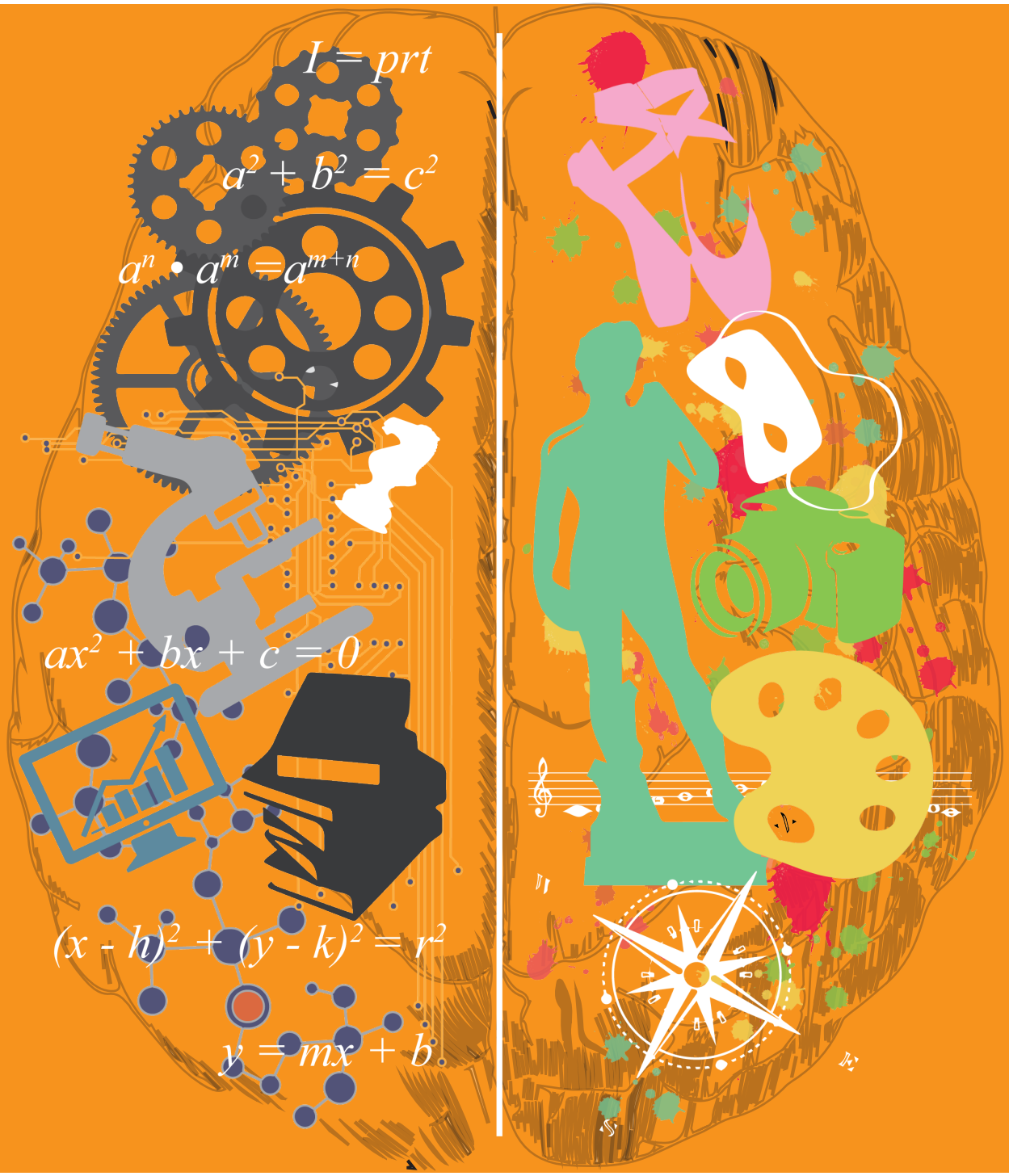
2017 High-PURCS



URCW
HIGH POINT UNIVERSITY

-Welcome from the-

DIRECTOR OF UNDERGRADUATE RESEARCH AND CREATIVE WORKS

Welcome to the 5th High Point University Research and Creativity Symposium (High-PURCS). High Point University is an institution which fosters intellectual and creative scholarship through student engagement and student-faculty collaboration. Our students do intellectual and creative contributions in significant work mentored by faculty and regularly share their disciplines at professional national and regional conferences. However, High-PURCS is an opportunity for students to showcase their work here on campus so HPU students, faculty, and staff can witness our students' professional development and gain a glimpse of tomorrow's future leaders, artists, scientists, teachers and scholars. At this year's symposium, we have 143 students mentored by 58 faculty from 22 departments showcasing 122 presentations. Our students' achievement is a reflection of HPU's holistic learning approach and the dedication of its caring faculty. Thank you for being part of the 2017 High Point University Research and Creativity Symposium.

Dr. Joanne Altman
Director, Undergraduate Research and Creative Works

THE 5TH HIGH POINT UNIVERSITY RESEARCH AND CREATIVITY SYMPOSIUM

(High-PURCS)

| APRIL 20, 2017 |

12:45-1:20 pm	**Welcome, Opening Remarks, & Awards** Phillips Hall Room 120
1:30-2:30 pm	**Oral Session I and Theatre & Dance** Phillips Hall
2:30-3:30 pm	**Oral Session II and Theatre & Dance** Phillips Hall
3:30 -5:00 pm	**Poster Session/Art Exhibit & Reception** Slane Basketball Court

Congratulations to our 2016-2017 Research Apprentices

Research Rookies is a program for freshman and first semester sophomores who desire to be incorporated into the research and creative works atmosphere of High Point University while still early in their undergraduate careers. Participants have two consecutive semesters to complete a variety of activities. Completing this program earns the title of Research Apprentice and shows students are committed to independent work which will give them an edge later in job interviews or application for graduate or professional schools.

This year we are excited to congratulate six students who have completed the program and have earned the title of Research Apprentice.

Mentioned in the Fall 2016 Ceremony:

Melanie Fichialos
Riccardo De Cataldo
Lauren Ross
Mallory Roy
Dounia Ouartini
Courtney McCorkle
Deanna Lee

Jordan Krisfalusi
Kendal Karstens
Amy Hobday
Alexandria Cedrone
Brianna Bruggeman
Sarah Mastropietro
Katie James

New Spring 2017 Apprentices:

Nicole Merry	Sarah Poiani	Melissa Martins	Kaylee Campbell
			

Plus Molly Penton and Rachel Noonan

ORAL PRESENTATION SCHEDULE

12:45-1:20 p.m. Opening Remarks from Dr. Dennis Carroll and Awards - Phillips Hall, Room 120

	Room 215	**Room 216**	**Room 217**	**Room 218**	**Room 220**	**Room 221**	**Room 222**	**Room 223**	**Black Box Theatre**
Session 1	English I	Spanish I	French I	History I	Human Relations I	Social Attitudes	Art	Economics	Dance Performance
1:30- 1:45	Helen Barker	Monica Beiler	Olivia Barr	Morgan Canner	Alexandra Balcom	Natalie Ward	Taylor Tedford, Angelica Stabile, Dylan Houseworth & Richard Gengel	Kelsey Brown	Sara Drinkwater & dancers
1:45-2:00	Emily Burke	Maggie Foxx	Zach Bonvallet	Aniya Crocker	Allison Brame	Taylor Anderson-Barkley, & Kira Fogelsong			Amanda Rossi & dancers Dance Ensemble
2:00-2:15	Keaton Case	Jacqueline Golding	Emma Friedenberg	Miah Diamond	Anna Chisholm	Elizabeth Pelligrini			Ceili Lang
2:15-2:30	Kaitlyn McCracken	Sonya Khedr	Mariana Pereira	Sara Kohorst	Genevieve Harrington		Hannah Grau		
Session 2	English II	Spanish II	French II	History II	Human Relations II	Psychology	Biology	Physics	
2:30-2:45	Alexis Newton	Taylor Lord	Olivia Royce	Hailey Maguire	Grace Heffner	Brittany Clayton	Sarah Edmark	Thomas Boudreaux	
2:45-3:00	Mary Torres	Natalie Overly	Jason Scoggins	Olivia Mangus	Brian Morgan	Meghan McDonough	Kevin Hoffman		
3:00-3:15	Mara Wedekind	Megan Smith	Savannah Stoughton	Emily Segalla	Abbie Nichols	Kalei Mills	Sierra Thorson		
3:15-3:30		Lily Wingate	Leah Vadas	Lillian Morris			Maria Valverde		
3:30-3:45		Catherine Bakewell							

3:30-5:00 p.m. Posters & Art Exhibit with Reception Slane Basketball Court

POSTER PRESENTATIONS

Space	Presenter(s)	Topic
1	Connor Whicker	Athletic Training
2	Lauren Carnicero & Amanda Filingeri	Biology
3	Alexandria Cedrone & Catarina DiMaggio	Biology
4	Eliza Duval	Biology
5	Jazmine Eccles	Biology
6	Charles Graham, Jeremy Muhr, Josh Verdeur & Noah Novembre	Biology
7	Alysha Higgs	Biology
8	Kristina Jansen	Biology
9	Justin Jones	Biology
10	Thomas Kyllo	Biology
11	Leigh LaFond	Biology
12	Alexis Lambros	Biology
13	Deanna Lee	Biology
14	Daniel Magurno	Biology
15	Sarah Miller & Bridget Collier & Jenny Kantor	Biology
16	Aakash Nawaz	Biology
17	Lisa Nguyen	Biology
18	Abigail Sharp	Biology
19	Allison Walker	Biology
20	Carrie Wilson	Biology
21	Emma James Barksdale	Chemistry
22	Kristen Brokaw	Chemistry
23	Riccardo De Cataldo	Chemistry
24	Kyra Gillard	Chemistry
25	Robert Glass	Chemistry
26	Amanda Goodwin	Chemistry
27	Kaitlyn Griffith & Emma Welter	Chemistry
28	Lindsey Palmquist	Chemistry
29	Olivia Tornow	Chemistry
30	Rebecca Ulrich	Chemistry
31	Matthew Warwick	Chemistry
32	Victoria Cotnoir	Communications
33	Shayne Fitol	Communications
34	Olivia Navarro	Communications
35	Ty Carlson	Computer Science
36	Melanie Savage	Criminal Justice
37	Grace Barrett	Entrepreneurship
38	Michelle Aube	Exercise Science
39	Devyn Fleischhacker	Exercise Science
40	Samantha Gajoch & Devyn Fleischhacker	Exercise Science

41	Lacey Gould	Exercise Science
42	Ally Hamilton	Exercise Science
43	Natalia Ocasio-Nieves	Exercise Science
44	Hailey Parry	Exercise Science
45	Meghan Patton	Exercise Science
46	Steven Safille	Exercise Science
47	Jamie Schnuck	Exercise Science
48	Jessica Siplon	Exercise Science
49	Mandy Szymanski	Exercise Science
50	Alyssa Walker & Jordan Hutcheson	Exercise Science
51	Trey Patton	Pharmacy
52	Jenny Kantor	Physical Therapy
53	Alyssa Latimer & Haley Cianfarini	Physical Therapy
54	Keisha Daughtry	Physics
55	Ryan Hegedus	Physics
56	Zackary Hutchens	Physics
57	Matthew Iczkowski	Physics
58	Brandon Inscoe	Physics
59	Amiras Simeonides	Physics
60	Michael Welter	Physics
61	Olivia Baynes	Psychology
62	Katie James	Psychology
63	Hannah Leslie	Psychology
64	Sarah Schaible	Psychology
65	Melissa Urch	Psychology

ART EXHIBITS

Space	Presenter(s)	Topic
66	Hannah Grau	Home Furnishing/Interior Design
67	Ellen Francis	Communications

ORAL PRESENTATIONS

Oral Session I • 1:30 – 2:30 p.m.

English I

Phillips 215

1:30 – 1:45

Margaret Cavendish's Work and Her Impact on Interdisciplinary Studies and Feminism

Helen Barker, High Point University

Mentor: Laura Alexander, English

How could one woman blend the worlds of art and science in the seventeenth century, when women were openly excluded from scientific discussion? This research focuses on how writer Margaret Cavendish asserted herself into the scientific community, changing writing styles to build a relationship between the arts and the sciences.

1:45 – 2:00

From Verse into Being: Turning Adapted Poetry into Images

Emily Burke, **High Point University**

Mentor: Laura Alexander, English

The purpose of this project is to provide readers of metaphysical poetry (1590 – 1650) with creative images that will help them better interpret the language and philosophy of seventeenth-century metaphysical poets, such as John Donne, George Herbert, and Thomas Carew. Metaphysical poems examine the relationships between religion, sexualized love, and death through use of strange imagery and paradox.

2:00 – 2:15

"Woolf's Feminism: From Novel to Essay"

Keaton Case, High Point University

Mentor: Matthew Carlson, English

Although Virginia Woolf's novel Mrs. Dalloway preceded her essay A Room of One's Own by three years, many of her feminist ideas articulated in the essay can be identified in the novel's complex and multidimensional protagonist, revealing how writing fiction can be an explorative process.

2:15 – 2:30

Irish Identity and the Aisling: A Study of the Works of James Joyce and W.B. Yeats

Kaitlyn McCracken, **High Point University**

Mentor: Matthew Carlson, English

Using Joyce's short stories "Araby" and "The Dead," as well as the poetry and short plays of Yeats, including "The Song of Wandering Aengus" and Cathleen ni Houlihan, I will illustrate how each author revives the old folktales of Irish culture and identity utilizing the poetic genre of the aisling.

---

*Denotes presenters when there are multiple authors

Spanish I

Phillips 216

1:30 – 1:45
Sopa de Identidades: Representaciones de los Latinos en Estados Unidos en Tortilla Soup
Monica Beiler, High Point University
Mentor: Hayden Carrón, Spanish

El propósito de esta investigación es demostrar que, a través tanto de la preparación de los platos como en la presentación de la vida cotidiana de los personajes, la película *Tortilla Soup* expresa una elaboración de lo que significa ser latino en los Estados Unidos. *(This presentation will be in Spanish.)*

1:45 – 2:00
El Reggaetón: expresiones contra la opresión racial en el Caribe
Maggie Foxx, High Point University
Mentor: Hayden Carrón, Spanish

A través del Reggaetón, ¿cómo usan los negros y los mulatos la música para expresarse contra la opresión que enfrentan diariamente? *(This presentation will be in Spanish.)*

2:00 – 2:15
Pelo Bueno y Pelo Malo: Las Relaciones Raciales y la Identidad Sexual en Venezuela
Jacqueline Golding, High Point University
Mentor: Hayden Carrón, Spanish

En esta presentación, voy a explorar cómo la película *Pelo Malo*, muestra que la raza puede ser determinada por la estética física y cómo los hombres que participan en estas actividades son tildados de homosexuales y rechazados por la sociedad venezolana. *(This presentation will be in Spanish.)*

2:15 – 2:30
Imágenes Opacas: La Representación de Los Hispanos en Los Medios de Comunicación de Estados Unidos
Sonya Khedr, High Point University
Mentor: Hayden Carrón, Spanish

Los medios de comunicación tienen un poderoso efecto al retratar a una comunidad. A través de ellos, los estereotipos pueden reproducirse o eliminarse dependiendo del alcance del enfoque de los anuncios. *(This presentation will be in Spanish.)*

French I

Phillips 217

1:30 – 1:45
Les Aventures de se Retrouver
Olivia Barr, High Point University
Mentor: Benoît Leclercq, Modern Foreign Languages

Les Aventures de se Retrouver follows a young girl from American as she finds herself through a series of trips, most importantly a month spent in Paris where she was able to better understand herself, by exploring her life in different words as she emmerced herself in the French language. This story explores the themes of family, identity, and self-discovery, all the while following Jade's adventures. *(This presentation will be in French.)*

---

*Denotes presenters when there are multiple authors

1:45 – 2:00
"Revenge": A Creative Writing Reading
Zach Bonvallet, High Point University
Mentor: Benoît Leclercq, World Languages

"Revenge" is a creative work in which love and violence play an essential role. The story is told by a local journalist who writes about a vehicular homicide that escalates into a one-man war against a cartel. However, the main character allows violence to consume him and he neglects the love of his child that is still alive. *(This presentation will be in French.)*

2:00 – 2:15
Ma Vie De Syrie
Emma Friedenberg, **High Point University**
Mentor: Benoít Leclercq, World Languages

This project was to write a creative work in biography style. The piece could either be made up or based on our lives. I chose to write about my time in Syria as an Army brat and being there during the "Arab Spring" and how that shaped me into who I am today. *(This presentation will be in French.)*

2:15 – 2:30
Deux
Mariana Pereira, High Point University
Mentor: Benoit Leclercq, World Languages literatures and Cultures

Deux tells the story of two twin sisters who don't know each other exists. An unforeseen event brings the two sisters together. The sisters have to navigate their new relationship and figure out how to fit one another into their lives. The story touches on the themes of trust and unconditional love. *(This presentation will be in French.)*

History I
Phillips 218

1:30 – 1:45
W.E.B. Du Bois The Souls Of Black Folk
Morgan Canner, High Point University
Mentor: Paul Ringel, History

The purpose of this presentation is to inform the audience about W.E.B. Du Bois' book *The Souls of Black Folk* and the impact it had on people during the Civil Rights Movement. This book was written at the turn of the 20th Century and unveiled the lives of black people.

1:45 – 2:00
The Road to Brown vs. Board of Education
Aniya Crocker, **High Point University**
Mentor: Paul Ringel, History

The efficiency of the 1954 case Brown vs. Board of Education was not inadvertent, but the result of decades of efforts for racial integration. Lawyers of the NAACP strategically attacked the legal structures that required "separate but equal" education, and advanced the rights of African Americans on a national scale.

---

*Denotes presenters when there are multiple authors

2:00 – 2:15
Lynching's Biggest Offender: Mississippi
Miah Diamond, High Point University
Mentor: Paul Ringel, History

Lynching's in Mississippi took many lives' after the Civil War, these violent acts came about due to the power struggle between African Americans and southern confederate whites. Lynching was seen as a way for the confederates to establish power but was slowly lost and allowed equality to be established.

2:15 – 2:30
The New Negro Movement of the Harlem Renaissance
Sara Kohorst, **High Point University**
Mentor: Paul Ringel, History

This paper examines the characteristics of the New Negro during the Harlem Renaissance and how it changed the way African Americans represented themselves, as well, as how prominent African American figures disputed over how literature and art were to be utilized to advance their race.

Human Relations
Phillips 220

1:30 – 1:45
Does China Run On Dunkin?
Alexandra Balcom, High Point University
Mentor: Elizabeth Jeter, Human Relations

Dunkin Donuts (DD) faced the challenge of adapting to culture and consumer preferences when expanding into the Chinese market. To accomplish this goal, DD commodified Chinese culture through their organizational culture using a communication strategy that includes biculturalism and acculturation theories, creating a model for future success for global expansion.

1:45 – 2:00
A Review of How a Patient's Attitude Can Affect Treatment
Allison Brame, High Point University
Mentor: Bergen, Human Relations

A patient's attitude should be the focus for every health professional. The communication displayed between the patient and health professional determines the patient's attitude. Our society has replaced relationship building to labeling a patient as a number. This study focuses on what guarantees a patient's satisfaction towards their treatment outcome.

2:00 – 2:15
Workplace Challenges: Implementing and Managing Policies and Guidelines for Sexual Harassment and Gender Discrimination in the Modern World
Anna Chisholm, **High Point University**
Mentor: Bergen, Human Relations

This paper will explore the reasons why harassment occurs in the workplace, as well the power-paradox and the changing organizational structures of modern times. Some important points examined in this presentation include harassment prevention policies, legal consequences of harassment, significant court cases that resulted from these incidents, and outcomes of workplace harassment and discrimination for the victim.

2:15 – 2:30
Could Letters Make You Better?: How Greek Life Prepares For the Post Grad World
Genevieve Harrington, **High Point University**
Mentor: Molly Jordan, Human Relations

Since its inception, Greek life has struggled against a negative reputation. Despite its infamy, it has thrived for centuries. This presentation gives an in depth look at the relevancy of Greek life. It examines the qualities inherently developed by its members and explains how they prepare members for life post-grad.

Social Attitudes
Phillips 221

1:30 – 1:45
Practicing Fieldwork: The Co-creation of Undergraduate-faculty Knowledge
Natalie Ward* and Chelsea Wentworth, High Point University
Mentor: Chelsea Wentworth

In a co-written paper, Ward and Wentworth explore the mutual benefits that derive from fieldwork. However, this presentation only highlights Ward's section of the paper. With few exceptions, scholars rarely write about the importance of student undergraduate research. Ward discusses the role research plays in the development of their students.

1:45 – 2:00
Activism In Video Games: A New Voice For Social Change
Taylor Anderson-Barkley * and Kira Fogelsong *, High Point University
Mentor: Stefan Hall, Communication

Activism in video games is steadily on the rise. Using their themes and mechanics to 'campaign' for social change they offer a new voice for a new audience. However, even though video game activism exists, is
it actually effective in regards to promoting social change?

2:00 – 2:15
The Court, The Church, and Abortion: Then vs. Now
Elizabeth Pellegrini, **High Point University**
Mentor: Alixandra Yanus, Political Science

This presentation explores the Supreme Court decision of *Roe v. Wade* and the relationship between the Court, the Catholic Church, and abortion. Building upon Justice Blackmun's papers and a public opinion dataset, this presentation investigates how interest groups and external actors are still influence mass opinion on abortion.

*Denotes presenters when there are multiple authors

Art Panel
Phillips 222

1:30 – 2:15
Analyzing Imagery
Taylor Tedford*, Angelica Stabile*, Richard Gengel*, Dylan Houseworth*,
High Point University
Mentor: Charmaine Cadeau, English

How does imagery work in textual and visual spaces? Panelists will discuss the relationships between poetry and visual art in their interdisciplinary projects, drawing on examples in their writing, installations, and photography. Comparisons will focus on abstraction, audience engagement, and the relationship between interpretation and originality.

2:15-2:30
Disabilities in the Built Environment: The Study of Phenomenology and How Persons with Disabilities Interact with their Built Surroundings
Hannah Grau, High Point University
Mentor: Jane Nichols, Interior Design

The amount of people with disabilities grows exponentially with each generation. Formulating for aging-in-place, inspiring redesigns of everyday instruments, and creating a better understanding of mobility within the built environment are crucial to enabling the elderly and disabled as well as increasing the universal quality of life.

Economics I
Phillips 223

1:30 – 1:45
An Econometric Analysis of the Impact of the Renewable Fuel Standard on Feeder Cattle Prices
Kelsey Brown, High Point University
Mentor: Peter Summers, Economics

I present and analyze a vector auto-regression model of feeder cattle prices in the United States and the effect of the ethanol mandate on these prices. The model describes effects of corn prices, corn supply, and percentage of corn delegated to ethanol production on the closing price of feeder cattle.

Image courtesy of Kacy Lee

*Denotes presenters when there are multiple authors

Oral Session II
2:30 – 3:30 p.m.

English II
Phillips 215

2:30 – 2:45
The Evolution of "the Zombie" from Haitian Myth to Popular Fictional Archetype
Alexis Newton, **High Point University**
Mentor: Cheryl Marsh, English

As an extension of study on voodoo and Haitian culture, the origins and mythology of Haitian zombies in slave folklore and earlier African legends was explored. The evolution of the zombies was chronicled from tragic, soulless creatures into the flesh-eating, civilization-threatening monsters of modern popular culture today.

2:45 – 3:00
***Race and Ambiguity in* Heart of Darkness**
Molly Torres, High Point University
Mentor: Matthew Carlson, English

Joseph Conrad's *Heart of Darkness* provides an extremely controversial depiction of Africa and Europe's involvement there during the nineteenth century. As racial attitudes changes, it continues to be studied and reinterpreted. This presentation looks at two conflicting arguments posed by Chinua Achebe and Hunt Hawkins, speaking to and refuting both.

3:00 – 3:15
Appearance and Reality in Ian Rankin's Knots and Crosses
Mara Wedekind, High Point University
Mentor: Matthew Carlson, English

In *Knots and Crosses*, Ian Rankin uses denial of the dark truth as a means of separating appearance and reality. I look into why this denial is so persistent throughout Rankin's novel and how denial is used to separate appearance and reality on different levels throughout the text.

Spanish II
Phillips 216

2:30 - 2:45
Las Muñecas de Venezuela: Raza y Maltrato en los Concursos de Belleza
Taylor Lord, High Point University
Hayden Carrón, Spanish

El documental, *To Be a Miss*, descubre los concursos de belleza en Venezuela y los muestra para los que son en realidad: un campo que agrega a las ideas racistas y sexistas en la sociedad venezolana. *(This presentation will be in Spanish.)*

---
*Denotes presenters when there are multiple authors

2:45 – 3:00
Los Carnavales Caribeños: Representaciones de la Raza Africana en el Folklore del Caribe
Natalie Overly, High Point University
Mentor: Hayden Carrón, Modern Foreign Language

La investigación muestra la identidad afrocaribeñas a través de los aspectos del carnaval. Analizaré cómo el baile del *Son de negro* del Carnaval de Barranquilla y la máscara del Lechón joyero del Carnaval de Santiago de los Caballeros representan la raza y la identidad de los negros en el Caribe. *(This presentation will be in Spanish.)*

3:00 – 3:15
Los Olvidados: Representaciones de los Indígenas Guatemaltecos en la Autobiografía de Rigoberta Menchú
Megan Smith, High Point University
Hayden Carrón, Spanish

A través de la examinación del genocidio guatemalteco y la autobiografía de Rigoberta Menchú, esta presentación va a mostrar la importancia de la preservación de la cultura maya en la sociedad guatemalteca moderna. *(This presentation will be in Spanish.)*

3:15 – 3:30
Revisitando el colonialismo: relaciones raciales en **También la lluvia**
Lilly Wingate, High Point University
Mentor: Hayden Carrón, Spanish

El encuentro entre el viejo y el nuevo mundo estableció una relación muy definida entre los europeos y las indígenas. La intención es demostrar que las relaciones raciales con respecto a la gente indígena y los europeos blancos siguen llevando los mismos patrones que en la época colonial. *(This presentation will be in Spanish.)*

3:30 - 3:45
La dualidad gitana en el **Romancero gitano** ***de Federico García Lorca***
Catherine Bakewell, High Point University
Mentor: Carrón, World Languages, Literatures and Cultures

El autor español Federico García Lorca plasma su entusiasmo por la población gitana española en su obra, *Romancero gitano* (1928). A través de estudiar cinco poemas de esta colección, analizaré cómo Lorca utiliza extremos y contradicciones para presentarnos la gran dualidad de la identidad gitana. *(This presentation will be in Spanish.)*

French II

Phillips 217

2:30 – 2:45
Une Vie Transparente
Olivia Royce, High Point University
Mentor: Benoît Leclercq, Modern Foreign Languages

This process of writing an autobiography has challenged both my perception of self and my French. I would have struggled with style and transparency in my first language. I'm very thankful for the support of Dr. Leclercq and my classmates as well as the opportunity to grow in my skills as I pursue fluency. (*This talk will be presented in French.)*

---

*Denotes presenters when there are multiple authors

2:45 – 3:00
Les Aventures De François et Moi
Jason Scoggins, High Point University
Benoît Leclercq, World Languages, Literatures, and Cultures
"Les Aventures de François et Moi" recounts the experiences of two brothers who are living in 21st century Paris. To cope when his older brother, François, leaves for college, Jacques writes about his favorite memories in a journal. With each entry he becomes more mature and confident without his brother. *(This talk will be presented in French.)*

3:00 – 3:15
Grand Projet
Savannah Stoughton, High Point University
Mentor: Benoît Leclercq, Modern Foreign Languages

"Grand Projet" is a first-person exploration inside the mind of a young female with a tendency to go through the motions in her world of little conflict. When her soul searching trip doesn't go as planned, she tries to find herself through other outlets and ends up finding more unanswered questions than answered ones. *(This talk will be presented in French.)*

3:15 – 3:30
"Esme" A Creative French Writing Reading
Leah Vadas, High Point University
Mentor: Benoît Leclercq

"Esme" is a French fictional autobiography about a young girl growing up in an all girls' orphanage. The autobiography takes the reader through Esme's day-to-day life with unexpected twists and turns. Follow Esme through her life and see where her journey takes her. *(This talk will be presented in French.)*

History II
Phillips 218

2:30 – 2:45
The Contributions of Marcus Garvey to the Civil Rights Movement in the 1920's
Hailey Maguire, **High Point University**
Mentor: Paul Ringel, History

This presentation delves into the life of Marcus Garvey in regards to the rapid growth of his following base, the reasoning behind his radical leadership, the principles of Garveyism, and his upbringing in Jamaica that crafted the way in which he viewed interracial relations.

2:45 – 3:00
Ida B. Well's Impact
Olivia Mangus, High Point University
Mentor: Paul Ringel, History

Ida B. Wells was a key figure in the early Civil Rights movement who helped to eliminate the injustices that were involved in society. She did this through her journalism where she focused on an anti-lynching campaign along with women's right.

---
*Denotes presenters when there are multiple authors

3:00 – 3:15
Roberts vs. The City of Boston
Emily Segalla, **High Point University**
Mentor: Paul Ringel, History

The unsuccessful Roberts vs.The City of Boston case tried ending racial discrimination in Boston public schools. US Senator Charles Summer and black abolitionist Robert Morris fought for equal education rights but Chief Justice Shaw did not approve. However, this case influenced the Plessy vs. Ferguson decision 50 years later.

3:15 – 3:30
The Face that Launched a Thousand Movements
Lillian Morris, High Point University
Mentor: Paul Ringel, History

When NAACP officer Medgar Evers of Jackson, Mississippi urged his peers to highlight the murder of Emmett Till, the event was able to grab national attention. The growing opinion that the state of Mississippi supported white supremacy and the murdering of children proved change in the south needed to occur.

Human Relations II

Phillips 220

2:30 – 2:45
Benefit of Leadership Consultant and Executive Coach Utilization of Personality Assessments
Grace Heffner, High Point University
Mentor: David Bergen, Human Relations

Personality has been empirically proven to have an effect on performance, leadership effectiveness, and is a predictor of behavior in the workplace. Therefore, personality assessments play an integral role in the leadership consultant and executive coaching process. This research will portray the benefit of the utilization of personality assessments in the leadership consultation and executive coach process.

2:45 – 3:00
The Impact of Leisure/Social Activities on Cognitive Functioning and Cognitive Based Diseases
Brian Morgan, **High Point University**
Mentor: David Bergen, Human Relations

As one ages, cognitive functioning declines and cognitive based diseases may appear. Is there a simple intervention that can slow or even stop these processes? Ongoing research is investigating the impact of different activities on cognition in general. The research results are mixed and will be shared in this presentation.

*Denotes presenters when there are multiple authors

3:00 – 3:15
Human Trafficking: The Overall Problem and How to Best Assist Victims
Abbie Nichols, **High Point University**
Mentor: Molly Jordan, Human Relations

Many people have misconceptions and are uninformed about human trafficking, which makes assisting victims particularly difficult. This research will explore what human trafficking is and is not, while also discussing the different approaches that service providers may take when creating and beginning an effective treatment and recovery plan for victims.

Psychology

Phillips 221

2:30 – 2:45
Psychopathic Traits in Childhood and Adulthood: Links to Functional Impairment
Brittany Clayton, High Point University
Mentor: Christopher Lootens, Psychology

The present study examines the relationships mong (childhood and adulthood) psychopathy and criminal behavior, aggression, and substance use. Sixty participants and their parents have participated thus far. It is predicted that psychopathy will be positively correlated with criminal behavior, aggression, and drug use, but not be associated with alcohol use.

2:45 – 3:00
Does Self-Correction Reduce the Misinformation Effect in an Educational Setting?
Meghan McDonough, High Point University
Mentor: Kimberly Wear, Psychology

Do pretests and feedback type influence final test performance? This study explored the testing effect's influence on final test performance over continuous studying, and the effect of feedback type for the pretest. The results supported the testing effect only for multiple-choice structured tests, and feedback type was insignificant.

3:00 – 3:15
AD/HD Symptoms in College Students: Links Between Parental Involvement and Functional Impairment
Kalei Mills, High Point University
Mentor: Christopher Lootens, Psychology

Previous research has found positive correlations between AD/HD and social impairment, risk-taking behavior, and financial impairment. Studies have also found negative correlations between AD/HD and academic achievement. The current study looks at how parental involvement in a student's life influences the level of impairment among college students exhibiting AD/HD symptoms.

---

*Denotes presenters when there are multiple authors

Biology

Phillips 222

2:30 – 2:45

Methylglyoxal Sensitizes Bacillus oleronius To Topical Antibiotics

Sarah Edmark*, Lexi Lambros and Patrick Vigueira, High Point University
Mentor: Patrick Vigueira

Rosacea is an inflammatory disease of the skin that affects nearly 16 million people in the United States. Methylglyoxal, an active ingredient found in manuka honey, increased the sensitivity of *B. oleronius*, a rosacea associated bacteria, to a number of commonly prescribed topical antibiotics.

2:45 – 3:00

***Physiological comparison of purple, green, and spotted morphotypes of crane-fly orchid,* Tipularia discolor**

Kevin Hoffman, High Point University
Mentor: Niky Hughes, Biology

For the crane-fly orchid, three different morphotypes occur naturally in the piedmont area. We compared *in situ* photosynthetic gas exchange, as well as light response of photosynthesis, photosynthetic response to CO_2, and stomatal density/indices to determine if the cause of the differences in color were due physiological stress.

3:00 – 3:15

***Effects of seasonal frond angles on leaf temperature and associated ecophysiology of the evergreen fern*, Polystichum acrostichoides**

Sierra Thorson*, Sarah Forget, and Elizabeth Parker, High Point University
Mentor: Nicole Hughes, Biology

Polystichum acrostichoides exhibits upright fronds during the summer, which bow gradually through summer and fall, resulting in a completely flat leaf orientation during winter. The purpose of this study was to test whether seasonal leaf movements physiologically benefit the plant by optimizing leaf temperatures and associated photosynthetic parameters.

3:15 – 3:30

***Analysis of the Binding of GerE to cot Promoters that are Repressed during Sporulation in* Bacillus subtilis**

Maria Valverde, High Point University
Mentor: Dinene L. Crater, Biology

The regulatory protein GerE is essential at the late stage of spore development in *Bacillus subtilis* by activating sigK associated transcription. Genes of interest including *sigK*, *cotA*, *cotE* and *cotH* are being analyzed using an Electrophoretic Mobility Shift Assay(EMSA) to determine potential GerE binding and thus transcriptional repression of sporulation.

*Denotes presenters when there are multiple authors

Physics

Phillips 223

2:30 – 2:45

A Search For Short Period Pulsation I n All Hot Subdwarfs With NASA's GALEX

Thomas M. Boudreaux*, Brad N. Barlow, High Point University, and Scott W. Fleming, Space Telescope Science Institute

Mentor: Brad N. Barlow, Physics

NASA's GALEX spacecraft provided UV observations for approximately 77 percent of the sky; gPhoton, allows this data to be used in time-series analysis. Here we present a comprehensive survey of all known Hot Subdwarf Stars (sdBs) for short period (p-mode) pulsations using GALEX data threw gPhoton.

Image courtesy of Demi Painter

PERFORMANCES

Session I • 1:30pm – 2:30pm
Black Box Theatre

1:30 - 2:00
Summer Nocturnes
Nicole Drinkwater, High Point University
Mentor: Lindsey Howie and Christine Stevens, Theatre and Dance
Performers: Madeleine Casadonte*, Kaylah Davis*, Amanda Rossi*, Paige Unni*, and Mal Verez*

Summer Nocturnes is a multi-movement piece created in collaboration with composer, Matthew Rafferty of Vanderbilt University. Progress on this work began June 2016 and has been evolving since. It was performed in High Point, Charlotte and Nashville.
"*In the depth of winter I finally learned that there was in me, an invincible summer.*" Albert Camu

White Clouds
Amanda Rossi, High Point University
Mentor: Lindsey Howie and Christine Stevens, Theatre and Dance
Performers: Madeleine Casadonte*, Tara Jue*, Peyton Senning*, Paige Unni*

Time is a misleading thing. We live for today, but we look toward tomorrow. Uncertainty and curiosity can hold us back, but the future doesn't wait, the clock is always ticking. *White Clouds* is a journey of four dancers, helping one another accept the beauty of the unknown future.

Same Shirt, Different Day
Madeleine Casadonte*, Shelby Desmarais*, Nicole Drinkwater*, Peyton Senning*, Paige Unni*, and Mal Verez*
High Point University

Guest Artist Lindsay Shepherd's *Same Shirt, Different Day* explores the contrast between social conformity and one's individuality. It also expresses the power of vulnerability and human interaction. The work was inspired by the music and how the addition of tap as a percussion element would blend with the strings and wind instruments.

2:00- 2:30
Billets-Doux
Ceili Lang*
Mentor: Ed Simpson, Theatre

Billets-Doux is a new play that explores the relationship between a crossword puzzle constructor and a damaged schoolteacher. Their relationship progresses and is tested. We see just how much they are willing to compromise in order to become an "us." A look into relationships and how they can change us.

POSTER PRESENTATIONS

Slane Basketball Court • 3:30pm-5:00pm

Athletic Training

(1) ***Influence of Isokinetic Hip Strength Measures on Landing Biomechanics during Double and Single Leg Landings***
Connor Whicker*, Emma Zuk, Michelle Boling, Kevin Ford, Jeff Taylor, Yum Nguyen, High Point University, University of North Florida
Mentor: Yum Nguyen, Athletic Training

Decreased hip strength has been suggested to contribute to landing biomechanics that increase risk of ACL injuries. We found that greater hip strength can affect hip and knee moments during double and single-leg landing tasks. Future intervention plans aimed at controlling lower extremity motion should focus on strengthening hip musculature.

Biology

(2) ***Potential Variables that Contribute to the Prevalence of Heartworms***
Lauren Carnicero* and Amanda Filingeri*, High Point University
Mentor: Christian George, Biology

We analyzed published data and patient records of dogs diagnosed with heartworms to identify variables that contribute to heartworm infections. Our research confirms that there are a number of different factors that influence the transmission and viability of the parasite, and this information may enable better prophylaxis strategies for veterinarians.

(3) ***Identification of Proteins Used in the Regulation of Sporulation in Streptomyces griseus***
Alexandria Cedrone* and Catarina DiMaggio*, High Point University
Mentor: Dinene L. Crater, Biology

Streptomyces produce specialized metabolites that are incredibly productive with a complex three-stage life cycle. The purpose of this project is to determine what proteins are important for the sporulation regulation in Streptomyces griseus, and to provide insights into mechanisms that can be used to upregulate the production of naturally-produced antibiotics.

(4) ***Argon-Mediated Survival in Stroke Models***
Eliza Duval* and Michael Grider, High Point University
Mentor: Michael Grider, Biology

An ischemic stroke results in a decrease of oxygen and glucose to the brain. Our preliminary results indicate that argon gas promotes survival in cells exposed to decreased oxygen and glucose. We will measure cell survival and the expression of key signaling molecules in response to injury and/or argon treatment.

*Denotes presenters when there are multiple authors

(5) ***Exposing Local High School Students to College-Level Science Skills***
Jazmine Eccles* and Leigh LaFond, High Point University
Mentor: Veronica Segarra, Biology

We engaged in science outreach with local high school students to expose them to science skills, benefiting both local students and the college students designing the modules. This project allowed college students to acquire skills such as creation of modules for experimentation and public speaking, while also benefiting the community.

(6) ***Cell-Biology Outreach to Local High School***
Charles Graham*, Josh Verdeur*, Jeremy Muhr* and Noah Novembre*, High Point University
Mentor: Veronica Segarra, Cellular Biology

There is a need for science outreach in local schools. To fill this need, we took what we learned in cell biology and teach it to other to reinforce our knowledge, and their scientific skills, to connect between reported and needed scientific proficiency to succeed at the college level.

(7) ***The Role Of SpoIIID In Clostridium Sporogenes***
Alysha Higgs, High Point University
Mentor: Dinene Crater, Biology

Clostridia are anaerobic bacteria that can undergo sporulation. The sporulation pathway of Bacillus species has been thoroughly researched, but little is known about Clostridium sporogenes. We are exploring the regulation of sporulation in C. sporogenes and hypothesize that SpoIIID in C. sporogenes will act similarly to SpoIIID in Bacillus subtilis.

(8) ***Determining the Role of GerE in the Sporulation of Bacillus thuringiensis***
Kristina Jansen, High Point University
Mentor: Dinene L. Crater, Biology

Little is known about how Bacillus thuringiensis regulates sporulation, especially concerning the sigma-K regulated cry1Aa and cry11a genes, which are important in the insecticide production. The purpose of this research it to perform DNA binding studies with GerE on cry1Aa to determine its role in sporulation in B. thuringiensis.

(9) ***The Use of DNA Barcoding to Identify Organisms in Environmental Samples***
Justin Jones, High Point University
Mentor: Dinene L. Crater, Biology

DNA barcoding is a molecular and taxonomic method for identification of species, which has become increasingly simplistic. The purpose for this research is to identify organisms from diverse environments, such as dirt, mud, feces, indoor biofilms from drains, with hopes of adding information to the international DNA barcoding database.

---

*Denotes presenters when there are multiple authors

(10) ***Photoenzymatic Repair Capabilities of Diaphanosoma spp. in Response to UV Radiation***
Thomas Kyllo, High Point University
Mentor: Sandra Cooke, Biology

The focus was to determine the effects of UV radiation, including the use of PER (photoenzymatic repair) to repair UV induced DNA damage in Diaphanosoma spp.. Based on similar species we hypothesized that Diaphanosoma spp. use PER, and the degree to which they use it varies with temperature.

(11) ***Photoenzymatic Repair Against UV Radiation in Daphnia lumholtzi***
Leigh LaFond* and Sandra Cooke, High Point University
Mentor: Sandra Cooke, Biology

Photoenzymatic repair (PER) is a process used by some organisms when DNA is exposed to UV radiation and damaged. Our study focused on the ability of Daphnia lumholtzi, an exotic freshwater zooplankton species, to perform PER. In particular, we looked at UV sensitivity and PER at different temperatures.

(12) ***Synergistic Antibiotic Interactions Against Bacillus oleronius, a Potential Causative Agent of Rosacea***
Lexi Lambros* and Patrick Vigueira, High Point University
Mentor: Patrick Vigueira, Biology

Rosacea, a condition which enlarges facial blood vessels causing redness of the skin, is believed to be caused by Bacillus oleronius, a bacterial commensal of the human hair follicle mite, Demodex. Our current study explores the interaction of common topical antibiotics, and methylglyoxal, an antibacterial component found in Manuka honey.

(13) ***Dissecting the Function of Atg27 in Membrane Trafficking***
Deanna Lee* and Ambar Khawaja, High Point University, High Point Central
Mentor: Veronica Segarra, Biology

The cytoplasmic domain is known to contain at least one sorting signal important for Atg27 localization, but the function of the luminal domain is unknown. The projects in our lab aim to map additional sorting signals on Atg27, determine the functions of the luminal domain and possible functional orthologs in mammalian cells.

(14) ***Argon gas effects on stroke-like injury in PC12 cells***
Daniel Magurno, High Point University
Mentor: Michael Grider, Biology

Ischemic strokes are a common cause for brain injury and death. Promise has been shown in the use of argon gas in treating stroke injury. We used multiple in vitro stroke models with removal of oxygen and/or glucose. We find argon gas may increase survival in neurons exposed to stroke conditions.

*Denotes presenters when there are multiple authors

(15) ***Intertwining 3000 Level Cell Biology and High School Science Outreach***
Sarah Miller*, Bridget Collier* and Jenny Kantor*, High Point University
Mentor: Veronica Segarra, Biology

Science outreach is an activity commonly performed by students and professionals who go out and provide a variety of activities which educate those who do not have access to such experiences. Three undergraduate students met and worked with high school students and expanded their knowledge about cell biology.

(16) ***Finding A Role for Atg27 in the Targeting of Pmc1 to the Vacuolar Membrane***
Aakash Nawaz, High Point University
Mentor: Veronica Segarra, Biology

Autophagy is a recycling process in eukaryotes. Atg27 is a transmembrane protein in baker's yeast that is known to be involved in autophagy where it serves as a protein adaptor. Our work aims to determine if Atg27 is a protein adaptor for protein cargos that are not related to autophagy.

(17) ***Effects of FDA-Approved Compounds on Biofilm Formation and Antibiotic Sensitivity in Staphylococcus haemolyticus***
Lisa Nguyen* and Meghan Blackledge, High Point University
Mentor: Meghan Blackledge, Chemistry

Coagulase-negative staphylococci (CNS) are involved in hospital-acquired infections, particularly with medical implants. Biofilm production is a factor in these infections. Staphylococcus haemolyticus has the broadest range of antibiotic resistance out of the CNS group. The effects of common antibiotics and FDA-approved compounds on S. haemolyticus were determined through biological assays.

(18) ***Visualization of the Vegetative Growth and Sporulation of B. subtilis***
Abigail Sharp, High Point University
Mentor: Diene Crater, Biology

lostridium is a pathogenic bacteria that is responsible for many food borne illnesses, and is an obligate anaerobe. Bacillus subtilis is an aerobic, nonpathogenic, model organism for spore formation for pathogenic organisms like Clostridium. Fluorescent microscopy will be used to visualize the vegetative growth and sporulation of B. subtilis.

(19) ***Dissecting the Function of Vps68 and Vth1 in Yeast Membrane Traffic and Autophagy***
Allison Walker, High Point University
Mentor: Veronica Segarra, Biology

We want to identify protein cargos that transit along transport pathways inside cells. We are studying two proteins in budding yeast with unknown function that physically interact with proteins that are known to change location throughout the cell in response to starvation--the Vps68 and Vth1 proteins.

*Denotes presenters when there are multiple authors

(20) ***Understanding Role of VraT in Methicillin-Resistant Staphylococcus aureus***
Carrie Wilson*, Verónica A. Segarra, and Aurijit Sarkar, High Point University
Mentor: Verónica A. Segarra, Biology, Aurijit Sarkar, Pharmaceutical Sciences

Bacterial antibiotic resistance highlights the need for understanding the underlying molecular mechanisms of the process. Deleting a gene coding for the membrane protein called VraT re-sensitizes S. aureus to antibiotics via disruption of bacterial signaling pathways. Our research aims to understand the structure of VraT and function.

Chemistry

(21) ***Antibacterial Assessment of Cyclogossine A, A Cyclic Heptapeptide from J. gossypiifolia***
Emma James Barksdale*, Calla Telzrow and Andrew Wommack, High Point University
Mentor: Andrew J. Wommack, Chemistry

Peptides isolated from Jatropha species, a genus of woody trees and shrubs, exhibit diverse biological activity. Cyclogossine A is a cyclic heptapeptide isolated from J. gossypiifolia with unreported activity that possesses therapeutic potential. After successful synthesis and cyclization, antibacterial effects of Cyclogossine A were assessed with a library of bacteria.

(22) ***Elucidation of the Efficacy of the Antitumor Quinone, Beta-Lapachone in a BRCA1 Mutant Breast Cancer Cell Line Expressing Elevated NQO1 Levels***
Kristen Brokaw*, Lindsey Palmquist and Melissa Srougi, High Point University
Mentor: Melissa Srougi, Chemistry

Breast cancer affects 12.5% of U.S. women, therefore, it is important to find specialized treatments. We hypothesize that BRCA1 mutant cell-lines expressing NQO1 will be more susceptible to β-lap-induced cytotoxicity. Our research will provide information on the effectiveness of β-lap as a selective therapy for NQO1 expressing, BRCA1 mutant cancers.

(23) ***Do-It-Yourself: 3D Models of Atomic Orbitals Through 3D Printing***
Riccardo De Cataldo* and Kaitlyn Griffith, High Point University
Mentor: Keir Fogarty, Chemistry

Electricity is the flow of electrons, which exhibit both wave-like and particle-like behavior. A 3D printer has been used to print tangible models of electron waves, referred to as orbitals. These models can serve as learning instruments to aid understanding of electron behavior.

---

*Denotes presenters when there are multiple authors

(24) ***Investigation of FDA-approved small molecules as modulators of virulence in Methicillin-Resistant Staphylococcus aureus (MRSA)***
Kyra Gillard, High Point University
Mentor: Meghan Blackledge

Methicillin-resistant Staphylococcus aureus (MRSA) infections kill over 11,000 people a year and is particularly difficult to treat because it employs virulence behaviors, such as biofilm formation and antibiotic resistance. We have identified a class of structurally related tetracyclic amines capable of modulating biofilm formation and repotentiating MRSA to common antibiotics.

(25) ***Synthesis of an Acceptor-Donor Molecule for Solar Cell Application Analysis***
Robert Glass* and Pamela Lundin, High Point University
Mentor: Pamela Lundin, Chemistry

Our research focuses on the synthesis of an acceptor-donor molecule that shares the functions and conjugated active layer of an all-polymer solar cell. The synthesis of our desired compound was performed with commercially available starting reagents and four ongoing synthesis reaction techniques. Our current results will be discussed.

(26) ***Tat-specific factor 1's role in HIV RNA stability***
Amanda Goodwin, High Point University
Mentor: Heather Miller, Chemistry

Tat specific factor 1 (Tat-SF1) is one of the human proteins HIV relies on to propagate. Tat-SF1 has been hypothesized to play a role in viral RNA stability. Preliminary data shows altered stability of different HIV RNA size classes in Tat-SF1 knockdown cells compared to control.

(27) ***Construction And Alignment Of A Total Internal Reflection Fluorescence Microscope*** **Emma Welter* and Kaitlyn Griffith*, High Point Central High School, High Point University**
Mentor: Keir Fogarty, Chemistry

The goal was to construct an instrument capable of TIRF microscopy. Total Internal Reflection Fluorescence (TIRF) microscopy is a method that allows fluorescent molecules to be seen only when they are within a limited excitation field, about 100 nanometers deep. Successful TIRF was demonstrated in proof of concept experiments.

---

*Denotes presenters when there are multiple authors

(28) ***The Efficacy of an Anti-Tumor Quinone in NQO1 Positive BRCA2 Mutant Breast Cancer Cells***
Lindsey Palmquist* and Kristen Brokaw, High Point University
Mentor: Melissa Srougi, Biochemistry

No specialized treatments exist that target cancerous cells while causing little harm to normal tissue. It is predicted BRCA ½ mutant breast tumors will be sensitive to Beta-lapachone, which results in cell death. Research will provide information on the pathway of Beta-lapachone cell death in the presence of NQO1 cells.

(29) ***Towards Further Understanding of Kinase Activity During Oxidative Stress: Synthesis of the Highly Active ERK2 Substrates Sub-D and Sub-F***
Olivia Tornow, High Point University
Mentor: Andrew Wommack Chemistry

Extracellular signal-regulated kinase 2 (ERK2) is involved in the regulation of cell development, growth, and differentiation. To further study ERK2 activity in response to cellular oxidative stress, two peptide ligands were synthesized that bind two unique ligand recruitment sites on ERK2, the D-recruitment site (DRS) and the F-recruitment site (FRS).

(30) ***Small Molecule Modulation of Virulence Behaviors in Staphylococcus epidermidis***
Rebecca Ulrich* and Meghan S. Blackledge, High Point University
Mentor: Meghan S. Blackledge, Chemistry

Antibiotic resistance is a growing concern in healthcare. Innovative methods of treating bacterial infections are needed to combat antibiotic resistance. We have identified a class of FDA-approved compounds which inhibit biofilm formation in Staphyloccocus spp. and lower the MIC of common b-lactam antibiotics via a non-toxic mechanism.

(31) ***Exploring the Role of Tat-SF1 as an HIV-1 Host Factor***
Matthew Warrick, High Point University
Mentor: Heather Miller, Chemistry

Tat-specific factor 1 (Tat-SF1) is a human protein aiding in transcription and splicing, while also serving as an HIV host factor. Studying the binding behaviors of the purified protein with synthesized HIV RNAs will provide insight into the role of this protein.

---

*Denotes presenters when there are multiple authors

Communication

(32) ***Is A Picture Worth 1,000 Words Or Do The Words Matter? How Students Interpret Music Videos With And Without Captions***
Victoria Cotnoir, High Point University
Mentor: Virginia McDermott, Communication

The goal of this research is to determine three things: (a) Whether college students interpret music videos differently if they see the lyrics and the images? (b) The extent that students' reactions to reading the lyrics are altered when the videos have sexualized versus non-sexualized images? And (c) whether mood differs when students watch videos with or without captions and highly sexualized images?

(33) ***The Washington Redskins and the Status of Disparaging Trademarks: Where the Courts Stand***
Shayne Fitol, High Point University
Mentor: Dean Smith, Communication

Outcry over the team name of the Washington Redskins football team has raged for more than 20 years, since the first legal attempt was made to force the Patent and Trademark Office to cancel the name's legal protections. This project examines what is at stake.

(34) ***Crippled Hollywood: Representing People with Disabilities in Television and Film***
Olivia Navarro, High Point University
Mentor: Melissa Richard, Women's and Gender Studies

The presenter will explore the representation of people with intellectual and developmental disabilities (IDD) in television and film. The researcher will present examples of people IDD in the media. The student will then analyze the impact that these films and TV shows have on society's treatment of people with IDD.

Computer Science

(35) ***Developing an Autonomous Toy Vehicle Using Computer Vision Techniques For Obstacle Detection and Avoidance***
Ty Carlson*, Spencer Ader, Max Mauer and Martin DeWitt, High Point University
Mentor: Martin DeWitt, Physics

This project utilized functions from a library of computer vision functions to enable a Raspberry Pi and a USB camera to drive a toy car all by itself. To achieve this primary goal, our group focused on image analysis and obstacle detection techniques based on pixel displacement between image frames.

---

*Denotes presenters when there are multiple authors

Criminal Justice

(36) ***The Death Penalty: The Analysis Of Cost Versus Continued Support Among Americans***
Melanie Savage* and Thomas Dearden, High Point University
Mentor: Thomas Dearden, Criminal Justice

This study addresses the public's stance on the retention or abolition of the death penalty, particularly when participants are given information pertaining to the cost of capital punishment versus the cost of life without parole (LWOP).

Entrepreneurship

(37) ***Developing Millennial Leader***
Grace Barrett, High Point University
Elizabeth Jeter, Human Relations

Millennials are changing the world through our search for meaning and passion in professional work (Gallup, 2016), which challenges organizations developing the next generation of leaders. I will present a twelve-step leadership development program designed using Rainey and Kolb's (2014) Relationship, Strategy, Vision, and Performance Model to solve this challenge.

*Denotes presenters when there are multiple authors

Exercise Science

(38) ***Muscle Activation Patterns During A Novel Lateral Lunge Jump Reaction Test***
Michelle A. Aube*, Jeffrey B. Taylor, Audrey E. Westbrook, Anh-Dung Nguyen, and Kevin R. Ford, High Point University
Mentor: Kevin R. Ford, Physical Therapy

Muscular activation of the quadriceps and hamstrings may play an important role in stabilizing the knee during unanticipated reactions. Female soccer players wore electromyography (EMG) sensors while completing a reaction test. The timing and magnitude of the hamstrings and quadriceps were investigated.

(39) ***Inter-day Consistency Of The Regional Analysis Of Discomfort Survey***
Devyn A. Fleischhacker*, Kevin R. Ford, Justin P. Waxman, Anh-Dung Nguyen, Samantha J. Gajoch, and Jeffrey B. Taylor, High Point University
Mentor: Jeffrey B. Taylor, Physical Therapy

Perceived cleat comfort is critical for athletic performance. Established comfort surveys are generally nonspecific in identifying anatomic locations of discomfort and there is a need to develop more specific, reliable assessments. Day-to-day reliability and consistency of the electronic Regional Analysis of Discomfort Survey was explored for 15 female athletes.

(40) ***Reliability Of Foot Morphology Measurements From A Three-Dimensional Scanner***
Samantha J. Gajoch*, Devyn A. Fleischhacker*, Jeffrey B. Taylor, Justin P. Waxman, Anh-Dung Nguyen, and Kevin R. Ford, High Point University
Mentors: Kevin R. Ford and Jeffrey B. Taylor, Physical Therapy

Three-dimensional scanning techniques of foot structure have recently been developed to automate anatomical foot measurements. To assess the reliability of foot morphology measures from a commercially available three-dimensional scanner in a young, female population. The results indicate that height, width and circumference reliability were excellent for inter-rater, intra-rater, and within day test-retest.

(41) ***Pilot Study Examining Correlations Between Slip Propensity, Trip Propensity, and XBOX 360 Game Scores***
Lacey Gould*, Kevin Ford, Jeffrey Taylor, and Sara Arena, High Point University
Mentors: Sara Arena, Exercise Science

Understanding relationships between slip and trip propensities may aid in fall prevention. Minimum toe clearance was significantly correlated with shear and vertical ground reaction forces at the required coefficient of friction (RCOF), and an Xbox 360 Kinect game score was found to be correlated with RCOF in an elderly population.

(42) ***Curcumin Improves Systemic Responses to Exertional Hyperthermia but Doesn't Alter Protein Content of Circulating Leukocytes***
Ally Hamilton*, Mandy Szymanski, Meghan Patton, and Lacey Gould, High Point University
Mentor: Matthew Kuennen, Exercise Physiology

Exertional heat stress increases gastrointestinal barrier permeability and risk of exertional heatstroke via a TLR4-mediated inflammatory pathway. Curcumin has been shown to inhibit the MyD88 & TRIF-dependent pathways of TLR4 signaling in vitro but has not been examined in a human exertional heat stress model.

(43) ***The Relationship between Middle School Demographics and Neighborhood Physical Activity and Nutrition Environment***
Natalia Ocasio, High Point University
Mentor: Kimberly Reich, Exercise Science

Physical activity (PA) and nutrition behavior contribute to chronic disease risk, starting in childhood. Demographic characteristics and built environment effect health behavior. Therefore, the purpose of this study was to investigate the relationship between middle school race and family-income characteristics and PA and nutrition-related neighborhood built environment.

*Denotes presenters when there are multiple authors

(44) ***Osteocalcin Does Not Increase Insulin Sensitivity or Mitochondrial Biogenesis in Palmitate Treated C2C12 Myotubes***
Hailey A. Parry*, Roger A. Vaughan, Kyle L. Sunderland, High Point University
Mentor: Kyle L. Sunderland, Exercise Science

Osteocalcin (OC), a bone matrix protein, has been shown to regulate systemic glucose homeostasis and increase mitochondrial mass in mice fed a high-fat diet. The mechanisms by which OC stimulates metabolic adaptations is unknown. Our results demonstrated inconsistences with the previously observed increase in insulin sensitivity and mitochondrial mass.

(45) ***Repeated Thermal Stress Sensitizes C2C12 Myotubes to Subsequent LPS Exposure***
Meghan Patton*, Mandy Szymanski, Lacey Gould, Roger Vaughan, Matt Kuennen, High Point University
Mentor: Matthew Kuennen, Exercise Science

This study investigated the hypothesis that “preconditioning” hyperthermia affords cytoprotection against subsequent LPS stimulation in C2C12 myotubes. C2C12 myotubes were incubated for 2hr/d at 40°C for 6d or maintained at 37°. Following 24 hour recovery myotubes were stimulated with LPS. The Thermal tolerance did not prove to be protective.

(46) ***The Effects Of Ultra-endurance Event Participation On Biomarkers Of Cardiac Damage– A Systematic Review And Meta-analysis***
Steven Safille*, Hayley V. MacDonald, Michael V. Fedawa, Paul D. Thompson, and James M. Smoliga, High Point University
Mentor: James M. Smoliga, Human Biomechanics and Physiology

There is evidence that ultra-endurance participation may elevate biomarkers of cardiac damage, however, meta-analyses conducted to date have yet to collectively evaluate these changes and identify factors which modulate these biomarkers.

(47) ***Caffeine Activates P65 Signaling and Reduces Tolerance to Lipopolysaccharide***
Jamie K. Schnuck*, Lacey M. Gould, Michele A. Johnson, Matthew R. Kuennen, and Roger A. Vaughan, High Point University
Mentor: Roger Vaughan, Exercise Science

Caffeine is a commonly consumed ergogenic phytochemical previously shown to stimulate multiple regulators of cell energetics. This work assessed the effects of caffeine on skeletal muscle inflammation. Caffeine may enhance P65 signaling reducing tolerance to exogenous inflammatory stimuli, however the physiological relevance of these observations requires further experimentation.

---

*Denotes presenters when there are multiple authors

(48) ***Are clinical symptoms of running overuse injuries associated with thermographic response? A qualitative proof-of-concept study***
Jessica Siplon, High Point University
Mentor: James Smoliga

Can clinical symptoms of lower extremity overuse injuries can be associated with visually detectible changes in Medical Infrared Thermography? 29 distance runners reported weekly for bilateral lower limb photos using infrared camera. 7 blinded clinicians compared photos of injured vs. non injured. Images didn't provide any insight into injury status.

(49) ***Dietary Curcumin Supplementation Reduces Gastrointestinal Barrier Permeability During Exertional Heat Stress***
Mandy Szymanski*, Meghan Patton, Lacey Gould, Carmen Waldron, and Matthew Kuennen, High Point University
Mentor: Matthew Kuennen, Exercise Science

This research investigated the effect of 3 days of 500 mg/d dietary curcumin supplementation on circulating markers of gastrointestinal barrier permeability and systems-level physiological responses to exertional heat stress. Results shown improvements in systems-level physiological responses and reduction in gastrointestinal barrier permeability.

(50) ***Pilot Study Examining the Effects of XBOX 360 Kinect Training on Changes in Physical Function in Older Adults***
Alyssa Walker*, Jordan Hutcheson* and Melissa Savas, High Point University
Mentors: Jeffery B. Taylor and Sara L. Arena, Exercise Science

The purpose of this study was to examine a 6-week Xbox Kinect training program on balance and physical function in older adults. Our findings suggest that Xbox Kinect games may be beneficial in delaying functional declines, or even improving physical function, but its impact on balance ability is unclear.

Pharmacy

(51) ***Modeling Interactions Between C-peptide and its Cognate Receptor***
Trey Patton, High Point University
Mentor: Aurijit Sarkar, Pharmacy

C-peptide is a component of proinsulin shown to have protective qualities against microvascular disorders associated with diabetes complications. The exact interactions are unknown, but a GPCR named GPR146 is implicated in the signaling pathway. We will be showcasing our initial efforts to accurately model GPR146-C-peptide interactions.

---

*Denotes presenters when there are multiple authors

Physical Therapy

(52) ***Landing Patterns Of Collegiate Female Volleyball Players During Practice And Game Competition***
Jenny L. Kantor,* Steven L. Dischiavi, Thomas J. Hockenjos, and Jeffrey B. Taylor, High Point University
Mentor: Jeffrey Taylor, Physical Therapy

Volleyball requires high-impact landings, leading to increased risk of lower extremity injuries, especially in females. The purpose of this study was to quantify and characterize the jump landing patterns that occur during competition in order to help coaches develop safer approaches to training and conditioning.

(53) **Development of a Method to Assess Components of Natural Walking in a Laboratory Setting**
Alyssa Latimer* and Haley Cianfarini*, High Point University
Mentor: Dora Gosselin, Physical Therapy

The ability to walk in a natural environment is not comprehensively measured in a laboratory setting. The purpose of this project was to develop a laboratory method for assessing the adaptive gait (initiation, termination and change direction) necessary for children to be able to walk in a natural environment.

Physics

(54) ***Aerodynamic Characteristics of Modern Upper-Level Competition Soccer Balls***
Keisha Daughtry, High Point University
Mentor: Martin DeWitt, Physics

Aerodynamic properties of the 2014 FIFA World Cup Brazuca match ball were compared to traditional 32-panel soccer balls. By studying external characteristics including panel numbering, surface texture and bonding method, we found that among all investigated balls the official match ball had the lowest drag coefficient and highest magnus coefficient.

(55) ***The EREBOS Project: Studying the Effects of Substellar Companions on Stellar Evolution***
Ryan Hegedus*, Brad Barlow, Alan Vasquez Soto, Padraig Clancy, High Point University, and Veronika Schaffenroth, Institute for Astro- and Particle Physics, University of Innsbruck
Mentor: Brad Barlow, Physics

The EREBOS Project was started to obtain follow-up observations of the new HW Vir binaries discovered by the OGLE Survey. We collected time-series photometry and spectra for four targets and extract light curves and radial velocities. Our initial results imply that brown dwarfs may be able to survive red giant engulfment.

---

*Denotes presenters when there are multiple authors

(56) ***The Impact of Studio Mode on Conceptual Understanding and Physics Identity Development***
Zackary L. Hutchens, High Point University
Mentor: Robynne M. Lock, Physics and Astronomy, Texas A&M University-Commerce

Studio physics is an innovative pedagogy that uses interactive-engagement to teach introductory calculus-based physics. Data were collected at Texas A&M University-Commerce in both traditional and studio physics courses using the BEMA and FMCE concept inventories and the CUPID physics identity survey. The results demonstrate that studio mode is a highly effective method of teaching calculus-based physics.

(57) ***Mirco- and Macrorheology of Agarose for Use as a Potential Mucus Simulant***
Matthew Iczkowski, High Point University
Mentor: Briana Fiser, Physics

The study of mucus simulants plays an important role in the creation of innovative treatments for people who suffer from pulmonary illnesses, such as cystic fibrosis, and in obtaining a deeper understanding of lung function in general. We are investigating the polysaccharide agarose as a potential mucus simulant.

*Denotes presenters when there are multiple authors

(58) ***Testing and Modeling a Physical Galton Board***
Brandon Inscoe, High Point University
Mentor: Aaron Titus, Physics

In this project we created a physical Galton board and compared its results with a computational model. The models produced similar results. The results of the computational model depended on random initial position of the ball. The physical model results depended on the physical parameters of the ball and board.

(59) ***Construction and Testing of a TIRF-FCS Microscope***
Amiras Simeonides, High Point University
Mentor: Keir Fogarty, Chemistry

We built and tested a TIRF-FCS microscope. This instrument uses a high-powered laser to create a very small excitation field in a fluorescent solution and collects data on data on fluorescence output. This data is put through a statistical analysis to determine the characteristics of the fluorescent solution.

(60) ***Translating Orientation Into Electrical Commands***
Michael Welter, High Point University
Mentor: Aaron Titus, Physics

Many smartphones contain an accelerometer which can be used to detect the phone's orientation. Modern accelerometers are small and versatile enough to be worn, allowing the motion of a person or object to be used as a remote control.

Psychology

(61) ***Putting Myself in Their Shoes***
Olivia Baynes, High Point University
Mentor: Kristen Li-Barber, Psychology

The current study examined the convergent validity of a newly developed child-based measure of empathic reasoning and the relationship between gender and chronological age in domain specific empathic development. Results failed to support the validity of the measure, however correlations between age and domains of empathic reasoning were uncovered.

(62) ***The Influence of Academic Identity and Feedback on Motivation and Self-Esteem***
Katie James, High Point University
Mentor: Kirsten Li-Barber, Psychology

In the current study, the impact of identification with one's academic major and feedback about major success on student's self-esteem and motivation was examined. Preliminary analyses revealed significant main effects and interactions relating to impact on motivation to continue within the major, but not significant effect on self-esteem.

(63) ***Are Cultural Standards Driving Women to Get Back Together with Their Ex-Partners?***
Hannah Leslie, High Point University
Mentor: Sadie Leder-Elder, Psychology

The current work examines a new underlying mechanism that encourages an individual's tendency to rekindle, or get back together with an ex-partner. In particular, it looks at sexual double standards between men and women; more specifically, how the number of past partners plays a role in their decision to rekindle.

(64) ***Seducer or Seduced: Who Would You Rekindle With?***
Sarah Schaible, High Point University
Sadie Leder Elder, Psychology

This project examined how rekindling (e.g., the phenomenon of couples breaking up and getting back together) was related to cheating. Specifically, it investigated whether the circumstances of cheating (i.e., partner was seduced or was the seducer) impacts the likelihood of getting back together.

(65) ***The Implications of Physical Proximity in Rekindled Romantic Relationships***
Melissa Urch, High Point University
Mentor: Sadie Leder-Elder, Psychology

"Rekindling" is a relationship phenomenon where a couple goes through cycles of splitting up and reuniting. This work aims to reveal why this occurs by examining the situational variable of physical proximity. We believe that the decision to rekindle is impacted by how physically close one is to an ex-partner.

---

*Denotes presenters when there are multiple authors

ART EXHIBIT

Slane Basketball Court • 3:30pm-5:00pm

(66) ***Sculpting the Human Form: A Look into Modern Modeling of the Body***
Hannah Grau*, High Point University
Mentor: Brandon Jones, Interior Design

Revitalizing sculpting of the human body, this research delves into modern forms of casting, molding, and creating. Employing three different methods of plaster, laser cutting, and 3D printing to translate the human bust into a permanent art form.

(67) ***The Art of Motion Graphics***
Ellen Francis*, High Point University
Mentor: Bradley Lambert, Communication

This semester I spent time learning and researching the software Cinema 4D Lite. This complicated application allows the user to create 3D objects and text using lighting and animation to make realistic compositions. My final product combines all the skills I have learned.

Hannah Grau
Hermes and Aphrodite, 2016
Sculpting, Autocad, Illus

STUDENT INDEX

(Includes page numbers for student abstracts)

MENTOR INDEX

THANK YOU TO REVIEWERS

Laura Alexander
Joanne Altman
Brad Barlow
Kris Bell
Victoria Brown
Matthew Carlson
Colin Carriker
Hayden Carrón
Christine Cugliari
Kelly Curtis
Deborah Dazis
Sara de Nicolas
Briana Fiser
Christopher Fowler
Joe Goeke
John Graeber
Linda Gretton
Cherl Harrison
Steve Harvey
Brian Heagney
Michael Kennedy
Francisco Laguna-Correa
Beniot Ledercq
Kirsten Li-Barber
Meredith Malburne-Wade
Charisse McGhee Lazarou
Joseph Michaels
Heather Miller
Philip Mulder
Sarah Nielsen
Diana Peterson
Kimberly Reich
Matthew Ritter
Braden Romer
Donna Scheidt
Mark Setzler
Benita VanWinkle
Patrick Vigueira
CindyVigueira
Phil Watson
Adam Winkel
Alexis Wright

Notes

Thank you for joining us!