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# McNair Scholars Summer Research Symposium [Program] 2017

McNair Scholars Program (University of Northern Iowa).

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## The McNair Scholars Program

Is currently looking for a few more  
Scholars to join the program.

You must have/be:

- ◆ Someone with a passionate desire to obtain a PhD degree
- ◆ A currently enrolled UNI undergraduate with at least 55 completed credits
- ◆ GPA of 2.8 or higher
- ◆ A US citizen or permanent resident
- ◆ The first generation in your family to graduate from college and low-income OR
- ◆ From a group underrepresented in Graduate education: Black or African American, Hispanic or Latin@, American Indian, Alaska Native, Native Hawai'ian, or other Pacific Islander

Let us help you pursue your dreams!

Contact: Juana Hollingsworth

☎ 319-273-7205

✉ [juana.hollingsworth@uni.edu](mailto:juana.hollingsworth@uni.edu)

🏠 Honors Cottage, 2401 College Street

## University of Northern Iowa McNair Scholars Program Summer Research Symposium 2017



Date: Friday, August 4, 2017

Time: 10:00am—12 noon

Center for Multicultural  
Education (CME)



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# Program

Welcome.....Dr. Nievita Bueno Watts



## Program Part One

Jason Fly, Psychology

*Evidence of Youthful Aging: Chronic Stress and the Association With DNA Damage*

Aarika Forney, Political Science and International Relations

*A Content Analysis on Surveying Refugee, Immigrant and Other Hard-to-Reach Populations*

Niria White, History

*African-American Labor History in Waterloo: The Exhibit*

Lyn Tackett, Biology and Anthropology

*Tracing Ancient Healing practices through the Hibiscus*

## Program Part Two

Acknowledgements.....Dr. Nievita Bueno Watts

## Program Part Three

Light refreshments and Congratulations



The McNair Scholars Program students and staff would like to thank the University of Northern Iowa faculty, administration and staff for all their assistance and support.

We would also like to thank our families and communities, without whom none of our achievements would be possible.

*Thank You*

# The McNair Scholars Program

has three scholars engaged in summer research at outside institutions:



**Sarah Hofmeyer**, Political Science, Public Policy

University of North Texas at Denton

*The Impact of Immigration on National and Supranational Identity*

Mentor: Dr. John Ishiyama

**Dianna Huisman**, Biology and Biochemistry

The Hormel Institute, University of Minnesota

*Stem Cells and Mammary Gland Cancers*

Mentor: Dr. Rebecca Morris



**Taylor Olson**,  
Mathematics, Computer  
Science, Philosophy

Harvard University

*VPAL Natural Language Processing and Course Recommendations Using Syllabus Data*

Mentor: Dr. Margo Levine

Please join us in welcoming our **new McNair Scholars**:

**Julie Howard**, Psychology, Criminology

**Dante Miller**, Sociology, Gender Studies, Political Science

**Symone Robinson**, Biology, biochemistry

**Yakira Sanders**, Social Work



## Lyn Tackett

Dr. Julie Kang, Biology

### *Tracing Ancient Healing Practices Through the Hibiscus*

Abstract

By studying traditional healing practices, we can provide new information that may help solve archaeological mysteries as well as offer new perspectives to modern medicine. For example, Hibiscus tea has long been in use throughout Africa and Asia, yet little research has been done into the origins of this medicine and whether early cultures traded that information. Trichomes and plant morphology of three species of Hibiscus native to Africa, China and India (*H. sabadriifia*, *H. rosa-sinensis*, and *H. syriacus*) were studied using microscopy. The results were compared to known medicinal claims and ancient documents including trade maps and iconography.

Keywords: traditional healing practices, plant morphology, iconography

Lyn Tackett is a junior whose careers have included professional music, early childhood education, small business/entrepreneurship and currently skin care as a licensed aesthetician. She served two terms on the Waterloo Planning and Zoning Commission as president for Cedar Falls Business and Professional Women, and on various local and state committees. Lyn plans to cross biology and anthropology boundaries to research the origins of ancient plant-based medicines and help preserve a record of indigenous healing practices as a Bio-Anthropologist/Ethnobiologist while working towards her PhD. Lyn's honors include the National Society of Leadership and Success, Christy McKeel Award, All American Hall of Fame Band Honors, and the Dale Carnegie Achievement Award. She has written several articles for popular publications including Redbook (Dec 2014), FIRST for Women (June 2015) and the online publications Stylecaster, CafeMom, eHow, Pregnancy Corner, and How to be a Redhead.



## Jason Fly

Dr. M. Catherine DeSoto, Psychology

Dr. Seong-In Choi, Psychology

### *Evidence of Youthful Aging: Chronic Stress and the Association With DNA Damage*

Abstract

Persistent elevated basal levels of the hormone cortisol are an indication of chronic stress. Maladaptive response to stress, or chronic psychological stress, is thought to play a crucial role in the biological mechanisms involved in mental disorders, disease, and accelerated aging. In 2011, a critical connection was reported between elevated cortisol and the oxidative damage to DNA associated with aging and disease in a study of elderly participants (ages 63-83) via 24-hour urinary samples (Joergensen, et. al., 2011). This connection, if verified, has implications for how stress may accelerate the aging process and the onset of cancer, diabetes, and other diseases. The possible relationship between psychological stress and the cellular damage that underlies aging and disease is explored here, replicating the prior study with a sample of 49 young adults (ages 18-26) via direct salivary assay. Results show a significant association was also found, suggesting a link between elevated cortisol and DNA damage at earlier ages. Potential clinical impacts and suggestions for further research are discussed.

Keywords: chronic stress; cortisol; DNA damage

Jason Fly is a Psychology major whose research interests include the study of resilience and its implications in the prevention and treatment of stress disorders, and cognitive strategies for increasing and inducing empathy. He plans to seek a Ph.D. in Clinical Science in order to develop clinical tools using the principles of Positive Psychology to prevent the onset of stress-related disorders such as PTSD. He intends to apply the lenses of race, class, and gender to his research in an effort to better understand the interplay of sociocultural differences and psychopathology—thus ultimately bringing more awareness, prevention, and treatment to underserved populations.



## Aarika Forney

Dr. Jill Wittrock, Sociology

*A Content Analysis on Surveying Refugee, Immigrant and Other Hard-to-Reach Populations*

### Abstract

Refugees, migrants and immigrants encounter an overwhelming amount of discrimination and bias, and as a result, some may go without basic needs. With over 22 million refugees and over 240 million migrants worldwide, research on these populations is becoming more prominent. The problem that many researchers face is how to gather accurate data from these populations. In order to combat this problem, there is a need to know how to best survey hard-to-reach populations to get high quality data. A content analysis of the European Union funded database Prominstat was conducted and analysis of published study results used to determine promising methods of data collection.

Keywords: immigrant data collection, refugee data collection, migrants.

Aarika Forney is a senior at the University of Northern Iowa. She will receive her Bachelors of Arts in Political Science with a minor in International Relations in May 2018. She has received her Associate of Arts in Criminal Justice from Hawkeye Community College. She joined the McNair Scholars Program to become better prepared for graduate studies. Her research interests include refugee and immigrant studies, race relations, and international politics. After graduating from the University of Northern Iowa she plans to pursue a doctoral degree in Refugee and Immigrant Studies or Criminal Justice. She hopes to work nationally and internationally with refugees and immigrants. Aarika is the Vice President of the student organization RISE (Refugee and Immigrant Support and Empowerment) and volunteers with EMBARC (Ethnic Minorities of Burma Advocacy and Resource Center) where she mentors a West High School student.



## Niria White

Dr. Michael Childers, History

Dr. Leisl Carr Childers, History

Erin Dawson, MS, Grout Museum

*African American Labor History in Waterloo: The Exhibit*

### Abstract

This study uses a labor history lens to research African American labor impacts in Waterloo, Iowa. During the Great Migration, African American laborers travelled to Iowa to work on the Illinois Central Railroad. In time, they began to work at the Rath Packinghouse and helped to build the community. This work is being developed into a public history exhibit at the Grout Museum, furthering knowledge of African American contributions to the Mid-West; countering the idea that African Americans have only been politically active during the Civil Rights Era. Historical records, artifacts, and personal interviews provided the data for this research.

Keywords: African American History, Labor History, Public History

Niria White is a junior Public History major and Waterloo, Iowa native. Her research interests include African American labor history, food, and cultural traditions. After graduation she plans to pursue a PhD in African American History and become a university professor. She is active in the Black Students Union and UNI Save, and was an Alderman Scholarship recipient and Grout Museum intern.