2013 Research Day Program

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Research Day 2013

Highlighting and recognizing graduate and undergraduate student research throughout all disciplines at the University of Northern Colorado.

University of Northern Colorado’s Annual Research Conference during Academic Excellence Week

April 11, 2013
University Center

Sponsored and facilitated by
Office of Undergraduate Research
Center for Honors, Scholars & Leadership
Graduate Student Association
The Graduate School
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UNC Radio

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*A full list of abstracts is available on the website at* [www.unco.edu/aew](http://www.unco.edu/aew)

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Research Excellence Awards

The Research Excellence Awards program was established to encourage and reward those presentations that exemplify the highest levels of excellence in research. Only a limited number of presentations were accepted into the awards program, and each will be evaluated by a team of faculty on Research Day.

Awards will be presented to the top scoring posters and individual presenters within each of the two categories: Graduate and Undergraduate. The awards will be presented at 4:45 PM in Mt Evans Ballroom on Research Day.

Research Excellence Posters
Mt Evans and Pikes Peak Ballrooms

Graduate Research Excellence Posters:

Morning Poster Session
09:00 - 11:00 in the Morning

**Graduate Students’ Perspective about Flipped Learning Classroom**
Educational Technology
**Presenter(s): Alebrahim, Fatimah**
Faculty Sponsor(s): Gall, James

There are many strategies for teaching that use technology to enhance students’ performance. One such strategy is a method called Flipped Learning or the Inverted Classroom. It relies on technology to introduce students to course content outside of the classroom so that students can engage with it on a deeper level. The purpose of this study was to explore this new teaching method in education and collect data from students who participated in a Flipped Learning classroom. The following questions were addressed: What impact does Flipped Learning have on a graduate students’ ability to comprehend content? How do the students enrolled in a higher education program describe the experience of Flipped Learning? What impact does the Flipped Learning model have on the students’ level of anxiety regarding their ability to integrate all of the required course data?

A qualitative case study method was used to examine two graduate courses that employed the Flipped Learning strategy. Interviews were conducted with the instructor and five of the 10 students who participated in both classes. Artifacts in the form of materials from the courses (such as reading assignments, projects, video links and writing assignments) were also collected. The data were coded and themes were developed.

The study revealed that the effectiveness of these Flipped Learning courses were influenced by a number of factors. For example, the instructor was challenged in that enough online reading materials and videos to support topics had to be prepared for the course. Effective assignments and practice activities were also required. Each student’s ability to study independently and use technology effectively impacted his or her success. Students that had the motivation and could complete the required activities before class appeared to learn and apply high-level skills. Those that didn’t have negative feelings about the class.

**Effects of a resistance training model on doxorubicin-induced muscle dysfunction in the rat**
Sport & Exercise Science
**Presenter(s): Bredahl, Eric**
Faculty Sponsor(s): Hydock, David

Doxorubicin (DOX) is an effective chemotherapy treatment that has been associated with a number of deleterious side effects including skeletal muscle dysfunction. Endurance exercise is effective at protecting against a variety DOX-induced toxicities, but examinations of the effects of resistance training on DOX-induced skeletal muscle dysfunction have been limited. PURPOSE: To examine the effects of a resistance training model in which rats rise to an erect bipedal stance to access food and water on DOX-induced muscle dysfunction. METHODS: Ten week old male Sprague-Dawley rats were randomly assigned to the raised cage resistance training model (RC) or sedentary (SED) group. RC animals were housed in specialized cages where food and water height were progressively increased so that rats would achieve an erect bipedal stance to access food and water. SED animals were housed in standard rat cages. Following 10 weeks of RC or SED treatments, animals received either a bolus DOX injection (15 mg/kg) or a saline injection (SAL) as a control. Five days following injections, soleus (SOL) and extensor digitorum longus (EDL)
function was analyzed ex vivo. RESULTS: A significant decline in maximal twitch force was observed in SOL and EDL from SED+DOX (+44% and +44%, respectively, P<0.05 vs. SED+SAL), but this significant reduction was not observed in RC+DOX (-22% and -24%, respectively, P>0.05 vs. SED+SAL). Using a 100 s fatigue protocol, a significant reduction in force from baseline was observed at 20 s in SOL from SED+DOX (P<0.05) whereas a significant reduction in force from baseline did not occur until 70 s in RC+DOX (P<0.05). CONCLUSION: The raised cage model employed prior to DOX administration attenuated muscle dysfunction suggesting that resistance exercise may play a role in managing muscle weakness and fatigue often experienced by cancer patients receiving DOX.

**Outpatient Phases in Cancer Rehabilitation**

**Sport & Exercise Science**

**Presenter(s): Brown, Jessica**  
**Faculty Sponsor(s): Schneider, Carole**

Cancer detection and treatment methods have improved significantly, which has in turn led to an estimated 12 million cancer survivors living with negative treatment-associated side effects. Rehabilitation of cancer survivors has become a problem of increasing significance with the surge in the incidence of cancer. A plethora of research investigations have shown that exercise is beneficial for cancer survivors. Yet there is not an orderly plan or system to rehabilitate cancer survivors with varying levels of acuity following diagnosis. PURPOSE: To establish appropriate phases in cancer rehabilitation that address the individual needs of cancer survivors. The phases should be built upon goals addressing varying levels of acuity and establish appropriate exercise recommendations. METHODS: Seven hundred-twenty-eight cancer survivors were grouped according to cancer history and treatment status yielding four distinct categories of care. Patient files and exercise logs from previous cancer rehabilitation participation were examined to develop exercise prescriptions and the orderly phase plan. RESULTS: Following analysis of exercise logs, the phase system includes four phases corresponding to the four distinct categories of treatment status found in cancer survivors. Each phase consists of its own goals and appropriate exercise recommendations of intensity, duration, and frequency for the exercise prescription. CONCLUSION: Rehabilitation of cancer patients should follow an orderly plan that includes varying levels of patient acuity and appropriate exercise recommendations throughout the cancer continuum. Outpatient phases should be an essential component of cancer rehabilitation.

**Juvenile doxorubicin exposure increases cardiac progenitor cell expression in late-onset cardiotoxicities**

**Sport & Exercise Science**

**Presenter(s): Gibson, Noah**  
**Faculty Sponsor(s): Gibson, Noah**

Doxorubicin (DOX) is a commonly used anthracycline antibiotic used to treat many childhood cancers. While children have a reduced risk of acute DOX-induced cardiotoxicities, they are more likely to exhibit late-onset DOX-induced cardiotoxic symptoms later in life. We hypothesized that the late-onset cardiac dysfunction is associated with a decline in cardiac progenitor cell (CPC) populations due to DOX exposure during childhood cardiac development. PURPOSE: The purpose of this study was to determine if late-onset DOX-induced cardiotoxicity is associated with a decline in CPC populations. METHODS: Twenty-five day old male Sprague-Dawley rats were randomly selected to receive 14 mg DOX/kg body weight or equivalent saline (SAL) in serial i.p. injections of 2 mg/kg/day for 7 days. At 16-weeks of age echocardiography and Langendorff preparations were performed to assess cardiac function. Cardiomyocytes were isolated, cells expressing the stem cell factor receptor c-Kit were stained and CPCs were quantified using flow cytometry. RESULTS: Significant differences (p<0.05) were observed in the following cardiac functional and geometric parameters between SAL and DOX treated animals: left ventricular developed pressure (SAL 92±17 mmHg, DOX 60±12 mmHg), mitral valve maximal flow velocity (SAL 98±7 cm/sec, DOX 75±11 cm/sec), aortic valve maximal flow velocity (SAL 104±6 cm/sec, DOX 62±7 cm/sec), myocardial performance index (SAL 0.68±0.03, DOX 0.91±0.07), and left ventricular mass (SAL 598±75g, DOX 424±128). DOX treated animals also showed a significant increase (p<0.05) in CPC populations (2.5-fold)

CONCLUSIONS: These data suggest that late-onset DOX-induced cardiotoxicities increase CPC populations. The increased CPC populations may be indicative of the endogenous repair mechanisms of the heart in response to the stresses of cardiomyopathies. Further research is needed to elucidate the time course of CPC populations during and following DOX exposure to determine their role in cardiac development and how they may contribute to late-onset cardiotoxicities.
Cardiac Dysfunction in the Tumor Bearing Rat
Sport & Exercise Science

Presenter(s): Parry, Traci
Faculty Sponsor(s): Hayward, Reid

Cardiac Dysfunction in the Tumor Bearing Rat

Cancer cachexia is a disease that affects up to 80% of cancer survivors and contributes to 20 to 30% of cancer deaths. It is characterized by weight loss, muscle atrophy, weakness, fatigue, and a diminished quality of life. While there is substantial evidence that cancer cachexia can lead to skeletal muscle wasting and weakness, its role in cardiac function is not well understood.

Purpose: To determine whether cardiac function is altered in the tumor bearing rat.

Methods: Fisher 344 rats (8 weeks old) were randomly assigned to one of two groups: tumor-bearing (Tm) or non tumor bearing (NT). Animals in the Tm group were inoculated with MatBIII tumor cells (1 x 10^5) in the left flank. Animals in the NT group received no treatment. Two weeks later (week 10 of protocol), cardiac function was assessed both in vivo (echocardiography) and ex vivo (isolated perfused working heart).

Results: The Tm group exhibited significantly ($P < 0.05$) lower left ventricular developed pressure, maximal rate of developed pressure, fractional shortening, and posterior wall thickness during systole and diastole compared to the NT group. The Tm group also exhibited significantly ($P < 0.05$) greater left ventricular rate of pressure decline, left ventricular diameter during systole and diastole, and ejection time compared to NT animals.

Conclusion: Inoculation with MatBIII tumor cells causes significant cardiac dysfunction both in vivo and ex vivo in the Fisher 344 rat, suggesting that cancer cachexia can affect cardiac function.

Development and Validation of a Unidimensional Measure of Hope with a Population of Severely and Persistently Mentally Ill Individuals.

Applied Statistics & Research Methods, Educational Psychology, Psychology

Presenter(s): Traxler, Karen; Siegrist, Mary

Faculty Sponsor(s): Traxler, Karen

Snyder et al. (1991) developed a two-factor and unidimensional measure of hope within the framework of goal-setting and achievement. This measure, known as The Snyder Hope Scale (SHS), has been extensively used in clinical settings even though well-defined clinical populations (encompassing severe mental illnesses) were not included in the original development and validation of the instrument. To bridge this gap in the literature, the current study, conducted in three phases, examined the psychometric properties of the SHS, using a target population of severely and persistently mentally ill individuals from a residential treatment facility located in the Eastern United States. In Phase I, reliability of the scores in the target population was assessed using Chronbach’s alpha and found to be moderate (.698). Confirmatory Factor Analysis (CFA) using Lisrel 8.8 (Jöreskog, K.G. & Sorbom, D, 2006) was conducted and fit statistics were examined to assess the construct validity of the scores, which were found to be unacceptable in the target population. During Phase II, the results from the statistical analysis in Phase I were compiled, and a modified version of the SHS was sent to a panel of experts in the field of clinical psychology for review. A revised version, developed to improve the unidimensional model fit of the SHS was then created using feedback from the panel of experts. Phase III focused on implementing a pilot study in the target population using the SHS-revised. Reliability and validity of the SHS-revised scores was assessed and the results provided evidence of high reliability (.898) and acceptable model fit, suggesting that the SHS-revised could be used and interpreted in a population of severely and persistently mentally ill individuals, offering clinicians and consumers more meaningful results.

Looking for a Grad School in the Region?
Check out the Grad School Fair!

Many Colorado and Wyoming Grad Schools will be providing information about their programs
On Research Day, April 11
Downstairs in the Lower Level of the University Center
10 AM – 2 PM
Undergraduate Research Excellence Posters:

**Afternoon Poster Session**
12:00 - 2:00 in the Afternoon

### Serine Proteinases in Venom of the Yucatan Rattlesnake Crotalus simus tzabcan

**Biological Sciences**

**Presenter(s):** Caudillo, Ana  
**Faculty Sponsor(s):** Mackessy, Stephen

Snake venoms comprise a complex mixture of macromolecules, primarily proteins, that can cause cataclysmic destructive changes to living tissues when injected by a snake. Somewhat enigmatically, these same molecules have high potential for medicinal purposes, because most venom components are mimics of natural regulators of body functions. Previous studies have revealed that serine proteases in venoms interact with the blood coagulation cascade, a complex series of protease-mediated reactions in the body which regulate and the thrombin-like serine proteases (TLSP) act preferentially on fibrinogen. The isolation and manipulation of these proteins could directly contribute to the treatment of clotting disorders, acute hypertension, and even some cancers. New drug candidates are necessary because current drugs have undesired side effects and several newer candidates have recently failed in clinical trials. To address this need, I am examining TLSPs from the venom of the Yucatan Rattlesnake (Crotalus simus tzabcan), a species whose venom has not been investigated but which contains abundant serine proteases. Isolation of a TLSP has just been completed using a three step chromatographic purification protocol (low pressure size exclusion, ion exchange and reversed phase). Initial characterization of this purified protein include determination of its mass, specific activity and possible inhibitors. In addition, I will evaluate other physical characteristics of the protein such as extent of glycosylation, which can influence physiological stability and resistance to endogenous proteases, and specific activity toward fibrinogen and other natural substrates. Identification of these properties are the first steps toward a future therapeutic, and if these are positive, biological testing in a rodent model will be undertaken. This research further demonstrates the potential for new and more specific-acting drugs from natural sources, and animal venoms contain a wealth of candidate molecules potentially useful for treating human diseases.

### The Impact of Residence on Dietary Intake, Food Insecurity, and Eating Behavior Among University Undergraduate Students

**Nutrition**

**Presenter(s):** Gonzales, Kittra  
**Faculty Sponsor(s):** Gould, Susan

University students are overlooked as a nutritionally at-risk population in regards to poor dietary intake, food insecurity, and eating behavior. The purpose of this study is to determine if residence has an impact on university students’ dietary intakes, which residence type (on-campus or off-campus) meets recommendations more closely, and investigate socioeconomic and behavioral factors related to poor dietary intake. A cross-sectional, online Qualtrics survey was designed and distributed to University of Northern Colorado students. The survey includes an original food frequency questionnaire (FFQ) designed according to ChooseMyPlate.gov dietary intake recommendations and the U.S. Adult Food Security Survey Module (AFSSM) developed by the US Department of Agriculture. Responses about eating behavior and demographic characteristics, such as gender and age will be analyzed. Chi-square and independent t-test analyses will be used to determine significant differences in the variables between residence type and gender. This study addresses knowledge gaps between newly updated nutrition guidelines and student lifestyle by incorporating an innovative approach to study design and methodology commonly used in nutrition research.

### Auditory Status of Youth Who Shoot Recreational Firearms

**Audiology & Speech-Language Sciences**

**Presenter(s):** Holm, Kristen  
**Faculty Sponsor(s):** Meinke, Deanna

Firearms generate high level impulse sounds that are known to damage the delicate structures of the inner ear and cause hearing loss (Axelson et al., 1987, Holmes et al. 1997, Kramer and Woods, 1982). Otoacoustic emissions (OAEs) are low-level sounds that are produced by the cochlea’s outer hair cells. Almost all people with normal hearing and some with hearing-impairment will produce OAEs. The presence or absence of OAEs can provide information about inner ear changes due to hazardous noise exposures. OAEs have been found to demonstrate early signs of noise induced hearing loss (NIHL) before it becomes evident on a conventional hearing test (Arnold et al., 1990, Avan et al., 1995, 1997, Dorn et al., 1999, Konopka et al., 2005, Yates and Withnell, 1999). Ahmed et al. (2001) has also suggested that ultra-high-frequency (UHF) hearing loss may also be an early indicator of NIHL. The purpose of this research is to evaluate the auditory status of youth (aged 10-15 years) who shoot recreational firearms as compared to a control group that does not shoot. For this study, auditory status will be evaluated with conventional audiometry using pure-tone air conduction hearing testing 500-8000 Hz, ultra-high-frequency audiometry (HFA) 10000-20000 Hz and distortion product otoacoustic emissions (DPOAEs). For DPOAE testing, each participant will have a 12 frequency DPOAE scan administered (1600-6300 Hz). DPOAE data will consist of the distortion product amplitude (DP), noise floor (NF), and signal to noise ratio (SNR) for each test frequency. Data collection is currently underway, and preliminary findings suggest a trend towards reduced UHF hearing thresholds and DPOAE amplitudes for the experimental group shooting recreational firearms.
An Examination of the Cytotoxic Effects of Snake Venom on Human Colon Cancer Cells

Biological Sciences, Chemistry

Presenter(s): Maxey, Elizabeth

Faculty Sponsor(s): Mackessy, Stephen

Snake venom is a complex mixture of enzymes, proteins and other substances with toxic/lethal properties which immobilize and aid in digestion of prey. Venom’s biological effects are caused primarily by many proteins found in the venom. Some of these proteins may provide novel leads for drug discovery, with applications to many human diseases. Cancers are characterized by uncontrolled growth and metastatic spread of abnormal cells that commonly results in death; colorectal cancer is the fourth most commonly diagnosed and second most lethal cancer in the United States (2011). Treatment options for colon cancer are limited, depending on the stage of the cancer at diagnosis, illustrating the need for new therapeutics. In this study, the cytotoxicity of Pseudechis porphyriacus venom and purified proteins toward Colo205 cancer cells was explored. Previous work showed that the venom contains metalloproteinases (SVMPs), phospholipases A2 (PLA2), three-fingered toxins (3FTxs) and cysteine-rich secretory proteins (CRISPs); in spite of these components, the venom is only moderately toxic (LD50 ~2.5 mg/kg). Crude Pseudechis venom showed potent, dose-dependent toxicity toward Colo205 cells. Fractionation of crude venom via cation-exchange FPLC resulted in 13 prominent peaks, primarily 6 and 14 kDa proteins; peaks 1, 11, 12, 13 were cytotoxic. Purification of the cytotoxic proteins was performed via reverse-phase HPLC. The purified proteins ranged from having no cytotoxic effect to moderate/potent cytotoxic effect on Colo205 cells. Mass spectrometry was used to aid in identification of each purified protein. The need to develop alternative treatments for colorectal cancer is essential, as current options are limited and often have severe side effects, due in part to the sensitivity of the colorectal area to traditional cancer therapies. If apparent anti-cancer effects observed with this venom and its purified proteins are specific, these results may produce leads for novel drug therapies to treat colorectal cancer.

Native American retention: factors, programs and practices contributing to the completion of a four-year degree by Native American students in higher education

Interdisciplinary Studies

Presenter(s): Nirschl-Coats, Valerie

Faculty Sponsor(s): Franklin, Elizabeth

This study examines the factors that contribute to the completion of a four-year degree among Native American students at a mid-size university in the Southwestern United States. In the United States Native American retention in higher education is at a low. Programs and practices have been implemented among universities to improve retention rates, but nonetheless retention rates are still minimal. Research in the field indicates that the factors contributing to Native American retention include familial support, support from faculty and staff, institutional commitment, and connections to homeland and culture. However, the research does not seem to show factors in relation to specific institutions. This qualitative study will focus on the experiences of six to twenty Native American students. These students will be interviewed to determine the factors that they regard as motives why Native Americans at this specific institution do or do not complete a four-year degree. Along with qualitative research this research will also be a program review in which the researcher will look at the University of Northern Colorado, Fort Lewis College, the University of Colorado at Boulder, the University of Colorado at Denver, Colorado State University, Duke University, and Baylor University. These programs will be evaluated through each individual program’s website. Based on the program reviews and the responses from the students we will conduct thematic analysis to find trends.

How Individuals who Stutter, Graduate Student Clinicians, and an Experienced Speech-Language Pathologist Perceive Success in Fluency Therapy

Audiology & Speech-Language Sciences

Presenter(s): Ortega, Evelyn

Faculty Sponsor(s): Murza, Kimberly

Since the inception of stuttering therapy, the field of speech-language pathology has become increasingly evidence-based; this trend has led clinicians to pursue techniques that are more successful. However, there are still some gaps in the research about successful fluency therapy. Current research needs to look at the experiences and perceptions of people who stutter as well as their perceptions of fluency therapy. By considering clients’ attitudes toward fluency therapy, personality traits, life events, and specific therapeutic characteristics, speech-language pathologists will gain a better understanding of what successful therapy can entail. In addition, few recent studies have explored the clinician’s point of view as well as the experiences and perceptions of clients. These studies have concluded that both perspectives should be included in treatment planning. While previous research has reported clients’ and clinicians’ perceptions of fluency therapy separately, this research considers both views simultaneously. The results from this qualitative study will aid speech-language pathologists in considering the factors that can create a successful fluency therapy session. Participants for this study were adults who stutter, graduate assistant clinicians, and a clinical educator. The participants who stutter were interviewed to determine if personality traits, hobbies, outside support, life events, or specific therapeutic characteristics influence success. The clinicians were asked what they have observed to be successful in speech therapy and what they believe their clients perceive as vital in fluency sessions. The data collected from three types of people involved with stuttering therapy were transcribed and analyzed to generate themes. Expected results of this research will highlight factors that contributed to perceptions of success.
**Improvisational therapy alleviates MPA symptoms in college wind musicians**

Music, Psychology

**Presenter(s): Rush, Shaina**

**Faculty Sponsor(s): Montemayor, Mark**

Researchers have recognized musical performance anxiety (MPA) as a prominent disorder among musicians and have explored ways to cope with the resulting symptoms (Kirchner, 2004/2005). Methods such as pharmacotherapy, hypnotherapy, and cognitive behavioral therapy have been tested to treat individual symptoms of MPA, each with some measure of success. Music therapy is one of the most effective forms of therapy for stress, depression, and psychological disorders, all of which are affiliated with MPA (Martinez, 2009). However, music therapy as a treatment for MPA has been largely overlooked. This study will test if improvisational music therapy will reduce MPA symptoms (including state anxiety and trait anxiety symptoms) and improve self-esteem in music majors who play wind instruments. A secondary purpose of this study is to compare these data with those from a previous study involving pianists (Kim, 2005). Participants will freely improvise music (i.e., aside from their performance literature) for 15 minutes per day for six weeks, and will participate in a weekly group improvisation session; they will also keep journals so that they can track their own progress regarding anxiety symptoms. Anxiety levels will be measured through Likert-type scales about self-reported symptoms. Results may inform musicians and music teachers as to the benefits of these methods as a form of self-therapy for performing artists. Reducing anxiety through improvisational music therapy may provide for more rewarding experiences for performers and audiences, and may prove to be beneficial for musicians’ careers.

**Spatial Regression Analysis of Refugee Settlement: Greeley, Colorado, 2012-2013**

Geography

**Presenter(s): Yeager, Kyle**

**Faculty Sponsor(s): Diggs, David**

This project is going to look at the location of refugees in Greeley Colorado and Census Block Group information such as income levels, education, density, and crime to see if there’s any correlation. The significance of this study is to look at the refugee conditions in the western United States. The hypothesis is refugee settlement in Greeley, Colorado is determined by factors such as density, educational levels, income, and cost of living. Research methodology includes using survey information provided by the Global Refugee Center of 488 refugees in Greeley. Census block group information will also be used. The program to map out the regression analysis will be ArcGIS. The project will first begin with Ordinary Least Squares Analysis to see if there is any strong correlation between location of refugee settlement and factors such as education, income, and cost of living. Next step in the process will be using tools to assure that spatial autocorrelation is not present within the data. From there Geographically Weighted Regression will be used as it accounts for local variation more accurately as compared to Ordinary Least Squares. The Anticipated outcome of this project is that there will be correlation present between refugee settlement and income levels and cost of living. Current research conclusions have found no correlation between housing density and refugee settlement.
**Research Excellence Oral Presentations**

**Undergraduate Research Excellence Oral Presentations:**

**09:20 - 09:35 in the Morning**

**Council Room**

**PARENT-CHILD SHARED BOOK READING: An exploration of story book reading as an influence in increasing the phonological awareness skills in preschool age children with both normal language development and language disorders.**

Audiology & Speech-Language Sciences

**Presenter(s): Rea, Amber**

**Faculty Sponsor(s): Fahey, Kathleen**

As children learn their native language, they develop awareness of the structure of words, such as beginning and ending sounds, the number of syllables, and how some words sound similar to others. These skills are known collectively as phonological awareness. A gradual progression of abilities occurs during the preschool years as children are exposed to books, rhymes, songs, and daily interactions. Phonological awareness is an imperative foundation for increased language and literacy development. Parent-child shared story-book reading is one activity that may promote the development of phonological awareness in preschool-age children. In this thesis, I developed a series of single subject case studies guided by two research questions: Does shared story-book reading increase phonological awareness in preschool age children? Does shared story-book reading result in positive outcomes for children who are developing language normally and for children who have phonological delays?

For this study, I collected quantitative data from two preschool-age children with normally developing language skills and two preschool-age children with phonological delays using The Test of Phonological Awareness (TOPA), which consists of twenty items that compare initial sounds in words. I then staged an intervention where each participant’s caregiver read a story book high in rhyming and alliteration with their child four times a week for four to five weeks. Additionally, each caregiver was supplied with a list of reading strategies to employ in fostering phonological awareness during each shared story-book reading session. To post-measure, I performed the same TOPA test I utilized four weeks prior and made note of and analyzed the differences between the two scores. The results of all four post-tests showed an increase in phonological awareness in all subjects, regardless of whether the child had phonological delays or not, highlighting the positive impact that shared story-book reading has on this essential metalinguistic skill.

**09:40 - 09:55 in the Morning**

**Council Room**

**Judging Sexual Orientation from Still Faces**

Psychology

**Presenter(s): Archuleta, Aly; Morrison, Katey**

**Faculty Sponsor(s): Peterson, Eric**

A burgeoning literature demonstrates that individuals can judge personality and group membership (e.g., religious and political affiliation) from still faces with some degree of accuracy. Recent studies demonstrate that individuals perceive sexual orientation better-than-chance from surprisingly impoverished facial stimuli. This effect remains even when the stimuli consist of only the eye region (i.e., cut out from the face) and are presented at just 50 milliseconds. To date, researchers have explored possible physiological markers (i.e., increased pupillary dilation) that may convey information about orientation. However, it remains unclear what aspects of the facial stimuli the perceiver utilizes to form a judgment. An important limitation of past studies concerns the creation of stimuli. Researchers have obtained pictures (i.e., faces of gay and straight individuals) from online dating websites. In the present study, we are recruiting volunteers who confidentially self-report sexual orientation information and allow us to take a face pic. After grouping our stimuli by sexual orientation, we will use morphing technology to create composite stimuli representing each group. The composites will provide a more robust means of exploring two feasible hypotheses: 1) the faces or eyes of individuals of homosexual orientation differ in a systematic way (e.g., pupillary dilation), or 2) individuals of homosexual orientation may display facial characteristics that are more likely to diverge from an “average” face in a non-systematic way. In the first scenario, any discerning featural traits should intensify in the composite faces. In the second scenario, sexual orientation discrimination should dissipate in the morphing process. We believe our results will inform our understanding of the social cognitive mechanisms that support a person’s ability to make orientation judgments based on minimal information. Further, we may gain some insights that direct future research in the development of sexual orientation.
from 1900

Stuart Hall, and John Bale, in order to understand how space and place allowed football to influence English working class identity. This study then applies theories such as topophilia, place pride, the theory of hegemony, and visibility based on the works of Yi-Fu Tuan, Stuart Hall, and John Bale, in order to understand how space and place allowed football to influence English working class identity from 1900-1925.

Faculty Sponsor(s): Hawthorne, Barbara

Prior research regarding football and English identity focuses on football as the “working man’s game” and highlights the development of a working class identity, in opposition to upper and middle class identities, through football. Unfortunately, it is difficult to find primary sources on this subject from the first quarter of the twentieth century in order to gain a more holistic understanding of the subject. In order to discover more about football’s impact on English identity from 1900-1925, this study uses cartoons published in English newspapers as primary sources to discover a more comprehensive sense of football’s impact on English identity. This analysis shows: 1) Football was generally played and supported by working class males; 2) Football divided England by city, borough, and region through allegiances to various professional football clubs; 3) Football further developed an English identity for white working class males through the England national team. I explain these discoveries through various geographic theories in order to show how football in England simultaneously divided and united Englishmen. This study then applies theories such as topophilia, place pride, the theory of hegemony, and visibility based on the works of Yi-Fu Tuan, Stuart Hall, and John Bale, in order to understand how space and place allowed football to influence English working class identity from 1900-1925.

Faculty Sponsor(s): Seeley, Austin

The current study is interested in how age, social support, self-efficacy, and depression are related to resilience specifically in the case of the Colorado fire victims in 2012. These factors assume roles within the Life Course Model which makes it a useful tool in advancing our understanding of resilience in disaster victims and constructing a theoretical framework to guide further research. Considering the factors of age and social support, research suggests that social networking and family support are particularly important for older adults (Kamo et al., 2011). Extended families and neighbors are of specific importance because their social contribution is key in maintaining mental health of older victims (Shenk et al., 2009). The results for social support and level of resilience reported are mixed. However, the importance of social support for older individuals seems to be even more relevant considering the study by Gooding et al. (2012), which reports younger people actually had more resiliency related to social support than older adults. Further investigation on social support and impact on elders appears relevant. Depression appears to also be an important factor in resilience particularly if there is depression prior to a disaster (Ginexi et al., 2000). Depression is a factor related to overall levels of resilience following many types of life events (Taylor et al., 2011) and deserves consideration with survivors of fire. Overall, review of the current literature suggests that limited research exists in the area of disaster relief for fire victims. For quantitative data obtained from the survey a Multiple Linear Regression (MLR) was used to build a predictive model of resilience using scores on the four instruments for self-efficacy, depression, social support and resilience. Qualitative data from the open-ended questions was analyzed using theme analysis in other words identifying, analyzing, and reporting patterns (themes) within data.
11:20 - 11:35 in the Morning
Council Room

**Describing the Self-Efficacy Found in Parents of Children with Hearing Loss**

Audiology & Speech-Language Sciences
Presenter(s): Walter, Jamie
Faculty Sponsor(s): Hanks, Julie

This study allowed an opportunity for parents of children with hearing loss who were being seen at the University of Northern Colorado Speech-Language Pathology/Audiology Clinic to provide information regarding personal measurements of self-efficacy and involvement concerning their child’s life with a hearing loss. Research in this specific field has been spearheaded by Jean L. DesJardin, designer of the Scale of Parental Involvement and Self-Efficacy (SPISE). Due to the emergence of the SPISE in the area of parental self-efficacy, the primary purpose of this study was to compare the data obtained by parents whose children attend the UNC clinic to existing measures found in other populations.

Five parents of children with hearing loss were voluntarily recruited and were asked to complete a modified version of the Scale of Parental Involvement and Maternal Self-Efficacy (SPISE). The questionnaire contained three sections: demographic information, self-efficacy and parental involvement.

Given a sample of children who were identified with a hearing loss and provided amplification at a young age, overall parental self-efficacy and involvement was high, when compared to previous studies. With regard to involvement, responses indicated an overall level of confidence and dedication on behalf of the participating parents. Similar results were found with the parental self-efficacy questions and responses in this area concluded that the participants felt comfortable, knowledgeable and confident in their role as the parent to a child with a hearing loss. This research highlighted that the age of identification and amplification of a child provides a direct correlation to high parental self-efficacy and involvement. Additionally, mean scores were calculated for each item on the SPISE and compared to data previously published by DesJardin. The correlations drawn between the data and further results will be discussed in the oral presentation as well as implications for practitioners.

11:40 - 11:55 in the Morning
Council Room

**Somali Refugee Interpretations of trauma-related Mental Illness: Similarities and Differences between the Somali concepts of ‘Murugo Joogto’ and ‘Qulub’ and PTSD**

Anthropology, Psychology
Presenter(s): Miller, Caitlin
Faculty Sponsor(s): Bashore, Theodore

There has been growing interest in studying the psychological impact of trauma on refugees, but studies that combine quantitative psychological methods with qualitative anthropological methods to determine cultural influences on the psychological expression of this trauma are rare. Although post-traumatic stress disorder (PTSD) has been studied extensively since the Vietnam war, most of the studies have excluded the impact of culture on the definition, experience, and manifestation of trauma. In this investigation, Somali refugees were studied to identify their cultural interpretation of psychological reactions to traumatic experiences.

Specifically, this research is directed at understanding two culturally-identified disorders, Murugo Joogto and Qulub, from the Somali perspective and comparing them to PTSD. Somali refugees took part in a semi-structured interview in which questions were directed at determining how they experience these two disorders and then completed the PC-PTSD questionnaire in verbal format and the DSM IV-TR to determine their similarities and differences. An important goal of this work is to provide data important to the proper diagnosis and treatment of Somali victims of trauma. The predicted outcome of this research lies within the identification that diagnosing Somali refugees with PTSD damages their psychological health further by introducing the factor of community ostracization. The findings will clarify that although symptoms of Murugo Joogto and Qulub are similar to PTSD, the way they Somali people identify with the mental health experience will express itself as an avoidance of being labeled by their community but rather identification with either Murugo Joogto or Qulub.
Graduate Research Excellence Oral Presentations:

Council Room

01:40 - 01:55 in the Afternoon

Master of Public Health Graduate Student Capstone Presentations: American Indian Youth Perspectives on Traditional Food Systems
Public Health
Presenter(s): Carroll, Danya
Faculty Sponsor(s): Sharp, Teresa

American Indian (AI) communities are disproportionately affected by obesity and comorbidities compared to other populations. Obesity is a major health concern for AI youth, many of whom are obese or overweight before age ten. The obesity epidemic among AI youth is a result of complex social determinants including built environment, food deserts, and low socioeconomic status. AI communities have undergone a nutritional shift in which traditional, natural foods are not relied on as heavily as they were in the past. OBJECTIVE: To collect information on the social and environmental factors and barriers youth perceive in accessing healthy traditional foods. METHODS: Qualitative data was collected using a community-based participatory research needs assessment approach through focus groups with AI youth on the Fort Apache Indian Reservation in northeastern Arizona. After Tribal Council approval, focus group participants were recruited through social media, flyers, and word-of-mouth. The focus groups were conducted by age (12-14 yo, 15-17 yo, & 18-20 yo) to enhance discussion. RESULTS: Social and environmental barriers influencing youth perspectives on traditional foods included, 1) limited variety and supply of healthy local foods (food desert), 2) few choices for healthy restaurants and stores, 3) lack of quality foods including fresh fruits and vegetables, and 4) lack of food safety and environmental health were barriers for accessing food. Social barriers included a lack of generational knowledge of traditional foods, substance abuse, and low-income level. Suggestions for improving local food systems included lowering healthy food prices, increasing options, and having more locally-grown food (food sovereignty). CONCLUSION: We gained valuable insight into social and environmental barriers that youth perceive in accessing healthy traditional foods. These discussions provide direction for future obesity and diabetes prevention programs for AI youth. Data also indicate a need for more culturally appropriate nutrition programs to provide AI youth with healthy foundations.

02:00 - 02:15 in the Afternoon

Physical Activity and Preventive Health Behaviors in a National Sample of College Students
Public Health
Presenter(s): Groesbeck, Corrie; Schroeder, Emily
Faculty Sponsor(s): Brittain, Danielle; Dinger, Mary

Physical activity (PA) is one preventive health behavior for promoting wellness among college students. Only minimal research has examined whether college students who participate in PA are more likely to engage in other preventive health behaviors. Purpose: The study purpose was to examine differences in: (1) PA and preventive health behaviors between women and men and (2) preventive health behaviors between college students meeting and not meeting weekly PA recommendations (i.e., ≥ 75 minutes of vigorous, ≥ 150 minutes of moderate, or ≥ 150 minutes of moderate/vigorous). Methods: The National College Health Assessment was distributed to students at 157 campuses in the United States during the 2008-2009 academic year. Participants (n = 67,321) were categorized as either meeting or not meeting the PA recommendations and either participating or not participating in other preventive health behaviors (i.e., dental exams/cleaning, sunscreen use, HIV testing, testicular or breast self-exams and gynecological exams). Descriptive statistics and Pearson chi-square analyses were used to examine gender differences in preventive health behaviors and differences in preventive health behaviors between students meeting and not meeting PA recommendations. Results: While males (n = 22,129, 32.9%) were more likely to meet PA recommendations (p < 0.0001), females (n = 45,192, 67.1%) were more likely to participate in dental exams/cleanings, sunscreen use, and HIV testing (p < 0.0001). Students who met PA recommendations were more likely to engage in dental exams/cleanings, sunscreen use and HIV testing than those not meeting the recommendations. Conclusions: Preventive health behaviors are more likely to be practiced among college students who meet PA recommendations.
Biology Session: Longs Peak

02:50 - 03:05 in the Afternoon

Tracheal Calcification Patterns in the Chiroptera and Insectivora.

Presenter(s): Adams, Rick

Biological Sciences; Faculty Sponsor(s): Adams, Rick

Cartilage calcification is considered to be a phenomenon created by mechanical stimulus on the cartilage. Syringeal and tracheal calcification is a distinguishing feature of birds and is suggested to have evolved due to vocalization. There is however little mention in the literature of tracheal calcification in mammals. Bats and birds synchronize lung ventilation with wing stroke to mechanically economize flight, with echolocating bats also recruiting muscles from the abdominal wall to forcefully emit calls. Synchronization of wing stroke and ventilation results in a compressive force on the lungs and bronchi to help expel air. We hypothesized that 1: calcification of the trachea and primary bronchi will occur during the development of flight in echolocating Artibeus jamaicensis and be present in the non-echolocating adult Syconycteris australis and 2: calcification will not occur in the primary bronchi of the echolocating shrew; Sorex vagrans. Tracheae were obtained from individuals from our captive breeding colony of A. jamaicensis, two preserved specimens of S. australis, and six S. vagrans carcasses from an unrelated study. The tracheae were cleared and stained using Alcian blue for cartilage and Alizarin red for calcification. We found that A. jamaicensis tracheal rings closest to the larynx calcified first with rings of the primary bronchi calcifying last, this latter calcification occurred as individuals were first able to achieve powered flight. Rings of the trachea and primary bronchi of adult S. australis were calcified. Tracheal ring calcification was present in S. vagrans but not in the primary bronchi, in fact the cartilaginous rings diminished in size so that the lower trachea and primary bronchi appeared to lack rings all together. These data suggest convergence between birds and bats that allows for economic respiration and vocalization during powered flight by reinforcing the primary bronchi to resist the compressive forces imposed on the lungs.

03:05 - 03:20 in the Afternoon

Molecular basis for prey relocation in viperid snakes

Presenter(s): Saviola, Anthony

Biological Sciences; Faculty Sponsor(s): Mackessy, Stephen

Vertebrate predators use a broad arsenal of behaviors and weaponry for overcoming fractious and potentially dangerous prey, and among advanced snakes, a chemical mode, venom, is commonly utilized. Venomous snakes, however, exhibit two very distinct prey handling strategies, varying from the strike-and-hold behaviors seen by highly toxic elapid snakes to the rapid strike-and-release envenomation seen in viperid snakes. For vipers, this mode of envenomation represents a minimal risk predatory strategy by permitting little contact with or retaliation from prey, but it adds the additional task of relocating envenomated prey which may wander several meters or more from the attack site. This task is further confounded by additional chemical cues, and trails of other unstruck conspecific or heterospecific prey. Despite decades of behavioral work, researchers still do not know the specific component(s) of venom involved in altering the chemical odor leading to successful relocation of the envenomated prey. In the current study we examined behavioral responses of Western Diamondback Rattlesnakes (Crotalus atrox) to euthanized mice injected with size-fractionated venom, with snakes responding significantly to only one protein peak. Assays for enzymes common in rattlesnake venoms indicated that this behavioral responsiveness was not dependent on enzymatic activity. Further purification of this significant peak by reverse-phased high-pressure liquid chromatography, mass determination by MALDI-tof mass spectrometry, and N-terminal sequencing identified the proteins responsible for this significant behavioral response as the disintegrins Crotatroxin1 and 2. These findings reveal the evolutionary significance of free disintegrins in venoms as the molecular mechanism in vipers allowing for effective relocation of envenomated prey. In turn, the presence of disintegrins has led to the evolution of a major behavioral adaptation (strike-and-release), characteristic of only rattlesnakes and other vipers. This system of a predator chemically tagging prey represents a novel trend.

03:20 - 03:35 in the Afternoon

Canyon and Rock Wren Coexistence in the Northern Colorado Foothills

Presenter(s): Warning, Nat

Biological Sciences; Faculty Sponsor(s): Benedict, Lauryn

Canyon wrens (Catherpes mexicanus) and rock wrens (Salpinctes obsoletus) are two of the least studied Colorado bird species, occurring together in rock-strewn, cliff habitats. Canyon and rock wrens offer a good system for testing how two ecologically and taxonomically similar species interact. We identified wren territories on public lands in Larimer County from Apr-Nov 2012. We recorded wren locations using burst sampling and calculated 95% minimum convex polygons in ArcGIS to estimate home range sizes for 12 canyon wren pairs and 17 rock wren pairs. Mean home range size was 7 ha for canyon wrens and 3.7 ha for rock wrens. Considerable home range overlap occurred between species, with 75% (9/12) of canyon wren territories coinciding with those of rock wrens. Rock wren home ranges absent of canyon wrens were 20% larger than those with canyon wrens present, indicating possible interspecific competition. Both species foraged equally on rock surfaces, talus slopes, and in rock cavities (50% of pts). Canyon wrens foraged significantly more within rock crevices (32% of pts), while rock wrens foraged more in vegetation and on open ground (25% of pts). Separate foraging preferences, along with differences in size and morphology point to some partitioning of food resources in these rock-dwelling wren species. Nevertheless, home range size and foraging analysis data indicate that they compete during periods of co-occupancy.
Honors Program Presentations

Students who have reached high levels of academic achievement may enter the Honors Program as incoming Freshmen, Current UNC Students or Transfer students. Encouraging original thinking and research, the Honors Program guides its students through a curriculum of interdisciplinary study, experiential learning, and independent research. All students who graduate with Honors from the program must submit an original thesis or creative capstone project and present their project in public.

Session 2
09:20 - 09:35 in the Morning

Council Room
PARENT-CHILD SHARED BOOK READING: An exploration of story book reading as an influence in increasing the phonological awareness skills in preschool age children with both normal language development and language disorders.
Audiology & Speech-Language Sciences
Presenter(s): Rea, Amber
Faculty Sponsor(s): Fahey, Kathleen
Research Excellence Award Finalist
Undergraduate Presentation

Session 3
09:40 - 09:55 in the Morning

Aspen B
Evidence, Religion, and Gender in the English Reformation: The Case of Anne Boleyn
History
Presenter(s): Deselms, Alexandra
Faculty Sponsor(s): Wieben, Corinne
Undergraduate Presentation

Session 4
10:00 - 10:15 in the Morning

Council Room
Already On the Outside: Feminist Identity Development Among Women on a College Campus
Higher Education & Student Affairs Leadership
Presenter(s): Koppel, Lauren
Faculty Sponsor(s): Hawthorne, Barbara
Research Excellence Award Finalist
Undergraduate Presentation

Session 6
10:40 - 10:55 in the Morning

Council Room
Experiences of Fire Survivors and Disaster Mental Health
Gerontology, Psychology
Presenter(s): Seeley, Austin
Faculty Sponsor(s): Karlin, Nancy
Research Excellence Award Finalist
Undergraduate Presentation

Session 8
11:20 - 11:35 in the Morning

Council Room
Describing the Self-Efficacy Found in Parents of Children with Hearing Loss
Audiology & Speech-Language Sciences
Presenter(s): Walter, Jamie
Faculty Sponsor(s): Hanks, Julie
Research Excellence Award Finalist
Undergraduate Presentation

Session 9
11:40 - 11:55 in the Morning

Council Room
Somali Refugee Interpretations of trauma-related Mental Illness: Similarities and Differences between the Somali concepts of ‘Murugo Joogto’ and ‘Qulub’ and PTSD
Anthropology, Psychology
Presenter(s): Miller, Caitlin
Faculty Sponsor(s): Bashore, Theodore
Research Excellence Award Finalist
Undergraduate Presentation
Session 19
03:40 - 03:55 in the Afternoon
Aspen B
Living in the Moment: Symbolic Immortality-Themed Media influences on College Students
Social Drinking Culture
Anthropology
Presenter(s): Brothe, Mariah
Faculty Sponsor(s): McBeth, Sally
Undergraduate Presentation

Morning Poster Session
09:00 - 11:00 in the Morning
Mt. Evans & Pikes Peak
Barriers to Mental Health Services for Residents of Rural Communities
Human Services, Psychology
Presenter(s): Wagner, Brittnie
Faculty Sponsor(s): Crow, Loree
Undergraduate Presentation

Afternoon Poster Session
12:00 - 02:00 in the Afternoon
Mt. Evans & Pikes Peak
Epithelial to Mesenchymal Transition Induction by zfh-1
Biological Sciences
Presenter(s): Kennedy, Rana
Faculty Sponsor(s): Leatherman, Judith
Undergraduate Presentation

Interested in Graduating with Honors at UNC?

UNC Students may apply for the University Upper Division Honors Program if they meet the following criteria:

• Want to dive deep into a topic of interest, mentored by faculty to produce an Honors Thesis, Applied Project or creative Capstone
• Still have at least 3 - 4 semesters of study left at UNC
• Have two faculty to write letters of recommendation
• Cumulative GPA of at least 3.25

Applications for Fall 2013 due May 1, 2013

Find out more at www.unco.edu/honors or e-mail us at honors@unco.edu
McNair Scholars Presentations

The McNair Scholars Program provides undergraduate research opportunities designed to prepare eligible juniors and seniors for graduate school. As a member of the federal TRIO family of programs, the McNair Scholars Program is dedicated to increasing access to doctoral education among currently underrepresented groups.

**Morning Poster Session**
09:00 - 11:00 in the Morning
Mt Evans & Longs Peak Ballrooms

- **Serine Proteinases in Venom of the Yucatan Rattlesnake Crotalus simus tzabcan**
  - Biological Sciences
  - Presenter(s): Caudillo, Ana
  - Faculty Sponsor(s): Mackessy, Stephen
  - Research Excellence Award Finalist
  - Undergraduate Presentation

- **Retention and Persistence for Underrepresented Students in Multicultural Greek Life: A Case Study**
  - Higher Education & Student Affairs Leadership
  - Presenter(s): Cruz, Carlos
  - Faculty Sponsor(s): Serna, Gabriel
  - Undergraduate Presentation

- **Using the social media to reinforce binge drinking normative behaviors: A comparison of American and Australian college students**
  - Sociology
  - Presenter(s): Jones, Kyle
  - Faculty Sponsor(s): Schott, Diane
  - Undergraduate Presentation

- **Stereotypes and their effects on first-generation college students**
  - Psychology
  - Presenter(s): Ward, Kimberlee
  - Faculty Sponsor(s): Pascoe, Elizabeth
  - Undergraduate Presentation

**Afternoon Poster Session**
12:00 - 02:00 in the Afternoon
Mt Evans & Longs Peak Ballrooms

- **Censorship in History Textbooks: How Knowledge of the Past is being Constructed in Schools**
  - English, History, Philosophy
  - Presenter(s): Brunner, Tyler
  - Faculty Sponsor(s): Desjardins, Molly
  - Undergraduate Presentation

- **Cuban Success Reexamined: The Effects of Women’s Role Changes and their Contributions to the Cuban Household.**
  - Mexican American Studies
  - Presenter(s): Correa, Norman
  - Faculty Sponsor(s): Suarez, Jose
  - Undergraduate Presentation

- **The Impact of Residence on Dietary Intake, Food Insecurity, and Eating Behavior Among University Undergraduate Students**
  - Nutrition
  - Presenter(s): Gonzales, Kittra
  - Faculty Sponsor(s): Gould, Susan
  - Research Excellence Award Finalist
  - Undergraduate Presentation

- **The Shift of Consciousness in African American Television**
  - Africana Studies
  - Presenter(s): Houston, Jasmine
  - Faculty Sponsor(s): Gardner, Mitchell
  - Undergraduate Presentation
Afternoon Poster Session
12:00 - 02:00 in the Afternoon
Mt Evans & Longs Peak Ballrooms

Native American retention: factors, programs and practices contributing to the completion of a four-year degree by Native American students in higher education
Interdisciplinary Studies
Presenter(s): Nirschl-Coats, Valerie
Faculty Sponsor(s): Franklin, Elizabeth
Research Excellence Award Finalist
Undergraduate Presentation

How Individuals who Stutter, Graduate Student Clinicians, and an Experienced Speech-Language Pathologist Perceive Success in Fluency Therapy
Audiology & Speech-Language Sciences
Presenter(s): Ortega, Evelyn
Faculty Sponsor(s): Murza, Kimberly
Research Excellence Award Finalist
Undergraduate Presentation

Improvisational therapy alleviates MPA symptoms in college wind musicians
Music, Psychology
Presenter(s): Rush, Shaina
Faculty Sponsor(s): Montemayor, Mark
Research Excellence Award Finalist
Undergraduate Presentation

The Effect of Congruency Between Perceiver and Target on Emotional Recognition
Psychology
Presenter(s): Trimble, Kyra
Faculty Sponsor(s): Peterson, Eric
Undergraduate Presentation

A Content Analysis of Media Coverage, Victim, Offender, and Sentence
Criminal Justice
Presenter(s): Trujillo, Miguel
Faculty Sponsor(s): West-Smith, Mary
Undergraduate Presentation

McNair Scholars Program helps make dreams come true!

The McNair Scholars Program is dedicated to increasing access to doctoral education among currently underrepresented groups.

Program Eligibility

• Juniors and seniors with a 3.0 or higher GPA. (may apply as Sophomore)
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• Committed to completing a graduate degree.

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The School of Biological Sciences

Presents the

7th Annual Graduate Student Research Symposium
University Center - Longs Peak Ballroom
8:30 AM – 3:30 PM

Undergraduate Research Biology Poster Presentations
University Center - Mt Evans Ballroom
3:30 PM – 4:30 PM
(Posters are listed on Page 48)

Registration opens at 8:00 a.m. in the University Center Fireside Lounge.

Each presenter must check-in to receive their participation certificate, complimentary lunch ticket, and Research Day program.
Graduate Biology Oral Presentations

Longs Peak Ballroom

08:30 in the Morning
Autecology and synecology of the shortgrass steppe
Presenter(s): Brandt, Amber
Faculty Sponsor(s): Franklin, Scott

08:40 in the Morning
What The Philosophy Of Karl Popper Has To Do With Volunteer-Collected Data
Presenter(s): Brown, Lowrey
Faculty Sponsor(s): Franklin, Scott

08:55 in the Morning
Rock wren song structure along a latitudinal gradient and across a migratory divide
Presenter(s): Najar, Nadje
Faculty Sponsor(s): Benedict, Lauryn

09:05 in the Morning
BMP signaling in cyst stem cells in the Drosophila testis stem cell niche
Presenter(s): Major III, James
Faculty Sponsor(s): Leatherman, Judith

09:15 in the Morning
Population genetic structure of two sister plant species in the Colorado Plateau
Presenter(s): Bresowar, Jerry, JJ
Faculty Sponsor(s): McLaughlin, Mitchell

09:30 in the Morning
Delivering Biology Online
Presenter(s): Ranney, Beverly
Faculty Sponsor(s): Jurin, Richard

09:45 in the Morning
Foraging Patterns By Bats in Forested, Edge, and Masticated Ponderosa Pine Forest in Boulder County, Colorado
Presenter(s): Craven, Katelin
Faculty Sponsor(s): Craven, Katelin

10:15 in the Morning
Winter carbon dioxide efflux post salvage logging of mountain pine beetle infested subalpine forest
Presenter(s): Beverly, Daniel
Faculty Sponsor(s): Franklin, Scott

10:30 in the Morning
Investigating receptor tyrosine kinase (RTK) signaling pathways in the Drosophila testis stem cell niche.
Presenter(s): Hammer, Kenneth
Faculty Sponsor(s): Leatherman, Judith

10:45 in the Morning
D1 and D2 dopamine receptor activation differentially affects intrinsic resonance properties in Layer 5 pyramidal neurons of mouse medial prefrontal cortex.
Presenter(s): Leyrer, Jonna
Faculty Sponsor(s): Thomas, Mark

10:55 in the Morning
Graphic organizers as a tool to improve students’ performance in undergraduate General Biology
Presenter(s): Jurin, Richard; Cleveland, Lacy
Faculty Sponsor(s): Cleveland, Lacy

11:10 in the Morning
Potential Environmental Impacts of Oil and Natural Gas Development on Proximate Flora
Presenter(s): Hogden, Randi
Faculty Sponsor(s): Franklin, Scott

11:20 in the Morning
Evolution and Biological Roles of Three-finger Toxins in Snake Venoms (families Colubridae, Elapidae, and Viperidae)
Presenter(s): Modahl, Cassie; Mackessy, Stephen
Faculty Sponsor(s): Mackessy, Stephen
11:35 in the Morning
Genetic Analyses for Federally Threatened Sclerocactus wetlandicus and Sclerocactus brevispinus to Understand Diversity and Oil Exploration on Gene Flow
Presenter(s): Hubbard, Ashley
Faculty Sponsor(s): McGlaughlin, Mitchell

LUNCH BREAK 11:50 – 12:45

12:45 in the Afternoon
Activation of Serotonin-2A Receptors Induces Burst Firing in Layer 5 Pyramidal Neurons of the Medial Prefrontal Cortex
Presenter(s): Spindle, Michael
Faculty Sponsor(s): Thomas, Mark

12:55 in the Afternoon
Fish oils: An approach to alter lipid microdomains on the plasma membrane of bovine luteal cells in vitro.
Presenter(s): Graham, Peter
Faculty Sponsor(s): Burns, Patrick

01:10 in the Afternoon
Prey Resistance and Venom Composition in the Desert Massasauga (Sistrurus catenatus edwardsii)
Presenter(s): McCabe, Thomas
Faculty Sponsor(s): Mackessy, Stephen

01:20 in the Afternoon
Flowering on cue: how competition affects sexual reproduction in creeping red fescue.
Presenter(s): Bretfeld, Mario
Faculty Sponsor(s): Franklin, Scott

01:35 in the Afternoon
Malaria kinase inhibition: a tool for antimalarial drug discovery and elucidation of cell cycle protein expression patterns
Presenter(s): Bullard, Kristen
Faculty Sponsor(s): Keenan, Susan

01:50 in the Afternoon
Tests for contaminant exposure and individual effects on bats of Sichuan Province, China
Presenter(s): Helker, Laura
Faculty Sponsor(s): Adams, Rick

02:05 in the Afternoon
Detecting Geographic Speciation in a Continental Plant Model: Molecular Evidence of Peripatry in Calochortus (Liliaceae)
Presenter(s): Fuller, Ryan
Faculty Sponsor(s): McGlaughlin, Mitchell

BREAK 2:15 – 2:30

02:30 in the Afternoon
Comparative Responses of Chickadee Species Due to Flying Predator Stimuli
Presenter(s): Zachau, Chris
Faculty Sponsor(s): Zachau, Christopher

02:40 in the Afternoon
Immune gene expression profiles in Jamaican fruit bats infected with Tacaribe virus.
Presenter(s): Hume, Greta
Faculty Sponsor(s): Schountz, Tony

02:50 in the Afternoon
Tracheal Calcification Patterns in the Chiroptera and Insectivora.
Presenter(s): Adams, Rick; Carter, Richard
Faculty Sponsor(s): Adams, Rick
Research Excellence Award Finalist

03:05 in the Afternoon
Molecular basis for prey relocation in viperid snakes
Presenter(s): Saviola, Anthony; Mackessy, Stephen;
Faculty Sponsor(s): Mackessy, Stephen
Research Excellence Award Finalist

03:20 in the Afternoon
Canyon and Rock Wren Coexistence in the Northern Colorado Foothills
Presenter(s): Warning, Nat
Faculty Sponsor(s): Benedict, Lauryn
Research Excellence Award Finalist

03:35 in the Afternoon
Does Activation of the Aryl Hydrocarbon Receptor Enhance the Macrophage Response Against Leishmania major?
Presenter(s): Pikalova, Vera
Faculty Sponsor(s): DeKrey, Gregory
Oral Research Presentations

April 11, 2013
9:00 AM – 4:00 PM
University Center
Aspen Suites
Columbine Suites
Council Room
Spruce Suites

Registration Opens at 8:30 AM
In the University Center Fireside Lounge

Each presenter must check-in to receive their participation certificate, complimentary lunch ticket, and Research Day program.
**Session 1**
09:00 - 09:15 in the Morning

**Aspen A**
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5, 6
Master of Public Health Graduate Student Capstone Presentations
Public Health
Presenter(s): Sharp, Teresa; Groesbeck, Corrie
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

**Aspen C**
CADENCIAS 1: Estampas e impresiones
Spanish
Presenter(s): Hilgenberg, Kacey; Budde, Jacob; Barker, Emily; Camacho, Adriana; Fish, Janelle
Faculty Sponsor(s): Gonzalez, Ester
Undergraduate Presentation

**Columbine A**
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5
Ottoman Empire Presentations: The Hierarchy of Women within the Ottoman Empire
Africana Studies, Economics, History, Music, Philosophy, Psychology, Sociology
Presenter(s): Contino, Nissy
Faculty Sponsor(s): Junne, George
Undergraduate Presentation

**Columbine A**
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5
Ottoman Empire Presentations: Dervish Mystics and Their Role in the Ottoman Empire
History, Philosophy, Political Science, Sociology
Presenter(s): Blackwood, Samuel
Faculty Sponsor(s): Junne, George
Undergraduate Presentation

**Columbine A**
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5
Ottoman Empire Presentations: The Ottoman Medical Practices and Procedures
Anthropology, Biological Sciences, Human Services, Nursing Education, Nutrition, Nursing, Public Health, Sociology
Presenter(s): Dill, Brady
Faculty Sponsor(s): Junne, George
Undergraduate Presentation

**Columbine B**
Integrating Hearing Status and Hearing Protector Attenuation to Estimate a Protected Articulation Index
Audiology & Speech-Language Sciences
Presenter(s): Huerta, Ashley
Faculty Sponsor(s): Meinke, Deanna
Graduate Presentation

**Session 2**
09:20 - 09:35 in the Morning

**Aspen A**
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5, 6
Master of Public Health Graduate Student Capstone Presentations: Impact of an after school wellness program on healthy lifestyle knowledge in middle school students
Public Health
Presenter(s): Ford, Shelly; Groesbeck, Corrie; Sharp, Teresa; Sheppard, Shannon; Skenadore, Amanda; Carroll, Danya; Madsen, Matthew
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

**Aspen C**
Gella! A Partial Life Story of Alice (Staab) Gerstner Through Narrative Inquiry
Higher Education & Student Affairs Leadership
Presenter(s): Mildrexler, Janella
Faculty Sponsor(s): Lahman, Maria
Graduate Presentation

**Columbine A**
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5
Ottoman Empire Presentations: The Valide Sultans of the Ottoman Empire
Africana Studies, Anthropology, Economics, History, Political Science, Sociology
Presenter(s): Hutchinson, Bria
Faculty Sponsor(s): Junne, George
Undergraduate Presentation
Columbine A
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5
Ottoman Empire Presentations: Mehmed the Conqueror and His Role in the Expansion of the Ottoman Empire
Anthropology, Business Administration, Economics, History, Interdisciplinary Studies, Political Science, Sociology
Presenter(s): Lacey, Chance
Faculty Sponsor(s): Junne, George
Undergraduate Presentation

Columbine A
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5
Ottoman Empire Presentations: Religious Peace within the Ottoman Empire
Anthropology, Economics, History, Interdisciplinary Studies, Philosophy, Political Science, Psychology, Sociology
Presenter(s): Smith, Austen
Faculty Sponsor(s): Junne, George
Undergraduate Presentation

Columbine B
Multiple Session Presentation - Sessions 2, 3
Linguistic Explorations and Considerations for Teaching English as a Second Language in K-12 ESL
Presenter(s): Romero, Deborah; Weaver, Hope; Manoles, Ruby; Ramirez, Cecilia; Jones, Lindsay; Barron-Avila, Alejandra; Lundeen, Abigail; Cerny, Emily
Faculty Sponsor(s): Romero, Deborah
Undergraduate Presentation

Council Room
PARENT-CHILD SHARED BOOK READING:
An exploration of story book reading as an influence in increasing the phonological awareness skills in preschool age children with both normal language development and language disorders.
Audiology & Speech-Language Sciences
Presenter(s): Rea, Amber
Faculty Sponsor(s): Fahey, Kathleen
Research Excellence Award Finalist
Undergraduate Presentation

Spruce B
Historia de inmigrantes
Foreign Languages, Mexican American Studies, Political Science, Spanish, Social Science
Presenter(s): Acosta Martinez, Joselín; Jaquez, Mayra; Juarez, Keith; Ward, Patricia
Faculty Sponsor(s): Garza, Efren
Undergraduate Presentation

Session 3
09:40- 09:55 in the Morning

Aspen A
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5, 6
Master of Public Health Graduate Student Capstone Presentations: Unveiling barriers for Community Based Organizations supporting sexual education curriculum in Metro Denver schools
Public Health
Presenter(s): Ford, Shelly; Groesbeck, Corrie; Sharp, Teresa; Sheppard, Shannon; Skenadore, Amanda; Carroll, Danya; Madsen, Matthew
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

Aspen B
Evidence, Religion, and Gender in the English Reformation: The Case of Anne Boleyn
History
Presenter(s): Deselms, Alexandra
Faculty Sponsor(s): Wieben, Corinne
Undergraduate Presentation

Aspen C
Ramón María del Valle-Inclán: La paradójica de España
Foreign Languages, Spanish
Presenter(s): Vazquez, Maria
Faculty Sponsor(s): Garza, Efren
Undergraduate Presentation
Columbine A  
*Multiple Session Presentation - Sessions 1, 2, 3, 4, 5*

**Ottoman Empire Presentations: The Sociology of Eunuchs within the Ottoman Empire**  
Africana Studies, Anthropology, Economics, History, Interdisciplinary Studies, Political Science, Sociology  
**Presenter(s):** Miller, Hannah  
Faculty Sponsor(s): Junne, George  
Undergraduate Presentation

Columbine A  
*Multiple Session Presentation - Sessions 1, 2, 3, 4, 5*

**Ottoman Empire Presentations: Black Eunuchs of the Ottoman Empire**  
Africana Studies, Anthropology, Biological Sciences, Economics, History, Interdisciplinary Studies, Philosophy, Political Science, Psychology, Sociology  
**Presenter(s):** Smithey, Kasi  
Faculty Sponsor(s): Junne, George  
Undergraduate Presentation

Columbine A  
*Multiple Session Presentation - Sessions 1, 2, 3, 4, 5*

**Ottoman Empire Presentations: Women Concubines of Sultans of the Ottoman Empire**  
Anthropology, Economics, History, Interdisciplinary Studies, Philosophy, Political Science, Sociology  
**Presenter(s):** White, Josiah  
Faculty Sponsor(s): Junne, George  
Undergraduate Presentation

Columbine B  
*Multiple Session Presentation - Sessions 2, 3*

**Linguistic Explorations and Considerations for Teaching English as a Second Language in K-12 ESL**  
**Presenter(s):** Romero, Deborah; Weaver, Hope; Manoles, Ruby; Ramirez, Cecilia; Jones, Lindsay; Barron-Avila, Alejandra; Lundeen, Abigail; Cerny, Emily  
Faculty Sponsor(s): Romero, Deborah  
Undergraduate Presentation

Council Room  

**Judging Sexual Orientation from Still Faces**  
Psychology  
**Presenter(s):** Archuleta, Aly; Morrison, Katey  
Faculty Sponsor(s): Peterson, Eric  
Research Excellence Award Finalist  
Undergraduate Presentation

Spruce C  

**Discovering the Illness of Eating Disorders**  
Sociology  
**Presenter(s):** Guy, Shawna; Ritterbush, Kaci; Sikes, Samantha  
Faculty Sponsor(s): Houser, Jeffrey  
Undergraduate Presentation

Session 4  

10:00 - 10:15 in the Morning

Aspen A  

**Multiple Session Presentation - Sessions 1, 2, 3, 4, 5, 6**

**Master of Public Health Graduate Student Capstone Presentations: Efforts to Increase College Recruitment of American Indian/Alaska Native youth for Public Health Careers**  
Public Health  
**Presenter(s):** Ford, Shelly; Groesbeck, Corrie; Sharp, Teresa; Sheppard, Shannon; Skenadore, Amanda; Carroll, Danya; Madsen, Matthew  
Faculty Sponsor(s): Sharp, Teresa  
Graduate Presentation

Aspen C  

**Multiple Session Presentation - Sessions 4, 5**

**Community Research Partnership for Mental Health - Light Bulb Moments**  
Dietetics  
**Presenter(s):** Clark, Alena; Geonnotti, Emily; Murphy, Hannah; Gehr, Michele; Nieft, Jocelyn; Anthony, William  
Faculty Sponsor(s): Clark, Alena  
Undergraduate Presentation
Columbine A
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5
Ottoman Empire Presentations: Women and the Ottoman Economy
Anthropology, Economics, History, Interdisciplinary Studies, Philosophy, Political Science, Sociology
Presenter(s): Montano, Ashley
Faculty Sponsor(s): Junne, George
Undergraduate Presentation

Columbine A
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5
Ottoman Empire Presentations: Class Stratification in the Ottoman Empire, From a Sociological Perspective
Economics, History, Interdisciplinary Studies, Sociology, Political Science, Anthropology, Philosophy
Presenter(s): Fine, Carrina
Faculty Sponsor(s): Junne, George
Undergraduate Presentation

Columbine A
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5
Ottoman Empire Presentations: The Role of the Ottoman Navy in the Expansion of the Empire
Anthropology, Philosophy, Political Science, Economics, History, Interdisciplinary Studies, Sociology
Presenter(s): Lloyd, Ryan
Faculty Sponsor(s): Junne, George
Undergraduate Presentation

Council Room
Already On the Outside: Feminist Identity Development Among Women on a College Campus
Higher Education & Student Affairs Leadership
Presenter(s): Koppel, Lauren
Faculty Sponsor(s): Hawthorne, Barbara
Research Excellence Award Finalist
Undergraduate Presentation

Spruce B
La opresión del libre albedrío por el abuso del amor
Foreign Languages, Spanish
Presenter(s): Ennis, Amanda
Faculty Sponsor(s): Garza, Efrain
Undergraduate Presentation

Spruce C
Multiple Session Presentation - Sessions 4, 5, 6, 7
Family Studies Research Projects
Sociology
Presenter(s): Padilla, Krista; Pflock, Lexi; Gray, Jennifer
Faculty Sponsor(s): Moore, Mel
Undergraduate Presentation

Session 5
10:20 - 10:35 in the Morning

Aspen A
Multiple Session Presentation - Sessions 1, 2, 3, 4, 5, 6
Master of Public Health Graduate Student Capstone Presentations: American Indian Youth Perspectives on Traditional Food Systems
Public Health
Presenter(s): Ford, Shelly; Groesbeck, Corrie; Sharp, Teresa; Sheppard, Shannon; Skenadore, Amanda; Carroll, Danya; Madsen, Matthew
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

Aspen C
Multiple Session Presentation - Sessions 4, 5
Community Research Partnership for Mental Health - Light Bulb Moments
Dietetics
Presenter(s): Clark, Alena; Geonnotti, Emily; Murphy, Hannah; Gehr, Michele; Nieft, Jocelyn; Anthony, William
Faculty Sponsor(s): Clark, Alena
Undergraduate Presentation
**Columbine A**  
*Multiple Session Presentation - Sessions 1, 2, 3, 4, 5*  
**Ottoman Empire Presentations**  
Anthropology, Economics, History, Interdisciplinary Studies, Philosophy, Political Science, Sociology  
**Presenter(s): Junne, George and students**  
Faculty Sponsor(s): Junne, George  
*Undergraduate Presentation*

**Spruce B**  
*Multiple Session Presentation - Sessions 5, 6*  
**Immigration Debate and Public Policy**  
Mexican American Studies  
**Presenter(s): Serrano, Nereida; Garcia, Erik; Soto-Marquez, Jose; Mejia, Carla; Perez, Jesus; Correa, Michael; Roman-Luevanos, Blanca**  
Faculty Sponsor(s): Falcon, Priscilla  
*Undergraduate Presentation*

**Spruce C**  
*Multiple Session Presentation - Sessions 4, 5, 6, 7*  
**Family Studies Research Projects**  
Sociology  
**Presenter(s): Padilla, Krista; Pflock, Lexi; Gray, Jennifer**  
Faculty Sponsor(s): Moore, Mel  
*Undergraduate Presentation*

**Session 6**  
10:40 - 10:55 in the Morning

**Aspen A**  
*Multiple Session Presentation - Sessions 1, 2, 3, 4, 5, 6*  
**Master of Public Health Graduate Student Capstone Presentations: Advocating for Equity Around Active Transportation in the Regional Transportation Funding Process**  
Public Health  
**Presenter(s): Ford, Shelly; Groesbeck, Corrie; Sharp, Teresa; Sheppard, Shannon; Skenadore, Amanda; Carroll, Danya; Madsen, Matthew**  
Faculty Sponsor(s): Sharp, Teresa  
*Graduate Presentation*

**Columbine B**  
**Society Behind Bar**  
Sociology  
**Presenter(s): Renzelman, Renae; Cooper, Robert; Arent, Megan; Harder, Jessica**  
Faculty Sponsor(s): Houser, Jeffrey  
*Undergraduate Presentation*

**Council Room**  
**Experiences of Fire Survivors and Disaster Mental Health**  
Gerontology, Psychology  
**Presenter(s): Seeley, Austin**  
Faculty Sponsor(s): Karlin, Nancy  
*Research Excellence Award Finalist*  
*Undergraduate Presentation*

**Spruce A**  
*Multiple Session Presentation - Sessions 6, 7, 8, 9*  
**Developing Curriculum to Support Language and Diversity in Classrooms with English Learners**  
ESL  
**Presenter(s): Babbitt, Haneen; Braaten, Leah; Coler, Kaitlyn; Combs, Kori; Devores, Janelle; Finke, Natalie; Jessup, Faith; Marques, Sandi; Ramirez, Cecilia; Soto, Yessenia**  
Faculty Sponsor(s): Franklin, Elizabeth  
*Undergraduate Presentation*

**Spruce B**  
*Multiple Session Presentation - Sessions 5, 6*  
**Immigration Debate and Public Policy**  
Mexican American Studies  
**Presenter(s): Serrano, Nereida; Garcia, Erik; Soto-Marquez, Jose; Mejia, Carla; Perez, Jesus; Correa, Michael; Roman-Luevanos, Blanca**  
Faculty Sponsor(s): Falcon, Priscilla  
*Undergraduate Presentation*
**Spruce C**  
*Multiple Session Presentation - Sessions 4, 5, 6, 7*  
*Family Studies Research Projects*  
Sociology  
**Presenter(s):** Padilla, Krista; Pflock, Lexi; Gray, Jennifer  
**Faculty Sponsor(s):** Moore, Mel  
*Undergraduate Presentation*

**Columbine B**  
*An Alternative Approach to the Feminine Apologetic:*  
*Does the Situation Dictate Whose Expectations Matter?*  
Sociology  
**Presenter(s):** Shuey, Mark  
**Faculty Sponsor(s):** Henderson, Angela  
*Graduate Presentation*

**Council Room**  
*Out From Under the Cosh: The Impact of Football on English Working Class Identity through Cartoons, 1900-1925*  
Geography, History  
**Presenter(s):** Karp, Matthew  
**Faculty Sponsor(s):** Seegel, Steven  
*Undergraduate Presentation*

**Spruce A**  
*Multiple Session Presentation - Sessions 6, 7, 8, 9*  
*Refugee Community in Greeley - A Community Asset Mapping Project*  
Interdisciplinary Studies  
**Presenter(s):** Wyscaver, Sarah; Anderson, Kirstin; Bugarin Correa, Arturo; Eickelman, Kelsey; Hatton, Conner; Jones, Amanda; Kropp, Kacey; Krumtum, Alexandra; McCully, Savannah; Metcalfe, Mackenzie; Morris, Savannah; Scharf, Emilie; Williams, Kelsey; Crow, Loree  
**Faculty Sponsor(s):** Crow, Loree  
*Undergraduate Presentation*

**Spruce B**  
*Multiple Session Presentation - Sessions 7, 8*  
*Standards Based Assessment in Charter versus Public Schools: A Meta-Analysis of Arizona’s Instrument to Measure Standards*  
Educational Psychology  
**Presenter(s):** Diaz, Abel  
**Faculty Sponsor(s):** Cochran, Kathryn  
*Graduate Presentation*

**Spruce C**  
*Multiple Session Presentation - Sessions 4, 5, 6, 7*  
*Family Studies Research Projects*  
Sociology  
**Presenter(s):** Padilla, Krista; Pflock, Lexi; Gray, Jennifer  
**Faculty Sponsor(s):** Moore, Mel  
*Undergraduate Presentation*
**Session 8**
11:20 - 11:35 in the Morning

**Aspen A**
Multiple Session Presentation - Sessions 7, 8
From Theory to Practice: Learning How to Teach in a Newcomer ELLs Classroom
Educational Studies
Presenter(s): Rossman, Karisa; Pompey, Rose; Freeman, Sierra; Potter, Shawna
Faculty Sponsor(s): Cibils, Lilian
Undergraduate Presentation

**Aspen C**
Effectiveness of the Dangerous Decibels® Hearing Loss Prevention Program When Delivered With Parental Involvement
Audiology & Speech-Language Sciences
Presenter(s): Clark, Amanda
Faculty Sponsor(s): Meinke, Deanna
Graduate Presentation

**Columbine A**
Multiple Session Presentation - Sessions 7, 8, 9
Refugee Community in Greeley - A Community Asset Mapping Project
Interdisciplinary Studies
Presenter(s): Wyscaver, Sarah; Anderson, Kirstin; Bugarin Correa, Arturo; Eickelman, Kelsey; Hatton, Conner; Jones, Amanda; Kropp, Kacey; Krumtum, Alexandra; McCully, Savannah; Metcalfe, Mackenzie; Morris, Savannah; Scharf, Emilie; Williams, Kelsy; Crow, Loree
Faculty Sponsor(s): Crow, Loreee
Undergraduate Presentation

**Columbine B**
Wang Yangming and Zhu Xi: Changing Neo-Confucianism in Ming Dynasty China
History, Philosophy
Presenter(s): Severson, David
Faculty Sponsor(s): Fong, Adam
Undergraduate Presentation

**Council Room**
Describing the Self-Efficacy Found in Parents of Children with Hearing Loss
Audiology & Speech-Language Sciences
Presenter(s): Walter, Jamie
Faculty Sponsor(s): Hanks, Julie
Research Excellence Award Finalist
Undergraduate Presentation

**Spruce A**
Multiple Session Presentation - Sessions 6, 7, 8, 9
Developing Curriculum to Support Language and Diversity in Classrooms with English Learners
ESL
Presenter(s): Babbitt, Haneen; Braaten, Leah; Coler, Kaitlyn; Combs, Kori; Devores, Janelle; Finke, Natalie; Jessup, Faith; Marques, Sandi; Ramirez, Cecilia; Soto, Yessenia
Faculty Sponsor(s):
Undergraduate Presentation

**Spruce B**
Multiple Session Presentation - Sessions 7, 8
Standards Based Assessment in Charter versus Public Schools: A Meta-Analysis of Arizona's Instrument to Measure Standards
Educational Psychology
Presenter(s): Diaz, Abel
Faculty Sponsor(s): Cochran, Kathryn
Graduate Presentation

**Spruce C**
Multiple Session Presentation - Sessions 8, 9
Latinos and Public Policy
Mexican American Studies
Presenter(s): Sugi, Teresa; Flores, David; Janssen, Kathrine; Swazo, Christopher; Antuna, Donilia; Leal, Erendira
Faculty Sponsor(s): Falcon, Priscilla
Undergraduate Presentation

**Session 9**
11:40 - 11:55 in the Morning

**Aspen C**
The Experiences of Older Men in Later Life Relationships
Counseling Psychology, Gerontology
Presenter(s): Sones, Janae
Faculty Sponsor(s): Rings, Jeffrey
Graduate Presentation
**Columbine A**
Multiple Session Presentation - Sessions 7, 8, 9
Refugee Community in Greeley - A Community Asset Mapping Project
Interdisciplinary Studies
Presenter(s): Wysscarver, Sarah; Anderson, Kirstin; Bugarin Correa, Arturo; Eickelman, Kelsey; Hatton, Conner; Jones, Amanda; Kropp, Kacey; Krumtum, Alexandra; McCully, Savannah; Metcalfe, Mackenzie; Morris, Savannah; Scharf, Emilie; Williams, Kelsy; Crow, Loree
Faculty Sponsor(s): Crow, Loree
Undergraduate Presentation

**Spruce C**
Multiple Session Presentation - Sessions 8, 9
Latinos and Public Policy
Mexican American Studies
Presenter(s): Sugi, Teresa; Flores, David; Janssen, Kathrine; Swazo, Christopher; Antuna, Donilia; Leal, Erendira
Faculty Sponsor(s): Falcon, Priscilla
Undergraduate Presentation

**LUNCH BREAK NOON – 1:00 PM**

**Session 11**
01:00 - 01:15 in the Afternoon

**Aspen A**
Multiple Session Presentation - Sessions 11, 12, 13, 14
Education Innovation Institute: Linguistically Diverse Education Program Development Preliminary Findings
Applied Statistics & Research Methods, Educational Studies
Presenter(s): Siegriest, Mary; Damsri, Chanaichon
Faculty Sponsor(s): Lalonde, Trent
Graduate Presentation

**Aspen C**
La adaptación en tierras extranjeras
Foreign Languages, Mexican American Studies, Political Science, Spanish, Social Science
Presenter(s): Thayer, Corina; Soto-Marquez, Jose; Garcia, Karen; Ordonez-Ortega, Perla; Tavizon, Luis
Faculty Sponsor(s): Garza, Efrain
Undergraduate Presentation

**Columbine B**
Dancing Again: History, Memory and Activism at Wounded Knee
History
Presenter(s): Volzke, Owen
Faculty Sponsor(s): Fischer, Fritz
Undergraduate Presentation

**Council Room**
Somali Refugee Interpretations of trauma-related Mental Illness: Similarities and Differences between the Somali concepts of ‘Murugo Joogto’ and ‘Qulub’ and PTSD
Anthropology, Psychology
Presenter(s): Miller, Caitlin
Faculty Sponsor(s): Bashore, Theodore
Research Excellence Award Finalist
Undergraduate Presentation

**Spruce A**
Multiple Session Presentation - Sessions 6, 7, 8, 9
Developing Curriculum to Support Language and Diversity in Classrooms with English Learners
ESL
Presenter(s): Babbitt, Haneen
Undergraduate Presentation

**Spruce B**
Disrupted Notions of "The Other" in the East African Campaign of the Great War
History
Presenter(s): Taylor, Nicole
Faculty Sponsor(s): Cliefelter, Joan
Graduate Presentation
**Spruce A**  
*Effects of Ignoring Truncation in Poisson Count Models*  
Applied Statistics & Research Methods  
**Presenter(s):** Suaiie, Abdalhalim  
Faculty Sponsor(s): Lalonde, Trent  
Graduate Presentation

**Spruce C**  
*The Case for Peripheral Cases of Rhetoric*  
Communication Studies  
**Presenter(s):** Carpenter, Elizabeth  
Faculty Sponsor(s): Allen, Lin  
Graduate Presentation

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**Session 12**  
01:20 - 01:35 in the Afternoon

**Aspen A**  
*Multiple Session Presentation - Sessions 11, 12, 13, 14*  
Education Innovation Institute: A Mixed Methods Study on the Impact of Concurrent Enrollment Participation on Student's College Choice Process and College Readiness  
Applied Statistics & Research Methods, Educational Studies  
**Presenter(s):** Fanselow, Stephanie A.; Nash, Chad  
Faculty Sponsor(s): Lalonde, Trent  
Graduate Presentation

**Aspen C**  
*Emilia Pardo Bazán: El sueño de cambios sociales entre sexos*  
Foreign Languages, Spanish  
**Presenter(s):** Soto-Marquez, Jose  
Faculty Sponsor(s): Garza, Efrain  
Undergraduate Presentation

**Columbine B**  
*Changing Tides: The Evolution of the Maoist Education System in China, 1898-1968*  
History  
**Presenter(s):** Egland, John  
Faculty Sponsor(s): Fong, Adam  
Undergraduate Presentation

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**Spruce A**  
*Multiple Session Presentation - Sessions 12, 13*  
Using Gluten-free Flours, Hydrocolloids, or Food-based Fat Substitutes in Baked Products  
Dietetics, Nutrition  
**Presenter(s):** Anthony, William; McCann, Caitlin; Munn, Kelsey; Nelson, Staci; Silliman, Mallory  
Faculty Sponsor(s): Gould, Susan  
Undergraduate Presentation

**Spruce B**  
*Americana: The Voice of a Legend*  
Communication Studies  
**Presenter(s):** Chaney, Mary Jo  
Faculty Sponsor(s): Allen, Lin  
Graduate Presentation

**Aspen A**  
*Multiple Session Presentation - Sessions 11, 12, 13, 14*  
Education Innovation Institute: Outcomes of Remediation at University of Northern Colorado  
Applied Statistics & Research Methods, Educational Studies  
**Presenter(s):** Robinson, Rachel; Fanselow, Stephanie A.  
Faculty Sponsor(s): Lalonde, Trent  
Graduate Presentation

**Aspen C**  
*An analysis of differences in CSR perspectives between Korean chaebols and US multinationals*  
Business Administration  
**Presenter(s):** Kim, Heera  
Faculty Sponsor(s): Wanasika, Isaac  
Undergraduate Presentation

**Columbine B**  
*Gender Roles of Japanese Women in Anime*  
Asian Studies  
**Presenter(s):** Herrera Gomez, Lily  
Faculty Sponsor(s): Low, Michelle  
Undergraduate Presentation
Council Room
Master of Public Health Graduate Student
Capstone Presentations: American Indian Youth Perspectives on Traditional Food Systems
Public Health
Presenter(s): Carroll, Danya
Faculty Sponsor(s): Sharp, Teresa
Research Excellence Award Finalist
Graduate Presentation

Spruce A
Multiple Session Presentation - Sessions 12, 13
Using Gluten-free Flours, Hydrocolloids, or Food-based Fat Substitutes in Baked Products
Dietetics, Nutrition
Presenter(s): Anthony, William; McCann, Caitlin; Munn, Kelsey; Nelson, Staci; Silliman, Mallory
Faculty Sponsor(s): Gould, Susan
Undergraduate Presentation

Council Room
Physical Activity and Preventive Health Behaviors in a National Sample of College Students
Public Health
Presenter(s): Groesbeck, Corrie; Schroeder, Emily
Faculty Sponsor(s): Brittain, Danielle; Dinger, Mary
Research Excellence Award Finalist
Graduate Presentation

Spruce A
Multiple Session Presentation - Sessions 13, 14, 15, 16
English Graduate Panel: A Game of Rhetoric: Incorporating Rhetoric and Design into Required Composition Courses through Video Game Play
English
Presenter(s): Macey, Renee; Vance, Bremen
Faculty Sponsor(s): Kraver, Jeraldine
Graduate Presentation

Session 14
02:00 - 02:15 in the Afternoon

Aspen A
Multiple Session Presentation - Sessions 11, 12, 13, 14
Education Innovation Institute: “Region and Tuition and Fees at Public Universities: An Examination of the Impacts of Census Division Effects?”
Applied Statistics & Research Methods, Educational Studies
Presenter(s): Cohen, Joshua; Serna, Ganriel R.
Faculty Sponsor(s): Lalonde, Trent
Graduate Presentation

Columbine B
Getting the most out of JET
Asian Studies
Presenter(s): Lovin, Marjorie
Faculty Sponsor(s): Low, Michelle
Undergraduate Presentation

Council Room
Multiple Session Presentation - Sessions 11, 12, 13, 14
Education Innovation Institute: “Region and Tuition and Fees at Public Universities: An Examination of the Impacts of Census Division Effects?”
Applied Statistics & Research Methods, Educational Studies
Presenter(s): Cohen, Joshua; Serna, Ganriel R.
Faculty Sponsor(s): Lalonde, Trent
Graduate Presentation

Session 15
02:20 - 02:35 in the Afternoon

Columbine A
Multiple Session Presentation - Sessions 15, 16, 17, 18
The Significance and Lasting Impacts of History and Memory
History
Presenter(s): Fischer, Fritz; Gallegos, Megan; Wersch, Jared; Boone, Melinda; Volzke, Owen
Faculty Sponsor(s): Fischer, Fritz
Undergraduate Presentation
Columbine B
Genji Then and Now
Asian Studies
Presenter(s): Grigsby, Kaitlyn
Faculty Sponsor(s): Low, Michelle
Undergraduate Presentation

Spruce A
Effects of Testosterone-Boosting Supplements on Body Composition, Serum Hormones, and Muscle Mass and Strength in Male Recreational Weightlifters
Nutrition, Sport & Exercise Science
Presenter(s): Van Wagenen, Jennifer
Faculty Sponsor(s): Gould, Susan
Undergraduate Presentation

Spruce B
From Birthday Party to No Party: A Tale of Misunderstanding and the Semantic Triangle
Communication Studies
Presenter(s): Terhark, Summer
Faculty Sponsor(s): Allen, Lin
Graduate Presentation

Spruce C
Multiple Session Presentation - Sessions 13, 14, 15, 16
English Graduate Panel: Facebook Official: How Social Networking Helps Build Community in the Classroom
English
Presenter(s): Macey, Renee; Vance, Bremen
Faculty Sponsor(s): Kraver, Jeraldine
Graduate Presentation

Aspen C
A Generalized Method Approach for Spatial-Temporal Binary Data
Applied Statistics & Research Methods, Mathematics
Presenter(s): Kaufeld, Kimberly
Faculty Sponsor(s): Lalonde, Trent
Graduate Presentation

Session 16
02:40 - 02:55 in the Afternoon

Aspen A
An Examination of Coco Chanel's Leadership Style
Business Administration, Management
Presenter(s): Karlin, Julia
Faculty Sponsor(s): Clinebell, Sharon
Undergraduate Presentation

Columbine A
Multiple Session Presentation - Sessions 15, 16, 17, 18
The Significance and Lasting Impacts of History and Memory
History
Presenter(s): Fischer, Fritz; Gallegos, Megan; Wersch, Jared; Boone, Melinda; Volzke, Owen
Faculty Sponsor(s): Fischer, Fritz
Undergraduate Presentation

Columbine B
Totem Teddy: A Student Intern's Point of View
Anthropology
Presenter(s): Wright, Wendy
Faculty Sponsor(s): McBeth, Sally
Undergraduate Presentation

Spruce C
Multiple Session Presentation - Sessions 13, 14, 15, 16
English Graduate Panel: Facebook Official: How Social Networking Helps Build Community in the Classroom
English
Presenter(s): Macey, Renee; Vance, Bremen
Faculty Sponsor(s): Kraver, Jeraldine
Graduate Presentation

Aspen C
Evidence of the Holocaust in Lithuania, Latvia, and the Soviet Union
History, Geography
Presenter(s): Dickson, James
Faculty Sponsor(s): Clinefelter, Joan
Undergraduate Presentation

Session 17
03:00 - 03:15
Aspen C
Multiple Session Presentation - Sessions 17, 18
Pitch perception in musicians and non-musicians: A comparison of psychophysical tuning curves and frequency difference limens
Audiology & Speech-Language Sciences, Music
Presenter(s): Powner, Amber
Faculty Sponsor(s): Bright, Kathryn
Research Excellence Award Finalist
Graduate Presentation

Columbine A
Multiple Session Presentation - Sessions 15, 16, 17, 18
The Significance and Lasting Impacts of History and Memory
History
Presenter(s): Fischer, Fritz; Gallegos, Megan; Wersch, Jared; Boone, Melinda; Volzke, Owen
Faculty Sponsor(s): Fischer, Fritz
Undergraduate Presentation

Columbine B
Rocks in the Sea: Understanding the Senkaku/Diaoyu dispute in the East China Sea
History, Political Science
Presenter(s): Siegel, Matthew
Faculty Sponsor(s): Fong, Adam
Undergraduate Presentation

Spruce A
El español de Colorado
Spanish
Presenter(s): Camacho, Adriana; Castanaza, Gustavo
Faculty Sponsor(s): Ryan, John
Undergraduate Presentation

Spruce B
Synthetic Marijuana: Dissuading Teenagers from Using the Synthetic Drug through the Lens of Toulmin
Communication Studies, Human Rehabilitation
Presenter(s): Berry, Ian
Faculty Sponsor(s): Allen, Lin
Graduate Presentation

Session 18
03:20 - 03:35 in the Afternoon
Aspen C
Multiple Session Presentation - Sessions 17, 18
Pitch perception in musicians and non-musicians: A comparison of psychophysical tuning curves and frequency difference limens
Audiology & Speech-Language Sciences, Music
Presenter(s): Powner, Amber
Faculty Sponsor(s): Bright, Kathryn
Graduate Presentation

Columbine A
Multiple Session Presentation - Sessions 15, 16, 17, 18
The Significance and Lasting Impacts of History and Memory
History
Presenter(s): Fischer, Fritz; Gallegos, Megan; Wersch, Jared; Boone, Melinda; Volzke, Owen
Faculty Sponsor(s): Fischer, Fritz
Undergraduate Presentation

Columbine B
Renaming of Assault Survivors Advocacy Program
Criminal Justice, Sociology
Presenter(s): Jones, Kyle
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation

Spruce A
Don't play Coy Colorado: Gender Communication and the journey of Coy Mathis
Communication Studies
Presenter(s): Maynard, Kody
Faculty Sponsor(s): Allen, Lin
Graduate Presentation

Spruce B
Square-Free Sequences on Small Symbol Sets
Mathematics
Presenter(s): Myrant, Catrina
Faculty Sponsor(s): Levin, Oscar
Undergraduate Presentation
Spruce C
An Analysis on the Chinese Hukou System and its Role in Chinese inequality
Economics
Presenter(s): Ballard, Ryan
Faculty Sponsor(s): Low, Michelle
Undergraduate Presentation

Columbine B
La gramaticalización del progresivo: un estudio basado en el habla culta de Buenos Aires.
Nutrition, Spanish
Presenter(s): Monzon, Gloria
Faculty Sponsor(s): Ryan, John
Graduate Presentation

Spruce A
A Narrative Inquiry into the Academic Experiences of Female Saudi Graduate Students at a Comprehensive Doctoral Institution in the Western US
Educational Leadership
Presenter(s): Sandekian, Robyn; Keen, Katee; Weddington, Michael
Faculty Sponsor(s): Birnbaum, Matthew
Graduate Presentation

Aspen B
Living in the Moment: Symbolic Immortality-Themed Media influences on College Students Social Drinking Culture
Anthropology
Presenter(s): Brothe, Mariah
Faculty Sponsor(s): McBeth, Sally
Undergraduate Presentation

Aspen C
Meaning of Movement; An Examination of the use of Metaphor in Pilates Discourse
Communication Studies
Presenter(s): Bigas, Angelina
Faculty Sponsor(s): Allen, Lin
Graduate Presentation

Columbine A
Criminal Justice, Psychology
Presenter(s): Provenza, Karlee
Faculty Sponsor(s): Peterson, Eric
Undergraduate Presentation

Spruce C
“The Hunger Connection: Towards a Diasporically Imagined Transnational Community”
History, Interdisciplinary Studies, Sociology
Presenter(s): Nickell, Amber
Faculty Sponsor(s): Clinefelter, Joan
Graduate Presentation
Poster Presentations

University Center
Pikes Peak and Mt Evans Ballrooms

April 11, 2013

Morning Poster Session
9:00 AM – 11:00 AM
Setup begins at 8:30 AM

Afternoon Poster Session
Noon – 2:00 PM
Setup begins at 11:30 AM

School of Biological Sciences
Poster Session
3:30 PM – 4:30 PM
Setup begins at 3:00 PM

Registration Opens at 8:30 AM
In the University Center Fireside Lounge

Each presenter must check-in to receive their participation certificate, complimentary lunch ticket, and Research Day program.
Morning Poster Session
Mt. Evans & Pikes Peak Ballroom
09:00 - 11:00 in the Morning

Applied Statistics & Research
Methods, Educational Psychology, Psychology

Development and Validation of a Unidimensional Measure of Hope with a Population of Severely and Persistently Mentally Ill Individuals.
Presenter(s): Traxler, Karen; Siegrist, Mary
Faculty Sponsor(s): Traxler, Karen
Research Excellence Award Finalist
Graduate Presentation

The Correlation Between Exercise and Depression
Presenter(s): Cloyes, Christina
Faculty Sponsor(s): Traxler, Karen
Undergraduate Presentation

Communication Studies

Our Values, Our Ads
Presenter(s): Stise, Robert
Faculty Sponsor(s): Allen, Lin
Graduate Presentation

Educational Studies

Linguistically Diverse Education Program Development Preliminary Findings
Presenter(s): Damsri, Chanaichon
Faculty Sponsor(s): Huang, Jingzi
Graduate Presentation

Linguistically Diverse Education Program Development Preliminary Findings
Presenter(s): Siegrist, Mary
Faculty Sponsor(s): Huang, Jingzi
Graduate Presentation

Educational Technology

Graduate Students’ Perspective about Flipped Learning Classroom
Presenter(s): Alebrahim, Fatimah
Faculty Sponsor(s): Gall, James
Research Excellence Award Finalist
Graduate Presentation

Audiology & Speech-Language Sciences

Effectiveness of Auditory Steady-State Responses to Air and Bone Conduction Stimuli in Estimating Behavioral Audiometric Thresholds
Presenter(s): Dillman, Gwendolyn
Faculty Sponsor(s): Stookey, Tina
Graduate Presentation

Chemistry

Analysis of Trace Metals in Glass by EDXRF
Presenter(s): Arizmendi, Nicole
Faculty Sponsor(s): Pringle, David
Undergraduate Presentation

The Spectrophotometric Determination of the Acid Dissociation Constant of p-Nitrophenol
Presenter(s): Ash, Kitchner
Faculty Sponsor(s): Pringle, David
Undergraduate Presentation

Determination of Blood Alcohol Concentration by Gas Chromatography Using Headspace Sampling
Presenter(s): Certain, Whitney
Faculty Sponsor(s): Pringle, David
Undergraduate Presentation

Who Dunnit?
Presenter(s): Moss, Chelsea
Faculty Sponsor(s): Pringle, David
Undergraduate Presentation

The Spectrophotometric Determination of the Acid Dissociation Constant of p-Nitrophenol
Presenter(s): Ash, Kitchner
Faculty Sponsor(s): Pringle, David
Undergraduate Presentation
Geography

Spatial Autocorrelation and Regression Analysis of Players’ Hometowns: 2011/12 Season
Presenter(s): Andromeda-Focht, Bleys
Faculty Sponsor(s): Diggs, David
Undergraduate Presentation

Spatial regression analysis of geographic factors associated with shortgrass steppe vegetation
Presenter(s): Brandt, Amber
Faculty Sponsor(s): Diggs, David
Graduate Presentation

Hydraulic Modeling Comparisons, Lake of the Clouds drainage, Never Summer Mountains, Colorado
Presenter(s): Fenner, Jordan
Faculty Sponsor(s): Diggs, David
Graduate Presentation

Higher Education & Student Affairs Leadership

Retention and Persistence for Underrepresented Students in Multicultural Greek Life: A Case Study
Presenter(s): Cruz, Carlos
Faculty Sponsor(s): Serna, Gabriel
Undergraduate Presentation

Human Rehabilitation

Major Medical Illness/Injury Related PTSD: Resilience and Treatment Outcome
Presenter(s): Beal, Dan
Faculty Sponsor(s): Ososkie, Joseph
Graduate Presentation

Post Organ Transplant Depression and Anxiety: Prevalence, Causes and Longevity
Presenter(s): Kanzler, Mike
Faculty Sponsor(s): Ososkie, Joseph
Graduate Presentation

The Need for Fitness and Nutrition Education Programs for Individuals with Intellectual Disabilities who are Overweight or Obese
Presenter(s): Kinyon, Rebecca; Williams, Josie
Faculty Sponsor(s): Ososkie, Joseph
Graduate Presentation

The Effectiveness of Holistic Treatment in Reducing Hospitalization for Individuals with Schizophrenia
Presenter(s): Boyd, Amie; Carcellero, Frankie; Kavon, Stephanie
Faculty Sponsor(s): Ososkie, Joseph
Graduate Presentation

Human Services

Barriers to Mental Health Services for Residents of Rural Communities
Presenter(s): Wagner, Brittney
Faculty Sponsor(s): Crow, Loree
Graduate Presentation

Physics

Whack-A-Ball: Tennis balls and Energy conservation
Presenter(s): Caraveo, Jassiel; Gregg, Eric; Garrett, David; O’Neill, Timothy
Faculty Sponsor(s): Dietz, Richard
Undergraduate Presentation

The Falling Tower
Presenter(s): Carlson, Benjamin; Gallegos, Carlos; Schwartz, Jeremiah
Faculty Sponsor(s): Dietz, Richard
Undergraduate Presentation

The Effects of Elevation on Muon Flux
Presenter(s): Clay, Michael; Herlea Jr, Marius; Higgins, Sean
Faculty Sponsor(s): Dietz, Richard
Undergraduate Presentation

Using Optical Tweezers to Investigate the Escherichia coli Molecular Motor
Biological Sciences, Physics
Presenter(s): Champion, Steven; Day, Travis; Jordan, Connor
Faculty Sponsor(s): Sung, Ruwang
Undergraduate Presentation
What Are We Seeing? Spectra of Common Light Bulbs
Presenter(s): Lorentz, Isaac; Pacheco, Richard; Wadle, Josh; Wall, Audrey
Faculty Sponsor(s): Dietz, Richard
Undergraduate Presentation

Psychology
Effect of platform depth on Morris Water Maze learning in mice
Presenter(s): Jackson, Joseph; Rutledge, Jacob
Faculty Sponsor(s): Gilliam, David
Undergraduate Presentation

WEIGHT DEFICITS IN MICE EXPOSED TO ETHANOL VAPOR
Presenter(s): Jackson, Joseph; Rutledge, Jacob
Faculty Sponsor(s): Gilliam, David
Undergraduate Presentation

Stereotypes and their effects on first-generation college students
Presenter(s): Ward, Kimberlee
Faculty Sponsor(s): Pascoe, Elizabeth
Undergraduate Presentation

Recreation, Tourism & Hospitality, Sport & Exercise Science
An Empirical Analysis of Factors Contributing to Increased Downhill Ski Participation
Presenter(s): Hungenberg, Eric
Faculty Sponsor(s): Gould, James
Graduate Presentation

Sociology
Using the social media to reinforce binge drinking normative behaviors: A comparison of American and Australian college students
Presenter(s): Jones, Kyle
Faculty Sponsor(s): Schott, Diane
Undergraduate Presentation

The Mistreatment in Mental Institutions
Presenter(s): Larcinese, Michelle; Tomlin, Anna; Tonelli, Rick; Trevino, Kimberly
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation

Special Education
Transition Outcomes from Secondary School to Adult Life for Individuals with Intellectual Disabilities: Literature Review
Presenter(s): AlRusaiyes, Reem
Faculty Sponsor(s): Rude, Harvey
Graduate Presentation

Severe Disabilities in Saudi Arabia: Current Status and Improvements for the Future
Presenter(s): Shugdar, Effat
Faculty Sponsor(s): Brewer, Robin
Graduate Presentation

Sport & Exercise Science
Cognitive Training in a Cancer Survivor Following Radiation Therapy: A Case Study
Presenter(s): Beebe, Corey
Faculty Sponsor(s): Schneider, Carole
Graduate Presentation

Effects of a resistance training model on doxorubicin-induced muscle dysfunction in the rat
Presenter(s): Bredahl, Eric
Faculty Sponsor(s): Hydock, David
Research Excellence Award Finalist
Graduate Presentation

Outpatient Phases in Cancer Rehabilitation
Presenter(s): Brown, Jessica
Faculty Sponsor(s): Schneider, Carole
Research Excellence Award Finalist
Graduate Presentation

Measuring Sport Team Brand Personality
Presenter(s): Davies, Melissa; Schmitt, Craig
Faculty Sponsor(s): Gray, Dianna
Graduate Presentation

Aging downregulates MRPs and increases cardiac doxorubicin accumulation
Presenter(s): Gibson, Noah
Faculty Sponsor(s): Gibson, Noah
Graduate Presentation

Juvenile doxorubicin exposure increases cardiac progenitor cell expression in late-onset cardiotoxicities
Presenter(s): Gibson, Noah
Faculty Sponsor(s): Gibson, Noah
Research Excellence Award Finalist
Graduate Presentation
Leveraging Sponsorship through Competitive Advantage
Presenter(s): Howes, Janet
Faculty Sponsor(s): Gray, Dianna
Graduate Presentation

Strength and Cardiovascular Training on Cancer-Related Fatigue
Presenter(s): Manikowske, Trista
Faculty Sponsor(s): Schneider, Carole
Graduate Presentation

Cardiac Dysfunction in the Tumor Bearing Rat
Presenter(s): Parry, Traci

Afternoon Poster Session
Mt. Evans & Pikes Peak Ballroom
12:00 - 02:00 in the Afternoon

Africana Studies
The Shift of Consciousness in African American Television
Presenter(s): Houston, Jasmine
Faculty Sponsor(s): Gardner, Mitchell
Undergraduate Presentation

Applied Statistics & Research Methods
Beyond IRB: The Role of Relational Ethics in Research with Vulnerable Populations
Presenter(s): Christensen, Wendy; Kincaid, Tyler; Landram, Suzy; Reavill, David
Faculty Sponsor(s): Lahman, Maria
Graduate Presentation

Audiology & Speech-Language Sciences
Auditory Status of Youth Who Shoot Recreational Firearms
Presenter(s): Johnson, Leann; Holm, Kristen
Faculty Sponsor(s): Meinke, Deanna
Graduate Presentation

How Individuals who Stutter, Graduate Student Clinicians, and an Experienced Speech-Language Pathologist Perceive Success in Fluency Therapy
Presenter(s): Ortega, Evelyn
Faculty Sponsor(s): Murza, Kimberly
Research Excellence Award Finalist
Undergraduate Presentation

The Relationship Between Spontaneous Otoacoustic Emissions in Female Adults
Presenter(s): Pritzl, Kathleen
Faculty Sponsor(s): Bright, Kathryn
Graduate Presentation

Biological Sciences
Separating heterotrophic and autotrophic respiration contributions to winter soil carbon efflux
Presenter(s): Beverly, Daniel
Faculty Sponsor(s): Franklin, Scott
Graduate Presentation

Serine Proteinases in Venom of the Yucatan Rattlesnake Crotalus simus tzabcan
Presenter(s): Caudillo, Ana
Faculty Sponsor(s): Mackessy, Stephen
Research Excellence Award Finalist
Undergraduate Presentation
Identification of Dopamine Receptors on a Class of Mouse Prefrontal Cortical Neurons  
Presenter(s): Cowper, Laira  
Faculty Sponsor(s): Thomas, Mark  
Undergraduate Presentation

Epithelial to Mesenchymal Transition Induction by zfh-1  
Presenter(s): Kennedy, Rana  
Faculty Sponsor(s): Leatherman, Judith  
Undergraduate Presentation

Separating heterotrophic and autotrophic respiration contributions to winter soil carbon efflux  
Presenter(s): Whitehead, Kathryn  
Faculty Sponsor(s): Franklin, Scott  
Undergraduate Presentation

An Examination of the Cytotoxic Effects of Snake Venom on Human Colon Cancer Cells  
Presenter(s): Maxey, Elizabeth  
Faculty Sponsor(s): Mackessy, Stephen  
Research Excellence Award Finalist  
Undergraduate Presentation

Criminal Justice

A Content Analysis of Media Coverage, Victim, Offender, and Sentence  
Presenter(s): Trujillo, Miguel  
Faculty Sponsor(s): West-Smith, Mary  
Undergraduate Presentation

Educational Psychology

Executive Function and Incentives  
Presenter(s): Rohrbacher, Caitlin Rohrbac  
Faculty Sponsor(s): Welsh, Marilyn  
Graduate Presentation

Today’s Textbooks in Tomorrows’ Classrooms: An Annotated Bibliography  
Presenter(s): Rumpf, Tabitha  
Faculty Sponsor(s): Diaz, Abel  
Undergraduate Presentation

Educational Technology

Attitudes of International College Students in the U.S. towards Educational Technologies  
Presenter(s): Alebrahim, Fatimah; AlMonuf, Hadi; Almaden, Abdullah  
Faculty Sponsor(s): Gall, James  
Graduate Presentation

Speaking Out of School: A Content Analysis of World of Warcraft Forums  
Presenter(s): Alebrahim, Fatimah; Alruwaili, Tahani; Alawami, Nariman  
Faculty Sponsor(s): Gall, James  
Graduate Presentation

English, History, Philosophy

Censorship in History Textbooks: How Knowledge of the Past is being Constructed in Schools  
Presenter(s): Brunner, Tyler  
Faculty Sponsor(s): Desjardins, Molly  
Undergraduate Presentation

Counseling Psychology, Psychology

Combat Guilt: A Preliminary Examination of the Current State of the Literature and Directions for Future Research  
Presenter(s): Kacmarski, Jason  
Faculty Sponsor(s): Kings, Jeffrey  
Graduate Presentation

Geography

Determining Bat Roost Preferences and Water Value with Spatial Statistics  
Presenter(s): Craven, Katelin  
Faculty Sponsor(s): Diggs, David  
Graduate Presentation

Chemistry, Criminal Justice

Fingerprint Enhancement on Used Prophylactics  
Presenter(s): Mccartney, Michael  
Faculty Sponsor(s): Price, Alan  
Undergraduate Presentation

Chemistry, Educational Studies

Scientifically Successful Nonmainstream Undergraduates’ Perceptions of Chemistry  
Presenter(s): Cink, Ruth  
Faculty Sponsor(s): Song, Youngjin  
Graduate Presentation
Spatial Analysis of the Distribution of Global Refugees in Greeley, Colorado 2010-2012
Presenter(s): McMonagle, Emily
Faculty Sponsor(s): Diggs, David
Undergraduate Presentation

Spatial Regression Analysis of Refugee Settlement: Greeley, Colorado, 2012-2013
Presenter(s): Yeager, Kyle
Faculty Sponsor(s): Diggs, David
Research Excellence Award Finalist
Undergraduate Presentation

Higher Education & Student Affairs Leadership, Psychology

Veterans as Students vs. Non-Traditional Students in College: Common Experiences, Attitudes of Traditional Students, and a Global Measure of Perceived Stress
Presenter(s): Ramsey, Ian
Faculty Sponsor(s): Traxler, Karen
Undergraduate Presentation

Higher Education & Student Affairs Leadership, Psychology

History

Women on Trial
Presenter(s): Fassler, Gaylynn
Faculty Sponsor(s): Melish, Jacob
Undergraduate Presentation

Human Rehabilitation

Post Traumatic Stress Disorder and Stigma-Related Barriers to Mental Health Treatment as Risk Factors for Iraq and Afghanistan War Veterans with Suicidality
Presenter(s): Andenmatten, Joseph
Faculty Sponsor(s): Ososkie, Joseph
Graduate Presentation

Interdisciplinary Studies

Native American retention: factors, programs and practices contributing to the completion of a four-year degree by Native American students in higher education
Presenter(s): Nirschl-Coats, Valerie
Faculty Sponsor(s): Franklin, Elizabeth
Research Excellence Award Finalist
Undergraduate Presentation

Mathematics, Music

Using Python to Mathematically Transform Simple Music: An Exploration of Computer Generated Music and Its Mathematical Connections
Presenter(s): Williamson, Heidi
Faculty Sponsor(s): Miller, Nathaniel
Undergraduate Presentation

Mexican American Studies

Cuban Success Reexamined: The Effects of Women’s Role Changes and their Contributions to the Cuban Household.
Presenter(s): Correa, Norman
Faculty Sponsor(s): Suarez, Jose
Undergraduate Presentation

Music, Psychology

Improvisational therapy alleviates MPA symptoms in college wind musicians
Presenter(s): Rush, Shaina
Faculty Sponsor(s): Montemayor, Mark
Research Excellence Award Finalist
Undergraduate Presentation

Nursing

Cost-benefit of fixed fluoroscopy vs. mobile c-arm in a GI lab
Presenter(s): Adams, Les
Faculty Sponsor(s): Hummel, Faye
Graduate Presentation

Cost Management: Energy Usage in Preop/PACU
Presenter(s): Bates, Cindy
Faculty Sponsor(s): Hummel, Faye
Graduate Presentation

Protecting our Backs: A cost benefit analysis of installing overhead patient lifts vs. worker's compensation claims
Presenter(s): Bennett, Lindsay
Faculty Sponsor(s): Hummel, Faye
Graduate Presentation
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<td>Comparison of Costs Between Warfarin and Xarelto for Anticoagulation Therapy in a Skilled Nursing and Long-term Care Facility</td>
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<td>MRSA Screening: A Cost-Benefit Analysis</td>
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<td>Reusable biopsy forceps: Are they cost effective?</td>
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<td>Cost Benefit Analysis of VIP Linen vs. Regular Hospital Linen for Women's Services</td>
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<td>Intravenous Fluid stop times in the Emergency Department</td>
<td>Perkins, Ramona</td>
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<td>The cost/benefit analysis for plastic graduated cylinder use versus using plastic drinking mugs at a Denver metro hospital Labor and Delivery unit</td>
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Needleless System in the Hospital Setting
Presenter(s): Sullivan, Jenny
Faculty Sponsor(s): Hummel, Faye
Graduate Presentation

Nutrition
The Impact of Residence on Dietary Intake, Food Insecurity, and Eating Behavior Among University Undergraduate Students
Presenter(s): Gonzales, Kittra
Faculty Sponsor(s): Gould, Susan
Research Excellence Award Finalist
Undergraduate Presentation

Physical Education
Trends in Physical Education Identified by Professionals in the Field
Presenter(s): Nampai, Udon
Faculty Sponsor(s): Sinclair, Christina
Graduate Presentation

Physics
Bouncing Back: Energy Loss in Wooden Block Collisions
Presenter(s): Champion, Steven; Hafen, Zachary; Pausa, Bronson; Smith, Tyler
Faculty Sponsor(s): Dietz, Richard
Undergraduate Presentation

Beyond Your Lifetime: Relativities’ Effect on Muon Flux at Various Elevations
Presenter(s): Day, Travis; Gasteiger, Joseph; Tonye Tonye, Herve
Faculty Sponsor(s): Dietz, Richard
Undergraduate Presentation

The STM: High Resolution Images of Atoms
Presenter(s): Pacheco, Richard
Faculty Sponsor(s): Sung, Ruwang
Undergraduate Presentation

Psychology
Social Deviance and Gender Stereotypes
Presenter(s): Gonzales, Hannah
Faculty Sponsor(s): Traxler, Karen
Undergraduate Presentation

Gender Differences in the Gym
Presenter(s): Hood, Kayla
Faculty Sponsor(s): Traxler, Karen
Undergraduate Presentation

The Effect of Congruency Between Perceiver and Target on Emotional Recognition
Presenter(s): Trimble, Kyra
Faculty Sponsor(s): Peterson, Eric
Undergraduate Presentation

Public Health
Master in Public Health Student Poster presentations
Presenter(s): Ford, Shelly; Groesbeck, Corrie; Sharp, Teresa; Sheppard, Shannon; Skenadore, Amanda; Carroll, Danya; Madsen, Matthew
Faculty Sponsor(s): Sharp, Teresa
Graduate Presentation

Sociology
Schizophrenia: Japan vs. U.S.A.
Presenter(s): Cordero, Chelsea; Tubbs, Naomi
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation

Improving Greeley’s Public Transportation
Presenter(s): Dekraai, Elise
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation

Frustrations among Staff and Residents at a Homeless Shelter
Presenter(s): Flores, Giovanni
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation

The Sociology of the Insanity Defense
Presenter(s): Gerardi, Genae; Mahleres, Noelle; Trevino, Audrey; Vongphachanh, Debbie
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation

Discovering the Benefits of a Factitious Disorder
Presenter(s): Hope, Ashleigh; Wolfe, Erin; Hyland, Samantha; Rathbun, Jennifer
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation
Socialization Ability of Feral Children
Presenter(s): Huerta, Bobbie; Perez, Jazmin; Rich, Stephanie
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation

Mental Illness in LGBTQ
Presenter(s): Prouty, Ashley; Halley, Tamra; Escarcega, Jon; Hansen, Brittany
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation

Suicide
Presenter(s): Schrader, Maelee; Hernandez, Teresa; Graf, ShanteII
Faculty Sponsor(s): Houser, Jeffrey
Undergraduate Presentation

Special Education

Influence of Peer Buddy Program Intervention for Adolescents with Disabilities in High School Setting: Impact on Social and Academic Achievement
Presenter(s): AlQahtani, Ragea
Faculty Sponsor(s): Murry, Francie
Graduate Presentation

Exploring the needs of mothers of adults with disabilities in Saudi Arabia: A pilot study
Presenter(s): AlRusaiyes, Reem
Faculty Sponsor(s): Jackson, Lewis
Graduate Presentation

Parents’ Perspectives of Special Education Services for Students with Significant Support Needs
Presenter(s): Shugdar, Effat
Faculty Sponsor(s): Brewer, Robin
Graduate Presentation

Sport & Exercise Science

Voluntary wheel running upregulates MRP-2 expression and decreases cardiac doxorubicin accumulation
Presenter(s): Bashore, Alex
Faculty Sponsor(s): Hayward, Reid
Undergraduate Presentation

An Investigation of Student Non-Attendance at FCS Football Games
Presenter(s): Mayer, K.C., Davies, Melissa; Zaharia, Noni;
Faculty Sponsor(s): Mayer, Kurt
Graduate Presentation

Measuring Sport Team Brand Personality: Scale Validation
Presenter(s): Must, Emily
Faculty Sponsor(s): Gray, Dianna
Graduate Presentation

Aging downregulates MRPs and increases EDL doxorubicin accumulation
Presenter(s): Pfannenstiel, Keith
Faculty Sponsor(s): Hayward, Reid
Graduate Presentation

Looking for a Grad School in the Region?
Check out the Grad School Fair!

Many Colorado and Wyoming Grad Schools will be providing information about their programs on Research Day, April 11
Downstairs in the Lower Level of the University Center
10 AM - 2 PM
Undergraduate Biology Poster Session

03:30 - 04:30 in the Afternoon
Mt. Evans Ballroom

Effect of omega-3 fatty acids on lateral mobility of the prostaglandin (FP) receptor in bovine luteal cells.
Presenter(s): Balderston, Stephanie
Faculty Sponsor(s): Burns, Patrick

SUR-1 protein expression levels in an MPTP mouse model of Parkinson’s disease
Presenter(s): Blazosky, Elyse
Faculty Sponsor(s): Thomas, Mark

Joint action approach to studying pesticide effects on the marine copepod Tigriopus californicus.
Presenter(s): Cameron, Lindsay
Faculty Sponsor(s): Fisher, Ginger

Effects of fish oil treatment on prostaglandin F2α-induced mitogen activated protein (MAP)-kinase cell signaling pathway in bovine luteal cells
Presenter(s): Gilbert, Zachery
Faculty Sponsor(s): Burns, Patrick

Pvr is a receptor tyrosine kinase (RTK) that functions in Drosophila testis cyst stem cells
Presenter(s): Johnson, Kelli
Faculty Sponsor(s): Leatherman, Judith

Identification of Dopamine Receptors on a Class of Mouse Prefrontal Cortical Neurons
Presenter(s): Johnson, Vanessa
Faculty Sponsor(s): Thomas, Mark

Determining the impact of relatedness and age on mate choice in the marine copepod Tigriopus californicus
Presenter(s): Kelly, Michael
Faculty Sponsor(s): Fisher, Ginger

Owens Valley hybrid zone: providing new insight into song diversity in sage sparrows
Presenter(s): King, Carissa
Faculty Sponsor(s): Benedict, Lauryn

Does territory preference in Canyon Wrens depend on crevice density?
Presenter(s): Lashaway, Daynia
Faculty Sponsor(s): Benedict, Lauryn

Quantification of Metals in Snake Venoms Using X-Ray Fluorometry
Presenter(s): Maxey, Elizabeth
Faculty Sponsor(s): Mackessy, Stephen

“Analysis of transgenic reporters for expression of the dpp gene in the Drosophila testis”
Presenter(s): Roberts, Nicole
Faculty Sponsor(s): Leatherman, Judith

Tzabcanin, a novel snake venom disintegrin, inhibits metastasis in melanoma (skin cancer) by binding to the integrin αvß3
Presenter(s): Wanner, Megan
Faculty Sponsor(s): Mackessy, Stephen

Determining the impact of relatedness and age on mate choice in the marine copepod Tigriopus californicus
Presenter(s): Wenger, Ellie
Faculty Sponsor(s): Fisher, Ginger

Isolation of lipid microdomains from bovine luteal cells using a sodium carbonate buffer and ultracentrifugation through sucrose gradients
Presenter(s): Yu, Yi
Faculty Sponsor(s): Burns, Patrick

Development of a Parkinson’s Disease Mouse Model Using the Potent Neurotoxin MPTP
Presenter(s): Hartman, Brittany
Faculty Sponsor(s): Thomas, Mark

An Examination of the Cytotoxic Effects of Snake Venom on Human Colon Cancer Cells
Presenter(s): Maxey, Elizabeth
Faculty Sponsor(s): Mackessy, Stephen
Research Excellence Award Finalist
## Index of Participants

A full list of abstracts is available on the website at [www.unco.edu/aew](http://www.unco.edu/aew)

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