cost of Renewable Portfolio Standards Policies in Reducing Carbon Emissions in the United States**.** *Author:* Reagan Rockzsfforde, Department of Economics

Art and Humanities Platform Session A: Room 219

8:30 – 8:45am Music and Teacher National Association (MTNA) Competition. *Author:* Zheni Atanasova, Department of Music

8:45 – 9:00am Love is Overtaking Me. *Author:* Lauren Adkins, Department of Art

9:00 – 9:15am The Voyage of the Man Who Fell to Earth. *Author:* Jay Scott Grow, Department of Art

Art and Humanities Platform Session A: Room 219 (cont.)

9:15 – 9:30am	"My Married Man" (short story). *Author:* Jean Ho, Department of English
9:30 – 9:45am	Building a Foundation: Preliminary Visit to Mexico. *Author:* Dana Killmeyer, Department of English
9:45 – 10:00am	Battling Siki: The Forgotten Champ. *Author:* Joseph Langdon, Department of English
10:00 – 10:30am	**Break**
10:30 – 10:45am	The International Percussion Festival in Cordoba, Argentina. *Author:* A.J. Merlino, Department of Music
10:45 – 11:00am	Lay to Rest. *Author:* Camilla Oldenkamp, Department of Art
11:00 – 11:15am	Love Goes Toward Love as Schoolboys from their Books: Private Romeo and the Cinematic Queering of Romeo and Juliet. *Author:* Anthony Guy Patricia, Department of English
11:15 – 11:30am	Writing Jewish Culture and Identity in Poland and Lithuania. *Author:* Samantha Samson, Department of English

Education Platform Session A: Room 222

9:30 – 9:45am	Predicting Student Teachers' Conceptions of Teaching Science with Their Conceptions of Learning Science, Epistemological Beliefs, and Approaches to Learning Science. *Authors:* Elif Adibelli, Mustafa Sami Topcu and Hasan Deniz, Department of Teaching and Learning
9:45 – 10:00am	An Analysis of Chinese Han and Mongolian Students Mathematics Understanding. *Authors:* Lina DeVaul and Zhong Minzu Zhiyong, Department of Teaching and Learning
10:00 – 10:15am	Relationship between Different Science Teaching Strategies and Science Achievement. *Authors:* Su Gao, Zhong Zhiyong and Jian Wang, Department of Teaching and Learning
10:15 – 10:45am	**Break**

2013 Graduate & Professional Student Research Forum *at a Glance*

Education Platform Session A: Room 222 (cont.)

10:45 – 11:00am Motivation and Cultural Immersion in the Study of Second Language Gesture Acquisition. *Author:* Christie Gardner, Department of Educational Psychology and Higher Education

11:00 – 11:15am What Influence can Working with Science and Math Faculty Mentors have on Changing Dispositions Toward Science, Technology, Engineering, and Math (STEM) Fields in Preservice Teachers? *Authors:* Pamela Maher, Janelle Bailey, Dale Etheridge and Dale Warby, Department of Teaching and Learning

11:15 – 11:30am "Why Teach?" Comparing Prospective Teachers' Initial Motivation to Teach in U.S. and China. *Authors:* Qingmin Shi, Emily Lin, Jian Wang and Shaoan Zhang, Department of Teaching and Learning

Science & Engineering Poster Session A: Ballroom

Posters 1 – 4: Judging at 8:30 – 9:30am

1. Interpretation of Phosphate Mobility on Mars Using Terrestrial Mars-analog Basalts and Reactive Transport Modeling. *Authors:* Christopher Adcock and Elisabeth Hausrath, Department of Geoscience

2. Removal of Perfluoroalkyl Compounds from Water Using Anion Exchange Resins. *Author:* Nastaran Afnani, Department of Civil and Environmental Engineering and Construction

3. The Role of Tumor Necrosis Factor Alpha in PAF-AH Expression**.** *Authors:* Sabrina Dragan, Mohammed Abdel-Al and Katherine M. Howard, School of Dental Medicine

4. Effect of Racing Flats on Running Economy in Male Adolescent Runners. *Authors:* Paul Hafen and Antonio Santo, Department of Kinesiology and Nutrition Sciences

Posters 5 – 8: Judging at 9:30 – 10:30am

5. Relationship of Global DNA Methylation with Cardiovascular Fitness and Body Composition. *Authors:* Michael Jarrett and James Navalta, Department of Kinesiology and Nutrition Sciences

6. Energy Audits in Wastewater Treatment Systems: A Review of Literature**.** *Authors:* Dinesh Kandel, Jacimaria Batista and Sajjad Ahmad, Civil and Environmental Engineering and Construction

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Science & Engineering Poster Session A: Ballroom (cont.)

7. New Treatments for American Foulbrood: Using the Microbe's Biology Against It. *Authors:* Jasmin Khilnani (Smith), Michelle Elekonich, Ernesto Abel-Santos, Penny Amy, Helen Wing, Israel Alvarado and Diane Yost, School of Life Sciences

8. Synthesis of Poly(pyridinium salt)s Containing Fluorene Moieties in the Main-Chain with Various Organic Counterions. *Authors:* Jung Jae Koh, Tae Soo Jo, Haesook Han, Jongwon Park, Bidyut Biswas and Pradip K. Bhowmi, Department of Chemistry

Posters 9 – 12: Judging at 10:30 – 11:30am

9. Fibronectin and Collagen-I May Modulate Dental Pulp-Derived Stem Cell Proliferation**.** *Authors:* Kelcey Loveland, Colby Meeder, Charles K. Hill and Karl Kingsley, School of Dental Medicine

10. Identifying a Novel Human Gene Expressed in Mesenchymal Dental Pulp. *Authors:* Seyed (Iman) Mohammadi, Sheila Heraypur and Karl Kingsley, School of Dental Medicine

11. Effect of Nano Silica on Transport Properties of Self Consolidating Concrete. *Authors:* Borhan Moradi and Meysam Najimi, Department of Civil and Environmental Engineering and Construction

12. Lower Extremity Range of Motion and Movement Variability Changes Due to Focus of Attention During Landing. *Authors:* Andrew D. Nordin and Janet S. Dufek, Department of Kinesiology and Nutrition Sciences

Science & Engineering Poster Session B: Ballroom

Posters 13 – 16: Judging at 9:00 – 10:00am

13. Two Nucleoid Associated Proteins Mediate Silencing of the icsP Promoter in *Shigella Flexner***.** *Authors:* Michael Picker, Hiro Park and Helen J. Wing, School of Life Sciences

14. PCR Screening of Saliva for *Scardovia wiggsiae* in Southern Nevada**.** *Authors:* Lindsay Row, Jeremy Catmull, Matthew R. Repp, Cody Heslington, Tyson Miller, Jordan Diamond and Karl Kingsley, School of Dental Medicine

15. Modeling Passive Solar Distillation. *Author:* Noe Santos, Department of Civil and Environmental Engineering and Construction

16. Regressive eXogenous Method for Modeling the Dynamics of a Spatial Light Modulator. *Authors:* Stephanie Shreck and Shahram Latifi, Department of Electrical and Computer Engineering

2013 Graduate & Professional Student Research Forum *at a Glance*

Science & Engineering Poster Session B: Ballroom (cont.)

Posters 17 – 20: Judging at 10:00 – 11:00am

17. Analysis of Crash Statistics of Towns along Rural Highways of Nevada. *Authors:* Krishna Shrestha, Pramen Shrestha, Aly Said and Ying Tian, Department of Civil and Environmental Engineering and Construction

18. Post-fire Colonization of Desert Mosses: Effects of Fires and Dispersal in Space and Time. *Author:* Robert Smith, School of Life Sciences

19. The Influence of Inert Mineral Filler Gradation on Self-Consolidating Concrete's Transport Properties. *Authors:* Rebecca Spitek and Nader Ghafoori, Department of Civil and Environmental Engineering and Construction

20. Ichnology and Paleoecology of the Jurassic Aztec Sandstone**.** *Authors:* Heather Stoller and Steve Rowland, Department of Geoscience

Posters 21 – 23: Judging at 11:00 – 11:45am

21. Dental Pulp-Derived Stem Cell Differentiation Markers may Determine ECM Responsiveness**.** *Authors:* Chelsie Todd, Aubrey Knavel, Charles K. Hill and Karl Kingsley, School of Dental Medicine

22. Reliability and Validity of the HPI Osteo Caliper and Body Composition Formula. *Authors:* Kimberly Trocio, Christopher Chavez, Jon Garcia, Lawrence A. Golding, Judy Goldman, Paul Hafen, Audra Hannston, Stephen Harris, Michael Jarrett, Krystina Moschella, Suzenna Ngo, Mariana Pencheva, Hanaa Shaheen, Greg Stalker, Richard Tandy, Stephanie Watson and Antonio S. Santo, Department of Kinesiology and Nutrition Sciences

23. Dissolution of Amorphous AL-and FE-Phosphates and Implications for Phosphate Mobility on Mars**.** *Authors:* Valerie Tu and Elisabeth Hausrath, Department of Geoscience

Social Science Poster Session A: Ballroom

Posters 24 – 27: Judging at 9:00 – 10:00am

24. Examining the Benefits of Testing with Mathematical Learning. *Authors:* Nicole J. Bies-Hernandez, David E. Copeland, Nathan O. Rudig, Alex M. Moore and Mark H. Ashcraft, Department of Psychology

25. The Dynamics of Infant Interest in Female and Male Faces. *Authors:* Andrew Cummings and Jennifer Rennels, Department of Psychology

2013 Graduate & Professional Student Research Forum *at a Glance*

Social Science Poster Session A: Ballroom (cont.)

26. Prehistoric Paleontologists of the Mimbres Valley, New Mexico. *Authors:* Lauren Falvey and Brett T. McLaurin, Department of Anthropology

27. Rocks, Rocks, Rocks, and More Rocks: Sourcing Virgin Anasazi Obsidian. *Authors:* Timothy Ferguson, Karen Harry and Jeff Ferguson, Department of Anthropology

Posters 28 – 31: Judging at 10:00 – 11:00am

28. Ecuador: The Politics of Oil Preservation and Development *Author:* Maria Jose Flor Ágreda, Department of Political Science and Honors College

29. Mental Representations of Characters in Narratives: Managing Information from Text and Images. *Authors:* Kris Gunawan, Adam B. Osman, David E. Copeland and Kathleen G. Larson, Department of Psychology

30. Cranial Depression Fractures of the Frontal Bones from a Bronze Age Arabian Commingled Tomb. *Authors:* Ryan P. Harrod, Anna J. Osterholtz and Debra L. Martin Department of Anthropology

31. Family-Farming Therapy: A Literature Review. *Author:* Felisa Huene, Marriage and Family Therapy Program

Posters 32 – 34: Judging at 11:00 – 11:45am

32. Dynamic Presentation Does Not Augment Infants Intermodal Knowledge of Males. *Authors:* Andrea J. Kayl, Erica C. Noles and Jennifer L. Rennels, Department of Psychology

33. Obsidian Sourcing from Three Virgin Anasazi Sites in the Moapa Valley, Nevada. *Author:* Tatianna Menocal, Department of Anthropology

34. Attitudes about Math and Writing: Were You Just "Born" That Way? *Authors:* Alex M. Moore, Mark H. Ashcraft, Nathan O. Rudig and Thomas H. Carr, Department of Psychology

Social Science Poster Session B: Ballroom

Posters 35 – 38: Judging at 9:00 – 10:00am

35. Neurocognitive Differences in Children with ADHD and LD. *Author:* Elyse Parke, Department of Psychology

2013 Graduate & Professional Student Research Forum *at a Glance*

Social Science Poster Session B: Ballroom (cont.)

36. The Hormonal Correlates of Posttraumatic Stress Disorder in Female Veterans. *Authors:* Meghan Pierce, Emily Hensleigh, John Egan and Laurel Pritchard, Department of Psychology

37. Psychometric Properties of the Sociocultural Attitudes Towards Appearance Questionnaire-3 in American College Students from Four Ethnic Groups. *Authors:* Liya Rakhkovskaya, Cortney Warren and David Gleaves, Department of Psychology

38. Corrugated Vessels as Signature: Household Identity at the Harris Site, New Mexico. *Author:* Danielle Romero, Department of Anthropology

Posters 39 – 42: Judging at 10:00 – 11:00am

39. Towards Solidarity Tourism: A Critical Analysis of "Revolution" Tourism *Author:* Mark Salvaggio, Department of Sociology

40. Factors Associated with Discontinuance of Child Custody in Mothers Referred by Child Protective Services. *Authors:* Jessica Urgelles, Chelsey Wilks, Michelle Pitts and Brad Donohue, Department of Psychology

41. Differences in the Detection of Pitch Changes within a Music and Speech Context. *Authors:* Christina Vanden Bosch der Nederlanden, Erin E. Hannon and Joel Snyder, Department of Psychology

42. Auditory Perception Deficits are Present in Patients with Bipolar Disorder with Psychotic Features. *Authors:* RyAnna Verbiest, Nicholas S. Thaler, Joel Snyder, Jefferson Kinney and Daniel N. Allen, Department of Psychology

Posters 43 – 46: Judging at 11:00 – 11:45am

43. Relations between Memory Abilities and Premorbid Adjustment Abnormalities in Patients with Schizophrenia. *Authors:* Mary Vertinski, Daniel Allen, Nicholas Thaler, James Gold, Robert Buchanan and Gregory Strauss, Department of Psychology

44. Bent Out of Shape: Warping In Virgin Branch Ancestral Puebloan Ceramics. *Author:* Thomas Wambach, Department of Anthropology

45. Building a Taxonomy of Fantasy Football Player Types. *Author:* Kyle Yim, School of Journalism and Media Studies

46. A Feature-based Method for the Determination of the Minimum Number of Individuals from the Tell Abraq Tomb, UAE. *Authors:* Anna Osterholtz and Debra Martin, Department of Anthropology

2013 Graduate & Professional Student Research Forum *at a Glance*

Education, Hotel and Art Poster Session A: Ballroom

Posters 47 – 50: Judging at 9:00 – 10:00am

47. Data-Based Decision Making for Secondary Educators in Content Areas to Support Achievement. *Authors:* Wendie Lappin Castillo, Catherine Howerter and Lidia Sedano, Department of Educational and Clinical Studies

48. BYOD Policies and Generation Z: The Hotel Industry Perspective. *Authors:* Daniel Crinson, Mehmet Erdem and Alison Green, Department of Hotel

49. Analysis of Two US History Textbooks: Providing Comprehensive Portrayals of Minorities. *Authors:* Zaid Haddad, Jesus Garcia and Allison Smith, Department of Teaching and Learning

50. Parental Perceptions of Relationships between Parents of Children with Autism and Teachers. *Author:* Yun-Ju Hsiao, Department of Educational and Clinical Studies

Posters 51 – 54: Judging at 10:00 – 11:00am

51. Defining Employee Engagement for Casino Resort: A Qualitative Approach. *Authors:* HeeJung Kang and Mehmet Erdem, Department of Hospitality Administration

52. Mixed Media Research and Artwork. *Author:* Rebecca Pugh, Department of Art

53. Pigments for Paintings. *Author:* Lisa Rock, Department of Art

54. Critical Literacy: A Content Analysis of Special Education Textbooks. *Author:* Patrick Leytham, Department of Educational and Clinical Studies

Posters 54 – 55: Judging at 11:00am – noon

55. Student Teacher Perceptions and Initial Habits for Grading Practices. *Authors:* Brandon Yost and Jian Wang, Department of Teaching and Learning

56. An Assessment of Hotel Technologies and Projects: Perspectives of Hoteliers. *Authors:* Yun Ying Zhong and Mehmet Erdem, Department of Hospitality Administration

Graduate & Professional Student Research Forum
Science and Engineering
Platform Session A
UNLV Student Union Room 205

9:30 – 9:45am	Ata ur Rahman Mohammed Abdul, Department of Chemistry
9:45 – 10:00am	Rouzbeh Afsharhousani, Department of Civil and Environmental Engineering and Construction
10:00 – 10:15am	Thomas Bussey, Department of Chemistry
10:15 – 10:45am	***Break***
10:45 – 11:00am	Courtney Coughenour, School of Public Health
11:00 – 11:15am	Eshani Gandhi, Department of Chemistry
11:15 – 11:30am	Christopher Hardy, School of Life Sciences
11:30 – 11:45am	Kim Horsley, Department of Chemistry

Beryilium Inhibits Kinase Activity of Glycogen Synthase Kinase Beta Enzyme
Ataur-Rahman Mohammed Abdul and Ronald K. Gary, Department of Chemistry

Glycogen Synthase Kinase 3 Beta (Gsk-3β) is a very important cellular enzyme. Gsk-3β is an important component of Wnt-signalling pathway, PI3K/AKT/mTOR pathway and hedgehog pathway indicating the importance of Gsk-3β in cellular homeostasis. The dysregulation of pathways controlled by Gsk-3β may lead to development of human diseases like Cancer, Diabetes, Bipolar disorder and Alzheimer's disease. Taking into account the physiological importance of Gsk-3β, it is necessary to investigate its role in mammalian cells. For this purpose, development of small molecule inhibitors of Gsk-3β is imperative. The best known small molecule inhibitor of Gsk-3β is lithium. Our research shows that beryllium inhibits the in vitro kinase activity of Gsk-3β at a very low concentration of 30 μM compared to Lithium.

To analyze the in vivo effect of beryllium on Gsk-3β kinase activity certain target proteins of Gsk-3β like Tau, Glycogen synthase and β-Catenin were selected. In our present study we show that mammalian glioblastoma cells A172 treated with beryllium show elevated levels of β-Catenin in their nuclei. The accumulation of β-Catenin in the A172 nuclei under the influence of beryllium can be attributed to the inhibition of kinase activity of Gsk-3β. This study demonstrates the role of beryllium in the inhibition of kinase activity of Gsk-3β both in vitro and in vivo.

The Stiffening Effect of a Caliche Layer on Pile Foundations

Rouzbeh Afsharhasani, Department of Civil and Environmental Engineering and Construction

Caliche is a hardened sedimentary deposit of calcium carbonate that occurs worldwide, generally in arid or semiarid regions and is frequently encountered in Las Vegas, Nevada. The presence of caliche layers in a soil profile when compared to a homogenous soil profile affects the response of deep foundations to axial load. This paper studies the stiffening effect of caliche layers on the settlement and load distribution of a pile foundation. Three dimensional (3D) finite element analyses have been performed on typical sized piles to evaluate the response in a layered soil-caliche profile. The outcomes indicate that the stiffening effect from the caliche is significant, and a caliche layer with a relative thickness of one pile width reduces the pile settlement by about 50%. The shear stress distribution indicates that the load from the pile is transferred to the caliche layer, which then results in beam or plate action in vertical direction. This plate action induces additional load on the pile from downward movement of the surrounding soil, similar to pile down drag.

Science and Engineering Platform Session A – Room 205
10:00 – 10:15am

What do Biochemistry Students Learn from Some Common External Representations of Protein Translation?

Thomas Bussey and MaryKay Orgill, Department of Chemistry

Biochemistry educators often rely on external representations to provide working models from which students can construct, evaluate, and revise their internal representations of abstract, non-experiential cellular events. However, it is unclear how students perceive and interpret these representations and what students actually learn from these representations. In this presentation, I will discuss our use of Variation Theory to explore what biochemistry students learn from common external representations of protein translation and some of the implications of this information for ongoing research about external representations.

An Examination of Walkability in the Las Vegas Metropolitan Area

Courtney Coughenour, School of Public Health

Introduction: The benefits to regular physical activity are well established. Walkability is one element of the built environment that has been correlated with increased levels of physical activity. The auto-centric design of Las Vegas Metropolitan area (LVMA) is unique in ways that may influence walkability. The purpose of this study was to determine if including urban design characteristics unique to LVMA into the standard walkability index more accurately predicted walking behaviors, thus resulting in a more sensitive measure of walkability in moderate-income neighborhoods in LVMA. Methods: The standard walkability measure developed by Frank et al. (2010) was used to calculate the walkability index of ten neighborhoods. Residents of the two most walkable and two least walkable neighborhoods were then surveyed on their walking and physical activity levels and perceptions of neighborhood environment as it pertained to walking. Logistic regression was used to determine what factors predicted meeting the recommended amount of physical activity.

Results: A total of 147 survey responses were collected. Logistic regression revealed that neither the standard walkability index, nor the index which included design characteristics unique to LVMA significantly predicted meeting the physical activity recommendations.

Discussion: Results suggest that the auto-centric design of LVMA may be so unique that those factors which have been associated with walking in previous studies are not associated with walking in LVMA. Further analysis of both physical and social factors relating to walkability is necessary to determine what actions are needed to increase walking and physical activity in LVMA.

Nevada's GEAR UP: Developing and Formalizing a Needs Analysis for Professional Development in STEM Education

Eshani Gandhi, MaryKay Orgill, Department of Chemistry and PG Schrader, Department of Teaching and Learning

GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) is a national program that offers state and partnership grants to increase the number of low-income students who are prepared to enter and succeed in postsecondary education. As a member of Nevada's GEAR UP project, the University of Nevada, Las Vegas is tasked with developing and providing professional development experiences for STEM (Science, Technology, Engineering, and Mathematics) teachers from 18 high-poverty, underperforming middle schools from throughout the state. In this presentation, we will discuss the design of a needs analysis that will 1.) identify the needs of STEM teachers at the targeted middle schools and 2.) inform the development of the professional development experiences. We will also discuss preliminary results from the needs analysis.

Do These Genes Make My Fatbody Look Big? Lipid Homeostasis in *Drosophila Melanogaster* Selected for Starvation Resistance

Christopher Hardy, School of Life Sciences

While research into obesity has consistently shown a correlation between elevated fat stores and an increased risk of cardiovascular disease, the mechanisms driving these effects are largely unknown. Using the fruit fly, *Drosophila melanogaster* as our model system we have artificially selected for starvation resistance, which has led to the evolution of extremely obese flies. We asked whether the elevated fat stores in these flies would lead to heart disease and provide us a way to investigate the mechanisms of obesity-induced cardiac disease in our model system. Preliminary results, measured by video microscopy, demonstrated a dilated cardiomyopathy in our obese flies marked by decreased contractility. Because the development of the heart has many conserved pathways between flies and humans, we believe we have a compelling model to study the physiology of obesity and how it leads to heart disease. Our preliminary experiments looking for a mechanistic link have seemingly ruled out fat storage in the heart itself. Our results contrast with flies that are fed a fatty diet as these flies store fat in the heart, and this leads to increased instances of cardiac dysfunction. We tentatively take these results to indicate that our flies have evolved a mechanism to increase fat storage in their adipose tissue while protecting against fat accumulation in the heart. This protective mechanism may be why our flies, while more obese, experience a lesser degree of cardiac dysfunction than flies on a high fat diet. We hypothesize that the dilated cardiomyopathy seen in our flies is a result of the excess fat tissue stretching the muscles that allow the heart to relax. Ultimately uncovering the genetic networks that regulate lipid homeostasis in our obese flies will be the next step in understanding how they can store excess fat without spilling it into other tissues like the heart.

Comparing the Surface and Bulk Properties of Cu-poor and Cu-rich Prepared CuInSe2 Solar Cell Absorbers

Kim Horsley, Valerie Depredurand, Regan G. Wilks, Michael G. Weir, Sarah L. Alexander, Roberto Felix, Dominic Gerlach, Monika Blum, Lothar Weinhardt, Marcus Bär, Susanne Siebentritt and Clemens Heske, Department of Chemistry

Solar cells use material interfaces to produce a potential, which causes electrons excited by sunlight to flow as current. CuInxGa(1-x)Se2 (CIGSe) is a promising absorber material used in solar cells, which has recently achieved a competitive conversion efficiency of 20.4%. This high efficiency is achieved by growing the absorber layer Cu-poor , which produces beneficial surface (and thus interface) characteristics. However, there are many beneficial bulk characteristics seen in Cu-rich absorbers, such as lower defect density, higher electron mobility and larger grain size.

A series of Cu-poor and Cu-rich grown absorbers (Cu-poor, Cu-rich and Cu-rich treated) were fabricated, with the final goal of producing a high-efficiency Cu-rich bulk solar cell with a Cu-poor surface. This Cu-rich treated sample was prepared by depositing a Cu-rich absorber, then treating the surface with a KCN etch and a subsequent InxSey deposition and annealing to produce a Cu-poor surface while maintaining a Cu-rich bulk.

The samples were investigated by photoelectron spectroscopy using UV (UPS) and x-ray (XPS) radiation, as well as by soft x-ray emission spectroscopy (XES). By combining these techniques we achieve a non-destructive depth-profile of the chemical and electronic structure from the surface into the bulk. In comparing the Cu-rich treated sample with a Cu-poor grown sample, we find the treated sample shows a strong reduction in Cu and Na at the surface. A widening of the band gap towards the surface is also observed, which is a characteristic of high-efficiency chalcopyrite solar cells. Cu-In-Se ratios are also presented, to determine the success and characteristics of this preparation method.

Graduate & Professional Student Research Forum
Science and Engineering
Platform Session B
UNLV Student Union Room 207

9:30 – 9:45am	Jeevan Jayakody, Department of Geoscience
9:45 – 10:00am	Romesh Khaddar, Department of Electrical and Computer Engineering
10:00 – 10:15am	Jinrong Liu, Department of Civil and Environmental Engineering

10:15 – 10:45am Break

10:45 – 11:00am	Dev Maharjan, Department of Geoscience
11:00 – 11:15am	Erica Marti, Department of Civil and Environmental Engineering
11:15 – 11:30am	Samuel Oh, School of Dental Medicine
11:30 – 11:45am	Javid Osafi, School of Dental Medicine

Liquid Flow in Coarse Porous Stones: Experimental Investigation of Macro- and Micro-Scale Characteristics

Jeevan Jayakody and Michael Nicholl, Department of Geoscience

The overall objective of this study is to better understand unsaturated flow structure in dual-permeability media (DPM) such as: granular soil, gravel, crushed stone, and fractured rocks. Spatially and temporally non-uniform flows were observed in a DPM composed of coarse porous stones. It is believed that flow mechanisms at contacts between the stones (solid contacts and liquid bridges) produced the observed flow structure. Liquid flow between two porous solids across a mm to cm-scale hydraulic contact will be investigated in the next phase. The liquid bridge connecting two vertical disks (~15 mm diameter) will be imaged using a digital microscope over a range of flow rates and at different orientations with respect to the gravitational field. The geometry and stability of the liquid bridge under experimental conditions will be evaluated by analyzing digital images. Influence of the size of a liquid bridge that connects two porous solids on the flow distribution within solid matrices will be tested using a numerical model. The model will simulate steady-state flow within the matrix of a vertical disk and a sphere, whose inflow and outflow boundaries are defined by liquid bridges. Volumetric flow rate in the system and distribution of fluid flux in the matrix will be evaluated after varying the size of the liquid bridges between simulations. Outcome of this study will help to improve existing conceptual and mathematical models that predict unsaturated flow in DPM.

Dynamic Model Development of Performance Indices for Planning of Sustainable Transportation Systems

Romesh Khaddar, Pankaj Maheshwari, Pushkin Kachroo, Alexander Paz and Shyalan Neveen, Department of Electrical and Computer Engineering

Sustainability has recently become a very important research area in transportation because of the dependencies between transportation, economic and environmental system. A lot of research is taking place in various aspects that try to understand the inter-dependencies. However, there is a need to capture the behavior of such systems over time. The research presented in this paper is the first attempt to build dynamic models that try to capture the interdependent behavior of these systems. The research is influenced and motivated by the predator-prey models developed by renowned researchers Lotka and Volterra. The current study is performed to capture the interaction between interdependent systems i.e. transportation system, activity system, and environmental system. To study the interactions from a macro-scale, this research emphasizes non-linear modeling techniques to capture the nominal behavior of all the three systems. The results indicate that the performance of transportation system and the activity system follow a periodic behavior with phase lag, while the performance of environment system decreases with time. The modeling approach proposed in this research will be helpful to other researchers so that they can modify and enhance such models for proper analysis of sustainable systems.

Vulnerability of Older Flat Plate Buildings to Progressive Collapse

Jinrong Liu and Ying Tian, Department of Civil and Environmental Engineering and Construction

Progressive collapse can be triggered by a sudden loss of a load bearing element, such as an exterior or interior column, resulting in disastrous consequences. Previous research on the behavior of progressive collapse generally focused on structural frames with limited attention given to other structural types. There are large inventories of reinforced concrete flat-plate structures designed in accordance with pre-1990s ACI code without slab bottom reinforcement continuity and shear reinforcement. However, the progressive collapse of flat-plate structures has not been systematically investigated. To date, the experimental data on progressive collapse of flat-plate structures is extremely limited. Therefore, a reliable analytical approach is needed to predict the potential of progressive collapse of the older flat-plate structures.

In this study, a macro model is proposed for reinforced concrete flat-plate structures for progressive collapse analysis. By using beam analogy concept, the macro model is able to describe complex behavior associated with flexure, shear and torsion as well as punching failure at slab-column connections. The model is first validated through simulation to tests of slab-column connections subjected to two types of loading. A failure criterion that significantly reduces the dispersion of predicted failure is adopted and validated using the macro model. To study the vulnerability of the old flat-plate structures, the macro model is then applied to the progressive collapse analyses of a multi-story flat-plate building in the scenarios of removing a load-bearing column. It is found that old flat-plate buildings are prone to progressive collapse under abnormal events.

Early Mississippian Positive Carbon Isotope and its Link to Cooling Events

Dev Maharjan, Department of Geoscience

The significant shift of oxygen isotopes has been used in Earth history to decipher icehouse and greenhouse climate which has a casual link to the carbon isotope excursion. Generally, positive shift in both oxygen ($\delta 18O_{carb}$) and carbon ($\delta^{13}C_{carb}$) isotopes in carbonate rocks reflect cooling event in response to the organic carbon burial (Saltzman, 2000). In contrary, recent observation from Star Range (Utah) showed highly negative $\delta^{18}O_{carb}$ (-30‰) values across Early Mississippian positive carbon isotope excursion (ca. 351 Ma) which has been recognized globally from numerous stratigraphic successions (Mii et al., 1999; Buggisch et al., 2008). In the geological record, such a depleted $\delta^{18}O_{carb}$ value in equatorial palaeolatitude is only possible when carbonate minerals are thermally altered or precipitated from glacial meltwater (Himmler et al., 2008). Previously documented high $^{87}Sr/^{86}Sr$ ratios and enriched $\delta^{18}O_{carb}$ (> -14‰) in contemporaneous carbonates negate the possibility of hydrothermal effect. Thus, I propose that the $\delta^{18}O_{carb}$ depleted values from the Star Range carbonates are the signature of meteoric water derived from ice-sheet melt. This hypothesis is partially supported by the stratigraphic records and by the simple modeling of temperature dependent fractionation of the calcite-water system (Zhou and Zheng, 2006) with water/rock ratio less than 1. However, petrographic analyses, major and trace element concentrations, $^{87}Sr/^{86}Sr$ ratios, clay mineralogy, organic carbon isotope ratios and clumped isotopes in carbonates will be used to deduce possible climate cooling. This research will provide better understanding the possible mechanism of oxygen and carbon cycle that help climate prediction during Early Mississippian time.

Science and Engineering Platform Session B – Room 207
11:00 – 11:15am

New N-nitrosodimethylamine (NDMA) Precursors that React with Ozone: Evaluation of NDMA Yields and Implications to the Application of Ozone in Water Reuse

Erica Marti, Department of Civil and Environmental Engineering and Construction

Nitrosamines are a toxic class of disinfection byproducts commonly associated with disinfection via chloramination, but recent studies indicate that direct formation during ozonation is a possible pathway. Six nitrosamines are listed in U.S. EPA's Unregulated Contaminant Monitoring Rule 2, several nitrosamines are included on the most recent U.S. EPA Contaminant Candidate List, and the California Department of Public Health (CDPH) has already established drinking water notification levels of 10 ng/L for N-nitrosodimethylamine (NDMA), N-nitrosodiethylamine, and N-nitrosodi-n-propylamine. The formation of nitrosamines may be a significant barrier to the use of ozonation in water reuse applications, particularly for indirect potable reuse. One way to prevent nitrosamine formation is to determine compounds (i.e., precursors) that lead to its formation and remove them prior to ozonation. Only a few studies have determined precursors for NDMA formation due to ozonation. In this work, fourteen compounds were chosen based on literature and chemical structure. Precursors were spiked into the water matrix and ozonated water was added at a 10x molar excess. Of the fourteen compounds, four had previously been reported to be NDMA precursors associated with ozonation and six new compounds resulted in NDMA formation. Other results include an assessment of bromide for enhancing NDMA formation, comparison of NDMA formation in water matrices, the effects of ozone dose and hydrogen peroxide addition on NDMA formation after ozonation, and a comparison of NDMA formation by ozonation and chloramination.

LAT1 mRNA Expression in Oral Squamous Cell Carcinoma Cells

Samuel Oh, Nicholas P. Booth, Wells Brockbank, Matthew Thacker, Vivi Baldwin and Karl Kingsley, School of Dental Medicine

Objective: Oral cancers are slow developing tumors that affect thousands of individuals in the US annually. Evidence has shown that these cancers can create microenvironments to enhance their progression, survival and metastasis characteristics. Cancer cells will compete for extracellular nutrients with normal tissue cells, which can cause irregularities in immune regulation of progressive cancers. Recent evidence in other types of cancers have suggested that tumor cells may actually upregulate the consumption of extracellular L-tryptophan and increase the export of cytosolic kynurenine using the transmembrane antiport LAT1 transporter, byproducts of tryptophan dioxygenase (TDO) and Indolamine 2,3-dioxygenase (IDO) metabolism of tryptophan. These kynurenines have been linked to suppression of local immune response of T-cells. The primary goal of this study was to evaluate existing oral cancer cell lines to assess tryptophan dioxygenase (TDO), Indolamine 2,3-dioxygenase (IDO) and LAT1 expression.

M**ethods**: RNA was isolated from the oral cancer cell lines SCC25, SCC15, and CAL27, that was subsequently screened for TDO, IDO and LAT1 expression using mRNA specific primers and RT-PCR.

Results: These results demonstrated that IDO and TDO are expressed in the SCC25, SCC15, and CAL27 oral cancer cell lines and that enzyme expression was positively correlated with tumor growth. Additionally, it was observed that LAT1 expression was restricted to the most rapidly proliferating cell lines, CAL27 and SCC25.

Conclusions: With no real treatment advances in many years and survival rates remaining relatively unchanged, these results provide further knowledge in the understanding of oral cancer mechanisms and function that may lead to future treatment modalities and contribute to research regarding future treatments.

Key Words

Indoleamine 2,3-dioxygenase (IDO), tryptophan dioxygenase (TDO), oral squamous cell carcinoma (OSCC), LAT1 transporter

Vitamin D3 Effects on Oral Cancer Proliferation in Vitro

Javid Osafi, Ali Hejazi, Derek D. Stutzt, Mark Keiserman, Christine Bergman and Karl Kingsley, School of Dental Medicine

Objectives: Epidemiologic evidence suggests that low serum Vitamin D levels are associated with an increased risk of cancer, and more recent experimental studies have suggested that Vitamin D (and metabolites) may be sufficient to inhibit the development and progression of many human cancers. Although well established for many cancers, few studies have addressed the effects of low Vitamin D serum levels and Vitamin D deficiency and increased cancer risk in oropharyngeal cancers - which was the primary objective of this study.

Methods: Three well characterized oral cancer cell lines CAL27, SCC15 and SCC25 were utilized. 1,25(OH)2D3 was administered in three day growth assays using 96-well assays. The concentration range of Vitamin D evaluated was 0 - 100 nmol; approximating the circulating concentrations in normal human serum (20-150 nmol).

Results: Administration of 1,25(OH)2D3 was sufficient to inhibit oral cancer proliferation and growth at all time points in a dose-dependent manner. More specifically, the growth inhibitory maximum (GIMAX) concentration of 1,25(OH)2D3 on CAL27 growth was observed at 50 nmol, inhibiting growth by 20.0%. The GIMAX concentration on SCC25 growth was observed at 20 nmol, inhibiting proliferation by 11.24%, while the GIMAX concentration on SCC15 growth was observed at 20 nmol, inhibiting growth by 54.56%.

Conclusions: Although there may be complicating issues regarding vitamin D intake and alcohol or tobacco consumption, the currently reported data provide justification to evaluate and examine these effects *in vivo*. With recently observed Vitamin D deficiencies rising in Western countries, along with cancer risk, these studies may provide evidence that vitamin D supplementation may be one possible, low-cost method for both cancer prevention and oral cancer treatment and growth suppression.

Graduate & Professional Student Research Forum
Science and Engineering
Platform Session C
UNLV Student Union Room 208A

9:00 – 9:15am	Swapan Sahoo, Department of Geoscience
9:15 – 9:30am	Katrina Sauer, Department of Geoscience
9:30 – 9:45am	Surbhi Sharma, School of Life Sciences
9:45 – 10:00am	Kishor Shrestha, Department of Civil and Environmental Engineering and Construction
10:00 – 10:30am	***Break***
10:30 – 10:45am	Ontida Tanthmanatham, Department of Chemistry
10:45 – 11:00am	Van Vo, Department of Chemistry
11:00 – 11:15am	Sarah Wood, Department of Chemistry
11:15 – 11:30am	Ming Zu, Department of Electrical and Computer Engineering

The Shale Record of Proterozoic Biospheric Evolution and Ocean Oxygenation Through Metal-Iron-Sulfur Geochemistry in the Vindhyan Basin, India

Swapan Sahoo, Department of Geoscience

Earth's surface environment was devoid of oxygen for almost half of its history, restricting eukaryote evolution and primary productivity limiting organic carbon burial and hence oxygen buildup. The protracted increase of oxygen in Earth's ocean atmosphere system is believed to have proceeded in two major steps. First, during the early Proterozoic, also known as the Great Oxidation Event (~2.4 Gyr ago) and a second significant oxygen rise to near atmospheric level, during the late Neoproterozoic (750 542 Myr ago), finally paving the way for metazoan diversification. It is thus tempting to understand the links between ocean chemistry and evolution of the biosphere between the two major oxygenation events.

Low pO2 in the Proterozoic led to stratified oceans with widespread euxinic (available hydrogen sulfide) conditions, but debate continues regarding the extent of euxinia across various water depths, with strong implications for the availability of biolimiting trace metals and ocean habitability for early eukaryotes. This study with new results will represent a step towards addressing two fundamental Earth Science questions: First, was euxinia widespread at various intervals within the Vindhyan Basin? If yes, did temporal changes occur in trace metal availability within the Vindhyan Basin related to increasing biospheric oxygenation and/or expansion of euxinia? Second, how was the fate of early eukaryotes linked to oceanographic changes and metal limitation? Ultimately, the results of this study will bridge a significant gap in our understanding of biospheric and environmental changes through the mid-Proterozoic a critical juncture in Earth's history.

Kinematics and Timing of Intra-Core Shear Zones in the Footwall of the Boundary Canyon Detachment, Funeral Mountains Metamorphic Core Complex, Death Valley, CA

Katrina M. Sauer and Michael L. Wells, Department of Geoscience

Metamorphic core complexes within the North American Cordillera pose an enigmatic problem in their unroofing histories, as it is controversial whether they were exhumed strictly in the Cenozoic, or rather during polystage Mesozoic and Cenozoic extensional exhumation. The Funeral Mountains form the easternmost boundary of Death Valley National Park, and provide an excellent opportunity to study the exhumation history of the Funeral Mountains metamorphic core complex (FMMCC). The FMMCC is developed within the footwall (lower plate) of the Boundary Canyon Detachment (BCD) and exposes high-grade metamorphic rocks that record multiple deformational events. Within the core complex there are multiple, stacked shear zones(intra-core shear zones), which potentially accommodated a large amount of Late Cretaceous extension; this may have been responsible for much of the exhumation within the core complex, with subsequent Cenozoic reactivation of the intra-core shear zones that partially overprinted the earlier extensional fabrics.

The kinematics (geometry of motion) and timing of these intra-core shear zones are not well understood and will be characterized using petrographic microstructural analysis, thermochronology, geochronology, and geologic mapping in order to determine the deformation, cooling, and unroofing history of rock within the footwall of the BCD. Here we present the proposed analyses that will be utilized to discern between a single or polystage exhumation history for the FMMCC. This potential earlier extensional history within the FMMCC has applications for tectonic and kinematic models of the structural evolution of the North American Cordillera, and more broadly, will help to better understand the development of extensional settings.

Structure of Minimotif Important for Predicting Protein-protein Interactions

Surbhi Sharma, School of Life Sciences

Cells must perform a variety of highly regulated functions to survive including small molecule transport, cell division, and removal of waste material. One way cells regulate these functions is through proteins. A protein is made up of amino acids and can selectively interact with other proteins depending on the function required. These interactions occur via minimotifs. Currently, minimotifs are defined based on amino acid sequence as stretches of 2-15 amino acids present in proteins with a known function. However, based on the bioinformatics analyses performed in our laboratory, we have found that the current sequence-only based definition of minimotifs is incomplete and is missing a structural component. As a model system, our laboratory studied a well characterized protein (Grb2) and its known binding minimotif, XYXN (Y for tyrosine, N for asparagine and X could be any of the twenty known amino acids). There are more than 18,000 occurrences of the XYXN sequence in the human proteome. Based on the current sequence-based definition, we would expect Grb2 to bind with all of instances, however, this is not the case. It has been experimentally demonstrated that those currently identified natural binding partners of Grb2 have their XYXN motif in a type I beta turn (a type of protein structure). Further analysis of all XYXN sequences in the human proteome revealed that only a select portion of these instances occur in a type I beta turn. Based on this analyses, we hypothesize that one must also take into account structure when defining a mini-motif and attempting to determine the probability of an interaction between two proteins. To demonstrate the importance of including a structural component when defining minimotifs, I will perform large scale binding experiments that involve varying the structure and sequence of a minimotif. We predict that my results will support our hypothesis that structure is key and is needed when predicting protein-protein interactions based on mini-motif identity.

Framework Development for Cost Comparison of DOT Contracting Methods

Kishor Shrestha and Pramen Shrestha, Department of Civil and Environmental Engineering and Construction

In the United States, Departments of Transportation (DOTs) generally use three road maintenance contracting methods: In-House, contracts based on prescriptive-specification generally called Method-Based Contracting (MBC), and Performance-Based Contracting (PBC). The first two methods In-House and MBC use prescribed methods to maintain road works. On the other hand, the PBC method sets the performance standards or finished work quality of maintenance works to be complied by the contractor. The quality of work produced by these three contracting methods is not same. Therefore, the unit cost of the maintenance works performed by these three contracting methods cannot be compared without considering the quality of work produced. Most of the literature reviewed during this study conducted a mere comparison of the unit cost of maintenance works performed by these three methods without considering the quality. This study proposes a new framework of comparison of these contracting methods by considering both cost and quality of maintenance works. During this study, a comprehensive literature review related to the comparison of road maintenance contracting methods was conducted and synthesized. A new comparison method based on life-cycle or long-term cost of maintenance works is proposed in this study. A detailed framework of the comparison model is discussed, and the methodology to validate this model is described in detail. The cost and quality data currently is being collected. Therefore, the validation of this model is underway, and results will be reported in future.

Green Chemistry Approach: Amine Syntheses via Reduction of nNitro Compounds using Sodium Sulfide in Water Medium

Ontida Tanthmanatham, Pradip K. Bhowmik, and Haesook Han, Department of Chemistry

While synthetic chemicals have played important roles in improving our quality of life and communities, their synthetic processes raise global concerns. Green chemistry is an innovative approach which not only aims to reduce health risk of workers but also to minimize detrimental effects to the environment. Among synthetic chemicals, aromatic amines are an important class of organic compounds due to their multitude usages in pharmaceuticals and industrials. They are obtained by the reduction reactions of nitro compounds with various reducing reagents, many of which are toxic and/or known to produce harmful waste. In contrast, sodium sulfide is an attractive reducing reagent for the reasons of low cost, experimental safety, and its unique ability to perform the reduction reactions of organic compounds in water medium. Many organic compounds are known to have low solubility in water; however, our study shows that the reactions proceeded even if the starting nitro compounds have low solubility in water. In this project, several desired amine compounds ranging from simple to complex structure were successfully synthesized. The amount of reducing reagent used, reaction time, purification, verification and percent yield were monitored. The chemical structures of these amines were characterized by nuclear magnetic resonance spectroscopy, differential scanning calorimetry, and elemental analysis. This reaction gave high yields, but produced no toxic wastes, was superior to other known reduction methods in organic chemistry.

The In Vitro Cytotoxic Effects of Cisplatin Analogues in Cancer and Normal Cells

Van Vo, Ontida Tanthmanatham, Haesook Han, Pradip K. Bhowmik and Bryan L. Spangelo, Department of Chemistry

About 50% of cancer chemotherapeutic regimens consist of platinum-based drugs. Cisplatin (CDDP) was the first platinum(II) complex approved for clinical treatment by the U.S. Food and Drug Administration (FDA) in 1978. Along with cisplatin, two other platinum(II) complexes, carboplatin and oxaliplatin, are now approved for use worldwide. Although commonly prescribed, clinical application of platinum drugs is limited due to narrow spectra of activity, cellular resistance, and toxic side effects. As a consequence of these drawbacks, the search for improved drugs continues with the goal of discovering compounds with greater efficacy and reduced toxicity.

Cisplatin is not routinely used for the treatment of breast cancer since many breast cancers are resistant to cisplatin treatment; however, it has been reported that some breast cancers are sensitive to cisplatin. In an effort to develop improved platinum drugs for the treatment of breast cancers, new platinum-complexes (with substituted 2,2′-bipyridyl moiety coordinated to a platinum center) have been synthesized. In vitro studies in various human breast cancer cells demonstrated that these compounds are much more potent than cisplatin. One of the synthesized complexes was also tested in a normal human breast cell line and was found to be more toxic to the normal cells compared to cancer cells. However, when this compound was tested in vivo in a mouse model, the animals survived after administration of the compound at a dose of 12.5 mg/kg/day for three days. Further studies are required to assess the potential translation of these compounds into clinical use.

Developing Interview Guides to Investigate Instructors' and Students' Perceptions of Acid/Base Concepts in General and Organic Chemistry

Sarah A. Wood, Department of Chemistry

Success in sophomore organic chemistry is influenced by a number of factors, including a student's ability to comprehend and use mechanisms. Students' ability to correctly use mechanisms is affected, in turn, by their understanding of foundational concepts taught in general chemistry courses, such as electronegativity, Lewis structures, and acid/base concepts. We are currently developing a project to examine students' understanding of one of these foundational topics—acid/base concepts—and how students' understanding of that foundational topic changes as they progress from general to organic chemistry. As part of that project, we have developed interview guides designed to elicit students' understandings of acid/base concepts from multiple perspectives. We have also developed instructor interview guides that will allow us to examine how instructors' expectations for student learning about acid/base concepts change as students progress from general to organic chemistry. In this presentation, we will discuss the interview guides and their development.

An Area-Time Efficient Architecture for 16x16 Decimal Multiplications

Ming Zhu and Yingtao Jiang, Department of Electrical and Computer Engineering

With growing demands of decimal computations in scientific, financial and many other key applications, area-time efficient hardware implementation of decimal arithmetic is desired. In this paper, we present a parallel architecture for the fixed-point decimal multiplications based on the 8421 BCD representation. By reducing the entries of partial product pre-computations and using a tree structure with carry-lookahead adders (CLAs) as opposed to carry-save adders (CSAs), a significant speedup of the partial product generations (PPGs) and partial product accumulations can be achieved, while at the same time, the hardware overhead can be reduced. The 16×16 decimal multiplier using the proposed architecture with a TSMC 90nm technology compares favorably against three other best known decimal multiplier designs in terms of delay-area product.

Graduate & Professional Student Research Forum
Social Science
Platform Session A
UNLV Student Union Room 208B

9:00 – 9:15am	Wei An, Department of Psychology
9:15 – 9:30am	Cheryl Anderson, Department of Anthropology
9:30 – 9:45am	Kathryn Baustian, Department of Anthropology
9:45 – 10:00am	Monica Bolton, Department of Psychology
10:00 – 10:30am	***Break***
10:30 – 10:45am	Kimberly Claudat, Department of Psychology
10:45 – 11:00am	John Crandall, Department of Anthropology
11:00 – 11:15am	Justin DeMaio, Department of Anthropology
11:15 – 11:30am	Katelyn DiBenedetto, Department of Anthropology

Testing the Relationship between Direct and Indirect Relational Memories Evidence from Eye Movements

Wei An, Department of Psychology

Human memories can be expressed either with or without consciousness, termed as explicit and implicit memories respectively. Different encoding manipulations such as levels of processing and full/divided attention have been shown to affect explicit memories but leave implicit memories relatively untouched. However, these dissociations were only found between explicit and implicit item memories, and whether the explicit and implicit relational memories will exhibit similar dissociations is still unknown. Since tracking subjects eye movement pattern has been used as the index of implicit relational memory in previous studies, here we plan to adopt the levels of processing and full/divided attention manipulations and to test subjects relational memories of landscape-object picture pairs either directly or indirectly while their eye movements are recorded. The influence of these manipulations on both explicit and implicit relational memories will be investigated so that we can see whether explicit and implicit relational memories dissociate in a similar way as explicit and implicit item memories. If implicit relational memory behaves like implicit item memory, then it will not be affected by our manipulations and the same dissociations between explicit and implicit item memories will be observed here between explicit and implicit relational memories. However, given the difference between item and relational memories, it is possible that both explicit and implicit relational memories will be affected by these manipulations and no dissociations will be observed, suggesting that all relational memories behave in the same way, no matter whether it is explicit or implicit.

Mortuary Ritual and Identity among the Ancestral Tarahumara

Cheryl Anderson, Department of Anthropology

This research provides evidence that supports the idea that the ancestral Tarahumara had a distinct cultural identity in the precolonial period extending back at least 600 years. The idea of a precontact Tarahumara cultural identity is based on mortuary data from archaeological sites that are consistent with ethnohistoric and ethnographic accounts of Tarahumara burial rituals. These ritual behaviors are linked to Tarahumara ideology and are quite distinct from other groups living in the region. The practices include the use of burial caves, multiple interments, wrapping bodies in mats and blankets, placement of fire next to the deceased and placement of grave goods such as food and personal items with the deceased. San Francisco de Borja (AD 1280-1400) is a precolonial mortuary cave site located in Chihuahua, Mexico and it was excavated in the 1950s by Richard and Sheilagh Brooks. A recent reanalysis of the human skeletal remains from this site has been performed and processes such as commingling, burning, and weathering were recorded. Additionally, grave items such as corn cobs, beads and pottery were located in the cave. The results of the analysis of the remains from this site show that the historic Tarahumara are descendants of these precolonial peoples.

Social Science Platform Session B – Room 208A
9:30 – 9:45am

Commemorating the Dead at the Harris Site: Bioarchaeological and Mortuary Contributions

Kathryn Baustian, Department of Anthropology

Recent archaeological excavations at the Harris Site in the Mimbres Valley, southwest New Mexico, included analysis of encountered burials. Bioarchaeological analysis was carried out in the field and at the Peabody Museum at Harvard University. Biological and mortuary data from a sample of individuals excavated during the 2011 and 2012 field seasons and Emil Haury's 1936 excavation are presented. Results suggest that the role of women in Mimbres society was significant to community social dynamics. At least one burial indicates special community or lineage importance as it displays mortuary characteristics rarely observed in the region. The context of this burial is compared to others noted at Mimbres sites to further understand the social and ritual significance of these atypical burial characteristics during the Late Pithouse period (AD 750-1000).

Comparison of Postnatal Ketamine Dosage on Behavioral Deficits in Adulthood

Monica M. Bolton, Chelcie F. Heaney, Jonathan J. Sabbagh, Andrew S. Murtishaw, Christy M. Magcalas and Jefferson W. Kinney, Department of Psychology

NMDA receptor-mediated synaptic activity is necessary in the normal development of various brain regions as well as for coordinated network activity. During development, NMDA receptors are involved in critical processes such as establishing synaptic contacts, neuronal migration, and synaptogenesis. In rat pups, administration of NMDA receptor antagonists during the first two weeks of postnatal life results in behavioral abnormalities in adulthood. These results have been shown using NMDA receptor antagonists, such as ketamine and PCP, and may have relevance to schizophrenia. Our laboratory has previously demonstrated that administration of the NMDA receptor antagonist ketamine at 8mg/kg during early postnatal brain development results in deficits in spatial learning and memory and sensorimotor gating in adulthood. This current study focuses on comparing the deficits observed in adulthood that result from administering different doses of ketamine (8mg/kg and 15mg/kg) in early post-natal development. The results indicate a change in the effects of ketamine on acoustic startle and sensorimotor gating. Contrary to the previously observed deficits in sensorimotor gating induced by 8mg/kg, subjects administered ketamine at 15mg/kg displayed a significant enhancement in acoustic startle, as well as significantly greater prepulse inhibition compared to saline controls. We are currently investigating cellular and molecular targets from both concentrations in order to determine differences that may be responsible for the above differences between the two concentrations. Our data indicate subtle changes in the extent to which NMDA receptor tone is altered in development produces different deficits in adulthood.

The Relationships between Body Surveillance, Body Shame, and Contextual Body Concern during Sexual Activities in Ethnically Diverse Female College Students

Kimberly Claudat, Cortney S. Warren and Robert T. Durette, Department of Psychology

Background: Extant research demonstrates objectification experiences can negatively influence the psychological functioning of women, particularly with regards to body image and sexual functioning. However, most existing research to date has investigated self-objectification and body image in European American, White women. To that end, the current study investigated the relationships between body surveillance, body shame, and contextual body image during sexual activity in an ethnically diverse sample of American female college students.

Method: 1174 American female undergraduate students of European, African, Asian, and Hispanic/Latina descent who endorsed being sexually active completed self-report measures of body surveillance, body shame, contextual body image during sexual activity, and demographic information.

Results: Analyses indicated that European American women reported significantly higher mean levels of body surveillance and body shame than women of other ethnic groups. In addition, a multiple-groups analysis testing body surveillance as a predictor of contextual body image during sexual activity mediated by body shame indicated that the hypothesized model fit the data for all ethnic groups, and all specified paths were upheld. Conclusions: Overall, these data indicate that body surveillance predicts body shame, which in turn predicts contextual body concern during sexual activities for college-aged women independent of ethnicity. This research suggests that prevention efforts and interventions aimed at reducing self-objectifying body surveillance and body shame are warranted in clinical contexts.

Violence on the Kiel Ranch: Memory Work, Deathscapes & Suburban Development in Northern Las Vegas, 1976-

John Crandall, Department of Anthropology

Between 1890 and 1900, a number of violent killings occurred in North Las Vegas at the region's first major outpost, the Kiel Family Ranch. Since 1984, Nevadans, scholars, and city officials have offered up various interpretations of the violent events which occurred on the ranch. Many times these narratives are linked to land rights debates about the historic property still located in North Las Vegas. Why do communities continue to remember the violence of Kiel Ranch? In this paper, I document the various historical narratives of the ranch that have emerged since the late 21st century. Through a discussion of the political nature of memory work, as well as through a discussion of land right struggles in Las Vegas since 1980, I seek to demonstrate that the ghosts of Kiel Ranch's past are more than mere folklore. Indeed, as the story of Kiel Ranch demonstrates, memories, violence, national myth and the dead are always entangled in the political campaigns of the living. Kiel Ranch has emerged as a deathscape, a place where the dead and their lives are manipulated as communities struggle to place the former ranch into new visions of a developing urban center. While the fate of the ranch is not entirely decided, I show how some memories, linked to national myths of the wild frontier, have partially preserved Kiel Ranch and have frozen it in time as a space where the living, the dead, city life and frontier tales co-exist tenuously.

Examining Household Identity through Lithic Technology at the Harris Site
Justin DeMaio, Department of Anthropology

Archaeologists often utilize material culture as an indicator of past social identitities. Subtle differences in the household stone tool technology of Mimbres Mogollon pithouses may reflect different learning frameworks of how tools were created, thus allowing for the detection of connections between those who learn from the same networks of people. Flintknapping, the process of creating stone tools, is a skill that requires close instruction and training so that the desired outcome can be achieved. Choices in raw material and stylistic attributes of stone tools and lithic cores may be a good indicator of how individuals were encultured to produce and use these implements. Analyzing chipped stone technology found in pithouses at the Harris Site, a Late Pithouse period (A.D. 550-1000) community in New Mexico, provides an avenue for understanding potential social links between households.

The Quest for the Missing Cattle on Cyprus from the Later Neolithic until the Early Bronze Age

Katelyn DiBenedetto, Department of Anthropology

One of the enigmas of early Cypriot prehistory is the disappearance of cattle for around four thousand years from the later Neolithic until the early Bronze Age. Current research has documented limited quantities of cattle remains from excavations at three early Cypriot Neolithic sites. Prior to this, cattle were thought to be entirely absent from the Cypriot Neolithic. But, we now know that the first introduction of cattle to Cyprus was around the early Neolithic; however, they disappear soon after this introduction. The situation on Cyprus differs from other Mediterranean islands where cattle are firmly established during the Late Neolithic. Similar to the mainland, cattle were economically and ritually significant from the Neolithic onward. It has been suggested that this disappearance may be due to ecological reasons, in particular that cattle herding strategies and subsistence patterns were not compatible with later full-scale Neolithic villages. The purpose of this presentation will be to examine whether islands with restricted resources, such as Cyprus, could have supported a cattle population from the later Neolithic to the early Bronze Age. This research is relevant to Near Eastern archaeology in that it will shed some light on the role that Mediterranean islands played in the diffusion of domesticates from the Near East throughout the Mediterranean basin; a process that is still not well understood. Furthermore, it also has both a broader anthropological and societal impact because this issue dealing with animals for managing resources is still of great importance to us today.

Graduate & Professional Student Research Forum
Social Science
Platform Session B
UNLV Student Union Room 208C

9:00 – 9:15am	Dana Foster, Department of Anthropology
9:15 – 9:30am	Veronica Glover, Department of Psychology
9:30 – 9:45am	Krystal Hammond, Department of Anthropology
9:45 – 10:00am	Chelcie Heaney, Department of Psychology

10:00 – 10:30am Break

10:30 – 10:45am	Levi Keach, Department of Anthropology
10:45 – 11:00am	Kathleen Larson, Department of Psychology
11:00 – 11:15am	Bern Lee, Department of Psychology
11:15 – 11:30am	Sarah MacIntosh, Department of Anthropology

A Bird Cannot Fly With One Wing: A Study of Women's Responses to and Attitudes Towards Sexual Infidelity in Montego Bay, Jamaica

Dana Foster, Department of Anthropology

Existing research on sexual infidelity is limited by sample sociodemographics in the following ways: age (most studies are of people in their 20s), nationality (primarily American samples, with less cross-cultural research), university undergraduates (limits socioeconomic variety), sex (most focus on male behavior, perception, and attitudes), and the context of marriage (omits a variety of relationship types). Additionally, most studies focus on motivations and correlates of engaging in sexual infidelity, rather than addressing women's responses to sexual infidelity. The goal of this study is to address these gaps in research while (a) documenting women's anticipated responses to their partner's sexual infidelity and (b) testing the relationship between education level and women's responses in a lesser-studied region of the world the Caribbean. Purposive sampling was used to recruit 105 participants to answer questionnaires about sexual infidelity either privately or in an interview format. Responses were later coded into appropriate categories to detect patterns in the data. Results show that a wide variety of women's anticipated responses to sexual infidelity exist, ranging from milder reactions such as discussions with the partner to more severe responses such as physical violence towards the partner and/or rival woman. Additionally, women of higher educational backgrounds were expected to end the relationship more than women of lower educational backgrounds after an occurrence of sexual infidelity. Explanations of trends in women's responses and alternative explanations are further explored.

Using a Learning Task to Alter Implicit Associations for African American Males

Veronica A. Glover, Jennifer L. Rennels, Verin W. Valdez and Krystal Kamekona, Department of Psychology

We investigated if a learning task affected implicit attitudes. Implicit attitudes are automatically activated associations between an object and an attribute, such as white and good (Greenwald & Banaji, 1995). In study one, participants (N = 333) viewed 0, 100, or 150 positive behavior messages (PBM) with 1 or 3 African American male faces individually displayed above the messages. Additionally, one group did not view the learning task. Participants then completed the single category implicit association test (SCIAT) with novel African American male faces and positive/negative adjectives. Participants in the 3 face/150 PBM group showed faster responding when faces were paired with positive rather than negative adjectives. Study two sought to extend these findings to the implicit association test (IAT) with novel African American and Caucasian male faces and positive/negative adjectives. Participants (N = 97) viewed 3 Faces/150 PBM, 5 Faces/200 PBM, or no learning task before completing the IAT. Participants did not show faster responding to African American/positive adjective pairings compared to Caucasian/positive adjective pairings. It may be easier to change the associative strength of a target and a concept when the person has a neutral attitude toward the target. These changes are evident when the target group is presented alone rather than in comparison with another group.

Gifts From the Living to the Dead: Animistic Practices in Ancient Thailand

Krystal Hammond, Jennifer Thompson and Debra Martin, Department of Anthropology

Grave offerings within burials are commonly thought to provide information about the spiritual beliefs of past populations and can be used to document changes in religious practices over time. For example, in Southeast Asia, the indigenous people originally practiced animism and ancestor veneration. Today, animistic customs are still often intermixed with the rituals of more recently introduced religions, such as Buddhism and Hinduism. However, relatively little is known of the particulars of prehistoric animistic practices. This paper will focus on 30 sub-adult and 60 adult burials from Non Nok Tha, Thailand (c 3,000 B.C. to 200 B.C.) with an emphasis on the ritual significance of burial assemblages that date to a time when animistic beliefs likely dominated. Results indicate that children under the age of six were buried with shell artifacts more frequently than were adults and, while almost all burials included ceramics, adolescents were buried with a disproportionately large number of ceramic vessels. Moreover, while variation in assemblage content indicates some social inequality, all sub-adults and most of the adults were interred with at least some grave offerings. These findings, when compared with data from other prehistoric sites in the region, suggest that burial offerings were an integral part of interring the dead. When mortuary behavior of this site is considered in light of ethnographic reports detailing indigenous animistic practices, Non Nok Tha burials provide interesting insights into the prehistoric practice of animism in Thailand.

Alterations to GABAB Receptors in Development Produce Deficits in Adults

Chelcie Heaney, Department of Psychology

The development of the central nervous system is a highly regulated and complex process, and during this time the neurotransmitter systems of the brain emerge. Changes to the proper development of the central nervous system may lead to the appearance of psychiatric disorders later in life. Studies have indicated that several disorders, including autism, schizophrenia, epilepsy, bipolar, and depression, demonstrate altered expression of the inhibitory neurotransmitter gamma-amino-butyric acid GABAB receptor. This particular receptor has also been demonstrated to help regulate network function between populations of neurons. In order to investigate the effect of altered GABAergic signaling in development on adult behavior, we administered the GABAB agonist baclofen and antagonist phaclofen at three time points during early brain development in rats. Subjects were then tested for sensorimotor gating in adulthood, and tissue was later collected and analyzed via western blot. Our data indicate that these early GABAergic alterations were sufficient to produce sensorimotor gating deficits as measured by prepulse inhibition. Additionally, we found several differences in GABAB receptor protein levels. Future investigations will encompass other behavioral tasks to help determine whether these developmental changes can be used as a model for psychiatric disorders that emerge during development and adolescence.

Employing Freedom of Information Act (5 U.S.C. § 552) Data in Archaeological Research

Levi Keach, Department of Anthropology

This paper will address the acquisition and employment of Freedom of Information Act requested data to address conservation questions in archaeology. The focus will be on lessons learned by the author on the Freedom of Information Act process while gathering data assessing the impact of Operation Iraqi Freedom on the cultural heritage of Iraq. This data will be presented before the upcoming meeting of the American Schools of Oriental Research as Assessing U.S. Military impact on Iraqi Cultural Heritage sites during Operation Iraqi Freedom using Freedom of Information Act requests. This research addresses a problem at the intersection of archaeology and civic life. Prior to the opening of hostilities between the United State and Iraq, the archaeological and scientific communities voiced concerns on the probable impact of armed conflict on the antiquities of Iraq. This took the form of a joint letter published by the Society for American Archaeology and The American Institute of Archaeology, later reprinted in the journal Science. Moreover, International law requires the United States to protect cultural property including archaeological sites within the theater of operations. As both citizens of a democracy and scientists it is the duty of the community to assess the outcome of the war. This research answers this duty.

Due to the ongoing state of research and in the interest of broader applicability, the discussion will primarily focus on the process of data acquisition and interpretation, both issues applicable across the social sciences.

The Use of Mental Imagery in the Construction of Spatial Representations

Kathleen Larson and David Copeland, Department of Psychology

This study examined the extent to which people use mental imagery or linguistic labels of objects in their mental representations (mental models) when reading descriptions of spatial layouts. Ehrlich and Johnson-Laird (1982) demonstrated that when people read descriptions of spatial layouts (e.g. The coffee is on the left of the plate. The plate is in front of the spoon. The spoon is on the left of the napkin) they try to form a coherent mental model of the spatial layout. Copeland and Radvanksy (2007) showed that performance improved dramatically when the stimuli were presented as pictures instead of sentences. The current study examined other factors that could potentially influence the use of mental imagery in memory for spatial layouts. Participants completed spatial memory tasks containing concrete and abstract nouns and were asked to draw layouts using pictures or words. There was an advantage for concrete over abstract objects in both recall conditions (picture and word) suggesting that people use mental imagery in the construction of mental models for spatial arrangements. These findings are consistent with an embodied cognition perspective (e.g., Zwaan, Stanfield, & Yaxley, 2002) that suggests that people activate perceptual representations, even when the task is text-based.

Guided Emotion Regulation and Physiological Response: A Validation Study of Behavioral and Psychophysiological Reactions to Unpleasant and Neutral Stimuli

Bern Lee, Gregory Strauss and Daniel Allen, Department of Psychology

A key aspect in understanding emotion lies in comprehending the processes by which we regulate emotional reactions to people, events, and other stimuli in our environment. Disturbances in emotional processing are thought to contribute to the onset and maintenance of a number of different mental disorders, such bipolar disorder and schizophrenia. Thus, it is essential to extend our understanding of emotional processing to the study of mental disorders, and in particular to identify those aspects of emotion processing that are impaired. Investigation of such aspects is not only theoretically important, but would allow for development of salient clinical treatments that have the potential to greatly improve the quality of life of those who suffer from these disorders. Several studies in healthy controls and in patients have investigated emotional reaction patterns using EEG, eye-tracking, and psychophysiological measures. Though much information is provided by these studies, such models have not yet been applied to the autonomic nervous system response to guided emotion regulation toward stimuli as an index of effective emotion regulation. Furthermore, no studies to date have examined the emotion regulation profiles of healthy controls, people with schizophrenia, and those with bipolar in conjunction with each other on such a guided task. The proposed study employs a guided emotion regulation paradigm that exposes participants to both negative and neutral stimuli, and analyzes the emotional response through indices of the autonomic nervous system such as respiratory sinus arrhythmia and electrodermal activity, as well as the behavioral responses to these stimuli.

Social Science Platform Session B – Room 208C
11:15 – 11:30am

Antlerworking at Körtik Tepe (SE Turkey) during Pre-Pottery Neolithic A (PPNA)
Sarah MacIntosh and Levent Atici, Department of Anthropology

The recent archaeological projects in southeastern Anatolia (Turkey) have shed new light on Neolithic archaeology and contributed to our understanding of the revolutionary changes in human lifeways during the Terminal Pleistocene and Early Holocene in southeastern Anatolia. Körtik Tepe is one of the relatively new Pre-Pottery Neolithic A (PPNA; 10th millennium BP) sites excavated in the region with extraordinary findings. A most exciting and a rather unique aspect of Körtik Tepe is its fascinating mortuary practices. Körtik Tepe has not only yielded a large number of burials (currently over 400) with rich and diverse grave goods and sophisticated symbolism, but also round architectural structures (currently over 115).

Sarah MacIntosh and Dr. Levent Atici from the Department of Anthropology present the preliminary results of analysis on antler technology to add new data to ongoing zooarchaeological and archaeological research at Körtik Tepe. The antlers are both utilitarian and symbolic and ritual in nature, and we specifically seek to document antler use and technology during a period of rapid social, ideological, and economic change at the end of the Pleistocene.

Graduate & Professional Student Research Forum
Social Science
Platform Session C
UNLV Student Union Room 209

9:30 – 9:45am	Andrew Murtishaw, Department of Psychology
9:45 – 10:00am	Alex Nelson, Department of Anthropology
10:00 – 10:15am	Caleb Jordan Picker, Department of Psychology
10:15 – 10:30am	Nathan Rudig, Department of Psychology
10:30 – 11:00am	***Break***
11:00 – 11:15am	Sally Vogel, Department of Psychology
11:15 – 11:30am	Emily White, Department of Psychology
11:30 – 11:45am	Aaron Woods, Department of Anthropology

Ketamine-Induced Behavioral and Cellular Alterations of Learning and Memory

Andrew S. Murtishaw, Jonathan J. Sabbagh, Chelcie F. Heaney, Monica M. Bolton, Christy M. Magcalas and Jefferson W. Kinney, Department of Psychology

Ketamine is a noncompetitive N-methyl-D-aspartate (NMDA) receptor antagonist that was originally developed as an anesthetic and painkiller. More recently, ketamine has been used therapeutically for major depressive disorder and has become a common drug of abuse. Sub-anesthetic administration of ketamine induces behavioral alterations when administered to rodents in sensorimotor gating, fear conditioning, and spatial learning and memory. Ketamine also induces alterations in several GABAergic markers, suggesting alterations in GABA-related signaling may be associated with the behavioral deficits. We have previously demonstrated that ketamine induces a change in GABAA and GABAB receptor protein levels. We also noted an unexpected increase in hippocampal PV-positive (PV+) interneuron number and location of the ketamine treated animals as compared to controls. This experiment was designed to examine the extent to which sub-anesthetic administration of ketamine induces an alteration in both behavior and overall number and location of GABAergic interneurons within various regions of the brain.

Korean Christian Masculinity: Protestantism and Gender Identity in Korea's Reform era, 1884-1910

Alex Nelson, Department of Anthropology

Anthropologists and historians have illustrated the complex implications conversion to Christianity has for the gender identity of female converts in Korea. In contrast, little is understood of the impact of conversion on men's identities and their relationships with non-Christian peers. Furthermore, the great majority of research on Christianity in Korea has attempted to explain Christianity's success and compatibility with the existing religions of the time. In contrast, I examine Christianity's introduction through a gendered lens and highlight points of contention between converts and non converts as they appear in autobiographical texts produced by North American missionaries to Korea and their early converts in the late 19th and early 20th century.

Conversion offered early converts an alternative path to status claims otherwise unavailable through traditional means. However, this status came with a cost born acutely by males who were compelled by missionaries and fellow converts to abandon ancestor worship and the consumption of alcohol and participate in new rituals which resembled more closely those of the Korean shamans that manage women's religious life than those of Confucianism. The result is a Korean Christian masculinity where men compete through acts of devotion to the church community at the expense of their relations with non Christian family and peers.

The Role of Retroactive Interference in Recognition Memory: Consolidation, Degree of Mental Effort, and Similarity

Caleb J. Picker, Department of Psychology

The rate of forgetting slows down over time, suggesting that memories become consolidated and thus strengthened from the interfering effects of forming new memories. This retroactive interference may work in one of two ways: in the first way, the mental effort involved in forming new memories steals resources normally used for consolidation of old memories; in the second way, newly formed memories may be confused for old memories at test if the interfering new memories are similar to old memories. We are interested in how these two types of retroactive interference affect subjects recollection of details associated with and their feelings of familiarity for both old and new memories. To this end, two experiments will first, examine how mental effort and consolidation processes interact and second, examine how mental effort and the similarity between interfering new memories and old memories interact to affect the processes underlying recognition memory performance. I will discuss what is known about these two theories of forgetting in an effort to derive predictions about how they might affect the processes underlying recognition memory. Then I will discuss plans for experiments designed to test these hypotheses.

Implicit Theories of Intelligence and Learning a Novel Mathematics Task

Nathan O. Rudig, Department of Pychology

The social-cognitive model of motivation states that students adopt a theory of the nature of intelligence that guides their goals in academia and their responses to academic setbacks. Students who believe intelligence is an unchanging entity within them are more likely to adopt goals to display high ability, hide low ability, and respond helplessly to failed schoolwork. Conversely, a student who believes intelligence is a measure of effort and persistence will be motivated to gather knowledge and acquire new skills; these students also respond to failure by increasing effort and trying new problem-solving techniques. The proposed project is designed to investigate the role theories of intelligence play in the field of mathematics understanding. It is hypothesized that students who believe intelligence is a malleable trait will persist and study longer in order to learn a novel mathematics challenge in modular arithmetic. Results from this study could generate research that explains the mechanisms of mathematics anxiety and threats to stereotype of the field of mathematics.

Functional Capacity in Schizophrenia: Relationship Among Effort, Reinforcement Learning and Self-Beliefs

Sally Vogel, Erik Ringdahl and Daniel Allen, Department of Psychology

Individuals with schizophrenia exhibit a wide range of complex neurocognitive, psychiatric and behavioral impairments. Recent research suggests that this complex array of symptoms can be at least partially accounted for by dysfunction in more basic mechanisms, such as the ability to learn from positive and negative reinforcement, or the ability to exert adequate effort when completing simple tasks. Evidence also suggests that deficits in these basic mechanisms may give rise to more complex symptoms such as defeatist beliefs. In turn, defeatist beliefs may further decrease effort as the individual develops negative beliefs about their ability to succeed, and may also contribute to impairment in functional outcomes. However, studies have not examined the relationships between these various constructs and so it is not clear how impairment in more basic processes relate to the development or maintenance of complex psychological and behavioral disturbances. The current study addresses these matters by examining effort, reinforcement learning, defeatist beliefs and functional capacity in individuals with schizophrenia. A number of competing models will be examined in order to determine the influence that these four variables have on one other.

Determining the relationship between specific cognitive distortions, effort, reinforcement learning, and functional capacity could provide targets for pharmacological treatment. Also, understanding these relationships could provide direction for behavioral interventions, such as utilizing positive reinforcement strategies in teaching self-care and independent living skills and improving self-esteem and self-efficacy.

Psychometric Properties of the Body Checking Questionnaire in Non-clinical College Women

Emily K. White, Kim Claudat, Sarah C. Jones, Kimberly A. Barchard and Cortney S. Warren, Department of Psychology

Although understudied in non-clinical samples, research suggests that body checking behaviors (i.e., measuring, pinching, or scrutinizing particular body parts) are associated with increased severity of eating pathology and functional impairment in women. To encourage research on body checking in non-clinical populations, this project examined the factor structure, validity, and sensitivity of the Body Checking Questionnaire (BCQ; Reas, Whisenhunt, Netemeyer, & Williams, 2002) in two ethnically diverse samples of college women. Specifically, Study 1 examined the factor structure of the BCQ, and Study 2 aimed to confirm the factor structure and examined the concurrent validity and diagnostic sensitivity of the BCQ. In Study 1 (N = 326), an exploratory factor analysis of the BCQ yielded a two-factor structure measuring two unique aspects of body checking: Behavioral Checking and Visual Checking. In Study 2 (N = 1010), confirmatory factor analysis examined the goodness-of-fit of the two-factor solution. We randomly divided the sample in two and found adequate fit in both halves (First half: CFI = .90; RMSEA = .07, n = 505; second half: CFI = .90; RMSEA = .07; n = 505). Scores on both factors were significantly, positively correlated with eating pathology. We conducted a receiver operating characteristic (ROC) analysis and found that Behavioral Checking scores were superior indicators of at-risk eating pathology (AUC = .86; 95% CI = .83-.88). Results suggest using a parsimonious, two-factor solution for the BCQ yields psychometrically sound data that can help identify women at risk for eating pathology.

Preparation, Consumption, or Storage? Organic Residue Analysis of Archaeological Ceramics from the Harris Site, Southwestern New Mexico

Aaron R. Woods and Barbara J. Roth, Department of Anthropology

During a multi-year archaeological field school under the direction of Dr. Barbara Roth of the University of Nevada, Las Vegas, four ceramic vessels were collected from unique contexts. These vessels were uncovered below the floor of several subterranean structures or pithouses dating between AD 550 and AD 1000. Due to the unique context of these ceramics, questions regarding ceramic function, use-life, food preparation, food consumption, and ritual retirement developed. In an effort to answer these questions, fragments of these pots were sent to laboratories for organic residue analysis. These analyses were performed to detect the accumulation of plant and animal lipids as well as the presence of plant pollen. Lipid residues were analyzed using gas chromatography and mass spectrometry to detect lipid distribution patterns and biomarkers. Pollen residues were collected through the application of acid and water solutions and then analyzed microscopically to identify specific plant species. These analyses identified the lipid residues and pollens of several plant and animal species that were processed, consumed, or stored in the aforementioned ceramic vessels. Results of this study have implications for the reconstruction of ancient diets and improving understating regarding the particular nuances of food preparation, cooking, and storage in a household context.

Graduate & Professional Student Research Forum
Social Science and Hotel
Platform Session D
UNLV Student Union Room 211

8:30 – 8:45am	Brett Abarbanel, Department of Hospitality Administration
8:45 – 9:00am	Jonathan Bradley, Department of Political Science
9:00 – 9:15am	Christopher Conner, Department of Sociology
9:15 – 9:30am	Denise Cook, Department of Sociology
9:30 – 9:45am	Lauren Galloway, Department of Communication Studies
9:45 – 10:00am	Michael Gordon, School of Environmental and Public Affairs
	10:00 – 10:30am Break
10:30 – 10:45am	Kristin Guthrie, Department of History
10:45 – 11:00am	Laurence Helwig, School of Environmental and Public Affairs
11:00 – 11:15am	Margaret Huettl, Department of History
11:15 – 11:30am	Lan Jiang, Department of Hotel Administration
11:30 – 11:45am	Jennifer Reed, Department of Sociology

The Online Gambling "e-Servicescape"

Brett Abarbanel, Department of Hospitality Administration

iGaming operators spend many hours designing sites that will captivate gamblers and build a loyal customer base. But what exactly is it that gamblers find attractive in an iGaming site? By learning more about the different elements of an online gambling e-servicescape, operators can improve how players interact with their site. The concept of a servicescape and the service atmosphere has been around in physical gaming spaces for over a decade, with both academics and industry representatives investigating how a gaming environment affects consumer behaviors, using theories rooted in environmental psychology. Because the online gambling environment is unique, it would be incorrect to apply extant servicescape and e-servicescape models; instead, these models must be adapted and built upon to create an appropriate description for the online gambling activity. The model presented here brings this analysis to a virtual gambling environment, looking at how online and mobile gambling site components can be optimally combined to provide players with an ideal user experience, to in turn drive positive consumer responses.

Chinese Soft Power: Friendship Instead of Fearship

Jonathan Bradley, Department of Political Science

The People's Republic of China's position on the world stage has greatly increased over the last 30 years. Countries who are seeking a path to modernization, or authoritarian governments who wish to maintain power but still reap the benefits of being a modernized state, can look to the People's Republic of China (PRC) as a model. The PRC has been actively courting the rest of the world in an attempt to reshape its image. The PRC now wants to be viewed as a good neighbor instead of the socialist threat so often espoused by the West. To this end, the PRC is consistently using soft power to increase its stature among the nations of the world. Through soft power, the PRC is trying to create a harmonious, multi-polar world. In conjunction with the PRC's application of soft power, less developed states have started to view the PRC's meteoric rise as a new path to modernization and success. Even without that, the PRC's incorporation of soft power is helping to create and strengthen friendships both regionally and abroad. This paper will examine PRC soft power and its effectiveness in the international relations arena. The overriding investigation of this paper is: Is the PRC's soft power initiative actually producing results, especially in the arena of reunification? This paper shows evidence that the answer is yes.

Historical Patterns of the Culture Industry in America

Christopher T. Conner and David R. Dickens, Department of Sociology

Relatively few scholars have paid attention to the role played by various support staff in the development of the culture industry. In this essay we provide an empirical examination of one such understudied aspect of the culture industry: the role of promoters in the development of music scenes. Traditionally it has been assumed that music scenes come about organically, giving the impression that they are not subject to outside forces as emphasized by culture industry theorists. We characterize the workings of the culture industry in terms of a process consisting of three formative phases. In the first phase, promoters are an integral element to the creation of music scenes and the overall sense of community experienced in those spaces. Examples of these include local city based festivals, music venues where people congregate and gather, and other night time spaces. These are then gradually replaced by more business-oriented individuals, who seek to shape the performers, and music scenes in general, in a fashion that they hope will increase their profitability. Music, as an art, comes to be dominated by agents of large-scale entertainment corporations who employ a formulaic marketing strategy characterized by the standardization and pseudo-individualization (Adorno and Horkheimer 1944). In the end, music scenes are made into spectacles whereby the earlier emphasis on togetherness, community, and friendship are dissolved. To document our argument we provide qualitative data based on participant observation, informal interviews, and the lead researcher s personal experiences working with the various types of promoters in the industry.

What Attitudes towards Prostitution Tells Us about our Society

Denise Cook, Department of Sociology

Attitudes about deviance in society are fluid and ever changing. Certain forms of deviance also change from being deviant to normalized over time within societies or vice versa. For example, in the United States attitudes about what constitutes sexual deviance has evolved. Prostitution is often lauded as the world's oldest profession, regardless of whether or not that is true, there has been stigma attached to prostitutes or the act of prostitution.

The primary question that was driving this research is: Do attitude orientations play a role in attitudes towards sexual deviance?

To conduct my analysis I utilized the World Values Survey. My sample population consisted of respondents from wave years 1995, 1999 and 2006. For this analysis, I sorted my World Value Survey data into questions asked in the United States. I used this to look at responses by region of the U.S.

My independent variable was self-expression index, a four item scale representing survivalism and self-expression values and my dependent variables are justifiable: homosexuality, justifiable: prostitution, and a scale I created reflecting deviance. I controlled for self-positioning in a political scale, gender, year of birth and age, marital status, highest education level attained, employment status, scales of incomes, ethnic group, a religiosity scale important in life: family and gender attitudes scale. I obtained my results by using an ordered logistic regression and a chi-squared model fit of statistical analysis.

Accommodating Highly Apprehensive Students in the Basic Course

Lauren Galloway, Department of Communication Studies

I plan to detail the resources UNLV's Communication Studies Department uses to help apprehensive students cope with presentation-related fears. My research incorporates extant scholarship from communication studies and other disciplines more broadly. Elements of various approaches to dealing with communication apprehension were interwoven in an effort to maximize learning outcomes and minimize stage fright for students. By reevaluating and refining the basic course setup, we hope to help those students required to take introductory communication courses at UNLV cope with and work through the debilitating fear that may impede their success in the classroom.

One of our main concerns as instructors of the basic course is the identification of students at risk of dropping out. Though the presentation focuses primarily on the distribution the Communication Inventories and implications for future practice, I will also touch upon the incorporation of daily think-pair-share desensitization exercises and referrals to outside help when it is needed. The presentation advances the central argument that modification of the lab element of the basic course to address the needs of apprehensive students can have value to both instructors and students of communication studies, and can help diminish the student attrition rate in our department, if not at the university.

Ethical Glass Ceiling

Michael Gordon, School of Environmental and Public Affairs

The breaking of moral and ethical codes is something that has been with mankind since history was first recorded. As such, the public demands that their elected officials are held accountable and cannot run roughshod over enshrined legal rights without broader personal and societal consequences. Within the hallowed halls of government, the "unrequested" House Committee on Ethics (HCE) provides the forum of accountability.

This paper examines the moral implications on members who serve on the HCE by looking at the procedural efficiency or lack thereof, as a natural consequence of the committee's implicit public policy actions.

New Media History: Methods, Best Practices and Technical Obstacles Found in Accessing Identity and Community through Voices of NEW Leadership Nevada
Kristin Guthrie, Department of History

The Voices of NEW Leadership Nevada oral history project, which consists of twenty four interviews, aims to capture the experiences and impact of the program on alumnae, community supporters, and staff at the 10th anniversary of NEW Leadership Nevada. Those interested in Nevada history, women's history, women's studies, gender studies, leadership studies, civic engagement, advocacy are encouraged to utilize the archive.

For the this conference, I will address the methods created, obstacles confronted and best practices developed during the production of the Voices oral history project. About one month into the project, I completed a short film drawing from Voices interviews which was showcased at the 2012 Keynote Dinner. I would like to show a part of this for my presentation. Two short months later, I had built a navigable digital archive, and designed the presentation of the project for the WRIN website. The project took three months to complete from start to finish.

Conducting the interviews, eliciting reactions to the program from fellow graduates, speaking with some of WRIN's longest supporters about their experiences of the program, was a pleasure. I am certain that each woman I interviewed has left her own impression on the historical record, reflecting both the personal and collective identity of Nevada women. I look forward to sharing project results and innovations developed to overcome methodological obstacles with participants of the upcoming conference.

A Study of U.S. State Renewable Portfolio Standard Stringencies Using Policy Innovation, Diffusion and GeoSpatial Models

Laurence Helwig, School of Environmental and Public Affairs

Renewable Portfolio Standards (RPS) are state level climate change policy instruments created to encourage investment in and subsequently stimulate the deployment of renewable energy generation technologies. These policies obligate energy suppliers, namely public and privately owned utilities to produce a specified fraction of their energy from renewable sources, (e.g. wind, solar, geothermal, etc.). The stringencies of these policies in terms of their set goals and target dates currently varies from state to state. This study will utilize policy innovation theory's internal determinants and regional diffusion models, Berry & Berry (1999), to explain the variation in RPS stringency levels. Internal determinant factors will be drawn from two sources; studies of RPS policy innovation and studies of the infrastructural barriers to renewable energy integration. Overall, much appears to known about the factors influencing RPS policy adoption, but less is known about how they explain the variation in RPS policy goal stringencies. This study will test the internal determinants and regional diffusion methods of estimating RPS policy stringency and determine which performs best and will also determine if infrastructural barriers matter for explaining variation in state RPS stringency. State level policies are currently the primary drivers of U.S. efforts to develop and integrate renewable energy generation sources. The results and findings of this research should shed light on the key factors that influence state policy instrument goal setting that can hopefully lead to the development of more effective climate change policy instruments.

Inawemaagen and Meyaagizid (Relatives and Strangers): Ojibwe Peoplehood from 1850 to 1950

Margaret Huettl, Department of History

My project considers the strategies that Ojibwe or Anishinaabe men and women used between 1853 and 1953 to articulate and defend their peoplehood. By peoplehood, I mean the shared language, land, sacred history, ceremonial cycles, and kinship ties that differentiate the Ojibwe from other peoples, an identity that persists despite the division of Ojibweg into more than two dozen reserves and reservations in the United States and Canada. At key moments between 1853 and 1953, Anishinaabe leaders came together across international lines to oppose the United States and Canada encroaching on Ojibwe land, resources, and sovereignty. Between these events, Anishinaabeg maintained less obvious connections through a variety of social and economic relationships including kinship, labor, ceremonies, and storytelling. By reconsidering Indigenous community, this project contributes to the effort to decolonize Ojibwe and North American history. The common action inherent to peoplehood is a call for sovereignty, to have people recognize a modern indigenous presence that extends beyond mere cultural or physical survival. Sovereignty is an inherent part of being a people. It derives neither from territory nor the political centralization of the Western nation-state but from relationships. Privileging Ojibwe language, kinship, land use, oral tradition, and ways of understanding the past illuminates these relationships, which persisted within the context of colonialism. Additionally, examining Ojibwe peoplehood reconfigures the Great Lakes not as a peripheral borderland of Canadian and American empires but rather as an Indigenous center.

Emerging Distribution Channels and Rate Parity

Lan Jiang and Mehmet Erdem, Department of Hospitality Administration

This study assesses the fulfillment of the best rate guarantee policy of hotels, and respectively, examines the execution of rate parity across traditional and emerging distribution channels. The results, which included 5060 observations across all major hotel segments in the U.S., demonstrated that rate parity, contrary to hotel company's claims, is rare. There was almost no rate parity among the hotel websites, mobile apps and indirect channels. Luxury/upscale hotels achieved the highest performance in comparison to other segments. Most hotels offered the lowest rates on their websites in fulfillment with their best rate guarantee, but failed to adhere to this policy on emerging channels such as mobile apps.

Sexecology & the Ecosexual Movement: Making Global Social Critique More Sexy, Fun and Diverse

Jennifer Reed, Department of Sociology

Concerns with the environment as well as concerns with social arrangements based on sexuality and gender have spurred a wide variety of social movements. The ecosexual movement is an emerging grassroots social movement that begins at the intersection of environmental and sexuality issues. In 2011, T*ime* magazine named The Protester as Person of the Year in tribute to the wave of global protest movements that year. Most of these, in particular Occupy and the Arab uprisings have been intersectional, that is a combination of seemingly disparate movements and groups working together toward the same social justice goals. My research examines the birth, development, organizational form, and ideologies of the ecosexual movement. I have done considerable field work at key organizational events as well as conducted a content analysis of ecosex web and print materials. This movement has thus far successfully blended existing sustainability, environmental, gender, and sexuality movements into an emerging global movement. Understanding its development will tell us much about the recent wave of social movements, particularly their relation to global culture, how disparate movements work together, how sustainability can incorporate gender and sexuality and how intersectional movements can achieve social justice in an era of significant change. I demonstrate the importance of this movement in drawing attention to social justice issues of the modern era through sexy art and theatrical performance as well as for establishing alternative discourse and promoting political activism that endorses equitable, sustainable relationships, both personal and planetary.

Graduate & Professional Student Research Forum
Social Science and Law
Platform Session E
UNLV Student Union Room 213

9:00 – 9:15am	Autossa Kojoori-Saatchi, Department of Political Science
9:15 – 9:30am	Jennifer Liese, School of Journalism and Media Studies
9:30 – 9:45am	Courtni Low and John Wagner, School of Environmental Studies and Public Affairs and Jennifer Lucas, School of Public Health
9:45 – 10:00am	Rachel Macfarlane, Department of Sociology
10:00 – 10:30am	***Break***
10:30 – 10:45am	Angela Moor, Department of History
10:45 – 11:00am	Jean Norman, School of Environmental and Public Affairs
11:00 – 11:15am	Milene Ortega Ribeiro, Department of Communication Studies
11:15 – 11:30am	Nicholas Pellergrino, Department of History
11:30 – 11:45am	Morgan Petrelli and Marisa Rodriguez-Shapoval, School of Law

The Syrian Conflict and Sectarian Divide

Autoosa Kojoori-Saatchi, Department of Political Science

The ongoing conflict in Syria has highlighted the existing sectarian divisions that exist in the Muslim Middle East. This paper will discuss the dynamics of the conflict from a local, regional and global perspective. There is no doubt that the war in Iraq called attention to the sectarian divisions that exist in the Middle East. Naturally, the Shia Crescent's has become of concern for Conservative Arab countries that are fearful of the Shiites minorities growing power. It therefore appears that conservative Arab countries may be searching for a way to undermine Iran's potentials by destabilizing Assad's Shiite dominated regime. From a local perspective we see that ideological differences undoubtedly play a role in the conflict between the Sunni majority and the Alawite minority, a Shiite branch that dominates the leadership structure of Syria. The political atmosphere of the region has indeed heightened tensions that were once overlooked by the global community. Russia and China are being looked to for their persistent lack of intervention in the conflict and because of their surprisingly solid trade relations with the Assad Regime. Globally, the conflict has a posed a challenge for the West and its allies in the Middle East because of what Iran can potentially gain both in terms ideological and political influence in the region.

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My Lai: Critical War Coverage of Vietnam Atrocities

Jennifer Liese, School of Journalism and Media Studies

With the My Lai massacre unraveling in the press a year after the event occurred, this research investigated coverage of the event that ultimately changed the discourse of the Vietnam War. Prior to the story breaking, reports of US soldiers committing atrocities were believed to be enemy propaganda; however, twenty-five US soldiers and officers involved in the incident were indicted with murder, conspiracy, and/or perjury, resulting in one conviction of premeditated murder of civilians by a US officer. Seymour Hersh's exposure of the My Lai event was not easy to investigate or sell to the press. However, once publicized, American citizens and government officials were forced to question the ethics and actions of the U.S. military, government, and the viability of continuing the war.

This paper focuses on the initial investigative reporting and publication of photographs that drew the attention of the American people and the United States government. The primary sources for the study include Seymour Hersh's published accounts of the My Lai events, archived NBC News broadcasts, Life and Time magazines, and congressional records from 1969. The combination of accounts of eyewitnesses, televised interviews, and graphic images of slain Vietnamese women, children, and babies signaled a change in the Vietnam War coverage. Also, the study examined the power of juxtaposed images in creating counter or subversive messages by comparing the *Life* and *Times* articles published December 5, 1969.

Policy Priorities to Address Childhood Obesity

Courtni Low and John Wagner, School of Environmental Studies and Public Affairs and Jennifer Lucas, School of Public Health

We have used the collaborative abilities of urban affairs and public health knowledge to research policy options to address the growing national crisis of childhood obesity to present at the Policy Solutions Challenge USA competition. The goal of this project is to actively take place in policy change pertaining to childhood obesity, which is currently affecting nearly 32% of US children. There are numerous policy options to address this issue, however they must be prioritized due to scarce funds and limited resources. We have prioritized seven recommendations and further narrowed where to allocate funds based upon perceived prominence of the peer-reviewed literature.

The next step in this ongoing project is to present these solutions in the regional Policy Solutions Challenge USA on February 15-16, competing with four other university teams. If we are in first or second place, we will then present these solutions at the national challenge on March 22-23 in Washington DC at the American University School of Public Affairs. It is hoped that our policy solutions will prove to be innovative and practical enough to advance us to Washington DC. There we could propose these solutions, with the hope that they will become implemented changes to help solve the childhood obesity problem, and lead to a healthier America within the next generation.

A Place at the Table, A Table of Our Own: Claiming Space and Transnational Identity in the Las Vegas Filipino Community

Rachel Macfarlane, Department of Sociology

Filipino-Americans make up nearly half the Asian-American population in Las Vegas, and are part of the fastest-growing demographic in the mountain west, and also have local family histories from the very beginning of Las Vegas itself. This study uses qualitative, ethnographic methods to create a shared narrative about Filipino-American families, communities and the unique and diverse Filipino - Las Vegan culture. I explore and analyze field observations in public spaces, local Filipino-American businesses, online and printed texts produces by and for local Filipino-Americans, as well as experiences of Filipino-Las Vegans detailed in unstructured interviews. They share their experiences of claiming and creating both transnational identity and community space through church, charity work, shared food, family connections, and cultural groups while trying to manage family, employment and education.

Planning a City and Building a Community

Angela Moor, Department of History

This paper looks at Irene Porter's oral history, one collected as part of the Las Vegas Women Oral History Project at the University of Nevada, Las Vegas. Ms. Porter's oral history covers her experiences working in planning and construction in southern Nevada and reveals the possibilities for women in the young community, as well as the barriers to success imposed by the glass ceiling. Her story is part of an understudied history of women working outside traditionally feminine jobs and provides an intimate look at the challenges of balancing work and family in the 1970s through the 1990s.

In describing the challenges of interviewing Ms. Porter, I use it to discuss the state of women's oral history today. In doing so, I use the scholarship of oral historians to begin to understand the challenges of interviewing women who have held prominent positions and why they often continually downplay professional successes and instead emphasize their roles as mothers and wives.

My paper concludes with some questions about how scholars use and interpret oral histories once they have been collected and argues that historians need to begin to think far more about the multiple layers present in oral histories.

You Can Make This Stuff Up: The Intersection between Fiction and News in the Eighteenth Century

Jean Norman, School of Environmental Studies and Public Affairs

A study of the novel's development in eighteenth century England shows a deliberate blur between fiction and nonfiction. Clearly fictional works such as Aphra Behn's *Oronoko* and Samuel Richards' *Pamela* were presented as true stories to lend them credibility. At the same time, the news outlets intermingled nonfiction and fiction without transparency. Under the influence of the Age of Enlightenment, a clear definition of fiction and nonfiction emerged. This study examines the content of five eighteenth-century newspapers in London in the context of the development of the novel from works presented as nonfiction before 1740 to clearly fictional works later in the century. This content analysis of the newspapers of the day will seek out clues of a similar shift from fictional content provided in the guise of nonfiction to a greater reliance on fact. Textual sources come from the Eighteenth Century Journals II (Harry Ransom Collection available via UNLV online) and include The London Packet, 1785; The Morning Advertiser (London), 1794-1797; Parkers Penny Post, (London), 1732-1733; St. James Evening Post (London), 1715-1717; and Whitehall Evening Post (London), 1754, 1756, 1760, 1763, 1766.

United Sides: Constitutive Rhetoric and President Barack Obama's November 22, 2011 Speech

Milene Ortega Ribeiro, Department of Communication Studies

In periods preceding presidential elections, each word enunciated by candidates becomes significantly remarkable, especially when responding to interruptions or protests. This essay analyzes a speech in which President Barack Obama was interrupted by a small group of protesters sympathetic to the Occupy Wall Street movement. It was understood that the president's rhetorical choices resemble what Maurice Charland entitled constitutive rhetoric: a strategy that aims at transforming a group of individuals into a united society through ideological identification. Furthermore, this essay advances the argument that the adoption of constitutive rhetoric in President Obama's speech is a result of the rhetorical presidency doctrine and an attempt to neutralize the conflict posed by the protesters. These claims are made after careful analyses of the speech chosen for this study, and previous speeches given by the president on similar topics. It was found that, contrary to the conventional wisdom about President Obama s rhetorical choices, the strategy of consilience was actually used to create division. Obama's strategic use of language in adopting words that symbolized sides differentiated him as a politician.

"I am my own Master, Left to my own Direction": Periphery, Center, and the Liberalization of the American Catholic Church, 1773-1789

Nicholas Pellegrino, Department of History

My paper examines a question historians have long taken for granted: why did the American Catholic Church embrace the republican rhetoric of the American Revolution? Examining diaries, legal documents, pamphlets, petitions, newspapers, books, sermons, and private correspondences, I show why American Catholics embraced democratic and republican values during the American Revolution. First, as a minority group in colonial Maryland, Catholics were the product of their ancestors liberal experiment in religious freedom during the early seventeenth century. Always mindful of how Protestants unraveled their policies of religious freedom, American Catholics embraced liberal reforms with the hope of gaining back their civil and religious rights. At the same time, their own church also provided Catholics with an incentive to fight for American independence. In 1773, Pope Clement XVI suppressed the Jesuits, who were the spiritual, social, and cultural backbone of the American Catholic community during the colonial period. Discouraged by the treatment of their own church, and presented with an opportunity to earn the respect of their Protestant neighbors, American Catholics under the leadership of Jesuits such as Bishop John Carroll took concrete steps to distance themselves from the Holy See with the hope of restoring the reputation of Catholicism in America.

International Human Rights and Comparative Law Practicum in New Delhi, India - Project Report

Morgan Petrelli and Marisa Rodriguez-Shapoval, School of Law

Our presentation will be a report of our work and findings after attending the International Human Rights and Comparative Law Practicum in New Delhi, India. The practicum was a winter intersession program that developed out of a partnership between William S. Boyd School of Law, UNLV and the National Law University (NLU) in Delhi. The program integrated classroom learning and field experience and brought together U.S. and Indian law students, as well as U.S. and Indian faculty.

We acquired knowledge of substantive issues related to human rights in the classroom and visited construction sites where we documented human rights abuses in relation to construction workers. Our work included interviewing constructions workers, researching applicable international and domestic law, drafting complaints, and working with various domestic agencies to address the issue. At the end of our project we filed a formal complaint with the Labor Commissioner.

Unfortunately the plethora of violation we discovered are not the exception but rather are overly abundant in India. Projects such as International Human Rights and Comparative Law Practicum are important because it brings knowledge to the appropriate agencies, to law students, to faculty, and to the public as a whole. It is our hope that we were not only able to stop certain violations at the construction cite we visited but that we inspired other law students to continue to address the issue.

Graduate & Professional Student Research Forum
Social Science
Platform Session F
UNLV Student Union Room 218

8:30 – 8:45am	Carrie Sampson, School of Environmental and Public Affairs
8:45 – 9:00am	Tyler Schafer, Department of Sociology
9:00 – 9:15am	Jung Eun Song, School of Environmental and Public Affairs
9:15 – 9:30am	Sarah St. John, Department of Sociology and Brett Abarbanel, Department of Hospitality Administration
9:30 – 9:45am	Joseph Thomson, Department of History
9:45 – 10:00am	Chelsi Morgan Walls, Department of Communication Studies
10:00 – 10:30am	***Break***
10:30 – 10:45am	Jordan Watkins, Department of History
10:45 – 11:00am	Joseph Watson, Department of History
11:00 – 11:15am	Jennifer Whitmer, Department of Sociology
11:15 – 11:30am	Shiori Yamamoto, Department of History
11:30 – 11:45am	Reagan Rockzsfforde, Department of Economics

A Different Kind of Education: Exploring the League of Women Voters Struggle for Equal Education in Las Vegas

Carrie Sampson, School of Environmental and Public Affairs

The purpose of this study is to analyze the League of Women Voters Las Vegas Valley Chapter's involvement in local school desegregation between 1966 and 1972. This group, consisting of mainly White, middle-to-upper class women, was one of the major players in school desegregation, yet the outcome of this movement heavily impacted impoverished Black children. This case study examines interviews and historical archives to understand the role the League of Women Voters assumed in school desegregation and how their individual identities affected their work. While several of these women benefited personally, their efforts failed to provide equal education for impoverished Black children. This research provides insight into how predominantly White, middle-to-upper class organizations can impact equity-oriented educational reform.

Agriculture and Activism: Community Gardening, Choice, and the Complexities of Combining Causes

Tyler Schafer, Department of Sociology

Creating collective identity is a crucial task in social movements and other forms of collective behavior. In this paper I explore the strategic dilemmas and strategic choices (Jasper 2004) confronted by individuals running a community garden in West Las Vegas in the process of creating, cultivating and consistently maintaining a collective identity. By exploring the accounts of decision-makers regarding the mission and vision of the garden as well as the actions taken, I examine the ways community gardens strategically, serendipitously, or reluctantly align with other movements and trends that exist in the cultural landscape. Moreover, I explore how the varieties of causes that intersect at the garden affect interest and levels of commitment among volunteers and supporters. It is important for our understanding of community gardens and other grassroots urban green projects to explore the complex relationship between structural constraints and strategic choices made by actors involved. Moreover, community gardens are often praised for their compatibility with a diversity of other movements and this project asks whether or not this compatibility poses difficult strategic dilemmas and if so how they affect collective identity and the recruitment and commitment of volunteers and supporters.

The Acceptance of Mobile Learning from Older Workers Perspectives

Jung Eun Song, School of Environmental and Public Affairs

Purpose: The purpose of this study is to explore the acceptance of mobile learning from the perspectives of older workers.

Design/method/approach: A survey study approach is proposed as the main methodology for this study. The focus of the study will be older workers in private companies in South Korea. Employees who are using mobile technology as a learning tool within the company will be invited to participate in this cross-sectional study. In order to analyze the data, this research will use Structural Equation Modeling (SEM). AMOS software will be used in order to analyze data.

Future Implications: Understanding older workers' perspectives will prove crucial in being able to support the mobile learning (m-learning) needs of older workers. If mobile devices are designed with easy to use applications, older workers may be more inclined to accept and use m-learning. Thus, this study will provide important information to today's trainers and to future trainers developing m-learning. This study will explore the factors that affect older workers acceptance of m-learning, the results of which may suggest more attention by Human Resources Development (HRD) practitioners to the needs of older workers regarding m-learning. Studies of older adults technology use have described that behavioral analysis can lead to redesign efforts, which reduced difficulties older adults experience (Gomez, Egan, Wheeler, Sharina, & Gruchacz, 1983). Since m-learning is now considered a vital learning tool in business, it should be useful and beneficial to older workers in order to help them to perform their job.

Casino Employee Perceptions of Gambling and Problem Gambling

Sarah St. John, Department of Sociology and Brett Abarbanel, Bo Bernhard and Debi LaPlante, Department of Hospitality Administration

Because gambling industry employees are at-risk for gambling-related problems, empirical attention is warranted. Accordingly, this research examined casino employees' beliefs about what constitutes gambling and problem gambling by surveying new employees at a Las Vegas Strip casino prior to their responsible gambling orientation training. More specifically, we considered whether there were any associations apparent between employees gambling industry tenure or gambling frequency prior to survey and their gambling-related beliefs. We used ANOVA to compare cumulative gambling knowledge scores for different gambling frequency and tenure groups, and chi-square tests to look at group comparisons of knowledge of individual games and problem gambling indicators. We observed a significant relationship between employees tenure and their definition of sports betting ($p = .043$) and poker ($p = .052$) as gambling. Our analysis also showed a significant relationship between employees gambling frequency and their belief whether gambling is a problem when any gambling is done ($p = .02$), and whether gambling is a problem when someone loses money ($p = .015$). These findings illustrate that not all new gambling industry employees are alike, and that specialized training might be necessary to ensure optimal responsible gambling knowledge within the industry workforce. By better understanding employees perceptions of gambling, training programs could target gaps in knowledge and understanding.

Killing Me Softly: Historic Preservation of the San Pedro Los Angeles & Salt Lake Railroad Cottages

Joseph Thomson, Department of History

The Las Vegas Valley provides the setting for a vast spectrum of troubled and challenged preservation efforts. Within this array lies a subject base with deep complex roots and varied creative solutions. During the years of 1909 and 1910 The San Pedro Los Angeles & Salt Lake Railroad through their subsidiary Las Vegas Land and Water Company built 66 homes for their employees.

The impact of these homes and their inhabitants on the Las Vegas Valley cannot be overstated. The incoming labor force of 400 associated with new rail-yard facility construction exceeded the entire workforce of approximately 240 that resided in Las Vegas in 1909. Upper level railroad employees from this workforce were rewarded with the opportunity to live in these upscale homes thus solidifying their position of historical significance in Las Vegas. Their path to preservation has been far more difficult to define. Presently only ten of the original 66 survive. Of these ten only five remain in their original location. This presentation focuses on the surviving ten Railroad Cottages, highlighted by a current effort to restore four Railroad Cottages at the Springs Preserve. Questions certainly exist surrounding the subject of legitimacy of the five that have been removed from their original location of construction and the relative condition of the five that remain in their original position of construction.

Communication within the Medical Field: Implications Derived from Communication between Physicians, Parents, and Pediatric Patients

Chelsi Walls, Department of Communication Studies

This paper aims to understand how, when, and why communication in health-related issues either occur or remain undisclosed. Within this paper, the key concepts focus on childhood cancer patients, and the communication process performed between the physician, the child's care-taker, and the child. Three theories, Uncertainty Theory, Face/Politeness Theory, and Action-Implicative Discourse Analysis, were analyzed in relevance to this topic, and a future direction for intended research was developed after analysis. The development of this literature review began as a way to understand whether or not pediatric cancer patients are receiving enough, or any, information about their illness. Based on previous studies, pediatric cancer patients are often not informed of what, when, how, or why medical procedures are being administered to them. The patient only knows that s/he is not feeling well, and must go to the doctors for help. The three theories, Uncertainty Theory, Face/Politeness Theory, and Action-Implicative Discourse Analysis was used to help determine why the communication process was only being administered between physicians and parents. Upon analysis of the theories, future insight to the pediatric communication process was developed.

This literature review acts as a starting point to the thesis project I am currently working on, which uses elements of Uncertainty Management Theory to understand how parents communicate with their child regarding pediatric cancer treatments, and which coping mechanisms the parents and child use to manage their uncertainty pertaining to the illness.

The Historic Strife: Massachusetts and the Civil War's Temporal Modes

Jordan Watkins, Department of History

On July 14, 1863, Edward Henry Hall, chaplain of the 44th Massachusetts Volunteers, described America's Civil War as a historic strife. Hall interpreted the conflict as the latest round in an interminable bout to safeguard Christianity's immutable laws of justice, freedom [and] the sanctity of man. From the outset, Americans cast the war in religious terms, using millennial and apocalyptic rhetoric. Though qualified by the duration of the war, these descriptions persisted. Commentators combined religious interpretations with historical comparisons. The Revolutionary War figured most prominently. In a July 4, 1862 address by Horace James, chaplain of the 25th Massachusetts Volunteer Infantry, he distanced the rebels of 1776 from those of 1861, while asserting that the race of patriots is not extinct. Designating the war as historic through religious interpretation and historical comparison found expression among common citizens and soldiers. Boston native Mary Simpkins described Abraham Lincoln as the second Father of his Country and observed that many believe his assassination is probably in God's Providence to cause us to be more just and less merciful in our dealings with the traitors. Religious rhetoric and historical comparison supported a range of interpretations, but Americans also described the war's historicness independent of these frameworks. Writing in his diary in February of 1863, Boston resident Ezra Palmer Dunnels announced, "we are living in a great age, and a day now is a year, if not more'. This paper traces the temporal modes in the immediate Civil War interpretations of Massachusetts citizens and residents.

The Visible Athlete and the Racial Politics of College Football

Joseph Watson, Department of History

The black athlete has become a dominant force in the game of American College Football. This paper traces a series of visible black football players as they brought race to the forefront of American consciousness thereby contributing to modern racial paradigms. This paper consists of predominately secondary sources with supporting primary sources. My purpose is to demonstrate how the visibility of sport contributes to cultural paradigms, in this instance race.

Blogging the Branded Self: Goffman in Hypermodernity

Jennifer Whitmer, Department of Sociology

According to Hearn (2008), Giddens's self-reflexive project of the self has become an explicit form of labor through the discourse and presentational practice of self-branding. Although self-promotion is not new, self-branding is a relatively recent and increasingly ubiquitous interactional style. In this paper, I first explain self-branding in the context of hypermodernity and discuss how this discourse of self-presentation developed in conjunction with the rapid proliferation of digital technologies. Drawing on my ethnography of the personal style blogging community, I explore the implications of self-branding for the Goffmanian concepts of interaction and the presentation of self. I argue that bloggers must rely on broader cultural meanings of gender, race, and the body to construct these branded selves. In so doing, bloggers flatten the democratizing potential of social media.

Marriage, Homestead, and (In)Dependent Citizenship: Newspaper Coverage of Impacts of the Expatriation Act of 1907 on American Women in the U.S. West

Shiori Yamamoto, Department of History

This paper examines the impacts of the Expatriation Act of 1907 on U.S.-born women in the West in the 1910s, specifically focusing on women homesteaders. The Expatriation Act stipulated that any American woman who married foreigners had to take the nationality of her husband. As a consequence, quite a few native-born women in the early twentieth century lost U.S. citizenship. Through close analysis of newspaper articles and legal documents, this paper demonstrates how women in the West who lost U.S. citizenship by marriage challenged the practice of marital naturalization/expatriation and how Western newspapers reported their challenges. Until the ratification of the Nineteenth Amendment, the Expatriation Act most negatively affected women in the West because homestead and state-level women s suffrage, where citizenship mattered enormously. Although newspapers in the West did not view the Expatriation Act as problematic at the time of its enactment in 1907, as they learned more about women's loss of citizenship and challenges to marital naturalization/expatriation throughout the 1910s, they frequently covered native-born women s challenges and reported how widely the Expatriation Act affected their lives. Therefore, native-born women's challenges to the Expatriation Act compelled newspapers to report their cause, paving a way to the abolishment of marital naturalization/expatriation and the restoration of married women's independent citizenship in later decades.

The Abatement Cost of Renewable Portfolio Standards Policies in Reducing Carbon Emissions in the United States

Reagan Rockzsfforde, Department of Economics

The electricity sector remains as the largest source of carbon gas emissions in the United States, accounting for about 34 percent of the total amount of emissions. In addition, 81 percent of the carbon emissions from electricity come from coal, which provides 45 percent of electricity generation in the nation. In an effort to mitigate carbon levels and increase renewable energy generation, 29 states have already mandated Renewable Portfolio Standards (RPS) policies. RPS requires utility companies that specific percentages of their electricity supply must come from renewable resources such as solar and wind. Many previous empirical studies point to the positive effect of RPS requirements on increasing renewable energy generation and reducing carbon emissions. However, there has been much less research effort on estimating the marginal abatement cost of carbon reduction. Abatement cost is very important in the economic analysis of environmental and energy policy instruments like RPS. This paper estimates the benefits from state-level RPS policies and their corresponding economic costs to firms and society. More specifically, this analysis examines the impacts of RPS policies on the costs of electricity generation for utility companies and on electricity prices for consumers. Lastly, the analysis in this paper quantifies the cost per ton of carbon emission abated through RPS policies in the United States.

Graduate & Professional Student Research Forum
Art and Humanities
Platform Session A
UNLV Student Union Room 219

8:30 – 8:45am	Zheni Atanasova, Department of Music
8:45 – 9:00am	Lauren Adkins, Department of Art
9:00 – 9:15am	Jay Scott Grow, Department of Art
9:15 – 9:30am	Jean Ho, Department of English
9:30 – 9:45am	Dana Killmeyer, Department of English
9:45 – 10:00am	Joseph Langdon, Department of English
10:00 – 10:30am	***Break***
10:30 – 10:45am	Anthony Merlino, Department of Music
10:45 – 11:00am	Camilla Quinn Oldenkamp, Department of Art
11:00 – 11:15am	Anthony Guy Patricia, Department of English
11:15 – 11:30am	Samantha Samson, Department of English

Music and Teacher National Association (MTNA) Competition
Zheni Atanasova, Department of Music

In November 2012 I was notified that I am the winner of the State level of the MTNA (Music and Teacher National Association) Young Artist competition. That gave me the opportunity to represent Nevada at the Southwest Division competition level, which was held January 4-6, 2013 at the Weber State University-Ogden, Utah.

I had prepared a recital length program of solo piano music consisting of 45 minutes of classical music as required by the guidelines of the competition. My program included Organ Fantasie und Fugue by J.S. Bach transcribed for piano by F. Liszt, Sonata in B minor by M. Clementi, Spanish Rhapsody by F. Liszt and Rhythmic Movement by P. Vladigerov. The first piece represents Baroque period with elements of Romantic period and the sonata in B minor represents the Classical period. Spanish Rhapsody is a Romantic piece, followed by Rhythmic Movement, which is a Bulgarian piece in a contemporary style.

My ultimate goal is to become a National Finalist when I competed at the Southwest Division level and then have the opportunity to represent Nevada and respectively UNLV Graduate School and UNLV Music Department, at the MTNA National Competition Finals, which is going to be held March 9-13, 2013 in Anaheim, California.

Love is Overtaking Me

Lauren Adkins, Department of Art

This work focuses on the female escapist fantasy in its most popular forms primarily finding "true love" and the extent to which it seeps into our real lives. I've looked at this fantasy through a pop cultural lens; that is I've used film, television and literature's representations of the love story and female characters in general in an attempt to understand my own expectations of romantic love. Because of personal attachment to and experience with this fantasy or quest, which took a particularly strong hold of me when I discovered the intensely popular Twilight Saga, my thesis exhibition touches on romantic expectation primarily through my relationship with the central love interest, Edward Cullen.

The main performance (and centerpiece of the following exhibition) is a wedding ceremony in which I married Edward Cullen, in the form of a cardboard cutout, in a real Las Vegas chapel.

The work is also an exploration of the dismissive, vitriolic, and at times violent attitude of the media and the public at large toward female fandom. Keywords include "obsessive," "crazy," "insane," "psychotic," etc. The press coverage I received following the release of a British tabloid article (Love It!, UK) and online communication in the form of tweets, Facebook comments, and comments on the respective articles' websites are also included in this analysis.

The ceremony took place at Viva Las Vegas Chapel in downtown Las Vegas on January 26, 2013. The ceremony was invite-only. The exhibition reception is open to the public: March 8, 2013, from 6:00-9:00pm at the Donna Beam Fine Art Gallery on the UNLV campus.

The ceremony was recorded and intended to be streamed live on the internet. However, in lieu of the press coverage, I decided to cancel the live stream in order to retain control of the footage and preserve the integrity of the project. Documentation of the ceremony will be shown as the centerpiece of the following exhibition, which doubles as our wedding reception, complete with receiving line, cake, and more. Reception elements will be accompanied by photographs, video, audio, and collected objects presented in traditional gallery style, and the show will also include a written artist statement & academic thesis.

The Voyage of the Man Who Fell to Earth

Jay Scott Grow, Department of Art

The Voyage of the Man Who Fell to Earth, is an ongoing research/art project exploring the process and relationships of our visions and goals of space travel. This research began with the purchase of an iron meteorite from the Campo del Cielo crash site in Argentina, estimated to have impacted around 6,000 years ago. It was our goal to see if the use of this meteorite, a non-terrestrial alloy, could be used as a fine art medium. We managed to melt down the meteorite and cast it in the form of a astronaut/spaceman and proceeded on to our next goal of launching this figure back into space. To date we have managed to cast the figure and have successfully launched it into suborbital space via a high altitude weather balloon. This particular launch reached more than 106,000 feet all of which we were able to capture on high def video. Future stages of this project are to continue our attempts for orbital space and beyond. We feel that is this research is an important step for artists, to pursue projects dealing with and reaching out beyond the confines of our planet, to reach for the stars.

"My Married Man" (short story)
Jean Ho, Department of English

"My Married Man" is a flash fiction short story about a young woman's attempt at connecting with a former lover. In summer 2012, I attended the Voices of Our Nation's Arts (VONA) summer writing workshop in Berkeley, California, a multi-genre creative writing conference for writers of color founded by Junot Diaz and Elmaz Albinador. My participation in the VONA workshop allowed me the time and space to engage with other literary writers across the country. My GPSA presentation will be a reading of the newest draft of the story, edited and re-written after the workshop experience. It is currently in submission for publication to various literary magazines.

Building a Foundation: Preliminary Visit to Mexico
Dana Killmeyer, Department of English

Share stories, poems, and insights informed by two week tour of Mexico City, Acatlán de Pérez Figueroa, and the city of Oaxaca in preparation for return visit this summer in which I'll be conducting research for translation project and international component required for degree completion. Trip included: visit to Ciudad Cultiva, an urban garden in Tlatelolco on the site where two high-rise apartment collapsed during 1985 earthquake, ascent of the lunar and solar pyramids at Teotihuacan, including a walk through the "Avenue of the Dead" on Dec, 21, 2012, homestay with travel companions in Acatlan for Navidad, including surprise engagement with regional poet and trek through sugarcane fields where we climbed "undocumented" pyramids, and a brief introduction to Oaxaca.

Battling Siki: The Forgotten Champ

Joseph Langdon, Department of English

During a nearly two-month trip to Senegal, I researched the history of "Battling Siki," the first African boxer to become a world champion.

Siki is a controversial figure much maligned during his lifetime and largely forgotten by history. I visited Siki's hometown of St. Louis, Senegal, stayed at the hotel that now bears his name, spoke to local residents about Siki, interviewed several Senegalese scholars about his legacy, and corresponded with the American author of a recent biography.

My research revealed a fascinating case study in colonialism, the machinations of racism, and a poignant illustration of the often abused powers of those who control "history."

My presentation will contrast the popular myth of this enigmatic fighter with the true history of his life.

The International Percussion Festival in Cordoba, Argentina

A.J. Merlino, Department of Music

The International Percussion Festival in Cordoba, Argentina is one of the biggest festivals specific to my field in South America. This festival hosts a large number of diverse artists which makes the application process rigorous and demanding. I recently performed new and standard repertoire from my direct field of study for this event. These percussion works are written as solos and duets, and include international premieres. I also presented a masterclass at the Conservatorio Superior de Musica for numerous students and professionals who study percussion.

Attending this festival allowed me to learn from professionals in my field that I normally would not have been exposed to. It has become exceedingly important for musicians to travel and learn from international colleagues as this profession has become extremely culturally diverse. I have used this experience to further enhance my performance as an instructor and student at UNLV.

Lay to Rest

Camilla Oldenkamp, Department of Art

Upon entering the sterile white walls of the gallery the observer will notice a large assortment of vintage black and white images, tintypes, and daguerreotypes lining and carefully spaced along the walls. Then, after stepping closer to one of these images you see what appears to be a nostalgic representation of past lives, a place, maybe an event. Glancing down you notice a small, yet ornate, urn with its lid not covering the opening, but placed next to it as if empty. Questioning the significance of the small, 3-inch urn the observer ventures to where the next image should be and notices an empty space where the photograph once was. Below the empty space is another urn. This time the urn's lid has been placed on top and secured.

What happens when a photograph is taken with the intention to capture a moment, a person, or an event is found years later when every person in the photograph and inevitably the event itself has passed away? The new owner, or nostalgia collector may appreciate the vintage nature of her find or the nostalgia of the old cars and long forgotten hairstyles, but the nostalgia collector isn't aware of the true nature of this image. Was it taken celebrating the purchase of a new home, the 30th anniversary of two lovers, Thanksgiving dinner? This owner can't use the pictorial representation of the event to remember the way the grass felt beneath her shoes in their new lawn, the view of the ocean on her 30th anniversary getaway, or the smell of fresh butter rolls as they are pulled from the oven. No, this small piece of paper no longer carries these memories for any living person. These memories died with the people in the photos therefore the last pictorial evidence should be put to rest as well.

Love Goes Toward Love as Schoolboys from their Books: Private Romeo and the Cinematic Queering of Romeo and Juliet

Anthony Guy Patricia, Department of English

In Shakespeare: The Invention of the Human, Harold Bloom describes *Romeo and Juliet* as a play that is the largest and most persuasive celebration of romantic love in Western literature (90). Considering the source, this is high praise, indeed; but, while arguably true, it is crucial to be aware of the fact that, within the space of a mere thirteen words, Bloom universalizes Shakespeare s representation of romantic love in strictly heterosexual terms. Does this mean that Romeo and Juliet has nothing to offer homosexual audiences and their allies? My answer to that question is, of course not. Since the advent of gay and lesbian studies in the 1970s, and queer studies in the 1990s, a fair amount of critical attention from a non-heterosexist perspective has been directed to Romeo and Juliet. Two of the most prominent textual examples of gay and/or queer interest in Romeo and Juliet include Joseph A. Porter's monograph, *Shakespeare's Mercutio: His History and Drama* (Chapel Hill: University of North Carolina Press, 1988), and Jonathan Goldberg's later essay, "Romeo's and Juliet's Open R's", that appears in his groundbreaking edited collection, *Queering the Renaissance* (Durham: Duke University Press, 1994). Meanwhile, in the realm of mainstream cinema, Romeo and Juliet has been brought to the silver screen by at least two openly-gay directors in the previous century, including by George Cukor in 1936 and, perhaps even more famously, by Franco Zeffirelli in 1968. Peter S. Donaldson, in his Shakespearean Films / Shakespearean Directors (Boston: Unwin Hyman, 1990), includes an entire chapter on Zeffirelli's *Romeo and Juliet* that uses Laura Mulvey's concept of to-be-looked-at-ness to argue, in part, that Zeffirelli's camera displays the men's bodies [of characters like Romeo and Mercutio, among others] as objects of an engrossed, sensual appreciation that encourages a potentially homoerotic response (154). And, in keeping with this sustained attention on his character as the locus of non-normative sexuality, director Baz Lurhmann transformed Mercutio into a drug-addicted drag queen seething with barely repressed anger in *William Shakespeare's Romeo + Juliet* (1996). But, despite these prominent critical and cinematic interventions, I would argue that *Romeo and Juliet* was not fully queered (with queered understood, as the editors of The Norton Anthology of Theory and Criticism put it, as the critique of the dominant heterosexual binary, masculine/feminine, which enthrones the two sexes and casts other sexualities as abnormal, illicit, or criminal [25]) until the appearance, in 2011, of director Alan Brown's independent feature film, *Private Romeo*. As such, the purpose of this essay is to show how Brown succeeds at re-visioning using Adrienne Rich's concept of re-vision, or looking back, of seeing with fresh eyes, of entering a text from a new critical direction ("When We Dead Awaken: Writing as Re-Vision" in *On Lies, Secrets, and Silence: Selected Prose* 35) *Shakespeare's Romeo and Juliet* as a powerful, historically-specific, gay love story that celebrates male same-sex love as the wonderful thing it is for two men to experience and to explore the larger implications of this success as the second decade of the twenty-first century continues to unfold.

Writing Jewish Culture and Identity in Poland and Lithuania

Samantha Samson, Department of English

Every year in July, the city of Krakow, Poland, hosts the Krakow Jewish Cultural Festival. This festival features Yiddish language workshops, tours of the historic Jewish districts, art exhibits, poetry readings and a concert series. As a poet who draws deeply from my Eastern European Jewish roots, I was immediately attracted to a festival celebrating the revival of Jewish culture in post-WWII Poland. I attended the festival this past July and participated in workshops, lectures, and met with some of the most important scholars and religious leaders in the Jewish community there. While in Europe, I also travelled to Vilnius, Lithuania, home to one of the largest Jewish populations before WWII. Vilnius, however, had not experienced any Jewish cultural revival after WWII and Soviet occupation, a stark contrast to Krakow's embrace of Jewish history, culture and scholarship in the past few decades. While in Vilnius I was able to visit a shtetl, or traditional Jewish village and the setting of many works of Yiddish Literature. Seeing these sites first hand has given my poetry a clearer sense of place. In addition, my travels to Poland and Lithuania have provided me with a more nuanced understanding of Jewish culture and identity in post-WWII Eastern Europe.

Graduate & Professional Student Research Forum
Education
Platform Session A
UNLV Student Union Room 222

9:30 – 9:45am	Elif Adibelli, Department of Teaching and Learning
9:45 – 10:00am	Lina DeVaul, Department of Teaching and Learning
10:00 – 10:15am	Su Gao, Department of Teaching and Learning

10:15 – 10:45am Break

10:45 – 11:00am	Christie Gardner, Department of Educational Psychology and Higher Learning
11:00 – 11:15am	Pamela Maher, Department of Teaching and Learning
11:15 – 11:30am	Qingmin Shi, Department of Teaching and Learning

Predicting Student Teachers' Conceptions of Teaching Science with Their Conceptions of Learning Science, Epistemological Beliefs, and Approaches to Learning Science

Elif Adibelli, Mustafa Sami Topcu and Hasan Deniz, Department of Teaching and Learning

Previous studies established a close link between teaching conceptions and approaches to learning, learning conceptions, and epistemological beliefs, separately. Unfortunately, the authors were unable to locate many quantitative studies evaluating such relations in a particular study and in the domain of science. Therefore, this study aimed to investigate: (1) What are the student teachers conceptions of teaching science? and (2) What is the relative contribution of dimensions of personal epistemology, learning approaches, and learning conceptions to conceptions of teaching science? The sample of this study included 157 student teachers of elementary science education and class teacher education in a non-Westerntry. The four instruments of the study were School Physics Teachers Conceptions of Teaching (Gao & Watkins, 2002), the Epistemic Belief Inventory (Schraw, Bendixen, & Dunkle, 2002), and the Conceptions of Learning Science and the Approaches to Learning Science questionnaires (Lee, Johanson, & Tsai, 2008). Step-wise multiple regressions analyses indicated that most of the student teachers responded positively to all teaching conceptions. Moreover, teacher-centered teaching conceptions were explained by unfruitful learning approaches and naïve epistemological beliefs. On the other hand, student-centered teaching conceptions were mostly explained by constructivist learning conceptions. This study has implications for teacher educators in the design and development of teacher education programs.

An Analysis of Chinese Han and Mongolian Students Mathematics Understanding

Lina DeVaul and Zhong Minzu Zhiyong, Department of Teaching and Learning

Importance: International Student Assessment (PISA). China has more than 56 races while most of the students who participated in PISA are Han. It is valuable to figure out the different academic performance among races in China as well as the reasons for the differences. This study examines Mongolian and Han Chinese students' differences in mathematical understanding and family background.

Goals: The degree of students' mathematical understanding could be determined by the quantity of conceptual structure and the quantity of rules application that they demonstrate. Based on this assumption, students' differences in mathematics understanding can be examined based on their distance to the nature and discourses of mathematics. This study tried to figure out whether students' differences in understanding mathematics do not align with their cultural and ethnic backgrounds, but with their competence in understanding mathematics.

Methodology:

346 Mongolian students at sixth grade level in Inner Mongolian and 48 Han students from one school in Shandong Province were chosen. A questionnaire was used to identify the characteristics of participants' mathematics understanding as well as family background. T-test was conducted to compare students' mathematical understanding and family background.

Results and Conclusion:

Han students performed better than Mongolian students in general and separate items. Mongolian students who can speak Mandarin or whose parents speak Mandarin at home performed better than other Mongolian students. This study found out that students' differences in understanding mathematics align with their cultural and ethnic backgrounds as well as their competence in understanding mathematics.

Relationship between Different Science Teaching Strategies and Science Achievement

Su Gao, Zhong Zhiyong and Jian Wang, Department of Teaching and Learning

The global economy demands a country's workforce adequately educated in science. Inquiry-based teaching is assumed more effective than the popular direct instruction in helping students learn science effectively. China is determined to improve its students science learning and narrow the achievement gap between its mainstream and minority students by pushing teachers to use the inquiry-based instruction. Drawing on the survey and assessment data collected using TIMSS 2007 instruments, this study examines whether and to what extent the inquiry-based, didactic instruction, and mixed teaching approaches influence differently the science achievements of eighth grade Han and Mongolian Chinese students. It found that inquiry-based instruction has no significantly positive influences on two groups science performance, which challenges the theoretical and policy assumption.

Motivation and Cultural Immersion in the Study of Second Language Gesture Acquisition

Christie Gardner, Department of Educational Psychology and Higher Education

Where interests in the second-language (L2) literature of study-abroad (SA) contexts are mostly limited to motivation and L2 acquisition, the significant contributions currently emerging in the studies on gesture can be included to elucidate the L2 learning process. In an effort to better understand the learning process that occurs in foreign contexts, I traveled to South America where I spent a semester in Chile closely observing SA students in their L2 learning journeys.

Using a sociocultural lens, I am most interested in the development of L2 as exhibited through gestural expression in the target language, and as mediated by motivation. Throughout the course of the semester participants underwent a series of 3 video-taped interviews with a Chilean native speaker, and completed 3 sets of motivation-related questionnaires. It was expected that differing student motivations to SA would produce distinctly different gestural transformations from pre- to post-interviews, however, style of speech in the target language quickly emerged as a related aspect which needed to be evaluated alongside the gestural mannerisms in analysis.

Thus far in my assessments of this multiple case study, I have been able to identify each student by their motivational type, each of which does seem to transpose differently in students' gestural behavior, style of speech, and methods of engagement in the target culture. Upon complete analysis, I hope to offer a better insight on L2 learning so it can be used to lend more support where needed for these SA students.

What Influence can Working with Science and Math Faculty Mentors have on Changing Dispositions toward Science, Technology, Engineering, and Math (STEM) Fields in Preservice Teachers?

Pamela Maher, Janelle Bailey, Dale Etheridge and Dale Warby, Department of Teaching and Learning

This study seeks to address the nation's science, technology, engineering and math (STEM) education needs by providing preservice teachers access to STEM content college faculty mentors for advice and feedback in the preparation and delivery of STEM lessons to elementary school students as part of their teacher preparation program. Fifty (N = 50) preservice teachers at a two-year college in the southwest self-selected to participate in a grant funded study. These students taught a science or math lesson to children visiting the college Planetarium as part of a school field trip program. Data was collected and qualitative research done to determine the effect faculty mentors have on preservice teacher self-efficacy toward teaching STEM content. The project exposed teachers-in-training to the support and knowledge of faculty in the school of science and mathematics furthering their understanding of STEM disciplines. Preservice teacher access to faculty mentors with STEM content knowledge and the opportunity for preservice teachers to gain early classroom experience were examined. Results reveal the extent to which content faculty mentors influence attitude to teaching STEM in order to inform the practice of preservice teacher preparation. In this way the study of methods that bring change can give information on how to train teachers to overcome barriers to effective STEM teaching. When attitudes among preservice teachers can be enhanced and self-efficacy improved, these new teachers will be able to more effectively engage their students. This creates a larger, more enthusiastic, and more diverse pool of K-12 learners in STEM fields.

"Why Teach?" Comparing Prospective Teachers' Initial Motivation to Teach in U.S. and China

Qingmin Shi, Emily Lin, Jian Wang and Shaoan Zhang, Department of Teaching and Learning

This study explores similarities and differences in preservice teachers initial motivations for choosing teaching as a career, their perceptions of teaching, and career choice satisfaction between samples from the U.S. and China using the recently validated Factors Influencing Teaching Choice (FIT-Choice) scale (Watt & Richardson, 2007). A deeper understanding about preservice teachers' initial motivations, perceptions of teaching, and satisfaction with their career decision to become teachers contributes to an important knowledge base for the development of teacher education policies and programs designed to improve the quality of teachers and teaching practice that may impact student learning.

The analysis revealed interesting similarities and differences in motivations for choosing teaching and perceptions about the profession between U.S. and Chinese teacher candidates. Three major findings about the motivational factors for preservice teachers choosing teaching as their career are noted. First, for both the U.S. and Chinese participants, shaping the future of children/adolescents and making a social contributions (social utility values) were the most strongly reported motivations for choosing teaching as a career.

Second, although the U.S. participants showed statistically significantly higher ratings than Chinese participants for shaping the future of children/adolescents and making a social contribution as well as six other motivations for teaching including: ability, intrinsic career value, job transferability, enhance social equity, work with children/adolescents, and prior teaching and learning experiences.

Third, although U.S. participants viewed teaching as a difficult job with low social status, requiring specialized knowledge and skills, they were more highly motivated by their perceived teaching abilities and qualities when compared to their Chinese counterparts.

Graduate & Professional Student Research Forum
Science and Engineering
Poster Session A
UNLV Student Union Ballroom

Posters 1 – 4: Judging at 8:30 – 9:30am

1. Christopher Adcock, Department of Geoscience
2. Nastaran Afnani, Department of Civil and Environmental Engineering and Construction
3. Sabrina Dragan, School of Dental Medicine
4. Paul Hafen, Department of Kinesiology

Posters 5 – 8: Judging at 9:30 – 10:30am

5. Michael Jarrett, Department of Kinesiology
6. Dinesh Kandel, Department of Civil and Environmental Engineering and Construction
7. Jasmin Khilnani, School of Life Sciences
8. Jungjae Koh, Department of Chemistry

Posters 9 – 12: Judging at 10:30 – 11:30am

9. Kelcey Loveland, School of Dental Medicine
10. Seyed Mohammadi, School of Dental Medicine
11. Borhan Moradi and Meysam Najimi, Department of Civil and Environmental Engineering and Construction
12. Andrew Nordin, Department of Kinesiology

1. **Interpretation of Phosphate Mobility on Mars Using Terrestrial Mars-analog Basalts and Reactive Transport Modeling**

Christopher Adcock and Elisabeth Hausrath, Department of Geoscience

Phosphate is a chemical nutrient required in both fundamental biologic reactions and reactions that may have led to the origin of life. The availability of phosphate in martian environments may therefore have been a determining factor in the possible origin of life on Mars. Phosphate is first introduced and made available in an environment through the dissolution of primary phosphate minerals during aqueous interactions. To better interpret phosphate mobility on Mars and the implications for phosphate availability and martian aqueous history, we examined phosphate mobility in a Mars analog environment, Craters of the Moon National Monument (COTM). COTM is located in Idaho and the locale of numerous dated lava flows. The area represents an arid environment chronosequence, and COTM basalts are considered analogs for high P, Fe, and Ti martian rocks. However, the phosphate minerals within COTM basalts, as well as most terrestrial basalts, likely differ from those in martian rocks. The most common primary terrestrial phosphate mineral is fluorapatite. In contrast, meteorite and mission data suggest Cl-rich apatite and the extraterrestrial mineral merrillite are the dominant primary martian phosphates. These different minerals have different kinetic and thermodynamic characteristics. In order to interpret phosphate mobility on Mars, we used observations of phosphate mineral dissolution and weathering rind formation as a function of age in COTM Mars analog basalts, as well as kinetic and thermodynamic data for chlorapatite and merrillite from our previous research to inform a reactive transport model, allowing us to model alteration of P-rich martian rocks.

2. **Removal of Perfluoroalkyl Compounds from Water Using Anion Exchange Resins**

Nastaran Afnani, Department of Civil and Environmental Engineering and Construction

The global existence of perfluoroalkyl compounds (PFACs) in natural and treated waters and their detection in human and wildlife tissue samples have resulted in concerns about potential adverse health effects in humans. These chemicals have been used in the production of industrial and commercial products such as water repellent surface coatings and food packaging materials and in consumer products such as ScotchGard and Teflon for the past six decades. PFACs are extremely stable and resistant to hydrolysis, photolysis and biodegradation. Treatment practices such as coagulation followed by sedimentation and/or filtration, conventional disinfection and even advanced oxidation have been found ineffective at attenuating PFACs. However, PFACs are negatively charged at ambient pH levels and some anion exchange resins have been shown to effectively remove PFACs from laboratory and natural waters. The objective of this research is to study the removal of PFACs from water using anion exchange resins. Several strong- and weak-base anion exchange resins have been tested. A series of bench-scale batch contact isotherm experiments provided data on PFAC adsorption behavior, including adsorption rates, resin capacities, and selectivity coefficients, which will be presented and used to identify suitable resins for further investigation Breakthrough curves constructed from the data from column contact experiments, will also be presented. Follow up studies include the regenerability of PFAC loaded resin and disposal of spent brines containing PFACs. This research explores the possibility of the use of an established water treatment technology (anion exchange resins) for a new application, the removal of recalcitrant PFACs.

3. **The Role of Tumor Necrosis Factor Alpha in PAF-AH Expression**

Sabrina Dragan, Mohammed Abdel-Al and Katherine M. Howard, School of Dental Medicine

Objectives: Tumor necrosis factor alpha (TNF-α) is an important pro-inflammatory cytokine produced by macrophages in response to immunological challenges. Likewise, inflammatory challenges also cause the production of platelet-activating factor (PAF), a robust phospholipid derivative. When stimulated, TNF-α activates signal transduction pathways resulting in a mass production of PAF. PAF plays an integral role in the inflammatory response causing vasodilation, platelet adhesion, and degranulation and is inactivated by the degrading enzyme, PAF acetylhydrolase (PAF-AH). We investigated whether an inflammatory challenge with TNF-α would promote production of PAF-AH and initiated experiments to decipher the signaling mechanism(s) responsible**.**

Methods: A monocyte/macrophage cell line (MM6) was grown in RPMI media supplemented with 10% FBS. Twenty-four hours after seeding the cells at a density of 2 X 10^5 cells/mL, the cells were transferred to serum-free media. *E. coli* LPS (0-200 ng/ml) and/or TNF-α (0-5 ng/ml) was administered and PAF-AH mRNA levels were examined by quantitative real-time RT-PCR along with the controls 18S and cyclophilin. Pharmacological inhibitors of MAPK pathways were used to examine the pathways activated in response to LPS and TNF-α.

Results: TNF-α increased PAF-AH expression in a dose-dependent manner with peak expression of PAF-AH at 24 hours following administration. TNF-α was significantly less potent than LPS (4-fold vs. 10-fold). When added concomitantly with LPS, TNF-α further increased the expression of PAF-AH. While the p38 MAPK inhibitor, SB203580, blocked half of the LPS-induced up-regulation of PAF-AH, it had no effect on TNF-α -induced up-regulation of PAF-AH.

Conclusion: TNF-α is a crucial inflammatory cytokine which up-regulates the production of PAF-AH in MM6 cells upon its administration. The production of PAF-AH is pivotal in deactivating potent mediators of inflammation. Because the p38 MAPK inhibitor had no significant effect on TNF-α induced production of PAF-AH, we hypothesized TNF-α up-regulates the production of PAF-AH via the JNK pathway.

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4. **Effect of Racing Flats on Running Economy in Male Adolescent Runners**
Paul Hafen and Antonio Santo, Department of Kinesiology

Purpose: To investigate whether Running Economy differs in racing flats versus standard running shoes in high school cross-country runners.

Methods: Oxygen cost of running (mL $O_2 \cdot kg^{-1} \cdot min^{-1}$) was measured in 20 male adolescent runners (mean age = 16.25 ± 0.97 years, 5 km best time = 17.52 ± 0.78 min) when running at their predicted maximal lactate steady state while wearing the Mizuno Wave Elixir 6™ standard running shoe and the Mizuno Wave Universe 4™ racing flat.

Results: After running both trials at the same speed, the high school runners demonstrated a significant 2% reduction ($P < .001$) in the oxygen cost of running when comparing the racing flat (60.94 ± 5.83 $mL \cdot kg^{-1} \cdot min^{-1}$) to the standard running shoe (62.14 ± 5.87 $mL \cdot kg^{-1} \cdot min^{-1}$).

Conclusion: the use of the Mizuno Wave Universe 4™ racing flat significantly improved running economy, most likely due to differences in shoe mass between the racing flat and standard running shoe.

5. **Relationship of Global DNA Methylation with Cardiovascular Fitness and Body Composition**

Michael Jarrett and James Navalta, Department of Kinesiology and Nutrition Sciences

Background: Epigenomics is the study of heritable alterations in gene expression potential that are not cause by changes in the actual DNA sequence. One such alteration, Global DNA Methylation (GDM), has been linked to the development of Cardiovascular Disease and its risk factors.

Purpose: The purpose of this study is to determine if there is a significant correlation between GDM and cardiovascular fitness as well as measures of body composition.

Proposed Methodology: 60 apparently healthy, male (n=30) and female (n=30) adult volunteers will have their height and weight measured after completing a physical activity and diet questionnaire. Following these measurements, a small blood sample (600μL) will be taken via a finger prick for the determination of GDM. The participants will have their body composition assessed by means of a Dual-Energy X-ray Absorptiometry (DEXA) scan. Cardiovascular fitness will be evaluated by the completion of a maximal exertion, graded exercise test (VO_2Max) on a treadmill. A Peasron product-moment correlation coefficient will be determined for GDM and VO_2Max/percent body fat respectively.

Expected Results: Based on previous research, a significant correlation between GDM and VO_2Max as well as percent body fat is expected.

6. **Energy Audits in Wastewater Treatment Systems: A Review of Literature**

Dinesh Kandel, Jacimaria Batista and Sajjad Ahmad, Civil and Environmental Engineering and Construction

Energy savings motivation, which once focused on sustainability and oil price, have now shifted towards sustainability, mitigating climate change and reducing carbon emissions by minimizing energy use. Moreover, increasing population and steadily rising energy cost has forced wastewater treatment plants (WWTPs) to scrutinize the energy use for wastewater treatment. This review therefore assessed the energy consumption in WWTPs using different treatment levels, methods, plant size, and individual components of treatment processes to identify the potential energy savings opportunities. The data for the study was extracted from the published efforts in investigating energy consumption in WWTPs. Finding of this review suggested that advanced wastewater treatment with nutrients removal was the most energy intensive process; however, the unit electricity consumption decreases with an increasing plant size due to economies of scale. Significant energy saving potential was identified among aeration, pumping, disinfection, and sludge digestion. Energy savings of up to 60% could be achieved in aeration by optimizing the aeration basin and automating the oxygenation process. Upgrading and optimizing the pumping system could save 10-30% of pumping energy. Ozone utilization offers more saving potential than the adoption of UV treatment. Implementation of VFDs and SCADA systems will further encourage the conservation efforts. Finally, incorporation of treatment modification process such as anaerobic digestion with biogas utilization and biosolids incineration yields significant electricity generation potential within the site, offsetting the total electricity demand and the associated electricity costs. These findings will aid in developing energy efficiency improvement programs, addressing sustainability and climate issues for future.

7. **New Treatments for American Foulbrood: Using the Microbe's Biology against It**

Jasmin Khilnani (Smith), Michelle Elekonich, Ernesto Abel-Santos, Penny Amy, Helen Wing, Israel Alvarado and Diane Yost, School of Life Sciences

Our research takes a multipronged approach to combating Paenibacillus larvae, the causative agent of the honey bee larval disease American foulbrood (AFB). Because spore germination is critical for AFB establishment, we analyzed the requirements for P. larvae spore germination in vitro. We found that P. larvae spores only germinated in response to L-tyrosine and uric acid at physiologic pH and temperature suggesting that the simultaneous presence of both signals is necessary for spore germination in the larval honey bee gut. Indole and phenol, the degradation products of tryptophan and tyrosine, strongly inhibited spore germination. Traditional antibiotic treatments have resulted in resistant strains of P. larvae so we are investigating the use of lytic enzymes produced by phage to P. larvae. To date we have identified more than 31 specific bacteriophages from more than 100 environmental samples. We are proceeding to isolate lysin genes from the phage most effective at clearing plaques of P. larvae. We have also begun to test antimicrobial peptides of the honeybee immune system. So far, we have tested apidaecin and abaecin antimicrobial peptides for possible bacteriostatic activity as potential larval treatments. Preliminary data suggests that apidaecin, as well as abaecin, have no growth inhibition activity against P. larvae, except at extremely high concentrations that do not occur naturally in honeybee hemolymph. Currently, we are in the initial phase of planning our hymenoptaecin experiments. These experiments may provide the basis for treatments to clear the hive of spores, treat active infections and protect honey bee larvae.

8. **Synthesis of Poly(pyridinium salt)s Containing Fluorene Moieties in the Main-Chain with Various Organic Counterions**

Jung Jae Koh, Tae Soo Jo, Haesook Han, Jongwon Park, Bidyut Biswas and Pradip K. Bhowmi, Department of Chemistry

Poly(pyridinium salt)s are an important class of macromolecules that contain ionic groups in their backbones. Their properties can be significantly tuned by introducing various aromatic and aliphatic diamine moieties via ring-transmutation polymerization in their polymer backbones and organic counterions. They exhibit photoluminescent properties in various organic solvents as well as solid states that ranged from UV to green light depending on the architecture of diamine moieties. Furthermore, they exhibit both thermotropic (in melt) liquid-crystalline (LC) and lyotropic (in solution) LC properties depending on the chemical structures of various diamines used. In this research, a series of novel poly(pyridinium salt)s containing fluorene moieties in combination with various organic counterions were synthesized through a ring-transmutation polymerization reaction of bispyrylium ditosylate salt and 9,9′-dioctyl-9H-fluorene-2,7-diamine and metathesis reactions. Their chemical structures were characterized by FTIR, ^{1}H and ^{19}F NMR spectroscopy. The polymers displayed high number-average molecular weights (M_n) between 97 and 108 kg/mol and PDI in the rage of 1.12−1.88. Fully-grown lyotorpic phases of polymers were observed in DMSO, CH_3CN or MeOH at different critical concentrations. In their UV−Vis absorption spectra, there were no significant changes of spectra features indicating that there existed the closely spaced π–π^* transitions. The light-emission spectra of polymers showed a positive solvatochromism, i.e., their λ_{em} peaks shifted bathochromically on changing the polarity of the solvents. In contrast, the λ_{em} peaks of these polymers in the solid states shifted hypsochromically resulting in blue or green light depending on the chemical structures of organic counterions.

9. **Fibronectin and Collagen-I May Modulate Dental Pulp-Derived Stem Cell Proliferation**

Kelcey Loveland, Colby Meeder, Charles K. Hill and Karl Kingsley, School of Dental Medicine

Objectives: Stem cell-based therapies and tissue engineering possibilities have moved from the realm of science fiction to science reality. Many recent studies have demonstrated that dental pulp is a rich source of viable, pluripotent mesenchymal stem cells. These cells are primarily located in the dental pulp tissue of deciduous dentition, as well as the permanent dentition. Although many studies have demonstrated the efficiency of isolating and recovering these cells from dental pulp, few studies to date have elucidated the mechanisms needed to direct and differentiate dental pulp stem cells (DPSC). Based upon previous efforts using various components of extracellular matrix to direct the differentiation of adipose-derived mesenchymal stem cells, the goal of this study was to compare specific extracellular matrix molecules and their effects on the phenotype of newly isolated DPSCs.

Methods: Two newly isolated and characterized uncommitted, pluripotent DPSC cell lines, DPSC-9765 and DPSC-3882, were plated in standard 96-well *in vitro* proliferation assays coated with ECM (including Fibronectin, Collagen-I, Laminin-5, as well as Poly-L-lysine and phosphate buffered saline controls).

Results: All ECM molecules evaluated were sufficient to induce phenotypic changes in DPSC-9765, increasing growth between 5.0% and 82% over three days. However, differential responses were observed in DPSC-3882 cells, with both Collagen-I and Fibronectin inhibiting proliferation (-9.1% and 27.4%, respectively) and Laminin-5 stimulating growth by 110.3%.

Conclusions: These results suggest that ECM molecules, including Collagen-I, Fibronectin and Laminin-5 are capable of influencing and mediating cellular proliferation in both uncommitted, pluripotent DPSC lines evaluated. Moreover, although Laminin-5 stimulated growth in both cell lines, distinct and conflicting effects were observed with Fibronectin and Collagen-I. This work represents novel results that may be useful for understanding mechanistic bioengineering pathways in order to differentially induce or inhibit cellular phenotypes of DPSC.

10. **Identifying a Novel Human Gene Expressed in Mesenchymal Dental Pulp**

Seyed (Iman) Mohammadi, Sheila Heraypur and Karl Kingsley, School of Dental Medicine

Objectives: Tooth development (TD) and repair has been the subject of continuous research. While much is known about TD and morphogenesis, this process is not completely understood and many mechanisms and pathways remain to be discovered. The objective of this project was to find novel genes integral to head and neck development and more specifically to TD in vertebrates. Another early developmental Drosophila gene, *windpipe*, was recently discovered to have a human ortholog – a predicted *H. sapien* gene identified using NCBI-BLAST. Here we describe a novel predicted 8.53 kb gene sequence on chromosome 7, which is transcribed in undifferentiated mesenchymal dental pulp stem cell lines (udmDPSC).

Methods: Using NCBI-BLAST, overlapping RT-PCR primers were designed to span the entire 8.53 kb region, synthesized by SeqWright. Total RNA from adult human tissues was isolated and screened for mRNA expression.

Results: Negative results were obtained from breast (HTB-125 and MCF10A), mammary gland (184B5), foreskin fibroblast (Hs27), oral gingiva (HGF-1), colorectal (SW620), oral cancer (CAL27), cervical adenocarcinoma (GH354, CaSki), and breast cancer (MCF7) among others. However, positive expression of mRNA was observed in two udmDPSC. Overlapping sequences spanning 1642 bp have now been sequenced and aligned, which correspond to specific sections of the original predicted protein's gene product.

Conclusions: Using primers specific for a novel gene predicted by the human genome project, expression of this novel gene was revealed in undifferentiated mesenchymal stem cells from the pulp, but was not in any differentiated normal or cancerous cell lines tested. Sequence analysis revealed the cDNA is likely to code for an internal predicted section of a novel zinc-finger transcription factor closely that is related to other zinc finger transcription factors (ZNF) critical to early head and neck morphogenesis, as well as tooth development.

11. **Effect of Nano Silica on Transport Properties of Self Consolidating Concrete**
Borhan Moradi and Meysam Najimi, Department of Civil and Environmental Engineering and Construction

Increases in convolution of construction and complex reinforcement design of modern age concrete structure have increased the demand for self-consolidating concrete. In recent years, concrete mixture proportioning design has emphasized not only on compressive strength, but also flowability where access is hindered in narrow gaps of formworks and reinforcements. For this reason, self-consolidating concrete has captured significant attention. Self-consolidating concrete known as a high performance concrete, which is very deformable in fresh state without occurrence of matrix segregation. It is well-known that self-consolidating concrete does not require vibration in order to be placed. In reality, self-consolidating concrete can be compacted and placed under its own weight.

Nano particles have revolutionized science and concrete world in the recent years. One of the most famed nano-based materials is nano-silica which has captured the attention of civil engineers and scientists. Nano-silica has promising effects, both physically and chemically, on characteristics of self- consolidating concrete, as mixture stability is enhanced and mobility within concrete matrix is hindered. It is believed that fresh, bulk, and transport properties of self-consolidating concrete can be improved by incorporating nano-silica particles as a supplementary cementitous material.

The main objective of this project is to examine transport properties of self-consolidating concrete containing nano-silica particles. The experimental program dealing with transport properties of self-consolidating concrete includes: gas permeability, water permeability, rapid chloride penetration, rapid chloride migration, chloride diffusion, capillary absorption, and absorption.

12. **Lower Extremity Range of Motion and Movement Variability Changes Due to Focus of Attention During Landing**

Andrew D. Nordin and Janet S. Dufek, Department of Kinesiology and Nutrition Sciences

Attentional focus (AF) instructions during landing were used to explore strategies for reducing injury risk. Kinematic movement variability assessed neuromotor functioning and the ability of the motor system to vary internal loads. Kinematic changes during bilateral drop-landings were examined via lower extremity joint range of motion (ROM) and ROM variability, using internal versus external AF. Eleven participants, (7 male, 4 female; age 23.5±13.2years; height 1.8±0.1m; mass 71.5±3.5kg) were used to examine sagittal and frontal plane ROM and ROM variability at the hip, knee, and ankle joints. Ten drop-landings were performed from a 60cm plyometric box under three counterbalanced AF conditions (external, internal, control). Kinematic data were acquired using a 12-camera Vicon system (200Hz). Variability was expressed using coefficient of variation. Comparisons were made via 3x3 (Joint x AF) mixed model ANOVAs, with repeated measures on AF. Sagittal ROM differed among landing conditions, $F(2,60)=7.87$, $p=.001$, and among joints, $F(2,30)=14.56$, $p<.001$, where external and internal AF differed from the control (66.0°±23.2°, $p=.003$; 64.7°±20.2°, $p=.019$; 60.0°±19.4°, respectively), and ROM was greater at the knee (83.0°±15.8°) relative to the hip (57.4°±11.5°, $p=.001$) and ankle (50.3°±6.2, $p<.001$). Lower extremity ROM variability differed between external and control conditions in the sagittal plane, (14.8±10.0, $p=.008$; 12.9±8.4, respectively), and between external and internal conditions relative to the control in the frontal plane, (20.2±13.6, $p=.004$; 20.1±12.7, $p=.018$; 17.8±11.3, respectively). Overall, external AF demonstrated greater sagittal ROM and greater sagittal and frontal ROM variability relative to control, revealing kinematic changes during landing. This may have implications on injury susceptibility.

Graduate & Professional Student Research Forum
Science and Engineering
Poster Session B
UNLV Student Union Room Ballroom

Posters 13 – 16: Judging at 9:00 – 10:00am

13. Michael Picker, Department of School of Life Sciences
14. Lindsay Row, School of Dental Medicine
15. Noe Santos, Department of Civil and Environmental Engineering and Construction
16. Stephanie Shreck, Department of Electrical and Computer Engineering

Posters 17 – 20: Judging at 10:00 – 11:00am

17. Krishna Shrestha, Department of Civil and Environmental Engineering and Construction
18. Robert Smith, School of Life Sciences
19. Rebecca Spitek, Department of Civil and Environmental Engineering and Construction
20. Heather Stoller, Department of Geoscience

Posters 21 – 23: Judging at 11:00 – 11:45am

21. Chelsie Todd, School of Dental Medicine
22. Kimberly Trocio, Department of Kinesiology and Nutrition Sciences
23. Valerie Tu, Department of Geoscience

13. **Two Nucleoid Associated Proteins Mediate Silencing of the icsP Promoter in *Shigella flexner***

Michael Picker, Hiro Park and Helen J. Wing, School of Life Sciences

Shigella flexneri, a human pathogen that is closely related to E. coli, is the causative agent of bacillary dysentery (bloody diarrhea). In the United States, there are approximately 14,000 reported cases each year, but in the developing world, this disease is present in most communities most of the time (CDC). This work aims to understand how *S. flexneri* turns on/off its ability to cause disease (pathogenesis) by studying how the icsP gene is turned on/off. There is an intricate interplay between three key proteins that helps control pathogenesis: H-NS and StpA both turn off icsP, and VirB turns on icsP. H-NS is responsible for turning off icsP, but in the absence of H-NS, StpA can act as a molecular backup. By removing and replacing these three proteins in various combinations, we can begin to dissect how these three proteins may be interacting with each other to control *Shigella* pathogenesis. We show that VirB can antagonize both H-NS and StpA, and thus turn on the icsP gene. Future work will entail studying the process in which VirB antagonizes H-NS and StpA. This and future work, therefore, provides a foundation to a broader understanding of how *Shigella* switches pathogenesis on/off, and may also have the potential to shed light on how closely related human pathogens may work to cause disease.

14. **PCR Screening of Saliva for *Scardovia wiggsiae* in Southern Nevada**

Lindsay Row, Jeremy Catmull, Matthew R. Repp, Cody Heslington, Tyson Miller, Jordan Diamond and Karl Kingsley, School of Dental Medicine

Objectives: Caries involves bacterial, dietary and immune factors influenced by many variables, including environment and socioeconomic status. A newly identified cariogenic pathogen, *Scardovia wiggsiae* (SW) has been found within the microbial plaque mass in children. The presence of this organism correlates with severe early childhood caries (SECC) and with demographic factors, such as gender, race and socioeconomic status. The University of Nevada, Las Vegas – School of Dental Medicine (UNLV-SDM) operates dental clinics and community outreach to decrease health disparities among underserved populations, including racial and ethnic minorities and low-income families. This pilot study sought to screen UNLV-SDM clinic and outreach patients for the presence of this newly identified pathogen.

Methods: Saliva samples from school-age children (n=48) and the pediatric clinic (n=27) were screened using polymerase chain reaction (PCR) and primers specific for SW and *Streptococcus mutans* (SM) following DNA extraction and purification,

Results: This analysis revealed the majority of specimens (n=59/75 or 78.6%) had SM and SW levels below the detection limit. However, a subset of specimens had detectable SM (n=10/75 or 13.3%) or SW (n=6/75 or 8.0%) levels, which came from discrete non-overlapping samples. The SM and SW-positive samples were evenly distributed among males and females, although the majority were found among minority patients (n=12/16 or 75%). Both SW (n=4/6 or 66.7%) and SM (n=7/10 or 70%) positive samples were more prevalent among minority patients.

Conclusions: These results suggest that although the cariogenic organism SM may be present in a subset of these saliva samples, other newly identified cariogenic organisms, such as SW, may be separate, independent factors involved in the etiology of caries within this pediatric patient population. In addition, the prevalence of SM or SW among minorities may suggest that socioeconomic and demographic characteristics may also influence patient risk.

15. **Modeling Passive Solar Distillation**

Noe Santos, Department of Civil and Environmental Engineering and Construction

A study has been performed to examine the effects of daily weather on the performance of commercial solar stills. The objectives of this study were to evaluate the long term performance of solar stills, to instrument two solar stills and record sub-hourly thermal properties, to evaluate existing heat transfer modeling methods for hourly production, and to create new models to predict daily production using experimental distillate production and local weather data by utilizing artificial neural networks (ANN), genetic algorithms (GA), and multiple regression (MR). A system dynamics model was also created to model the required basin area and storage volume to meet year round potable water demand.

Solar still production was measured between January 2011 and October 2011. The average daily yield of solar still 1A and 1B ranged from 2.11 ± 0.35 L/m^2 and 2.00 ± 0.46 L/m^2 (winter) to 5.53 ± 1.01 L/m^2 and 5.64 ± 1.06 L/m^2 (summer), respectively.

The ANN model performed with a mean absolute error (MAE) as low as 9.4% with up to 92.4% of production predictions within 20% of the actual daily production. The GA model performed with a MAE as low as 11% with up to 91% of production predictions within 20% of the actual daily production. The MR model performed with a MAE as low as 9.7% with up to 94.1% of production predictions within 20% of the actual daily production.

16. **Regressive eXogenous Method for Modeling the Dynamics of a Spatial Light Modulator**

Stephanie Shreck and Shahram Latifi, Department of Electrical and Computer Engineering

To develop a control mechanism for a liquid crystal (LC) steering device like a Spatial Light Modulator (SLM), it is important to develop a high fidelity model of the system. The basis for current modeling techniques is the Frank-Oseen free energy density equation which outlines how an LC molecule deforms in the presence of an applied external force. Building up from this concept, one- and two-dimensional models have been demonstrated to describe the interaction between LC molecules when varying electric fields are applied across them. Through this methodology simplifications are often made to limit computational complexity and the resulting models are unable to fully characterize all aspects of the system. This work approaches the problem from a system identification perspective by assuming the inner workings of the LC device are unknown and then building a system model based on the measured response of a stimulated system. By sending a laser beam through LC material while varying electric fields across the material, a technique known as Auto-Regressive eXogenous (ARX) can correlate the measured beam deflections with their associated electric field inputs. The work presented here demonstrates how the ARX model is applied to experimental data to produce a system model. It is hypothesized that the resulting system model will provide a more accurate representation of the LC device than what current modeling approaches have been able to achieve.

17. **Analysis of Crash Statistics of Towns along Rural Highways of Nevada**
Krishna Shrestha, Pramen Shrestha, Aly Said and Ying Tian, Department of Civil and Environmental Engineering and Construction

In 2010, 51,453 crashes occurred in Nevada. Only a tenth of those crashes occurred in rural areas. However about half the Property Damage Only crashes and half the fatal crashes occurred in the rural areas. The objective of this study is to determine the factors associated with the crashes in those towns along rural highways. The findings of the study will be useful to determine preventive actions for reducing crashes.

Crash data of 11 towns containing 18 dependent variables associated with each crash was obtained from Nevada Department of Transportation. The analysis of the data shows that most of the crashes in the rural towns occurred in normal driving conditions. The severity analysis of the crashes shows that five factors (vehicle factor, vehicle type, time of the day, day of the week, and month of the year) were found to have significant correlation with crash severity. One of the major reasons of these crashes was found to be speeding. Crashes involving motorcycle have higher odds of being in injury crashes. The crashes that took place in towns along rural highways in between midnight and 4 a.m. resulted in higher injury odds than at other time periods. Crashes occurring on Monday, Thursday, and Friday have higher odds of being injury crashes as compared to crashes occurring on Sunday. Crashes were more likely to involve injury in the month of June than in other months of the year.

18. **Post-fire Colonization of Desert Mosses: Effects of Fires and Dispersal in Space and Time**

Robert Smith, School of Life Sciences

Successful colonization of desert plants following wildfires is mediated by the process of immigration into burned sites over time and space. Yet, as changing fire regimes modify North American deserts; it is unclear whether fires of increasing severity and frequency will disrupt colonization by depleting propagule reserves located in soil-banks.

I characterized β-diversity, species composition, and species richness of non-vascular plants at six burn sites spanning three decades and three spatiotemporal profiles (soil, aerial, and surface). I asked whether communities differed among profiles, and among sites where fires had different potential fuels, ages, and severities. Richness and β-diversity were greater in soil profiles than in aerial spore rain or existing surface communities. Differences among profiles explained the greatest proportion of the variation in species compositions after accounting for other attributes of fires.

Species compositions differed among fires of different ages and severities, while β-diversity differed significantly among fires of different severities, but not different ages.

There was mixed support for the hypothesis that wildfires deplete soil-banks: although soil-bank β-diversity, composition, and richness differed among older and younger burns, these community responses did not increase linearly with time since fire.

Synthesis: These results suggest that colonization of desert mosses after wildfires depends on regional dispersal both in space (aerial) and in time (soil), but that further development of local communities is guided by the age and severity of the disturbance, implying that communities may shift in response to contemporary fire regime alterations.

19. **The Influence of Inert Mineral Filler Gradation on Self-Consolidating Concrete's Transport Properties**

Rebecca Spitek and Nader Ghafoori, Department of Civil and Environmental Engineering and Construction

Self-consolidating concrete, or SCC, is a high performance concrete that settles under its own weight and therefore does not need mechanical vibration to consolidate. As a result, it requires more workability and a higher paste volume than traditional concrete. This higher paste volume requires higher volumes of powder such as cement and supplementary cementitious material which makes SCC more expensive to produce. The use of inert mineral fillers as a replacement for cementitious material can decrease this expense. The use of inert mineral fillers can also improve the transport properties due to an improved paste matrix.The goal of this research would be to observe how dolomite and limestone powder, two types of inert mineral filler with similar gradations, affect the transport properties of SCC at various replacement levels of 5-30% at 5% increments. It would also observe how three different gradations of limestone powder t replacement levels of 10-30% at 10% increments would also affect the transport properties.

20. **Ichnology and Paleoecology of the Jurassic Aztec Sandstone**
Heather Stoller and Steve Rowland, Department of Geoscience

In December of 2011, the first dinosaur tracks were discovered in Red Rock Canyon National Conservation Area in Las Vegas. Red Rock Canyon exhibits an amazing outcrop of the Aztec Sandstone, which is found throughout southern Nevada and southeastern California. This sandstone is correlative to the Navajo and Nugget Sandstones, located throughout the Rocky Mountain States, which are extensively abundant in fossils. Since this discovery, more dinosaur, synapsid, and arthropod tracks have been discovered in Red Rock Canyon, along with Valley of Fire State Park.

The Aztec Sandstone dates to approximately 180 million years old and over a dozen tracksites have been cataloged providing data from approximately 6 ichnotaxa, some of which have never been documented before. The most popular ichnotaxon is Grallator, which is a track deposited by a bi-pedal, tri-dactyl dinosaur, with approximately a 20 cm stride. Using trackway stride and dimensions of the track, it is possible to determine details such as the speed the dinosaur was traveling. Once all of these details are recorded, this research will provide the first compilation of all the tracks located in the Aztec Sandstone.

With this being a somewhat recent discovery, more information is constantly being collected. This data will be used to reconstruct the paleoenvironment, and will reveal more details about what lived in this area 180 million years ago. Obtaining these answers will provide more information about the geology at these popular areas as well.

21. **Dental Pulp-Derived Stem Cell Differentiation Markers may Determine ECM Responsiveness**

Chelsie Todd, Aubrey Knavel, Charles K. Hill and Karl Kingsley, School of Dental Medicine

Objectives: Human mesenchymal dental pulp-derived stem cells (DPSC) may differentiate in response to either soluble or insoluble triggers or environmental cues that stimulate mRNA transcription and direct phenotypic modulation. Evidence has proven DPSC are capable of differentiation into many tissue types, including bone, adipocyte, vascular, and neural tissues. The extracellular matrix (ECM) provides both structural and organizational cues to direct this differentiation and cellular phenotype, although this has not been thoroughly evaluated in DPSC. Based upon this information, the goal of this study was to evaluate whether biomarkers of differentiation in DPSC influence ECM- mediated growth and phenotype.

Methods: Two DPSC cell lines, an uncommitted pluripotent line DPSC-5653 and an odontoblastic progenitor DPSC-11418) were characterized by RT-PCR for biomarker expression. Both cell lines expressed Sox2, Oct-4, CD133 and CD24 stem cell markers. However, the odontoblastic progenitor did not express NANOG and did express dentin sailophosphoprotein. These cell lines were then plated in standard 96-well *in vitro* proliferation assays coated with ECM (including Fibronectin, Collagen-I and Laminin-5).

Results: Analysis revealed the proliferation of the uncommitted cell line DPSC-5653 plated on exogenous Laminin-5 (coated at a concentration of 20 □g/mL) increased significantly (+56.0%), compared with other ECM and controls over a period of three days. However, no differences in cell growth or phenotype were observed under any experimental ECM plating conditions (including Laminin-5) in the odontoblastic progenitor cell line DPSC-11418.

Conclusions: These results provide preliminary evidence that at least one ECM molecule, Laminin-5, may exert significant effects on uncommitted DPSC isolates but may have limited or no effects on DPSC isolates with biomarkers of *in vitro* differentiation. As most of the dynamic and three-dimensional interactions required for directing cellular behaviors and differentiation among DPSC are unknown, this study provides new findings that may direct tissue engineering and biophysics research in this area.

22. **Reliability and Validity of the HPI Osteo Caliper and Body Composition Formula**

Kimberly Trocio, Christopher Chavez, Jon Garcia, Lawrence A. Golding, Judy Goldman, Paul Hafen, Audra Hannston, Stephen Harris, Michael Jarrett, Krystina Moschella, Suzenna Ngo, Mariana Pencheva, Hanaa Shaheen, Greg Stalker, Richard Tandy, Stephanie Watson and Antonio S. Santo, Department of Kinesiology and Nutrition Science

Background: The Health Profile Institute (HPI) Osteo Caliper has been extensively used throughout Sweden for the past 30 years to assess body composition. Skeletal breadth measurements of the right and left wrists using the caliper, waist and hip circumference measurements, age, gender, height, weight, and exercise routine are used in a regression equation that estimates % body fat. The advantages of the HPI caliper include its ease of use, quick obtainment of measurements, portability, and low-cost.

Purpose: The purpose of this study was to evaluate the validity and reliability of the HPI Osteo Caliper and formula as a method for estimating body composition.

Methods: 175 subjects (77 females & 98 males) with a mean age, height, and weight of 30.0 ± 12.7 y, 170.4 ± 10.88 cm, and 73.2 ± 19.14 kg, respectively, completed well recognized measures of body composition during a single laboratory visit. PASW Statistics 18 software was used to analyze the data.

Results: Mean % fat was 22.6 ± 8.9, 21.3 ± 8.7, 18.4 ± 6.7, and 23.1 ± 7.8 for hydrostatic weighing, Bod Pod, BIA, and the HPI Caliper formula, respectively. Statistical analysis revealed significant correlations between the %fat determined from the Bod Pod, BIA, and the HPI formula when compared with hydrostatic weighing (0.83, 0.72, & 0.86, respectively). The %fat determined from the HPI formula showed significant correlations with the Bod Pod and BIA (0.74 & 0.70, respectively). Reliability of the Osteo Caliper, determined using the intraclass correlation coefficient (ICC), was .997.

Conclusion: The HPI Osteo Caliper generates results comparable with other well established body composition techniques and therefore, may be a useful, alternative tool for healthcare and fitness professionals to estimate body composition in apparently healthy adults.

23. **Dissolution of Amorphous AL-and FE-Phosphates and Implications for Phosphate Mobility on Mars**

Valerie Tu and Elisabeth Hausrath, Department of Geoscience

Phosphate is an essential element for life on Earth, found in DNA, RNA, and ATP and therefore if life has ever existed on Mars it may have required phosphate. Phosphate occurs in a variety of forms, including primary and secondary minerals, amorphous phosphate phases, and sorbed to surfaces. Amorphous phosphates, including Al- and Fe-phosphates likely precipitate from solution during weathering of primary minerals, and therefore may be important in controlling phosphate availability in soils on Earth and on Mars.

Despite this importance, however, few dissolution rates exist for amorphous Al- and Fe-phosphates. In this study, we measure the dissolution rates of amorphous Al- and Fe-phosphates, to shed light on phosphate mobility on Mars and the availability of phosphate for possible life on Mars.

Graduate & Professional Student Research Forum
Social Science
Poster Session A
UNLV Student Union Ballroom

Posters 24 – 27: Judging at 9:00 – 10:00am

24. Nicole Bies-Hernandez, Department of Psychology
25. Andrew Cummings, Department of Psychology
26. Lauren Falvey, Department of Anthropology
27. Timothy Ferguson, Department of Anthropology

Posters 28 – 31: Judging at 10:00 – 11:00am

28. Maria Jose Flor Agreda, Department of Political Science and Honors College
29. Kris Gunawan, Department of Psychology
30. Ryan Harrod, Department of Anthropology
31. Felisa Huene, Marriage and Family Therapy Program

Posters 32 – 34: Judging at 11:00 – 11:45am

32. Andrea Kayl and Erica Noles, Department of Psychology
33. Tatianna Menocal, Department of Anthropology
34. Alex Moore, Department of Psychology

24. **Examining the Benefits of Testing with Mathematical Learning**
Nicole J. Bies-Hernandez, David E. Copeland, Nathan O. Rudig, Alex M. Moore and Mark H. Ashcraft, Department of Psychology

Previous research has shown that testing can improve long-term learning of word lists or texts (Roediger & Karpicke, 2006). However, it is not clear whether testing has the same benefit for learning a procedure, such as mathematics. In this study, we examined whether practice testing is beneficial when learning a unique mathematical procedure (i.e., modular arithmetic) or memorizing mathematical facts. We also examined whether math anxiety (AMAS, Hopko, Mahadevan, Bare, & Hunt, 2003) would influence the potential benefits of testing. This was investigated using a standard testing effect paradigm that compared restudying to a practice test condition. Performance on the final test was significantly higher with practice testing (i.e., the testing effect) for both math conditions, regardless of level of math anxiety. These results provide initial evidence that practice testing can be used to enhance mathematical learning in the laboratory, even for people who are high math anxious.

25. **The Dynamics of Infant Interest in Female and Male Faces**

Andrew Cummings and Jennifer Rennels, Department of Psychology

Three-4-month-olds visually prefer females to males, but only within familiar race face pairs, suggesting infants' process race prior to sex (Quinn et al., 2002; 2008). This result has been found for attractive/morphed female-male face pairs and with young infants only, so Experiment 1 examined how attractiveness of the face pair affected both younger and older infants interest in females and males from familiar and unfamiliar races. The purpose of Experiment 2 was to investigate whether changing the context (making race more predictable by presenting the three face pairs from each racial group sequentially within blocks) would alter infants' visual preferences. Determining what combination of cues drives infant interest toward faces is important because preferences affect how infants categorize and learn about individuals (Ramsey et al., 2004).

26. **Prehistoric Paleontologists of the Mimbres Valley, New Mexico**
Lauren Falvey and Brett T. McLaurin, Department of Anthropology

The Harris Archaeological Site is a Late Pithouse period (550-1000 CE) Mimbres Mogollon occupation located in the Mimbres Valley of southwest New Mexico. Recent excavations at the Harris Site conducted by the University of Nevada, Las Vegas have recovered a number of fossil specimens from cultural contexts. These include individual fossils as well as pieces of fossiliferous limestone, which were used as a raw material for tool manufacture. Recovery of these items from specific archaeological contexts, combined with the presence of cultural modification and inferences from ethnographic analogy, suggest that fossils held symbolic value for the prehistoric inhabitants of the Harris Site and were purposely collected.

Taxa represented in the fossil collection include brachiopods, bryozoans, corals, and crinoids. Fossil identification combined with previous geologic mapping of the region indicates that the Harris fossils originated from the Percha Shale (Devonian) and the Lake Valley Formation (Mississippian). The Box Member (late Famennian) of the Percha Shale is characterized by interbedded calcareous shales and limestone. This member contains a diverse assemblage of brachiopods and solitary rugose corals. The succession is disconformably overlain by the Lake Valley Formation. The Nunn Member (Tournaisian- Visean) of the Lake Valley Formation is a fossiliferous interval of interbedded shale and limestone. Abundant crinoids are present in this member. Outcrops of these formations are found approximately 4 km west of the Harris Site in the Georgetown region of the Pinos Altos Range and 43km southeast in the Cookes Range.

27. **Rocks, Rocks, Rocks, and More Rocks: Sourcing Virgin Anasazi Obsidian**
Timothy Ferguson, Karen Harry and Jeff Ferguson, Department of Anthropology

Obsidian is a volcanic glass that was widely traded in prehistoric times. More importantly, obsidian has a unique chemical signature that can be matched to its parent material allowing archaeologists to trace obsidian procurement and trade across the landscape. In our study, we wanted to investigate the different sources obsidian was exploited from and investigate the possibility that obsidian was traveling along different trade networks than other exchange items like ceramics in the Virgin Anasazi region. In this study, we utilized X-ray Fluorescence to chemically source 441 obsidian artifacts from the Virgin Anasazi region. Results show that obsidian sources were exploited from a variety of locations ranging from central Arizona, southwest Utah, and southern Nevada. What is more interesting is that obsidian seems to be traveling across trade networks that differ from ceramic exchange. Ceramic exchange seems to indicate an east-west relationship that links the Moapa Valley in southern Nevada with the Arizona Strip; whereas, obsidian tends to travel on a north-south axis to villages. An interregional comparison shows that certain villages have an overwhelming majority of obsidian from certain sources. These villages could have been important as the primary center of procurement for these sources with other sites serving as secondary exchange centers.

28. **Ecuador: The Politics of Oil Preservation and Development**
Maria Jose Flor Ágreda, Department of Political Science and Honors College

Ecuador's Yasuni ITT initiative seeks to protect the second-largest oil reserve in the country from oil extraction and leave it indefinitely untouched in exchange for international economic investment, creating a post-neoliberal model of economic development. Although the initiative has been widely popular among the Ecuadorian electorate and praised among international actors, it has brought about issues relating to the country's capability of sustaining economic growth.

Along with a historical and political analysis behind the creation of the Yasuni ITT initiative, this paper discusses the economic reasons of why the project was created and how its post-neoliberal model of revenue creation will continue to allow Latin America's fourth largest oil exporter to have sustainable economic growth, even while leaving part of its oil one of its main exports underground.

The paper examines how historical economic dependency on oil in Ecuador has not been conducive to economic growth in the country and argues that even though the moratorium on oil extraction has encountered numerous political issues both in Ecuador, as well as internationally, the Yasuni ITT initiative has the potential to be a promising new model of sustainable development through which countries can continue to grow economically without compromising their invaluable natural resources, land and people.

29. **Mental Representations of Characters in Narratives: Managing Information from Text and Images**

Kris Gunawan, Adam B. Osman, David E. Copeland and Kathleen G. Larson, Department of Psychology

People construct and retain mental representations (e.g., situation models, Zwaan & Radvansky, 1998) of characters or protagonists from stories. However, people may often receive information about the characters from two different sources. For example, it is possible to read descriptions of characters as well as see images of them. In the current study, participants read a series of narratives that included illustrations and they completed recognition tests to assess their memory of characters. We examined physical character traits (e.g., hair, physique, clothing) by manipulating text descriptions and pictorial depictions of characters, the consistency of text and pictures, and the order of presentation (i.e., primacy / recency). While the results supported a picture superiority effect (Shepard, 1967), there was evidence that people also relied on text descriptions. These findings suggest that people s situation models can consist of multiple, conflicting representations that can be used to reconstruct degraded information from a source.

30. **Cranial Depression Fractures of the Frontal Bones from a Bronze Age Arabian Commingled Tomb**

Ryan P. Harrod, Anna J. Osterholtz and Debra L. Martin Department of Anthropology

Lethal violence and perimortem trauma have been a recent focus of studies, but less reporting of nonlethal (healed or healing) trauma has occurred, especially for the Bronze Age Arabian Peninsula. This research examines the presence and frequency of cranial depression fractures (CDFs) within the United Arab Emriates site of Tell Abraq. The assemblage consists of at least 286 individuals of all age groups and both sexes, from a Late Bronze Age (c. 2100 BCE) Umm an-Nar style tomb (communal chambered mortuary context). The repeated use of the tomb presents analytical challenges, as the assemblage is highly commingled and fragmentary. For example, the MNI based on cranial features (i.e. 76 glabella) are significantly lower than other elements such as the right talus (n=286). Also, the cranial sex ratio (54.5% male 45.5% female) differs from that of post-cranial elements (65% male 35% female), suggesting differential disposal of male crania.

Analysis of frontal fragments revealed that there were 11 CDFs identified on a total of 8 individuals. Where sex could be estimated, females show 13.3% (4/30) and males show 8.3% (3/36). One unusual case of a female with 5 CDFs is highlighted. Mostly, these are small, relatively spherical CDFs (less than 35 mm2 in area). One male and two females, however exhibited larger, elliptical CDFs with areas greater than 110 mm2. While CDFs can result from accidents, recent forensic research has shown that trauma to the head above the hat brim line are more likely to be the result of interpersonal conflict.

31. **Family-Farming Therapy: A Literature Review**
Felisa Huene, Marriage and Family Therapy Program

Out-of-the-box therapeutic approaches have proven to be quite effective within the populations they are structured to serve. The environment that the therapeutic services are delivered within helps to reduce the anxiety associated with seeking therapy in a traditional clinical setting. It also helps to establish and strengthen the therapeutic bond. Family-Farming Therapy incorporates a therapeutic clinic within an urban farming community site, and focuses on multi-stressed family systems and the larger community system. Farming has traditionally been a family endeavor which makes it a unique environment to be used as metaphors for family systems, their interactions, behaviors, and structure. Farming also offers economic sustenance, increased physical health, and community acceptance. Multi-stressed families have socio-economic hurdles that complicate their ability to adjust to changes and crisis in their family structure; Family-Farming Therapy, by its design, directly addresses these hurdles in the therapeutic plan.

This literature review will explore other out-of-the-box therapeutic approaches that have demonstrated clinical significance and/or research effectiveness. Many of these approaches differ from Family-Farming Therapy because they have either approached from a linear, individualistic perspective and/or have not addressed the needs of both the family and community systems. Family-Farming Therapy can be structured to serve a variety of family and institutional systems. The goal is for systematic change within the family and the community by creating positive relationships and personal acceptance. The Family-Farming Therapy approach is innovative and unique in its delivery of Marriage and Family Therapy.

32. **Dynamic Presentation Does Not Augment Infants Intermodal Knowledge of Males**

Andrea J. Kayl, Erica C. Noles and Jennifer L. Rennels, Department of Psychology

Infants have disproportionate experience with female faces compared to male faces (Rennels & Davis, 2008) that should result in greater categorical knowledge, including intermodal knowledge, about females. Intermodal matching research (i.e., matching faces with voices), however, has produced inconclusive findings about infants knowledge of gender. This study examined if dynamic presentation of multiple male and female faces, which were highly sex-typical, would improve infants' ability to match the gender of the face with a voice. Eight- and 11-month-olds with female primary caregivers (N = 30) viewed six pairs of dynamic male and female faces while hearing either a male or female voice engaged in infant directed speech. Using infants percentage of total looking time (PTLT) toward the female face, we found a main effect of female face-voice match $F(1, 142) = 5.82$, $p < .05$. Infants looked significantly longer at the female face during trials when the female voice played compared to trials when the male voice played. Infants did not look longer at male faces while hearing male voices. Results demonstrate that 8- and 11-month-olds can match faces and voices of females when presented dynamically. Infants lesser experience with male faces, compared to female faces, may limit their ability to process male faces and voices.

33. **Obsidian Sourcing from Three Virgin Anasazi Sites in the Moapa Valley, Nevada**

Tatianna Menocal, Department of Anthropology

Obsidian is a raw material that was often conveyed great distances in prehistoric times via trade exchange or direct procurement strategies. The distinct chemical compositions of obsidian varieties often times can allow for the identification of their source. The Yamashita Sites in the Moapa Valley are Virgin Anasazi (Ancestral Puebloan) habitation sites spanning from the Pueblo II (AD 1000-1150) to the early Pueblo III period (AD 1150-1225). Like other sites in the valley, obsidian is rare in the site assemblages. This is due to the fact that obsidian is non-local (or semi-local) and other suitable raw material can be locally found. To provide an increased context of procurement strategies and trade of this lithic material during the use of these sites, this project consisted of sending out selected obsidian artifacts for X-Ray Fluorescence, a method that can determine the chemical signature of obsidian in a non-destructive manner and assign it a source, if it is known. Previously, several projectile points were sent out to be sourced from these sites. The current study included sourcing additional projectile points as well as other artifact classes. The data collected was then analyzed with regard to the previous obsidian data from the sites to better understand raw material strategies. This study is important as it builds on the obsidian data relevant to the area from previous regional obsidian studies in Southern Nevada.

34. **Attitudes about Math and Writing: Were You Just "Born" That Way?**
Alex M. Moore, Mark H. Ashcraft, Nathan O. Rudig and Thomas H. Carr, Department of Psychology

Dweck's socio-cognitive model of motivation suggests that people's beliefs about their intelligence and abilities fall on a continuum, varying from fixed (entity theory) to malleable (incremental theory). To extend these ideas about intelligence to particular domains of educationally-important cognitive activity, we surveyed undergraduates on two campuses to establish baselines in math and writing. Undergraduates like writing more than math, perceive themselves as better at writing than math, and espouse more entity beliefs about math than writing (more toward the born end of the scale). Curiously, they claim they can get better in both domains, although those toward the born end often respond to how? with tutoring rather than practice. Psychology majors were more like entity theorists on math items than the overall sample, but more like incremental theorists than the sample on writing. Endorsing incremental beliefs correlated positively with the belief that one could improve.

Graduate & Professional Student Research Forum
Social Science
Poster Session B
UNLV Student Union Ballroom

Posters 35 – 38: Judging at 9:00 – 10:00am

35. Elyse Parke, Department of Psychology
36. Meghan Pierce, Department of Psychology
37. Liya Rakhovskaya, Department of Psychology
38. Danielle Romero, Department of Anthropology

Posters 39 – 42: Judging at 10:00 – 11:00am

39. Mark Salvaggio, Department of Sociology
40. Jessica Urgelles, Department of Psychology
41. Christina Vanden Bosch der Nederlanden, Department of Psychology
42. RyAnna Verbiest, Department of Psychology

Posters 43 – 46: Judging at 11:00am – noon

43. Mary Vertinski, Department of Psychology
44. Thomas Wambach, Department of Anthropology
45. Kyle Yim, School of Journalism and Media Studies
46. Anna Osterholtz, Department of Anthropology

35. **Neurocognitive Differences in Children with ADHD and LD**
Elyse Parke, Department of Psychology

High comorbidity occurs between Attention Deficit Hyperactivity Disorder (ADHD) and learning disabilities (LD), including Developmental Coordination Disorder (DCD) and Reading Disability (RD). Evidence suggests increased neurocognitive impairment in ADHD when comorbid diagnoses exist. Few direct comparisons between intellectual profiles of singularly and multiply affected children are available, particularly for the Wechsler Intelligence Scale Fourth Edition (WISC-IV) even though it is often used to evaluate children and profile differences may provide insight into impaired and spared abilities. This study addressed these matters by comparing WISC-IV profiles of children with ADHD and LD. Participants included 246 children with ADHD-Inattentive (n=87), ADHD-Combined (n=73), ADHD-DCD (n=40), and ADHD, RD, and/or Writing Disorder (n=46). Children were 10.1 years old and 72% male with an IQ of 101.3. Diagnoses were established through comprehensive evaluation including interviews with care-givers. Results indicated a significant group by Index score interaction. This interaction was caused by the ADHD-RD group performing significantly poorer ($p<.05$) than the other groups on Verbal Comprehension (VC) and Perceptual Reasoning (PR) and generally evidencing a flat profile. In contrast, the ADHD-DCD group demonstrated a sloping profile with VC being the highest score followed by PR and Working Memory, with Processing Speed being the lowest score. Findings indicate differences in intellectual profiles of children with ADHD and LD. The presence of LD in ADHD produces unique intellectual profiles that are consistent with expected patterns, providing support for distinguishing between these disorders. The extent to which these profiles are predictive of academic, social, and behavioral disturbances awaits further investigation.

36. **The Hormonal Correlates of Posttraumatic Stress Disorder in Female Veterans**

Meghan Pierce, Emily Hensleigh, John Egan and Laurel Pritchard, Department of Psychology

In January of 2013 the U.S. government lifted the ban of females fighting in direct combat roles. Throughout the past few years, enrollment of females serving in the military has been increasing steadily. With the increase of female veterans serving in the military, a better understanding of posttraumatic stress disorder (PTSD) is needed to provide comprehensive treatment. This study examines salivary cortisol in female veterans with PTSD, female veterans without PTSD, civilian females with PTSD and healthy controls. The Posttraumatic Stress and Beck Depression Inventory-II were used to assess posttraumatic stress and depressive symptoms. Participants were given take-home salivettes for bedtime and awakening saliva samples. Additionally, participants took part in the Trier Social Stress Test, a psychosocial stressor that reliably elicits a cortisol response. Saliva samples were collected three times during the Trier Social Stress Test. The first sample served as a baseline measurement, the second as a measurement of the stress response and the third as a measure of recovery. Significant results were not found for diurnal cortisol levels [$F(3, 11)= .979$, $p < .05$] or stress cortisol levels ($F(3,12) = 1.140$, $p>.05$). Insignificant results may be due to low sample size, TSST schedule, and confounding anxiety levels.

37. **Psychometric Properties of the Sociocultural Attitudes towards Appearance Questionnaire-3 in American College Students from Four Ethnic Groups**

Liya Rakhkovskaya, Cortney Warren and David Gleaves, Department of Psychology

A growing body of research suggests that internalization of Western sociocultural values and ideals of appearance promoted in mainstream media are implicated in the development, maintenance, and perpetuation of eating pathology in women (e.g., Stice, 2002). One of the most commonly used self-report measures of endorsement of Western appearance ideals is the Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). Despite its widespread use, psychometric data on its use in American ethnic groups are lacking. Consequently, this study examined the psychometric properties of the SATAQ-3 in a sample of European American/White (n = 543; 43.6%), African American/Black (n = 137; 11.0%), Asian American (n = 317; 25.5%), and Hispanic/Latina (n = 248; 19.9%) female college students. Specifically, we examined the equivalence of factor structure by conducting exploratory factor analyses followed by calculation of Tucker s congruence coefficients. Overall, results indicated that the proposed four-factor solution (i.e., knowledge, perceived pressure, internalization-general, internalization-athlete) fit well in all four ethnic groups. Using the criteria established by Lorenzo-Seva and ten Berge (2006), the factor structures for European American/White, Asian American, and Hispanic/Latina groups were generally in the range that can be considered equal (p. 57). However, the African American/Black group varied slightly from the other groups (although the factor structure was within the fairly similar range). Overall, results yield psychometric support for the factor equivalence of the SATAQ-3 across ethnic groups in this American sample.

38. **Corrugated Vessels as Signature: Household Identity at the Harris Site, New Mexico**

Danielle Romero, Department of Anthropology

Design style can be replicated from long-term exposure to producers and their production techniques. Although styles may appear similar, various characteristics involved in manufacturing can be used to point out differences. The variation seen in corrugated wares, unpainted ceramic artifacts with an added textured design, can be particularly useful in this type of investigation. The data gathered from these wares can provide information regarding the stylistic differences in ceramics produced and used by households at a given site. This paper focuses on artifacts recovered at the Late Pithouse (550-1000 CE) Harris Site in the Mimbres River Valley, New Mexico. The ceramics were recovered in various contexts from 20 pithouses and their associated features that have been excavated under the direction of Dr. Barbara Roth during the 2007-2012 field seasons. Numerous partially reconstructed corrugated vessels have been found and form the basis of this study. Little previous research has been done on corrugated ware as the focus has always been on the painted, decorated pieces. This research represents a more rounded approach to the study of corrugated wares while introducing another means of discussing identity in the archaeological record. A combination of individual attribute and statistical analysis will be used to examine if corrugated vessels from this site can provide information regarding identity in terms of how households may have varied the wares they produced.

39. **Towards Solidarity Tourism: A Critical Analysis of "Revolution" Tourism**
Mark Salvaggio, Department of Sociology

I examine how tourists attracted to former and current sites of conflict and revolution affect the goals and tactics of social movements working towards global solidarity. Social movements in developing countries reach out to transnational allies, such as International Non-Governmental Organizations (INGOs) and volunteer groups, through various communication strategies as a means to empower local efforts. I provide a critical analysis that explores how social movement efforts attract tourists and locals in locations such as Chiapas, Mexico and Estelí, Nicaragua to participate in the development of "revolution" tourism. Revolution tourism refers to the packaging and selling of social movement ideology, including products, images, symbols, and meanings, to tourists who travel specifically for the consumption of revolutionary and transformative political experiences. I question whether or not the development of revolution tourism is actually revolutionary in its practice. Based on a critical analysis of revolution tourism, I provide a conceptual framework to understand how some tourists are simply touring the revolution while others, alongside local revolutionary efforts, subjectively engage in revolutionary forms of tourism. My study discusses theoretical insights to explain how revolutionary forms of tourism contain the potential to pave the way for solidarity tourism.

40. **Factors Associated with Discontinuance of Child Custody in Mothers Referred by Child Protective Services**

Jessica Urgelles, Chelsey Wilks, Michelle Pitts and Brad Donohue, Department of Psychology

Various factors must be considered when Child Protective Services (CPS) investigates parents for removal of their children due to child neglect. In this study, characteristics of 72 mothers referred from CPS for treatment of child neglect and drug abuse were examined, including how these characteristics were associated with the frequency of days in which children were removed from the custody of their mothers. Participants were administered a battery of psychological tests and measures. Significant positive relationships were found between the number of days mothers lost custody of their children and child abuse potential, parental stress, family conflict, days of hard drug use (i.e., methamphetamine, cocaine, opiates), and days of incarceration. Negative significant relationships were found between the number of days children were removed from their mothers and family cohesion, overall maternal life satisfaction, satisfaction with legal professionals, and a measurement of social desirability. Days of CPS removal from the home was not associated with hours worked, total days of marijuana use, and overall maternal satisfaction with the child. Treatment and policy implications will be discussed in light of these results.

41. **Differences in the Detection of Pitch Changes within a Music and Speech Context**

Christina Vanden Bosch der Nederlanden, Erin E. Hannon and Joel Snyder, Department of Psychology

Shared and distinct mechanisms for speech and music processing are often studied using stimuli that are acoustically different from each other or consist of unnatural sounds perceived as speech or non-speech after training. While these approaches demonstrate distinct responses to speech and music stimuli, because acoustic characteristics of these stimuli are not identical, it is difficult to tease apart the contribution of high- and low-level processes. The current study used an auditory illusion demonstrated initially by Deutsch et al. (2011), in which a single recorded speech excerpt subjectively transforms to song after several repetitions. Using 24 speech-to-song sentence illusions (Tierney et al., 2012), non-musicians rated each of 10 repetitions according to whether it sounded like speech or like song. Additionally, participants performed a pitch change detection task for each stimulus when it was interpreted as speech (before repetition) and song (after repetition). Pitch deviations did or did not conform to expected western musical intervals, allowing us to examine whether knowledge of western musical structures would interfere with or facilitate pitch detection in the context of hearing the stimulus as speech or as song.

Preliminary data suggest that the perceptual illusion is not unique to musically trained listeners. A comparison of d scores for conforming and non-conforming pitch deviations during the initial (speech) and final (song) same-different tasks suggests increasing sensitivity to non-conforming pitch deviations and stable sensitivity for conforming deviations. Preliminary trends implicate the recruitment of music-specific knowledge during the perception of a spoken stimulus that is heard as song.

42. **Auditory Perception Deficits are Present in Patients with Bipolar Disorder with Psychotic Features**

RyAnna Verbiest, Nicholas S. Thaler, Joel Snyder, Jefferson Kinney and Daniel N. Allen, Department of Psychology

Studies of schizophrenia suggest that psychotic symptoms, particularly auditory hallucinations, are associated with primary auditory cortex abnormalities. Similar auditory cortex abnormalities may also be expected for individuals with bipolar disorder with psychotic features (BP+), since auditory hallucinations are often present. The study investigated these matters by comparing a BP+ group to a BP group without psychotic features (BP-) and controls on a tone discrimination task likely to activate the auditory cortex. Participants included 46 euthymic individuals with BP (23 BP+, 23BP-) and 24 controls. Groups did not differ on age, education, or IQ. The tone discrimination task consisted of 120 tone pairs that differed in frequency by 0, 5, or 20%. Participants were instructed to indicate whether tones were the same or different. Results indicated that the BP+ group performed worse ($p < .05$) than the other two groups only on identifying same tone pairs, suggesting response bias. After controlling for response bias, the BP+ group performed worse on the 5 and 20% frequency difference pairs as well ($p < .05$). To our knowledge, this is the first study to investigate auditory perception abnormalities in among patients with BP+. Results indicate that on this auditory perception task, a history of psychosis is associated with auditory perception abnormalities, thus suggesting that similar to schizophrenia, frequency discrimination deficits are present in BP+. Whether a common underlying neural mechanism exists for BP+ and schizophrenia awaits further investigation.

43. **Relations between Memory Abilities and Premorbid Adjustment Abnormalities in Patients with Schizophrenia**

Mary Vertinski, Daniel Allen, Nicholas Thaler, James Gold, Robert Buchanan and Gregory Strauss, Department of Psychology

Objective: The Premorbid Adjustment Scale (PAS) is widely used to evaluate social and academic functioning, and detects behavioral disturbances reflecting neurodevelopmental abnormalities in these patients. The aim of this study was to examine deficits in premorbid functioning as precursors to neuropsychogical deficits in adulthood.

Methods: The sample consisted of 421 individuals diagnosed with schizophrenia (n=382) or schizoaffective disorder (n=39). All participants were assessed with the PAS, which evaluates premorbid adjustment in childhood, early adolescence, and late adolescence in the following domains: sociability and withdrawal, peer relationships, scholastic performance, adaption to school and social-sexual functioning. A subsample of these individuals (n=205) were also administered the Repeatable Battery for the Assessment Neuropsychological Status (RBANS).

Results: Principal components analysis of the PAS scores indicated that, consistent with prior research, two factors were present; one that assessed premorbid academic functioning and another that assessed premorbid social functioning. This factor structure was invariant across the three PAS developmental levels. Correlations between the PAS factor scores and RBANS variables indicated that there are significant negative relationships between academic and social functioning in early and late adolescence and RBANS delayed memory scores, although these correlations were small.

Conclusion: These results indicate that associations among the PAS behavioral domains remain stable from childhood through late adolescence. Early academic and social functioning is associated with performance on memory measures following onset of the disorder, although PAS scores appear to account for a small amount of the variance in later memory test scores.

44. **Bent Out of Shape: Warping In Virgin Branch Ancestral Puebloan Ceramics**
Thomas Wambach, Department of Anthropology

Within the Ancestral Puebloan, Virgin Branch, region of the American Southwest, there exists a significant amount of warped bowls. The research presented here attempts to address the cause of the warping misshaping seen in some of these Virgin Branch ceramics. While the cause of the warping is unknown, one hypothesis is that it resulted from accidental over-firing during the firing process. A second hypothesis is that they were intentionally warped during the production process, before the firing process. To examine this phenomenon, three lines of evidence will be used to evaluate which of these two hypotheses are correct. The first line of evidence is an examination of painted designs on Virgin Branch bowls for evidence that the potters had difficulty painted a warped vessel. The second line of evidence requires a statistical examination detailing if the presence of warping is correlated with other characteristics of a vessel, primary vessel form. And the final line of evidence requires an examination for other signs of over-firing on a vessel, such as bubbling, vitrification, or bloating of a ceramic vessel. For this forum, the results of the first two lines of data are displayed to the public, with all lines of data to be presented at the Society for American Archaeology Annual Conference.

45. **Building a Taxonomy of Fantasy Football Player Types**

Kyle Yim, School of Journalism and Media Studies

This paper conducted a review of the research literature examining fantasy football participants. Fantasy football has become popular in recent years due to two factors: the attention from the mainstream media, most notably sports shows providing more coverage of fantasy football; and the increased number of participants in fantasy football leagues. Theories that have examined fantasy football include gambling theory, and uses and gratifications. Fantasy football is defined as gambling because something of value is wagered. Furthermore, the theory provides two types of definitions of fantasy sports players applicable for fantasy football: serious and casual players. Fantasy football participants can also be described through the uses and gratifications theory which explains why people ascertain a particular media to fulfill a specific desire. Additionally, this theory also provides a method to measure these players called the Motivational Scale for Fantasy Football Participation (MSFFP). In addition, past research on motivational types found factors that affect players' participation such as involvement, entertainment, and surveillance. Thus, the purpose of this paper covers two areas: one is to explore the literature in fantasy sports, with an emphasis on fantasy football, while finding new literature to apply to the field. The second area is to build taxonomical categories from previous motivations for serious and casual players using an adaptive form of the MSFFP.

46. **A Feature-based Method for the Determination of the Minimum Number of Individuals from the Tell Abraq Tomb, UAE**

Anna Osterholtz and Debra Martin, Department of Anthropology

The tomb at Tell Abraq (UAE) was excavated in 1993 and 1998 and dates to the Late Bronze Age (2100-2000 BCE). This is a large collective tomb in the Umm an-Nar style and represents a 200-year period of usage by the community. Contained within the tomb are the remains of adults and children, males and females. All are commingled, some may represent secondary burials, and almost all bone elements are relatively identifiable, but fragmentary due to normal taphonomic processes.

Determining the minimum number of individuals (MNI) and demography of the large number of commingled human remains from Tell Abraq required recording of both individual bones and bone features. This project focuses on the representation of elements and the resulting demographic profile. For example, the MNI for adults is 278 based on the right talus but 131 based on the distal left humerus. Sex ratios for post-cranial elements are consistent demonstrating approximately 65% male and 35% female regardless of the element examined. The cranial MNI is significantly lower, particularly for adult males. The sex ratio within cranial elements is approximately equal between males and females. Variation in element representation can reveal cultural practices (such as the removal of adult male crania as part of a secondary burial practice) and taphonomic variables (differential preservation, missing elements, secondary interments). This method for the determination of MNI for large commingled assemblages that are fragmentary demonstrates the utility of using bone features.

Graduate & Professional Student Research Forum
Education, Hotel and Art
Poster Session A
UNLV Student Union Ballroom

Posters 47 – 50: Judging at 9:00 – 10:00am

47. Lidia Sedano, Catherine Howerter and Wendie Lappin Castillo, Department of Educational and Clinical Studies

48. Daniel Crinson, Department of Hotel Administration

49. Zaid Haddad, Department of Teaching and Learning

50. Yun-Ju Hsiao, Department of Educational and Clinical Studies

Posters 51 – 54: Judging at 10:00 – 11:00am

51. Hee Jung Kang, Department of Hospitality Administration

52. Rebecca Pugh, Department of Art

53. Lisa Rock, Department of Art

54. Patrick Leytham, Department of Educational and Clinical Studies

Posters 55 – 56: Judging at 11:00 – 11:30am

55. Brandon Yost, Department of Teaching and Learning

56. Yun Ying Zhong, Department of Hospitality Administration

47. **Data-Based Decision Making for Secondary Educators in Content Areas to Support Achievement**

Lidia Sedano, Wendie Lappin Castillo and Catherine Howerter, Department of Educational and Clinical Studies

Data-based decision-making has many benefits; however, many secondary educators are not trained to implement this process. This poster session will review the process that supports teachers in developing skills related to: (a) unwrapping content standards, (b) writing standards-based assessments, and (c) making data-based decisions to support student achievement.

48. **BYOD Policies and Generation Z: The Hotel Industry Perspective**

Daniel Crinson, Mehmet Erdem and Alison Green, Department of Hotel

The high turnover rate is one of the hospitality industry's biggest concerns. One of the factors leading to this is an issue of poor employee engagement. With the turnover rate worsening over time now is the time that human resource policies which impact engagement must be reviewed and those negatively impacting engagement amended. As a new generation, Generation Z is about to predominantly enter the workforce, efforts should be focused on what engages them, instead of looking back at what engages past generations. Research has shown that Generation Z are psychologically dependent on their connectedness which is primarily access via their personal mobile device, so much so that one study disconnected them for 24 hours and participants showed symptoms of depression and anxiety disorder. However, currently in the hospitality industry it is a common human resource policy to ban personal mobile devices. This study postulates that if Generation Z shows psychological distress when disconnected from their device, it stands to reason that banning their access in the workplace will lead to lower engagement, resulting in a worsening of the turnover issue.

49. **Analysis of Two US History Textbooks: Providing Comprehensive Portrayals of Minorities**

Zaid Haddad, Jesus Garcia and Allison Smith, Department of Teaching & Learning

This poster will detail the qualitative results of a study of two US History textbooks for their portrayal of African Americans and Latinos. The results of the study show that roughly 7-9% of the text in either textbook reference the named groups. A discussion regarding curriculum transformation and inquiry based social studies education ensues.

50. **Parental Perceptions of Relationships between Parents of Children with Autism and Teachers**

Yun-Ju Hsiao, Department of Educational and Clinical Studies

The purpose of this study was to investigate parents' perceptions of their relationships with teachers who serve their child with autism spectrum disorder (ASD). The Beach Center Family-Professional Partnership Scale (Summers et al., 2005) was administered. The scale contains a total of 18 items that measure two domains of relationships (child-focused relationships and family-focused relationships), with nine items in each domain. The questionnaire was implemented online using Qualtrics, a web-based survey software. Participants were recruited from an autism center at a state university, a state autism organization, a regional autism organization, and a local autism service provider located in a large, southwestern city in the United States. A total of 236 parents of children with ASD completed the online questionnaire.

Descriptive data will be reported in the presentation. Parents were about satisfied with their partnerships with teachers (mean = 3.66). In addition, a dependent t test was used to examine parental satisfactions concerning partnerships with teachers between child-focused relationships and family-focused relationships. Results showed that parents were more satisfied with family-focused relationships.

This study has offered an overview of parents' perceptions of their partnerships with teachers who serve their children with ASD. Understanding the current status of relationships between parents and teachers of students with ASD helps teachers and teacher educators to further understand the strengths and weakness of the development of partnerships.

51. **Defining Employee Engagement for Casino Resort: A Qualitative Approach**
HeeJung Kang and Mehmet Erdem, Department of Hospitality Administration

A well-known characteristic of the hotel industry is its labor-intensive nature. In fact, issues pertaining to human capital management have been frequently reported as the leading concern of hoteliers across the globe (Enz, 2009). A topic of popular interest for human resource (HR) professional in the hotel industry - and beyond - has been employee engagement. However, several scholars reported that there is no consensus with the definition of employee engagement (EE). There is also varying interpretations of what EE is in the hotel industry. As employee engagement is directly and indirectly related to organizational outcomes, scholars should consider this construct more carefully. Therefore, scrutinized investigation of the construct with subject matter expertise in a qualitative way could help clarify its meaning and reliable practices for employees and their organizations. Thus, this study sought to offer a typology of EE: a) by scanning the relevant literature for common definitions and, b) by interviewing lodging industry executives who are in charge of human resource and workforce management and seeking common themes and descriptions within the hotel industry context. A series of face-to-face interviews was carried out between August and December 2012, totaling over seven hours of recorded transcripts. The participants were asked open-ended questions on how they define and describe employee engagement within the context of their organization and the hotel industry. A common typology was identified while three inconsistent themes were recognized.

52. **Mixed Media Research and Artwork**
Rebecca Pugh, Department of Art

As an artist, I believe there is more to a landscape than meets the eye. For this reason, I strive to convey more than a pretty landscape within my artwork. The 5 mixed media landscape paintings funded by the Graduate & Professional Student Association will be composed of paint with found materials that are both disposable in nature and ubiquitous in the local area, including, but not limited to plastic shopping bags, casino playing cards, and littered advertisements of various types. These materials are taken largely for granted. My self-developed mixed media technique is intended to bring attention to our current era of over-consumption, as well as environmental sustainability. Moreover, my mixed media technique of combining paint with found materials results in a visually pleasing art aesthetic and unique form of landscape painting. The landscape artworks will depict semi-abstracted views of both the urban Las Vegas area and the surrounding desert landscape to juxtapose the two very different spaces of natural and man-made environments. The subjects of the artworks will based on photographs taken from various perspectives both on land and from a helicopter. The series of artwork ultimately explores the dichotomy of nature and culture, bringing attention to humanity's relationship with the natural environment through both the use of found materials and visual representations of landscape.

53. **Pigments for Paintings**
Lisa Rock, Departrment of Art

My interests have lead me to be involved in painting on every level of the process from building my own supports to grinding my own pigments to make my own paint. Painting has a rich history that has spanned thousands of years. The pigments used in the production of paint were once believed to have magical qualities that come from varied sources such as the urine of cows and crushed beetles to burnt elephant tusks. While today pigments are viewed more scientifically they still have qualities that allow the viewer to have a transcendent experience.

The process of making paint is rather simple. Pigments can come from many different sources whether it be from organic or inorganic material. The material is ground down to a fine powder, then placed on a glass slab where the binder is added (in my case I will be using oil). The glass muller is used to further refine the pigment particles and disperse the pigment evenly within the binder. It takes practice and patience to get the paint at the right consistency. When the paint finally takes form the result is a densely pigmented vibrant paint which can be used immediately or stored in aluminum paint tubes.

54. **Critical Literacy: A Content Analysis of Special Education Textbooks**
Patrick Leytham, Department of Educational and Clinical Studies

The current trend within the field of special education is to include those with disabilities in the general education environment. In order to successfully participate in the general education curriculum, those with disabilities need to have developed adequate reading abilities. Since the early 90s, the trend within the literacy field has focused on learning the skills to read and write, and centered on teaching literacy skills to those entering elementary schools.

If educators are to prepare students to be critical citizenship in a multicultural democracy, critical literacy, then, should be included in reading instruction. The purpose of this study was to determine if the University of Nevada, Las Vegas, was adequately preparing future special educators to teach critical literacy to students with disabilities. A content analysis of literacy instruction methods in special education teacher textbooks was conducted. Three sources of textbooks were analyzed: Lied Library (the main one on campus), Curriculum Materials Library (located in the education building on campus), and special education coursework textbooks (as determined by course syllabi). Results suggest that the three sources of textbooks all discuss the first three components of reading instruction, but fail to provide instruction in how to critically analyze text. Also the results demonstrate that the special education coursework textbooks provide a higher rate of instructional methodology for reading instruction, yet no occurrence of critical analysis of text. Textbooks used at the higher education level need to incorporate critical literacy components when discussing a balanced literacy approach.

55. **Student Teacher Perceptions and Initial Habits for Grading Practices**
Brandon Yost and Jian Wang, Department of Teaching and Learning

What does giving a grade really mean? Grading systems vary from school to school and are as different as the languages of the world. Cross and Frary (1999) note that school marks and grading have been the source of continuous controversy since the turn of the century (p. 53). This research study addresses these questions:

1. What grading practice beliefs are held by student teachers who have completed their pre-service educational pedagogy courses and are now starting student-teaching?
2. How does the influence of their cooperating teachers change their grading practice beliefs?
3. And, how are actual grading practices of student teachers similar to and or different than their cooperating teachers' as they go through their student teaching experience?

A case study addressing these questions consisted of four student-teachers and their cooperating teachers who were interviewed regarding grading practices and habits. The student teachers were interviewed twice during the study: once at the beginning of student-teaching and once at the end of their student-teaching assignments. Common assessments were collected to demonstrate the cooperating teachers' grading methods vs. the student-teachers' methods. A survey was also conducted inviting student-teachers from two different states to participate.

This study will conclude in April, so findings are not yet definitive. It is anticipated that student teachers grading practice habits will more closely align with their cooperating teachers than when they began their service. Knowing the answers to the aforementioned research questions will help teacher educators know what to place more emphasis on during pedagogy coursework.

Conclusions: Results suggest that female substance abusers with high weight-related concerns report significantly more eating pathology.

56. **An Assessment of Hotel Technologies and Projects: Perspectives of Hoteliers**
Yun Ying Zhong and Mehmet Erdem, Department of Hospitality Administration

With a plethora of hotel technologies in the market, an assessment of the importance and performance of key hotel technologies is valuable for hotel owners and executives to set technology investment priority. The purpose of this study is to map hotel managers' satisfaction levels across 16 hotel technologies/projects and compare these with their perceived importance. The analysis indicated that hoteliers' perceptions of performance with 13 of the 16 hotel technologies were significantly lower than the reported perceived importance of these technologies. While hoteliers placed high importance on guest room technology, customer relationship management system, and business intelligence system, they were not so satisfied with the performance of those technologies. The three technologies, when compared with the rest, have the largest performance-importance gap perceived by hoteliers. The study results also suggested that mobile solution, an increasingly important emerging technology in hotel industry, still considerably lags behind hoteliers' performance expectations. Based on the study results, hotel technology vendors can identify business opportunities and hoteliers can set or adjust their technology investment priorities.

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