

# MCNAIR SCHOLARS

---

# PROGRAM

## Research Symposium

Life Science III Auditorium

July 11, 2008

9:00 AM - 4:00 PM



**Southern**<sup>™</sup>  
Illinois University  
Carbondale

# SCHEDULE OF EVENTS

8:45 **Welcome and Opening Remarks**

## Education and Human Services

9:10 **Alec Perry, Communication Disorders**

*Mentor: Shawna Pope, Communication Disorders*

9:30 **Jonate' Govan, Health Education**

*Mentor: Mark Kittleson, Health Education*

9:50 **Jennie Irwin, Rehabilitation Services**

*Mentor: D. Shane Koch, Rehabilitation Institute*

## Applied Sciences and Arts

10:10 **Vernon Johnson, Health Care Management**

*Mentor: Mark Kittleson, Health Education*

10:30 Break

## Agricultural Science

10:40 **Conisha Brownlee, Food and Nutrition (ILSAMP)**

*Mentor: Sharon Peterson, Food and Nutrition*

## Liberal Arts

11:00 **Stacie Wallace, Psychology**

*Mentor: Rebecca Weston, Psychology*

11:20 **Kandace Vallejo, History**

*Mentor: Kathy Hytten, Ed. Admin & Higher Education*

11:40 **Mickey Johnson, History**

*Mentor: Ras Michael Brown, History*

12:00 **Lunch (Life Science III, Room 1002)**

1:00 **C. Grant Cox, III, Art-Painting**

*Mentor: Najjar Abdul-Musawwir*

## Science

1:20 **Chasity Love, Chemistry (ILSAMP)**

*Mentor: Lichang Wang, Chemistry*

1:40      **Raquel Brown, Biological Sciences (ILSAMP)**  
*Mentor: James MacLean, Physiology*

2:00      Break

2:10      **Sarah Owusu, Physiology (ILSAMP)**  
*Mentor: Buffy Ellsworth, Physiology*

### Mass Communication and Media Arts

2:30      **Monica Mason, Journalism**  
*Mentor: Novotny Lawrence, Radio and Television*

### Business Administration

2:50      **Levell Mables, Marketing**  
*Mentor: Suzanne Nasco, Marketing*

3:10      **Slideshow**

3:20      **Closing Remarks and Awards Ceremony**

## **PANEL OF JUDGES**

**Saran Donahoo, Ph.D.**, is an Assistant Professor in the Department of Educational Administration and Higher Education and Director of the College Student Personnel Program at Southern Illinois University Carbondale. She earned both her doctorate in Higher Education Administration and her M.A. in History at the University of Illinois at Urbana-Champaign. Her research interests include legal issues affecting education, educational policy, international/comparative education, and educational diversity and equity for both K-12 and postsecondary education. Her published works include co-editing *Teaching Leaders to Lead Teachers: Educational Administration in the Era of Constant Crisis* and articles in *Teachers College Record*, *Equity & Excellence in Education*, *Urban Education*, and *Education and Urban Society* as well as an array of book chapters.

**Vanessa Enriquez, B.S.**, is a former McNair Scholar and alumni of Southern Illinois University Carbondale. She graduated in 2007 with a Bachelor's degree in Zoology and a minor in Chemistry. In fall 2008, she will pursue her Ph.D. in Cell and Molecular Biology at Colorado State University with the National Science Foundation Louis Stokes Alliance for Minority Participation Bridge to the Doctorate Fellowship. Vanessa was named first place winner at the fourth annual McNair Scholars Research Symposium. Currently, she is conducting neuroendocrine translation biology research on murine ovaries in association with cancer at CSU.

**John T. Warren, Ph.D.**, is an Associate Professor in the Department of Speech Communication at Southern Illinois University Carbondale where he teaches courses in communication pedagogy. He received his Ph.D. from Southern Illinois University Carbondale in 2001. His books include *Performing purity: Whiteness, pedagogy, and the reconstitution of power* (2003), *Casting gender: Women and performance in intercultural contexts* (2005), and *Critical communication pedagogy* (2007). His research and teaching interests circulate around issues of difference and performance in classroom contexts.

**Linda McCabe Smith, Ph.D.**, is an Associate Professor and Clinical Supervisor in the Communication Disorders and Sciences Program at Southern Illinois University Carbondale. She received her Ph.D. from the Department of Communication Disorders and Sciences at Southern Illinois University Carbondale in 1995. She specializes in the study of language development and disorders in children from multicultural populations. Her research focuses on the cognitive learning styles of African American children. She has published two book chapters, a monograph, and several articles concerning multicultural issues.

# SCHOLARS AND MENTORS

	Page		Page
<b>Raquel Brown, ILSAMP</b> <i>James MacLean</i> Assistant Professor Physiology	16	<b>Chasity Love</b> <i>Lichang Wang</i> Associate Professor Chemistry	15
<b>Conisha Brownlee, ILSAMP</b> <i>Sharon Peterson</i> Assistant Professor Animal Science, Food and Nutrition	9	<b>Levell Mables</b> <i>Suzanne Nasco</i> Assistant Professor Marketing	19
<b>C. Grant Cox, III</b> <i>Najjar Abdul-Musawwir</i> Assistant Professor School of Art and Design	13	<b>Monica Mason</b> <i>Novotny Lawrence</i> Assistant Professor Radio and Television	18
<b>Jonate' Govan</b> <i>Mark Kittleson</i> Professor Health Education and Recreation	6	<b>Sarah Owusu</b> <i>Buffy Ellsworth</i> Assistant Professor Physiology	17
<b>Jennie Irwin</b> <i>D. Shane Koch</i> Associate Professor Rehabilitation Institute	7	<b>Alec Perry</b> <i>Shawna Pope</i> Clinical Instructor Rehabilitation Institute	5
<b>Mickey Johnson</b> <i>Ras Michael Brown</i> Assistant Professor History	12	<b>Kandace Vallejo</b> <i>Kathy Hytten</i> Associate Professor Ed. Admin and Higher Ed.	14
<b>Vernon Johnson</b> <i>Mark Kittleson</i> Professor Health Education and Recreation	8	<b>Stacie Wallace</b> <i>Rebecca Weston</i> Associate Professor Psychology	11

# OVERVIEW OF PROGRAMS

**The Ronald E. McNair Postbaccalaureate Achievement Program** is a comprehensive program structured to prepare undergraduates for successful careers as graduate students, professors, and professional researchers. The program is an educational opportunity program funded under the Higher Education Act of 1965 collectively known as TRIO Programs. The McNair Scholars Program is funded by the U.S. Department of Education. The program awards grants to institutions of higher learning for projects designed to provide low-income/first-generation college students or students who are members of a group which is underrepresented in graduate education with effective preparation for doctoral study. Southern Illinois University Carbondale accommodates twenty-two students each year.

**The Illinois Louis Stokes Alliance for Minority Participation (ILSAMP)** seeks to increase participation of undergraduates from underrepresented groups in science, technology, engineering and mathematics (STEM) disciplines. It is funded by the National Science Foundation and stresses the importance of minority participation in STEM professions. Southern Illinois University Carbondale is one of seventeen Illinois postsecondary institutions hosting an ILSAMP program.

**The McNair Scholars Program Summer Research Institute (SRI)** is an eight-week intensive program, which equips McNair Scholars and ILSAMP participants with the research skills necessary to compete in graduate school. During the SRI, students work closely with faculty mentors to complete individual research projects - conducting field work, compiling literature reviews, and composing original research papers. In addition to research, students also undergo six weeks of strenuous GRE training sessions aimed at improving their GRE composite scores. Graduate advisors lead these sessions, providing instruction for the verbal, quantitative, and analytical writing sections of the exam.

At the conclusion of the SRI, each student delivers a twelve-minute presentation of his or her research at the McNair Scholars Research Symposium. Students field questions and receive feedback from the audience, which they may then incorporate into revisions of their research project. Throughout the remainder of their undergraduate career, many McNair Scholars and ILSAMP students present their research at national and regional conferences, including the annual McNair Scholars Program Research Conference.



## ***Alec Perry***

Communication Disorders and Sciences  
College of Education and Human Services

Mentor: Shawna Pope, Clinical Instructor  
Rehabilitation Institute

### **Assessment of Cross-Cultural Adaptability of Graduate Students in Communication Disorders and Sciences**

In this study, I will utilize the Cross- Cultural Adaptability Inventory (CCAI) to examine the cultural adaptability of Southern Illinois University Carbondale new and continuing graduate students enrolled in the communication disorders and sciences program. Participants will also complete a demographic sheet. I will use descriptive statistics to present my results. I believe the graduates score will replicate the findings found Kelley and Meyer's research. I will be surprised if the graduates score lower in the four dimensions of the inventory. As a member of a "helping" profession it is essential that we as practitioners are both aware of and adaptable to the needs of clients belonging to cultures other than our own. Failure to incorporate cultural considerations into our therapy may lead to poor client outcomes.

# ***Jonate' Govan***

Health Education  
College of Education and Human Services

Mentor: Mark Kittleson, Professor  
Health Education and Recreation

## **Understanding Binge Drinking Among Football Players at a Midwestern 1AA University**

This study will investigate the relationship between collegiate athletes and binge drinking. The participants will consist of eight football players from a Midwestern university where I am affiliated with the team. Each participant will take part in a semi structured interview protocol by answering a series of opened ended questions. The questions will focus on attitudes, beliefs and perceived norms of alcohol on the college campus. This study will use qualitative methods to analyze the transcription of each interview. I believe that I will find that binge drinking will have a negative correlation with how active the athlete is within the sport.

# ***Jennie Irwin***

Rehabilitation Services  
College of Education and Human Services

Mentor: Shane Koch, Clinical Instructor  
Rehabilitation Institute

## TITLE

Researchers from Southern Illinois University Carbondale's Rehabilitation Institute report that after six months of treatment credited exclusively toward meth addicts, 97.8 percent of them had stopped using the drug, and 95.7 percent had not been arrested again. The researchers also saw a 100 percent increase in employment, and 70.5 percent had stabilized their quality of life. Data has already been collected through the SIMAP research team located at Southern Illinois University. The employment data is collected and upheld in the GIPRA data provided by SIMAP. The attendance data is provided by Franklin Williamson treatment center located in Marion, Illinois. A within participants design will be used to analyze and record the pre-existing attendance and the employment records. The software program SPSS will be used to determine significance between attendance and employment. Two groups of attendees will be analyzed. The first group will consist of "poor attenders" who will attend 49% or less of the treatment sessions. The second group will consist of the "good attenders" who will attend 51% or more of the treatment sessions. These two groups will be cross analyzed to determine if attendance makes a significant difference in post-treatment employment rates. . This study will offer an opportunity to demonstrate that the treatment offered by the Matrix Model of Hope, located at Franklin Williamson, can contribute to achieving successful outcomes in post-treatment job employment. First, this project may aid the treatment program in achieving more positive employment outcomes for persons who are recovering from methamphetamine. Secondly, the project will result in both publications and presentations. Our goal is to present the results of this study at the National Association of Addictions Professionals conference in 2008 in Kansas City, MO as well as to submit a summary manuscript for publication.

# ***Vernon Johnson***

Healthcare Management  
School of Allied Health

Mentor: Mark Kittleson, Professor  
Health Education and Recreation

## Title

There is a growing consensus among those within the health care community that more preventive measures should be taken to combat Type 2 Diabetes among African-Americans. In the case of Type 2 Diabetes, the illness is preventable if proper precautions are taken. Most health officials agree that lifestyle factors, such as diet and physical activity, contribute to Type 2 Diabetes. Even though prevention options are readily available, African Americans are reactionary in their method of retrieving information about Type 2 Diabetes, often waiting until their condition becomes unmanageable. Many attribute this mistrust of health care providers to the historical mistreatment of African Americans. Consequently, it is vital for African-Americans to receive Type 2 Diabetes preventive education through various venues, including university and college wellness centers. This project examined several strategies used by the Southern Illinois University-Carbondale Wellness Center and offers recommendations on how to enhance health education programs that target African-American students.

# **Conisha Brownlee**

Food and Nutrition  
College of Agricultural Sciences

Mentor: Sharon Peterson, Assistant Professor  
Animal Science, Food and Nutrition

## **Assessment of College Students' Food Choices when Comparing Their Home Choices to the College Campus Choices**

College students have a variety of eating habits and the college campus dining halls play a major part in the students' nutritional and dietary choices. Eating habits may change drastically during students' transition from home to on-campus living. I will be measuring the amount of change in food choices that a student goes through when transitioning from home to a college campus. The participants will be recruited from the University Hall residence that eats in the dining hall. 50-75 students will be asked to fill out my 14 item survey. These participants will then be entered into a drawing to win a gift card. The data will be analyzed by conducting a mixed study analysis.

# **Stacie Wallace**

Psychology  
College of Liberal Arts

Mentor: Rebecca Weston, Associate Professor  
Psychology

## **“I Need to Play”: An Investigation of Gender Differences in the Perception and Motive of Playful Aggression in Intimate Heterosexual Relationships**

This project explores avenues to better understand the initiation and continuation of interpersonal aggression in heterosexual relationships, specifically examining the playful aggression by college students and their perception of such aggression. Gender differences in the perception of violence and aggression as it applies to intimate heterosexual relationships will also be examined in order to identify how women and men’s perceptions of said violence or aggression differ. Moreover an examination of playful or intentionally harmless aggression and its potential to lead to non-playful or intentional aggression is necessary as well.

# ***Kandace Vallejo***

History  
College of Liberal Arts

Mentor: Kathy Hytten, Associate Professor  
Educational Administration and Higher Education

## **Questioning Youth, Perceiving Democracy**

There is gap in the literature about what exactly students are learning about democracy, and how they are making meaning of living in a democracy with these ideas. While children learn they live in a democracy, we don't know what they think about that, or where these ideas came from. Perhaps our youth learn a more complex understanding of democracy than the literature intones. By interviewing future teachers on their ideas of the relationships between democracy, freedom and capitalism, this study hopes to answer the following: What are students learning about democracy, and from where? Do youth have a multifaceted perception of democracy? How do young people make meaning of freedom? Is there a conflation of market and democratic freedoms? Do young people relate their ideas about democracy to economic structures? Does the current trend towards schools being heavily influenced by market theory and practice have an impact on this?

# ***Mickey Johnson***

History

College of Liberal Arts

Mentor: Ras Michael Brown, Assistant Professor

History

## **A History of Swimming Pools from 1949-1975: How Racism has Impacted Municipal Space**

This project is an examination of the impact of segregation on municipal swimming pools. My research will compare Southern Illinois municipal pools to other communities such as Chicago and St. Louis to find similar patterns. Three factors that hardened racial attitudes at swimming pools were gender, the Great Black Migration, and the Civil Rights Act of 1964. Whites' hatred toward blacks caused the two groups to strongly contest these municipal spaces and often violence was used as a method to gain or maintain control. After black Americans gained the right to access municipal pools, white Americans fled and these pools often deteriorated due to lack of funding. Today, the effects of racism can still be found as a recent study has pointed out that 60% of black children cannot swim. Not only are black children not able to enjoy one of the oldest pastimes in America, they are less safe due to lingering biases.

## ***C. Grant Cox, III***

Art - Painting  
School of Art and Design

Mentor: Najjar Abdul-Musawwir, Assistant Professor  
School of Art and Design

### **Recycled, Repurposed, Revalued**

This study investigates the use of recycled materials in two styles of art: assemblage art and abstraction. I am using discarded elements found alongside major highways and around and in dumpsters. The collected material will then be assembled in a composition of elements of human pasts, meaning items that individuals have once owned and now have discarded. I will use assemblage and abstraction form and theory to transform each discarded piece into a work of art. When the piece has been completed, the discarded items will transform from recycled to items that have new purpose and value.

# ***Chasity Love***

Chemistry  
College of Science

Mentor: Lichang Wang, Associate Professor  
Chemistry and Biochemistry

## **The Effect of Support, ZnO, on the Structure and Properties of Cu Clusters**

The overall objective of this research is to explore new pathways for more efficient hydrogen production or synthesis of new energy carriers from coal gasification. This projects aims to find catalysts that maximize methanol formation and minimize the formation of methane from coal gasification. In this poster, we present the results of DFT calculations for the study of the adsorption of small copper clusters on the surface of zinc oxide. The calculations using PBE functionals were carried out using spin-polarized DFT method implemented in Vienna Ab-initio Simulation Package (VASP). In the calculations, Cu atoms as well as the first few layers of ZnO surface were fully relaxed to their ground state geometry. The structural and property changes of Cu clusters upon their adsorption at different surface coverage on ZnO surface will be discussed.

# ***Raquel Brown***

Biological Sciences  
College of Science

Mentor: James MacLean, Assistant Professor  
Physiology

## **Rhox Gene Expression During the Ovarian Cycle**

The goal of this project is to determine the expression patterns of the Rhox homeobox gene cluster during the ovarian cycle in mice. Determining when each Rhox gene peaks during ovulation will provide a clue as to what fertility promoting events they control. This study will include superovulating the mice and observing the gene expression during various times in the females' ovulation period. We hypothesize that there is collinear regulation in the ovary, where the order in which the genes are expressed during ovulation are tied to the order of the genes on the chromosome.

# **Sarah Owusu**

Physiology  
College of Science

Mentor: Buffy Ellsworth, Assistant Professor  
Physiology

## **Expression of the *Foxd1* Gene in Pituitary During Embryonic Development**

The pituitary gland is an endocrine gland the size of a pea located beneath the brain consisting of the anterior, intermediate, and posterior lobes. In spite of this gland being small in size, its role is significant. The pituitary gland is responsible for making hormones that control other endocrine glands. The anterior lobe is responsible for controlling the adrenal, reproductive, and thyroid glands by producing growth hormone, adrenocorticotrophic hormone, thyroid-stimulating hormone, gonadotropins, and prolactin. Forkhead transcription factors are needed in order for the pituitary to function properly. It is critical to determine when *Foxd1* is first expressed in the pituitary, how long its expression persists and where it is expressed, because this will help us understand more about the function of FOXD1 protein in the pituitary gland. One method to determine this expression is by examining  $\beta$ -galactosidase staining of embryos at embryonic ages e10.5-e18.5. Based on our results, *Foxd1* is expressed in the pituitary at e14.5. Without the *Foxd1* gene being present, the developing embryos could have combined pituitary hormone deficiency (CPHD). CPHD is most often attributable to defects in transcription factors. These studies will provide information to treat pituitary defects.

# ***Monica Mason***

Journalism - News Editorial  
College of Mass Communication and Media Arts

Mentor: Novotny Lawrence, Assistant Professor  
Radio and Television

## **Narrow Casting or Narrowly Casting?: A Qualitative Analysis of Marketing Strategies Used on a Popular Social Networking Website, Facebook**

Historically, mass media along with marketing strategies and advertisements have perpetuated stereotypical and unrealistic representations of gender. Specifically, men have been placed in roles which force them to uphold traits of masculinity and dominance while women are often sexually objectified, reinforcing the binary opposition men superior/women inferior. The Internet provides the means to challenge and reconstruct such media representation and marketing strategies. The purpose of this research project is to examine how men and women are being targeted on the popular social networking site, Facebook. This site allows marketers and advertisers to narrow cast or personalize ads to both males and females based on the information provided on their profile pages. By monitoring the pages of individual users and conducting a qualitative analysis of the data collected, I will be able to investigate whether Facebook implements marketing strategies that target individuals based on their profiles, or if it uses generic marketing practices that continue to perpetuate unrealistic representations of gender roles.

# **Levell Mables**

Marketing  
College of Business and Administration

Mentor: Suzanne Nasco, Assistant Professor  
Marketing

## **Examining Consumer Perceptions of Saluki Athletics**

The purpose of this research project is to measure SIU sports fans' motivation by using the Motivation Scale for Sport Consumption (MSSC) and the Public-Private Athletic Identity Scale (PPAIS) to better understand segments of their fan base. Trail and James (2001) created the MSSC scale which measures the motivations of the sport fan consumption behavior. Although the scale is not perfect, it shows good reliability and validity while others scales developed had weaknesses in content, criterion, and construct validity. In addition to the MSSC, another scale that will be used in the present study is Nasco and Webb (2006) Public Private Athletic Identity Scale (PPAIS). This scale is intended to measure an individual's personal athletic identity divided into public and private dimensions. Along with the literature cited, I will include questions that will aim to get a better understanding of ticket buyer's perceptions of SIU sports. These questions will be directly related to the depth and breadth of involvement that ticket buyers have with Saluki Athletics. The questions will aim to get a better understanding of how the ticket buyers perceive SIU sporting events based on the MSSC and the PPAIS scales that have already been tested (Trail and James, 2001; Webb and Nasco, 2006).

## **RONALD E. MCNAIR**

Ronald Ervin McNair was born on October 21, 1950, in Lake City, South Carolina to Carl and Pearl McNair. He attended North Carolina A&T State University in Greensboro, where, in 1971, he graduated magna cum laude with a BS degree in physics. In 1976 he earned his PhD degree in physics from the Massachusetts Institute of Technology.

Dr. McNair's many distinctions include: Presidential Scholar (1967-71), Ford Foundation Fellow (1971-74), and National Fellowship Fund Fellow (1974-75). He was named Omega Psi Phi Scholar of the Year (1975), was honored as the Distinguished National Scientist by the National Society of Black Professional Engineers (1979), and received the Friend of Freedom Award (1981).

Ronald E. McNair was nationally recognized for his work in the field of laser physics. In 1978, he was one of 35 applicants selected from a pool of ten thousand for NASA's space shuttle program and assigned as a mission specialist aboard the 1984 flight of the shuttle Challenger. On his first space shuttle mission in February 1984, McNair orbited the earth 122 times aboard Challenger. He was the second African American to fly in space. On the morning of January 28, 1986, McNair and his six crew members died in an explosion aboard the space shuttle Challenger.

His memory lives in each student who enters the McNair Program, and strives to receive the PhD. After his death, members of Congress provided funding for the Ronald E. McNair Scholars Program dedicated to the high standard of achievement Dr. McNair displayed.



**Dr. Ronald E. McNair**  
1950-1986

## **SPECIAL THANKS**

**McNair Program Staff:** Tamara Constant, Elena Esquibel, Moinul Islam, Krishna Pattisapu, Rhetta Seymour, Julia Spears, Jim Stivers, Lynn Vaughn and Derrick Williams for their hard work.

**McNair Mentors:** Najjar Abdul-Musawwir, Ras Michael Brown, Buffy Ellsworth, Kathy Hytten, Mark Kittleson, Shane Koch, Novotny Lawrence, James MacLean, Suzanne Nasco, Sharon Peterson, Shawna Pope, Lichang Wang and Rebecca Weston.

**Judges:** Saran Donahoo, Vanessa Enriquez, John T. Warren, and Linda Mccabe Smith.

**Our Selection Committee:** Lizette Chevalier, Jason Dickson, Okey Enyia, Walter Jaehnig, Matt McCarroll, Karen Renzaglia, Prudence Rice, Rhetta Seymour, Julia Spears and Carmen Suarez.

**Presenters:** Julie Arendt, Randy Burnside, Tina Horvath, B. Frank Palmer, Jim Scales, Melanie Stivers, Peggy Stockdale, and Mark Watson.

**Additional Help:** SIUC Scheduling Office, David Wilson for summer tuition scholarship assistance, and.....



## NOTES



# MCNAIR SCHOLARS PROGRAM

Southern Illinois University Carbondale  
Woody Hall B139-B145  
Mailcode 4719  
900 S. Normal Street  
Carbondale, Illinois 62901  
618-453-4581  
618-453-8038 Fax  
mcnair@siu.edu  
[www.siu.edu/~mcnair](http://www.siu.edu/~mcnair)

