7th ANNUAL PROVOST'S HONORS SYMPOSIUM

FOR RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITY

May 5, 2017

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WELCOME

WELCOME TO THE SEVENTH ANNUAL PROVOST'S HONORS SYMPOSIUM FOR RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITY.

Thanks to the generous support of **Provost Patricia Kleine** and the **Office of Research and Sponsored Programs**, we can offer this wonderful annual event: an opportunity for selected students to present their top- notch work in a professional conference format.

This year the Provost's Honors Symposium will showcase 90 students presenting 46 research, scholarly, and creative projects in over 24 disciplines.

Participants in the Provost's Honors Symposium are nominated each year by their UW–Eau Claire faculty mentors or major departments. Finalists are selected by the University Honors Council, a committee that includes three University Honors students, faculty representatives from each of the UW–Eau Claire colleges, and University Honors staff:

- Emily Elsner Twesme, College of Business
- Sarah Ericson, Honors Living Learning Community representative
- Erik Hendrickson, College of Arts and Sciences
- Elizabeth LeMay, Honors Student Steering Committee
- Vicki Samelson, College of Education and Human Sciences
- Rita Sperstad, College of Nursing and Health Sciences
- Ashley St. Aubin- Clark, President, Honors Student Steering Committee
- Jeff Vahlbusch, Director, University Honors Program

In founding and organizing the annual Provost's Honors Symposium for Research, Scholarship, and Creative Activity, the University Honors Program is happily pursuing one of its four main goals: We "promote and support intellectual and scholarly achievement, great teaching, and student- faculty collaboration across the university."

We thank you for supporting the outstanding students presenting here today, and their outstanding faculty and staff mentors!

Jeff Vahlbusch

Director, University Honors Program

PROVOST'S RECEPTION

All Presenters, Attendees, Faculty, Staff, Students, and Community Members are Invited!

Join Provost Patricia Kleine

for her reception following the presentations at 5:30 p.m.

Dakota Ballroom

Hors d'oeuvres and refreshments will be served.

A SHORT PROGRAM WILL START AT 5:45 P.M.

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3. Impact of Gold and Silver Nanoparticles on Structure and Catalytic function of Escherichia coli Prolyl- tRNA

MENOMINEE

4. Investigating Language Perceptions in the Upper Midwest with Geographic Information Systems (GIS)
5. Developing Global Competencies and Global Capacities in Two Teacher Education Programs through International Collaboration.
6. Globalization in China: Developing Language and Cultural Understanding Through Study Abroad

HO- CHUNK

7. They Obviously Didn't Stand a Chance: Hindsight Bias in Judgments of a Dating Couple
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CHANCELLORS

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CENTENNIAL

13. Monitoring Organelle- Specific Responses to Amphotericin B in Mammalian Cells and Candida albicans Biofilms
14. Zebrafish, C. elegans, and Human Polycystic Kidney Disease: Identifying Disease Biomarkers Through Comparative Analysis
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MENOMINEE

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21. Fact or Fiction: School Psychologists' Beliefs about Child Psychology Myths

CHANCELLORS

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CENTENNIAL

24. Surface and Ground Water Chemistry of Western Wisconsin: Establishing an Environmental Baseline
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MENOMINEE

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HO- CHUNK

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CHANCELLORS

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35. Evaluation of an Alternative Teaching Method: Use of an Innovative Visual Analysis to Interpret Arterial Blood Gases with Undergraduate Nursing Students

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CENTENNIAL

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HO- CHUNK

42. Identifying the Great Synagogue of Vilna in Vilnius, Lithuania
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CHANCELLORS

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PRESENTATIONS

SESSION I: 1:00 – 2:00 P.M.

CENTENNIAL ROOM

Moderators: Leah Martinez & Clorice Reinhardt

1. STUDYING ADENYLATE FORMATION IN PROLYL- TRNA SYNTHETASE USING QUANTUM MECHANICAL/MOLECULAR MECHANICAL SIMULATIONS

   Presenter: Huakun Hu

   Faculty nominators: Sudeep Bhattacharyay and Sanchita Hati, Chemistry

Prolyl- tRNA synthetases catalyze the covalent attachment of proline onto its cognate tRNA. This reaction is indispensable to protein synthesis in all living organisms. The protein structure comprises a number of domains. The intrinsic movement of these domains in these proteins are known to be critical to their catalysis. However, there is still limited information regarding how dynamics help these enzymes to achieve their enormous rate enhancement. In order to better understand the molecular mechanism of the interplay between dynamics and catalysis, a quantum mechanical/molecular mechanical simulation- based approach has been employed in our study. In particular, this hybrid methodology has been used to model and compute energetics of the adenylate formation reaction in enzymes as well as in the enzyme- free (aqueous) system. The preliminary results of the study, including the energetics of the catalysis for the wild type and several mutations of E. faecium prolyl tRNA synthetase, will be presented.

2. ASSESSMENT OF METALLOGRAPHIC SAMPLE PREPARATION TECHNIQUES FOR $BI_2SR_2CACU_2O_{8+X}$ (BI- 2212) MULTIFILAMENTARY ROUND WIRE

   Presenter: Sarah Sortedahl

   Faculty nominator: Matthew Jewell, Materials Science and Engineering

Ongoing advances in high energy physics depend on developing superconducting magnets capable of producing magnetic fields in excess of 20 Tesla. Superconducting $Bi_2Sr_2CaCu_2O_{8+x}$ (Bi- 2212) is a strong candidate material because it can be manufactured into a round wire. Bi- 2212 wires contain brittle

superconducting filaments embedded in a soft silver matrix. Unfortunately, the performance of Bi-2212 can degrade during operation due to filament fracture.

Here, a series of sample preparation techniques were developed to study the microstructure of Bi- 2212 wire to understand how Bi- 2212 responds to mechanical loading. It was found that deep etching the silver is a gentle method to observe Bi- 2212 filaments both internally and externally. Additionally, our improved vibratory polishing techniques remove material from the wire gently, while a new attack polish is a quick and effective method that etches the silver and polishes the filaments concurrently. Each of these methods allows for a different view of the B- 2212 filaments. This systematic study provides confidence for the subsequent analysis of these brittle Bi- 2212 wires.

3. IMPACT OF GOLD AND SILVER NANOPARTICLES ON STRUCTURE AND CATALYTIC FUNCTION OF ESCHERICHIA COLI PROLYL- TRNA SYNTHETASE

Presenters: Olivia Hurst, Stanford Mitchell

Faculty nominator: Sanchita Hati, Chemistry

Gold and silver nanoparticles have great potential in the field of biomedicine. However, their use may result in hazards for the environment and human health. Consequently, research from myriad disciplines is required to investigate interactions between nanoparticles and biomolecules. Little is known about the impact of nanoparticles on the structure and function of aminoacyl tRNA- synthetases (AARS), a family of enzymes crucial for life. Therefore, it is imperative for researchers to study the impact of commonly used nanoparticles (gold and silver) on AARS structure and catalysis. Nanoparticle interactions with Escherichia coli prolyl- tRNA synthetase are being explored in our laboratory using fluorescence spectroscopy, nonradioactive and radioactive kinetic studies. Results from our spectroscopic and kinetic studies will be presented.

MENOMINEE

moderators: Cassie Hampshire & Tyler Mathiowetz

4. INVESTIGATING LANGUAGE PERCEPTIONS IN THE UPPER MIDWEST WITH GEOGRAPHIC INFORMATION SYSTEMS (GIS)

Presenter: Anneli Williams

Faculty nominator: Erica Benson, English

In this multidisciplinary project, we investigate the language attitudes of the Upper Midwest using the "draw- a- map" data- gathering method common to folk linguistics, specifically perceptual dialectology (e.g., Preston 1986), and data analysis techniques common to Geography involving Geographic Information Systems (GIS), which has only recently been applied to perceptual dialectology. We explore what perceptions of dialect areas (i.e., mental maps) residents of the Upper Midwest hold and how the representations of boundaries on the "draw- a- map" task (e.g., bold solid lines vs. light dotted lines) affect the number and nature of respondents' representations of their mental dialect areas.

5. DEVELOPING GLOBAL COMPETENCIES AND GLOBAL CAPACITIES IN TWO TEACHER EDUCATION PROGRAMS THROUGH INTERNATIONAL COLLABORATION.

Presenters: Jenna Gasner, Nathan Holz, Joel Newman, Magdelena St. Ores

Faculty nominators: Carmen Manning, Dean College of Education and Human Sciences and Eric Torres, Educational Studies

This action- research collaborative project is a qualitative and quantitative comparative study of two successful multicultural and intercultural experiences in Peru. Through service- learning as a teacher aid, ethnographic observation, surveys, interviews, critical reflection, and narrative inquiry, student researchers made an abstraction of both their Peruvian students' and their own global learning experiences. Our challenge was to translate increased awareness about race, culture, intercultural relations, language difference, power, and identity in the global commons into effective teaching practices conducive to the development of individual global competencies and institutional global capacities. Additionally, student researchers identified key curricular elements to be considered in a Diploma of Specialization in Global Learning to be designed and implemented as a joint effort and under a strategic alliance between UWEC's and Pontificia Universidad Catolica del Peru's teacher education programs.

6. GLOBALIZATION IN CHINA: DEVELOPING LANGUAGE AND CULTURAL UNDERSTANDING THROUGH STUDY ABROAD

Presenters: Amanda Bower, Katelyn Kannel

Faculty nominator: Kaishan Kong, Languages

Drawing from multiple bodies of literature on sociocultural perspectives (Lantolf, 2000; Vygotsky, 1978), transformative learning (Mezirow, 2000), and study abroad, this qualitative case study investigates how a short- term immersion study abroad program in China has helped American students to develop their understanding of Chinese culture and inspired them to reflect on their own culture. In particular, this study explores how extracurricular activities, including learning partners and social interactions in local communities, have made an impact on participants' language and cultural understanding. Multiple data sources include semi- structured interviews, participants' journals, reflection papers and on- line blogging. Using conversation analysis and ethnographic analysis, the researchers discover several preliminary themes, including (1) participants' appreciation of learning partners to help them learn more about the culture on a more personalized and local level; (2) participants' appreciation for Chinese collectivist ways of thinking through conversations; (3) participants' development of critical perspectives on the target culture and home culture; and (4) participants' motivation for language learning and future careers.

HO- CHUNK

moderators: Jessica King & Laura Wilson

7. THEY OBVIOUSLY DIDN'T STAND A CHANCE: HINDSIGHT BIAS IN JUDGMENTS OF A DATING COUPLE

Presenters: Michaela Gunseor, Jenna Maly, Paige Shafer

Faculty nominator: April Bleske- Rechek, Psychology

When a romantic relationship ends, individuals often look back and wonder what they could have done differently. What is clear in hindsight, however, may have been unclear in foresight (Fischhoff, 1975). We investigated the effects of outcome knowledge on individuals' judgments of a romantically involved couple. In two studies (N = 181 college students, N = 334 community adults), participants read about a couple with an uncertain relationship trajectory; some participants subsequently received knowledge about the couple's status six months down the road, while others did not. In both studies, individuals who were told the dating couple broke up perceived that outcome as more likely and as more obvious than did individuals who were not given outcome knowledge or who were told the couple stayed together. Further, participants who were told the dating couple broke up judged the relationship more negatively than did participants who were told the couple stayed together. Overall,

our findings suggest post- breakup blame may be unwarranted because individuals cannot expect to know in foresight what becomes clear in hindsight.

8. DOES LIMITED ACCESS TO SUCROSE ALTER DOPAMINE FUNCTION IN RATS?

Presenters: Damin Hadorn- Papke, Morgan Marek, Adam Moline

Faculty nominator: David Jewett, Psychology

Daily but limited access to sugar results in "binging" in rats. The excessive sugar intake increases dopamine function in the brain. We wondered if sucrose access alters the discriminative stimulus effects of haloperidol. Rats were given 12- hour access to sucrose solutions and daily injections of haloperidol [0.056 mg/kg, 30 min pretreatment time (PT)] or saline. Training occurred in two- choice operant chambers with condition- appropriate lever presses reinforced with food pellets. Haloperidol was established as a discriminative stimulus in 4 subjects with chronic, intermittent sucrose access (M= 49 sessions) and 5 of 6 subjects with 24- hour water access (M= 82 sessions). Consistent with O'Donnell (1989), haloperidol significantly reduced rates of lever pressing. We found slower acquisition than the previous study where subjects with 24- hour water access learned the discrimination (M= 45 sessions). To address haloperidol's rate- suppressing effects, we decreased the training dose to 0.032 mg/kg (rate suppression persisted) and 0.018 mg/kg (undifferentiated responding). Recently, we increased the PT to 1 hour. Under these conditions, haloperidol no longer produces rate- suppressing effects, and subjects have begun reacquiring the discrimination.

9. DEVELOPMENT OF A RAPID DELAY DISCOUNTING PROCEDURE IN RATS

Presenters: Allyson Salzer, Eric Markham, Janel Balsavich

Faculty nominator: Carla Lagorio, Psychology

Delay discounting describes how the value of a desired outcome can diminish over time as its receipt is delayed. It is casually described as one's level of impulsivity, and has been studied in many species from pigeons to people. Much of what is known about delay discounting comes from animals – such as how impulsivity changes across the lifespan, or how it is impacted by environmental variables such as substance use. However, procedures used to assess discounting can be time- consuming to conduct. Our lab has been examining the validity of a novel abbreviated procedure that can be used to generate discounting scores in rats in as little as one to two weeks. Groups of rats have been exposed to each of three procedures in counterbalanced order to further examine how scores align. Results indicate good correspondence between the standard procedure and our brief variant. Ideally, results from the novel procedure can lend confidence in using abbreviated discounting assays when examining potential correlates with other time- sensitive variables in behavioral, pharmacological, or aging research.

CHANCELLORS

moderators: Cailyn Alexander & Kathryn Bartel

10. STUDENT AND INSTRUCTOR ATTITUDES AND LANGUAGE USE CONCERNING INDIVIDUALS WITH DISABILITIES

Presenters: Elayne Hansen, Madeline Miller

Faculty nominator: Debbie Elledge, Communication Sciences & Disorders

This study investigates the language used by university students and instructors regarding individuals with disabilities. Language is powerful, and may influence perceptions, including those surrounding disabilities. The use of person-first language when discussing individuals with disabilities can display awareness and respect. Identity- first language, however, is often used for brevity and clarity. Growing

numbers of individuals with disabilities are seeking higher education, and language used at universities can impede or promote feelings of equity and inclusivity. Part one of the study focuses on students at the University of Wisconsin- Eau Claire, while part two focuses on instructors. In part one, students respond to a Qualtrics survey. In part two, one researcher interviews university instructors. For both, participants answer questions about their attitudes toward disabilities and the language used to describe them. Results may be used to inform the University of Wisconsin- Eau Claire's initiative for equity, diversity, and inclusivity.

11. EVALUATING THE EFFECTS OF INSTRUCTIONAL INTERNS ON FACULTY AND STUDENTS

Presenters: Ashley Crumb, Kelsey Weberg

Faculty nominator: Abby Hemmerich and Jerry Hoepner, Communication Sciences & Disorders

Instructional interns, similar to teaching assistants, play a major role in Communication Sciences & Disorders undergraduate courses. Previous research has examined the effects of this hands- on, mentored teaching approach on the interns themselves. However, the impact on the faculty teaching the courses and the students enrolled in the courses has not yet been assessed. Two student researchers have designed a two- phase study to examine the effects of the instructional interns on both faculty and students. In phase one, a short survey was sent to all faculty and all undergraduate students in CSD to gather information about how instructional interns participate in and out of the classroom. Phase two included a focus group of faculty and a focus group of students to gather qualitative data regarding the impacts of instructional interns. Both positive and challenging ways that instructional interns are involved in the courses will be discussed and may provide a model for other disciplines to consider ways to assist faculty workload and student learning.

12. PORTABILITY OF THE SANDWICH MODIFIED FLIPPED CLASSROOM APPROACH IN INFORMATION SYSTEMS

Presenter: Olivia Vruwink

Faculty nominator: Jerry Hoepner, Communication Sciences & Disorders and Jean Pratt, Information Systems

The present investigation examined the portability of a modified flipped classroom approach called the Sandwich approach. The Sandwich approach arose out of the work of faculty in Communication Sciences and Disorders (CSD) given some shortcomings of the standard flipped classroom approach. A long- term study in CSD revealed better outcomes concerning exam grades, student confidence, and conceptual knowledge in a neuroanatomy course compared to traditional and flipped methods. The present study seeks to replicate those comparisons and implementation of the teaching method within an information systems (IS) course. While early data suggests some resistance to the new instructional methods, student confidence and performance is improving. The mixed methods investigation uses qualitative analysis of student evaluation comments, performance confidence ratings from exams and projects, and exam/project grade performance within a Sandwich- modified flipped classroom to compare outcomes from prior semesters, which used traditional and flipped approaches. Along with outcomes of the intervention in IS, challenges associated with transferring the approach from another discipline that teaches fundamentally different content and skills, will be discussed.

SESSION II: 2:10 – 3:10 P.M.

CENTENNIAL moderators: Leah Martinez & Clorice Reinhardt

13. MONITORING ORGANELLE- SPECIFIC RESPONSES TO AMPHOTERICIN B IN MAMMALIAN CELLS AND CANDIDA ALBICANS BIOFILMS

Presenter: Claudia Tourville

Faculty nominators: Scott Bailey- Hartsel and Warren Gallagher, Chemistry

The use of indwelling medical devices such as catheters or dentures in combination with immunosuppressive therapies increase the body's susceptibility to fungal infections as a pathway to life- threatening systemic infections. In particular, Candida albicans, an opportunistic pathogen existing in the normal microbial flora, can produce serious systemic infections. We have developed and deployed a series of our own naphthalimide- based fluorescent probes targeted to mitochondria, lysosomes, and the Golgi apparatus to monitor organelle vitality in real time. The brightness, chemical and photo- stability of our organelle probes allows us to image live cells in their appropriate culture media to observe cellular responses to drug treatments. Thus far we have found that Amphotericin B, especially Fungizone, leads to depolarization of mitochondria in some human cell lines while having little acute effect on mitochondria in Candida albicans biofilms. Gaining this intracellular perspective on cell health will open doors for the optimization of antifungal drugs through pinpointing their effective mechanisms against fungi while minimizing cellular casualties resulting from organelle decline.

14. ZEBRAFISH, C. ELEGANS, AND HUMAN POLYCYSTIC KIDNEY DISEASE: IDENTIFYING DISEASE BIOMARKERS THROUGH COMPARATIVE ANALYSIS

Presenter: Samantha Meyer

Faculty nominator: Jamie Lyman Gingerich, Biology

The focus of this project is to identify the genes and pathways involved in polycystic kidney disease. Currently there is no cure for the disease, but this research could aid in the understanding of symptom progression and early identification of disease symptoms. This project brought together two large genetic datasets, one from *C. elegans* and the other from zebrafish, to identify genes potentially involved in human disease progression. We mined, refined, and compared the datasets, asking different questions each time to compile a diverse set of information on the genes. In conjunction with these analyses, we compiled a list of zebrafish orthologs to *C. elegans* genes that affect the localization of the PKD- 2 protein. This phase of the project established a list of genes potentially linked to symptom progression. The next step will be to investigate these genes through manipulation of the genes themselves in the model organisms: we will ask when and where these genes are expressed to develop a clearer understanding of their true functions and relationship to polycystic kidney disease.

15. COURSE DEVELOPMENT: BUILDING AN ADVANCED CELL/MOLECULAR LAB AS UNDERGRADUATE RESEARCH

Presenters: Hannah Anderson, Katelin Viesselmann

Faculty nominator: Jamie Lyman Gingerich, Biology

A new approach to course development was performed to revamp an advanced cellular/molecular biology course. The unique aspect of this approach was that the research was done by two

undergraduate biology students with different educational and skill levels. The eight- week project involved two major sections in which preexisting lab protocols were revised and altered to fit the needs of the University of Wisconsin- Eau Claire Biology department. The aspects of the labs that were explored were the learning capacity of the students, approachability of the lab protocols, and the resource availability of the Biology department. The course development involved executing and modifying experimental procedures that were made possible by the close collaboration of students and faculty. To test the effectiveness, pre- and post- surveys were administered to the preliminary class. The research provided valuable instructional materials that can be understood by faculty and undergraduate students, as well as course goals and a timeline.

MENOMINEE moderators: Cassie Hampshire & Tyler Mathiowetz

16. AN APPLICATION OF LEGAL HERMENEUTICS

Presenter: Austin Auleta

Faculty nominator: Matthew Meyer, Philosophy & Religious Studies

The goal of this paper is to apply ideas from the field of Hermeneutics (the study of interpretation) to legal interpretation. The paper does three things: one, it reviews the various theories in which the law is understood to be an interpretable thing. Two, it shows how these theories apply to various understandings of Constitutional Interpretation. Three, it offers some ways in which these questions of legal interpretation will be particularly relevant to the political climate today.

17. BEING THE STREAM: THE POETICS OF GARY SNYDER

Presenter: Emilio Taiveaho

Faculty nominator: José Alvergue, English

In 1974, amidst the blooming of North American grassroots activism and before words like “anthropocene” or “ecocriticism” entered the stream of popular discourse, poet Gary Snyder mapped a vision of our planet that went beyond human vantage points and accounted for the diversity, vastness, wildness, and interdependence of the natural world. Rejecting the ecologically destructive aspects of industrial civilization and commonly accepted definitions of the “human,” Snyder was among many late- twentieth century American poets who turned away from Eurocentric intellectual traditions in search of new ways of thinking and living. Recognizing contemporary concerns about global climate change and impending ecologic disasters, this research approaches the life and work of Gary Snyder as a bridge between the arts and science—and as a significant site to develop an understanding of a unique “American Environmentalist Poetry.”

18. REDUCE, REUSE, RECYCLE: A SNAPSHOT OF HUMAN TURBULENCE PARALLELING THE WINTER OF DISCONTENT AND JOY DIVISION

Presenter: Courtney Pagel

Faculty nominator: Bob Nowlan, English

The media is a powerful and nearly inescapable force within our world today. It can unite citizens across social and political boundaries while acting as a historic source of information. However, the media also has extraordinary power in that it can represent ideologies that contribute to the happiness or discontent of its viewership. This presentation is a comparison of media crisis response to social and political turbulence between the Winter of Discontent and the immediate aftermath of the 2016

presidential election. The presentation will use the critical theories of Louis Althusser and cognitive distortion to explain human tendencies to react exaggeratingly to drastic social and political change while also using these perspectives to examine crisis rhetoric in the music of the British post- punk band Joy Division. Through examples from the media, this presentation draws parallels between the socio- political attitudes of Great Britain's Winter of Discontent and the United States during the 2016 presidential election. It shows how themes of frustration, anxiety, and loneliness appear in music as well as a country's citizens and its media, perpetuating feelings of helplessness and doom despite the potential for change.

HO- CHUNK

moderators: Heather Weise & Brittany Zine

19. IMPACT OF AN UNDERGRADUATE HONORS COURSE IN SUICIDE PREVENTION

Presenters: Spencer Morgan, Sophia Thoen

Faculty nominator: Jennifer Muehlenkamp, Psychology

The current project used a quasi- experimental design to evaluate the short- and longer- term impact of participating in the Honors course *Understanding Suicide* on students' knowledge, characterization of suicide attempters, stigma towards suicide, and willingness to advocate for suicide prevention in the community. Students voluntarily completed an online survey assessing the variables of interest before/within the first week of classes and during the last week of classes, and 3- months after the class ended. Repeated measures ANCOVAs were conducted, identifying significant interactions between group (class enrollment) and knowledge (F (1, 18) = 46.35, $p < .01$, $\eta^2 = 0.72$), attitudes (F (1, 18) = 3.20, $p = .09$, $\eta^2 = 0.15$). Positive effects of taking the understanding suicide class were observed and maintained over the 3- month follow- up period. These results indicate that offering undergraduate education on suicide prevention has a positive effect on students and may help strengthen future community suicide prevention efforts as these students become professionals and contributing citizens.

20. COLLEGE STUDENTS' PERCEIVED LEVELS OF OVERPARENTING, SELF- COMPASSION, AND PERFECTIONISM

Presenters: Casey Hoffman, Nick Peterson, Danielle Rockwell, Sam Schwiebert

Faculty nominator: Mary Beth Leibham, Psychology

This study examines UWEC students' perceptions of overparenting as they relate to their reported levels of self- compassion and perfectionism. While parent involvement has been linked to many positive young adult outcomes (e.g., autonomy, positive peer relations), recent research has highlighted potential negative outcomes (e.g., maladaptive perfectionism, anxiety) of excessive levels of parent involvement (i.e., overparenting). We are particularly interested in exploring college students' perceptions of overparenting to determine if overparenting is indeed an increasing trend. Further, we are interested in exploring the links among overparenting, self- compassion, and perfectionism, since all three variables have been linked to college students' well- being.

21. FACT OR FICTION: SCHOOL PSYCHOLOGISTS' BELIEFS ABOUT CHILD PSYCHOLOGY MYTHS

Presenters: Casey Hoffman, Joseph Latimer, Anna Weber

Faculty nominator: Michael Axelrod, Human Development Center/Psychology

There are a great number of ideas in child psychology that have been largely discredited (Norcross, Koocher, & Garofalo, 2006). The purpose of this study was to investigate school psychologists' beliefs about child psychology myths and research- supported facts. Participants included 150 practicing

school psychologists from the upper Midwest. We administered the Opinions about Kids Scale (OAKS) using an online survey tool. The OAKS is a 52- item survey developed by Hupp and colleagues (in submission) asking respondents to rate their level of agreement on 26 statements containing child psychology myths (e.g., "the Attachment Parenting approach strengthens the mother- infant bond," "too much sugar causes most children to be hyperactive") and 26 statements supported by research (e.g., "most people don't remember much before the age of three years- old," "children sometimes need to learn how to face their fears"). School psychologists participating in this study generally agreed with research- supported statements about child psychology and disagreed with statements containing child psychology myths. However, there were several noteworthy myths that school psychologists agreed with that might impact practice.

CHANCELLORS

moderators: Elizabeth LeMay & Josh Stringer

22. EMBEDDED CLINICAL EXPERIENCES: AN APPRENTICESHIP MODEL FOR CONNECTING CLINICAL AND COURSE LEARNING

Presenters: Beatrice Gretzinger, Lauren Pakanich, Megan Vogelsang

Faculty nominators: Jerry Hoepner and Tom Sather, Communication Sciences & Disorders

This study evaluated the impact of embedded clinical experiences (ECE) on student learning outcomes in an Adult Aphasia course as part of the Communication Sciences and Disorders department. Embedded clinical experiences provide an opportunity to support course learning through out- of-classroom opportunities, allowing the students to incorporate course knowledge via these contextual, clinical experiences. Students work alongside the course instructor and clinical supervisors in an apprenticeship model. This model provides opportunities to apply knowledge and skills learned within class and some which have not been directly addressed in the class at the point of the ECE. While the ECE has reciprocal benefits among students, faculty, individuals with aphasia and their care partners, the present investigation measures student learning outcomes (i.e., perceptions regarding learning and changes to their knowledge and skills). Researchers analyzed group student debriefing reflections, individual student reflections, attendee surveys, and faculty reflections. Researchers used thematic qualitative analysis to identify the impact of the ECE on student- learning outcomes and perceptions of community members who participated in this embedded clinical experience.

23. ANTICIPATED COMPLIANCE AND QUALITY OF LIFE MEASURES FOR INDIVIDUALS CONSUMING THICKENED LIQUIDS: PERCEPTIONS OF TASTE, TEXTURE, PALATABILITY, AND ENJOYMENT GIVEN BEVERAGE APPEARANCE

Presenter: Jillian Utz

Faculty nominator: Jerry Hoepner and Tom Sather, Communication Sciences & Disorders

Thickened liquids are frequently used as a dietary modification for individuals with impaired swallowing. The present study addressed the (a) effect appearance has on perceived taste, texture, palatability, and enjoyment of thickened liquids, (b) perceived degree thickened liquids affect quality of life with respect to a duration of time in which the individual is asked to consume the liquid. The effect of appearance on perceived taste and enjoyment of thickened liquids has little empirical evidence, despite being a common treatment for dysphagia. Additionally, the effect thickened liquids have on quality of life has not been well- studied. Thickened apple juice was presented in masked /un- masked trials. Participants were prompted to taste and rate it for a number of factors. Following trials,

participants were asked to predict their degree of compliance to drink thickened liquids for various durations. Participants were asked to rate their perceived quality of life based on the duration of thickened liquid intake. Finally, participants were asked to describe the extent drinking thickened liquids would have on their life. Mixed methods were used to analyze outcomes.

SESSION III: 3:20 – 4:20 P.M.

CENTENNIAL moderators: Sarah Mackowski & Danielle Wojtak

24. SURFACE AND GROUND WATER CHEMISTRY OF WESTERN WISCONSIN: ESTABLISHING AN ENVIRONMENTAL BASELINE

Presenters: Sam Bartnik, Derek Lindquist, Carly Mueller, Adam Wiest

Faculty nominators: J. Brian Mahoney and Stephen Sellwood, Geology

The dramatic expansion of silica sand mining in western Wisconsin has generated immense public concern about the potential environmental impact mining has on surface water and ground water. A regional chemical analysis of surface water and groundwater trace metal values, coupled with an understanding of trace metal mobility, provides industry, state regulators, and the general public with information that is crucial to the realistic assessment of environmental impact of industrial sand mining, and confidence that proposed regulations are sufficient to monitor such impacts.

This investigation is designed to establish a comprehensive environmental baseline documenting background variations of over 25 trace metals in surface water and groundwater throughout the region. The study area closely mimics the distribution of sand mines in western Wisconsin in order to discern possible impacts from the industry. Trace metal values (e.g. arsenic, lead, cadmium, zinc, chromium) of natural waters are well below federal drinking water standards. Regional geochemistry and sequential extraction analysis will constrain the concentration and mobility of trace metals in the geologic formations in the region.

25. THE CAUSE OF COLOR VARIATION IN WATERMELON TOURMALINE: INSIGHTS FROM INFRARED SPECTROSCOPY

Presenters: Eric Brinza, Kyle Tollefson

Faculty nominator: Phil Ihinger, Geology

Watermelon tourmaline is known for its dramatic and vivid pink- to- green color transition within single gemmy crystals. Two contrasting mechanisms can account for the cause of this color variation. One theory advocates that the different colors reflect the changing chemical conditions while the crystals were growing. That is, pink regions in the core of the crystal incorporated pink coloring agents early in their growth, while later, outer regions of the crystal formed while incorporating green coloring agents as they grew. In contrast, a second mechanism that can explain the color variation invokes chemical diffusion after crystal growth. That is, the crystal grew with pink coloring agents, and subsequent thermal soaking then resulted in either the progressive loss or gain of certain coloring agents that resulted in the observed zoned color sequence. Here, we present results using high- resolution infrared and visible spectroscopy to offer insights into this question. Our preliminary results on two samples (collected from Afghanistan and Brazil) do not show clear diffusion profiles either to the prism or to the terminus faces, casting doubt on the potential that post- crystallization diffusion processes created the color variation in natural tourmaline crystals.

26. GROWTH EVOLUTION OF HIGH TEMPERATURE, HYDROTHERMAL ALPINE QUARTZ CRYSTALS

Presenters: Eric Brinza, Billy Fitzpatrick

Faculty nominator: Phil Ihinger, Geology

We examine the morphologic evolution of a quartz crystal sampled from a hydrothermal vein in the Lepontine Zone of the Swiss Alps. The crystal is significant in that it comprises six distinguishable sector zones when observed in cross- polarized light. These zones are the direct result of variable growth on the six distinguishable terminus faces of the crystal. High- resolution Fourier Transform infrared spectroscopic analyses show clearly defined absorption peaks that correspond to the hydrous impurities LiOH, HOH, and AlOH. The concentration of each impurity is proportional to the absorbance measured at each diagnostic wavelength in the infrared spectrum. The impurity abundances within and across the sector zones map out the uptake (during growth) and subsequent diffusion (following growth) histories associated with each sector. Here, we show that vertical (parallel to the c- axis) and horizontal (perpendicular to the c- axis) gradients in impurity concentrations portray the growth and subsequent thermal evolution of this particular crystal in its host hydrothermal environment.

MENOMINEE

moderators: Hannah Metry & Rebekah Yang

27. CLIMATE ACTION PLANNING AT THE UNIVERSITY OF WISCONSIN EAU CLAIRE

Presenters: Ryan Frank, Lauren Graves, Megan McHenry, Nick Reitano

Faculty nominators: Jim Boulter and Karen Mumford, Watershed Institute for Collaborative Environmental Studies

In 2007, the University of Wisconsin- Eau Claire signed the American College and University Presidents' Climate Commitment (ACUPCC). By signing this agreement, UWEC recognizes the serious consequences of climate change and commits to transitioning to a carbon neutral campus. To inform the process of becoming carbon neutral, ACUPCC signatories are required to measure and report their greenhouse gas (GHG) emissions and develop a climate action plan. Since 2008, UWEC has conducted four GHG emissions inventories, but UWEC does not have a climate action plan. In this study, we present the methods used to develop a campus climate action plan. We employ a 3- phase student- led climate action planning process that integrates data and information on carbon reduction strategies across three areas: (1) Climate tools research and analysis, (2) Decision modeling and analysis, and (3) Development of a Participatory Planning Process. The purpose of this 3- phase process is to assist the Climate Action Plan Advisory Committee in analyzing and selecting policy options that will reduce carbon emissions at UW Eau Claire.

28. PERCEPTIONS OF WALKABILITY IN THE WEST RIVERSIDE NEIGHBORHOOD, EAU CLAIRE, WISCONSIN

Presenters: Logan Bergevin, Josie Myers

Faculty nominator: Karen Mumford, Watershed Institute for Collaborative Environmental Studies

Residents who live in walkable neighborhoods are more likely to engage in higher levels of walking-related physical activity, report lower safety concerns, and experience higher levels of social engagement compared to those living in less walkable neighborhoods (Mason et al., 2013; Talen and Koschinsky, 2014). Although objective measures of the physical characteristics of walkable neighborhoods are important (e.g. street connectivity, walkable destinations, building density etc.),

resident perceptions of neighborhood settings are equally important. Objective measures characterize physical design features of neighborhoods, but they cannot fully explain the feelings or experiences of residents. In collaboration with the Medical College of Wisconsin (MCW) and the Eau Claire City County Health Department (ECCCHD), we surveyed residents in the Eau Claire West Riverside neighborhood to examine resident perceptions of walkability and to identify socio- demographic correlates of walkability perceptions. This analysis will provide insights about walkability from the residents of this neighborhood, assist in the identification of strategies that may improve walkability and health, and inform on- going efforts to support healthy neighborhood developments.

29. AIR QUALITY AROUND TWO FRAC SAND PLANTS IN WISCONSIN USING EPA- CERTIFIED MONITORS

Presenters: Maryanne Cowart, Ethan Fuhrman, Peter Husnik, Jacob Kentnich

Faculty nominators: Jim Boulter, Watershed Institute for Collaborative Environmental Studies and Crispin Pierce, Watershed Institute/Environmental Public Health

Airborne particulates (dust) include the PM2.5 fraction and its larger counterpart, PM10, and are subject to National Ambient Air Quality Standards under the Clean Air Act. Health effects associated with chronic exposure to PM2.5 include cardiovascular and lung disease (including lung cancer). There are currently 128 industrial sand mine facilities in Wisconsin. The proximity of these new facilities to population centers has raised concerns about human exposure to airborne pollutants, especially PM2.5 and respirable crystalline silica. Two EPA- certified dichotomous (PM2.5/PM10) federal reference method filter- based samplers were set up in the Town of Cooks Valley/Bloomer and the Town of Dovre/New Auburn. In Bloomer, an average PM2.5 concentration of 7.41 ug/m3 and PM10 level of 24.2 over a two- year period were measured; in New Auburn, an average PM2.5 level of 22.7 ug/m3 and PM10 level of 49.0 ug/m3 over 10.5 months were measured. The average and 98th percentile PM2.5 levels, and second- highest PM10 level in New Auburn, were higher than corresponding EPA standards. Both sites had statistically significant elevations of PM2.5 compared to concurrent background Department of Natural Resources measurements.

HO- CHUNK

moderators: Heather Weise & Brittany Zine

30. CONNECTING CHILDREN TO NATURE ALONG THE STORYBOOK TRAIL: A HOME FOR BEAVER

Presenters: Taylor Kysely, Erika Mauer

Faculty nominator: Paula Kleintjes Neff, Biology

Students wrote and illustrated an original children's book, *A Home for Beaver*, for the storybook interpretive trail at Beaver Creek Reserve and Wise Nature Center, Fall Creek, WI. They combined the power of science, literature and art in a beautiful illustrative narrative. "Beaver was very happy but he needed to find a home on the reserve". Join Beaver as he meets and inquires with friends about the nature reserve and searches for his true sense of self and place. This creative work was dedicated to Beaver Creek Reserve and for the enjoyment of its "little" visitors. It was a final project for Honors 305, *Connecting Children to Nature*, spring 2016.

31. ATTITUDES TOWARD SCIENCE AND SCIENCE TEACHING – UNDERSTANDING HOW COURSEWORK AND PRACTICUM AFFECT PRESERVICE ELEMENTARY TEACHERS

Presenter: Elizabeth Scott

Faculty nominator: Victoria Rosin, Educational Studies

Literacy and numeracy dominate teaching time in elementary schools. Other subject areas therefore receive limited teaching time. As science is a subject area that many preservice teachers usually need to gain confidence in, a concern arose whether preservice teachers were able to make gains in this area when schools focused on math and reading. This research project reviewed whether a university elementary school science methods course and local practicum placement affect preservice teachers' attitudes towards science and science teaching. This study used a mixed methods framework to gather data. An anonymous online survey collected data on preservice teachers' attitudes about science and science teaching after completing the university course and the practicum placement. Semi- structured interviews were used for gathering more specific data about what specifically impacted preservice teachers' science attitudes and what aligned with the preservice teacher's experience in the practicum placement. The findings from this study will be used to improve outcomes in the university elementary science methods course and review what preservice teachers are experiencing and understanding while at their practicum.

32. AUTONOMY IS THE NAME OF THE GAME: MONTESSORI METHODS [AND] SOCIOEMOTIONAL DEVELOPMENT

Presenter: Jenna Jandrt

Faculty nominator: Nicole Schutz, Communication & Journalism

Current literature on Montessori methods surrounds academic success in a variety of disciplines, but little suggests that students attending a Montessori school develop differently in regards to social and emotional development. The purpose of this proposed research is to investigate the ways in which Montessori schools are designed and implemented to foster the socialization of students. For example, there are five philosophical tenets of Montessori school practices (conflict reconciliation, autonomy, leadership, diversity, and empathy) that this particular research seeks to explore. Data was collected through interviews surrounding these five tenets.

CHANCELLORS moderators: Mariah Sands & Hannah Van Steenburgh

33. INTERSTATE ORATORY SPEECH: RACIAL DISPARITIES IN BREAST CANCER DIAGNOSIS AND TREATMENT

Presenter: Tennisha Sonsalla

Faculty nominator: Karen Morris, Communication & Journalism/ Forensics

Breast cancer.org explained on September 6, 2016, that 21% of black women diagnosed with breast cancer will not survive the next five years in comparison to only 8% of white women. The racial disparity manifests itself as late diagnosis, inaccurate treatment, and lack of prevention. To better understand this problem, the speaker in this 10- minute oratory will identify just how big this disparity is, examine the causes, and some solutions to what may be the biggest medical disservice to African Americans since the Tuskegee syphilis experiment.

34. SLOWING THE PROGRESSION OF JOINT PAIN WITH ALTERNATIVE THERAPY: AN EVIDENCE-BASED PRACTICE STUDY

Presenters: Gerald Gerrits, Thomas Hunt, Morgan Land, Aurora Thorne

Faculty nominators: Norah Airth- Kindree and Der- Fa Lu, Nursing

The primary aim of this Evidence- Based Practice (EBP) quality improvement study is to investigate the process of implementing Healing Touch (HT) and Body Talk Cortices (BTC) with bedside nursing staff to improve pain management outcomes at a long- term care (LTC) facility. The project involved educating and training staff on innovative nursing interventions (HT and BTC). Pharmaceutical pain interventions can be more harmful than helpful in many cases because of diverse side effects and/or complications such as acute confusion or addiction. Studying the efficacy of noninvasive interventions that can improve health management and quality of life is needed for older adults. Research staff created educational material and attended monthly staff meetings to provide HT and BTC training to the nursing staff. Researchers then worked with Information Technology staff at the LTC facility to design a documentation system to record the performance and outcomes of the HT/BTC interventions. Positive improvements in pain levels were seen with every resident who received HT and BTC therapy, suggesting that these techniques are successful non- pharmacological interventions to alleviate pain without side effects.

35. EVALUATION OF AN ALTERNATIVE TEACHING METHOD: USE OF AN INNOVATIVE VISUAL ANALYSIS TO INTERPRET ARTERIAL BLOOD GASES WITH UNDERGRADUATE NURSING STUDENTS

Presenter: Tom Gugel

Faculty nominators: Rita Sperstad, Nursing

This faculty/student research project was initiated by a nursing honors student who personally created an innovative visual method for interpreting arterial blood gases, and aspired to share and evaluate this method with peer students. This research project uses a quasi- experimental approach to evaluate undergraduate nursing student learning outcomes after participating in a voluntary "alternative teaching session" to interpret arterial blood gases. All NRSG 337 students received the "usual teaching method" during the regular class time. During the last 20- 30 minutes of this regular class, students could voluntarily choose to participate in the "alternative teaching session", which was guided by the student researcher. The alternative teaching session included an explanation and demonstration of the innovative visual analysis method, a small group application exercise with discussion, and summary. Evaluation data included anonymous student participant scores from specific ABG interpretation questions on the usual course multiple- choice exam and responses to an anonymous written survey completed by student participants after the course exam.

SESSION IV: 4:30 – 5:15 P.M.

CENTENNIAL

moderators: Sarah Mackowski & Danielle Wojtak

36. A GRAPHICAL USER INTERFACE FOR MATHEMATICAL ART

Presenters: Claire Arneson, Emily Gullerud

Faculty nominator: James Walker, Mathematics

This interdisciplinary project focused on designing a graphical user interface for creating symmetric designs using Matlab, and using mathematics to create new artistic designs. We developed new techniques for creating symmetric designs, and video animations that employ features of rotational symmetry and change of scale. Our designs aim to display both visual beauty and mathematical rigor.

37. THE EFFECTS OF DOUBLING OPERATORS ON COLORABILITY OF KNOTS AND LINKS

Presenter: Molly Petersen

Faculty nominator: Carolyn Otto, Mathematics

A mathematical link is a collection of simple, closed curves in 3- space. A knot is a single simple, closed curve. The number of knots that combine to make a link is known as the number of components of the link. A knot is precisely a link of one component. We consider the colorability of different knots and links and the relationship to the colorability of the resulting knot or link after performing a doubling operation, which is an operation that doubles the components of a link. We able to demonstrate what happens to the colorability of a knot that undergoes Bing Doubling, Whitehead Doubling, and Blackboard Pure Doubling.

38. ANALYSIS OF CHARLES IVES' "VARIATIONS ON AMERICA"

Presenter: Mackenzie Scanlan

Faculty nominators: James Walker, Mathematics

This interdisciplinary project used mathematical and musical ideas to make an in- depth analysis of the harmony, rhythm, and form of Charles Ives' famous composition, "Variations on America." Spectrograms were useful in analyzing the acoustic features of the musical sounds in the piece. The Tonnetz was used to closely examine the logic of the chords and keys used in the piece. Circle diagrams aided in analyzing aspects of the rhythmic structure of the piece.

MENOMINEE

moderators: Hannah Metry & Sophia Thoen

39. TRUST PREVAILS: EVALUATING THE QUALITY OF RESEARCH RELATIONSHIPS BETWEEN UWEC FACULTY AND COMMUNITY PARTNERS

Presenter: Rachel Tillman

Faculty nominator: Ruth Cronje, English

As civic as well as educational entities, universities are increasingly seeking ways to ensure their civic relevance with initiatives, like the Wisconsin Idea, that allocate university social, intellectual, human, and economic capital to community needs. Indeed, communities must often mobilize academic

resources as public budgets shrink and an increasing amount of public work is performed by under-resourced nonprofit agencies. Community- based research (CBR), a means for university research activity to become more responsive to communities' need for information, involves academic researchers collecting and analyzing data in partnership with individuals or organizations in the larger community.

40. COLLATING LGBTQ+ FRIENDLY SERVICE PROVIDERS: SAFE SPACES COALITION OF THE CHIPPEWA VALLEY RESOURCE GUIDE

Presenter: Alex DeLakis

Faculty nominator: Theresa Kemp, English & Women's Studies

Created in collaboration with Safe Spaces Coalition of Chippewa Valley, this project provides a listing of local LGBTQ+ affirming service providers. The impetus for the work are the conclusions drawn by the 2013 Wisconsin Youth Risk Behavior Survey and the US CDC, both of which reveal that LGBTQ+ people face health disparities in accessing equitable healthcare. Because providers may be consciously or unconsciously biased, fear of discrimination may lead LGBTQ+ people to avoid seeking healthcare. Consequently, the US Department of Health and Human Services recommends that healthcare providers develop cultural competency regarding sexual orientation and gender identity in order to "enhance the patient- provider interaction and regular use of care." Our Resource Guide aims to assist LGBTQ+ people in locating culturally competent care providers in our community. Using anonymous surveys (electronic and print), people who self- identified as LGBTQ+ were asked to recommend service providers who they: 1) were 'out' to; 2) feel comfortable discussing their sexuality and/or gender identity with; 3) feel are knowledgeable on issues regarding sexuality and/or gender; 4) and would recommend to other LGBTQ+ people.

41. THE EVOLUTION OF STATE LAWS TO ADDRESS CYBERBULLYING AND SEXTING: A 2016 UPDATE

Presenter: Madison Bacon

Faculty nominator: Justin Patchin, Political Science

The current project evaluates and synthesizes state statutes across the U.S. that apply to cyberbullying and sexting behaviors (directly or indirectly). In addition, pending or proposed legislation was reviewed to determine the direction states are headed with respect to dealing with these challenging problems. As states continue to struggle with how best to respond to these 21st century concerns, legislators will likely look to what other states have done in these areas.

HO- CHUNK

moderators: Nate Berg & Jeremiah Valles

42. IDENTIFYING THE GREAT SYNAGOGUE OF VILNA IN VILNIUS, LITHUANIA

Presenter: Thomas Wavrin

Faculty nominator: Harry Jol, Geography & Anthropology; Richard Freund, Maurice Greenberg Center for Judaic Studies, University of Hartford

Since 1957 the remains of the Great Synagogue of Vilna in Vilnius, Lithuania, have been hidden under an elementary school. An international team of scientists are using ground penetrating radar (GPR) to identify the buried remains of the synagogue and then excavate the most promising locations. GPR is a non- invasive survey technology that sends electromagnetic waves into the subsurface and records the reflected waves. A pulseEKKO 1000 GPR unit with 225 MHz antennae was utilized to collect grid

datasets. The presentation will focus on two grids, #7 (32 x 5 m) and #8 (33 x 5 m), in which transects with a step size of 0.05 m were collected 0.25 m apart. The research results will aid in directing future archaeological work at the former site of the Great Synagogue of Vilna.

43. FIBER OPTIC SERVICE OPPORTUNITY IDENTIFICATION

Presenter: Nicholas Berg

Faculty nominator: Garry Running, Geography & Anthropology

The purpose of this project is to use geographic information systems to construct a database and map of potential business customers for a telecommunications company's broadband fiber optic network services. Using ESRI Business Analyst and demographic data, plus criteria such as specific industry codes, ideal business customers were characterized and then mapped with respect to buffer zones created around the existing network routes. 5148 (out of 16,713) potential business customers were identified within the buffer zones. The products of the project were a detailed potential business customer spreadsheet and map that can be used by the telecommunications company for targeted marketing purposes. This project highlights the practical application of geospatial marketing and the role geography and big data will continue to play in the world of marketing and business.

CHANCELLORS moderators: Mariah Sands & Hannah Van Steenburgh

44. DESIGNING AND IMPLEMENTING A SUCCESSFUL ELEMENTARY SCHOOL VEGETABLE SNACK PROGRAM

Presenters: Josh Bodnar, Isabel Chmielewska, Matthew Pergolski

Faculty nominator: Eric Jamelske, Economics

Increasing children's intake of fruits and vegetable is an important focus among practitioners, policymakers, and researchers. Prior research indicates that children eat significantly more fruits than vegetables.

We partnered with one local elementary school to implement a vegetable snack program. This presentation outlines our motivation and describes the design of the program including objectives and procedures for measurement and analysis.

Study participants include students (N=218) and teachers (N=12) in grades K-3. Children were served grape tomatoes, baby carrots and green pepper strips eight times each over 24 days. Individual pre- and post-weights were recorded to calculate individual consumption for each snack day.

One classroom from each grade was assigned to a unique intervention condition (no encouragement, encouragement, and encouragement plus) for the first six servings of each vegetable. All classrooms were assigned to the no encouragement condition for the final two servings of each vegetable.

From past experiences we know that planning and setting up the design and outlining roles, duties and responsibilities of all participants is extremely important to generating meaningful data for analysis.

45. EXAMINING THE IMPACT OF REPEATED EXPOSURE AND ENCOURAGEMENT ON CONSUMPTION OF VEGETABLES IN AN ELEMENTARY SCHOOL VEGETABLE SNACK PROGRAM

Presenters: Jared Fogarty, Kjirstin Martell, Shinhoo Park

Faculty nominator: Eric Jamelske, Economics

Given the links between children's low intake of fruits and vegetables and a variety of associated health risks, it is important to identify successful means of increasing children's fruit and vegetable consumption. This is especially true for vegetables as they are very low in sugar content and calories.

Students (N= 218) and teachers (N= 12) in grades K- 3 in one local Western Wisconsin elementary school were served grape tomatoes, baby carrots and green pepper strips eight times each over 24 days.

One classroom from each grade was assigned to a unique intervention condition (no encouragement, encouragement and encouragement plus) for the first six servings of each vegetable. No encouragement was given for the final two servings of each vegetable. This presentation provides both graphical and statistical comparisons of vegetable consumption across intervention conditions.

Results indicate consistent and significantly higher consumption of all three vegetables for encouragement plus and encouragement classrooms compared to no encouragement. Additionally, we find suggestive evidence of sustained higher consumption after all encouragement activities were ended, especially for students in the encouragement plus condition.

46. USING REGRESSION ANALYSIS TO ANALYZE INDIVIDUAL AND GROUP CONSUMPTION EFFECTS FROM AN ELEMENTARY SCHOOL VEGETABLE SNACK PROGRAM

Presenters: Selena Scheller, Levi Soborowicz

Faculty nominator: Eric Jamelske, Economics

Understanding what factors cause low intake of fruits and vegetables among children as well as what methods may influence increased consumption is very important. This is especially true for vegetables as children tend to eat more fruits than vegetables.

Students (N= 218) and teachers (N= 12) in grades K- 3 in one local Western Wisconsin elementary school were served grape tomatoes, baby carrots and green pepper strips eight times each over 24 days.

One classroom from each grade was assigned to a unique intervention condition (no encouragement, encouragement and encouragement plus) for the first six servings of each vegetable. No encouragement was given for the final two servings of each vegetable. This presentation uses regression analysis to examine group/individual influences on vegetable consumption.

Findings from basic graphical and statistical comparisons are robust to the more rigorous regression analysis. We find consumption for the first serving of all three vegetables was significantly influenced by encouragement condition. Moreover, we also find evidence that consumption for the first serving of all three vegetables was the primary determinant of consumption for later servings.

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