8th Annual

PHS

PROVOST'S HONORS SYMPOSIUM

For Research, Scholarship, and Creative Activity

Friday, May 4, 2018
3rd Floor Davies Center

University Honors Program
University of Wisconsin-Eau Claire
Welcome to the Eighth 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 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 45 research, scholarly, and creative projects in more than 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
- David Jones, Interim Director, University Honors Program
- Der-Fa Lu, College of Nursing and Health Sciences
- Morgan Mack, Honors Student Steering Committee
- Vicki Samelson, College of Education and Human Sciences
- Ashley St. Aubin-Clark, President, Honors Student Steering Committee

In founding and organizing this annual symposium, the University Honors Program seeks to attain its goal of engaging students fully in activities that lead to research, discovery, high-value projects, and innovation. We thank you for supporting the highly accomplished students and faculty whose collaborative work is featured at this event!

Dr. David Jones, Interim Director, University Honors Program
PROVOST’S HONORS SYMPOSIUM FOR RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITY

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.
## TABLE OF CONTENTS

Welcome......................................................................................................................... 1
Provost’s Reception ......................................................................................................... 2
Schedule at a Glance ....................................................................................................... 4
Presentations.................................................................................................................... 7

**Session I: 1:00 – 2:00 p.m.**.......................................................................................... 7
  - Centennial .................................................................................................................. 7
  - Menominee ................................................................................................................ 7
  - Ho–Chunk .................................................................................................................. 9
  - Chancellors .............................................................................................................. 10

**Session II: 2:10 – 3:10 p.m.**....................................................................................... 10
  - Centennial ................................................................................................................. 11
  - Menominee .............................................................................................................. 12
  - Ho–Chunk ................................................................................................................ 13
  - Chancellors .............................................................................................................. 15

**Session III: 3:20 – 4:20 p.m.**.................................................................................... 16
  - Centennial ............................................................................................................... 16
  - Menominee .............................................................................................................. 17
  - Ho–Chunk ............................................................................................................... 18
  - Chancellors .............................................................................................................. 19

**Session IV: 4:30 – 5:30 p.m.**.................................................................................... 20
  - Centennial ............................................................................................................... 20
  - Menominee .............................................................................................................. 21
  - Ho–Chunk ............................................................................................................... 22
  - Alumni ..................................................................................................................... 23

Index of Presenters & Faculty Nominators/Advisors .............................................. 24
SCHEDULE AT A GLANCE

SESSION I: 1:00 – 2:00 P.M.

CENTENNIAL

1. In Media Inspirante
2. It Could Have Been Worse

MENOMINEE

3. Investigating Chinese and American Views on Climate Change Including a Calculated Knowledge/Acceptance/Concern Score: Comparing Results from Surveys Conducted in 2015 and 2017
4. Investigating Support for an International Climate Change Treaty Among Chinese and American Citizens: Comparing Results from Surveys Conducted in 2015 and 2017

HO–CHUNK

6. Searching for Flood Rings in Quercus Macrocarpa on the Lower Chippewa River
7. Atmospheric Measurements Using an Unmanned Aerial System
8. Soot Nanoparticle Connection and Human Health

CHANCELLORS

9. A Sense of Place: The Concept of Neighborhood at an Aphasia Camp
10. Implications of Required Twitter Engagement in #HigherEd

SESSION II: 2:10 – 3:10 P.M.

CENTENNIAL

12. Peruvian Geography Translation Project
13. Frac Sand Mining Risk Assessment
14. Development of Butlerov’s Structural Theory, 1859–1862
MENOMINEE

15. A Survey of Counseling Curricula Among Accredited CSD Graduate Student Programs
17. Surge Week: A Course–Embedded Clinical Experience

HO–CHUNK

18. Immediate Hire or Immediate Rejection? The Impact of Grammar Usage Errors on Ratings of Applicants’ Writing, Employability, and Character
19. Human Energy Modalities for Dementia–Associated Symptoms
20. Are Energy Therapies Supported by Randomized, Placebo–Controlled Trials? A Systematic Review

CHANCELLORS

21. Homeless Outreach and Law Enforcement: An Autoethnography
22. Neocolonialism and Transnational Dynamics: Conversations with Rural Filipinas/os
23. Re–imagining College Writing Using Digital Humanities

SESSION III: 3:20 – 4:20 P.M.

CENTENNIAL

24. Navigating the OPT Model: First Year Nursing Student’s Experience
25. Curriculum Quality Improvement Using Action Research
26. Cognitive Biases Toward Self–Harm as a Function of NSSI History

MENOMINEE

27. Research to Inform Policy: My Galapagos Experience
28. Analysis of Arabidopsis Thaliana Red–Light Response Mutants Identified in a Genetic Enhancer Screen
29. Delamination Study of Yttrium Barium Copper Oxide with Novel Sample Preparation Techniques

HO–CHUNK

30. Characterizing Food Purchases of Supplemental Nutrition Assistance Program (SNAP) Participants: A Case Study of Grocery Stores in Three Different Wisconsin Metropolitan Areas
31. Increasing Healthy Food Access for Low Income Families: A Case Study of Doubling Supplemental Nutrition Assistance Program (SNAP) Benefits at the Farmers Market in One Wisconsin Metropolitan Area

32. Improving Food Choices for Low Income Women with Children: A Case Study of Including Fruits and Vegetables in the Women, Infants and Children (WIC) Program Food Packages in One Wisconsin Metropolitan Area

CHANCELLORS

33. The Impact of Life Savers Peer-Delivered Gatekeeper Trainings on Campus: A Quantitative and Qualitative Analysis

34. A Comparative Study of Educational Differences in China

35. An Examination of Nursing Beliefs in Costa Rica and the United States

**SESSION IV: 4:30 – 5:30 P.M.**

CENTENNIAL

36. Assessment of Public Support for Climate and Energy Initiatives in Eau Claire, Wisconsin

37. Tourism and Support for Marine Conservation in Tofo, Mozambique

38. Propeller-Shaped Pi-Expanded Coumarins as Aryl-Aryl Dihedral Angle Switches

MENOMINEE

39. Narrative-Based Language Intervention to Teach Emotion Recognition in Children During the Middle Childhood Years

40. Comparing 2-D and 3-D Instructional Methods for Teaching Laryngeal Anatomy Concepts

41. Video Self-Modeling as an At-Home Intervention Tool for Individuals with Voice Disorders

HO-CHUNK

42. Deformations of Algebras

43. Creating Artistic Designs Using Hyperbolic Geometry

ALUMNI

44. Historical Keyboard Tuning Systems and Relevance to Modern Performance Practice

45. Developing Global Competencies and Global Capacities in Two Teacher Education Programs through International Collaboration
PRESENTATIONS

SESSION I: 1:00 – 2:00 P.M.

CENTENNIAL ROOM  moderators: Rachyl Hietpas & Heather Weise

1. IN MEDIA INSPIRANTE
   Presenter: Renee Ewer
   Faculty nominators: Cedar Marie, Art and Design

Renee Ewer is an Art and Creative Writing double major who has created a body of artwork that tells of how stories are made. Stories begin as a hodgepodge of ideas patched together into a semblance of form in the author’s mind. Before telling the story, the author must first create characters to inhabit it. As the character creations develop, the presence of the author fades away to allow the characters to come forward and shine. As the narrative progresses, the story takes on a life and shape all its own. In Media Inspirante represents the initial creation of a story as narrated through sculpture.

2. IT COULD HAVE BEEN WORSE
   Presenter: Angela Hazen
   Faculty nominator: Cedar Marie, Art and Design

*It Could Have Been Worse* is a compelling artwork that communicates a universal human message of courage, strength, and hope. Aspects of the project have already moved viewing audiences locally through venues at UWEC’s Foster Gallery, UWEC’s literary art journal NOTA, Volume One and The Local Store, and as part of two national exhibitions; the Minneapolis Veterans Hospital, and most recently the Ford Gallery at Eastern Michigan University.

MENOMINEE  moderators: Jacob Erickson & Laura Wilson

3. INVESTIGATING CHINESE AND AMERICAN VIEWS ON CLIMATE CHANGE INCLUDING A CALCULATED KNOWLEDGE/AcCEPTANCE/COnCERN SCORE: COMPARING RESULTS FROM SURVEYS CONDUCTED IN 2015 AND 2017
   Presenters: Connor Adams, Zhixin Fang, Ashley Pike
   Faculty nominators: Eric Jamelske, Economics and James Boulter, Watershed Institute

Surveys were conducted in China and the U.S. in 2015 (N=7,556) and 2017 (N=7,415) to investigate public views on climate change in these two important countries. Significantly more Chinese reported that human caused climate change is happening compared to Americans with little change between 2015 and 2017. In both years, U.S. respondents showed more concern about climate change, while Chinese respondents reported a higher obligation to address climate change. There was a significant increase in concern among U.S. respondents in 2017. A climate change score (~10 to 10) was also calculated for all respondents for 2015 and 2017 using eight questions. In both years, Chinese scores were on average higher than for Americans, while U.S. scores were more variable. Largely due to increased concern among U.S. respondents in 2017, the difference in American and Chinese mean scores decreased compared to 2015, while the variation in American scores increased in 2017. Despite
some differences between 2015 and 2017, we continue to see significant differences in climate change views across China and the U.S.

4. **INVESTIGATING SUPPORT FOR AN INTERNATIONAL CLIMATE CHANGE TREATY AMONG CHINESE AND AMERICAN CITIZENS: COMPARING RESULTS FROM SURVEYS CONDUCTED IN 2015 AND 2017**

Presenters: Austin Holmes, Anastasia Rauland, Kayla Coonen

Faculty nominators: Eric Jamelske, Economics and James Boulter, Watershed Institute

Surveys were conducted in China and the U.S. in 2015 (N=7,556) and 2017 (N=7,415) to investigate support for an international climate treaty among citizens in these two important countries. Two questions were used for this purpose, one unconditional and another conditional on knowing the other country would not participate. Chinese respondents showed significantly greater support in both 2015 and 2017 compared to Americans. We also found a significant withdraw of public support in both countries conditional on knowing the other country would not participate in both years. Additionally, unconditional and conditional support in China was significantly higher in 2015 compared to the U.S. There was an increase in unconditional and conditional support among U.S. respondents in 2017, while there was very little change in China leading to a narrowing of the gap in treaty support between Americans and Chinese. Regression analysis reveals similar results for 2015 and 2017 with a variety of variables reflecting climate change acceptance/knowledge/concern positively correlated with treaty support in both countries. Political affiliation also influences support for a treaty among Americans.

5. **INVESTIGATING WILLINGNESS-TO-PAY FOR CLIMATE CHANGE POLICY ACTION TO REDUCE GREENHOUSE GASES AMONG CHINESE AND AMERICAN CITIZENS: COMPARING RESULTS FROM SURVEYS CONDUCTED IN 2015 AND 2017**

Presenters: Adara Coker, Cora Cornett, and Andrew Moran

Faculty nominators: Eric Jamelske, Economics and James Boulter, Watershed Institute

Addressing climate change by reducing greenhouse gases (GHG) will likely have significant costs. Thus, the willingness of citizens to incur these costs is an important component of implementing successful international climate change policies. Surveys were conducted in China and the U.S. in 2015 (N=7,556) and 2017 (N=7,415) to investigate the willingness-to-pay (WTP) for climate policy action to reduce GHG emissions among citizens in these two important countries. In this study we employ the contingent valuation method framework to analyze WTP. Our results show a significantly higher mean WTP among Chinese respondents compared to Americans in purchasing power parity terms in both 2015 and 2017. Our results also show a higher mean WTP in both countries in 2017 compared to 2015 due, at least in part to survey design differences between the two years. Use of regression analysis for further investigation of 2015 and 2017 data reveals a variety of variables reflecting climate change acceptance/knowledge/concern are positively correlated with WTP for climate action in both countries. Political affiliation also influences WTP among Americans in both years.
6. SEARCHING FOR FLOOD RINGS IN QUERCUS MACROCARPA ON THE LOWER CHIPPEWA RIVER

Presenter: Lindsey Kurtz

Faculty nominator: Douglas Faulkner, Geography & Anthropology

Knowledge of flood recurrence intervals is necessary for identifying flood hazard zones and undertaking land–use planning and management along rivers. Like most rivers, the Chippewa River has an insufficient instrumental record for estimating the recurrence interval of large damaging floods with confidence. However, records of paleofloods (floods that occurred prior to the instrumental period) provide a potential means for enhancing instrumental flood records. Flood rings, anomalously annual growth rings caused by overbank flooding in certain floodplain–tree species, are one such record. The objective of this research consists of laying groundwork for extending the Chippewa’s flood record using cores from bur oak, Quercus macrocarpa. Forty cores were obtained from Q. macrocarpa on an island approximately 25 km downstream from Eau Claire, which were analyzed using standard dendrochronology methods. The results indicate the occurrence of several paleofloods, including especially notable ones in 1842 and 1910. These findings provide a basis for conducting further tree–ring analysis to create a more complete paleoflood record for the Chippewa River.

7. ATMOSPHERIC MEASUREMENTS USING AN UNMANNED AERIAL SYSTEM

Presenter: Kyle Geib

Faculty nominator: Patricia Cleary, Chemistry

With technological advances in Unmanned Aerial Systems (UAS) ramping up, applications in novel atmospheric monitoring using such technologies are being explored. This project is aimed toward incorporating atmospheric sensors into a fixed–wing UAS as a viable and inexpensive method for monitoring atmospheric properties and composition. The atmospheric instrumentation for the payload are an HMP60 temperature–humidity sensor and a 2B Technologies Personal Ozone Monitor with GPS (PO3M). The sensors will log temperature, humidity, and ozone to better understand the mesoscale meteorological phenomenon of the lake breeze circulations near Lake Michigan. Currently the HMP60 and PO3M are logged through a Raspberry Pi microcontroller that has live–feed data. Other work is being done to 3D print housings for the onboard electrical components and sensor mounting hardware. Goals for the future include integrating the sensor data on the Raspberry Pi microcontroller with the Pixhawk flight controller flight log data. Sharp gradients in ozone were observed near the shoreline of Lake Michigan during the 2017 Lake Michigan Ozone Study, which demonstrate a need for near–shore low–altitude measurements of atmospheric variables via UAS.

8. SOOT NANO PARTICLE CONNECTION AND HUMAN HEALTH

Presenter: Samantha Kleich

Faculty nominator: Robert Hooper, Geology

Urban air pollution leads to an estimated 3.3 million premature human deaths every year. Nanospherical (ns) soot (~30nm concentric partially ordered graphene) is the dominant component of PM2.5 air particulates in urban samples. Very little research exists on the actual composition of individual clusters of soot or the other phases admixed with these complex, multi–component soot clusters. Ns–soot contains metals both between individual graphene layers and nanoparticles (NP). However, bioavailability is likely to be much greater from NP than from the relatively refractory graphene. While TEM is the instrument of choice for analyzing the smallest NP, the size of the NP in ns–soot has required development of an entirely new procedure within our lab using nano–beam diffraction (spot
size ~10nm) and background subtracted point beam EDS analysis. Results indicate that most NP in soot are 3–10nm combustion products dominated by (Pb, Ca, K, Fe, Cu) sulfates and Fe–Mn oxides either attached to soot surfaces or more rarely as soot cores. These NP are likely to be a significant health hazard in urban air.

CHANCELLORS  

9. A SENSE OF PLACE: THE CONCEPT OF NEIGHBORHOOD AT AN APHASIA CAMP  

Presenter: Robert Terrell  

Faculty nominator: Thomas Sather, Communication Sciences & Disorders  

Aphasia camps are an emerging service–delivery model designed to provide opportunities for individuals with aphasia to engage in meaningful activities, conversation and social supports while in a natural, authentic, rustic environment. In this mixed methods study, the construct of neighborhoods was comprised of the built, natural and social environments, and was studied at an area aphasia camp from the perspective of five campers with aphasia. Barriers and facilitators of the built, natural and social environment were assessed via walking interviews, a novel approach that has not been used among individuals with aphasia. These interviews occurred while each participant and the interviewer explored the aphasia camp grounds, consistent with walking interview methodologies. Qualitative content analysis identified barriers and facilitators of the built, natural, and social environment. Social cohesion, another integral concept of neighborhood, was evaluated used the Social Cohesion 5–Point Scale (Sampson, 1997). Finally, individual photographs taken by participants were coded for representation of neighborhood concepts. Results and discussion apply to fostering the concept of neighborhood both within the aphasia camp and outside of the camp.

10. IMPLICATIONS OF REQUIRED TWITTER ENGAGEMENT IN #HIGHERED  

Presenters: Lian Arzbecker, Lindsey Deans  

Faculty nominator: Thomas Sather, Communication Sciences & Disorders  

This study explores Twitter as a pedagogical strategy in an online graduate aphasia course. There are numerous professionals, students and consumers in the speech–language pathology field who utilize Twitter to disseminate content, resources and narratives. Therefore, we hypothesized that integration of Twitter in the classroom will enhance students’ learning process. In this study, 21 online CSD graduate students were required to access and share relics through Twitter each week. A public access, third party software provided quantitative analyses of students’ Twitter activity. Qualitative content analysis was used to analyze an anonymous, open–ended questionnaire completed by students at the end of the semester. Results are compared to a prior study (Arzbecker, Pulley, Sather & Sanfelippo, 2017) that embedded Twitter in an online course, but did not require Twitter use. Current study results indicate a wide range of Twitter use and perceptions among participants, and are compared to prior pilot data. Discussion will focus on barriers and facilitators to Twitter use in higher education, and implications for required versus optional Twitter use.

11. USING GOOGLE MAPS TO MEDIATE IDENTITY AND FOSTER SOCIAL INTERACTION WITHIN COMMUNITY APHASIA GROUPS  

Presenters: Hailey Brost, Kelly Burgin  

Faculty nominators: Thomas Sather, Donna Schemm, Communication Sciences & Disorders
SESSION II: 2:10 – 3:10 P.M., CONT.

 Aphasia is a communication disorder impacting more than 2 million adults in the United States. Aphasia impacts speaking and understanding, as well as relationships, social interaction and personal identity. Implementation of practical, communication-based interventions that support conversation, social interaction, meaningful participation and enhancement of identity are critical to aphasia rehabilitation. In this qualitative study, Google Maps was strategically utilized as a communication and identity support within a community aphasia group. Use of Google Maps within the community aphasia group was implemented through a four-stage dynamic process including: modeling and increasing operational competence, planning, building the map, and sharing. The authors will present implementation guidelines, participation outcomes and communication outcomes among individuals with aphasia following use of Google Maps. Preliminary implementation shows utility for the use of Google Maps as a tool to support increased engagement and authentic interactions, new learning and identity enhancement among aphasia group members. To the best of the authors’ knowledge, this is the first study incorporating Google Maps into aphasia rehabilitation.

SESSION II: 2:10 – 3:10 P.M.

CENTENNIAL moderators: Maile Olson & Heather Weise

12. PERUVIAN GEOGRAPHY TRANSLATION PROJECT

Presenters: Brianna Hedeman, Laura Helgen, Austin Holmes, Theresa Laporte, Naomi Van Dyke

Faculty nominators: Paul Kaldjian, Geography & Anthropology and Manuel Fernandez, Languages

This creative, scholarly project revolves around the translation of a seminal text on the geography of Peru. Three faculty and five students team up to translate the work of Javier Pulgar Vidal, who wrote 'Las ocho regiones naturales del Perú' (The eight natural regions of Peru). The first edition was written in 1938 and it has become the foundation physical geographies of Peru. Despite many editions in Spanish, it has never been translated into English. To remedy that, this collaborative effort begins with two shorter works of Pulgar Vidal that accompany his magnus opus. Translating and editing "Los Ocho Grupos Humanos" and "Las Siete Canastas Alimentarias" will provide practice in working together as a team. We will submit the translations to Peruvian geography colleagues for inspection and suggestions, after which we will embark on the major work. This honors presentation will be a student team effort that documents and analyzes this applied translation project for its linguistical, geographical, social, and educational contributions.

13. FRAC SAND MINING RISK ASSESSMENT

Presenters: Orion Allgaier, Kenneth Braunling, Carter Focht, Peter Husnik, Jacob Kentnich

Faculty nominator: Crispin Pierce, Watershed Institute

Hydraulic fracturing (“fracking”), as a method of extracting oil and natural gas from underground shale deposits, requires the extraction of 100 million metric tons/year of industrial silica sand — principally from west-central Wisconsin. Dust is generated by these operations including PM2.5 and its larger counterpart, PM10, which are both listed by USEPA as Criteria Air Pollutants, subject to National Ambient Air Quality Standards (NAAQS) under the Clean Air Act. Health effects associated with chronic exposure to PM2.5 fine particulates as identified by USEPA include cardiovascular and lung diseases.
including lung cancer. PM2.5 levels were significantly higher (paired t-tests) in Bloomer and New Auburn, WI — averages of 7.70 ± 6.15 and 22.7 ± 31.7 µg/m³ — than concurrent background levels of 5.11 and 6.57 µg/m³ respectively. Average PM10 levels were 24.2 and 49.0 µg/m³, and second-highest annual levels were 45.5 and 69.1 µg/m³ (two years) and 62.9 µg/m³ (2015) and 61.5 µg/m³ (2016), respectively for the two sites. Neither precipitation nor wind speed or direction appeared to affect PM2.5 or PM10 concentrations.

14. DEVELOPMENT OF BUTLEROV’S STURUCTURAL THEORY, 1859–1862

Presenter: Dylan Rothbauer

Faculty nominator: David Lewis, Chemistry

In 1859, Aleksandr Mikhailovich Butlerov (1828–1886) had just returned to Kazan after spending a komandirivka (official study leave) in the laboratory of Charles Adolphe Wurtz (1817–1884) in Paris, where he became a member of the fledgling Société chimique de Paris. At this time, the young Scotsman, Archibald Scott Couper (1831–1892) had just developed his theory of chemical structure, so Butlerov was exposed to this new way of thinking at its inception. In 1859, he wrote a paper in which he declared that Couper had gone too far, and exceeded what the experimental facts would allow. However, his opinions changed after his return to Russia, and by 1862 he was a champion of structural theory, taking upCouper's mantle. The gradual shift of his opinion is revealed in two sets of lecture notes from his class in organic chemistry taken in 1859 by student Vladimir Markovnikov, and in 1862 by student Ivan Bukhvostov. Taken together with Butlerov's "Speyer paper" in the Zeitschrift für Chemie in 1861, these documents provide insights into Butlerov's transition from skeptic to protagonist. Our progress in transcribing and translating these notes will be discussed.

MENOMINEE

moderators: Sydney Schoeberle & Laura Wilson

15. A SURVEY OF COUNSELING CURRICULAR AMONG ACCREDITED CSD GRADUATE STUDENT PROGRAMS

Presenter: Aspen Doud

Faculty nominator: Jerry Hoepner, Communication Sciences & Disorders

The current project examines counseling curriculum within the disciplines of speech-language pathology and audiology. A Qualtrics survey was distributed to the 255 program chairs of accredited programs in Communication Sciences and Disorders (CSD). 108 programs responded, providing information about the nature of counseling coursework and training within their programs. This is the first comprehensive survey of counseling in CSD since 1986. Along with making comparisons to outcomes from the 1986 survey, details about pedagogy, specific approaches trained, and learner outcomes were analyzed. The mixed quantitative and qualitative results provide much-needed updates to the status of counseling training in CSD. Further, the results provide some guidance for development of coursework in counseling within CSD. The research project is a preliminary investigation in support development of Ms. Aspen Doud’s Master’s Thesis and a collaboration with Dr. Audrey Holland, from the University of Arizona, who is internationally renowned for her work on counseling within the CSD discipline.
16. CONTRIBUTING TO A SYSTEMATIC REVIEW OF RESEARCH IN RIGHT HEMISPHERE BRAIN DAMAGE: PROSODY, LANGUAGE, & PRAGMATICS

Presenters: Rachael Look, Hannah Shoemaker

Faculty nominator: Jerry Hoepner, Communication Sciences & Disorders

The Academy of Neurogenic Communication Disorders and Sciences right hemisphere brain damage writing group has initiated a systematic literature review to examine existing evidence in the areas of prosody, language/pragmatics, cognition, visuospatial relations and construction, and neglect. Students are collaborating with Dr. Margaret Blake from the University of Houston, and researchers from around the world to complete the literature search component of the review, identifying and vetting articles according to inclusion and exclusion criteria. Thus far, they have completed the searches for prosody and language/pragmatics topics, sifting through over 20,000 hits, yielding over 600 potential articles with 136 that met criteria for the prosody topic and 200 that met the criteria for the language/pragmatics topic. Beyond finding articles, they have cataloged a digital database and collected metadata on search findings, including database crossover and redundancy. Documentation of open access availability is crucial in speech–language pathology, as access for clinicians is important for implementation. Further, data on progression of student accuracy in identifying articles that meet inclusion criteria from start to finish will be reviewed.

17. SURGE WEEK: A COURSE-EMBEDDED CLINICAL EXPERIENCE

Presenters: Maria Donato, Breanna Mcfaul, Lauren Pakanich

Faculty nominator: Jerry Hoepner, Thomas Sather, Communication Sciences & Disorders

Surge Week is a week-long, course-embedded clinical experience within the Department of Communication Sciences and Disorders that addresses an authentic need for individuals with aphasia, while serving as a learning experience to students in the CSD 448/648 course. Graduate and undergraduate students enrolled in the course develop the curriculum, plan the sessions, and deliver the interventions for one week. CSD faculty members, along with clinicians from the Mayo Clinic Health Systems Eau Claire, work alongside students in an apprenticeship model. The present research extends research that was initiated last year, examining student outcomes. Qualitative analyses of student written reflections provide insights into refining the experience, learning about aphasia, learning about clinical flexibility, understanding service delivery frameworks, and development of self-efficacy. The instructional framework has implications for other clinical disciplines who seek to connect classroom learning to clinical or professional contexts. By working alongside master clinicians, students have an opportunity to implement newly acquired skills, while learning about the lived experiences of individuals with aphasia. The intent is to foster carryover of evidence-based practices.

HO–CHUNK

moderators: Victoria Beckmann & Jordan Munos

18. IMMEDIATE HIRE OR IMMEDIATE REJECTION? THE IMPACT OF GRAMMAR USAGE ERRORS ON RATINGS OF APPLICANTS' WRITING, EMPLOYABILITY, AND CHARACTER

Presenters: Chloe Kofman, Katie Paulich, Paige Shafer

Faculty nominator: April Bleske–Rechek, Psychology

Scholars debate whether English teachers should devote time to grammar usage instruction. On one hand, most usage errors do not impede readers’ understanding and an emphasis on usage rules perpetuates a social hierarchy. On the other hand, professionals find grammar usage errors
bothersome. We tested the hypothesis that common grammar usage errors in a cover letter taint perceptions of an applicant’s writing quality and employability. We drafted three versions of a hypothetical cover letter written by a college student. One version contained zero usage errors, one contained a typical error rate (2/100 words), and one contained a high error rate (4/100 words). We sent one of the three versions to community adults, with the stated intent of obtaining their perceptions of college students’ “real world” readiness. Participants (n=201) reviewed the cover letter and rated the quality of the writing and the applicant. Exposure to a letter with usage errors tainted not only perceptions of the applicant’s writing but also of their employability and character. Writers should attend to grammar usage to foster positive first impressions.

19. HUMAN ENERGY MODALITIES FOR DEMENTIA-ASSOCIATED SYMPTOMS

Presenters: Michael Jaeb, Aimee Marx, Aurora Thorne

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

According to the World Health Organization, 50 million people are living with dementia, with 10 million new cases every year. There are no effective interventions to cure/prevent dementia. Our aim is to test the effectiveness of implementing two non-invasive energy modalities [Body Talk Cortices (BTC) and Mind Clearing] to persons with mild to moderate dementia-associated symptoms. In collaboration with community partners, participants mood and cognitive function will be assessed using standardized tools at baseline, 3 and 6 months following implementation of the interventions. Project team members will train caregivers on BTC and Mind Clearing. Data will be collected to determine the effect of these interventions on mood and cognitive function. Team members will analyze the effect of the interventions on dementia-associated symptoms and effectiveness of the implementation process. We anticipate that mood and cognitive function scores will be maintained or improved because of utilizing BTC and Mind Clearing interventions. With successful implementation, the caregiver will have an additional intervention to decrease dementia-associated symptoms for those who suffer with dementia.

20. ARE ENERGY THERAPIES SUPPORTED BY RANDOMIZED, PLACEBO-CONTROLLED TRIALS? A SYSTEMATIC REVIEW

Presenters: Keith Jorgensen, Katie Paulich

Faculty nominator: April Bleske-Rechek, Psychology

Therapeutic Touch (TT) and Healing Touch (HT) are popular energy therapies. During a TT/HT intervention, practitioners hover their hands above the patient’s body, seemingly adjusting and balancing the energy field via the flow of healing energy through their hands. Previous scholars have concluded that studies that claim to support the validity of these interventions are fraught with methodological errors such as lack of appropriate placebo control. We reviewed studies published between 2010–2016 to determine if the quality of the research has improved. The searches recovered 57 articles, 31 of which were empirical studies. They were coded for three critical elements of methodological integrity: (1) the intervention did not include physical touch; (2) a placebo effect was controlled for by having participants be blind to condition, asleep, or naive (e.g., infants); and (3) a placebo effect was sufficiently addressed by use of a “sham” or mimic TT/HT condition. Only nine studies met the first criterion and either the second criterion or third criterion. Therefore, we conclude that the quality of the literature has not improved.
21. HOMELESS OUTREACH AND LAW ENFORCEMENT: AN AUTOETHNOGRAPHY

Presenter: Erin Brault

Faculty nominator: Martha Fay, Communication & Journalism

Over the course of five months, I spent time engaging with law enforcement officers and people living in poverty (particularly those who are homeless) with the intention of creating a sustainable community-based partnership between local law enforcement and one local daytime drop-in center. Throughout the course of this project, I took detailed notes of my encounters, observations, interviews, and overall experiences with these parties, as they challenged my motives, biases, and actions (or lack thereof) regarding how I think about and interact with homelessness and poverty. Through the use of autoethnography, I analyze and share my experiences using both Weick’s sense-making framework and a model of transformative learning. This analysis demonstrates the importance of autoethnography as a methodology and as a means to face biases, cope with experiences, and better allow researchers to examine not only their own reactions to events, but to delve into why they react that way. I found in my own experience that completing an autoethnography enhanced my understanding of the power dynamics of this relationship as well as my empathy for those living in poverty and the people who enforce laws that are intended to serve and protect them and their communities.

22. NEOCOLONIALISM AND TRANSCONTINENTAL DYNAMICS: CONVERSATIONS WITH RURAL FILIPINAS/OS

Presenter: Zachary Madison

Faculty nominators: Rose-Marie Avin, Economics and Kong Pha, Women’s Studies

Seeing that the Philippines is a country that has existed under centuries of imperial occupation by three different colonial projects, a critical decolonial inquiry is necessary to discuss how structures of violence have led to oppression, subjugation, and exploitation. I will use data based on informal conversations with Filipinos/as, where I initiated a dialogue on the role of global systems, to argue that the legacies of settler/colonialism and imperialism, particularly by way of the US, continue to shape and construct Filipinos/as’ identities, and further determines their social interactions both within their nation and within an increasingly globalized context. The paper will seek to draw on little-cited scholarship from the fields of feminist economics, feminist anthropology, critical race studies and Southeast Asian studies to see how the conversation of identities in a neocolonial context can be continued to create transnational alliances.

23. RE-IMAGINING COLLEGE WRITING USING DIGITAL HUMANITIES

Presenters: Megan Henning, Bryce Mohr

Faculty nominator: Patricia Turner, History

The goal of this project is to re-imagine college writing using the tools of digital humanities (DH) to promote interdisciplinary learning and technological literacy. The student researchers used DH technologies to transform eight short stories and argumentative essays written for this project by UWEC students into interactive Adobe Muse programs. The aim is to demonstrate how integrative learning, analytical thinking, and technological competency can be enhanced by enabling students to create multi-disciplinary digital narratives.
SESSION III: 3:20 – 4:20 P.M.

CENTENNIAL  moderators: Anna Bachmeier & Kathryn Bartlet

24. NAVIGATION THE OPT MODEL: FIRST YEAR NURSING STUDENT’S EXPERIENCE

Presenters: Stephany Andres, Madeline Brandl, Anna Drawenek, Michael Jaeb, Brenna Roshell

Faculty nominators: Katherine Sell, Diane Marcyjanik, Nursing

The goal is to use simulation, unfolding case study, and, a problem–based learning model to promote learning of clinical reasoning and critical thinking for assessing patients to provide a plan of care. Care planning models are introduced in the first semester of a nursing student’s core curriculum through the nursing theory and nursing skills courses. The integration of simulation, unfolding case study and problem–based learning was used to bridge the gap between the two courses and help students in understanding and applying the nursing care plan process.

25. CURRICULUM QUALITY IMPROVEMENT USING ACTION RESEARCH

Presenters: Steven Ackerson, Kristin Brunsell, Emily Gyorog, Hannah Sisto, Rebecca Wickler

Faculty nominators: Rita Sperstad, Shelley–Rae Pehler, Nursing

The purpose of this research project was to critically appraise the evidence–based educational strategies initiated in the traditional undergraduate nursing curriculum systematic improvement plan. Action Research was the chosen methodology, which involves faculty and students as co–researchers who are involved with data collection, analysis, reflection and discussion to improve or create change. When the first cohort of traditional undergraduate nursing students (TBSN) graduated from the revised curriculum, evaluation data showed areas for improvement. The initial research plan was to evaluate the two educational strategies initiated in fall 2017 which included three monthly student enrichment sessions and designated faculty tutors available to all TBSN students. During the action research process, faculty and student co–researchers identified incivility as another area impacting learning. The population for this study included all enrolled UWEC TBSN students fall 2017 and spring 2018. Mixed methods were used including three separate student surveys to gather quantitative student feedback on the enrichment sessions, faculty tutoring and level of incivility. Qualitative data was collected by student co–researchers conducting focus groups with peer cohort TBSN students. Results will be discussed.

26. COGNITIVE BIASES TOWARD SELF–HARM AS A FUNCTION OF NSSI HISTORY

Presenters: Nensi Xhunga, Krista Young

Faculty nominator: Jennifer Muehlenkamp, Psychology

Few studies have examined whether individuals who have stopped self–injuring show a change in their implicit self–injury cognitions that approximate individuals without self–injury. This study extends prior research by examining whether there are differences in cognitive biases (implicit identification, attentional bias, habituation) between those who are currently self–injuring and those who have stopped self–injury. Participants included 149 students (mean age = 19.08yrs, 82.6% female) who completed self–report and reaction time tasks assessing self–injury characteristics and self–harm cognitive biases. Independent sample t–tests showed that those with current NSSI demonstrated
stronger implicit associations with NSSI, t(142) = 3.53, p < .01, than those with a past history. The only other group differences were on measures of hopelessness, impulsivity, and depressive cognitions. These results suggest that those who are currently self-injuring have stronger cognitive biases toward self-harm than those who have stopped, indicating that cognitive-behavioral therapies may be effective in reducing self-injury by changing cognitive processes.

MENOMINEE moderators: Brianna Hedeman & Courtney Pagel

27. RESEARCH TO INFORM POLICY: MY GALAPAGOS EXPERIENCE

Presenter: Kayla Budd
Faculty nominator: Wilson Taylor, Biology

Today, the Galapagos Marine Reserve (GMR) supports an artisanal fishery of almost 1200 resident fishers. Galapagos fishers mainly use a type of longline equipment, but in the GMR fishers are restricted to a small-scale version. Longlines are often used in industrial fisheries, but the impacts of this type of artisanal longline fishing in Galapagos are not well understood. Through this research we seek to develop a detailed description of Galapagos fisheries by describing catch. We also seek to determine the effects of these fishing techniques on local marine megafauna and identify key management implications for reducing negative impacts of longlines in the GMR by focusing on bycatch.

28. ANALYSIS OF ARABIDOPSIS THALIANA RED–LIGHT RESPONSE MUTANTS IDENTIFIED IN A GENETIC ENHANCER SCREEN

Presenter: Allison Welter
Faculty nominator: Derek Gingerich, Biology

Plants require light for survival and have developed sophisticated pathways to respond to their light environment. Photoreceptors allow plants to sense specific wavelengths of light, one family being the red/far-red-absorbing phytochromes. Two genes called Light–Response BTB 1 and 2 (LRB1 and LRB2) regulate the red pathway in the model flowering plant Arabidopsis thaliana. Plants containing mutations within the LRB genes (lr1 lr2 plants) display hypersensitivity to red light due to reduced degradation of the phytochromes. To learn more about this pathway, we conducted genetic enhancer screens looking for mutations that enhanced the effect of the lr1 lr2 insertions. We are using a whole genome resequencing strategy to map and identify the enhancer mutations in the lines. This process has been completed with two lines and in both the putative enhancer mutation occurs in the PHYB gene, which encodes the major red–light receptor in Arabidopsis. Only one mutation in the endogenous PHYB gene causing red light hypersensitivity has been reported in the literature, making our new mutants potentially very interesting to the community that studies phytochromes.

29. DELAMINATION STUDY OF YTTRIUM BARIUM COPPER OXIDE WITH NOVEL SAMPLE PREPARATION TECHNIQUES

Presenter: Kasey Berger
Faculty nominator: Matthew Jewell, Materials Science Center

Yttrium Barium Copper Oxide, or YBCO, is a layered superconductor with a tape-like geometry. Copper and silver encase the tape, and a nickel–based substrate is used for strength and texturing. Transverse tensile stresses can cause the layers within the material to delaminate, hindering its electrical properties. To better understand this phenomenon, delamination tests are performed. A commonly utilized method to prepare samples for delamination involves shearing the longitudinal edges of the
superconductor, allowing for an intrinsic test of delamination strength. However, shearing introduces damage to the edges of the superconductor which negatively impacts delamination tendencies. To eliminate this issue, a novel sample preparation technique is being implemented in which the longitudinal edges of the YBCO tape are removed through a sequence of etchants instead of shearing. In this manner, an intrinsic test of delamination strength can be performed without introducing external damage. Acknowledgments: This work was financially supported by the U.S. Department of Energy, Office and High Energy Physics, award DE–FG02–13ER42036, and benefited from the Materials Science & Engineering Center at UW–Eau Claire.

**30. CHARACTERIZING FOOD PURCHASES OF SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP) PARTICIPANTS: A CASE STUDY OF GROCERY STORES IN THREE DIFFERENT WISCONSIN METROPOLITAN AREAS**

**Presenters:** Nathan Gilger, Katelyn Kleutsch, Kelly Schneider

**Faculty nominator:** Eric Jamelske, Economics

Previous research suggests the Supplemental Nutrition Assistance Program (SNAP) contributes to rising obesity rates among low income households. Specifically, a New York Times headline claimed food stamp households purchased a lot of soda. This study reports on data for SNAP purchases at three locations of one Wisconsin grocery retailer over one year. Using this data, we characterize SNAP purchases for comparison to the study that prompted this headline. Preliminary results show fruits and vegetables represent a larger percent of SNAP purchases compared to soda/junk food. We also see vegetables purchased more with SNAP benefits than fruits, and fresh produce purchases are more common than purchases of frozen/canned fruits and vegetables. Ultimately, we will examine SNAP purchases across store locations as well as for different months looking for variation. These results will be included in our presentation. This relevant research provides an understand what foods are being purchased by SNAP households to inform policy decisions before considering changes to the SNAP program.

**31. INCREASING HEALTHY FOOD ACCESS FOR LOW INCOME FAMILIES: A CASE STUDY OF DOUBLING SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP) BENEFITS AT THE FARMERS MARKET IN ONE WISCONSIN METROPOLITAN AREA**

**Presenters:** Jake Arneson, Olivia Jonasen, Levi Soborowicz

**Faculty nominator:** Eric Jamelske, Economics

There is a variety of research with mixed results regarding the success of the Supplemental Nutrition Assistance Program (SNAP) in meeting program goals. This study uses data from a program in one Wisconsin metropolitan area that doubles SNAP benefits used at the farmers market. We compare program usage by SNAP participants for 2015 and 2016. We also outline the partnerships/resources necessary to implement this program and the intended goals. The two main goals of this program are decreasing food insecurity and increasing consumption of healthy and local food among SNAP participants. Preliminary results show that this program increased the dollars available to spend on food for SNAP participants. We also see program usage increased in 2016 compared to 2015. These results suggest that SNAP families are gaining access to more food which is locally produced and we are optimistic that families are purchasing more healthy foods. This research is relevant from a policy perspective as it helps us understand the impacts of a program designed to improve access to healthy foods for low income families.
32. IMPROVING FOOD CHOICES FOR LOW INCOME WOMEN WITH CHILDREN: A CASE STUDY OF INCLUDING FRUITS AND VEGETABLES IN THE WOMEN, INFANTS AND CHILDREN (WIC) PROGRAM FOOD PACKAGES IN ONE WISCONSIN METROPOLITAN AREA

Presenters: Shinhoo Park, Ashley Ramaker, Allison Schneider

Faculty nominator: Eric Jamelske, Economics

The Women, Infants and Children Program (WIC) food packages were revised to include fruits and vegetables in 2009. These program changes will only be successful if WIC participants use the fruit and vegetable vouchers to purchase/eat more fruits and vegetables. This study uses administrative data from one Wisconsin metropolitan area to compare rates at which fruit and vegetable vouchers are used by WIC families over five years from 2012 – 2016. The two main goals of these program revisions are to decrease food insecurity while also increasing consumption of fruits and vegetables. Our results show that WIC fruit and vegetable vouchers are used at lower rates than would be desired, but usage of WIC fruit and vegetable vouchers has increased over time. These results suggest that WIC families are not taking full advantage of their increased access to fruits and vegetables. This research is relevant from a policy perspective as it helps us understand the impacts of a program change designed to increase access to fruits and vegetables for low income families.

CHANCELLORS

33. THE IMPACT OF LIFE SAVERS PEER–DELIVERED GATEKEEPER TRAININGS ON CAMPUS: A QUANTITATIVE AND QUALITATIVE ANALYSIS

Presenter: Sophia Thoen

Faculty nominators: Lisa Quinn–Lee, Social Work and Jennifer Muehlenkamp, Psychology

The project evaluated participants’ perceived value and impact of a 45–minute peer–delivered gatekeeper training program provided as part of a campus–wide suicide prevention initiative. University of Wisconsin–Eau Claire students (n = 1987, mean age = 20.21, SD = 3.25yrs; 73% Female; 89% White) received this training during a university course (per faculty discretion). Program evaluation included a pre–post survey as part of the presentation process, gathering both qualitative and quantitative data. Participants who indicated a willingness to be contacted for follow–up were contacted approximately three months after the training and asked to complete a follow–up survey. Surveys included quantitative measures of knowledge, self–efficacy to respond, ability to act, and perceived impact of the program, and qualitative measures garnered new knowledge and additional comments. Quantitative data was analyzed through repeated measures analyses (controlling for gender, age, prior suicide prevention training) in SPSS. Qualitative data was analyzed in NVivo11® using inductive thematic analysis, grounded theory model, and constant comparative method. Significant and relevant findings will be discussed, highlighting the effectiveness and feasibility of peer–delivered, undergraduate gatekeeper trainings.

34. A COMPARATIVE STUDY OF EDUCATION DIFFERENCES IN CHINA

Presenters: Caitlin Hedberg, Katelyn Kannel

Faculty nominator: Kaishan Kong, Languages

China’s recent, immense growth to becoming one of the world’s largest economies has, when paired with China’s two–track education system (Fu, 2005) and the central government’s ambiguous role in the allocation and distribution of educational funds (Fu, 2005) (Rong and Shi, 2001) places students in
rural regions at a systemic disadvantage to their urban counterparts. To investigate how this influences how students, families, and teachers view education, it is important to acknowledge the existence of other influencing factors including the social status, Confucian culture, and gender. This study seeks to understand three questions: (1) How do Chinese parents, students, and faculty view education? (2) How do these perspectives inform their educational decisions? (3) How does regional educational inequality influence educational perspectives? Multiple data sources include interviews, application of the constant comparative method, and comparing findings with past research. This study, instead of using quantitative data, utilizes multiple sets of data to reveal participants’ perception on the Chinese education system.

35. AN EXAMINATION OF NURSING BELIEFS IN COSTA RICA AND THE UNITED STATES

Presenter: Amanda DuBall
Faculty nominator: Anne Hlas, Languages

This study investigated cultural nursing practices in Costa Rica and the United States. Using a cross-cultural comparison model (Furstenberg, 2001), cultural perspectives related to how people think and what they believe were revealed. The research questions were: What do Costa Rican and United States nurses report they believe about the nursing system in their country? How do nurses describe their daily job in each country? What do nurses report to believe are the challenges in the nursing profession (if any)? What do nurses report they believe about the future of nursing? What are the differences and similarities in their beliefs? During the summer of 2017, the student researcher interviewed 6 nurses, three from each country, and administered a survey to 25 nurses from each country. During the summer, the raw data were transcribed, coded, and analyzed. The findings reveal similarities, such as prioritizing care for patients, and differences in beliefs, such as nursing politics, across both cultures.

SESSION IV: 4:30 – 5:30 P.M.

CENTENNIAL moderators: Nathaniel Berg & Heather Weise

36. ASSESSMENT OF PUBLIC SUPPORT FOR CLIMATE AND ENERGY INITIATIVES IN EAU CLAIRE, WISCONSIN

Presenter: Ashley Pike
Faculty nominator: James Boulter, Watershed Institute

Following President Trump’s June 1, 2017 announcement of his intent to withdraw the United States from the Paris Climate Agreement, Eau Claire City Council passed a resolution to investigate potential actions to reduce community climate impacts. A survey was commissioned to assess community support for a variety of climate and energy initiatives to reduce greenhouse gas emissions, and was distributed through local media and postcards mailed to randomly-selected residences in Eau Claire. Respondents were asked about both municipal and community energy goals, community design and development, and their willingness to pay for implementing greenhouse gas-reducing initiatives. A total of 528 residents of Eau Claire took the survey. The majority of responses show favorable support for several municipal and community climate and energy initiatives and a general willingness to pay for implementing such initiatives. These results are intended to inform the Eau Claire City Council on locally supported climate and energy actions, provide insight to local sustainability values, and be a model for other municipalities to engage their community in strategies to reduce greenhouse gas emissions.
37. TOURISM AND SUPPORT FOR MARINE CONSERVATION IN TOFO, MOZAMBIQUE

Presenter: Kyle Salek-Nyhus
Faculty nominator: Karen Mumford, Watershed Institute

A pilot survey of tourists visiting Tofo, Mozambique was conducted during July 2017 to document tourist behaviors and their level of support for marine conservation. The coastal waters off Tofo contain diverse marine ecosystems that support whale sharks, manta rays, and other marine fauna. By learning about the tourist behaviors and level of support for marine conservation, efforts involving the tourism industry can be developed to protect this unique area. Survey questions were developed to collect information about tourist demographics, activities while in Tofo, spending, interest in and support for marine conservation. Data were collected from 40 respondents representing 14 countries, of which 55% were male. The primary activities of those surveyed included SCUBA, snorkeling, and visiting the beaches. Over 80% of respondents supported marine conservation in the area and 70% were willing to donate funds to support conservation efforts.

38. PROPELLER-SHAPED PI-EXPANDED COUMARINS AS ARYL-ARYL DIHEDRAL ANGLE SWITCHES

Presenter: Samantha Meyer
Faculty nominator: Bart Dahl, Chemistry

Planar conjugated compounds are an important field of research due to their applications as highly fluorescent molecules and dyes, as well as molecular devices and machines. This project aims to synthesize pi-expanded coumarin containing molecules that adopt a propeller-like geometry. This geometry includes a 1,3,5-triphenylbenzene core with three lactone bridges to force rigidity, and therefore planarity. Simpler linear versions of these molecules have been shown to act as molecular geometry switches of aryl-aryl dihedral angles. One challenge with synthesizing the proposed propeller-type molecules is that they are difficult to solubilize due to pi-aggregation. The objective of this specific project is to synthesize a propeller molecule that has both a planar conformation and is adequately soluble for characterization techniques. Once the molecule has been synthesized, it will be subjected to pH-driven conformational change reactions in order to test the molecule’s ability to reversibly switch states. These changes occur through the breaking and reformation of the lactone bridges and can be readily monitored through spectroscopic studies.

MENOMINEE

moderators: Brianna Hedeman & Courtney Pagel

39. NARRATIVE-BASED LANGUAGE INTERVENTION TO TEACH EMOTION RECOGNITION IN CHILDREN DURING THE MIDDLE CHILDHOOD YEARS

Presenter: Kayley Eslinger
Faculty nominator: Deborah Elledge, Communication Sciences & Disorders

This single-case study examined the use of a narrative intervention using storybooks to teach emotion recognition skills in a school-age, typically developing child. The intervention was implemented three times a week for six weeks and taught the child to retell three different stories from both the perspective of a main character as well as a secondary character. Baseline and post-intervention data was collected using the Reading the Mind in the Eyes Test (child version) to identify emotion recognition skills, the Interpersonal Reactivity Index self-assessment of perspective-taking skills, and a story retell task to evaluate the child’s ability to take alternate character perspectives as well as their use of psychological terms during this narrative retell. Initial analysis of results indicates that the child’s ability to retell a story from distinctive character perspectives improved, and the use of
psychological terms increased in the post-intervention story retell task suggesting a positive influence of the intervention.

40. **COMPARING 2-D AND 3-D INSTRUCTIONAL METHODS FOR TEACHING LARYNGEAL ANATOMY CONCEPTS**

Presenter: Katie Beck

Faculty nominator: Abby Hemmerich, Communication Sciences & Disorders

Teaching abstract concepts, like anatomy of deep structures of the body, can be challenging. A variety of instructional methods are used across different disciplines, such as dissection, prosection, models, and computer-based learning. Limited evidence on effectiveness of these modalities is available in communication sciences and disorders (CSD). The current study examined three teaching modalities: 2-D images, 3-D plastic models, and 3-D prosected animal specimens for teaching laryngeal anatomy to undergraduate students in CSD. The larynx is a structure within the neck, also known as the voice box, that is essential for various functions related to speech and swallowing. As such, it is an incredibly important structure for students in CSD to learn. Participants in this study were taught laryngeal structures through one of the modalities; improvements in knowledge were assessed via a pre–test to post–test comparison, using clinically relevant applications in speech–language pathology. Participants who received instruction using the 3-D plastic models showed the most growth in knowledge from pre–test to post–test, as compared to the 2-D images and 3-D prosected larynges.

41. **A VIDEO SELF–MODELING AS AN AT–HOME INTERVENTION TOOL FOR INDIVIDUALS WITH VOICE DISORDERS**

Presenter: Katie Spreitzer

Faculty nominator: Abby Hemmerich, Communication Sciences & Disorders

Video self–modeling is a technique applied across a variety of disciplines that allows a person to view themselves successfully executing a desired behavior. In the field of speech–language pathology, it has been used to facilitate development of speaking fluency in those who stutter, improvement in articulation and prosody for non–native English speakers working on English pronunciation, and development of executive functioning in individuals with traumatic brain injury. The current study employed video self–modeling with three participants who experienced voice disorders. Voice disorders can result from a variety of causes and impact an individual's ability to speak clearly and efficiently. The participants in this study utilized video self–modeling at home, in addition to the therapy services they were receiving for their voice concerns. Outcome data included an objective measure of voice function (the Dysphonia Severity Index), a perceptual voice assessment, and self–assessment by the participants. Preliminary findings indicate that the objective voice measure remained consistent across the baseline and treatment phases of the study, but that perceptual and self–assessment ratings indicated improvement in voice quality.

**HO–CHUNK**

**moderators: Annika Angelo & Victoria Beckmann**

42. **DEFORMATIONS OF ALGEBRAS**

Presenter: Tyler Gonzales

Faculty nominator: Michael Penkava, Mathematics

Deformations of algebras play a role in physics and mathematics. Both Lie and associative algebras are important in this context. We study some low dimensional spaces of algebras and how they deform one into another. This is important because we normally don't have exact values of the numerical constants.
that determine an algebra, so it is useful to understand what the nearby structures are. Also, in physics, one knows the classical algebra precisely, but only certain information about the quantum algebra, so we have to study the deformations of the classical algebra. The study of finite dimensional algebras and their deformations leads to insights about deformations in general. One more feature that arises is a grading of the algebras, which in physics appears because fermionic (odd) and bosonic (even) variables behave in very different ways, which in math is called a $Z \mod 2$ grading. We talk about spaces of algebras and their deformations in a mostly nontechnical manner, to give an idea of the importance of the topic.

43. CREATING ARTISTIC DESIGNS USING HYPERBOLIC GEOMETRY

Presenter: Emily Gullerud
Faculty nominator: James Walker, Mathematics

The mathematics of hyperbolic geometry—a non–Euclidean geometry where the shortest distances between points are determined by curves rather than lines—is used to create symmetric designs and animations. We developed some new techniques for creating symmetric designs, and video animations that illustrate a dynamic approach to the attainment of symmetry in a design. Our designs aim to display both visual beauty and mathematical rigor.

ALUMNI moderators: Kathryn Bartel & Sophia Thoen

44. HISTORICAL KEYBOARD TUNING SYSTEMS AND RELEVANCE TO MODERN PERFORMANCE PRACTICE

Presenter: Jennifer Lohmann
Faculty nominator: Nicholas Phillips, Music & Theatre Arts

Historically informed performance practice is an approach to the performing of classical concert music in which performers are interested in the context in which composers worked. One often neglected element of this context is an understanding of the contemporaneous tuning system. Through research on the history of keyboard tuning systems and the mechanics of piano tuning, the importance of this knowledge contributes to an accurate understanding of the Affekt (overall mood) of music composed before equal temperament became the standard tuning system for keyboard instruments. This project focuses on Franz Schubert’s Impromptu in F minor, and considers how key choice and tonal areas communicate Affekt. Viewed through the prism of the tuning system that Schubert used and intended, choices were made about how best to communicate the dramatic changes in Affekt which occur throughout the piece as it moves through different key areas—changes which would have been evident to any audience listening to this piece on a fortepiano tuned according to the convention of the time—by using modern performance tools such as pedaling, dynamics, and slight tempo variations to recreate the changing moods that Schubert intended.
45. DEVELOPING GLOBAL COMPETENCIES AND GLOBAL CAPACITIES IN TWO TEACHER EDUCATION PROGRAMS THROUGH INTERNATIONAL COLLABORATION

Presenters: Elizabeth Davis, Ian Harvatine, Samuel Rossmiller, Leah Wagner, Jenna Washetas

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

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 aide, 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 is 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.

INDEX OF PRESENTERS & FACULTY NOMINATORS/ADVISORS

<table>
<thead>
<tr>
<th>Name</th>
<th>Major(s) or Department(s)</th>
<th>Presentation #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ackerson, Steven Edward</td>
<td>Nursing</td>
<td>25</td>
</tr>
<tr>
<td>Adams, Connor Bryan</td>
<td>Economics</td>
<td>3</td>
</tr>
<tr>
<td>Airth–Kindree, Norah M.</td>
<td>Nursing</td>
<td>19</td>
</tr>
<tr>
<td>Allgaier, Orion Hart</td>
<td>Environment Public Health</td>
<td>13</td>
</tr>
<tr>
<td>Andres, Stephany</td>
<td>Nursing, Adult–Gero–Education</td>
<td>24</td>
</tr>
<tr>
<td>Arneson, Jake David</td>
<td>Economics</td>
<td>31</td>
</tr>
<tr>
<td>Arzbecker, Lian June</td>
<td>Communication Sciences &amp; Disorders</td>
<td>10</td>
</tr>
<tr>
<td>Avin, Rose–Marie</td>
<td>Economics</td>
<td>22</td>
</tr>
<tr>
<td>Beck, Katie Marie</td>
<td>Communication Sciences &amp; Disorders</td>
<td>40</td>
</tr>
<tr>
<td>Berger, Kasey Lynn</td>
<td>Materials Science</td>
<td>29</td>
</tr>
<tr>
<td>Bleske–Rechek, April L.</td>
<td>Psychology</td>
<td>18, 20</td>
</tr>
<tr>
<td>Boulter, James E.</td>
<td>Chemistry, Watershed Institute</td>
<td>3, 4, 5, 36</td>
</tr>
<tr>
<td>Brandl, Madeline Joy</td>
<td>Nursing</td>
<td>24</td>
</tr>
<tr>
<td>Brault, Erin Kathleen</td>
<td>Spanish</td>
<td>21</td>
</tr>
<tr>
<td>Braunling, Kenneth Gerald</td>
<td>Geography, Environmental</td>
<td>13</td>
</tr>
<tr>
<td>Name</td>
<td>Major(s) or Department(s)</td>
<td>Presentation #</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Brost, Hailey Jo</td>
<td>Communication Sciences &amp; Disorders</td>
<td>11</td>
</tr>
<tr>
<td>Brunsell, Kristin Marit</td>
<td>Nursing</td>
<td>25</td>
</tr>
<tr>
<td>Budd, Kayla Ann</td>
<td>Ecology and Environmental Biology</td>
<td>27</td>
</tr>
<tr>
<td>Burgin, Kelly Jane</td>
<td>Communication Sciences &amp; Disorders</td>
<td>11</td>
</tr>
<tr>
<td>Cleary, Patricia Anne</td>
<td>Chemistry</td>
<td>7</td>
</tr>
<tr>
<td>Coker, Adara Carol</td>
<td>Liberal Studies</td>
<td>5</td>
</tr>
<tr>
<td>Coonen, Kayla Ann</td>
<td>Geography, Environmental</td>
<td>4</td>
</tr>
<tr>
<td>Cornett, Cora Ann</td>
<td>Spanish, Linguistics</td>
<td>5</td>
</tr>
<tr>
<td>Dahl, Bart J.</td>
<td>Chemistry</td>
<td>38</td>
</tr>
<tr>
<td>Davis, Elizabeth Ann</td>
<td>Elem. Ed, Mid/Early Adolescents</td>
<td>45</td>
</tr>
<tr>
<td>Deans, Lindsey Anne</td>
<td>Communication Sciences &amp; Disorders</td>
<td>10</td>
</tr>
<tr>
<td>Donato, Maria Grace</td>
<td>Communication Sciences &amp; Disorders</td>
<td>17</td>
</tr>
<tr>
<td>Doud, Aspen Kay</td>
<td>Communication Sciences &amp; Disorders</td>
<td>15</td>
</tr>
<tr>
<td>Drawenek, Anna Noel</td>
<td>Nursing</td>
<td>24</td>
</tr>
<tr>
<td>DuBall, Amanda Ruth</td>
<td>Nursing</td>
<td>35</td>
</tr>
<tr>
<td>Elledge, Deborah H.</td>
<td>Communication Sciences &amp; Disorders</td>
<td>39</td>
</tr>
<tr>
<td>Eslinger, Kayley Alisabeth</td>
<td>Communication Sciences &amp; Disorders</td>
<td>39</td>
</tr>
<tr>
<td>Ewer, Renee Elise</td>
<td>Art, Studio Art</td>
<td>1</td>
</tr>
<tr>
<td>Fang, Zhixin</td>
<td>Economics</td>
<td>3</td>
</tr>
<tr>
<td>Faulkner, Douglas J.</td>
<td>Geography &amp; Anthropology</td>
<td>6</td>
</tr>
<tr>
<td>Fay, Martha J.</td>
<td>Communication &amp; Journalism</td>
<td>21</td>
</tr>
<tr>
<td>Fernandez, Manuel</td>
<td>Languages</td>
<td>12</td>
</tr>
<tr>
<td>Focht, Carter Michael</td>
<td>Environment Public Health</td>
<td>13</td>
</tr>
<tr>
<td>Geib, Kyle</td>
<td>Physics, Applied Emphasis</td>
<td>7</td>
</tr>
<tr>
<td>Gilger, Nathan Remon</td>
<td>Economics</td>
<td>30</td>
</tr>
<tr>
<td>Gingerich, Derek J.</td>
<td>Biology</td>
<td>28</td>
</tr>
<tr>
<td>Gonzales, Tyler Jules</td>
<td>Mathematics, Research Emphasis</td>
<td>42</td>
</tr>
<tr>
<td>Gullerud, Emily Jane</td>
<td>Mathematics</td>
<td>43</td>
</tr>
<tr>
<td>Gyorog, Emily Elizabeth</td>
<td>Nursing</td>
<td>25</td>
</tr>
<tr>
<td>Name</td>
<td>Major(s) or Department(s)</td>
<td>Presentation #</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Harvatine, Ian Andrew</td>
<td>History, Teaching</td>
<td>45</td>
</tr>
<tr>
<td>Hazen, Angela Elizabeth</td>
<td>Studio Art</td>
<td>2</td>
</tr>
<tr>
<td>Hedberg, Caitlin Elisabeth</td>
<td>Physics</td>
<td>34</td>
</tr>
<tr>
<td>Hedeman, Brianna Lynne</td>
<td>Spanish</td>
<td>12</td>
</tr>
<tr>
<td>Helgen, Laura Katherine</td>
<td>Spanish, Linguistics</td>
<td>12</td>
</tr>
<tr>
<td>Hemmerich, Abby Leigh</td>
<td>Communication Sciences &amp; Disorders</td>
<td>40, 41</td>
</tr>
<tr>
<td>Henning, Megan Leigh</td>
<td>Broadfield Social Studies–Teaching/Social-History</td>
<td>23</td>
</tr>
<tr>
<td>Hlas, Anne Cummings</td>
<td>Languages</td>
<td>35</td>
</tr>
<tr>
<td>Hoepner, Jerry K.</td>
<td>Communication Sciences &amp; Disorders</td>
<td>15, 16, 17</td>
</tr>
<tr>
<td>Holmes, Austin Kenneth</td>
<td>Mathematics, Applied</td>
<td>4, 12, 23</td>
</tr>
<tr>
<td>Hooper, Robert L.</td>
<td>Geology</td>
<td>8</td>
</tr>
<tr>
<td>Husnik, Peter Andrew</td>
<td>Environment Public Health</td>
<td>13</td>
</tr>
<tr>
<td>Jaeb, Michael Allan</td>
<td>Nursing</td>
<td>19, 24</td>
</tr>
<tr>
<td>Jamelske, Eric M.</td>
<td>Economics</td>
<td>3, 4, 5, 30, 31, 32</td>
</tr>
<tr>
<td>Jewell, Matthew C.</td>
<td>Materials Science and Engineering</td>
<td>29</td>
</tr>
<tr>
<td>Jonasen, Olivia Kathryn</td>
<td>Accounting and Business Economics</td>
<td>31</td>
</tr>
<tr>
<td>Jorgensen, Keith John</td>
<td>Biology</td>
<td>20</td>
</tr>
<tr>
<td>Kaldjian, Paul J.</td>
<td>Geography &amp; Anthropology</td>
<td>12</td>
</tr>
<tr>
<td>Kannel, Katelyn Laura Rose</td>
<td>Information Systems, Business Analysis</td>
<td>34</td>
</tr>
<tr>
<td>Kentnich, Jacob Bennett</td>
<td>Environment Public Health</td>
<td>13</td>
</tr>
<tr>
<td>Kleich, Samantha Joelle</td>
<td>Geology, General</td>
<td>8</td>
</tr>
<tr>
<td>Kleutsch, Katelyn</td>
<td>Biology</td>
<td>30</td>
</tr>
<tr>
<td>Kofman, Chloe Copland</td>
<td>Liberal Studies</td>
<td>18</td>
</tr>
<tr>
<td>Kong, Kaishan</td>
<td>Languages</td>
<td>34</td>
</tr>
<tr>
<td>Kurtz, Lindsey Mabel</td>
<td>Geography, Environmental</td>
<td>6</td>
</tr>
<tr>
<td>Laporte, Theresa Rose</td>
<td>Spanish, Teaching</td>
<td>12</td>
</tr>
<tr>
<td>Lewis, David E.</td>
<td>Chemistry</td>
<td>14</td>
</tr>
<tr>
<td>Lohmann, Jennifer</td>
<td>Music, Collaborative Piano</td>
<td>44</td>
</tr>
<tr>
<td>Name</td>
<td>Major(s) or Department(s)</td>
<td>Presentation #</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Look, Rachael Mary</td>
<td>Communication Sciences &amp; Disorders</td>
<td>16</td>
</tr>
<tr>
<td>Lu, Der-Fa</td>
<td>Nursing</td>
<td>19</td>
</tr>
<tr>
<td>Madison, Zachary William</td>
<td>Economics and Women’s Studies</td>
<td>22</td>
</tr>
<tr>
<td>Manning, Carmen K.</td>
<td>Education &amp; Human Sciences</td>
<td>45</td>
</tr>
<tr>
<td>Marcyjanik, Diane L.</td>
<td>Nursing</td>
<td>24</td>
</tr>
<tr>
<td>Marie, Cedar</td>
<td>Art and Design</td>
<td>1, 2</td>
</tr>
<tr>
<td>Marx, Aimee Noel</td>
<td>Nursing</td>
<td>19</td>
</tr>
<tr>
<td>Mcfaul, Breanna Carol</td>
<td>Communication Sciences &amp; Disorders</td>
<td>17</td>
</tr>
<tr>
<td>Meyer, Samantha Marie</td>
<td>Biochemistry/Molecular Biology</td>
<td>38</td>
</tr>
<tr>
<td>Mohr, Bryce Richard</td>
<td>Communication</td>
<td>23</td>
</tr>
<tr>
<td>Moran, Andrew Timothy</td>
<td>Economics</td>
<td>5</td>
</tr>
<tr>
<td>Muehlenkamp, Jennifer J.</td>
<td>Psychology</td>
<td>26, 33</td>
</tr>
<tr>
<td>Mumford, Karen G.</td>
<td>Watershed Institute</td>
<td>37</td>
</tr>
<tr>
<td>Pakanich, Lauren Michelle</td>
<td>Communication Sciences &amp; Disorders</td>
<td>17</td>
</tr>
<tr>
<td>Park, Shinhoo</td>
<td>Information Systems, Business Analysis</td>
<td>32</td>
</tr>
<tr>
<td>Paulich, Katie Nicole</td>
<td>Biology</td>
<td>18, 20</td>
</tr>
<tr>
<td>Pehler, Shelley-Rae</td>
<td>Nursing</td>
<td>25</td>
</tr>
<tr>
<td>Penkava, Michael R.</td>
<td>Mathematics</td>
<td>42</td>
</tr>
<tr>
<td>Pha, Kong Pheng</td>
<td>Women’s Studies</td>
<td>22</td>
</tr>
<tr>
<td>Phillips, Nicholas S.</td>
<td>Music &amp; Theatre Arts</td>
<td>44</td>
</tr>
<tr>
<td>Pierce, Crispin H.</td>
<td>Watershed Institute</td>
<td>13</td>
</tr>
<tr>
<td>Pike, Ashley Ginger</td>
<td>Liberal Studies</td>
<td>3, 36</td>
</tr>
<tr>
<td>Quinn-Lee, Lisa</td>
<td>Social Work</td>
<td>33</td>
</tr>
<tr>
<td>Ramaker, Ashley Ann</td>
<td>Psychology, Behavior Analysis</td>
<td>32</td>
</tr>
<tr>
<td>Rauland, Anastasia L</td>
<td>Liberal Studies</td>
<td>4</td>
</tr>
<tr>
<td>Roshell, Brenna Ann</td>
<td>Nursing</td>
<td>24</td>
</tr>
<tr>
<td>Rossmiller, Samuel Robert</td>
<td>Broadfield Social Studies, teaching</td>
<td>45</td>
</tr>
<tr>
<td>Rothbauer, Dylan Richard</td>
<td>Biochemistry/Molecular Biology</td>
<td>14</td>
</tr>
<tr>
<td>Name</td>
<td>Major(s) or Department(s)</td>
<td>Presentation #</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Salek-Nyhus, Kyle Christopher</td>
<td>Geography, Environmental</td>
<td>37</td>
</tr>
<tr>
<td>Sather, Thomas W.</td>
<td>Communication Sciences &amp; Disorders</td>
<td>9, 10, 11, 17</td>
</tr>
<tr>
<td>Schemm, Donna K.</td>
<td>Communication Sciences &amp; Disorders</td>
<td>11</td>
</tr>
<tr>
<td>Schneider, Allison Margaret</td>
<td>Psychology</td>
<td>32</td>
</tr>
<tr>
<td>Schneider, Kelly Ann</td>
<td>Undeclared</td>
<td>30</td>
</tr>
<tr>
<td>Sell, Katherine Ann</td>
<td>Nursing</td>
<td>24</td>
</tr>
<tr>
<td>Shafer, Paige Julia</td>
<td>Psychology</td>
<td>18</td>
</tr>
<tr>
<td>Shoemaker, Hannah Jean</td>
<td>Communication Sciences &amp; Disorders</td>
<td>16</td>
</tr>
<tr>
<td>Sisto, Hannah Alexis</td>
<td>Nursing</td>
<td>25</td>
</tr>
<tr>
<td>Soborowicz, Levi Joseph</td>
<td>Economics</td>
<td>31</td>
</tr>
<tr>
<td>Sperstad, Rita A.</td>
<td>Nursing</td>
<td>25</td>
</tr>
<tr>
<td>Spreitzer, Katie</td>
<td>Communication Sciences &amp; Disorders</td>
<td>41</td>
</tr>
<tr>
<td>Taylor, Wilson A.</td>
<td>Biology</td>
<td>27</td>
</tr>
<tr>
<td>Terrell, Robert Adam Jr.</td>
<td>Communication Sciences &amp; Disorders</td>
<td>9</td>
</tr>
<tr>
<td>Thoen, Sophia Katherine</td>
<td>Social Work</td>
<td>33</td>
</tr>
<tr>
<td>Thorne, Aurora Jane</td>
<td>Nursing</td>
<td>19</td>
</tr>
<tr>
<td>Torres, Eric D.</td>
<td>Education Studies</td>
<td>45</td>
</tr>
<tr>
<td>Turner, Patricia R.</td>
<td>History</td>
<td>23</td>
</tr>
<tr>
<td>Van Dyke, Naomi Esther</td>
<td>Spanish, Linguistics</td>
<td>12</td>
</tr>
<tr>
<td>Wagner, Leah Marie</td>
<td>English, Teaching</td>
<td>45</td>
</tr>
<tr>
<td>Walker, James Stephan</td>
<td>Mathematics</td>
<td>43</td>
</tr>
<tr>
<td>Washetas, Jenna Lynn</td>
<td>English, Teaching</td>
<td>45</td>
</tr>
<tr>
<td>Welter, Allison Lynn</td>
<td>Biochemistry/Molecular Biology</td>
<td>28</td>
</tr>
<tr>
<td>Wickler, Rebecca Marie</td>
<td>Nursing</td>
<td>25</td>
</tr>
<tr>
<td>Xhunga, Nensi</td>
<td>Psychology</td>
<td>26</td>
</tr>
<tr>
<td>Young, Krista Lynn</td>
<td>School Psychology</td>
<td>26</td>
</tr>
</tbody>
</table>