

# UNG's 1st Annual Research Pitch



November 12, 2020 5:30 - 7pm

Join Us: [go.ung.edu/first-annual-research-pitch](https://go.ung.edu/first-annual-research-pitch)

## Presenters

**Lesley Jones** - *Chivalry Reborn: Victorian Medievalism and its Influence on Manners*

**Rebecca Corley** - *Probing Nuclear Structure and Dynamics at the Electron-Ion Collider*

**Hannah Cole** - *Assessing Spread of the Invasive Joro Spider in Georgia Using Population Genetics*

**Lydia Pelletier** - *Racial Stratification in Peru and its Historical Foundation*

**Jared Oenick** - *Bacteriophages: The Bounty Hunters of Bacteria*

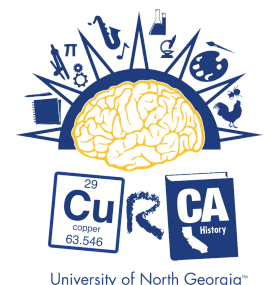
**Bryan Rocha** - *Why Are Women More Susceptible to HIV/AIDS in Ethiopia than Men?*

**Andi Fleming and Madison Bunch** - *The Effect of Kinesio Tapes on the Growth of Human Skin Bacteria*

**Madison Rodriguez** - *Educación en Frente y Inmigración en la Mente: The Effect of Immigration on Mental Health and Academic Experiences of Latinx College Students.*

**Lani Chastain** - *When Stars Align*

**Ronia Nevels** - *Alternative Transportation Needs of Older Adults*



# Host and Emcee



## **Dean Dr. John Leyba**

Dr. Leyba obtained his Ph.D. in nuclear chemistry from the University of California, Berkeley, in 1990. Dr. Leyba joined the faculty of the University of North Georgia in 2014. In February of 2019, Dr. Leyba became the Interim Dean of the College of Science & Mathematics at UNG. Dr. Leyba has a passion for science in general and specifically for space-related discoveries.

# Judges



## **Dr. Erin Barding**

Dr. Barding has been a faculty member in the Biology Department for 10 years. She teaches a variety of courses for non-science and Biology majors including Wildlife Ecology, Conservation Biology, Mammalogy, and study abroad courses in both Costa Rica and South Africa. She works with undergraduate students to conduct ecological research, with a focus on behavioral ecology & evolution in a host-parasite insect system, and wildlife ecology & conservation of mammals of northern Georgia.



## **Dr. Benjamin Garner**

Dr. Garner has a PhD in Communication and teaches in the Mike Cottrell College of Business at the University of North Georgia. Dr. Garner's research focuses on communication and consumer behavior.



## **Dr. Michael Lanford**

Dr. Lanford is an Assistant Professor of Higher Education at the University of North Georgia. His research explores the social dimensions of education, with specific attention to equity, globalization, institutional innovation, organizational culture, and qualitative methods.



## **Dr. Toluwani Oloke**

Dr. Oloke is an assistant professor in the department of Communication, Media and Journalism at the University of North Georgia. Dr. Oloke earned her doctoral degree from the University of Florida. Her research focus is in Health Communication and Cultural sensitivity in the development of health campaign messages. Dr. Oloke loves to spend time with her family, cook and read novels in her leisure time.



## **Dr. Tiffany Rogers**

Dr. Rogers has been a faculty member and the Clinical Coordinator for the Department of Counseling since 2017. She teaches several core classes for Counseling graduate students, including Research Methods, Counseling Theories, Multicultural Counseling, and Group Counseling. Her research interests include women's issues in counseling, working with survivors of sexual assault and intimate partner violence, and the education and experiences of counselors-in-training.

# Abstracts

## **Lesley Jones - *Chivalry Reborn: Victorian Medievalism and its Influence on Manners* (Dr. Thomas Greene, History, Mentor)**

Due to the rise of Victorian Medievalism in the late nineteenth century, chivalry became an expectation that centered around the romantic ideology of the Arthurian legend. I will illustrate how the Victorian's depiction of chivalry influenced their morals. I share in my pitch how their understanding of honor and bravery morphed into an infatuation of etiquette and refinement. I will conclude with how the Victorian perspective changed so dramatically within such a short period of time and why it is still an influence on the manners we use today.

## **Rebecca Corley - *Probing Nuclear Structure and Dynamics at the Electron-Ion Collider* (Dr. Sonny Mantry, Physics, Mentor)**

The United States Department of Energy recently announced that the Brookhaven National Laboratory will host a new accelerator facility called the Electron-Ion Collider (EIC). The EIC will be the world's most powerful three-dimensional "microscope" to look inside nuclei. Particle physics at the EIC will involve electron-nucleus collisions to study nuclear structure and dynamics. We study a new collision observable called "1-jettiness". The feasibility of implementing 1-jettiness as a precision tool for constraining nuclear dynamics at the EIC is tested using simulations studies. We will present simulation results for the proposed design parameters at the EIC and compare to theoretical predictions.

## **Hannah Cole - *Assessing Spread of the Invasive Joro Spider in Georgia Using Population Genetics* (Dr. Mattias Johansson, Biology, Mentor)**

Invasive species are among the leading causes of declines in threatened and endangered native species. The Joro spider (*Nephila clavata*), native to Asia, is a recently-introduced species in Georgia. Our goals are to assess population genetic diversity at the original site of introduction and to differentiate spread mechanisms using population genetic techniques. Our results may suggest that the introduction occurred in a single location followed by natural spread of spiders via ballooning or secondarily transported via the movement of goods. Given their rapid spread and abundant population. The Joro spiders are bound to have a strong effect on Georgia's ecosystem.

## **Lydia Pelletier - *Racial Stratification in Peru and its Historical Foundation* (Dr. Alvaro Torres-Calderon, Spanish, Mentor)**

This paper focuses on the historical formation of the social stratification in Peru as well as how it is upheld today by the current media. In order to understand the racism and economic divide in Peru, it is imperative to understand the colonization of Peru and the collapse of the Incan empire that led to hierarchies based primarily on ethnic and racial differences as seen in the positions and art of the period. This stratification is maintained today by representations in the media and can be observed in telenovelas/ movies, commercials, employment offers, and the beauty standards.

# Abstracts Cont.

## **Jared Oenick - *Bacteriophages: The Bounty Hunters of Bacteria* (Dr. Alison Kanak, Biology, Mentor)**

Antibiotic resistant bacteria can cause fatal infections like Tuberculosis or Pneumonia. There is a growing need to combat these bacteria in a hospital setting as many have a source in hospital care. Bacteriophages are viruses that can kill these dangerous bacteria. We hope to isolate bacteriophages from the environment that can specifically target antibiotic-resistant bacteria. These bacteriophages can then be further studied and classified to determine all of their possible bacterial targets, how they attack these bacteria, and the genes they use to do so. Our goal is to provide an alternative therapeutic with clinical significance.

## **Bryan Rocha - *Why Are Women More Susceptible to HIV/AIDS in Ethiopia than Men?* (Dr. Rana Gautam, Sociology, Mentor & Erika Huizar, Classmate)**

Of 650,000 adults in Ethiopia living with HIV, 410,000 are women (UNAIDS). New HIV infections among young women aged 15-24 were more than double than those among young men. In addition, HIV treatment is slightly lower among women. The discrepancy among women and men is evident. Factors such as early marriage, the abduction and rape of women, the presence of female genital mutilation, economic vulnerability, lack of education, physiological/biological vulnerability, and discrimination perpetuated depending on factors such as ethnicity have all been suggested to contribute to the discrepancy between women and men regarding the prevalence of HIV infections.

## **Andi Fleming and Madison Bunch- *The Effect of Kinesio Tapes on the Growth of Human Skin Bacteria* (Dr. Dobrosława Bialonska, Biology, Mentor)**

(Department of Biology, UNG: Andi Fleming, Madison Bunch, Dr. Paul Johnson, and Dr. Dobrosława Bialonska in collaboration with Department of Physical Therapy, Radford University: Dr. Mary Ellen Oesterle and Dr. Teresa Conner-Kerr)

Kinesio Tapes (KTs) are adhesive tapes widely used by physical therapists and athletes. We demonstrated that KTs have potential to affect the growth of human skin bacteria and that normal members of that skin microbiome can be affected more profoundly than opportunistic pathogens. Next, in a human trial, we identified and quantified microorganisms present on KTs worn on the skin for five consecutive days. We observed differences in the accumulation of bacteria between different brands and verified that some of those species isolated from the tapes are capable of causing infections.

## **Madison Rodriguez - *Educación en Frente y Inmigración en la Mente: The Effect of Immigration on Mental Health and Academic Experiences of Latinx College Students.* (Dr. Lauren Johnson, College of Education, Mentor, Dr. Efren Velazquez, Psychological Science, Mentor, & Dr. Bryan Dawson, Psychological Science, Mentor)**

There has been a sharp rise of Latinx students enrolling in higher education institutions, where there is also a rising prevalence of mental health issues. For Latinx students, immigration has either affected them or their family. This study focuses on how immigration affects the acculturative stress, anxiety and the academic experiences of Latinx college students. Participants were surveyed and interviewed to measure these levels and to speak specifically about how immigration has impacted their K-16 experiences. The findings of this study will allow faculty and staff to better understand the barriers in higher education Latinx college students face.

# Abstracts Cont.

**Lani Chastain - *When Stars Align*** (Dr. Gregory Feiden, Physics, Mentor & Dr. Thomas Vogel, Physics, Mentor)

A vast majority of stars in the Milky Way are born in clusters and formed by the gravitational collapse of giant interstellar clouds that span our galaxy. However, the details of this process still remains a mystery. By studying the rotation alignment of stars in clusters, we can learn more about the molecular cloud that gave birth to these clusters. We study stars in two very famous clusters, the Pleiades, commonly known as the Seven Sisters, and the Beehive cluster. We model the light coming from the stars to investigate fundamental questions about the transfer of energy in star formation.

**Ronia Nevels - *Alternative Transportation Needs of Older Adults*** (Dr. Rana Gautam, Sociology, Mentor)

The United States' demographic is rapidly changing and the older adult population is projected to increase rapidly by 2050. The current advances in medical treatment have enabled many older adults to have higher life expectancies, yet their quality of life is not expected to increase with age. Older adults who cease driving have immense trouble securing reliable and secure transportation. The lack of alternative transportation options can hinder access to essential services; such as medical treatments, grocery stores, and social events. When older adults have access to alternative transportation their overall well-being is more secure.

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