

BYU-Idaho

**R&CW** Research &  
Creative Works  
Conference

Fall Semester  
December 8, 2011

# Schedule

2:00 - 5:00 PM	<b>Engineering Open House</b>	MC CROSSROADS BOOTHS
4:00 - 4:30 PM	<b>Registration</b>  Presenters check in and receive a name badge.	MC CROSSROADS BALLROOM A
4:30 - 9:00 PM	<b>Poster Sessions</b>  Presenters will be available at their displays to answer questions and explain their research from 4:30 until 6:00pm.	MC BALLROOM A
6:00 - 8:00 PM	<b>Oral Sessions</b>  Presentations will be fifteen minutes (12 minutes for the paper and 3 minutes for questions). Session start times are staggered to end simultaneously at 8pm.	
	Session A: Arts and Literature I	MC 176A
	Session B: Social Sciences	MC 176B
	Session C: Natural Sciences & Engineering	MC 176C
	Session D: Arts and Literature II	MC 174A
8:00 - 9:00 PM	<b>Reception &amp; Refreshments</b>	MC GRAND BALLROOM A
9:00 - 9:30 PM	<b>Awards Ceremony</b> Awards will be given to the top three presentation in each session.	MC LITTLE THEATER ROOM A

# Poster Sessions

## Poster Session A: Natural Sciences and Engineering

Geology  
Chemistry  
Physics  
Mathematics  
Biology

Agribusiness  
Agricultural  
Agronomy  
Exercise  
Engineering

## Poster Session B: Social Sciences

Psychology  
Communication

# Oral Sessions

## Arts and Literature I

Music  
English

## Social Sciences

Sociology  
Psychology  
Political Science  
Communications

## Natural Sciences and Engineering

Biology  
Physics  
Mechanical Engineering  
Computer Information

## Arts and Literature II

English  
English Education  
English Communication

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# Poster Session A: Natural Sciences & Engineering

## Argibusiness, Plant and Animal Science

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Chloe Mauerman  
Matt Taylor

### **Plant Density and Equidistant Spacing Effects on Tuber Yield, and Size in Red Norland Potatoes**

Standard planting of potatoes has traditionally been between row spacing of 91 cm and individual plant spacing of 23 cm within rows. This traditional spacing practice can be improved upon as it does not provide the best conditions for higher yields, higher amounts produced and a smaller, more desirable tuber size. The standard planting of potatoes also does not provide the best circumstances for weed control through rapid canopy closure. This experiment is being conducted to discern how plant spacing influences the yield, amount and size of tubers produced. Three blocks were created to conduct this experiment, each block consisting of five 9 m<sup>2</sup> plots. The equidistant arrangements tested were 18 cm by 23 cm, 25 cm by 30.5 cm, 33 cm by 38, and 38 cm by 45.5 cm. The traditional 91 cm row spacing was used as a constant. The treatments were randomized and tested once in each block.

## Biology

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Elliott Weideman

### **Brain Health: An Overview of Increasing Mental and Physical Acuity**

“The human brain peaks in performance and starts to decline around the 3rd decade of life. This process of neuro-degeneration or brain aging begins with small-scale or micro-level deterioration, culminating with complete structural failure. The primary factor that governs the many negative effects of aging resides in deteriorating brain matter. The pursuit for treatments that promote neurogenesis is ongoing and society is not shy to offer therapies from many different disciplines that attempt to slow or reverse aging effects. Some contend that physical exercise is the only true way to stimulate growth; others claim that mind puzzles provoke deep thought and increase or strengthen mental capabilities; and yet others rely upon consumed stimulants or vitamins that promote good mental and physical health.

For clarity, the brain aging process will first be outlined and physiologically defined, followed by a systematic report on several methodologies and research, physical exercise in particular, that provide evidence to counter the negative effects of aging. The overall purpose of this research is to examine the relationship of physical exercise in stimulating brain growth which in turn may affect cognitive functioning and reasoning to offset the effects of aging.

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## Agribusiness, Plant and Animal Sciences

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Joseph Davis  
Russel Falke

### Soybean Variety Trials for Determining Viability of Growing Soybeans in Southeast Idaho

Traditionally soybeans [*Glycine max* (L) Merr.] have not been grown in Southeastern Idaho. Prior to 2010 there have been no extensive trials to determine if it is a viable crop for this region. Rexburg, Idaho (43° 50' 2" N, 111° 48' 18" W) is located in a high desert region at an elevation of 4865 feet with an average frost-free growing period of 105 days. Results of a 2010 preliminary trial of seven Pioneer® soybean varieties at Brigham Young University-Idaho indicate that soybeans have potential as a commercial crop in Southeastern Idaho when grown under irrigated conditions.

A follow-up study completed in 2011 examined the same seven Pioneer® varieties. The nitrogen-fixing bacteria, *Bradyrhizobium japonicum*, is not native in the soils of this region, the 2011 trial examined yield potential of both inoculated and un-inoculated seed.

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## Argicultural Science

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Luke Thurgood

### Using a Simple Rhizotron to Observe Fertilizer Affects On Root Development

Alfalfa producers are concerned with the effect of nitrogen (N) fertilizer on Rhizobia nodulation in newly seeded alfalfa. It has been a common held belief that adding N to alfalfa will inhibit or delay nodule development. The objective of this study was to determine the effect of N and phosphorus (P) fertilization on rhizobia nodulation in alfalfa. Using simple rhizotron scanners, nodulation of Rhizobia was determined and measured for different rates of fertilizer applied to newly planted alfalfa. Fertilizer treatments consisted of N, P, and N + P at rates of 22, 44, 66, and 88 kg ha<sup>-1</sup>. Rhizotron scans were performed daily for 28 days following planting with scan resolution set at 1200 dpi. Statistical analysis was performed using ANOVA and an LSD means test. The 22 kg P ha<sup>-1</sup> treatment had more nodules (7) when compared to all other treatments. The means separation test showed that the 44, 66, 88 kg P ha<sup>-1</sup>, the 22, 44 kg N+P ha<sup>-1</sup>, and the control treatments were not different, and the mean number of nodules for these treatments was 2 to 3 nodules per plant. It was observed that as the P fertilizer rate increased the mean nodule formation decreased. The treatments containing only N fertilizer had no nodules except for one plant in the 88 kg N ha<sup>-1</sup> treatment that had two nodules. These results suggest that some P fertilization improves Rhizobia nodulation in newly seeded alfalfa. Additionally, application of N with P fertilization nodulation whereas applying only N fertilizer may delay or inhibit nodulation. These initial results are limited to only one trial, but the research is ongoing and additional replications will be performed.

## Agronomy

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Rachelle Tolman

### Comparing Chlorophyll Meter Readings to Petiole Nitrogen for Potatoes

The need to determine adequate nitrogen (N) levels for potato crops in Southeast Idaho during the growing season has required expensive petiole sample tests. The use of a SPAD Minolta chlorophyll meter by potato producers could reduce sampling costs and provide accurate in-season potato petiole N levels. The objective of this study is to compare the SPAD chlorophyll meter and petiole samples for accuracy in measuring N petiole levels for in-season N fertilization for potato crops. Nitrogen treatments of 0, 56, 112, 168, 224, and 280 N kg ha<sup>-1</sup> with three to four replications in a randomized complete block design were used to establish different N levels in the potato crop. Fertilizer was split applied with 56 kg N ha<sup>-1</sup> applied at planting and remainder applied in June and July. Petiole nitrate (NO<sub>3</sub><sup>-</sup>) samples, chlorophyll meter readings, and soil NO<sub>3</sub><sup>-</sup> test were taken weekly for 8 wks beginning in July through mid August. Chlorophyll meter readings were compared to petiole NO<sub>3</sub><sup>-</sup> and soil NO<sub>3</sub><sup>-</sup> levels, which are current methods for determining in-season N fertilization need. Potato plots were harvested by digging 3 meters of two adjacent rows and yields were determined based on total weight and weight by quality class. Yield data were compared with petiole NO<sub>3</sub><sup>-</sup>, chlorophyll meter data, and soil NO<sub>3</sub><sup>-</sup> levels for determining which method best predicts yield. Correlation between SPAD meter and petiole showed that in order to meet the early season 20,000 mg kg<sup>-1</sup> petiole NO<sub>3</sub><sup>-</sup> threshold the chlorophyll meter reading must meet or exceed 47. For mid season, the petiole NO<sub>3</sub><sup>-</sup> threshold drops to 15,000 mg kg<sup>-1</sup> and the correlating chlorophyll reading is 41. Similarly when the late season petiole NO<sub>3</sub><sup>-</sup> threshold drops to 10,000 mg kg<sup>-1</sup> the chlorophyll reading remains 41. The similar chlorophyll meter reading between the mid and late season petiole NO<sub>3</sub><sup>-</sup> levels is due to the lack of new vegetative growth and a lower NO<sub>3</sub><sup>-</sup> concentration need in the petioles. Yield data did not correlate to N application, petiole chlorophyll meter readings probably due to large spatial variance and a large amount of residual N. Our data supports that chlorophyll meter readings accurately indicate N responsiveness of the crop 80-100% of the time when compared to petiole samples. Additional data will be needed to refine and support chlorophyll meter readings as a method to base in-season N fertilization decisions in potatoes.

## Exercise Science

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Ryan Robinson                      Kevin Wickel  
Reuben Clements                  Kris Wilson  
Mike Roberts                        Kelsey Woodward

### **Effects of a Modified CrossFit Program on Body Composition, Flexibility, Power, Stamina & Strength**

CrossFit claims to improve accuracy, agility, balance, coordination, endurance, flexibility, power, speed, stamina and strength. There is minimal scientific research to support these claims. Methods: A pre-test, post-test design was utilized to test body composition, endurance, flexibility, lower extremity (LE) peak power, and upper body (UB) strength during a 6 week modified CrossFit program in 16 college students (8 male, 8 female). Body composition was measured using a 3 site protocol with skin calipers. Endurance was measured by a 12 minute run test. The sit and reach test was used to measure flexibility. Peak power was measured by a vertical jump. One-repetition maximum bench-press was used to measure UB strength. Results: Paired sample t-tests were performed for all variables with a Bonferroni adjustment ( $p \leq .01$ ). It was found that endurance ( $p < .0001$ ), flexibility ( $p = .005$ ), LE peak power ( $p = .000125$ ), and UB strength ( $p = .005$ ) significantly increased. However, no change was observed in body composition ( $p = .184$ ). Conclusion: The modified CrossFit training program in this study significantly increased endurance, flexibility, peak power, and strength. This study partially substantiated CrossFit's claims. However, further testing should be conducted to compare results with a control group.

## Electrical and Computer Engineering

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Kara Webb  
Nathan Jackson  
Matt Ferrin

### **Brain Waves**

Create a device to detect brain waves without contact with the skin. Traditional electrodes are more invasive in that they must have a very conductive contact with the skin. Our sensor will be truly noninvasive, eliminating the need for shaving hair, applying conductive gel to the surface of the skin, etc.

Our sensor will operate on capacitive coupling (and thus, displacement current) to register the signals, and transfer the signals to a circuit with very high input impedance that will amplify the signal, while filtering noise.

## Electrical Engineering

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Marco A. Salas  
Ruben Kackstaetter  
Joseph A. De La Cerda

### Exploring Magnetic Repulsion Transportation System

The world around us is generating and consuming power; in all mechanical systems, managing your efficiency is becoming a greater priority. We are seeking to explore the efficiency of a magnetic repulsion transportation system. Given the constants of our time and budget we have decided to focus our efforts on the repulsion device and not the projectile, which for this test we will use a neodymium magnet instead of an electromagnet. We are using a 1:240 scaled version and we have found that a cylindrical tube connected end-to-end meets our needs for a confined testing area. Our system will use a series of controlled electromagnets which will attract and repel the projectile forward. After our system has gathered enough data on the continued velocity of the system and given the mass of the projectile along with the energy applied to electromagnets, we will be able to determine the efficiency of such a system.

## Computer Science and Engineering

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Michael Packer  
Darin Hornberger

### Thermoelectric Generator

Our research proposal was to find to most efficient way to generate electricity by the way of a heat different and to discover how much power can be created and what uses this power would have. Such as, is it possible to create enough power from the temperature difference between the sun shining on a irrigation pivot and water running through the pipe to cut down on irrigation energy cost substantially enough for it to be useful.

## Computer Science and Engineering

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Tyson Steenstra Toussaint

### Plasma Speaker

Frequency Response of a Plasma Speaker.

## Chemistry

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Bryan Borders  
Stuart Morgan  
Glenn Mumford

### **Computational Study of S- $\alpha$ -Pinene Radicals**

Pinenes are a set of biogenically generated compounds and a common component of turpentine. In the atmosphere, they are subject to attacks from hydroxy radicals and oxygen, forming hydroxy-peroxy-organic radicals. These radicals are stabilized by complexing with water molecules present in the atmosphere. They are also influential in a variety of important atmospheric reactions, such as the generation of ozone and NO<sub>x</sub>. The present study shows the lowest energy conformers and water complexes of S- $\alpha$ -pinene radicals. Properties determined in this study include the bond angles and bond lengths of the hydrogen bonds in the water complexes and the relative energies of the lowest energy water complexes. This information helps elucidate how pinene radicals interact with water to form stable complexes that may serve an important role in atmospheric processes.

## Geology

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David Kulbeth

### **Digital analysis of Landsat images and aerial photographs to correlate drainage basin snow pack with the levels and duration of floods along the Snake and Teton Rivers, Idaho**

Riverine floods of above average stage and duration occurred along the Snake and the Teton Rivers in southeastern Idaho during late spring and early summer 2011. Compared with the 2010 floods, river stages were similar in many locations, although some stations reached record heights in 2010 while others reached record heights in 2011; in contrast, the duration of flooding in 2011 was unprecedented. Data from reservoirs, USGS gauging stations, aerial photographs, and multi-month Landsat imagery are used to quantify the extent of surface water flooding during the 2011 flood season. Recent Landsat images and snow depth reports from the relevant drainage basins are used to evaluate changes in snowpack. Historical data collected from Landsat images and aerial photographs collected during peak flooding serve as reference for pre- and post-flooding conditions. Using the data, we are evaluating temporal and spatial correlations between the snowpack and the riverine floods. ENVI software is being used to analyze the multispectral Landsat images; ArcGIS software is being used to georeference the aerial photographs and compare and contrast the data. Understanding the temporal and spatial correlations between snowpack and flooding can help reservoir managers better plan for future flood events in the Snake River Plain.

## Chemistry

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Glenn Mumford  
Stuart Morgan  
Bryan Borders

### Computational study of R- $\alpha$ -pinene water complexes

Peroxy hydroxy radicals play a critical role in atmospheric chemistry processes such as the production of tropospheric ozone and NO<sub>x</sub>. Several biogenically generated compounds are among the highest sources of organic material for the creation of these peroxy-hydroxy radicals. Pinene is one of these compounds. In this study, the lowest energy conformers of hydroxy-peroxy radicals generated from R- $\alpha$ -pinene are reported, along with their associated radical-water complexes. The bond lengths and angles for hydrogen bonds associated with the complex are also reported and compared to similar compounds. Further work will be done to characterize the specific nature of the hydrogen bond between the radical and the water.

## Physics

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Lorin Baird  
UNL Engineering Department

### Micros Eddies: Discovery and Engineering

The mechanism of Marangoni flow, or surface tension driven flow, is well understood and it has been studied in thin films and water droplets. In this work, a colloid solution of microparticles was sandwiched between glass slides and the resulting micro eddies, or particle rotations, on the water-air interface were observed under an optical microscope. The origin, geometry, and sustaining of these micro eddies are explained. The surface tension gradient, thickness of the water, and introduction of obstacles are key to sustained rotation.

## Chemistry

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Peter R. Stevenson  
Bret E. Dunlap

### **Simultaneous Two-Dimensional Separation Employing Planar Chromatography and Electrophoresis**

Single-dimension separations are routinely coupled in series to achieve two-dimensional separations (e.g., SDS-PAGE, etc.). However, little has been done to simultaneously exploit multiple dimensions during separation. In this work, planar chromatography and electrophoresis was employed simultaneously to achieve two-dimensional separations. Chromatography occurs via capillary action while an orthogonal electric field is concurrently applied to promote electrophoresis in a second dimension. A novel planar chromatography apparatus with a dual solvent reservoir was designed and used to apply the electric field. Varying compounds were used to characterize the apparatus and technique; i.e., vitamins, amino acids, and dyes. Improved separation is reported for equivalent analysis times in comparison to solely employing planar chromatography. The feasibility of simultaneously employing chromatography and electrophoresis in two dimensions is presented.

## Geology

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Stewart Gubler

### **Creating Tsunami Inundation Zones Using Elevation and Slope Analysis**

The recent earthquake and subsequent tsunami in Japan resulted in the deaths of thousands of people. The West Coast of the United States is also at risk of the same magnitude of earthquake and tsunami as Japan. New guidelines regarding the creation and maintenance of tsunami evacuation routes for the United States will be issued 2012 by the National Tsunami Hazard Mitigation Program. Preliminary guidelines are currently available to help jurisdictions at risk of tsunamis evaluate their vulnerability and increase their resiliency. Port Angeles, Washington is one of many coastal communities at risk of a large tsunami. The current Port Angeles map does not accurately map the maximum tsunami wave height or wave run-up. Research estimates that at Port Angeles, which is located on the Strait of Juan de Fuca, the maximum wave height is 11 feet. Using elevation data and slope analysis, a new inundation zone was mapped that incorporates this knowledge and the new guidelines. The new inundation zone encompasses the current inundation zone and in many areas extends farther inland than the previous map. Analysis of the economic impact on the city (population 19038) estimates that damage will cost more than \$200 million.

## Chemistry

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Stuart Morgan  
Bryan Borders  
Glenn Mumford

### **Computational Study of Beta-Pinene Radical Complexes**

Pinenes are chemical compounds that are important constituents of pine resin as well several other plants. The presence of Pinenes in the atmosphere make them subject to attack by hydroxy radicals and oxygen. The hydroxy-peroxy –organic radicals play a large role in the formation of tropospheric ozone and NO<sub>x</sub>. This study reports the lowest energy conformations of the radical-water complexes. The energies, bond angles and bond lengths are reported at the Hartree-Fock level. Further calculations will be carried out through the B3LYP optimization. This information allows for further studies on the stability of the water complexes.

## Geology

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Toby S. Dossett  
Sherri L. McLrath

### **Plio-Pleistocene Interactions involving Basalt Flows and the South Fork of the Snake River between Swan Valley and Ririe, Idaho**

This study reports the results of detailed geologic field mapping along the South Fork of the Snake River. The study emphasizes the history of interactions between basalt flows and the river and builds on previous mapping and age dating. Two periods of basaltic volcanism are recorded in Swan Valley. The ~4 Ma basalt of Swan Valley erupted onto the valley floor after the eruption of Kilgore tuff and before the eruption of Huckleberry Ridge tuff (Anders et al., 1989). These eruptive episodes formed a broad constructive edifice in the Conant Valley area which separated the Pine Creek from the Snake River. At about 1.5 Ma, following deposition of the Huckleberry Ridge tuff, basalt erupted on Antelope Flat (Anders et al., 1989). This eruption dammed the ancient Snake River and Pine Creek, filled their channels with basalt, and created a reservoir that extended ~32 km to the south into Swan and Star Valleys. Dam structures are dominantly composed of variably-palagonitized hyaloclastite with intercalated basaltic lava flows that locally have pillow basalt bases. Overtopping of the Conant Valley dam caused the capture of the paleo-Pine Creek drainage by the Snake River and the formation of the current river channel.

## Poster Session B: Social Sciences

### Psychology

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Alex North  
Thomas Dalbeck  
Kevin Lathem  
Matthew Nearents

Pamela Dahle  
Paul Garn  
Ammon Matthews

#### **Self-Directed CBT May Not Be Effective for College Students**

Stress has been linked to many negative outcomes for college students including poor academic achievement and a greater risk for mental health problems. Furthermore, because of the high number of individuals dealing with mental complications, including stress, health professionals have begun to look for alternative methods of treatment. The purpose of this study was to test a CBT intervention for college students delivered through the Internet. A total of 29 students in two sections of an upper level biology class formed our sample. One section was introduced to the intervention (n = 11) and the other served as our control group (n = 18). Our hypothesis was that students who used the stress intervention would have significantly less stress than students who did not. We used Independent Samples t-tests to evaluate our hypothesis. However, there was no statistical difference between the sections at any time throughout the study. Thus, our hypothesis was not supported. Limitations to our study include: a small sample size, self-reported use of the intervention, and a constrained time period for data collection. Future research should replicate our study for a longer period of time and increase the sample size.

### Psychology

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Bryce Cayton

#### **Exercise and Alertness**

Our study's purpose is to find if moderate exercise increases alertness throughout the school day. We believe that exercise will increase alertness. Student from Brother Evan's Health and Wellness class did a day of working out and a day of not working out and compared their alertness. We then will compare the data and get an answer.

## Psychology

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Chikezie Ogbuehi

### **An Experimental Investigation of How Facial Cues Can Affect Understanding of People Speaking a Language with an Accent**

The complexity of the human language and its ability to describe anything humanly possible often times leads to ambiguity. However, we focus in this study is how people process and interpret their day-to-day communication, especially with people speaking English as a second language. In this study we tried to understand how much our understanding is affected when people speak with accent, in the presence and absence of all other cues. With a total of 26 participants who speaks English only, conveniently selected from the various foundation classes here at BYU-Idaho but were randomly assigned to either a control or experimental group. Both groups listen to the a fluent English speaker dictate fifteen sentences; after which the control group had a two freshmen who are bilingual with a strong accent, the first with a Chinese accent and the other with an African accent standing in front of the group dictating similar but different sentences at random. However, the experimental group had the same bilingual freshmen dictate the same sentences at random but with a demarcation so his upper body is not seen. Our finding indicate that those who relied on echoic cues without other physical and facial cues where less likely to understand the words dictated. The limitation of the study is that we could have used a video recording of the accent speakers for the study so as to maintain a standard and uniformity in the process. Future study can focus on the syllabic presentation of each word by the person with an accent and how it further affects understanding.

## Communication

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Coralie Greer  
Natalie Wells  
Jenny Larson  
Luke Cable

### **Perceptions of Marriage and Family Size at BYU-Idaho**

As members of the Communication Research Fundamentals class we were very interested in learning about the perceptions and progressive attitudes of marriage and family life among BYU-Idaho students. Through an anonymous survey sent out to a random selection of students, we were able to pull out some interesting opinions.

## Psychology

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Erick Juarez  
Sariah Suarez  
Annelise Allen

### Facilitating Reading Comprehension by Text Simplification

The purpose of this study is to show that facilitation of reading text by simplification of font and display could possibly improve reading comprehension of any given text. The two groups that were tested were an experimental group that read from a simplified text format, and the control group that read from an unsimplified text format. In the experimental group, the Independent variable consisted of the simplified Text format presented to the participants. In the control group, the Independent variable consisted of the unsimplified Text format presented to the participants. The dependent variable tested memory recall among both groups via a quiz that was given shortly after the material was presented. In the control group, the participants were presented with a reading text in a full-text format, and were asked to read. In the experimental group, the text was divided, or simplified into short PowerPoint segments, and the participants were asked to read for twenty 30 second segments. In the control group the participants were given a full-text and were given the total amount of 10 minutes to read. The participants in both groups received a 10 question close-ended quiz that was distributed equally for a period of 10 minutes.

## Communication

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Erin Barrow      Tiffany Shridan  
Andy Alfaro      Kaylie Nowels

### Effective Advertising for Restaurants

Food is an essential part of survival and there are many different means of getting food. People can buy food a grocery store, restaurant, fast food, or even grow food themselves. For college students food tends to come in a premade form that is quick and easy. In the college town of Rexburg, Idaho restaurants come and go, some businesses are more popular than others. But what attracts students to certain businesses is it the food served, prices, location, or knowledge of the business through advertisement. We wanted to find out what kinds of advertising methods are more effective in bringing customers, mostly college students, into a restaurant. By using Qualtrics we wrote up 17 questions about forms of advertising that restaurants use and sent it to 300 randomly selected students on the BYU-Idaho campus. Our different findings showed things like: students don't use Facebook pages of businesses to decide where to eat and students rely on coupons and other deals.

Through our findings we gained insights on what forms of advertising are effective especially for restaurants in a college community.

## Psychology

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Jeana Larson

### **Group Identification as it Contributes to Student Leader Satisfaction in Activities Programs**

Analysis comparing three factors of the Group Identification Theory to overall satisfaction has revealed two factors that could lead to greater satisfaction in leaders in the Brigham Young University-Idaho Activities Programs. The three factors are: feeling a part of an in-group, relating to the group because of similarities in self-definition, and feeling able to contribute positively to a group; i.e. “in-group”, “centrality”, and “contribution”. A multiple linear regression analysis revealed that the factors “ingroup” and “contribution” did significantly predict leader satisfaction. In addition to these two specific areas for improvement, the study also generated other ideas through a focus group and open-ended questions included in the online questionnaire. The results were presented to BYU-I Activities Program Directors Layne Kinghorn and Justin Garner and then subsequently to the Student Area Directors over the eight individual Activities areas. Due to the sample obtained the results are primarily applicable to the BYU-I Activities organization, but the correlations identified generate information for possible increase of satisfaction in individuals of other organizations as well.

## Psychology

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Jen Kirkpatrick  
Kylie Chaffin

### **Effect of vicarious nature experiences on stress levels**

The central focus of this research study is to determine what affect vicarious nature experiences, such as viewing a nature video or picture, have on stress levels as measured through heart rate. If we can find great benefits from vicarious nature experiences, we may be on the way to finding convenient, achievable ways to deal with the stressors of life. A study such as this would be relatively quick, easy, and painless, and the benefits could greatly outweigh the costs. Participants viewed various clips, one inducing stress or high heart rate, and one nature clip. The hypothesis is that the viewing of nature will lower stress, as measured through heart rate.

## Psychology

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Lisa Wilkerson  
Kyle Udall  
Kacie Birtcher

### **Audience Mismatch: The Importance of Knowing Your Audience in Marketing**

The purpose of this study was to investigate students' perceptions and reactions to marketing techniques used in posters advertising Brigham Young University- Idaho's (BYU-I) Academic Support Center (ASC). We hypothesized that students at the university would not endorse the values portrayed in the advertisements. Participants were 147 current BYU-I students. Study questions gauged emotional reactions, examined perceived promotional techniques, and questioned students' agreement with the values portrayed in the advertisement. We ran a repeated measures ANOVA and we found significance,  $F(2.66, 386.06) = 50.23, p < 0.05, \text{partial Eta Squared} = 0.26$ . The mean and standard deviation of each of the posters are as follows: Study Skills ( $M = 3.05, SD = 1.08$ ), ASC ( $M = 2.21, SD = 1.00$ ), Math Center ( $M = 2.05, SD = 1.12$ ), and Presentation Practice Center ( $M = 2.79, SD = 1.11$ ). These results demonstrate the need for understanding one's audience. We hold the on campus marketing team harmless for the marketing campaign they created. However, we warn that from students' perspective, the use of sexually appealing techniques created an audience mismatch. The common portrayal of women in this manner has led women to develop a negative self image (Turner, Hamilton, Jacobs, Angood & Dwyer, 1997).

## Psychology

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Matthew Nearents      Pamela Dahle  
Kalli Harris            Darren Walton

### **Effects of Proactive Interference in College Students**

Proactive interference (PI) is the process whereby information learned early in a study session interferes with information learned later on. Previous research has demonstrated the ability to build up PI in subjects. However, research has not yet attempted to find physical activities that may reduce the effects of PI. Our study examined whether running would reduce interference. We assigned students to three groups. Each group performed six trials of a memory task. In each trial they were asked to recall sets of three letters (e.g. RHF). We tested participants' memory for each trial. The experimental group jogged a mile and a half between the fifth and sixth trial. A second experimental group took a break between the fifth and sixth trial, and the control group performed all trials continuously. Our study, though interesting, did not produce significant results. The running group did not experience a release from PI any more than the other groups. Possible reasons for the lack of significance might include the particular memory task used. Students found this task very difficult. Rather than a gradual buildup of PI over time, students had a difficult time recalling words from the beginning.

### **The Effectiveness of Meditation as an Aid to Weight Loss**

Meditation has proven a helpful aide to a variety of medical issues. The purpose of this experiment was to observe the effects of meditation on weight loss. Our participants were volunteers that were selected for a workout incentive program at Brigham Young University- Idaho called "The Biggest Winner". The body fat percentage and weight of the 38 overweight student participants was taken at the beginning of the experiment, middle and end. Both the experimental group and the control group had nutritionists and personal trainers working out with them for 1 hour a day six days a week. The experimental group finished 2 workouts a week with a 10 minute mindfulness meditation session. Our hypothesis was that meditation would help with mindfulness and thereby help the participants lose weight more rapidly than the group. The results were that the experimental group lost about the same amount of weight as the control group. The experiment had many limitations but should be repeated in a more controlled environment to determine if there is a correlation between meditation and weight loss.

### **Communication**

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Rob Briggs      David McNary  
Holly Fogle     Jodan Naylor

### **Facebook Grammar... Does it Matter?**

We conducted research on grammatical errors found in Facebook. Each individual in our group extracted 75 sample posts from Facebook containing a variety of grammatical errors. The purpose of our research project was to identify the prominent errors and use this information to inform students of common mistakes found in Facebook posts.

As more and more employers are using Facebook to identify potential hires, we feel it is important for students to use correct grammar and punctuation even in communicating with their friends through informal media. This is another reason why we conducted this research as we wanted to increase the awareness of this important issue

## Psychology

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Jonathan Seedall

### **An Analysis of Gender and Family Influence on Political Affiliation and a Measurement on Moral and Economic Issues**

The purpose of this study is to know if gender and family have an influence on political affiliation. The participants in the study consisted of a convenient sample of Brigham Young University-Idaho students. The participants were controlled for the variables of gender, political affiliation as well as parents' influence on their political attachment. The study evaluated gender as a predictor for political affiliation. The study further looked into parents' political affiliation as it influences the political affiliation of the participants. The method of collecting the data consisted of a survey with closed-ended questions. No debriefing was necessary since there is no deception. The subjects were not subjected to any economic, emotional, or physical risk. The finding suggests that parents do influence the political affiliation of their children. The research also found no correlation between gender and political affiliation. In a deeper analysis, fathers were found to have a more significant impact on children's political affiliation than mothers and when both parents were from the same political affiliation, children had the tendency to be of the same political affiliation. The last test given to the participants was a Likert scale to measure their views on moral and economic issues. Since the population at Brigham Young University-Idaho is composed of highly republicans with conservative ideals, it is not unusual to see that most students were mostly conservatives in moral issues as well as economic issues.

## Psychology

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Annelise Allen

### **The Impact of Cell Phone Usage on Memory Recall**

The study focused on the impact of cell phone use on memory recall when a cell phone is used while studying. Previous research has indicated that when attention is divided, recall is diminished. Based on this premise, the study consisted of a hypothesis that tests whether using a cell phone while studying would have a negative impact on memory recall. The participants consisted of a convenient sample of introductory psychology classes. The participants were randomly assigned to two groups, an experimental group and a control group. Both groups consisted of 18 participants, with a total of 36 people. The participants read a chapter from Scharter's Psychology book on intelligence. Then, they were given a close ended question test to assess their memory on the reading. The experimental group consisted of 18 participants who were given the task to study a chapter Scharter's psychology book on intelligence. Standardized instructions were given to the experimental group to use their cell phones in intervals of 10 minutes. Every

ten minutes they were notified to use their cell phones. The control group consisted of 18 participants who were given the same material to read but were given standardized instructions to turn off their cell phones and avoid using them throughout the study. Both groups had to read for 45 minutes followed by a memory test on the chapter. The memory test consisted of 15 close ended questions that assessed memory recall. The Independent variable was cell phone usage and the dependent variable was the effects of cell phone use on memory recall. The findings suggest that studying with a cell phone can reduce the ability to recall information possibly due to divided attention. Therefore studying without the interruption of a cell phone yields higher memory recall of information on tests. Further research can be done to identify if texting or talking on the phone has a greater effect on memory recall.

## Psychology

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Sariah Suarez  
Erick Juarez  
Annelise Allen

### **Memory Recall of Positive and Negative Passages on Dichotic Listening: Filtering Mechanisms of Attention for Emotion on the Unattended Ear**

A convenient sample from Brigham Young university was used, a total of 40 participants from introductory psychology classes. The students were split into the control and experimental group. The experimental group had to study a given paper while in 3 intervals of 5 minutes they were told to use their cell phones. After their 20 minutes of studying, they were given a memory exam to recall for information. The control group was given the task to study without a distractor and then took the same test as the experimental group. The findings show that people who allocate their attention to the phone while studying recall less than the control group who study without distractors.

## Oral Session A: Arts and Literature I

### English

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Charles Beuchele

6:00 pm

#### **The Little Red Apple, or A Story Inapplicably Fruitless**

This is a story about an apple; a little red apple that rides a bicycle to work and rents a guest house. Although the apple is gifted in this respect it has a number of personal and physical flaws. It is, after all, only an apple and, for instance, cannot read. Also, because it does not have eyes, it is unable to even look at the pictures in a newspaper. The little red apple suffers a series of mishaps that causes it to run out into the street without stopping to look both directions. This quickly leads to the end of the story of the little red apple. At first glance this story may appear to be nothing but a simple tragic tale but it is ripe with an abundance of meanings and symbols.

### English

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Casey Barrow

6:15 pm

#### **Jim as a Multifaceted Character in Adventures of Huckleberry Finn**

Mark Twain's *The Adventures of Huckleberry Finn* tells the story of a boy who experiences numerous adventures with a runaway slave, Jim. Generally, critics argue that Jim's role is to act as an example of fatherhood. It is argued that Jim is a superficial character; one which Twain meant to be examined on the surface. Jennifer Hildebrand argues that Twain did not intend to encourage readers to look deeply into the black characters he created. It is often overlooked however, that perhaps Jim's "cliché" black nature, including unintelligence and reliance on superstition, is merely his outward disposition. I would argue that throughout the novel, Jim is in control, but acts unintelligent in an effort to manipulate Huck. Twain included subtle evidence of this when Jim discovers a dead body and tells Huck not to look because it is too "gruesome." At the end, he reveals that the body had been Huck's father. While some argue that Jim was protecting Huck, he may have been protecting himself by withholding information that would have freed Huck. While many focus on racism, and identify Jim as surface-level, my examination will analyze Jim as a dominant character who molds situations to fit his needs.

## English

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Bethany Murray

6:30 pm

### Godmother

This is a short story based on the fairy tales “Sleeping Beauty” and “Snow White.” It is told from the point of view of the wicked fairy from Sleeping Beauty. Although not invited to Sleeping Beauty’s christening, the fairy considers herself one of Sleeping Beauty’s godmothers. The fairy was also a godmother to Snow White, Sleeping Beauty’s mother. She reminisces about Snow White’s life. Snow White did not get along with the fairy, so she did not invite her to Sleeping Beauty’s christening. After the christening Snow White keeps the fairy away from Sleeping Beauty. The story ends on Sleeping Beauty’s sixteenth birthday when she meets the fairy for the first time.

## Music

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Michael Merrill

6:45 pm

### Glory to God in the Highest - a Sacred Work for a Capella Chorus

An a Capella piece for SATB choir with text from Luke 3:14, “”Glory to God in the highest, and on earth peace, good will towards men,”” lasting approximately four minutes in length. This piece was originally recorded by the BYU-Idaho Collegiate Singers under the direction of Dr. Randall Kempton. Artistically this piece attempts to portray the emotions of the shepherds in Bethlehem as they heard the angels declare these words - emotions of wonder, anticipation, realization at the advent of their long-awaited Messiah, and the peace and hope that that message brought. Dr.s Daniel Kerr and Randall Kempton of the BYU-I music department provided coaching and critiques as to possible improvements. The second draft is what is presented at this conference, and further revisions will continue to be made as time goes by.

## English

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Robert Freeborn

7:00 pm

### Wandering Princess

“Wandering Princess” is a charming, family-friendly tale of a young Princess who, despite the wishes of her family, no longer believes in Fairy Tales or Happily Ever After. But when her Fairy Tale-believing best friend, Rupert, goes off in search of his own Happily Ever After she is determined to save him from this perpetuated lie. Trekking after him she learns that Happily Ever After is what you make it, and that it was closer to home than she ever thought possible.

## English

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LuLu DeHaan

7:15 pm

### I Need a Hero...or Just Beatrice: Exploring the Feminism in Much Ado About Nothing

Shakespeare’s *Much Ado about Nothing* tells of two very different couples ultimately reaching marriage, and explores the relationships between men and women, but what it also explores is the dynamic of the two main female characters. Critics have written about the differences between Hero and Beatrice, and even Michael D. Friedman pointed out how Hero seems like she would perfectly “fulfill” the role of wife while Beatrice seems “unsuited” for the very same role. What is usually left unexplored are the differing personalities between women in the story, especially the contrast of Hero and Beatrice, their conflicting reactions during the first wedding scene, and the correlation it has to the traditional role of women. Rather than exclusively exploring the relationships of men and women, *Much Ado About Nothing* explores the advantages of a woman living an independent life, and the downfall of a woman living the life that others expect of her.

## Emancipating Twain: Teaching *Huckleberry Finn* in the High School Classroom

Huck Finn is one of the most controversial books in history due to Mark Twain's usage of the word "nigger" and his supposed depiction of Jim as a stereotypical slave. I will discuss why teaching this novel in the classroom should be done. Dudley Barlow suggests, "'Nigger' is Huck's, not Twain's, label for blacks" (274). Also, Jim may not be the stereotypical slave that many suggest. Understanding why Twain used such an offensive term and his true depiction of Jim is paramount to successfully teaching Huck Finn. Simply because this classic is difficult to teach does not mean that it should be banned. Toni Morrison said it best, "The cyclical attempts to remove the novel from classrooms extend Jim's captivity on into each generation of readers. . . . [Huck Finn] cannot be dismissed" (283,288). We should not lower the quality of literature; rather, we should increase the caliber of teachers. We cannot disregard complex topics because they are uncomfortable to teach or discuss. In fact, we should face them and discuss them openly. I will share some ways to teach Huck Finn in the classroom as well as explore passages in the novel that can be most beneficial to high school students.

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## Oral Session B: Natural Sciences & Engineering

### Biology

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Alex Hallam

Sierra Smith

Jack Rose

Jason Hunt

6:00 pm

#### **Gluconeogenesis in the Uterus of the Mink is Regulated by Estrogenic Hormones**

Mammalian embryos become dependent on glucose as the primary fuel source at the blastocyst stage of embryogenesis. Uterine glucose is derived from the systemic circulation as well as from catabolism of uterine glycogen reserves. Total uterine glycogen concentrations peak during estrous, decline rapidly during implantation and are lowest post-implantation. Thus, if blood glucose concentrations were insufficient to meet the metabolic demands of the embryos, spontaneous abortions may occur. Because liver and renal gluconeogenesis play a major role in maintaining blood glucose levels during fasting, we hypothesized that the uterus might like-wise be a source of such “new glucose”. Our objectives were to determine: (1): if the mink uterus expresses the key gluconeogenic enzyme phosphoenolpyruvate carboxykinase (PEPCK), and (2): if the expression of PEPCK is regulated by estradiol-17beta (E2) and the major E2 metabolite 4-hydroxycatecholestradiol (4-OHE2).

### Mechanical Engineering

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Brett Stone

6:15 pm

#### **Novel Methods of Route-Type Determinations**

Two trends are increasing the need for accurate means of calculating fuel economy: increased efforts to develop fuel efficient and alternatively fueled vehicles, and evolving driving trends of Americans. One important aspect of calculating fuel economy in real-life settings is determining whether a given trip should be classified as a “city” or a “highway” trip.

Current calculation methods employed by agencies such as EPA and DOE developed decades ago are becoming less accurate as American driving habits become more aggressive. As well, current methods are almost completely based on average trip statistics and do not take into consideration various factors.

By developing a route type determination method that analyzes multiple sections, or “micro-trips”, of a single trip in order to determine the overall trip’s route type, many of the flaws of currently available methods can be remedied. And, by automating the process using a MatLab program, tens of thousands of trips in Idaho National Laboratory’s database on hybrid and other alternatively fueled vehicles were analyzed in a matter of hours and made available previously unattainable data to analysts and policy makers. Other research for specialized route type determination methods was also conducted.

## Computer Information Technology

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Lance Johnson

6:30 pm

### You Sure You're Secure?

In "You Sure You're Secure?" Lance V. Johnson, a Senior at Brigham Young University-Idaho studying Computer Information Technology, critiques and analyzes what today is known as "Online Banking", pinpointing the question if it's a secure way to bank or not. The author explores different types of attacks occurring in America and also gives many statistics to show the importance in online security.

## Physics

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Allen Andersen  
Phil Scott  
Josh Barney

6:45 pm

### Microwave Optics Research

The Physics Department x-band microwave optics equipment was originally intended for use in classroom demonstrations. I evaluated this equipment for use in research, determined additional equipment needed in order to perform attenuation and other experiments, and have used it to conduct research on the transmission properties of paper and other substances. The additional equipment includes a goniometer base and Radio Frequency absorbing foam apertures. This equipment was needed in order to create a standard procedure, take reasonably accurate measurements, and reduce undesired standing wave effects. Mathematical and experimental analysis was done to determine the necessary parameters of the new equipment. The new apparatus is comparable to setups featured in published journals and will give research opportunities to future students.

With this equipment I investigated the transmission properties of paper. I showed that paper acts as linear polarizer in two independent ways. A stack of paper edge-on as the incident surface is a known linear polarizer. After researching the conductive properties of paper, I predicted then demonstrated that microwaves incident on the face of a stack of paper is also a linear polarizer. The polarizing properties of paper have educational value for demonstrating polarization and relating the macroscopic to the microscopic.

## Physics

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Dallin Pincock

7:00 pm

### Positron Annihilation and the W-Parameter

Previous research into positron annihilation has shown that the S-parameter, the ratio of peak counts to total counts in a curve of detected gamma radiation, representing low momentum positrons, can be used to help find changes in material. This research looks into different circumstances, such as different materials and materials with different amounts of defects, and whether the S-parameter's counterpart, the W-parameter, the ratio of the counts in the sides of the curve to the total, representing high momentum positrons, could prove more useful in any of these situations.

## Physics

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Karl Decker  
Kelly McGuire  
Jon Wilson  
Schyler Porter

7:15 pm

### Adhesive Tape: a Continuous X-Ray Source

The intensity of x-ray triboluminescence from a continuously running belt of adhesive tape is highly time dependent, with a shape roughly like  $1/t$ . Aiming to uncover mechanisms underlying time dependence and prolonging high-intensity x-ray production we investigated zinc oxide dusting which led to an entirely different regime of intensity as a function of time, hinting at glue flow and beta radiation damage as possible reasons for decreased intensity over time.

## Oral Session C: Social Sciences

### Sociology

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Ashley Evans

6:00 pm

#### **Follow Me; The Impact of Social Networking on Materialism Among Young People**

The available literature is comprehensive regarding the influence of advertising on the formation of materialistic values within society; however, there are other unexplored and understudied media outlets, such as social networking which have not yet been investigated. The use of social networking sites has exponentially increased, especially among adolescents and young adults, which can lead to these social networking sites becoming the primary medium by which adolescents receive their information. This study uses the National Study of Youth and Religion (NSYR) 2007-2008 Wave 3 to examine how social networking usage affects levels of materialism within young adults (aged 18-24). Results suggested that a statistically significant relationship exists between social networking usage and materialism. Forthcoming implications of this work include a deeper understanding of the social processes involved as materialistic cultures develop and grow through widespread usage of social networking around the world. Future generations may be impacted as larger populations become increasingly materialistic, impacting many facets of their social life, including marriage, jobs, charitable donations, and lifestyle choices.

### Sociology

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Bradon Valgardson

6:15 pm

#### **No Job No Crime**

In this paper the influence of unemployment on crime is examined. Using the theory of Anomie it is theorized that an increase in unemployment will cause an increase in crime. This is due to the decrease in structure in one's life as they become unemployed. It was found through running a linear regression on state level data that there is no significance between the two variables. What was found, however, was that poverty is more influential on crime rates. With this research we discover that the efforts to fighting crime due to economic reasons should be focused on poverty not just unemployment.

### **The Use of Filler Words: An Analysis of Formal, Informal, and Casual Speaking**

The study looked at the use of filler words such as um, ah, and eh in various speaking situations. The situations analyzed were formal, informal, and casual. The students in each situation were given a 1-minute speech prompt without preparation regarding their opinion toward the Honor Code at Brigham Young University---Idaho. The formal group participants gave their speech in front of 5 audience members. The informal group gave their speech in front of one audience member. The casual group presented their opinion while sitting down in front of one listener. The results of the study had no statistical significance.

## Political Science

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### **Has the Free Market Failed Sub-Saharan Africa?**

The Washington Consensus argued that the adaptation of liberal economics and of free markets held curative keys to the developmental setbacks of the underdeveloped world. Decades have passed since the promotion of this theory, and while plenty of evidence confirms its success in providing greater economic opportunity, lowering inflation and enhancing productivity in some nations, the developing world continues to be plagued by poverty, inequality, political unrest, and economic instability. By measuring economic freedom against poverty, corruption, and other variable assessing development, the following research seeks to reveal whether or not the application of the Washington Consensus has brought about its desired outcome in sub-Saharan Africa, a region rich in natural resources but stunted in growth. In focusing on this region, we assess the success of the Washington Consensus on the world's least developed and most disadvantaged population, thus proving whether the revered theory has earned its validity or should be revised in order to adequately meet the needs of developing nations.

Sarah Reid  
Arianna Fender  
TJ King  
Indiea Gelb

7:00 pm

### **Are eating disorders a problem at BYU-Idaho among women?**

Eating disorders are becoming more commonplace among young women—many of which may not know they have an issue within this sphere. Young women attending BYU-Idaho were surveyed a series of questions assessing whether they consider themselves to have an eating disorder, whether they believe it is a problem among women at BYU-Idaho, and their habits involving media. It was discovered that most don't perceive themselves as one having an issue with eating and also believe that it isn't a large problem at BYU-Idaho. Overall, the participants' media viewing habits do not correlate with many of the trends among young women within the same demographic. However, many of the participants also admitted to having eating habits differing from their friends. It was also found that many don't know what an eating disorder is and what to do if a friend or roommate has an eating disorder.

## Oral Session A: Arts and Literature

### English

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Clifton Ward

6:00 pm

#### I, Poor I, the Rake

“My Inner Eudora Coming into Frost”

-This poem goes through some of the thoughts of a woman while she is walking through a wooded path in late Autumn. She is repenting of some sin or sins we don't know of and both envies and regrets the perfection of trees. The poem ends with the fate of trees and her continuing down the path. The poem is inspired by the passion of Irish poetry and drama.

”A Portrait to Lament”

-This poem describes the view from a cabin window of aspen leaves in Autumn. It is an uncharacteristically personal poem for me, during which I am in awe of nature and regret not having my wife there to see it with me. It is a poem that is entertaining on the surface, full of beautiful imagery; but its real value is in metaphor and ambiguity.

”A Reading of Tolkien’s Tree and Leaf”

-This poem is my interpretation of J. R. R. Tolkien’s essay “”On Faerie Stories.”” It is written in a set rhyme scheme and gives an explanation of what I believe Tolkien meant by the term “”faerie.”” It is a short poem that is more for fun than anything else; but it has the feel of 19th century poets such as Tennyson or Browning and is therefore a pleasant thing to read and especially listen to.

### English

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William Gibbs

6:15 pm

#### Jesus Christ and Emily Dickinson: The Damned Duo in “Success Is Counted Sweetest

Emily Dickinson’s poem “Success Is Counted Sweetest” presents the image of a defeated soldier who, at the moment of his death, finally understands victory. Interpretations of the poem invariably explore compensation and defeat. Though recent readings take a moralistic approach to “Success Is Counted Sweetest,” such as Richard Wilbur’s idea that in the poem “a material gain has cost . . . a spiritual loss” (14), most fail to assign any religious connotation to the poem. I assert that “Success Is Counted Sweetest” employs Christian imagery to produce a scathing critique of believers: that in actuality they fail to comprehend their own salvation. The poem defines success as salvation, then carefully excludes believers who attain salvation (the victorious “purple host”) from understanding success.

attain salvation (the victorious “purple host”) from understanding success. Instead, only those who are forever damned from salvation comprehend the victorious suffering of Christ. Dickinson viewed herself as a lost cause to Christianity, and Christ from a Calvinist view was exempt from salvation. Thus, Dickinson classifies herself as truly understanding victory—with Christ as a fellow sufferer—in that the Christ and the damned are the only ones who understand the full cost of salvation.

## English

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Tanner Burke

6:30 pm

### Hopeful Exiles- a Happy Ending

Lois Lowry’s *The Giver* is a great example that illustrates Fay Weldon’s quote of happy endings of stories when she says “The writers, I do believe, who get the best and most lasting response from readers are the writers who offer a happy ending through moral development. By a happy ending, I do not mean mere fortunate events—a marriage or a last-minute rescue from death—but some kind of spiritual reassessment or moral reconciliation, even with the self, even at death.” Even though *The Giver* ends with exile and chaos it embodies this quote wholly.

## English Education

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Meghan Stroschein

6:45 pm

### Grace upon the Narcissist

My research paper concerns several short stories written by Flannery O’Connor and her literary motivations. Through my research I learned that Miss O’Connor wrote her stories in response to the religious apathy of the 1950s. In my paper I show how she uses the absurd to shock her characters into a state of introspection. Flannery O’Connor pushes her characters to come face to face with the inner, ugly self. In this way she also asks the reader to question what he or she believes. I support my thesis with examples from the text and quotations from eleven different authors of literary criticisms on the works of Flannery O’Connor.

## **Hybrid Learning: New Technology Empowering Old Methods in the Composition Classroom**

With the increase in technology and its use in society, it has become ever more important that educators understand and learn how to utilize this technology to help them meet the needs of all students. That being said, a new and relatively young teaching technique of hybrid learning has been born. This hybrid learning is an educator's answer to all the uncertainty that lies ahead. With hybrid learning, we are able to give students that same cognitive and teaching experience as we have before. However, with hybrid learning, we are able to introduce a new way of helping our students achieve the social aspect of learning. This kind of course is very successful because it contains all of the elements of successful classroom learning. It teaches students how to be lifelong learners, and it allows for individual time with students, giving professors the chance to help students specifically on what they are struggling with. Throughout my presentation I will introduce the three elements of successful learning and, in depth, I will explain how the implementation of hybrid courses will help educators be better prepared for the arising, technologically savvy generation.

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