2019

2019 Transformations Program

State University of New York College at Cortland

TRANSFORMATIONS

A STUDENT RESEARCH AND CREATIVITY CONFERENCE

Friday, April 12, 2019

Schedule of Events and Abstracts

Transformations is made possible with support from the President's Office, Provost and Vice President for Academic Affairs Office and Auxiliary Services Corporation.

Design by Matthew Okerayi, Senior, Graphic Design, for ATS 440: Portfolio Practicum

150 YEARS
1868-2018

SUNY Cortland

Transformations: A Student Research and Creativity Conference

April 12, 2019
Sperry Center, SUNY Cortland

Schedule of Events

12:30-1:30 p.m.	Keynote Address Sperry Center, Room 204 *"The 3 Cs of Learning Organizations: Confidence, Competence, and Cooperation"* **Dr. Anthony Rigazio-DiGilio, '73** Professor Emeritus, Department of Educational Leadership, Policy, Instructional Technology New Britain, Connecticut
1:45-2:30 p.m.	Concurrent Sessions I
2:30-3 p.m.	Poster Session A Sperry, First floor Atrium
3-4 p.m.	Concurrent Sessions II
4-4:30 p.m.	Poster Session B Sperry, First Floor Atrium
4:30-5:30 p.m.	Concurrent Sessions III

Light refreshments will be available 2:30-4:30 p.m. in the first floor main lobby.
PLEASE NOTE: Food and beverages are NOT allowed in classrooms.

Cover Design by Matthew Okerayi, Senior, Graphic Design,
for ATS 440: Portfolio Practicum

Transformations: A Student Research and Creativity Conference is an event designed to highlight and encourage scholarship among SUNY Cortland students. Our scholarly work is crucial to who and what we are as individuals and as an institution. This day is an attempt to help our students and the general public understand and appreciate what we do, to draw students into the intellectual life and the excitement of scholarly work, and to publicize the accomplishments of our students.

Presentations will be made by students and faculty mentors. In addition to attendance by members of the campus community, invitations have been extended to area high school students and their advisors, our elected representatives, and to the Cortland community at large.

Support for *Transformations* has been received from the President's Office and the Provost and Vice President for Academic Affairs Office.

Our Appreciation to the Transformations Committee:

R. Bruce Mattingly, Arts & Sciences (Chair)

Martine Barnaby, Art and Art History

Connor Berg, Campus Activities

Philip Buckenmeyer, Kinesiology

Patricia Conklin, Biological Sciences

Lisa Mostert, Campus Technology Services

Kimberly Rombach, Childhood/Early Childhood Education

Gigi Peterson, History

Charlotte Pass, Literacy

Erin Morris, Sport Management Department

Kenneth Cohen, Recreation, Parks and Leisure Studies

Hilary Wong, Memorial Library

Special thanks to Alumni Engagement
for providing volunteers for *Transformations*

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KEYNOTE ADDRESS

The 3 Cs of Learning Organizations: Confidence, Competence, and Cooperation

12:30-1:30 p.m.

Sperry Center, Room 204

Dr. Anthony Rigazio-DiGilio, '73

Dr. Rigazio-DiGilio has forty-five years of experience at all levels of the educational and human service fields. He is currently Professor Emeritus at Central Connecticut State University's Department of Educational Leadership, Policy, and Instructional Technology, where he served as Department Chair for over twenty years. Since leaving Cortland in 1973, he has held the roles of counselor, regular and special educator, principal, professor, chairperson, evaluator, administrator, and consultant. He is known as a boundary spanner and attributes his ability to remain calm and persistent in the face of vexing and complex challenges to his time here at Cortland.

Over his career, Dr. Rigazio-DiGilio maintained his involvement with myriad levels of the community by working with International and National Professional Societies, Federal and State educational professionals, and, most importantly, school district personnel across the state of Connecticut. It was in these interactions that Tony practiced the skills of Action Research to surface root causes, reach consensual goals, implement organizational strategies to achieve those goals, and measure the outcomes of those strategies. Central to his work was passing on to others essential research skills so that they can be empowered to influence their organizations in positive ways. He has witnessed the individual joy and collective satisfaction that colleagues share when common research methods are well applied to real-world realities.

Tony is the co-author of a book on Supervision in Education and was recognized by the Connecticut Chapter of the Association for Supervision and Curriculum Development as the state's Outstanding Educational Leader in 2011.

In addition to his work in Connecticut, Tony established and directed the Jamaica Master's degree program, which has graduated over 1000 Jamaican teachers, master teachers, principals, and Ministry of Education officials throughout the fourteen parishes of Jamaica. His work in Jamaica was acknowledged by the Minister of Education January 2018.

Specifically, relating to today – our Transformations event, Tony believes that all 21st century professionals must know how to adapt research methods to the amelioration of real-world problems. Professionals must be skilled in helping teams and colleagues within other levels of the organization to create optimal learning conditions that promote personal and system growth.
He and his life-partner Sandra have two beautiful children, Elizabeth and Nicholas and now spend their retirement in Lebanon, Connecticut

CONCURRENT SESSIONS I

1:45-2:30 p.m.

Room 105

Moderator: Peter Ducey, Distinguished Teaching Professor, Biological Sciences
URC Session I

Evaluation of Dissolved Organic Carbon's Influence on Plant Distribution and Bladder Production in the Invasive Aquatic Bladderwort, *Utricularia inflata
Presenter: *Anthony L. Dolce, SR, Biological Sciences*
Faculty Mentor: *Angela Pagano, Biological Sciences*

***Exposure and Loss of Environmental Enrichment Mediates Ethanol Consumption in Adolescent Female Rats**
Presenter: *Natalie Lipari, JR, Psychology*
Faculty Mentor: *Joshua Peck, Psychology*

Room 304

Moderator: Evan Faulkenbury, Assistant Professor, History
History in Action: Student Historians in the Archives and in the Public

Better Lives and Butter Lumber': Camp Pharsalia and the Changing Political Landscape
Presenter: Kaycie Haller, SR, SST-History
Faculty Mentor: *Scott Moranda, History*

Summer in Saratoga: My Internship Experience with the National Racing Hall of Fame and Museum
Presenter: *Joseph Nuzzi, SR, History & Adolescence Education: Social Studies*
Faculty Mentor: *Evan Faulkenbury, History*

Creating the College's Digital Timeline
Presenter: *Kaycie Haller, SR, SST-History*
Zachary Cole, SR, History
Faculty Mentor: *Randi Storch, History*

* Denotes students who received 2018 Undergraduate Research Council Summer Research Fellowships.

Room 305

Moderator: Kim Rombach, Childhood/Early Childhood Education
General Interest I

A Media Exploration of the Link Between School Shootings, Public Activism that Follows, and Subsequent Gun Legislation

Presenter *Alyson Tufillaro; SR; Dual Psychology and Political Science*
Faculty Mentor: *Karen Davis, Psychology*

Learning Through Collaboration: Technical Writing and Video Design

Presenter: *Mickey McPoland, SR, Professional Writing and Rhetoric*
Faculty Mentor: *Katherine Ahern, English*

Poster Session A

2:30-3 p.m.

Sperry Center, First Floor Atrium

Cartography Competition: Reference Maps for Kindergarteners

Presenters: *The Students of GRY 324 Section 1*

Andrew	*Burden*	*FR*	*BSED Phys. Educ. Major (Cert.)*
Daniel	*Heaney*	*SO*	*BS Geographic Info. Systems*
Kevin	*Morgans*	*JR*	*BS Geographic Info. Systems*
Jamie	*Myers*	*JR*	*BS Mathematics*
Nathaniel	*Potter*	*SO*	*BS Geo.Info.Sys-Adv.Geosp.Appl*
Owen	*Pugh*	*SO*	*BS Geo.Info.Sys-Adv.Geosp.Appl*
Marleny	*Abreu*	*JR*	*BS Early Ch & Ch Ed:Soc.Sci.*
Hunter	*Andersen*	*JR*	*BA Political Science*
Nicole	*Brand*	*SR*	*Inclusive Ed Childhd Soc Sci*
Kelly	*Brown*	*JR*	*BS Early Ch&Ch Ed: Env.Studies*
Zachary	*Campbell*	*SR*	*BS Conservation Biology*
Kristian	*Christian*	*JR*	*BS Early Ch & Ch Ed:Soc.Sci.*
Ian	*Downes*	*JR*	*BS Conservation Biology*
Thomas	*Epp*	*JR*	*BS Outdoor Rec: Outdoor Leader*
Joshua	*Knapp*	*JR*	*BS Mathematics*
Adam	*Reed*	*SR*	*Public Admin and Public Policy*
Zachary	*Saltsman*	*JR*	*BS Geology*

Faculty Mentor: *Melinda Shimizu, Geography*

The Cortland Votes Project and GIS Analysis of NY Congressional District 22 Results

Presenter: *Luke Williams, SR Geography*
Faculty Mentor: *Christopher Badurek, Geography*
John Suarez, Institute for Civic Engagement

Assessment of Land Use Land Cover Change 2009-2015 around Onondaga Lake, NY

Presenter: *Mathew Raymond, SR, Geography*
Faculty Mentor: *Christopher Badurek, Geography*

Cartography Competition: Thematic Maps for Third Graders

Presenters: *The Students of GRY 324 Section 2*

Clayton	*Bleier*	*JR*	*BS Conservation Biology*
Luke	*Calo*	*SO*	*BS Geology*
Joshua	*Gleason*	*JR*	*BS Conservation Biology*
Keith	*Kalinsky*	*SO*	*BA Pre-Major*
Hengzhou	*Yan*	*FR*	*Non Matriculated Undergraduate*
Caitlin	*Buglione*	*SR*	*BS Conservation Biology*
Logan	*Dague*	*JR*	*BS Outdoor Rec:Nat.Res.Rec.Mgt*
Lauren	*Hagner*	*SO*	*BS Biology*
Thomas	*LaLena*	*SO*	*BA New Communication Media*
Andrew	*Maendel*	*SO*	*BS Adolescence Educ: Earth Sci*
McClean	*Pink*	*JR*	*BA Arch: World Archaeology*
Alexander	*Polhamus*	*JR*	*BS Geology*
Patrick	*Powers*	*JR*	*Environmental Geoscience*
Samantha	*Robbins*	*JR*	*BS Biology*
Kyle	*Sambolin*	*SR*	*BA Mathematics*
Matthew	*Thibault*	*SR*	*BA Anthropology*

Faculty Mentor: *Melinda Shimizu, Geography*

Heart Rate Response to Walking in an Altered Gravity Environment

Presenters: *Connor Lewis, JR, Exercise Science*
Jennifer Kraft, GR, Exercise Science
Faculty Mentors: *Kevin Dames, Kinesiology*
Ryan Fiddler, Kinesiology
Jacqueline Augustine, Kinesiology

Determining Preferred Walking Speed in an Altered Gravity Environment

Presenters: *Jennifer Kraft, GR, Exercise Science*
Connor Lewis, JR, Exercise Science
Faculty Mentors: *Kevin Dames Kinesiology*
Ryan Fiddler, Kinesiology
Jacqueline Augustine, Kinesiology

When the Bell Strikes... Examining the Potential Impact of a Professional Football Contract Dispute on Team Cohesion/Dynamics using Archival Media Reports

Presenter: *Zachary Williams, SR Sports Studies*
Faculty Mentors: *Mark Dodds, Sport Management*
Erik Lind, Kinesiology

Health Effects of Lead Paint Poisoning

Presenters: *The Students in CPN 101-012*
Matthew Milano, FR, ATR
Robert Rypkema, FR, ATR
Ashley Rutz, FR, SPMG
Caterina Mangogna, FR, PEMW
Taylor Simpson, FR, ELDW
Faculty Mentor: *Laura Dunbar, English*

Lead Paint Poisoning in Cortland: Local Issues & Perspective

Presenters: *The Students in CPN 101-012*
Maya Owens, FR, IECW
Grace LaRiviere, FR, BUSE
Samantha Spagnola, FR, LECW
Isabelle Pastore, FR, PRE
Faculty Mentor: *Laura Dunbar, English*

Lead Paint Poisoning in America: A Historical Overview

Presenters: *The Students in CPN 101-012*
Ryan Mayo, SO PEMW
Giavana Jurado, FR, ECDW
Adam J. Lawton, FR, SPMG
Emily Berg, SO, ATR
Kiara Reyes, FR, BIO
Faculty Mentor: *Laura Dunbar, English*

Lead Paint Poisoning in Central New York: Issues & Perspectives

Presenters: *The Students in CPN 101-012*
Kara Vamvalis, FR ECDW
Erin Minnick, FR, IECW
Dylan Ramage, SO, BUSE
Maria Papakonstantis, FR, ECDW
Isabel Marshall, FR, BMS
Faculty Mentor: *Laura Dunbar, English*

Identification of Sex-Specific Candidate Genes in the Protandric Eastern Oyster, (Crassostrea Virginica)

Presenter: *Brittany Apuzza, SR, Biological Sciences*
Faculty Mentor: *Laura Eierman, Biological Sciences*

Water Quality Analysis of Trace Metals in the Turag-Balu-Buriganga River Systems in Bangladesh

Presenter: *Richard Milleville, SR, GEO, Environmental Science*
Faculty Mentor: *Li Jin, Geology*

Exposure and Loss of Environmental Enrichment Mediates Ethanol Consumption in Adolescent Female Rats

Presenters: *Natalie Lipari, SR, Psychology*
Max Baron, SR, Psychology
Faculty Mentor: *Joshua Peck, Psychology*

Undergraduate Learning and Teaching Perspectives about Geography, Equity and Social Justice

Presenters: *Leah DeMoore, SO, ESL*
Laura Herrling, JR, Geography
Joseph LaLena, FR, Geography
Nathaniel Potter, SO, Geography
Devyn Tremblay, SR., Geography
Faculty Mentor: *Ibipo Johnston-Anumonwo, Geography*

Self-Competency of Fundamental Motor Skills in Preschool Students

Presenters: *Maura Conlon, SR, Physical Education*
Megan Howell, SR, Physical Education
Faculty Mentors: *Helena Baert, Physical Education*
Larissa True, Kinesiology

Emerging Interest in Romantic Relationships May Threaten Adolescent Friendships, A Correlational Study

Presenters: *Kalyna Melnyk, SR, Psychology*
Jesika Perkins, SR, Psychology
Natalie Lipari, JR, Psychology
Kristina Petrella, JR, Psychology
Faculty Mentor: *Kaitlin Flannery, Psychology*

Effect of Stroke Rate on Meters Rowed on a Concept2 Rowing Ergometer

Presenter: *Kristina J. Petrella, JR, Psychology*
Faculty Mentors: *Kevin Dames, Kinesiology*
Kaitlin Flannery, Psychology

CONCURRENT SESSIONS II

3-4 p.m.

Room 104

Moderator: Kenneth Cohen, Associate Professor, Recreation, Parks and Leisure Studies
General Interest II

Corpus Linguistic Technology: Unveiling the Grammatical Mystery of Text Types

Presenter: *Esther Crouse, SR TESOL*
Faculty Mentor: *Paulo Quaglio, Modern Languages*

Reducing Physical and Social Fears of the Outdoor Environment Through Education and Practice
Presenter: *Eric Kovatchitch, SR Therapeutic Recreation*
Faculty Mentor: *Sharon Todd, Recreation, Parks and Leisure Studies*

Imagining Forward: Black Mirror and 21st Century Anxieties
Presenter: *Alaina Lynch, SR, Political Science and Criminology*
Faculty Mentor: *Anna Curtis, Sociology/Anthropology*

The Effects of Attentional Focus on Postural Stability
Presenter: *Erin Reid, SR, Exercise Science*
Faculty Mentor: *Kevin Dames, Kinesiology*

Room 105
Moderator: Peter Ducey, Biological Sciences
URC II

***Site-Specific Labeling of JCPyV Proteins with Fluorescent Probes Using the π-Clamp**
Presenter: *Anthony Chillo, SR, Biological Sciences*
Faculty Mentor: *Christian Nelson, Biological Sciences*

***Evaluation of Pal Swallow-wort Management Utilizing Understory Vegetation Surveying**
Presenter: *Jeremy Collings, JR, Conservation Biology*
Faculty Mentor: *Andrea Davalos, Biological Studies*

***Lime Hollow a Historical and Geographic Research (still a working title)**
Presenter: *Devyn Tremblay, SR, Geographic Information Sciences*
Faculty Mentor: *Scott Maranda, History*

***Chemistry of Cobalt Terpyridine Complexes**
Presenter: *Ethan Parks, SR, Chemistry*
Faculty Mentor: *Andrew Roering, Chemistry*

* Denotes students who received 2018 Undergraduate Research Council Summer Research Fellowships.

Room 204

Moderator: Alexandru Balas, Clark Center for Global Engagement; International Studies

Challenges and Opportunities for the Romanian Presidency of the European Union

Presenters: *Elianna Bodnar, JR, International Studies*
Eamon McCaffrey, JR, International Studies
Sean Quinn, JR, International Studies
Marcello deLesdernier, SR, Political Science and International Studies
Hannah Falk, JR, International Studies
Faculty Mentor: *Alexandru Balas, International Studies*

Room 205

Moderator: Jeffrey Bauer, Kinesiology Department
Parkinson's Disease

Parkinson's Disease Overview and Participant Demographics

Emma Madonna, SR, Exercise Science
Eilish O'Reilly, JR Exercise Science
Natalie Dunn, SR, Exercise Science

Parkinson's Technology and Protocol

Kashaun Curry, SR, Exercise Science
Aidan Farrell, SR, Exercise Science
Eilish O'Reilly, JR, Exercise Science
Nicholas Curtis, SR, Exercise Science

Parkinson's Disease Data and What it Means

Eric Gibbs, SR, Exercise Science
Paul Chavez, SR, Exercise Science
Ryan Postiglione, JR, Exercise Science
Jillian Leggiero, SR, Biomedical Sciences
Cristian Schroder, SR, Exercise Science

Parkinson's Future Direction and Fundraising Efforts

Jordyn Steele, SR, Exercise Science
Abigail Hurd, SR, Exercise Science
Eilish O'Reilly, JR, Exercise Science
Jennifer Fertitta, SR, Exercise Science

Faculty Mentor: *Jeff Bauer, Kinesiology*

Room 304

Artist Talks – Art and Art History BFA Students
Moderator: Martine Barnaby, Art & Art History Department

Documents of Interest
Presenter: *Erin Schiano, SR, BFA Art and Art History*
Faculty Mentor: *Vaughn Randall, Art and Art History*

1 Train
Presenter: *Darien Fernandez, SR, BFA Art and Art History*
Faculty Mentor: *Stephen Clark, Art and Art History*

Exposure: The revelation and reforming of identity
Presenter: *Megan O'Brien, SR, BFA Art and Art History*
Faculty Mentor: *Jenn McNamara, Art and Art History*

Personal Space
Presenter: *Samantha Reali, SR, BFA Art and Art History*
Faculty Mentor: *Jenn McNamara, Art and Art History*

POSTER SESSION B

4-4:30 p.m.

Sperry Center, First Floor Atrium

***Growth of Soil Bacteria Communities on Hop Flowers and Extracts**
Presenter: *Andrea Fontaine, SR. Biochemistry*
Faculty Mentor: *Jeffrey Werner, Chemistry*

Development of Neural Circuits: Lessons from Zebrafish
Presenters: *Janiellee Alvarez, SR, Biological Sciences*
Michelle Burmistrova, SR, Biological Sciences
Faculty Mentor: *Santanu Banerjee, Biological Sciences*

Social Media Use and Risk Behaviors Among College Students
Presenters: *Kristina Lindberg, SR, Psychology*
Elizabeth Slusarz, SR, Psychology
Shannon Thomson, SR, Psychology
Faculty Mentor: *Katherine Bonafide, Psychology*

* Denotes students who received 2018 Undergraduate Research Council Summer Research Fellowships.

Growth and Nectar Production of Selfed and Outcrossed Plants of Tropical Milkweed, Asclepias Curassavica

Presenter: *Laynie Jensen, JR, Mathematics*
Faculty Mentor: *Steven Broyles, Biological Studies*

Hybrid Nano-Bio-Electronic Oder Detector

Presenter: *Luykas Van Alstyne, SR, Biological Sciences*
Faculty Mentor: *Theresa Curtis, Biological Sciences*

Using Bat, Tadarida Brasiliensis, Epithelial Cells to Detect Chemicals in Drinking Water

Presenter: *Brittany Apuzza, SR, Biological Sciences*
Faculty Mentor: *Theresa Curtis, Biological Sciences*

Spatial Dynamics of Tri-trophic Interactions among Native Phragmites Australis and its Associated Herbivores and Predators

Presenter: *Emily Ammons, SR, Biological Sciences and Mathematics*
Faculty Mentor: *Andrea Davalos, Biological Sciences*

Lead Paint Poisoning in America: A Historical Overview

Presenters: *The Students from CPN 101-021*
Caiya Surrency, FR, BIO
Dani Bleiweiss, FR, ECDW
Andy Burden, FR, PEMN
Wendell Felder, SO, CRIM
Mike Gunther, FR, SPMG
Anthony Marcuccilli, SO, SPMG
Faculty Mentor: *Laura Dunbar, English*

Leave Paint Poisoning in Cortland: Local Issues and Perspectives

Presenters: *The Students from CPN 101-021*
Florica Cunia, SR, PWRT
Lianna Farrell, FR, PRE
Michael Coby, JR, BUSE
Grace Schnorr, JR, EXSC
Ann Casey, SO, CON
Dominick Natale, FR, BUSE
Faculty Mentor: *Laura Dunbar, English*

Heath Effects of Lead Paint Poisoning

Presenters: *The Students from CPN 101-021*
Justin Corna, SO, PEMW
Devon DiVello, SO, AEMW
Noel Urquhart, FR, PRE
Faculty Mentor: *Laura Dunbar, English*

Lead-Based Paint Poisoning in Central New York: Issues and Perspectives

Presenters: *The Students from CPN 101-021*
Nathaniel Potter, SO, GIS
Emily Siefert, SO EXSC
Kristen LaBianca, FR, IECW
Robin Wolf-Gould, FR, PRE
Julia Condron, FR, PSY
Faculty Mentor: *Laura Dunbar, English*

A content Analysis of Four News Outlets Representation of Mental Health in Relation to a Mass Shooting

Presenters: *Olyvia Harrian, SR, Psychology*
Katelynn Dulny, SR, Psychology
Faculty Mentor: *Karen Davis, Psychology*

The impact of Temperature, Origin and Diet on Growth Rate and Size at Maturity for Spotted Salamanders (Ambystoma Maculatum)

Presenters: *Samantha Robins, JR Biological Sciences*
Jordan Garcia & Kelly Zamudio from Cornell University
Faculty Mentor: *Peter Ducey, Biological Sciences*

Macroscopic Model of Quantum Mechanical System*s*

Presenters: *Karl Hipius, SR, Physics*
Nathaniel Rose, SR, Physics
Faculty Mentor: *Eric Edlund, Physics*

Genetic Diversity of Eastern Oysters from Wild and Restored Reefs in the Chesapeake Bay

Presenter: *Dana Ryan, SR, Conservation Biology*
Faculty Mentor: *Laura Eierman, Biological Sciences*

Biochemical Characterization of NicC

Presenters: *Rachel Sebastian, SR, Biochemistry*
Akiba Waterman, SR, Chemistry
Faculty Mentor: *Katherine Hicks, Chemistry*

Formulation Chemistry in Toothpastes: New Additives to Improve Function

Presenter: *Sabrina Capelli, SR, Chemistry*
Faculty Mentor: *Gregory Phelan, Chemistry*

CONCURRENT SESSIONS III

4:30-5:30 p.m.

Room 104

Moderator: Peter Ducey, Biological Sciences
URC III

***Strategic Innovation and Social Movement Success: How the Parkland Gun Control Movement Challenged the NRA and Existing Pro-Gun Government Representation**
Presenter: *Adam Palmer, SR, Political Science*
Faculty Mentor: *Mary McGuire, Political Science*

***The Women of Domesday**
Presenter: *Jessica Goon, SR, Archaeology*
Faculty Mentor: *Laura Gathagan, History*

* Denotes students who received 2018 Undergraduate Research Council Summer Research Fellowships.

Room 105

Moderator: Laura Davies, Associate Professor, English;
Director, Writing Program

2018 Outstanding Writing Awards

Turpentine
Presenter: *Elle Kellher, JR, English and History*
Award: *Collin Anderson Memorial Award in Fiction*
Faculty Mentor: *Mario Hernandez, English*

Janie Foster
Presenter: *Julie Currier, SO, Early Childhood/Childhood Education*
Award: *Honorable Mention for the Collin Anderson Memorial Award in Fiction*
Faculty Mentor: *Gailanne Mackenzie, English*

Unspoken
Presenter: *Griffin Smith, SR, New Communication Media*
Award: *Collin Anderson Memorial Award in Poetry*
Faculty Mentor: *Heather Bartlett, English*

If the World is Cold
Presenter: *Marlee Vedder, SO, Early Childhood, Childhood Education*
Award: *Honorable Mention for the Collin Anderson Memorial Award in Poetry*
Faculty Mentor: *Gregg Weatherby, English*

Myself the Migrant

Presenter: *Johnathan Herr, Graduate Student, History*
Award: *Collin Anderson Memorial Award in Creative Nonfiction*
Faculty Mentor: *Gigi Peterson, History*

Falling into Space

Presenter: *Kaili Mello, SR, English*
Award: *Honorable Mention for the Collin Anderson Memorial Award in Creative Nonfiction*
Faculty Mentor: *Kevin Rutherford, English*

Social Media and Teaching Writing

Presenter: *Victoria Van Every, SO, Professional Writing*
Award: *Collin Anderson Memorial Award in Digital/Multimodal Writing*
Faculty Mentor: *Kevin Rutherford, English*

'Schlag-ing' the Flag and Whatever that Means

Presenter: *Taylor Esposito, FR, Musical Theater*
Award: *Kathy Lattimore Prize in First-Year Writing*
Faculty Mentor: *James Miranda, English*

Guilty Until Proven Innocent

Presenter: *Jacob Robinson, FR, New Communication Media*
Award: *Honorable Mention for the Kathy Lattimore Prize in First-Year Writing*
Faculty Mentor: *Mario Hernandez, English*

The Endoxic Method

Presenter: *Benjamin Mayberry, SR, Professional Writing*
Award: *Academic Writing Award in the School of Arts and Sciences*
Faculty Mentor: *Sebastian Purcell, Philosophy*

Miseducation, Socialization, and Conformity in the Black Community

Presenter: *Kevin Robinson, SR, Psychology*
Award: *Honorable Mention for the Academic Writing Award in the School of Arts and Sciences*
Faculty Mentor: *Seth Asumah, Africana Studies*

Data Companies and the Need for Privacy

Presenter: *Hope Palma-Simoncek, SO, Communications*
Award: *Honorable Mention for the Academic Writing Award in the School of Arts and Sciences*
Faculty Mentor: *James Reardon, English*

How Assessments Affect Students of Diverse Demographics

Presenter: *Breanna Washington, SR, Special Education and Childhood Education*
Award: *Academic Writing in the School of Education*
Faculty Mentor: *Rhiannon Maton, Foundations and Social Advocacy*

School Discipline: Right vs. Wrong

Presenter: *Jade Tatulis, JR, Inclusive Childhood Education*
Award: *Honorable Mention for the Academic Writing Award in the School of Education*
Faculty Mentor: *Anne Burns Thomas, Foundations and Social Advocacy*

The Real Cost: Summary and Reaction

Presenter: *Raquel Rodriquez-Asher, Graduate Student, Community Health*
Award: *Academic Writing Award in the School of Professional Studies*
Faculty Mentor: *Al Sofalvi, Health*

Violence Against Women

Presenter: *Raquel Rodriquez-Asher, Graduate Student, Community Health*
Award: *Honorable Mention for the Academic Writing Award in the School of Professional Studies*
Faculty Mentor: *Jena Curtis, Health*

How Berliners Maintained Agency in their Christmas Celebrations during the Height of the Cold War

Presenter: *Johnathan Herr, Graduate Student, History*
Award: *Graduate Student Academic Writing Award*
Faculty Mentor: *Scott Moranda, History*

More than Just a Myth: How Shapeshifter Rhetoric Relates to ESL Students

Presenter: *Amber Kent, Graduate Student, English*
Award: *Honorable Mention for the Graduate Student Academic Writing Award*
Faculty Mentor: *Tyler Bradway, English*

Readings by Professional Writing Seniors

Creative writing students

DISTINGUISHED VOICES IN LITERATURE CONTEST WINNERS

Personal Essay

Winner - Nathaniel Rose "Origins"
Finalist - Neely Benoit "The Boogyman"
Finalist - Elizabeth Hernandez "Baby, There's a Shark in the Water"
Personal Essay Winner and Finalists Selected by visiting writer, Elissa Washuta

Poetry

Winner - Sean Dunn "Lilac Trees (From Behind Screen Door)" and "Birdwatching"
Finalist - Alice Luo "Ode to my Freshly-Braided Cornrows"
Finalist - Steven Salisbury "How to Take a Life"
Winner and Finalists selected by visiting poet, Chen Chen

Room 204

Moderator: Timothy Delaune
Moot Court Demo

Moot Court Demonstration: Oral Argument of *Somerville V. Olympus State University*

Presenters: *Alyson Tufillaro, SR, Psychology and Political Science*
Allison Yero, JR. Political Science
Connor Wright, JR, Political Science
Lily Winter, SO, Political Science

Room 205

Moderator: Benjamin Wilson, Economics
Economics as a Constitutional Project: Inequality, Education, Identity, and Employment

The Preamble: An American Promise

Presenter: *Kaitlyn Almonte-Hernandez, Political Science and International Studies*
Faculty Mentor: *Benjamin Wilson, Economics*

A New Future for Higher Education in America

Presenter: *Marcello DeLesdernier, SR, International Studies, Political Science*
Faculty Mentor: *Benjamin Wilson, Economics*

The Protection of Identity in an Evolving Global Tech Economy

Presenter: *Anthony Rocchio, Business Economics*
Faculty Mentor: *Benjamin Wilson, Economics*

Moving Beyond Scientific Management with a Jobs Guarantee

Presenter: *Jacob Jameson, SO, Economics*
Faculty Mentor: *Benjamin Wilson, Economics*

Room 106

Moderator: Krystal Barber, Childhood/Early Childhood Education

Preservice Teachers, Teachers, and Faculty Collaborate to Increase Student Learning with Math Read Aloud

Presenter: *Kerra Matolka, SR. Childhood/Early Childhood Education*
Audree Gilchrest, SR, Childhood/Early Childhood Education
Tara D'Ottavio, SR, Childhood/Early Childhood Education
Faculty Mentor: *Krystal Barber, Childhood/Early Childhood Education*

ABSTRACTS

KEYNOTE ADDRESS

12:30-1:30 p.m.
Sperry Center, Room 204

Dr. Anthony Rigazio-DiGilio, '73

The 3 Cs of Learning Organizations: Confidence, Competence, and Cooperation

All professionals seek to improve the organizations they work for and to positively influence the learners they serve. This presentation will emphasize three research topics that have yielded beneficial effects for personal and organizational growth. All learners, whether they are called students, clients, patients, participants, community members, etc., rely on professionals to bring research to bear on the problems they encounter in their daily living. The importance of building a solid sense of self-in-relationship for all learners, applying research findings and methods to address real world problems, and transforming current bureaucratic institutions into dynamic learning organizations will be explored. Knowing how to enact these concepts is a hallmark of today's professional.

CONCURRENT SESSIONS I

1:45-2:30 p.m.

Evaluation of Dissolved Organic Carbon's Influence on Plant Distribution and Bladder Production in the Invasive Aquatic Bladderwort, *Utricularia*

Anthony L. Dolce, SR, Biological Sciences

Swollen bladderwort, *Utricularia inflata,* is an aquatic carnivorous plant endemic to the southeast United States that has invaded lakes throughout the Southern Adirondacks, including brown water systems high in dissolved organic carbon (DOC). We examined if DOC levels impacted investment in carnivore as *U. infata* varies morphologically throughout these systems and this information may provide insight into patterns of invasion in Adirondack lakes. For our field study plants were collected from four Adirondack lakes and the number of bladders as well as total biomass from 20 cm fragments were recorded. We also conducted a tank experiment exposing field collected plants to varying DOC levels using natural lake water collected from Adirondack lakes. Variation between field collected and lab grown plants demonstrate that *U. inflata* has great phenotypic plasticity based on environmental conditions and may indicate an interaction between DOC and other lake parameters in determining investment in carnivore.

Exposure and Loss of Environmental Enrichment Mediates Ethanol Consumption in Adolescent Female Rats

Natalie Lipari, JR, Psychology

Alcohol use among adolescent females has significantly increased in the United States with young girls drinking alcohol at a similar rate as adolescent males. Furthermore, increased use of alcohol in adolescents can set the stage for the development of an Alcohol Use Disorder (AUD) later in life. One potential treatment strategy that could help support alcohol abstinence in adolescent females is Environmental Enrichment (EE). We examined if the implementation and loss of EE during ethanol self-administration will significantly reduce or enhance continued ethanol consumption in adolescent female rats. Starting on postnatal day 30, female rats had 24 hour access to 2%, then 4%, and then 6% ethanol. We found that EE significantly reduced ethanol consumption and the removal of EE led to a significant increase in ethanol intake. Collectively, the results suggest that access to enriched life conditions are important in facilitating alcohol abstinence in adolescent female rats.

Better Lives and Butter Lumber: Camp Pharsalia and the Changing Political Landscape

Kaycie Haller, SR, SST-History

This paper examines the local history of Camp Pharsalia, located in Chenango County, New York. From 1955 until its transition to an adult correctional facility in 1978, Camp Pharsalia was a minimum-security reformatory for troubled urban youth. Politicians used the camp to reconcile the period's persistent issues of urban decay, youth crime, and the environment. This initial research led to additional work on the ideals of citizenship and the environment within the context of African American Civilian Conservation Corps camps in New York and New Jersey. My research revealed the story of Educational Advisor Eugene Boykin and his conflict with the administrators of the Second Corps Area over Education in the CCC. Boykin's anti-racist viewpoints complicate the traditional historical narrative of Progressive Era Reform ideals of rural space and its curative characteristics in the development of "American Citizenship."

Summer in Saratoga: My Internship Experience with the National Racing Hall of Fame and Museum

Joseph Nuzzi, SR, History & Adolescence Education: Social Studies

This past summer of 2018, I had the pleasure of interning with the National Racing Hall of Fame and Museum's education curator, Karen Wheaton. As an intern, I experienced the history of thoroughbred racing in historical Saratoga Springs, New York. Over the course of my internship, I used my background in public history and other history courses, while learning other skills at the museum, that made my internship experience more valuable. During my internship, I worked at museum events, wrote blog posts for the museum educational department's website "Foal Patrol," led an event for the Paddock workers, and learned what it might be like to work in a museum. Overall, I had an exceptional time interning at the National Racing Hall of Fame and Museum, putting what I've learned at SUNY Cortland to use out in the world.

Creating the College's Digital Timeline

Kaycie Haller, SR, SST-History
Zachary Cole, SR, History

Students will explain the historical thinking skills they developed to create the digital timeline and present the timeline, highlighting their favorite entries.

A Media Exploration of the Link Between School Shootings, Public Activism that Follows, and Subsequent Gun Legislation

Alyson Tufillaro; SR; Dual Psychology and Political Science

With the modern accessibility of online news sources, social media, and a plethora of news channels and programs on television, highly publicized and politically charged events can sometimes prompt public support for changes to current legislation. This presentation will examine the relationship between school shootings, subsequent public activism regarding gun control legislation, and the type and frequency of actual changes to existing laws prompted by this activism. The recent shooting in Parkland, Florida will be compared to the Sandy Hook Elementary school shooting in 2012 by using online media sources to explore whether the content of media coverage can explain the types and frequency of subsequent gun legislation.
Specifically, the unique characteristics of the survivors of each shooting and the activism that followed will be examined to explore how these differences impacted the subsequent gun legislation.

Learning Through Collaboration: Technical Writing and Video Design

Mickey McPoland, SR, Professional Writing and Rhetoric

In this presentation, I will discuss research in designing video game sound within PWR 393: Technical Writing. In this project, our class formed teams to create audio asset packets for teams at another university (St. John Fisher) who were designing infinite runner video games. Our team was working on video game sound for a game about a technology inspired post-apocalyptic infinite runner. In this project our process involved working with the other team to discover exactly what assets they needed, gathering those assets and compiling them for use in game. In this project, we learned about the professional technical writing experience, working both with and for a client to complete a project. I will conclude this presentation showing a sample of the infinite runner and its game sound.

Poster Session A

2:30-3 p.m.

Cartography Competition: Reference Maps for Kindergarteners

The Students of GRY 324 Section 1

Andrew	*Burden*	*FR*	*Physical Education*
Daniel	*Heaney*	*SO*	*Geographic Information Systems*
Kevin	*Morgans*	*JR*	*Geographic Information Systems*
Jamie	*Myers*	*JR*	*Mathematics*
Nathaniel	*Potter*	*SO*	*Geo.Info.Sys-Adv.Geosp.Appl*
Owen	*Pugh*	*SO*	*Geo.Info.Sys-Adv.Geosp.Appl*
Marleny	*Abreu*	*JR*	*Early Childhd & Childhd Ed Soc.Sci.*
Hunter	*Andersen*	*JR*	*Political Science*
Nicole	*Brand*	*SR*	*Inclusive Ed Childhd Soc Sci*
Kelly	*Brown*	*JR*	*Early Childhd &Childhd Ed Env.Studies*
Zachary	*Campbell*	*SR*	*Conservation Biology*
Kristian	*Christian*	*JR*	*Early Childhd & Childhd Ed Soc.Sci.*
Ian	*Downes*	*JR*	*Conservation Biology*
Thomas	*Epp*	*JR*	*Outdoor Rec: Outdoor Leader*
Joshua	*Knapp*	*JR*	*Mathematics*
Adam	*Reed*	*SR*	*Public Admin and Public Policy*
Zachary	*Saltsman*	*JR*	*Geology*

Cartography is the art and science of making maps. While there is certainly room for creativity, there are well-defined standards that guide the process of creating a map. These standards direct and clarify the choices made in all aspects of map composition. Of chief concern for the map-maker is consideration of the intended map audience. Knowing this audience directs the entire process and the design choices made in executing a map. For this project, the students of GRY 324 – Section 1, were directed to create a reference map for kindergarteners. Their choices in map design were to reflect the needs of their audience and the results of their work were then presented as an assemblage of different maps designed for the same purpose. This was created by different map authors. The variety in maps presented demonstrates both the flexibility and rigidity in map standards.

The Cortland Votes Project and GIS Analysis of NY Congressional District 22 Results

Luke Williams, SR Geography

College students report limited interest in voting, frequently citing, "My vote doesn't matter." The Cortland Votes Project challenged this idea by registering SUNY Cortland students and inviting both candidates for the New York 22nd Congressional District to Campus. Overall, NYPIRG reported Cortland Votes registering over 1,360 students prior to the election on November 6th. Did these efforts make an impact on the race? This poster examines potential electoral impacts by using GIS analysis of electoral data from the New York State Board of Elections within the eight counties comprising District 22, including Cortland and Broome. Results indicated a very narrow

margin of victory for the winner of just 1,293 votes in the district and 1,627 in Cortland County. This very narrow race lends support to argument that voting locally matters to electoral outcomes and college students may have significant impact in close elections.

Assessment of Land Use Land Cover Change 2009-2015 around Onondaga Lake, New York

Mathew Raymond, SR, Geography

Syracuse, New York is the fifth most populous city in New York State. It has been a major crossroads for the past two centuries from its central location on the Erie Canal to today's I-81 and I-90 link. However, significant economic decline has affected industrial land use and accompanying housing density. This Land Use Land Cover (LULC) study examines land use changes over 2009-2015 in the Syracuse metro area. Unsupervised and supervised LULC classification of USGS Landsat satellite imagery were compared using the ERDAS Imagine program to better understand current land use in the formerly industrial area surrounding Onondaga Lake. Comparison of the land use classes urban, grass, vegetation, open area, and water indicate a slight decrease in urbanized area coupled with increase in vegetated areas. NDVI methods were also used to determine spatial variation in density of vegetated areas and better differentiate percent areal change in forested classes from grass and other vegetated classes.

Cartography Competition: Thematic Maps for Third Graders

The Students of GRY 324 Section 2

Clayton	*Bleier*	*JR*	*Conservation Biology*
Luke	*Calo*	*SO*	*Geology*
Joshua	*Gleason*	*JR*	*Conservation Biology*
Keith	*Kalinsky*	*SO*	*Pre-Major*
Hengzhou	*Yan*	*FR*	*Non Matriculated Undergraduate*
Caitlin	*Buglione*	*SR*	*Conservation Biology*
Logan	*Dague*	*JR*	*Outdoor Rec:Nat.Res.Rec.Mgt*
Lauren	*Hagner*	*SO*	*Biology*
Thomas	*LaLena*	*SO*	*New Communication Media*
Andrew	*Maendel*	*SO*	*Adolescence Educ: Earth Sci*
McClean	*Pink*	*JR*	*Arch: World Archaeology*
Alexander	*Polhamus*	*JR*	*Geology*
Patrick	*Powers*	*JR*	*Environmental Geoscience*
Samantha	*Robbins*	*JR*	*Biology*
Kyle	*Sambolin*	*SR*	*Mathematics*
Matthew	*Thibault*	*SR*	*Anthropology*

Cartography is the art and science of making maps. While there is certainly room for creativity, there are well-defined standards that guide the process of creating a map. These standards direct and clarify the choices made in all aspects of map composition. Of chief concern for the map-maker is consideration of the intended map audience. Knowing this audience directs the entire process and the design choices made in executing a map. For this project, the students of GRY 324, Section 2 were directed to create a thematic map for third graders. Their choices in map design were to reflect the needs of their audience and the results of their work were presented as

an assemblage of different maps designed for the same purpose, but created by different map authors. The variety in maps presented demonstrated both the flexibility and rigidity in map standards.

Heart Rate Response to Walking in an Altered Gravity Environment

Connor Lewis, JR, Exercise Science
Jennifer Kraft, GR, Exercise Science

Previous research has indicated that heart rate increases as walking speed increases, but such data is scarce in an altered gravity environment. The purpose of this study was to evaluate heart rate responses to walking on an AlterG treadmill at preferred speed, as well as speeds 30% above/below preferred. We hypothesized that heart rate would respond proportionally with changes in speed. Preferred walking speed (PWS) of each participant were obtained on the AlterG with 50% bodyweight support. Thus, participants in effect weighed only half of their normal bodyweight while they walked on the treadmill. Participants then performed five minute walking trials at -30% PWS, +30% PWS, and PWS, all at the same 50% body weight level on the AlterG treadmill. Heart rate was monitored continuously in each trial. Data collection is still in progress and results will be forthcoming.

Determining Preferred Walking Speed in an Altered Gravity Environment

Jennifer Kraft, GR, Exercise Science
Connor Lewis, JR, Exercise Science

Previous research has indicated that heart rate increases as walking speed increases, but such data is scarce in an altered gravity environment. The purpose of this study was to evaluate heart rate responses to walking on an AlterG treadmill at preferred speed, as well as speeds 30% above/below preferred. We hypothesized that heart rate would respond proportionally with changes in speed. Preferred walking speed (PWS) of each participant were obtained on the AlterG with 50% bodyweight support. Thus, participants in effect weighed only half of their normal bodyweight while they walked on the treadmill. Participants then performed five minute walking trials at -30% PWS, +30% PWS, and PWS, all at the same 50% body weight level on the AlterG treadmill. Heart rate was monitored continuously in each trial. Data collection is still in progress and results will be forthcoming.

When the Bell Strikes... Examining the Potential Impact of a Professional Football Contract Dispute on Team Cohesion/Dynamics using Archival Media Reports

Zachary Williams, SR Sports Studies

Group (e.g., team) cohesion is defined as, "A dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of goals and objectives" (Carron, 1982). Inherent in the process are the components of task (i.e. work together to achieve a common goal) and social cohesion (i.e. degree of social interaction among group members). Threats to team cohesion can come in many forms, especially at the professional sports level. Professional athletes can sometimes begin to feel as though their contractual agreement with the team does not reflect the true value that the athlete brings to the team. A potential result is that the athlete and team

end up in a prolonged contractual dispute. This investigation will examine the potential impact of a prolonged contractual disagreement on the team cohesion/dynamics of a professional football team using archival media reports. Interpretation and findings are forthcoming.

Health Effects of Lead Paint Poisoning

The Students in CPN 101-012
Matthew Milano, FR, ATR
Robert Rypkema, FR, ATR
Ashley Rutz, FR, SPMG
Caterina Mangogna, FR, PEMW
Taylor Simpson, FR, ELDW

Poster presentation detailing the health effects of lead poisoning.

Lead Paint Poisoning in Cortland: Local Issues & Perspective

The Students in CPN 101-012
Maya Owens, FR, IECW
Grace LaRiviere, FR, BUSE
Samantha Spagnola, FR, LECW
Isabella Pastore, FR, PRE

Poster presentation about local issues relating to lead exposure in Cortland, New York.

Lead Paint Poisoning in America: A Historical Overview

The Students in CPN 101-012
Ryan Mayo, SO PEMW
Giavana Jurado, FR, ECDW
Adam J. Lawton, FR, SPMG
Emily Berg, SO, ATR
Kiara Reyes, FR, BIO

Poster presentation providing a historical overview of lead-paint poisoning in the United States.

Lead Paint Poisoning in Central New York: Issues & Perspectives

The Students in CPN 101-012
Kara Vamvalis, FR ECDW
Erin Minnick, FR, IECW
Dylan Ramage, SO, BUSE
Maria Papakonstantis, FR, ECDW
Isabel Marshall, FR, BMS

Poster presentation about lead poisoning issues and perspectives in the Central New York region.

Identification of Sex-Specific Candidate Genes in the Protandric Eastern Oyster, (Crassostrea Virginica)

Brittany Apuzza, SR, Biological Sciences

The Eastern Oyster, *Crassostrea Virginica*, is a protandric hermaphrodite essential for the proper functioning of estuarine ecosystems. Xenoestrogens, found in plastics, are being leached into this keystone species' habitat, and have the potential to alter sex differentiation and gametogenesis in this species. Unfortunately, little research has been done on how the Eastern Oyster regulates sex differentiation. Using 14 published sex differentiation genes found in the related Pacific Oyster (*Crassostrea gigas*), homologous gene sequences were found and amplified using specially designed primers. Next, RT-qPCR was performed using cDNA transcribed from extracted RNA of gonadal tissue in order to ensure that the expression patterns matched the expected patterns seen in the Pacific Oyster. In the future, the effect of Xenoestrogens leaching from plastics will be quantified using these candidate genes as indicators for changes in sex differentiation.

Water Quality Analysis of Trace Metals in the Turag-Balu-Buriganga River Systems in Bangladesh

Richard Milleville, SR, GEO, Environmental Science

Pollution associated with urbanization continues to transform river systems and the millions of people that inhabit them. This issue is especially prominent in the Dhaka area in Bangladesh where untreated wastewater is being discharged into the rivers. A total of 72 metals samples were collected from the Turag and Buriganga River systems in December 2017 and January 2018. Six (6) samples were collected from Tongi Khai in January 2018. Twenty different trace metals were analyzed on each of these samples at the University of Oxford. In this study, Geographic Information System (GIS) water quality maps and statistical analysis were used to understand trace metal concentration changes at different flow regimes and to identify, "Hot Spots" for selected trace metals and their sources. Results of this study provided important information of trace metals in the Turag-Balu-Buriganga River systems that may lead to significant health issues and impact on the aquatic environment.

Exposure and Loss of Environmental Enrichment Mediates Ethanol Consumption in Adolescent Female Rats

Natalie Lipari, SR, Psychology
Max Baron, SR, Psychology

Alcohol use among adolescent females has significantly increased in the United States with young girls drinking alcohol at a similar rate as adolescent males. Furthermore, increased use of alcohol in adolescents can set the stage for the development of an Alcohol Use Disorder (AUD) later in life. One potential treatment strategy that could help support alcohol abstinence in adolescent females is Environmental Enrichment (EE). We examined if the implementation and loss of EE during ethanol self-administration will significantly reduce or enhance continued ethanol consumption in adolescent female rats. Starting on postnatal day thirty, female rats had twenty-four hour access to 2%, then 4%, and then 6% ethanol. We found that EE significantly reduced ethanol consumption and the removal of EE led to a significant increase in ethanol intake. Collectively, the results suggest

that access to enriched life conditions were important in facilitating alcohol abstinence in adolescent female rats.

Undergraduate Learning and Teaching Perspectives about Geography, Equity and Social Justice

Laura Herrling, JR, Geography
Joseph LaLena, FR, Geography
Nathaniel Potter, SO, Geography
Devyn Tremblay, SR., Geography
Leah DeMoore, SO, ESL

Undergraduate students enrolled in compulsory General Education Geography courses can be meaningfully engaged in transformational learning about social justice, pluralism, equity and inclusivity. Noting that resources for teaching about Geography, ethnicity-race and social justice vary in appropriateness and quality, the presentation draws on successful learning and teaching approaches that address ongoing issues of racism or other forms of prejudice and discrimination. The goal of the presentation is to highlight aspects of teaching-learning practices, methods, and activities for effective student learning of social justice themes in General Education Geography courses, while appraising strengths and shortcomings of featured print and non-print pedagogic materials.

Self-Competency of Fundamental Motor Skills in Preschool Students

Maura Conlon, SR, Physical Education
Megan Howell, SR, Physical Education

Perceived Motor Competence (PMC) is an individual's subjective self-perception of their ability to perform tasks like running, throwing, and kicking. According to Robinson (2011), age and body mass index (BMI) had an impact on PMC of Fundamental Motor Skills (FMS). Robinson (2011) reported males obtained higher PMC scores compared to females. The purpose of this study was to examine the PMC of pre-K students and to examine any differences associated with gender and BMI. Four classes of pre-K students were examined using a Pictorial Scale of Perceived Competency and Acceptance for Young Children. Statistical analysis of T-tests and ANOVA were used. We found that there were no significant differences between PMC of boys and girls. BMI results showed no significant impact on PMC.

Emerging Interest in Romantic Relationships May Threaten Adolescent Friendships, A Correlational Study

Kalyna Melnyk, SR, Psychology
Jesika Perkins, SR, Psychology
Natalie Lipari, JR, Psychology
Kristina Petrella, JR, Psychology

The importance of high-quality friendships on adolescent well-being is undisputed in the literature. However, budding interest in romantic relationships may threaten these friendships. To test the hypothesis that when romantic relationships threaten an existing friendship, adolescents will report compromised well-being (we utilized a self-report study). Participants were 354 middle

school students (M_{age}=11.89 years, *SD*=.86; 53% female; 82% white). Results from bivariate correlations indicate that adolescents who experienced interference from a romantic relationship within their friendship were more likely to report lower levels of hope (*r*=-.18, *p*<.01), greater depressive symptomology *(r=.29*, *p*<.001), and lower self-worth *(r*=-.18, *p*=.01*).* Results also indicated that adolescents who prioritized status were more likely to experience such interference (*r*=.72, *p*<.001). Understanding that those youth who prioritize status are most likely to allow for such interference in their friendships is an important first step toward creating an intervention for preventing the negative feelings associated with such friendship interference.

Effect of Stroke Rate on Meters Rowed on a Concept2 Rowing Ergometer

Kristina J. Petrella, JR, Psychology

In rowing competition, the goal is to move a given distance in the fastest time possible. One strategy is to pull as quickly as possible (sprint) and another is to pull slowly (endurance). Many athletes assume that when they sit down on a rower that the faster they row (i.e. the higher the stroke rate), the faster they will finish. However, starting slower and maintaining a given pace may win out in the end because ultimately the average impulse, not average stroke rate, matters. The purpose of this study is to investigate whether sprint or endurance strokes produce faster finishing times in CrossFit athletes. Athletes will perform both strategies for 30 strokes and the distance covered in each condition will be recorded. We expect forthcoming results of this study will benefit the CrossFit athletes, the CrossFit coaching community, and the researchers.

CONCURRENT SESSIONS II

3-4 p.m.

Corpus Linguistic Technology: Unveiling the Grammatical Mystery of Text Types

Esther Crouse, SR TESOL

How can the language of different text types, like a Facebook post, an academic research paper, or the dialog of your favorite sitcom be compared? Understanding the grammatical characteristics of different text types is of utmost importance for writers, language teachers, and anyone interested in how communicative purposes are utilized from a linguistic point of view. This presentation shows how corpus linguistics can be used to reveal the grammatical inner workings of different text types through *Keyness Analysis*, a measure of comparison that analyzes the statistically significant overuse or underuse of certain grammatical features of a text type in relation to another. We will conclude with a discussion of teaching and learning implications across a range of majors and careers

Reducing Physical and Social Fears of the Outdoor Environment Through Education and Practice

Eric Kovatchitch, SR Therapeutic Recreation

Historically, wilderness symbolized places to be feared or conquered, but later became viewed as beautiful, cherished areas. How do current generations, who seem to spend less of their childhood

outside, perceive outdoor-related fears in wilderness-based programs? Nearly 30 years ago, Ewert and Young (1992) found college students' social-based fears were more anxiety-producing than physical-based ones when participating in an outdoor education practicum, and females expressed significantly higher levels of fear. Results from a 2018 replication of this study showed today's college students are more anxious about physical fears than social ones. However, outdoor programs can effectively help individuals deal with these fears. While instruction especially reduces social fears, putting skills into practice during extended wilderness trips is more effective in modifying all types of fears. Although females tend to have higher initial levels of fear, outdoor programs significantly reduce their fears to a greater degree than for males over time.

Imagining Forward: Black Mirror and 21st Century Anxieties

Alaina Lynch, SR, Political Science and Criminology

In 2015, Netflix purchased *Black Mirror*, a series that has taken the United States by storm. Sociological analysis of similar series such as *The Twilight Zone* and *The Outer Limits* highlights the ways these television shows created opportunities for critical social commentary during their time periods. Worries about nuclear destruction have shifted to the 21st century fear of being blackmailed by your government through a laptop webcam. Studying current science fiction imagery allows us to engage with controversial topics that may be difficult for individuals to discuss when the conversation is based too heavily in reality. We used content analysis software, specifically "NVivo", to identify and analyze manifest and latent patterns in the themes of *Black Mirror*. NVivo is a software package designed to facilitate qualitative analysis. Our analysis discusses digital technology in *Black Mirror* and its role in discourse about modern morality.

The Effects of Attentional Focus on Postural Stability

Erin Reid, SR, Exercise Science

Both subconscious and conscious control processes are involved in preventing falls during quiet standing. Debate exists whether focusing on the movements of the body (an inward focus) or on an external object (an external focus) facilitates better balance. For example, postural adjustments measured via a force plate have shown differences between when participants were told not to move their outstretched finger (internal focus), or not to move a curtain (external focus) their outstretched finger was touching. The present experiment was conducted with the goal of replicating one such study, while modifying a single key factor; the location of the external focus target. We have replaced the curtain placed at an arm's length away with a laser pointer the participants will aim towards a target several meters away. We hypothesize extending the target distance will increase performance differences between conditions. Results are forthcoming.

Site-Specific Labeling of JCPyV Proteins with Fluorescent Probes Using the π-Clamp

Anthony Chillo, SR, Biological Sciences

JC Polyomavirus (JCPyV) is a human virus that causes progressive multifocal leukoencephalopathy (PML), a neurodegenerative disorder. Currently there is no approved treatment for PML. Understanding the intracellular pathway used by this virus to infect cells will aid in the development of drugs to resist infection, but the current methods to track the virus in living cells

could be improved. Our lab has shown that a method called the ⎋-clamp may be used to site-selectively label JCPyV protein with a fluorescent dye. However, the degree of off-site labeling, the optimal labeling conditions, and optimal location for insertion of the ⎋-clamp in the viral protein were unknown. During this fellowship, the optimal conditions for site specific labeling and placement of the ⎋-clamp within the JCPyV protein were optimized. These labeled JCPyV proteins are currently being used to investigate the infectious pathway that this virus uses to infect cells.

Evaluation of Pal Swallow-wort Management Utilizing Understory Vegetation Surveying

Jeremy Collings, JR, Conservation Biology

Invasive plants have various deleterious effects on agriculture, economics, and biodiversity. New York State expends immense resources to manage for invasive plants. However, management is often guided by research that associates invasive plants with lower native plant biodiversity without recognizing other factors (e.g. nonnative earthworms) that may affect native plant communities. Working with New York State Parks and Recreation I have utilized understory vegetation surveys to test the following hypotheses: 1) PSW management decreases its abundance and increases native plant diversity, and 2) PSW and nonnative earthworms have negative individual and synergistic effects on plant communities. I found that PSW abundance was lower in managed areas, but native plant diversity did not differ between managed and reference areas. I also found that neither PSW nor earthworms were associated with lower plant diversity. These results support previous studies that indicate that invasive species impacts are influenced by interactions between invasive species and co-occurring factors.

Lime Hollow a Historical and Geographic Research

Devyn Tremblay, SR, Geographic Information Sciences

This research focused on the history of the lime hollow area and how property changes caused physical geographic changes back to the 1800's.Through maps this research shows the changes in of properties as well as major geographic features such as the Cortland Railroad.

Chemistry of Cobalt Terpyridine Complexes

Ethan Parks, SR, Chemistry

Understanding transition-metal catalysis is important in the development of bond-forming reactions. This presentation will discuss the synthesis and characterization of terpyridene-based metal complexes. These complexes have been characterized by a variety of spectroscopic methods and their initial catalytic viability will be discussed. The purpose of our research was to use know syntheses and metalation reactions to build transition-metal complexes. We then wanted to test the ability of said transition-metal complexes to catalyze various organic chemistry reactions that form C-P bonds. Once these catalysis reactions were carried out, our intent was to study the elementary steps of said reactions, and isolate key intermediate steps. Using the data collected, we then investigated changes in the metal and ligand properties, which were then used to synthesize transition-metal complexes with increased catalytic efficiency.

Challenges and Opportunities for the Romanian Presidency of the European Union

Elianna Bodnar, JR, International Studies
Eamon McCaffrey, JR, International Studies
Sean Quinn, JR, International Studies
Marcello deLesdernier, SR, Political Science and International Studies
Hannah Falk, JR, International Studies

For the first time in the thirty plus years, history of the SUNY Model European Union Conference, a team from SUNY Cortland was assigned to play the Presidency team for the conference. The students created the agenda, collaborated with teams from other universities prior to the conference, and facilitated the dialogue in all four councils at the conference in New York City. They will present on their seven-month long work process on the topic as well as the substantive findings for their assigned roles. The EU is going through major changes and this Presidency has to deal not only with Brexit, but also with challenges from Russia, far-right wing populist parties, slowing Eurozone economy, immigration etc.

Parkinson's Disease Overview and Participant Demographics

Emma Madonna, SR, Exercise Science
Eilish O'Reilly, JR Exercise Science
Natalie Dunn, SR, Exercise Science

Parkinson's disease (PD) is a neurodegenerative disorder. A common misconception is that Parkinson's is a geriatric disease; however, people as young as 12 years of age have been diagnosed. Parkinson's is a "designer" disease that affects every aspect of a person's life, and everyone experiences the disease differently. Our patients have a broad range of unique life styles, experiences, and medical histories. The current average age of our participants (5 males and 3 females) is 69.75 years old and have been diagnosed with Parkinson's for an average of 5 years. Most participants report a 2 to 3 year gap between when they noticed their first symptoms to when they were clinically diagnosed. One participant experienced symptoms 6 years prior to being clinically diagnosed. These participants experience a varying range of symptoms, like tremors, drooling, gait problems, balance issues, and a loss of feeling in their arms while walking.

Parkinson's Technology and Protocol

Kashaun Curry, SR, Exercise Science
Aidan Farrell, SR, Exercise Science
Eilish O'Reilly, JR, Exercise Science
Nicholas Curtis, SR, Exercise Science

We use a Mobility Lab system and a reACT trainer in our research. The Mobility Lab system is a wireless system used to capture gait and balance data utilizing sensors called OPALs that contain accelerometers, magnetometers, and gyroscopes recording at 250Hz The reACT system is a non-impact, anaerobic exercise machine proven to increase muscle mass, strength and power as well as improve balance and stability in healthy individuals. Testing protocol: Upon arrival participants sit for five minutes then have blood pressure and heart rate recorded. OPALs are placed on the participants. They complete a "7-m Walkway" test (SAW), followed by a "SWAY" test standing still

for 30 seconds with eyes closed. Participants complete three 45-second bouts of exercise on the reACT system then have heart rate, blood pressure and rate of perceived exertion recorded. "SAW" and "SWAY" tests are repeated. Participants follow this procedure twice weekly for 12 weeks.

Parkinson's Disease Data and What it Means

Eric Gibbs, SR, Exercise Science
Paul Chavez, SR, Exercise Science
Ryan Postiglione, JR, Exercise Science
Jillian Leggiero, SR, Biomedical Sciences
Cristian Schroder, SR, Exercise Science

The data collected through the mobility lab is meant to provide insight into the different aspects of lower extremity movement in Parkinson's patient subjects. Data is gathered through the SWAY and SAW tests, which measure variables such as cadence, gait speed, double support, stance %, step duration, stride length, toe-off angle, swing, and sway. For each category of data, the mobility lab program provides a normative range of performance ranging from the 5th to 95th percentile to which the subjects are compared to monitor their progress. Studies have shown that a number of these variables, particularly stride length and cadence, have substantial impacts on both the gait and balance of Parkinson's patients. The information collected through this research will allow for a deeper analysis into how each of these variables in addition to stride length and cadence affect the gait and balance of Parkinson's patients.

Parkinson's Future Direction and Fundraising Efforts

Jordyn Steele, SR, Exercise Science
Abigail Hurd, SR, Exercise Science
Eilish O'Reilly, JR, Exercise Science
Jennifer Fertitta, SR, Exercise Science

Laboratory based eccentric lower body training appears to be effective in reducing main symptoms associated with Parkinson's disease. We now plan to expand the research of our program beyond the Cortland campus. To accomplish this, will require fundraising efforts to purchase several reACT exercise machines to be installed in easily accessible locations in surrounding communities. These new locations will become satellite locations allowing us to expand the scope of our research. One initiative involves identifying a Cortland donor(s) to help with our expansion of the program. Expanding the reach and ease of access is important since we have multiple participants commuting weekly to campus from more than an hour away, placing considerable hardship on them especially during poor weather. Having more locations will allow us to expand our reach into nearby Parkinson's communities and determine if the results we were seeing in our lab will be replicated in other locations.

Artist Talks – Art and Art History BFA Students

Erin Schiano, SR, BFA, Art and Art History
Darien Fernandez, SR, BFA, Art and Art History
Megan O'Brien, SR, BFA, Art and Art History
Samantha Reali, SR, BFA, Art and Art History

BFA seniors will present current research and artistic practice based on a two-semester thesis project. The demonstrated results consist of a cohesive body of work from concept to exhibition accompanied by a written abstract and oral presentation.

POSTER SESSION B

4-4:30 p.m.

Growth of Soil Bacteria Communities on Hop Flowers and Extracts

Andrea Fontaine, SR. Biochemistry

The flowers of the hops plant (*Humulus lupulus)* are resinous cones traditionally used in beer brewing for their bitter flavors, aromas, and anti-microbial properties. The chemicals responsible for these properties are terpenes and alpha and beta acids. Alpha and beta acids give beer bitter flavors, while terpenes give beer aromatic flavors (flowery, citrus, piney aromas, etc.). Both have anti-microbial properties. Prior research in our lab found simple communities of *Pseudomonas* and *Sphingomonas* bacteria growing on hops flowers. My research focused on investigating hops-associated bacteria by enriching and isolating soil bacteria that can grow on hops extracts, with a focus on the ubiquitous hops terpenes myrcene, humulene, and caryophyllene. It was found that many strains of soil bacteria, most likely *Pseudomonas* species, grow readily on hops extracts and use hops terpenes as a food source. Some strains were also found to break down alpha and beta acids.

Development of Neural Circuits: Lessons from Zebrafish

Janiellee Alvarez, SR, Biological Sciences
Michelle Burmistrova, SR, Biological Sciences

In order to perform our daily activities, neurons within our brain and spinal cord must connect appropriately during early life. Neurons thus connected together work together to form functional neural circuits. Neurons use different chemicals called neurotransmitters to either excite or inhibit other neurons within the circuit. Although it is known that neurons are genetically instructed to make usually one type of neurotransmitter, specific genes that instruct neurons to do so are only beginning to be identified. We aim to identify genes coding for transcription factors (TFs) that might play roles in instructing neurons to synthesize Glutamate, an excitatory neurotransmitter in humans. Glutamate is also an excitatory neurotransmitter in Zebrafish in which 70% of human genes are conserved. By creating Zebrafish mutants of specific TF genes, we will examine if these genes are required to make glutamate in specific neurons. Results from these experiments will be presented at transformations.

Social Media Use and Risk Behaviors among College Students

Kristina Lindberg, SR, Psychology
Elizabeth Slusarz, SR, Psychology
Shannon Thomson, SR, Psychology

Social media has become a popular way to interact and learn, especially among 18-29 year olds. The same age group makes up 50% of all sexually transmitted infections in the US. Despite this, research is lacking on social media and risk behaviors. Limited research on Facebook use indicates there may be a relationship; however, research including other popular social media applications are warranted. The present study administered an anonymous survey to 79 undergraduate students that queried social media use and risk behavior frequencies. A series of linear regressions was conducted and significant associations emerged between Tinder and more sex partners (β=.37, p<.05), Tinder and decreased unprotected sex (β=-.33, p<.05), Instagram and increased binge drinking (β=.60, p<.001), and between Instagram (β=.36, p<.05) and Facebook (β=-.33, p< .05) and marijuana use. In the future, apps found to be associated with risky behaviors could promote safer sexual and substance use behaviors to high-risk audiences.

Growth and Nectar Production of Selfed and Outcrossed Plants of Tropical Milkweed, Asclepias Curassavica

Laynie Jensen, JR, Mathematics

The tropical milkweed *Asclepias curassavica* produces large showy flowers, attracts numerous insect pollinators--although it is capable of producing offspring from self-pollinations. The goal of this study was to determine if differences in vigor of milkweed offspring differed depending on whether the plant was produced from self or cross-pollination. Characteristics studied in this experiment include plant height, leaf area, nectar volume and concentration, and days to flower. Hand pollinations were performed to generate self and cross-pollinated seeds. Seeds were planted and observed over a three-month period in the SUNY Cortland greenhouses, along with a control group of open-pollinated seeds. Plants from self, cross, and open pollinations did not differ in growth characteristics or nectar production. However, sucrose amount was significantly greater in plants resulting from cross-pollination. These results suggest that tropical milkweed has adapted to a lifestyle that favors rapid reproduction in new habitats as an early colonizer.

Hybrid Nano-Bio-Electronic Oder Detector

Luykas Van Alstyne, SR, Biological Sciences

Mammalian cell-based biosensors have shown efficacy when it comes to the detection of toxic chemicals in drinking water, but have been under-utilized as sensors for airborne chemicals. Mammalian olfactory receptors (ORs) have the ability to detect and discriminate thousands of odorants. ORs might provide the detection ability, specificity, and sensitivity useful for the United States Army. In this study, we will use keratinocyte cell lines that naturally express (ORs) to develop a prototype e-nose. Using this cell-based system will determine if model odorants can be detected.

Using Bat, Tadarida Brasiliensis, Epithelial Cells to Detect Chemicals in Drinking Water

Brittany Apuzza, SR, Biological Sciences

The detection of toxic chemicals in drinking water is currently a lengthy and inconsistent process. Water evaluations are costly and test results can take anywhere from days to weeks. For these reasons, the Department of Defense (DoD) is working on developing a cell-based biosensor that can respond to a wide range of chemicals. With this new technology, a small sample of water can be tested in less than one hour for toxic chemicals. The only concern is choosing the best cell lines from temperature tolerant organisms. Presently, Dr. Curtis' lab is screening an epithelial cell line from a bat (*Tadarida brasiliensis*). Bats are one of the few mammals that can adapt its resting metabolism based on environmental temperatures, allowing them to have a wide thermal tolerance (0.5-44°C). If bat epithelial cells prove to be stable for long periods of time, they may become the future of the biosensor chips.

Spatial Dynamics of Tri-trophic Interactions among Native Phragmites Australis and its Associated Herbivores and Predators

Emily Ammons, SR, Biological Sciences and Mathematics

Invasive plant species are problematic for land managers and conservation practitioners as they can threaten native biodiversity in introduced areas. *Phragmites australis* illustrates this, as the European lineage has spread rapidly in North America. *P. australis* lineages have morphological differences and host various specialist and polyphagous herbivores. Trophic interactions among *P. australis*, its herbivores, and predators of those herbivores could determine invasion success and impacts on biodiversity. Through a spatially explicit sampling model, this study examines spatial dynamics of insect communities in native *P. australis*. I expect insect abundance to increase with native *P. australis* density and some herbivores to be spatially correlated with plant density. Preliminary results indicate that at least 4 insect species, most abundant being *Thrypticus willistoni,* are associated with *P. australis* and distributed patchily across the wetland. This study will expand awareness of trophic interactions on plant density and their effect on *P. australis* invasion success.

Lead Paint Poisoning in America: A Historical Overview

The Students from CPN 101-021
Caiya Surrency, FR, BIO
Dani Bleiweiss, FR, ECDW
Andy Burden, FR, PEMN
Wendell Felder, SO, CRIM
Mike Gunther, FR, SPMG
Anthony Marcuccilli, SO, SPMG

Poster presentation of the historical overview of lead-paint poisoning in the United States.

Lead Paint Poisoning in Cortland: Local Issues and Perspectives

The Students from CPN 101-021
Florica Cunia, SR, PWRT
Lianna Farrell, FR, PRE
Michael Coby, JR, BUSE
Grace Schnorr, JR, EXSC
Ann Casey, SO, CON
Dominick Natale, FR, BUSE

Poster presentation about local issues and perspective relating to lead-based paint poisoning in Cortland, New York.

Heath Effects of Lead Paint Poisoning

The Students from CPN 101-021
Justin Corna, SO, PEMW
Devon DiVello, SO, AEMW
Noel Urquhart, FR, PRE

Poster presentation detailing the effects of lead-based paint poisoning.

Lead-Based Paint Poisoning in Central New York: Issues and Perspectives

The Students from CPN 101-021
Nathaniel Potter, SO, GIS
Emily Siefert, SO EXSC
Kristen LaBianca, FR, IECW
Robin Wolf-Gould, FR, PRE
Julia Condron, FR, PSY

Poster presentation of lead-based paint poisoning in Central New York.

A content Analysis of Four News Outlets Representation of Mental Health in Relation to a Mass Shooting

Olyvia Harrian, SR, Psychology
Katelynn Dulny, SR, Psychology

Research has shown that media often negatively misrepresents mental health symptoms, which can shape individuals' biases regarding mental illness. However, limited research has examined how media portrays mental health symptoms in highly publicized violent crimes. The goal of this study is to determine how frequently mental health symptoms are referenced in media coverage about the Parkland School shooting immediately after the mass shooting compared to one month after. Online articles about the Parkland shooting from four news outlets will be coded. Analyses will be conducted to determine whether there is a significant difference between how frequently mental health symptoms are mentioned immediately after versus one month following the shooting. Determining whether the frequency with which mental health symptoms are mentioned significantly changes over time can provide important information about how media's portrayal of

this information may contribute to the public's perception of the relationship between mental illness and school shootings.

The impact of Temperature, Origin and Diet on Growth Rate and Size at Maturity for Spotted Salamanders (Ambystoma Maculatum)

Samantha Robins, JR Biological Sciences
Jordan Garcia & Kelly Zamudio from Cornell University

Climate change may be affecting the populations of many animals. Most ectotherms (i.e., animals dependent on the external environment for body heat) show slower growth rates and greater size at maturity when raised at colder temperatures than when raised at higher temperatures. Spotted Salamanders (*Ambystoma maculatum*) are ectotherms yet are found from Canada to the Gulf Coast in eastern North America. We tested the hypothesis that *A. maculatum* larvae raised at 25°C would grow faster but be smaller at metamorphosis than those at 17°C. We examined larval growth for *A. maculatum* from two widely separated populations, Georgia and New York, and predicted that larvae from both populations would grow faster at warmer temperatures but would differ in their tolerances of temperature extremes. Data suggest New York larvae grow faster than Georgia larvae in both treatments. Understanding ectotherm development under differing conditions will help anticipate their response to predicted climatic shifts.

Macroscopic Model of Quantum Mechanical System*s*

Karl Hipius, SR, Physics
Nathaniel Rose, SR, Physics

This research uses a macroscopic system of pendula and springs to model microscopic quantum mechanical systems. A series of coupled pendula spanning 20 feet are designed and constructed in conjunction with a mechanism that drives oscillations at variable frequencies. A spatially varying electric potential may be found in an atom, for example by a variation in the length of the pendula. This non-uniformity leads to wave tunneling, the process whereby quantum particles can pass through forbidden regions, and illustrates the nature of radioactive decay, among other phenomena.

Genetic Diversity of Eastern Oysters from Wild and Restored Reefs in the Chesapeake Bay

Dana Ryan, SR, Conservation Biology

Oysters, a keystone species in the Chesapeake Bay, have declined in population size by 99%. The government agencies have responded by using restoration programs to reestablish wild populations. However, breeding oysters in captivity may cause a loss of genetic diversity, which may reduce the ability of populations to adapt to changes in their environment. We extracted DNA of oysters from four different populations and analyzed twelve microsatellite loci to measure the differences in genetic diversity among wild and restored reefs. The results will be used to assess how wild individuals are selected for use in hatchery-production for restoration programs.

Biochemical Characterization of NicC

Rachel Sebastian, SR, Biochemistry
Akiba Waterman, SR, Chemistry

Nicotinic acid is a standard *N*-heterocyclic aromatic compound (*N*-HAC), commonly found in manufactured products such as pesticides and pharmaceuticals that contaminates soil and groundwater. The biochemical pathway to degrade nicotinic acid utilizes the enzyme NicC to convert 6-hydroxynicotinic acid (6-HNA) to 2,5-dihydroxynicotinic acid (2,5-DHP). To evaluate the binding affinity of 6-HNA to NicC, the equilibrium dissociation constant K_d was found at pH 6, 7, and 9. We observed K_d values of 255 ± 26 μM at pH 6, 176 ± 11 μM at pH 7, and >1.3 mM at pH 9. Our findings suggest that the binding affinity of 6-HNA to NicC is weak in basic conditions and high in neutral environments. Ultimately, these K_d values will be used during kinetic assays to determine the maximum rate of the reaction, where the substrate is fully saturated.

Formulation Chemistry in Toothpastes: New Additives to Improve Function

Sabrina Capelli, SR, Chemistry

One current material that is finding renewed attention in the cosmetics and personal hygiene field is charcoal. Numerous new products are being developed and marketed that contain this material. Charcoal is a naturally occurring material that consists of carbon and possibly other trace elements. It has chemical characteristics that allow it to absorb many organic substances. One product that is starting to use charcoal is whitening toothpaste. There are some concerns that charcoal may be too abrasive for use on teeth or that in the presence of other chemicals including peroxides and other whitening agents, charcoal may contribute to changes in the structure of the surface of the teeth. There are additional factors such as pH of the toothpaste, size of charcoal particles or if the user is taking oral medications that there may be unintended consequences of using this additive. Our work is the beginning of exploring this topic.

CONCURRENT SESSIONS III

4:30-5:30 p.m.

Strategic Innovation and Social Movement Success: How the Parkland Gun Control Movement Challenged the NRA and Existing Pro-Gun Government Representation

Adam Palmer, SR, Political Science

My research follow the Parkland, Florida Gun Control Movement as it rapidly becomes larger and more organized in the weeks and months following the devastating shooting. As the Parkland Movement continued to gather the attention of millions of young people around the United States, it becomes clear that this movement is utilizing strategies, unique from past gun control movements that promote extensive levels of participation. My presentation examines the unusual sustainment of this opposition (NRA), and traditional protest methods such as "sit-ins" as they pertain to this movement. I created a comparative analysis between this movement's strategies with both successful and failed social movements from the past, and in varying political climates, to develop a better understanding of the potential effectiveness of this movement. Finally, the research examines the role that the NRA plays in regard to contemporary gun control movements, and how the Parkland Movement may have weakened their political influence.

The Women of Domesday

Jessica Goon, SR, Archaeology

Domesday Book is a comprehensive survey of England commissioned by William the conqueror in 1086. It is a record of property ownership compiled in the 11th century, but edited and translated from Latin to English by 19th century male antiquarian scholars. According to the Victorian culture at the time of translation, women were legally unable to own land because they were believed to be unfit to have certain rights. The assumption when translating Domesday was that medieval society mirrored the Victorian world. Through a thorough examination of the Domesday Book, my research revealed that medieval women played a much larger role when it came to land ownership than previously thought. Many prominent women, especially Matilda of Flanders, appear more than once in the extensive survey. The sheer number of women listed as landowners opens a Pandora's box of questions about who the women of Domesday were and their roles in medieval society.

Preservice Teachers, Teachers, and Faculty Collaborate to Increase Student Learning with Math Read Aloud

Kerra Matolka, SR. Childhood/Early Childhood Education
Audree Gilchrest, SR, Childhood/Early Childhood Education
Tara D'Ottavio, SR, Childhood/Early Childhood Education

This presentation documents a research project that involves the collaboration of preservice teachers, teachers, and faculty to support elementary students' mathematical understanding through math read aloud. This partnership used picture books as a way to enable students to visualize, represent, and connect to different math concepts. Picture books can promote math understanding by creating real-world contexts for math content, they can be used to reach

students who have math anxiety or feel that they are weak at math, and they can create rich opportunities for different math activities and math discussion. We used picture books as a way to engage students in math learning while developing their interest and more meaningful understanding of mathematics. We will discuss implementing math read aloud in the elementary classrooms, including the planning of math activities. We will also discuss evidence collected in regards to student learning during and after the math read aloud.

2018 Outstanding Writing Awards

Turpentine

Presenter: *Elle Kellher, JR, English and History*
Award: *Collin Anderson Memorial Award in Fiction*
Faculty Mentor: *Mario Hernandez, English*

Janie Foster

Presenter: *Julie Currier, SO, Early Childhood/Childhood Education*
Award: *Honorable Mention for the Collin Anderson Memorial Award in Fiction*
Faculty Mentor: *Gailanne Mackenzie, English*

Unspoken

Presenter: *Griffin Smith, SR, New Communication Media*
Award: *Collin Anderson Memorial Award in Poetry*
Faculty Mentor: *Heather Bartlett, English*

If the World is Cold

Presenter: *Marlee Vedder, SO, Early Childhood, Childhood Education*
Award: *Honorable Mention for the Collin Anderson Memorial Award in Poetry*
Faculty Mentor: *Gregg Weatherby, English*

Myself the Migrant

Presenter: *Johnathan Herr, Graduate Student, History*
Award: *Collin Anderson Memorial Award in Creative Nonfiction*
Faculty Mentor: *Gigi Peterson, History*

Falling into Space

Presenter: *Kaili Mello, SR, English*
Award: *Honorable Mention for the Collin Anderson Memorial Award in Creative Nonfiction*
Faculty Mentor: *Kevin Rutherford, English*

Social Media and Teaching Writing

Presenter: *Victoria Van Every, SO, Professional Writing*
Award: *Collin Anderson Memorial Award in Digital/Multimodal Writing*
Faculty Mentor: *Kevin Rutherford, English*

'Schlag-ing' the Flag and Whatever that Means

Presenter: *Taylor Esposito, FR, Musical Theater*
Award: *Kathy Lattimore Prize in First-Year Writing*
Faculty Mentor: *James Miranda, English*

Guilty Until Proven Innocent

Presenter: *Jacob Robinson, FR, New Communication Media*
Award: *Honorable Mention for the Kathy Lattimore Prize in First-Year Writing*
Faculty Mentor: *Mario Hernandez, English*

The Endoxic Method

Presenter: *Benjamin Mayberry, SR, Professional Writing*
Award: *Academic Writing Award in the School of Arts and Sciences*
Faculty Mentor: *Sebastian Purcell, Philosophy*

Miseducation, Socialization, and Conformity in the Black Community

Presenter: *Kevin Robinson, SR, Psychology*
Award: *Honorable Mention for the Academic Writing Award in the School of Arts and Sciences*
Faculty Mentor: *Seth Asumah, Africana Studies*

Data Companies and the Need for Privacy

Presenter: *Hope Palma-Simoncek, SO, Communications*
Award: *Honorable Mention for the Academic Writing Award in the School of Arts and Sciences*
Faculty Mentor: *James Reardon, English*

How Assessments Affect Students of Diverse Demographics

Presenter: *Breanna Washington, SR, Special Education and Childhood Education*
Award: *Academic Writing in the School of Education*
Faculty Mentor: *Rhiannon Maton, Foundations and Social Advocacy*

School Discipline: Right vs. Wrong

Presenter: *Jade Tatulis, JR, Inclusive Childhood Education*
Award: *Honorable Mention for the Academic Writing Award in the School of Education*
Faculty Mentor: *Anne Burns Thomas, Foundations and Social Advocacy*

The Real Cost: Summary and Reaction

Presenter: *Raquel Rodriquez-Asher, Graduate Student, Community Health*
Award: *Academic Writing Award in the School of Professional Studies*
Faculty Mentor: *Al Sofalvi, Health*

Violence Against Women

Presenter: *Raquel Rodriquez-Asher, Graduate Student, Community Health*
Award: *Honorable Mention for the Academic Writing Award in the School of Professional Studies*
Faculty Mentor: *Jena Curtis, Health*

How Berliners Maintained Agency in their Christmas Celebrations during the Height of the Cold War

Presenter: *Johnathan Herr, Graduate Student, History*
Award: *Graduate Student Academic Writing Award*
Faculty Mentor: *Scott Moranda, History*

More than Just a Myth: How Shapeshifter Rhetoric Relates to ESL Students

Presenter: *Amber Kent, Graduate Student, English*
Award: *Honorable Mention for the Graduate Student Academic Writing Award*
Faculty Mentor: *Tyler Bradway, English*

DISTINGUISHED VOICES IN LITERATURE CONTEST WINNERS

Personal Essay

Winner - Nathaniel Rose "Origins"
Finalist - Neely Benoit "The Boogyman"
Finalist - Elizabeth Hernandez "Baby, There's a Shark in the Water"
Personal Essay Winner and Finalists Selected by visiting writer, Elissa Washuta

> ***Elissa Washuta*** *is a member of the Cowlitz Indian Tribe and a writer of personal essays and memoir. She is the author of two books, Starvation Mode and My Body Is a Book of Rules, named a finalist for the Washington State Book Award. With Theresa Warburton, she is co-editor of the anthology Exquisite Vessel: Shapes of Native Nonfiction. She has received fellowships and awards from the National Endowment for the Arts, Artist Trust, 4Culture, Potlatch Fund, and Hugo House. Elissa is an assistant professor of English at the Ohio State University.*

Poetry

Winner - Sean Dunn "Lilac Trees (From Behind Screen Door)" and "Birdwatching"
Finalist - Alice Luo "ode to my freshly-braided cornrows"
Finalist - Steven Salisbury "How to Take a Life"
Winner and Finalists selected by visiting poet, Chen Chen

> ***Chen Chen*** *is the author of When I Grow Up I Want to Be a List of Further Possibilities, which was longlisted for the National Book Award and won the A. Poulin, Jr. Poetry Prize, the GLCA New Writers Award, and the Thom Gunn Award for Gay Poetry. The collection was also a finalist for the Lambda Literary Award for Gay Poetry and named one of the best of 2017 by The Brooklyn Rail, Entropy, Library Journal, and others. His work has*

appeared in many publications, including Poetry, Tin House, Poem-a-Day, The Best American Poetry, Bettering American Poetry, and The Best American Nonrequired Reading. Chen is the 2018-2020 Jacob Ziskind Poet-in-Residence at Brandeis University.

Moot Court Demonstration: Oral Argument of *Somerville V. Olympus State University*

Alyson Tufillaro, SR, Psychology and Political Science
Allison Yero, JR. Political Science
Connor Wright, JR, Political Science
Lily Winter, SO, Political Science

This demonstration consists of an introduction and explanation of what the audience will observe, followed by forty minutes of simulated oral argument on a case involving voting rights and voter qualifications imposed by a fictitious state as though made before the US Supreme Court on appeal. Each student will argue for ten minutes while being questioned by the endorsing faculty member/faculty mentor acting in the role of appellate judge. Each student's goal is to make the most convincing legal arguments possible to support his or her side of the case.

The Preamble: An American Promise

Kaitlyn Almonte-Hernandez, Political Science and International Studies

Stagnation of wages for the working class, increasing student loan debt, and a dissolving mechanism for social mobility are all economic trends that point to the disappearance of the "middle class" in the United States. This widening of income inequality, mostly due to monetary policies that reflect orthodox economic values of politicians, indicates that the middle class is no longer the "middle" and disappearing. This "one check away from poverty" condition creates an environment that fosters economic uncertainty and insecurity across all social categorizations. This paper addresses this condition by using Hockett and Omorova's Market-Making approach; it proposes that government create a decentralized federal investment instrument that would help the middle class finance small businesses and innovations to help stimulate local economies. The policy aim is to generate meaningful work that is rewarding in not only capital, but also one that will empower the states to allocate resources in underdeveloped communities.

A New Future for Higher Education in America

Marcello DeLesdernier, SR, International Studies, Political Science

Since the beginning of the drive to privatize the higher education sector in the 1980s, the cost of university has become dramatically more expensive for an average American, and increasingly unaffordable for the middle class. The price of higher education has never been as high as it is now (even adjusted for inflation) for American citizens, and as a result, a massive debt bubble has formed around student loans, posing a significant risk to the global economy. This paper argues at its base that education is a fundamental right enjoyed by all, including higher education. The paper examines the history of land-grant institutions and free higher education initiatives beginning in the 19th century. This seeks to use the historical perspective to formulate a new, wide-ranging legislative package proposed at the federal level to create a system of free public higher education in the United States.

The Protection of Identity in an Evolving Global Tech Economy

Anthony Rocchio, Business Economics

People's identities have been influenced by the wrongful retailing of personal data and the evolution of technology. The direct impact on the misusage of private consumer data is a breach in privacy and our fourth amendment. "We the People" has been the motto of American democracy, but how far we will go to trust the combination of technology and government in the future? Karl Marx states in his work, Marxian Theory of the State, "One can be enslaved in a free state" and that it plays an important role in becoming a mediator between man and the freedom of man. Technology consumes people's lives with companies such as Amazon and Facebook having a large role in the information they obtain, ultimately limiting the conscious of the "free man" to certain information. People develop identities through social environments created through technology and through the internet, which we portray daily.

Moving Beyond Scientific Management with a Jobs Guarantee

Jacob Jameson, SO, Economics

In an ever-changing society, sciences follow a similar path. Economics has been changing as our society has developed and it appears we have reached a standstill called capitalism. Capitalism has helped enhance the exploitation and de-skilling of low-level labor. This manipulation has led to an increased abundance of low skilled workers whom are unemployed or working low paying jobs with little to no chance of upward job mobility. A new proposed idea called the jobs guarantee economy helps correct the fallout of scientific management by providing government funded jobs that pay a raised minimum wage. These jobs are provided to anyone who would work. What this does is creates a safety net for workers, for in the private industry, the company may fire laborers that don't want to work at their provided conditions and use fear of unemployment as a mode of keeping workers around. With a reduced unemployment rate, the economy will have more money put back into it.