

**Annual Report  
of  
Undergraduate Research Fellows**

**August, 2007 – May, 2008**

**Morehead State University**

# ANNUAL REPORT OF UNDERGRADUATE RESEARCH FELLOWS

August, 2007 to May, 2008

## CAUDILL COLLEGE OF HUMANITIES

### DEPARTMENT OF ART

#### LAURA HAYWOOD

**Major:**

Art

**Faculty Mentor:**

Jennifer Reis

**Research/Project Title:**

“Thematic and Special Art Exhibitions and Programming”

**Project Abstract/Summary:**

The Undergraduate Fellowship in Gallery and Exhibition Project Management focused on both practical and theoretical concepts related to exhibition management manifesting in eight exhibitions at MSU, and emphasized project management logistics, exhibition design including design and creation of wall text, exhibition and arts programming promotion, hospitality and event oversight, public relations specific to visiting artists and scholars, and art transportation. With the exhibition "Self-Evident: Contemporary American Self-Portraiture", the Undergraduate Fellow (Laura Haywood) oversaw the process of developing and managing an exhibition, from the submission and jurying process (and was a juror as well) to receiving and installing the artwork. The Undergraduate Fellow participated heavily in the logistics and support of hosting internationally renowned public art activist Judy Baca. This fellowship was designed to fully prepare one to either enter directly into gallery and/or museum work or to obtain a graduate assistantship in a university gallery in pursuit of an M.F.A.

**Project Dissemination:**

The following is a list of exhibitions and events that reflects dissemination/outcomes of the Undergraduate Fellow's work, 2007-08.

A Natural Order: Art Exploring the Organic and Artifice Art Exhibition, August 29 - September 21, 2007, Opening Reception: Wednesday, August 29, 6-8 pm, Visiting Artist: Mike McFalls, sculpture, Thursday 9/20 10:20/12:40, Visiting Artist: Tom Rice, drawing/painting, Thursday 9/27 10:20/12:405 Maestros Michoacanos: Contemporary Mexican Art Exhibition, October 3 -

November 2, 2006, Opening Reception: Wednesday, October 3, 6-8 pm  
2007 Annual MSU Art Faculty Exhibition, November 14 - December 12, 2007, Opening Reception: Wednesday, November 14, 6-8 pm, Faculty Forum: Thursday, November 15, 11:30 - 12:30 pm  
Self-Evident: Contemporary Exploration of Self-Portraiture, January 30 - February 20, 2007, Closing reception: Wednesday, February 20, 6-8 pm, Visiting Artist: Yonsenia White, February 20, 5 pm  
Annual Burley-Coal High School Art Exhibition and Competition, March 5 - 12, 2008, High School Art Day: Wednesday, March 12, Special hours: Saturday, March 8, 10:00 a.m. – 2:00 p.m.  
Judy Baca: Public Art Activist and Latina Artist, Visiting Artist Lecture & Mural Workshop, Tuesday, April 8  
2008 Annual MSU Sophomore Art Exhibition, March 31 – April 9, 2008, Opening Reception: Wednesday, April 2, 6-8 pm  
2008 Annual MSU Senior Art Exhibition, April 23 - May 7, 2008, Opening Reception: Wednesday, April 23, 6-8 pm  
2008 Bluegrass Biennial, June 7 – August 1, 2008, Opening Reception: Saturday, June 7, 3-5 pm  
L. Haywood, (April, 2008), “Thematic and Special Art Exhibitions and Programming,” Celebration of Student Scholarship, Morehead State University, Morehead, KY

**Awards/Honors:**

N/A

#### KENDRICK HOLBROOK

**Major:**

Art

**Faculty Mentor:**

Joy Gritton

**Research/Project Title:**

“Service Learning in the Arts: Resources and Needs in the Appalachian Region”

**Project Abstract/Summary:**

This project is in its second year of identifying and documenting arts resources and needs in Kentucky's Appalachian counties, beginning with the MSU service region. Drawing on the participatory research of 15 students enrolled in the spring 2007 Appalachian Arts class, as well as information gathered from personal interviews,

web searches, an electronic survey distributed to artists, and printed promotional literature, Holbrook and Kendrick have identified resources for all 22 counties of the MSU service region. A preliminary website has been designed to provide immediate public access to this work. This site features information and contacts (including links to 486 different websites) for practicing artists, crafts people, and designers; public school, technical college, university, private and extension service instruction in the visual arts; cultural centers, museums, galleries and other exhibition and sales venues (arts and crafts shows, state parks, etc.); community arts groups; public art; architecture; and special events and arts initiatives, as well as general information for each county. Toni Hobbs, Creative Director of University Marketing, has offered technical assistance in expanding and diversifying the website so that it can provide optimal service as a clearing house for information on the region's arts. Once this work is complete and the site launched, the project team will produce a media press kit to promote the site. The project team has developed a name and mission statement for this work--the Eastern Kentucky Arts Project (EKAP) ("The Eastern Kentucky Arts Project seeks to nurture the visual arts of Kentucky's Appalachian counties by providing information on the region's arts-related resources. This survey includes practicing artists, arts-related groups, art instruction, exhibition and sales venues, public art and architecture, and special arts initiatives available within each county. Our website is designed to serve educators, students, artists, community planners, and other interested individuals working to strengthen Eastern Kentucky communities through the arts.")

The project team has also begun to identify arts related needs in the region and thus potential venues for student service learning projects. Systematic analysis of the data collected, with an eye towards the role institutions of higher learning may play in community development through the arts, is the project's next step. Eric Swank, Associate Professor of Sociology and Dora Ahmadi, Chair of the Department of Mathematics and Computer Science, have offered to assist the project team with devising strategies for interpretation of this data. The project team will also now begin to expand data collection for EKAP to include the 30 Appalachian counties in Eastern Kentucky not part of the MSU service region.

**Project Dissemination:**

**Oral Presentations:**

- J. Gritton and K. Holbrook, (March 2008), "A Survey of Arts Resources and Needs in Eastern Kentucky," Appalachian Studies Association Annual Conference, Huntington, WV.
- K. Holbrook, (April, 2008), "A Survey of Arts Resources and Needs in Eastern Kentucky," Celebration of Student Scholarship, Morehead State University, Morehead, KY.

**Awards/Honors:**

- Outstanding Student in Appalachian Studies Award, 2007-2008.

**Post-Graduation Plans (Seniors Only):**

- Though Kendrick Holbrook is a senior, he has only this year decided to pursue teaching certification, and will be returning for the 2008-2009 year in order to complete education course requirements.

**RYAN NEWBERRY**

**Major:**

- Art P-12 Certification

**Faculty Mentor:**

- Emma Gillespie Perkins

**Research/Project Title:**

- "Cultural Sensitivity and Acceptance of Difference in Diverse Education Climates: Teaching and Learning in the US, China and England"

**Project Abstract/Summary:**

- Mr. Newberry researched instructional practices regarding cultural awareness and sensitivity in the school and student teaching climate. He developed a personal reflective journal (blog and paper) regarding student experiences in Sunderland, England, China and an urban magnet school in Louisville. He expanded his prior research in teaching strategies for diverse students (ESL and ELL) as an Undergraduate Fellow during 2006/2007 to include literature in Cross-cultural field experiences and implications for student teaching. His presentations and article submission data was derived from a review of cross-cultural field experience literature, personal reflections, interviews with peers, and attendance to and discussion with Dr. C. Henry at a National Art Education Assn. Conference presentation regarding cross-cultural field experiences.

**Project Dissemination:**

**Poster Presentation:**

- "Cross-Cultural Field Experiences: Sunderland England and China," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Awards/Honors:**

N/A

**Post Graduation Plans (Seniors Only):**

Mr. Newberry plans to attend Concordia University in Portland, Oregon in December. He will pursue a Masters in ESL (English as a Second language).

## **DEPARTMENT OF COMMUNICATION AND THEATRE**

**BRITTANY BEHN****Major:**

Business

**Faculty Mentor:**

Ritta Abell

**Research/Project Title:**

"Campus Television as a Canvas for Multicultural Awareness and Creativity at Morehead State University"

**Project Abstract/Summary:**

Using MSU's channel 77, multicultural issues concerning the campus, region and country were addressed. Topics of cultural awareness to political tension were raised to provide students with a better feeling of connectivity to the cultures represented throughout the university. Students, faculty, and staff were called upon to present their knowledge on topics discussed in the form of interviews, showcase talents developed, and present opinions on the topics covered. Thus by presenting Morehead's campus with information in a creative medium, it is hoped that they will use their cultural knowledge to improve cultural relations on campus, in organizations, in their future jobs, and encourage students to explore other ways of thinking.

**Project Dissemination:****Poster Presentation**

Brittany Behn and Ritta Abell, (2008, April), "Kaleidoscope" a bi-monthly TV production discussing diverse cultural issues among the MSU campus community, Celebration of Student Scholarship, Morehead State University, Morehead, KY.

**Awards/Honors:**

N/A

**AMANDA DIXON****Major:**

Communication

**Faculty Mentor:**

Timothy Creekmore

**Research/Project Title:**

MSU-TV webmaster, and director of "Kaleidoscope" and "Hear Me Roar," programs on MSU-TV highlighting multiculturalism, diversity and women's studies on Morehead State University's campus.

**Project Abstract/Summary:**

The Department of Communication and Theatre operates MSU-TV on MSU's campus cable channel 77. Each semester MSU-TV airs different student produced television program series for MSU students, faculty and staff. In the Fall of 2007 and the Spring of 2008, MSU-TV and its staff of Electronic Media Practicum students produced sixty live half hour television programs. Information about each student produced program, including the content, goals and staff of each program is uploaded and available on the MSU-TV website. We update the page weekly, including uploading the latest installment of each individual thirty minute program that was produced live in TV Studio A in Breckinridge Hall. As the MSU-TV webmaster, Mandy is responsible for all online content. She also directs two of the live programs running on MSU-TV, "Kaleidoscope" and "Hear Me Roar."

**Project Dissemination:****Television Programs:**

MSU-TV web site:

<http://www.moreheadstate.edu/msutv>.

"Kaleidoscope" and "Hear Me Roar," produced on rotating Wednesdays, aired live at 5:30 p.m. on MSU-TV, cable channel 77, on MSU's campus during Fall, 2007, and Spring, 2008.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Currently seeking position as a television producer/director of creative productions including entertainment and/or commercial production.

**ALLEN FITZPATRICK****Major:**

History/IST

**Faculty Mentor:**

Robert Frank

**Research/Project Title:**

The broad title for the project was "Investigations into the Culture and History of China." The specific topic was "The Portrayal of China in Political Cartoons in the United States and Germany," which was a collaborative effort with Kristin Hausstein.

**Project Abstract/Summary:**

Political cartoons are powerful messages found in newspapers and magazines. These iconic images have long histories in the United States and in Europe. People believe that political cartoons are effective means of swaying public opinion. In reference to Thomas Nast's political cartoons about Tammy Hall in the 1870's, "Boss" Tweed demanded, "Stop them damned pictures!" in response to the fact that his supporters were largely illiterates who could not read, but could understand the cartoons. Outright public

indignation occurs when an idea or individual one agrees with is lampooned in a political cartoon on the editorial page. Of late there has been no shortage of political images focusing attention on China in American and German presses. This study examines how German and American political cartoons during the past three years portrayed China. The study also compares the issues in each nation that warrant a political statement. As China's economic power threatens to replace Germany as the third largest economy in the world and progresses toward superpower status as to potential global rival to the United States, it is important that we understand how the world's most populous nation is being portrayed and how the images of China in these two western democracies is being crafted through the medium of political cartoons.

**Project Dissemination:**

**Oral Presentation:**

"The Portrayal of China in Political Cartoons in the United States and Germany," competitively selected and presented, Undergraduate Honors Conference of the Southern States Communication Association, Savannah, GA, April, 2008.

**Poster Presentations:**

"The Portrayal of China in Political Cartoons in the United States and Germany," Posters-at-the-Capitol.

"The Portrayal of China in Political Cartoons in the United States and Germany," Celebration of Student Scholarship, Morehead State University, April, 2008.

**Awards/Honors:**

Selection for UHC of Southern States Communication Association.

**SCOTT GOFORTH**

**Major:**

Communication/Electronic Media

**Faculty Mentor:**

Jeffrey Hill

**Research/Project Title:**

"The Bird On-Line: How it all Happens"

**Project Abstract/Summary:**

The Bird On-Line was begun in November of 2006. Since then it has become a well known student radio station. This is a direct result of the operations manager Scott Goforth. He will discuss the day-to-day needs of this student-run radio station.

**Project Dissemination:**

24-hour on-line radio station

**Awards/Honors:**

N/A

**KRISTIN HAUSSTEIN**

**Major:**

Communication

**Faculty Mentor:**

Robert Frank

**Research/Project Title:**

The broad title for the project was "Study of German Political Communication in the Post World War Era." The specific topic was "The Portrayal of China in Political Cartoons in the United States and Germany," which was a collaborative effort with Allen Fitzpatrick.

**Project Abstract/Summary:**

Political cartoons are powerful messages found in newspapers and magazines. These iconic images have long histories in the United States and in Europe. People believe that political cartoons are effective means of swaying public opinion. In reference to Thomas Nast's political cartoons about Tammy Hall in the 1870's, "Boss" Tweed demanded, "Stop them damned pictures!" in response to the fact that his supporters were largely illiterates who could not read, but could understand the cartoons. Outright public indignation occurs when an idea or individual one agrees with is lampooned in a political cartoon on the editorial page. Of late there has been no shortage of political images focusing attention on China in American and German presses. This study examines how German and American political cartoons during the past three years portrayed China. The study also compares the issues in each nation that warrant a political statement. As China's economic power threatens to replace Germany as the third largest economy in the world and progresses toward superpower status as to potential global rival to the United States, it is important that we understand how the world's most populous nation is being portrayed and how the images of China in these two western democracies is being crafted through the medium of political cartoons.

**Project Dissemination:**

**Oral Presentation:**

"The Portrayal of China in Political Cartoons in the United States and Germany," competitively selected and presented, Undergraduate Honors Conference of the Southern States Communication Association, Savannah, GA, April, 2008.

**Poster Presentations:**

"The Portrayal of China in Political Cartoons in the United States and Germany," Posters-at-the-Capitol.

"The Portrayal of China in Political Cartoons in the United States and Germany," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Awards/Honors:**

Selection for UHC of Southern States  
Communication Association.

**KAYLA MEADOWS****Major:**

Theatre/English

**Faculty Mentor:**

Robert Willenbrink

**Research/Project Title:**

"The Last Fraction Hero: Using Theatre Performance  
to Teach Mathematical and Arts Concepts"

**Project Abstract/Summary:**

This student performed in The Last Fraction Hero, a play and workshops that were developed and presented to students in schools throughout the southeast region of Kentucky. In addition to performing in the show, the honors student constructed pre-tests that were designed to be given to elementary school students. Subsequently the students viewed a performance and attended workshops designed to present basic aesthetic concepts, math concepts and instruction in theatre. Finally, the elementary students were to be given a post test (composed by the student) to determine the impact of the performance and workshops on student's retention of these arts and mathematical concepts. In addition to the results of the assessments, sample video clips of the performance of the Last Fraction Hero and samples of workshop activities will be presented to demonstrate the process. The student will also study arts and humanities scores of participating schools and students.

**Project Dissemination:****Poster Presentation:**

"The Effect of The Little Company Performance and Workshops on CATS Test Scores in Kentucky,"  
Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Performances:**

Presented over 30 performances of the show.  
Student was unable to complete the full study.

**Awards/Honors:**

N/A

**MISTY SKAGGS****Major:**

English

**Faculty Mentor:**

Ann Andaloro

**Research/Project Title:**

"Hear Me Roar: The Lives of Contemporary Women  
MSU-TV Bimonthly Program"

**Project Abstract/Summary:**

The major goal of Hear me Roar was to produce twelve 30-minute television segments on gender that would enhance the lives of the audience on the Morehead State University campus. Our main

objective was to produce television programming that explores the experiences and ideas of women. We met our primary goal of broadcasting 24 television segments. The student fellow, Misty Skaggs produced all of the segments. She also served as the host of the six segments of the spring programs.

In an effort to engage our campus community in discussions about gender issues, Ms. Skaggs invited various people to come on the show and share ideas and experiences. The program offered a site to promote events sponsored by the Interdisciplinary Women's Studies Program. In addition, the program highlighted women artists, musicians, poets, writers, actors. Ms. Skaggs coordinated all of the guests, formulated a professional rundown of the content, wrote, videotaped and edited prepackaged content for the show, and was responsible for managing all aspects of pre-production and production of content for the programs.

Hear Me Roar was broadcast to the MSU audience to promote a more sensitive environment for women. One benefit of using television programming was that it can reach a large number of people. Each program was also posted on MSU's Web site. Another benefit of broadcasting campus discussions is that students, faculty, administration and staff become more aware of issues that are important to women. Ms. Skaggs always completed her weekly hours and often put in more time than required. Hear me Roar could not be produced without the help of a student producer. Ms. Skaggs has done an excellent job of helping MSU-TV and the Department of Communication/Theatre to achieve its goal of offering quality programming to the community.

**Project Dissemination:**

The half-hour production was broadcast bimonthly on MSU-TV. Each segment was also posted on MSU's Website.

**Awards/Honors:**

N/A

**ALLISON STANLEY****Major:**

Communications Adv/P, R/Org

**Faculty Mentor:**

Tricia Farwell and Tony Glover

**Research/Project Title:**

"Developing an Advertising and Public Relations  
College Career Conference and High School  
Student Competition and Awards Event"

**Project Abstract/Summary:**

The purpose of the fellowship was twofold. The first aspect was to create a "Career Conference" event for Advertising & Public Relations students from across the state. The second aspect was to create a recruiting oriented event for high school students

interested in possible careers related to advertising and public relations.

Allison created a new logo, brochure/invitation, and letter of interest/registration form, posters, press kit, event plans, and two data bases consisting of contacts within high schools and colleges across Kentucky. The databases for the high schools consist of contacts who teach related courses in Journalism, Media, Communications, Business, and Speech. The database for colleges and universities targeted those teaching in the areas of Journalism, Media, Communications, Broadcasting, Public Relations, and Advertising. These materials would be a foundation point for us to hold two events here at Morehead State University. The first event would be aimed at current college students in advertising and public relations programs from across the state. Currently the state does not host any conferences aimed at this profession for students. Activities would consist of keynote speakers from area and national advertising and public relations agencies, job fare, and portfolio reviews by industry professionals. The second would be aimed at recruiting high school students by hosting a design competition and media day event. This event would be host to informational/educational activities about careers related to advertising and public relations designed to engage student's creative and logical thinking skills.

**Project Dissemination:**

**Poster Presentations:**

"Developing an Advertising and Public Relations College Career Conference," Annual Posters-at-the-Capitol, Frankfort, KY, February, 2008.

"Developing an Advertising and Public Relations College Career Conference & High School Student Competition and Awards Event," poster and presentation, Celebration of Student Scholarship, Morehead, KY, April 2008.

**Awards/Honors:**

None at this time.

**SAVANNAH VARBLE**

**Major:**

Theatre

**Faculty Mentor:**

Timothy Creekmore

**Research/Project Title:**

Producer and host of "MSU Weekly," a live thirty minute weekly produced television program airing on MSU-TV and online, and the supervisor of the commercial production team making thirty second MSU Promotional Announcements and PSAs for use on MSU-TV.

**Project Abstract/Summary:**

The Department of Communication and Theatre operates MSU-TV on MSU's campus cable channel 77. Each semester MSU-TV airs different student produced television program series for

MSU students, faculty and staff. In the Fall of 2007 and the Spring of 2008, Savannah, with a staff of Electronic Media Practicum students, produced and hosted 14 episodes of "MSU Weekly," a program highlighting Electronic Media student projects, MSU Athletics, student musicians and members of MSU's administration, faculty, staff and students. Savannah also supervised a staff of Electronic Media production students charged with the responsibility of producing nine thirty second MSU promotional videos each per semester. Savannah personally produced three promos for MSU athletics (football, volleyball and basketball) and submitted a PSA titled "Friends" about Healthy Living for the 2008 Great Minds Foundation Video Challenge. The GMF Video Challenge winner has yet to be announced as of May 2008.

**Project Dissemination:**

**Poster Presentation:**

Varble, S., and Creekmore, T., (2008, April), "MSU Weekly," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Television Programs/Promotional Videos:**

Each latest installment of "MSU Weekly" streams from the web site:

<http://www.moreheadstate.edu/msutv/index.aspx?id=24446>

"MSU Weekly" aired live at 5:30 p.m. on MSU-TV, cable channel 77 on MSU's campus during the Fall, 2007 and Spring, 2008 semester.

The thirty second MSU promotional videos run during commercial breaks on all MSU-TV programs.

"Friends" PSA, part of The Great Minds Foundation 2008 Video Challenge, posted online at:

<http://www.greatmindsfoundation.org/>.

**Awards/Honors:**

N/A

**DEPARTMENT OF ENGLISH, FOREIGN LANGUAGES, AND PHILOSOPHY**

**JESSICA CAMPBELL**

**Major:**

English

**Faculty Mentor:**

Philip Krummrich

**Research/Project Title:**

"Two Portuguese Plays on the Amphitryon Theme"

**Project Abstract/Summary:**

The goal is to complete and publish translations of two Portuguese plays on this two-thousand-year-old theme, making them available in English for the first time. The volume will include a substantial critical introduction and notes. Dr. Krummrich has finished a second draft of one of the translations, and plans to continue with the other in summer

2008. With Ms. Campbell's help, he has done significant background research for the introduction and notes.

**Project Dissemination:**

**Oral Presentation:**

Campbell, J., (April, 2008), "At a Loss for Words: Theoretical and Practical Problems for Translating a Bilingual Text," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

A paper on an important theoretical problem that came up in the course of the project was to have been delivered at the March 2008 meeting of the Kentucky Philological Association in Louisville. Bad weather forced the cancellation of the meeting, but Ms. Campbell delivered a modified version of the talk at the Celebration of Student Scholarship. Research from the project has contributed to another conference paper to be delivered May 2008 at the Cincinnati Conference on Romance Languages and Literatures; unfortunately, Ms. Campbell will be unable to participate as the conference takes place during Finals Week.

**Awards/Honors**

N/A

**Post-Graduation Plans (Seniors Only):**

Ms. Campbell has been accepted into the M.F.A. program in Creative Writing at Anitoch University.

**MARGARET GULLEY**

**Major:**

English

**Faculty Mentor:**

Kathryn Mincey

**Research/Project Title:**

"Exploring Literature Curriculum Alignment and Instructional Support for Kentucky English Teachers"

**Project Abstract/Summary:**

The ongoing project continues to pursue three corollary goals.

- Interpreting data collected from the survey of Kentucky high school English teachers during the spring semester, 2006
- Inventorying materials in the English Education Center (402 Combs Building) to determine gaps in instructional support materials (based on the survey)
- Exploring grant opportunities and submitting grant applications to acquire instructional support materials for texts commonly taught in Kentucky High Schools
- Administering a Regional Engagement Grant awarded in December of 2007
- Developing a web page presenting the results of the project at <http://www.morehead-st.edu/eec/index.aspx?id=27486>

Accomplishments: The interpretation of the data gathered has led and will continue to lead to further development of curriculum alignment analysis based on the compiled list of commonly-taught texts at the website <http://www.morehead-st.edu/eec/index.aspx?id=27486>. The Regional Engagement Grant the project received this year will enable the acquisition of materials (for the English Education Center, 402 Combs Building) related to teaching literary texts commonly assigned in Kentucky high schools and will facilitate the hosting of related professional development workshop for area teachers.

**Project Dissemination:**

**Oral Presentation:**

Gulley, M. and Lange, T., (February, 2008), Annual State Conference, Kentucky Council of Teachers of English/Language Arts, February.

**Awards/Honors:**

Ms. Gulley was awarded the Outstanding Undergraduate in English, Spring 2008.

**Post-Graduation Plans (Seniors Only):**

Ms. Gulley will be teaching English at Mason County High School beginning in the Fall of 2008.

**THERESA ANN LANG**

**Major:**

English

**Faculty Mentor:**

Kathryn Mincey

**Research/Project Title:**

"Exploring Literature Curriculum Alignment and Instructional Support for Kentucky English Teachers"

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**Project Dissemination:**

**Oral Presentation:**

Lange, T., and Gulley, M., (2008), Kentucky Council of Teachers of English/Language Arts Annual State Conference, February.

"English Literature in High School: What and How Books are Taught," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Awards/Honors:**

N/A

**JOURNEY MCANDREWS**

**Major:**

English

**Faculty Mentor:**

Glen Colburn

**Research/Project Title:**

"The English Malady: Enabling and Disabling Fictions"

**Project Abstract/Summary:**

Ms. McAndrews did research on hysteria and literature, then read and commented on a collection of essays (written by various scholars on hysteria and eighteenth-century medicine, literature, and music) I was editing. As a consequence of our work, "The English Malady: Enabling and Disabling Fictions" is scheduled to be published by Cambridge Scholars Press later this year. Ms. McAndrews is also currently writing a book-length study of transgression and hysteria in the fiction of Kathy Acker, a contemporary American writer, and I continue to give her feedback on drafts of chapters as she completes them.

**Project Dissemination:**

N/A

**Awards/Honors:**

Ms. McAndrews recently received the Camden-Carroll Library Prize for Undergraduate Research, though the essay for which she won the prize was written in a class taught by Dr. Annie Adams.

**Post-Graduation Plans (Seniors Only):**

Uncertain – perhaps an MFA program.

**RACHEL MESSER**

**Major:**

French/Psychology

**Faculty Mentor:**

Karen Taylor

**Research/Project Title:**

"Archetypal Woman: Mary and Eve in the French Middle Ages"

**Project Abstract/Summary:**

The research project will involve a study of the various representations of femininity in the French Middle Ages. Starting with the presentation of the Mary/Eve dichotomy, the project will research representations of these two characters and archetypes in selected texts, both literary and architectural. Comparisons will be drawn between the psychological make-up of feminine characters as they are written into the texts, and as they have passed into later oral and written criticism. Conclusions will aim at broadening and explicating the modern, reductive view of femininity and its archetypes in the French Middle Ages.

**Project Dissemination:**

**Oral Presentations:**

R. Messer and K. Taylor, (November, 2007), "Tough Love: Virginal Violence and Abusive Ambiguity in *Le Miracle de Théophile*," Medieval Literature I session, SAMLA, Atlanta, GA, November.

R. Messer, (April, 2008), "Motherhood, Ambivalence, and Modern Psychology: Findings from Medieval French Text and Art," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Rachel plans to apply to graduate school for a doctorat in psychology that will encompass models of parenting (an aspect of this current research) and children's acquisition of language.

**JACOB MINCEY**

**Major:**

Philosophy Area

**Faculty Mentor:**

Wendell O'Brien

**Research/Project Title:**

"Intellectual Life in Kentucky, Merton and Berry"

**Project Abstract/Summary:**

O'Brien and Mincey looked into the possibility of a joint work on Berry and Merton. We decided one was not there. Despite similarities between the two thinkers, O'Brien's interests moved toward Merton and Mincey's toward Berry. O'Brien now believes the two thinkers interests don't intercept much. He believes Mincey agrees.

Work on the project was unable to be wrapped up because of O'Brien's medical problems. (He was on medical leave spring 2008.)

Mincey attended a conference on Berry in Louisville.

**Project Dissemination:**

None yet.

**Awards/Honors:**

None

**Post-Graduation Plans (Seniors Only):**

Mincey was offered admission to graduate study in philosophy at Ohio University and the University of Wyoming.

**Post-Graduation Plans (Seniors Only):**

I believe Lindsay still plans to continue study of philosophy at the graduate level.

**MARY O'BRIEN****Major:**

English/Women's Studies

**Faculty Mentor:**

Sylvia Henneberg

**Research/Project Title:**

"Moving Toward A Student-Driven Curriculum: Introduction to Women's Studies"

**Project Abstract/Summary:**

Student and instructor worked closely to re-examine and update a course, WST 273: Introduction to Women's Studies, to make it more interdisciplinary, more local, and more up-to-date. They gathered data (surveys, syllabi from comparable courses, readings, etc.) for several months in order to compose a paper that brought all findings together cohesively.

Dr. Henneberg and her student, Mary O'Brien, co-presented their collaborative paper, "Moving Toward a Student-Driven Curriculum," at a conference at Mt. Saint Vincent University (Halifax, Nova Scotia) in April, 2008.

**Project Dissemination:**

"Breaking Boundaries, Forging Connections: Feminist Interdisciplinary Theory and Practice," Conference, Mount Saint Vincent University, Halifax, Nova Scotia, Canada, April, 2008.

**Awards/Honors:**

N/A

**LINDSEY WINTERMUTE****Major:**

Philosophy

**Faculty Mentor:**

Wendell O'Brien/Jack Weir

**Research/Project Title:**

"Minding My Own Business"

**Project Abstract/Summary:**

Preparation of essays for eventual publication of book of essays by Dr. O'Brien. Much of goal 1 was achieved. (Writing, revision, typing of essays).

The project was interrupted by medical problems. Dr. O'Brien was on medical leave spring 2008 (and still is, till June 30). Dr. Weir took over as Lindsay's mentor. Dr. O'Brien does not know what Lindsay and Dr. Weir did.

Dr. O'Brien has been, partly for medical reasons, unable to wrap up the initial project with Lindsay.

**Project Dissemination:**

N/A

**Awards/Honors:**

N/A

**DEPARTMENT OF GEOGRAPHY,  
GOVERNMENT, AND HISTORY****BRANDY EDEN****Major:**

Government

**Faculty Mentor:**

William Green

**Research/Project Title:**

"Judicial and Administrative Barriers to State-Based Climate Change Initiatives"

**Project Abstract/Summary:**

The United States is the leading emitter worldwide of greenhouse gases, but it has not been the policy leader in designing solutions to climate change. In this policy vacuum, states have taken the initiative, but this research has found, that they have encountered legal barriers which have frustrated their efforts to make climate change policy. State greenhouse gas statutes confronted claims that they were preempted by federal statutes. State challenges to federal agency inaction met the claim that states do not have standing to sue. This research further found that these judicial barriers were lowered in 2007. In *Massachusetts v. EPA* (2007), the U.S. Supreme Court disposed of the standing barrier and subsequently, three federal courts eliminated preemption barriers. Now that the legal door has been opened, federal courts will now be able to hear and decide climate change cases.

**Project Dissemination:**

N/A

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Ms. Eden has been accepted and will attend the Northern Kentucky University Chase College of Law with a \$6,000, one-half tuition scholarship.

**MATTHEW HURLEY****Major:**

History

**Faculty Mentor:**

Kris DuRocher (Wilson)

**Research/Project Title:**

"Lessons in Black and White: The Racial and Gender Socialization of White Children in the Jim Crow South"

**Project Abstract/Summary:**

This undergraduate research fellowship focused on developing the manuscript *Lessons in Black and White: The Racial and Gender Socialization of*

White Children in the Jim Crow South for publication with the University Press of Kentucky. Matt pursued new avenues of research and reviewed secondary literature. A central focus of the fellowship was to improve and expand Matt's own research in order to provide an exemplary writing sample for graduate school applications. Matt presented three papers at a state, national, and local conferences and was accepted into the University of Kentucky graduate program.

**Project Dissemination:**

**Poster Presentations:**

- "The American Savage: The Demonization of African Americans, 1900-1939," Posters-at-the-Capitol, January, 2008.
- "Civil War Reenacting: Living History or Just Playing Army?" South West Historical Association Conference, March, 2008.
- "The Elevation of White Southern Identity," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Oral Presentations:**

- From the research done through this fellowship, Dr. DuRocher presented the paper:  
"Consumerism Meets Jim Crow's Children: Southern White Children's Participation in the Culture of Segregation," Social Science History Conference, November, 2007.
- "Is This the Man?" White Girl's Participation in the Lynching Ritual of the Jim Crow South," South West Historical Association Conference, March, 2008.

**Publication:**

"Violent Masculinity: Ritual and Performance in Southern Lynchings, 1877-1939," *Southern Manhood: Perspectives on Masculinity in the New South*, University of Georgia Press, went through final acceptance, revision, and copyediting stages.

**Awards/Honors:**

Utilizing the research from this fellowship, Dr. DuRocher applied for and received a Summer Research Grant to continue this work.

**Post-Graduation Plans (Seniors Only):**

Matt Hurley was admitted into the graduate program in history at the University of Kentucky.

**TEARA JESSIE**

**Major:**

Undeclared

**Faculty Mentor:**

John Ernst

**Research/Project Title:**

"The Vietnam Antiwar Movement on Kentucky Campuses"

**Project Abstract/Summary:**

For a number of years, Dr. Yvonne Baldwin and Dr. John Ernst have been working on a book project, "Bless This Stone This Rock: Kentuckians and the Vietnam War," Dr. Ernst is currently working on

the campus antiwar chapter. Chris Leadingham and Teara Jessie assisted him this academic year by researching the Adron Doran Papers at the Morehead State University Archives. Chris and Teara examined campus issues during the sixties and seventies. They found that Morehead State, in part, mirrored the rest of the nation. The campus, however, was able to avoid any major violence.

**Project Dissemination:**

**Poster Presentations:**

- Chris Leadingham, Teara Jessie, and Dr. John Ernst, (January, 2008), "Buses Go East, Buses Go West," Posters-at-the-Capitol, Frankfort, Kentucky.
- Chris Leadingham, Teara Jessie, and Dr. John Ernst, (April, 2008), "Buses Go East, Buses Go West," Celebration of Student Scholarship, Morehead State University, Morehead, Kentucky.

**Awards/Honors:**

N/A

**CHRIS LEADINGHAM**

**Major:**

Undeclared

**Faculty Mentor:**

John Ernst

**Research/Project Title:**

"The Vietnam Antiwar Movement on Kentucky Campuses"

**Project Abstract/Summary:**

For a number of years, Dr. Yvonne Baldwin and Dr. John Ernst have been working on a book project, "Bless This Stone This Rock: Kentuckians and the Vietnam War." Dr. Ernst is currently working on the campus antiwar chapter. Chris Leadingham and Teara Jessie assisted him this academic year by researching the Adron Doran Papers at the Morehead State University Archives. Chris and Teara examined campus issues during the sixties and seventies. They found that Morehead State, in part, mirrored the rest of the nation. The campus, however, was able to avoid any major violence.

**Project Dissemination:**

**Poster Presentations:**

- Chris Leadingham, Teara Jessie, and Dr. John Ernst, (January, 2008), "Buses Go East, Buses Go West," Posters-at-the-Capitol, Frankfort, Kentucky.
- Chris Leadingham, Teara Jessie, and Dr. John Ernst, (April, 2008), "Buses Go East, Buses Go West," Celebration of Student Scholarship, Morehead State University, Morehead, Kentucky.

**Awards/Honors:**

N/A

**ERIC PATTON**

**Major:**

Geography

**Faculty Mentor:**

Jason Holcomb

**Research/Project Title:**

"Custom Wheat Harvesting and International Migration in the Great Plains"

**Project Abstract/Summary:**

The focus of this research is custom harvesting's relatively recent shift to international labor as a result of difficulties in hiring domestic labor. Custom harvesting operations from the Great Plains are using the government's H-2A Temporary Agricultural Worker Program to obtain labor from non-Latin American regions of the world. We have learned through mailed questionnaires that the harvesters are hiring labor from Australia, New Zealand, South Africa, Romania, Ukraine, Switzerland, Denmark, Ireland, United Kingdom, and Germany. The response rate was roughly fifty percent for a sample of all members of the U.S. Custom Harvesters Incorporated (USCHI) organization based in Hutchinson, KS. Dr. Holcomb attend the U.S. Custom Harvesters Incorporated Annual Convention from February 28 - March 1 and conducted a forum with members regarding international labor. He made many new contacts who are willing to participate in further research about past and current labor source areas. The current labor situation is a cause of great concern to custom harvesting operators. There are numerous bureaucratic obstacles to acquiring international labor, and proposed additional federal requirements for obtaining a Commercial Driver's License will cause even greater obstacles if passed.

Through archival research we have learned that harvest labor in the Great Plains has been problematic since the early 20<sup>th</sup> Century due to the region's sparse population and high demand for labor for a short period of time during the summer harvest season. There are some current harvesters who are able to hire all labor from within the United States. These operators are either smaller, thus need fewer workers, or have unique and aggressive strategies for finding American workers. One operator has been successful at using detailed and well-organized web site that he uses to attract American workers. Domestic harvest labor is in short supply throughout the United States and the problem is common to many regions and many crops. The unique lifestyle, type work done by Great Plains harvesters, and perhaps a cultural bias seem to be the reasons for seeking international labor from outside Latin America. The labor is somewhat skilled, as it requires familiarity with mechanized agricultural equipment. Those hired for the

summer and fall harvest seasons must live, travel, and work together for three to six months before they return to their home country. Operators have indicated that there are some language problems with the international labor.

**Project Dissemination:****Oral Presentations:**

Holcomb, Jason and Eric Patton, (2008), "Harvest Labor in the Great Plains: Another Adaptation for the Custom Harvesters," Great Plains - Rocky Mountain Division of the Association of American Geographers, Grand Forks, North Dakota.

Patton, Eric and Jason Holcomb, (2008), "Agriculture, International Labor, and Custom Harvesting in the Great Plains," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Upon graduation from Morehead State University in December 2008, student will pursue a master's degree in Geographic Information Systems (GIS) from Penn State University.

**DEPARTMENT OF MUSIC****MALLORY DRAUGHN****Major:**

Music Education

**Faculty Mentor:**

June Grice

**Research/Project Title:**

"Howard Gardner's Theory of Multiple Intelligences and Music Majors"

**Project Abstract/Summary:**

The research question revolved around whether the cognitive framework of musicians' brains used different intelligences as compared with the general population. Howard Gardner's research with the Theory of Multiple Intelligences was used to investigate whether data from subjects tested at MSU supported this thesis.

In order to determine if musicians have a stronger aptitude for musical intelligence in comparison to non-musicians, the research used the Multiple Intelligence Research Consulting National Basic Research Package. The subjects were college age students at Morehead State University. This research was conducted between Nov. 2007 and Jan. 2008. The research provided data showing that music majors view themselves higher than others in almost all areas of intelligences. Conclusions will be shared with professional organizations and submitted to professional journals.

**Project Dissemination:****Poster Presentations:**

Draughn, M.R.R., and Grice, J., (2008, February),  
 "Howard Gardner's Theory of Multiple Intelligences  
 and Music Majors," Posters-at-the-Capital,  
 Frankfort, KY, February.

Draughn, M.R.R., and Grice, J., (2008, April),  
 "Howard Gardner's Theory of Multiple Intelligences  
 and Music Majors," Celebration of Student  
 Scholarship, Morehead State University,  
 Morehead, KY, April.

**Awards/Honors:**

Selected for 2008 Posters-at-the-Capital.

**MELANIE EVERMAN****Major:**

Music Education

**Faculty Mentor:**

Roma Prindle

**Research/Project Title:**

"Vocal Pedagogy"

**Project Abstract/Summary:**

An overview of three exemplary American  
 pedagogues and their teaching and publishing  
 contributions.

**Project Dissemination:****Oral Presentation:**

"Modern Vocal Pedagogues and Theories,"  
 Celebration of Student Scholarship, Morehead  
 State University, Morehead, KY, April, 2008.

**Poster Presentation:**

"Modern Vocal Pedagogues and Theories," Posters-  
 at-the-Capitol, Frankfort, KY.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Teaching music in the public schools.

**MICHAEL TYLER SPENCE HARRIS****Major:**

Jazz Performance

**Faculty Mentor:**

Glenn Ginn

**Research/Project Title:**

"The Language of Kenny Burrell: A Transcription  
 Comparison and Analysis"

**Project Abstract/Summary:**

Kenny Burrell is one of the living legends of jazz  
 guitar. His prolific and influential career has  
 spanned over five decades. He has produced  
 hundreds of recordings as a solo artist and as a  
 sideman for such notable jazz musicians as Dizzy  
 Gillespie, Duke Ellington, John Coltrane, Charlie  
 Parker, and Miles Davis to name a few. Burrell's  
 cool, laid back approach to the guitar combined  
 with his lush and deep tone has personified his  
 career, making him "America's guitar laureate"  
 according to the Detroit Free Press. He has been  
 a powerful inspiration for generations of young

guitarists, and will likely be for many more. In  
 order to fully grasp, understand, and codify  
 Burrell's distinctive style, it is necessary to  
 examine his playing through harmonic, melodic,  
 rhythmic, and motivic considerations. To this end  
 Burrell's improvised solos have been analyzed  
 and compared on the following three recordings:  
 "Chitlins Con Carne," "The Breeze And I," and "I  
 Never Knew." Through a brief biographic study  
 and the analysis/comparison of three transcribed  
 solos, Burrell's musical language is decoded and  
 translated in order to offer a better understanding  
 of his contribution to jazz guitar history.

It was found that Burrell's musical "language"  
 contained many strains common with the  
 prevalent jazz sound of the 1950's and 1960's with  
 the addition of traditional blues elements and  
 certain traits that could be identified as peculiar  
 to Kenny Burrell only; thus making his sound or  
 language one that has it's roots in the same places  
 of his contemporaries yet distinctive enough to  
 make it readily identifiable by the trained ear as  
 solely Kenny Burrell.

**Project Dissemination:****Poster Presentations:**

MSU Music Department Jazz Improvisation Class  
 Posters-at-the-Capitol

M. Harris and G. Ginn, (April, 2008), "The Language  
 of Kenny Burrell: A Transcription Comparison and  
 Analysis," Celebration of Student Scholarship,  
 Morehead State University, Morehead, KY.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Graduate work in music at MSU

**PAUL ROBINSON****Major:**

Music Education

**Faculty Mentor:**

Greg Detweiler

**Research/Project Title:**

"Singing is Acting: Utilizing Objective to Increase  
 Expressiveness in Performing"

**Project Abstract/Summary:**

Research conducted last year centered on  
 implementing a variety of gestures to increase  
 expressiveness in the choral rehearsal. However  
 helpful these gestures were, the challenge  
 remained in determining a practical method for  
 transferring the expressiveness from a rehearsal to  
 a performance before an audience. Therefore, I  
 adjusted this year's research to focus on  
 increasing expressiveness in performances of  
 choral literature. Through my research, I  
 discovered an interesting correlation between my  
 previous study of gesture, my personal experience  
 in musical theatre, and what Tom Carter terms  
 "objective" in his book "Choral Charisma, Singing

with Expression" that defines the link between the dramatic arts and choral education.

The reserch compared pieces in which the choir was given a highly developed "objective" to pieces in which no "objective" was developed. The choir and audience seemed to have much deeper connections to the pieces in which "objective" was developed. This study needs to be extended to include a survey of choir and audience responses.

**Project Dissemination:**

Robinson, P, (April, 2008), "Singing is Acting: Utilizing Objective to Increase Expressiveness in Performing," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Paul is currently teaching in the Louisville public schools as an orchestra conductor. He plans to begin graduate work in conducting while continuing to teach.

**KYLE SAMPLES**

**Major:**

Jazz Performance

**Faculty Mentor:**

Glenn Ginn

**Research/Project Title:**

"Everything in Its Right Place: Arranging and Performing Radiohead in a Jazz Combo Setting"

**Project Abstract/Summary:**

Radiohead is a music group from England that loosely falls into the progressive rock category. They have won much critical acclaim for their unorthodox songs. Their use of unconventional chord progressions and odd meters make them a prefect candidate for a jazz combo setting. Since its conception, jazz has been a fluid art form, often drawing it's material from the world of popular music. From Gershwin to the Beatles to Steely Dan, jazz has reliedf on outside influences to further its musical growth. I wish to take three Radiohead selections and arrange and perform them in a jazz combo setting and with a distinctly jazz treatment. The three songs I have selected, "Everything In Its Right Place", "Knives Out", and "Nat'l Anthem" prove to be the best candidates for jazz interpretation as they already display smal traits of the genre.

It was discovered that the fusion of jazz and popular music was much more extensive and broader then previous thought. It was also discovered that Radiohead's music had been used by many more other artists including jazz artists then previously thought. Three very effective jazz arrangements were written and performed on the above mentioned Radiohead compositions.

**Project Dissemination:**

**Performance:**

Formal Performance during the Guitar and Bass performance class hour, Baird Music Hall, MSU campus.

**Awards/Honors:**

N/A

**LYDIA STAMM**

**Major:**

Music

**Faculty Mentor:**

Brian S. Mason

**Research/Project Title:**

"The Development of the Drum Corps International Percussion Section and its Influence on Marching Percussion"

**Project Abstract/Summary:**

Since 1972, Drum Corps International (DCI) has become known as "Marching Music's Major League." Annually, top corps compete for a world title and chance to set a new standard of marching and musical excellence. As the popularity of the activity has grown over the years, the performance techniques, instrumentation, and musical requirements of these organizations have greatly evolved, becoming more diverse and demanding. The demands of DCI influence the marching idiom at every level, as well as manufacturers' innovations in equipment and instruments. This research resulted in a detailed timeline of the evolution of marching percussion equipment since 1972, within the appropriate musical and marching context, as well as an evaluation of the influence that drum corps has had on all aspects of marching percussion.

**Project Dissemination:**

**Oral Presentation:**

Stamm, L., & Mason, B., (2008, April), "The Development of the Drum Corps International Percussion Section and its Influence on Marching Percussion", Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Graduate school following graduation – December 2008.

**DEPARTMENT OF SOCIOLOGY, SOCIAL WORK, AND CRIMINOLOGY**

**DAVID LEE DANIEL**

**Major:**

Sociology/Regional Analysis

**Faculty Mentor:**

Edward F. Breschel

**Research/Project Title:**

“Brass Musician Health and Performance”

**Project Abstract/Summary:**

This small pilot study examines the effects of Feldenkrais/Anat Baniel movement lessons on a small sample of brass music student. Movement related difficulties and disorders are very common among musicians and music students. It is posited that these movement lessons will help students avoid movement related difficulties and mitigate those they already have. Students attend weekly movement classes for at least a semester and had at least three individual movement lessons. While we are still collecting and analyzing data, preliminary results suggest improvements in range of turning, reaction time, vital capacity (a breathing and lung capacity measure), general flexibility and quality of movement, and general posture. Additionally, participants subjective comments suggest improvement in playing related pain, general ease of movement, both in laying and in general activity, and in performance anxiety. The sample size for this study currently is quite small (7-11, not everyone was available for all the measures), the results do suggest important potential benefits from such a program that should be explored with a larger and controlled study.

**Project Dissemination:**

N/A

**Awards/Honors:**

N/A

**TAMMY LYNN EMBLETON****Major:**

Sociology

**Faculty Mentor:**

Judith Stafford

**Research/Project Title:**

“Oral History of Preserving Heritage Seeds”

**Project Abstract/Summary:**

The purpose of the focused oral history research project was to help the residents of Carter and surrounding counties preserve a piece of their rural heritage by locating residents who have gardened using self-reliant methods of seed preservation and to record their family history with seed saving. We are quickly losing our biodiversity in seed production and turning the control of much of our food production over to large companies. This is a violation of the self-reliant farming culture that was a norm in Eastern Kentucky.

The objectives of the project were as follows:

1. The preservation of oral history and rural culture in Carter and surrounding counties about preserving heirloom heritage seeds.
2. The preservation of gardening advice on how to save, harvest, process and store seeds.

3. Protection of biodiversity, medicinal plants and heirloom seeds in Carter and surrounding counties in Eastern Kentucky.

10 interviews were completed and will be archived with the Kentucky Historical Society. Tammy Embelton participated in the 1<sup>st</sup> five interviews.

**Project Dissemination:****Oral Presentations:**

T.L. Embleton and J.A. Stafford, (2007, October), “Seed Savers,” 3<sup>rd</sup> Annual Interdisciplinary Studies Conference, Morehead Conference Center, Morehead, KY.

T. L. Embleton and J.A. Stafford, (2008, April), “Seed Savers,” Celebration of Student Scholarship, Morehead State University, Morehead, KY.

**Awards/Honors:**

1<sup>st</sup> presentation reported in Departmental Newsletter as an example of professor and student collaboration.

**Post-Graduation Plans (Seniors Only):**

Ms. Embleton will be completing her internship this summer.

**TAMMY LYNN EMBLETON****Major:**

Sociology

**Faculty Mentor:**

Cynthia Faulkner

**Research/Project Title:**

“Differences in Drug-related Variables of the Parole and Probation in Two Rural Appalachian Counties between 1995 and 2005”

“Research Methods for Social Workers: A Practice-Based Approach”

**Project Abstract/Summary:**

Completed literature review and tables. Article not completed yet for publication.

Assisted in final edits of text prior to copy-edit.

**Project Dissemination:**

N/A

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Graduate school – Sociology

**MICHELLE FIORE****Major:**

Sociology

**Faculty Mentor:**

Bernadette Barton

**Research/Project Title:**

“Felt and Enacted Stigma Among Gays and Lesbians in the Bible Belt”

**Project Abstract/Summary:**

A quantitative study focuses on the extent, frequency and degree in which certain types of

stigma happen to gay, lesbian persons in Appalachia. This study is the first to focus on the un-researched area of Appalachia. Using results from an online survey, this presentation explores the levels of enacted stigma (obvious, preformed acts of hate based on sexual preference) and felt stigma (internalized ideas that society dislikes and discriminates against homosexuals) that surveyed individuals had reported.

The survey's responses show the levels of hate, sexual and violent crimes (Enacted) and the perceptions and support from various institutions (Felt). By zooming in on the "Bible belt" region the effects of living in a staunchly conservative, religion-based environment can be observed.

**Project Dissemination:**

**Oral Presentation:**

Fiore, M, Swank, E and B. Barton, "Felt and Enacted Stigma Among Gays and Lesbians in the Bible Belt," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Awards/Honors:**

N/A

**JESSICA ROE**

**Major:**

Sociology

**Faculty Mentor:**

Eric Swank and Bernadette Barton

**Research/Project Title:**

"Felt and Enacted Stigma Among Gays and Lesbians in the Bible Belt"

**Project Abstract/Summary:**

A quantitative study focuses on the extent, frequency and degree in which certain types of stigma happen to gay, lesbian persons in Appalachia. This study is the first to focus on the un-researched area of Appalachia.

Using results from an online survey, this presentation explores the levels of enacted stigma (obvious, preformed acts of hate based on sexual preference) and felt stigma (internalized ideas that society dislikes and discriminates against homosexuals) that surveyed individuals had reported.

The survey's responses show the levels of hate, sexual and violent crimes (Enacted) and the perceptions and support from various institutions (Felt). By zooming in on the "Bible belt" region the effects of living in a staunchly conservative, religion-based environment can be observed.

**Project Dissemination:**

**Oral Presentation:**

Fiore, M., Swank, E., and B. Barton, (April, 2008), "Felt and Enacted Stigma Among Gays and Lesbians in the Bible Belt," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Jessica has been accepted to Ohio University's MA program in Sociology.



# **COLLEGE OF BUSINESS**

## **DEPARTMENT OF ACCOUNTING, ECONOMICS, AND FINANCE**

### **ERICA BELMONT**

**Major:**

Management

**Faculty Mentor:**

Janet Ratliff

**Research/Project Title:**

"College Student's Knowledge of Basic Personal Finance"

**Project Abstract/Summary:**

This study explored the level of basic personal finance knowledge of college students prior to and after completion of a personal finance course. Seven sections of personal finance class offered in the spring 2008 semester participated in this study. The questions given to this population of students to ascertain knowledge were developed from resource material taught in the class. This survey was chosen because the issues that face adults in everyday life, regardless of occupation, in terms of finances are extremely important to the overall success of adults in everything that they ultimately do. This is very visible in today's economy as the news media reports numerous people losing their homes due to misguided information about financing;

In addition to common demographic factors influencing knowledge will be examined and recorded to determine what demographic factors most influence financial knowledge.

This research project is in the process of being completed. Research results/findings will be completed in summer and fall of 2008.

**Project Dissemination:**

**Poster Presentations:**

Ratliff, J., & Belmont, E. (2008, April), "College Student's Knowledge of Basic Personal Finance," Celebration of Student Scholarship, Morehead State University, Morehead, KY.

Ratliff, J., & Belmont, E. (2008, January), "College Student's Knowledge of Basic Personal Finance," Posters-at-the-Capitol, Frankfort, KY.

**Oral Presentation:**

Ratliff, J., & Belmont, E. (April, 2008), "College Student's Knowledge of Basic Personal Finance," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

### **KYLE MOORE**

**Major:**

Finance

**Faculty Mentor:**

S. Ali Ahmadi

**Research/Project Title:**

"Determinants of Educational Attainment in Kentucky"

**Project Abstract/Summary:**

This paper investigates the role of factors such as previous generation's' education, poverty, and family structure in the educational attainment of the next generation using several multiple regression models. The cross-section data for the study were acquired from US Census Bureau as well as Kentucky State Data for all of the 120 counties in the state were acquired from US Census Data as well as from State of Kentucky data sources. Several Multiple Regression models were tested. The results of the multiple regression models indicated that although family structure, parent's income and education level do play significant roles in the poverty level for the next generation, but, for the educational attainment of the present generation, the most important factor was the education level of the previous generation.

**Project Dissemination:**

**Oral Presentations:**

"Determinants of Educational Attainment in Kentucky," National Social Science Association Spring Conference, Las Vegas, NV, April, 2008. (The paper will be submitted to the Proceeding of NSSA conference).

"Determinants of Educational Attainment in Kentucky," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

At the request of the Editor of publication *Occasional Research Series* (Dr. Ed Reeves), the paper will be submitted to that publication for print.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Kyle Moore plans to continue his studies up to the level of Ph.D. in Finance. As many Universities require work experience prior to being admitted to graduate school, Kyle has been interviewing with some Finance companies for employment. Kyle graduated in May 2008 from MSU.

## **DEPARTMENT OF MANAGEMENT, MARKETING, AND REAL ESTATE**

### **HEATHER M. FLYNN**

**Major:**

Education

**Research/Project Title:**

"Readability and Comprehension of Online Privacy Policies"

**Project Abstract/Summary:**

This project has collected data from student subjects and we are currently analyzing the results. The purpose of the study is to analyze the comprehension and understanding on online privacy policies, based upon readability scores of the policies. We are currently in the midst of data analysis and will begin writing up results, and hope to have a research paper ready for journal submission by early spring 2008.

**Project Dissemination:**

Student changed her major to Education in November, 2007, and has left the fellows program.

**Awards/Honors:**

N/A

**MICHAEL FITZNER****Major:**

Accounting

**Faculty Mentor:**

Ahmad Hassan

**Research/Project Title:**

"Who's Shopping on the Internet? Examining the Societal Values of Online Shoppers"

**Project Abstract/Summary:**

Societal values have long been used as important tool in predicating consumer behavior in a variety of contexts. This paper describes the results of a study that identifies the societal values of online shoppers. Results suggest that strongest predictors of potential online shopping are security, social, and achievement values.

**Project Dissemination:****Poster Presentation:**

Fitzner, M., and Hassan, A., (2008), "Who's Shopping on the Internet? Examining the Societal Values of Online Shoppers," Posters-at-the-Capitol, Frankfort, Kentucky.

**Oral Presentation:**

Fitzner, M., and Hassan, A., (2008), "Who's Shopping on the Internet? Examining the Societal Values of Online Shoppers," Celebration of Student Scholarship, Morehead State University, Morehead, Ky.

**Awards/Honors:**

N/A

**NATHAN MILLS****Major:**

Chemistry

**Faculty Mentor:**

Fatma Mohamed

**Research/Project Title:**

"Strategic Alliances Between Complementors: Effects of Portfolio Diversity on Innovation and Performance"

**Project Abstract/Summary:**

This study attempted to explicate and empirically assess the impact of tie strength between complementors in strategic alliances on firms' innovation and performance using the embeddedness perspective. The Embeddedness perspective emphasizes the importance of the social relationships upon which the firm can draw in its strategic behavior and performance. By using a sample of 49 firms in the software industry and collecting data for a five-year period, the study tested the following four hypotheses: First, there is a positive relationship between a firm's tie strength with its complementors and innovation; second, there is a positive relationship between a firm's innovation and its performance; third, there is a positive relationship between the strength of a firm's ties with complementors and their performance; and fourth, innovation partially mediates the relationship between tie strength and performance.

**Project Dissemination:****Poster Presentation:**

N. Mills and F. Mohamed, (2008), "Strategic Alliances between Complementors: Effects of Tie Strength on Innovation and Performance," Posters-at-the-Capitol, Frankfort, KY.

**Oral Presentation:**

N. Mills and F. Mohamed, (April, 2008), "Strategic Alliances between Complementors: Effects of Tie Strength on Innovation and Performance," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**SAMANTHA WESTERFIELD****Major:**

Management

**Faculty Mentor:**

Lindsey Godwin

**Research Project/Title:**

"Exploring the Impact of Ethical Climate and Ethical Codes of Ethical Behaviors in the Workplace"

**Project Abstract/Summary:**

In the aftermath of recent business ethics scandals, there has been a surge of corporate interest in creating and promoting internal codes of ethics. But the question looms as to what impact these codes actually have on employee behavior. Prior research has provided mixed results in exploring this topic, with some empirical work suggesting that codes of ethics actually have no impact on employee behavior. Building on and extending prior studies done by Cleek and Leonard (1998) and Ford, Gray and Landrum (1982), this project

seeks to further explore the impact of codes of ethics on employee behavior. Using an experiential design, this project will involve manipulating the attribution of particular behaviors (both pro-social and anti-social) as to being within or outside the scope of an organization's code of ethics. The goal of the research is to better determine the impact a specific code of ethics has on the respondent's agreement with those behaviors. Additionally, variables, which have not been linked to this stream of research, such as, perceived organizational support and ethical climate, will be measured to determine the impact they have on responses as well.

Fellowship work to-date has included conducting a thorough literature review in support of the project, including creating a compilation of usable articles, complete with annotated summary information for each. We then researched existing measures to use in our experiment, and successfully identified specific measures of ethical climate and perceived organizational support to use. Additionally, based on prior research, we co-created a series of ethical vignettes which describe ethical decision-making situations participants will respond to in our experiment. Using an online survey tool, a draft of our complete survey has been created and is ready to be pilot tested as soon as we garner IRB approval for our project. Once pilot testing is complete, full data-collection is ready to commence, recruiting participants via the Syracuse Study Response Project - an online database of potential subjects (administered by SYU) that facilitates online research by distributing e-mail requests for participation to targeted populations (i.e. working adults, etc.).

**Project Dissemination:**

N/A

**Awards/Honors:**

N/A

# **COLLEGE OF EDUCATION**

## **DEPARTMENT OF CURRICULUM AND INSTRUCTION**

### **LAURA ASHLEY REYNOLDS**

**Major:**

Middle Grades Education

**Faculty Mentor:**

Lesia Lennex

**Research/Project Title:**

Foucauldian self-representation of higher education faculty on Internet (this was unofficial from Spring 2007 while awaiting word of Ms Reynolds acceptance as research fellow).

Exploration of Section 508 Workforce and Rehabilitation Act compliance among Kentucky federally funded public schools.

Video iPods as learning tools within K-12 education: a new paradigm for e-tourists (developed Fall 2008 and not initially on research fellow program proposal).

**Project Abstract/Summary:**

Interviews following Foucauldian logic were conducted among 20 representative, completely randomly chosen, faculty at MSU to determine reasons faculty either did or did not have Web pages for their teaching. It was determined that faculty with pages did so because they felt it enhanced their teaching and university outreach. Those without pages did not attempt construction because it was not rewarded in the tenure and promotion process.

Section 508 compliance among the 174 Kentucky school districts was determined by using TIDY online checker, focus groups, and teacher pages. The results showed that most school pages, both district and teacher, had issues with non-frequency compliant graphics (contrast and color), non-coded tables, and difficult to follow links (or broken links). A review of basic coding compliance and software/online programs that provide WSIWYG editing was included in the review.

Video iPods were used as learning tools for video presentations and teaching mathematical angles. As an ongoing project, we are reviewing videotapes of children learning with video iPods to determine their learning strategies and teacher methodologies.

**Project Dissemination:**

**Publication:**

Lennex, L. & Reynolds, A., (2008), "Whose Web Page Is This? Why Faculty Create Web Pages," In C. Crawford et. al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2008*, pp. 3840-3842, Chesapeake, VA, AACE.

Reynolds, A., and Lennex, L., (2007), "Can You Read This? 508 Compliance Among Kentucky Schools?" submitted to *Tech Trends*, December, 2007.

**Presentation:**

Lennex, L., and Reynolds, A., (2008), "Workforce and Rehabilitation Act (Section 508), ADA Compliance, Among Teacher Web Sites in Kentucky," presentation proposal submitted to KATE 2008 (pending notification).

**Poster Presentation:**

Reynolds, A. and Lennex, L., "Can You Read This?," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Ms. Reynolds is not yet graduating: She will be student teaching Fall 2008.

### **BELINDA RILEY**

**Major:**

LBDP-5 – Area BA

**Faculty Mentor:**

Lola Aagaard and Ronald Skidmore

**Research/Project Title:**

"All About Textbooks"

**Project Abstract/Summary:**

This pilot research study, "All About Textbooks", will be to collect data regarding how college students use their textbooks and if they don't use them, why not. Data collected will be used to develop a survey for a later project. Subjects of this study will take part in focus groups where the discussion will be audiotaped and notes will be taken on the interviews.

**Project Dissemination:**

In her fall semester with us, Belinda completed CITI training, took the lead on writing the IRB proposal for the project, and developed a list of interview questions. Because she was also in the pilot for the professional development school in teacher education, her semester became too busy towards the end for us to collect data while she was with us. Belinda did her student teaching in Spring 2008 and was unable to participate in any of the dissemination events for undergraduate fellows.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Belinda will be applying for a teaching position for the year 2008-2009.

### **LESLIE TODD WATTS**

**Major:**

Secondary English

**Faculty Mentor:**

Edna Schack

**Research/Project Title:**

"Professional Development School"

**Project Abstract/Summary:**

The object of this study was to critically examine the literature regarding field experiences and the Professional Development School (PDS). This research helped identify the disconnect between content, instruction, and prospective teacher's beliefs by analyzing Dewey's proposed model of apprenticeship vs. laboratory experiences to perhaps refine MSU's teacher education program. This brief literature review begins to lay the foundation for faculty involved in teacher education to gain an understanding of how to balance apprenticeship experiences and laboratory experiences with the ultimate goal of the program providing more effective teachers who can bridge the gap between content and instruction practices.

**Project Dissemination:****Oral Presentation:**

"P-5 Teacher Education: A Brief Review of the Literature on Field Experiences and Professional Development Schools," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April 12, 2008.

**Awards/Honors:**

N/A

"Litigation and Little League Baseball, Inc.,"

Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Awards/Honors:**

College of Education Certificates for Student Presenter and Undergraduate Fellow, College of Education Awards Luncheon, May, 2008.

**TODD SHARROCK****Major:**

Sport Management

**Faculty Mentor:**

Michael G. Hypes

**Research/Project Title:**

"Litigation and Little League Baseball, Inc."

**Project Abstract/Summary:**

Nearly three million children participate in Little League Baseball. The normal experience children have is a pleasant experience. There are exceptions to the normal experience though. Court cases involving Little League Baseball Inc. and court cases indirectly affecting Little League were reviewed. These cases may bring on rule changes in Little League or cause Little League to take precautionary measures to protect all those involved in Little League.

**Project Dissemination:****Oral Presentation:**

T. Sharrock and D. Lorenz, (October, 2007), "Little League Baseball: Issues of Liability," Kentucky Association for Health, Physical Education, Recreation and Dance State Conference, Louisville, KY, October.

"Litigation and Little League Baseball, Inc.,"

Celebration of Student Scholarship, Morehead State University, April 2008.

**Awards/Honors:**

College of Education Certificates for Student Presenter and Undergraduate Fellow, College of Education Awards Luncheon, May, 2008.

**Post-Graduation Plans (Seniors Only):**

Currently completing SPMT 471 Sport Management Internship with the Lexington Legends Organization in Lexington, KY, Summer 2008.

**KARI BETH STACY****Major:**

Health Promotions

**Faculty Mentor:**

Jennifer Dearden

**Research/Project Title:**

"Pedometer Feasibility Case Study"

**Project Abstract/Summary:**

At the Celebration of Student Success Kari Beth prepared the following abstract of her study: The purpose of this case study is to conduct an eight week program with a designated client to increase

## **DEPARTMENT OF HEALTH, PHYSICAL EDUCATION, AND SPORT SCIENCES**

**DANIEL LORENZ****Major:**

Sport Management

**Faculty Mentor:**

Julia Ann Hypes

**Research/Project Title:**

"Litigation and Little League Baseball, Inc."

**Project Abstract/Summary:**

Nearly three million children participate in Little League Baseball. The normal experience children have is a pleasant experience. There are exceptions to the normal experience though. Court cases involving Little League Baseball Inc. and court cases indirectly affecting Little League were reviewed. These cases may bring on rule changes in Little League or cause Little League to take precautionary measures to protect all those involved in Little League.

**Project Dissemination:****Oral Presentations:**

D. Lorenz and T. Sharrock, (October, 2007), "Little League Baseball: Issues of Liability," Kentucky Association for Health, Physical Education, Recreation and Dance State Conference, Louisville, KY, October.

her daily steps measured by a pedometer. Each week the client logged her daily and average steps into a tracking log to see the increase or decrease from week to week. Using a combination of health behavior theories, a different topic was covered in each of the eight weeks such as barriers to physical activity, healthy eating, and supporting relationships. At the end of the eight weeks, the overall goal was for the client to have increased her steps by 15% each week.

Not only was her study successful in terms of data, but it was also successful in encouraging a previously sedentary adult, to become more active. The take home message that her subject recognized at the end of the study was of great value, not only to the subject, but to Kari (the researcher) as well.

An overall accomplishment of this study could be found in the fact that Kari did a quantitative study last year as an undergraduate fellow, so for this year she wanted to do not only an intervention study, but more of a qualitative study as well to expand her previous research experience.

In addition, Kari completed the CITI training on her own.

**Project Dissemination:**

**Poster Presentation:**

Stacy, Kari Beth & Dearden, J., (2008, April), "Pedometer Feasibility Case Study," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

Stacy, Kari Beth (2007, October), "Readiness for Physical Activity & Symptoms of Depression Among Older Women in Eastern Kentucky," Kentucky Association of Health, Physical Education, Recreation and Dance (KAHPERD) Convention, October.

Kari Beth Stacy (2007, April), "Readiness for Physical Activity & Symptoms of Depression Among Older Women in Eastern Kentucky," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

Student was honored with the Distinguished Service Award from Eta Sigma Gamma on April 2, 2008.

**Post-Graduation Plans (Seniors Only):**

Student considering application to Graduate School.

# **COLLEGE OF SCIENCE AND TECHNOLOGY**

## **DEPARTMENT OF AGRICULTURAL AND HUMAN SCIENCES**

### **KIMBERLY MAY**

**Major:**

Biology

**Faculty Mentor:**

Troy Wistuba

**Research/Project Title:**

“The Impact of Breed Type on Performance and Carvass Ultrasound Characteristics of Bucks Enrolled in the Kentucky Buck Test”

**Project Abstract/Summary:**

Bucks were weighed, scrotal measured, and ultrasonically scanned to study breed and year differences for performance, scrotal circumference, and 12th rib fat depth, in August of 2005, 2006 and 2007. Boer and commercial bucks (24 hd in 2005, 30 hd in 2006, and 30 hd in 2007) were delivered to Bowling Green , KY for the Kentucky Buck development program. Bucks were acclimated for 14 d with minimal supplementation and were then fed for 60 d in a performance type test. At the end of the test scrotal measurements were taken by an experienced veterinarian and carcass measurements were obtained by a CUP certified ultrasound technician. Measures of 12th rib fat depth and longissimus muscle area were taken with an ALOKA 500V ultrasound unit equipped with a 17.2 cm, 3.5 MHz linear transducer. Ultrasound images were then submitted to the ILIA lab (Gustine, TX) for determination of 12th rib fat depth and longissimus muscle area. There were no statistical differences for breed or the breed by year interaction, therefore data were combined and analyzed for year differences. On test weights were greatest for 2005 ( $P < 0.05$ ) followed by 2007 and the 2006. Mid-test weights followed the same trend where weights were greatest for 2005 ( $P < 0.05$ ) followed by 2007 and the 2006. However, there were differences in total gain and ADG in that the bucks in the 2007 test had increased total gain and ADG than in the other years ( $P < 0.05$ ). There were no consistent results for scrotal circumference although the bucks on test in 2005 did have larger ( $P < 0.05$ ) scrotal circumferences than 2006 or 2007 bucks.

**Project Dissemination:**

**Published Abstract:**

K. May, B. Galbreath, R. Pitzer, S. Touroo, P. Prater, K. Peterson, J. Willard and T. Wistuba, (2008), “The Effect of Breed Type and Year on Real-time Ultrasound Carcass Traits, Performance and

Scrotal Circumference of Bucks Enrolled in the Kentucky Buck Development Program,” 2007, *J. Anim. Sci.*, (Southern Section accepted).

**Oral Presentations:**

K. May, B. Galbreath, R. Pitzer, S. Touroo, P. Prater, K. Peterson, J. Willard and T. Wistuba, (February, 2008), “The Effect of Breed Type and Year on Real-time Ultrasound Carcass Traits, Performance and Scrotal Circumference of Bucks Enrolled in the Kentucky Buck Development Program, *J. Anim. Sci.*, (Southern Section Meetings, Dallas, TX).

K. May, B. Galbreath, R. Pitzer, S. Touroo, P. Prater, K. Peterson, J. Willard and T. Wistuba, (April, 2008), “The Effect of Breed Type and Year on Real-time Ultrasound Carcass Traits, Performance and Scrotal Circumference of Bucks Enrolled in the Kentucky Buck Development Program,” Celebration of Student Scholarship, Morehead State University, Morehead, KY.

K. May, B. Galbreath, R. Pitzer, S. Touroo, P. Prater, K. Peterson, J. Willard and T. Wistuba, (September, 2007), “The Effect of Breed Type and Year on Real-time Ultrasound Carcass Traits, Performance and Scrotal Circumference of Bucks Enrolled in the Kentucky Buck Development Program,” Kentucky Goat Producers Annual Meeting, Ashland, KY.

K. May, B. Galbreath, R. Pitzer, S. Touroo, P. Prater, K. Peterson, J. Willard and T. Wistuba, (June, 2007), “The Effect of Breed Type and Year on Real-time Ultrasound Carcass Traits, Performance and Scrotal Circumference of Bucks Enrolled in the Kentucky Buck Development Program,” Kentucky Sheep and Goat Summit, Natural Bridge State Resort Park, Slade, KY.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Applied to Veterinary school and graduate school at “The Ohio State University.”

### **RUDI PITZER**

**Major:**

Animal Science

**Faculty Mentor:**

Troy Wistuba

**Research/Project Title:**

“Effects of Stage of Maturity at Harvest and Hybrid on Production Characteristics of Corn Silage”

**Project Abstract/Summary:**

Agronomic characteristics were evaluated for five corn silage hybrids harvested at two stages of maturity. The hybrids were planted in a randomized complete block design in plots that were twelve rows wide and 30.5 m long and replicated 3 times. Hybrids were planted on May 5, 2007 when soil temperature was 24.5 C and outside air temperature was 29.4 C and grown under dry land conditions on the Morehead State

University Farm which has tilsit silt loam soils. Plant population was set for 24,600 plants per acre and rows were thinned to meet that standard. Border rows were not utilized for the interpretation of agronomic data. Hybrids were harvested at 80% milk-line and seven days post black layer and data were collected for whole-plant, fodder, and ear dry matter (DM), as well as, yield data for whole-plant, fodder, and ear. Data were analyzed as a randomized complete block design (experimental unit = plot). The analysis of variance was generated using PROC GLM (SAS Inst., Inc. Cary, NC), the model included hybrid and maturity and the hybrid maturity interaction. Least-squares means were calculated and separated using pair-wise t-tests (PDIFF option). Forage DM yields were greater ( $P < 0.05$ ) at the 80% milk line stage of maturity than for the seven day post black layer stage of maturity. Dry matter contents of the whole plant hybrids ranged from 35 to 49% and was greatest ( $P < 0.05$ ) for the seven day post black layer silages. Dry matter contents of the fodder fraction and the ear fraction, ranged from 25 to 40% and 58 to 70% respectively. Furthermore, DM was greatest ( $P < 0.05$ ) for the seven day post black layer fodder and ear fractions. However, there were no main effect differences in agronomic characteristics due to hybrid.

**Project Dissemination:**

**Published Abstract:**

R. Pitzer, B. Rogers, B. Galbreath, H. Nauman, K. May, and T. Wistuba, (February, 2008), "Effects of Stage of Maturity at Harvest and Hybrid on Production Characteristics of Corn Silage," 2007, *J. Anim. Sci.* (Southern Section).

**Oral Presentations:**

R. Pitzer, B. Rogers, B. Galbreath, H. Nauman, K. May, and T. Wistuba, (February, 2008), "Effects of Stage of Maturity at Harvest and Hybrid on Production Characteristics of Corn Silage," Southern Sectional Meeting of the American Society of Animal Science, Dallas, TX.

R. Pitzer, B. Rogers, B. Galbreath, H. Nauman, K. May, and T. Wistuba, (April, 2008), "Effects of Stage of Maturity at Harvest and Hybrid on Production Characteristics of Corn Silage," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

R. Pitzer, B. Rogers, B. Galbreath, H. Nauman, K. May, and T. Wistuba, "Effects of Stage of Maturity at Harvest and Hybrid on Production Characteristics of Corn Silage, Eastern Kentucky Cattleman's Association Meeting, Morehead, KY, January, 2008.

**Awards/Honors:**

Awarded the only undergraduate internship for the summer 2008 with Agtech Inc., Wisconsin.

**Post-Graduation Plans (Seniors Only):**

Attending graduate school at the University of Georgia upon degree completion.

**SHANNON TOUROO**

**Major:**

Veterinary Technology

**Faculty Mentor:**

Philip Prater

**Research/Project Title:**

"The Effect of Bovine Leukosis Virus Infection on the Proportion among Bovine Leukocyte Populations in the Blood of Cows"

**Project Abstract/Summary:**

The effects of Bovine Leukosis Virus (BLV) infection on the proportion among bovine leukocyte populations in blood (WBC) was investigated using differential staining and a CBC profile. Previous research has indicated that total WBC count and total lymphocyte are impacted by BLV infection. However, few studies have included neutrophils, basophils, and monocytes. Eighty Angus cows (51 positive and 29 negative) were bled by jugular venipuncture into 7 ml EDTA treated vacutainer tubes on October 2, 2007. Cows had previously tested positive for the presence of BLV and were retested by ELISA on the day blood samples were taken. The analysis of variance was generated using PROC GLM (SAS Inst., Inc. Cary, NC), the model included presence or absence of BLV infection and sex. Least-squares means were calculated and separated using pair-wise t-tests (PDIFF option). There was no impact of sex on any of the parameters used in this study and thus the bulls were eliminated from the data set. Total white blood cell count and total eosinophils were greater ( $P < 0.09$  and  $0.005$ ) in the cows that tested positive for BLV. Proportions of lymphocytes were greater ( $P = 0.11$ ) for uninfected cows compared to infected cows. However, there were no differences in total counts or proportions of neutrophils, basophils, or monocytes and there was no difference detected for the neutrophil:lymphocyte ratio. This study supported previous research in its findings that BLV infection has an impact on total white blood cell counts and lymphocytes.

**Project Dissemination:**

**Published Abstract:**

S. Touroo, E. Carson, B. Galbreath, B. Lewis, K. Peterson, P. Prater, and T. Wistuba, (2007), "The Effect of Bovine Leukosis Virus Infection on the Proportion Among Bovine Leukocyte Populations in the Blood of Cows," 2007, *J. Anim. Sci.*, (Southern Section accepted).



### **Oral Presentations:**

- S. Touroo, E. Carson, B. Galbreath, B. Lewis, K. Peterson, P. Prater, and T. Wistuba, (February, 2008), "The Effect of Bovine Leukosis Virus Infection on the Proportion among Bovine Leukocyte Populations in the Blood of Cows," Southern Section Animal Science Meetings, Dallas, TX.
- S. Touroo, E. Carson, B. Galbreath, B. Lewis, K. Peterson, P. Prater, and T. Wistuba. (April 2008), "The Effect of Bovine Leukosis Virus Infection on the Proportion Among Bovine Leukocyte Populations in the Blood of Cows," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.
- S. Touroo, E. Carson, B. Galbreath, B. Lewis, K. Peterson, P. Prater, and T. Wistuba. (2008), "The Effect of Bovine Leukosis Virus Infection on the Proportion Among Bovine Leukocyte Populations in the Blood of Cows," Georgia Cattleman's Association Meeting, Athens, GA, March.

### **Awards/Honors:**

Presented in the undergraduate research competition at the Southern Sectional Meeting of the American Society of Animal Science.

## **DEPARTMENT OF BIOLOGICAL AND ENVIRONMENTAL SCIENCES**

### **ANDREW AUXIER**

#### **Major:**

Biology/Environmental Science

#### **Faculty Mentor:**

David Smith

#### **Research/Project Title:**

"Comparison of In Situ Bivalve (*Corbicula Fluminea*) Response to Static-Renewal Laboratory Toxicity Tests using *Ceriodaphnia dubia*"

#### **Project Abstract/Summary:**

Mr. Auxier was approved to begin in August 2007 but did not begin work until October 2007. This was a different research project than his first fellowship year. He spent October through December 2007 learning laboratory culture techniques for *Ceriodaphnia dubia*, a freshwater crustacean used in aquatic toxicity testing, and *Selenastrum capricornutum*, a freshwater alga (used as food for the crustacean). Additionally, he assisted another undergraduate working on a separate project involving in situ bivalve (*Corbicula fluminea*) response using a Biological Early Warning System (BEWS) currently being developed by the US Environmental Protection Agency. During the Spring 2008 semester Mr. Auxier was tasked with learning laboratory toxicity testing procedures and to develop a research goal and plan for comparing the two approaches to ambient surface water quality monitoring.

Sometime around Spring Break he announced that he was not really interested in research, plans on being a field technician, and needed to devote more time to his class studies.

#### **Project Dissemination:**

N/A

#### **Awards/Honors:**

N/A

#### **Post-Graduation Plans (Seniors Only):**

Senior, but not graduating until next academic year.  
Plans employment as a field biologist/technician.

### **AMBERLEE BYRD**

#### **Major:**

Biology

#### **Faculty Mentor:**

Stephanie Welter

#### **Research/Project Title:**

"Habitat Complexity and Substrate Preferences in Dragonfly Larvae"

#### **Project Abstract/Summary:**

Habitat complexity can impact the ability of a prey species to avoid predation. Prey that are subject to visual predation might be expected to choose habitats and substrates within that habitat that provide better concealment. Dragonfly larvae are prey that are widely distributed in aquatic habitats that vary greatly in their complexity and in resting substrates. We tested dragonfly larvae in the laboratory to determine whether they chose habitats that were more complex and whether they had a specific substrate choice (leaf vs. reed) within the habitat. Larvae preferred the more complex habitat and, within that habitat, they expressed variation in specific substrate preferences. Our results indicate that dragonfly larvae may choose habitats and substrates that provide better camouflage.

#### **Project Dissemination:**

#### **Poster Presentation:**

Byrd, A., and Welter, S.M., (2008), "Habitat Complexity and Substrate Preferences in Dragonfly Larvae," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

#### **Awards/Honors:**

N/A

#### **Post-Graduation Plans (Seniors Only):**

Student hopes to apply to Veterinary School in the near future.

### **TYLER ELAM**

#### **Major:**

Biology/Pre-Med

#### **Faculty Mentor:**

Janelle Hare

#### **Research/Project Title:**

"Biochemistry of UmuD Action after DNA Damage"

**Project Abstract/Summary:**

This project concentrated on testing the role of UmuD in Acinetobacter bacteria after DNA damage. Microbiological, and molecular biology approaches were used to investigate the mechanisms by which UmuD acts as a regulator of DNA-damage induced genes and its role in Acinetobacter biology. Mr. Elam had not participated in independent research or microbiology experiments before this year. He initially spent some time reading relevant literature and asking pertinent questions about our research project, which I exposed him to by having him read my research grant proposals & primary literature. I then trained Tyler on the LI-COR DNA sequencer, and we sequenced and analyzed several cloned plasmid DNA sequences to investigate the presence of this unusual gene, umuD, across the Acinetobacter genus.

In addition, we have jointly planned all aspects of an additional project involving seeing if our protein of interest (UmuD) can function in E. coli. This involved requesting bacterial strains from a colleague at another university, who unfortunately sent us the incorrect strain at first, causing a bit of delay. We had to troubleshoot our research to determine this, which was a good learning experience for Tyler. He has now been trained in growing bacteria and data analysis. We developed the mutagenesis assay that will yield our results in this experiment. He is now conducting the experiment for which this assay was developed, and has begun obtaining results.

**Project Dissemination:****Poster Presentation**

Elam, T. and J.M. Hare (Spring, 2008), "Assay Observing SOS Mutagenesis in Acinetobacter," Celebration of Student Scholarship, Morehead State University, Morehead, KY.

**Awards/Honors:**

N/A

**COURTNEY FORBIS****Major:**

Biology/Pre-Med

**Faculty Mentor:**

Darrin DeMoss

**Research/Project Title:**

"The Effect of Diltiazem on Osteoblast Viability in a Cell Culture Environment Devoid of Fetal Bovine Serum"

**Project Abstract/Summary:**

Bone metabolism and calcium transport are fundamentally linked to one another, suggesting that calcium channels are a potential point of regulation. Calcium channel antagonists are utilized therapeutically to block voltage-regulated L-type calcium channels, theoretically decreasing Ca<sup>++</sup> flow into or out of cells. Our laboratory has

developed a culturing protocol that sustains osteoblast cells with minimal exposure to estrogen by decreasing fetal bovine serum supplementation. Estrogen plays an important role in skeletal physiology by maintaining a remodeling balance between the activity of osteoblasts and osteoclasts. This study was designed to observe the effects of diltiazem on the viability of two osteoblast-like cell lines (7F2 and UMR-106) cultured in a minimal estrogen environment. **(Supported by NIH Grant).**

**Project Dissemination:****Presentation:**

Slone, S., C. Forbis, R. Green, M. Fultz and D. DeMoss, "Cell Culture Protocols Required to Maintain Osteoblast-Like Cell Cultures in Media Devoid of Fetal Bovine Serum," INBRE-KBRIN External Advisory Committee Meeting, Morehead, KY, May, 2007.

**Poster Presentation:**

Forbis, C., M. Fultz, and D. DeMoss, "The Effect of Diltiazem on Osteoblast Viability in a Cell Culture Environment Devoid of Fetal Bovine Serum," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April 2008.

**Awards/Honors:**

Inducted into Phi Kappa Pi Honor Society in the Spring of 2008.

**Post-Graduation Plans (Seniors Only):**

Attend Medical School at the University of Kentucky following graduation in May 2009.

**KRISTEN FULTZ****Major:**

Biology

**Faculty Mentor:**

Carol Wymer

**Research/Project Title:**

"Does Teaching by Inquiry Improve Student Exam Scores in Plant Science?"

**Project Abstract/Summary:**

The goal of this project is to determine whether or not a change in teaching style has improved student learning in BIOL 150 (Introduction to Plant Science). In 2006, I changed the teaching style in BIOL 150 (Introduction to Plant Science) from a standard lecture+ lab format to an integrated inquiry format. The impact of this change is being assessed by comparing responses on exam questions from 2005 (before the change) to those in 2006. This project is incomplete at this time. Kristin stopped working in October 2007. Her stated reasons related to spending more time with her coursework and problems between the fellowship and here financial aid. Before leaving, Kristin had completed the data entry and had begun the data analysis. She had also begun to categorize the questions based on the Depth of Knowledge (DOK) required to answer the question.

**Project Dissemination:**

Project incomplete at this time.

**Awards/Honors:**

N/A

**JOHN KYLE GARTIN****Major:**

Biology

**Faculty Mentor:**

Sean O'Keefe

**REBECCA GREEN****Major:**

Biology

**Faculty Mentor:**

Michael Fultz

**Research/Project Title:**

"Effect of Rho Kinase Inhibition on the Actin Cytoskeleton in the A7r5 Smooth Muscle Cell"

**Project Abstract/Summary:**

We have shown that the remodeling of the cytoskeleton may be a critical process in the contraction of vascular smooth muscle. We have also demonstrated differential remodeling of the alpha-actin and beta-actin domains. However the biochemical mechanisms regulating this remodeling is not understood. Smooth muscle specific myosin also undergoes remodeling that may be associated with alpha-actin. Rho kinase inhibition disrupts the remodeling of the alpha-actin cytoskeleton. This disruption prevented the formation of podosomes in cells pretreated with inhibitor and induced the dissolution of podosomes if administered after podosome formation. Therefore it is concluded that Rho kinase is critical for alpha actin remodeling and podosome formation/stability in the A7r5 smooth muscle cell. **(Supported by KBRIN Grant).**

**Project Dissemination:****Poster Presentation:**

Pike, S.M., W.H. Hankinson, R. Green, and M.E. Fultz, (April, 2008), "Effect of Rho Kinase Inhibition on Alpha-Actin Remodeling in the Contracting A7r5 Smooth Muscle Cell," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Rebecca has been accepted into University of Alabama at Birmingham's optometry school.

**WILLIAM HANKINSON****Major:**

Biology

**Faculty Mentor:**

Michael Fultz

**Research/Project Title:**

"Effect of Rho Kinase Inhibition on the Myosin Cytoskeleton in the A7r5 Smooth Muscle Cell"

**Project Abstract/Summary:**

We have shown that the remodeling of the cytoskeleton may be a critical process in the contraction of vascular smooth muscle. We have also demonstrated differential remodeling of the alpha-actin and beta-actin domains. However the biochemical mechanisms regulating this remodeling is not understood. Smooth muscle specific myosin also undergoes remodeling that may be associated with alpha-actin. This project will examine the effect of Rho kinase inhibition on myosin remodeling in the contracting A7r5 smooth muscle cell. This was Bill's first semester as an Undergraduate Fellow. Bill has learned several techniques this semester including cell culture techniques, freezing procedures, fluorescent staining, and fluorescent microscopy.

**Project Dissemination:****Poster Presentation:**

W.H. Hankinson, Pike, S.M., R. Green, and M.E. Fultz, (April, 2008), "Effect of Rho Kinase Inhibition on Alpha-Actin Remodeling in the Contracting A7r5 Smooth Muscle Cell," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**GREGORY CALEB HOWARD****Major:**

Biology

**Faculty Mentor:**

Darrin DeMoss

**Research/Project Title:**

"Characterization of Osteoblastic Properties of 7F2 Cultures after Acclimation to Reduce Levels of Fetal Bovine Serum"

**Project Abstract/Summary:**

Estrogen plays an important role in skeletal physiology by maintaining a remodeling balance between the activity of osteoblasts and osteoclasts. In an attempt to decipher the mechanism through which estrogen elicits its action on osteoblasts, experimentation necessitated the development of a culturing environment reduced in estrogenic compounds. This protocol reduced the concentration of FBS supplementation to 0% through successive, 24-hour incubations with diminishing amounts of total FBS (1%, 0.1%, and 0%). The protocol does not appear to alter the viability, cell morphology or osteoblast-like phenotype of 7F2 cell lines when compared to control cells grown in various concentrations of FBS. Although the rate of mitotic divisions declined, the 7F2 cultures continued to express osteoblast specific markers and exhibited estrogen responsiveness.

**(Supported by NIH Grant).**

**Project Dissemination:****Manuscript:**

Ashley, L., S. Ganguly, R. Grey, G. Howard, C. Pendleton, L. Castle, M. Fultz, D. Peyton, and D. DeMoss, "Characterization of Osteoblastic Properties of 7F2 and UMR-106 Cultures after Acclimation to Reduced Levels of Fetal Bovine Serum," *Canadian Journal of Physiology*, In Press 2008.

**Abstract:**

Kidd, B., L. Ashley, M. Harmon, G. Howard, A. Auxier, E. Nickel and D. DeMoss, "The Effect of Calcium Channel Antagonists on Bone Metabolism in Aged Male and Female Brown Norway Rats," *Journal Bone Mineral Research*, 22(S1): M018, 2007.

**Presentations:**

Kidd, B., G. Howard, A. Auxier and D. DeMoss, "Impact of Nifedipine on Bone Metabolism in Aged Male and Female Brown Norway Rats," INBRE-KBRIN External Advisory Committee Meeting, Morehead, KY, May, 2007.

Howard, G., B. Kidd, E. Nickel, L. Ashley, M. Harmon, A. Auxier and D. DeMoss, "The Effect of Calcium Channel Antagonists on Bone Metabolism in Aged Male and Female Brown Norway Rats," 93rd Annual Meeting of the Kentucky Academy of Science, Louisville, KY, November, 2007.

Kidd, B., L. Ashley, M. Harmon, G. Howard, A. Auxier, E. Nickel and D. DeMoss, "The Effect of Calcium Channel Antagonists on Bone Metabolism in Aged Male and Female Brown Norway Rats," 29th Annual Meeting of the ASBMR, Honolulu, HI, September, 2007.

**Oral Presentation:**

"Analysis of the Hendra Fusion Protein Transmembrane Domain and Cytoplasmic Tail," 2007 University of Kentucky NSF REU Summer Research Program in the Biochemical Sciences, July, 2007.

**Poster Presentation:**

Howard, G., L. Castle, L. Ashley, S. Ganguly, D. Peyton, M. Fultz, and D. DeMoss, "Characterization of Osteoblastic Properties of 7F2 Cultures after Acclimation to Reduced Levels of Fetal Bovine Serum," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Awards/Honors:**

Participated in the 2007 University of Kentucky NSF REU Summer Research Program in the Biochemical Sciences

**Post-Graduation Plans (Seniors Only):**

Attend Graduate School with the goal of completing a Doctorate in Biomedical Science at an institution yet to be determined following graduation in May 2009.

**KELSEY LAMB****Major:**

Biology/Pre-Med

**Faculty Mentor:**

Brian Reeder

**ASHLEY LOAN****Major:**

Biology

**Faculty Mentor:**

Craig Tuerk

**Research/Project Title:**

"Developing RNA Linking Libraries for Combinatorial Chemical Candidates"

**Project Abstract/Summary:**

Methods and techniques are being developed for producing a library of RNA tags that can be covalently linked to the chemical candidate to which they are bound. The specific proof of concept experiment is for the NHS crosslink of an RNA bound biotin to the 3' end aminoallyl U of the RNA. The necessary preparation has proceeded through all enzymatic steps which include DNA library design and construction; in vitro transcription to produce RNA tags; oligonucleotide templated tailing with aminoallyl-dUTP (and biotinyl as a control). In progress are selection methods. Research supplies funded by KY EPSCoR grant.

Ashley specifically has greatly improved experimental organization and independence.

**Project Dissemination:****Poster Presentation:**

"Developing RNA Linking Libraries for Resolving Chemical Combinatorial Libraries," Celebration of Student Scholarship, Morehead State University, Morehead, KY.

**Awards/Honors:**

N/A

**SALLY MAYNARD****Major:**

Biology

**Faculty Mentor:**

Stephanie Welter

**Research/Project Title:**

"Background Color Pattern Preferences in Dragonfly Larvae"

**Project Abstract/Summary:**

Larval dragonflies are prey to a variety of visual predators. One way to avoid detection by visual predators is to have preferences for resting on backgrounds that provide concealment. Dragonfly larvae possess color patterns that include body regions of homogeneous pigmentation as well as regions with banding patterns (typically on the abdomen and legs). We were interested in

determining whether larvae collected from the field and tested in the laboratory chose to spend significantly more time on a homogeneously colored background vs. one that was striped. Behavioral assays were conducted and photographs were taken of each larva on each background to determine which background offered the best camouflage for each individual. Larvae preferred the striped background over the other two backgrounds. Within that striped background, larvae were often found on the black stripe rather than on the white stripe. Since larvae are very easily seen on the white background but much harder to see on the black background and against the striped background, our results indicate that background preferences in larval dragonflies may enhance their camouflage.

**Project Dissemination:**

**Poster Presentation:**

S.E. Maynard and S.M. Welter, (April, 2008), "Background Color Pattern Preferences in Dragonfly Larvae," Celebration of Student Scholarship, Morehead State University, Morehead, KY.

**Awards/Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Student is changing majors to Chemistry, and hopes to eventually become a high school teacher.

**KENDRA MCQUERRY**

**Major:**

Biology

**Faculty Mentor:**

Craig Tuerk

**Research/Project Title:**

"Developing RNA Linking Libraries for Combinatorial Chemical Candidates"

**Project Abstract/Summary:**

Methods and techniques are being developed for producing a library of RNA tags that can be covalently linked to the chemical candidate to which they are bound. The specific proof of concept experiment is for the NHS crosslink of an RNA bound biotin to the 3' end aminoallyl U of the RNA. The necessary preparation has proceeded through all enzymatic steps which include DNA library design and construction; in vitro transcription to produce RNA tags; oligonucleotide templated tailing with aminoallyl-dUTP (and biotinyl as a control). In progress are selection methods. Research supplies funded by KY EPSCoR grant.

Kendra specifically has become an experienced technical experimentalist, and has shown good understanding of the project goals and communicative skills.

**Project Dissemination:**

**Poster Presentations:**

"Developing RNA Linking Libraries for Resolving Chemical Combinatorial Libraries," Kentucky Academy of Sciences Meeting, Louisville, KY, November, 2007.

"Developing RNA Linking Libraries for Resolving Chemical Combinatorial Libraries," 13<sup>th</sup> Annual EPSCoR Conference, Lexington, KY, October, 2007.

K. McQuerry and C. Tuerk, (April, 2008), "Developing RNA Linking Libraries for Resolving Chemical Combinatorial Libraries," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**MEGAN MINCH**

**Major:**

Biology

**Faculty Mentor:**

David Peyton

**Research/Project Title:**

"Genetic Determination of Pigmentation in Ornamental Koi"

**Project Abstract/Summary:**

We have cloned and sequenced the melanocortin-1-receptor gene from Ornamental Koi (*Cyprinus carpio*) and are now in the progress of analyzing the sequence from multiple different individuals. This gene is responsible for pigmentation in all vertebrates examined to date and we hypothesize that it will also contribute to the variety of distinct pigments seen in ornamental koi. If our hypothesis is true, we will observe polymorphisms that correlate with particular colors and be able to predict the colors of offspring from a given cross of parental fish.

**Project Dissemination:**

**Poster Presentation:**

M. Minch and D.K. Peyton, (April, 2008), "The Genetic Control of Pigmentation in Ornamental Koi, *Cyprinus carpio*," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**KRISTEN MITCHELL**

**Major:**

Biology/Pre-Med

**Faculty Mentor:**

Geoffrey Gearner

**Research/Project Title:**

"Utilizing DNA Fingerprint Analysis of Escherichia Coli Isolates to Determine Host Sources of Watershed Fecal Contamination"

**Project Abstract/Summary:**

Kristen Mitchell has completed her third semester of fellowship experience. Kristen's project centers on applying a potential method for host source tracking of fecal contamination in our local watershed. DNA fingerprinting of Escherichia coli involves isolating and purifying DNA from identified animal and environmental isolates. The purified DNA serves as a target for a polymerase chain reaction using the BOX-A1R primer. This primer anneals to a sequence in the E. coli genome that is repeatedly scattered over the genome in both orientations (5' to 3' and 3' to 5'). PCR amplifies sequences lying between adjacent BOX-A1R sequences in the proper orientation. PCR results in a number of products variable in size, and when separated by agarose gel electrophoresis, produces a pattern of bands that is referred to as a DNA fingerprint. Kristen spent AY 2007/2008 generating DNA fingerprints from a collection of E. coli isolates obtained from known host sources (10-20 isolates each from cattle, sheep, pigs, horses, goats, and dogs). Agarose gel images of the fingerprints were analysed by Nonlinear's TotalLab software and databased. The database of fingerprints was then assessed by Nonlinear's Phoretix 1D software to construct dendograms. Analysis of the dendograms demonstrated that data quality needs to be improved to generate more meaningful dendograms. Kristen ended the semester by conducting experiments to optimize PCR conditions that will generate DNA fingerprints that contain a minimum of 20 individual bands. She will continue with this line of work in Fall 2008, with the goal of completing the analysis of all known host source E. coli isolates by the end of 2008. We anticipate a poster presentation of this work for the 2008 Kentucky Academy of Science meetings in Lexington. For Spring 2009, Kristen will generate DNA fingerprints of E. coli isolates collected from the Dry Creek watershed as part of a project funded by the Kentucky Waterways Alliance, and using the database generated in 2008 to determine the host source of E. coli contamination in the watershed.

**Project Dissemination:****Poster Presentation:**

Mitchell, K., and G.W. Gearer, (April, 2008), "DNA Fingerprinting of Escherichia Coli as a Tool to Track Host Sources of Watershed Fecal Contamination," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**LOGAN MURPHY****Major:**

Biology/Pre-Med

**Faculty Mentor:**

David Saxon

**Research/Project Title:**

"Evaluation of DNA Damage Originating From Raloxifene Interaction"

**Project Abstract/Summary:**

Reactive oxygen species (ROS) formed by redox interaction of raloxifene via the Fenton Reaction with copper, a component of chromatin, could contribute to oxidative damage to DNA. This study was designed to investigate this possible interaction. Supercoiled double-stranded plasmid DNA was incubated in a ROS generating system of Cu(II) and H<sub>2</sub>O<sub>2</sub>, in the presence of raloxifene, and evaluation of samples electrophoresed on ethidium bromide gels indicated no protective effect by raloxifene. Since pre-incubation of raloxifene with DNA, and then incubation with Cu(II)/ H<sub>2</sub>O<sub>2</sub>, produces excessive DNA damage, reduction of Cu(II) to Cu(I) by raloxifene was measured using bathocuproinedisulfonic acid. Results indicate that a copper concentration dependent-raloxifene redox mechanism may mediate oxidation of raloxifene and the generation of ROS. Raloxifene, in the presence of varying concentrations of Cu(II) and supercoiled DNA, without H<sub>2</sub>O<sub>2</sub>, reduced the amount of supercoiled DNA visible on the gels. A possible role for raloxifene in a Cu(II)/Cu(I) redox cycle which contributes to oxidative damage of DNA is supported by this investigation.

**Project Dissemination:****Poster Presentation:**

L. Murphy and D. Saxon, (April, 2008), "Evaluation of Preliminary Results on DNA Damage Originating from Raloxifene Interaction," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**THOMAS PLATT****Major:**

Biology/Pre-Pharmacy

**Faculty Mentor:**

Brian Reeder

**Research/Project Title:**

"Dry Creek Watershed Investigation/Fish Hatchery Monitoring Project"

**Project Abstract/Summary:**

The Dry Creek Watershed Investigation project is still ongoing, however much has been accomplished. Thomas has been a part of determining the collection sites, been responsible for collecting and analyzing the water samples. In doing these things Thomas has had to learn to calibrate and use probes and other water collection devices as well as analyzing the data using various statistical analysis techniques.

**Project Dissemination:**

Nelson, C.S., B.C. Reeder, A. D. Haight, S.R. Brown, T. Platt, 2007, "Affects of Long-Term Organic Fertilization on Water Quality in Largemouth Bass (*Micropterus Salmoides*) Brood Ponds at Minor Clark Fish Hatchery, Kentucky," *proceedings of the annual meeting of the Ohio River Basin Consortium for Research and Education*, Miami, OH.

S.R. Brown, B.C. Reeder, C.S. Nelson, A.D. Haight, and T. Platt, 2007, "In Situ Measurements of Dissolved Oxygen (DO), pH, Conductivity, and Temperature in Minor Clark Fish Hatchery Ponds: Comparison of Electronic Probes from Two Manufacturers," *proceedings of the annual meeting of the Ohio River Basin Consortium for Research and Education*, Miami, OH.

**Awards/Honors:**

N/A

**JAMES CHANNING RICHARDSON****Major:**

Biology

**Faculty Mentor:**

Allen Risk

**Research/Project Title:**

"Pteridophytes of Carter Caves State Resort Park, Carter County, Kentucky"

(Student also participated in bryophyte and lichen inventory of Carter Caves State Park during the 2007-2008 school year).

**Project Abstract/Summary:**

The purpose of this project was to inventory the ferns and fern allies within Carter Caves State Resort Park (CCSRP) and to compare the pteridophyte flora of the park to those of other inventoried natural areas within the Appalachian Plateau, Interior Low Plateau, and Coastal Plain. Collecting trips were made to CCSRSP from September 2005 – Fall 2007 during which 63 collections were made. The entire pteridophyte collections in the herbaria of Morehead State University, University of Kentucky, Eastern Kentucky University, Marshall University, and the University of Cincinnati were examined for pteridophytes from CCSRSP. Sorenson coefficients of similarity were calculated to compare the similarity of the CCSRSP pteridophyte flora with that of other floras. Forty-seven taxa of pteridophytes were documented for the park, including several regionally rare taxa such as *Isoetes engelmannii*, *Dryopteris goldiana*, *Vittaria appalachiana*, and *Trichomanes boschianum*. Based on published floras, the pteridophyte flora of CCSRSP is most similar to that of Hardin County, Kentucky, and least similar to that of "Highbanks" in southwestern Ohio. A species area curve for pteridophyte floras

of the region showed that CCSRSP has the most diverse fern flora on a per unit area basis. The predicted pteridophyte diversity of CCSRSP of 19 is less than half of that (47) documented for the park.

**Project Dissemination:****Oral Presentations:**

"Pteridophytes of Carter Caves State Resort Park, Carter County, Kentucky," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

"Pteridophytes of Carter Caves State Resort Park, Carter County, Kentucky," Association of Southeastern Biologists Meeting, Spartanburg, SC, August, 2008.

"Bryophytes of Carter Caves State Resort Park, Carter County, Kentucky," Kentucky Academy of Science Meeting, Louisville, KY, November, 2007. (Channing was second author on this paper.)

**Awards/Honors:**

2008 Camden-Carroll Library Prize (Second Place Award)

**SAVANNAH SLONE****Major:**

Pre-Physical Therapy

**Faculty Mentor:**

Darrin DeMoss

**Research/Project Title:**

"The effect of nifedipine on osteoblast viability in a cell culture environment devoid of fetal bovine serum"

**Project Abstract/Summary:**

Bone metabolism and calcium transport are fundamentally linked to one another, suggesting that calcium channels are a potential point of regulation. Calcium channel antagonists are utilized therapeutically to block voltage-regulated L-type calcium channels, theoretically decreasing Ca<sup>++</sup> flow into or out of cells. Our laboratory has developed a culturing protocol that sustains osteoblast cells with minimal exposure to estrogen by decreasing fetal bovine serum supplementation. Estrogen plays an important role in skeletal physiology by maintaining a remodeling balance between the activity of osteoblasts and osteoclasts. This study was designed to observe the effects of nifedipine on the viability of two osteoblast-like cell lines (7F2 and UMR-106) cultured in a minimal estrogen environment. **(Supported by NIH Grant).**

**Project Dissemination:****Presentation:**

Slone, S., C. Forbis, R. Green, M. Fultz and D. DeMoss, "Cell Culture Protocols Required to Maintain Osteoblast-Like Cell Cultures in Media Devoid of Fetal Bovine Serum," INBRE-KBRIN External Advisory Committee Meeting, Morehead, KY, May, 2007.

**Poster Presentation:**

Slone, S., M. Fultz, and D. DeMoss, "The Effect of Nifedipine on Osteoblast Viability in a Cell Culture Environment Devoid of Fetal Bovine Serum," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Awards/Honors:**

Recipient of the Healslip Scholarship awarded to a Senior Biology Major based on academic achievement.

Selected as the College of a Science & Technology Marshall for the Spring 2008 Commencement.

Inducted into Phi Kappa Pi Honor Society in the Spring of 2008.

**Post-Graduation Plans (Seniors Only):**

Attend Physical Therapy School at the University of Kentucky following graduation in May 2009.

**Awards/Honors:**

N/A

**DEPARTMENT OF INDUSTRIAL AND ENGINEERING TECHNOLOGY****JOSHUA D. BOWES****Major:**

Manufacturing

**Faculty Mentor:**

Yuqiu You

**Research/Project Title:**

"Remote Manufacturing Control System"

**Project Abstract/Summary:**

The implementation of enterprise integration requires explicit knowledge of both the information needed and created by the different activities in the enterprise operation; requires information sharing systems and integration platforms capable of handling information transaction across heterogeneous environments; and also requires the up-date of the operational data as well as adapting to environmental changes. To provide a web-based module in manufacturing enterprise-control integration under LabVIEW environment, we applied mechatronical system integration with LabVIEW motion control system which will combine lower level manufacturing control languages with higher level web-based programming environment.

This project established a web-based control module for enterprise-control system integration based on the development of a real-time data communication mechanism. The presentation will explain the needs for manufacturing enterprise-control system integration, the purpose of remote control and access over the Internet, and demonstrate the components and functions of the integration system.

**Project Dissemination:****Poster Presentation:**

Joshua D. Bowes, (April, 2008), "Manufacturing Remote Control System," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE****BRIAN SALYER****Major:**

Math

**ANDREW STACY****Major:**

Biology

**Faculty Mentor:**

Sean O'Keefe

**Research/Project Title:**

"Development of Quantitative Trapping Methods for Necrophilous Insects"

**Project Abstract/Summary:**

Necrophilous insects (those attracted to decomposing bodies) are extremely important in forensic research. The diversity, seasonal abundance, faunal succession rates, and habitat preferences for necrophilous insects are poorly documented for most of the United States. The purpose of this research is to determine which easily-accessible baits are preferred by necrophilous insects, and to invent a trap design that is inexpensive, easy to use, and can be used for quantitative studies. Existing trap designs such as sticky traps, pan traps, intercept traps, etc. are either too expensive, too hard to maintain, or are too difficult to use for quantitative studies. An initial trap design (version A) was tested using five baits and a control in three areas. Based on difficulties monitoring of these traps, version B was developed, and based on initial trials version C was developed. Baits tested include chicken liver, canned cat food, hamburger, chicken breast, and fresh fish. Initial results indicate that chicken liver is most attractive for early colonization, with canned cat food for later colonization.

In addition to developing trial versions of a trap design and preliminar tests with baits, adult necrophilous beetles and flies were prepared and identified, which included two species of Silphidae (burrying beetles), one species of Staphylinidae (rove beetle), one species of Calliphoridae (bottle fly), and one species of Sarcophagidae (flesh fly).

**Project Dissemination:**

N/A



**Faculty Mentor:**

Robin Blankenship, R. Douglas Chatham, and R. Duane Skaggs

**Research/Project Title:**

"Studies in Separation in Graphs"

**Project Abstract/Summary:**

A famous problem asks how many Queens can be placed on a chessboard of arbitrary size so that no two Queens attack each other. This question has led to many interesting applications, particularly those related to parallel computing and network communication. This project explores a recent variation of the original problem in which Pawns can be placed to separate Queens and allow more Queens to be placed on the board. The question is then how many Pawns are needed in order to allow a specified larger number of Queens to be placed.

An ongoing goal is to examine chessboard graphs for a variety of pieces. The queen, bishop, rook, knight, and fantasy combination pieces such as the marshal (rook+knight), cardinal (bishop+knight), and amazon (queen+knight) have been studied in order to develop a general theory. The results obtained from the corresponding calculations provide a conceptual description of a more general framework.

This general framework for separation in graphs is described in terms of the new concept of transit graphs. The notion of transit graphs describes chessboard graphs as well as more general situations, such as graphs obtained from transportation models. Prior research from seemingly unrelated areas has been used as inspiration for new conjectures and results on separation in transit graphs. While many calculations concerning separation are provably hard, results from this project show that under certain hypotheses the calculations can be greatly simplified.

This student has continued the work of the faculty mentors, a prior Undergraduate Research Fellow, two externally funded research students, and several capstone students. Most notably, he has made progress toward establishing a particular technical conjecture which, if true, will provide a solid basis for future work.

**Project Dissemination:****Oral Presentation:**

B. Salyer, C. Hufford, N. Wahle, R. Blankenship, D. Chatham, and R.D. Skaggs, (April, 2008), "Chessboard Problems with Obstructions," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Poster Presentation:**

B. Salyer, C. Hufford, N. Wahle, R. Blankenship, D. Chatham and R.D. Skaggs, (April, 2008),

"Chessboard Problems with Obstructions," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

NA

**B. NICHOLAS WAHLE****Major:**

Mathematics

**Faculty Mentor:**

R. Douglas Chatham and R. Duane Skaggs

**Research/Project Title:**

"Studies in Separation in Graphs"

**Project Abstract/Summary:**

A famous problem asks how many queens can be placed on a square chessboard of arbitrary size so that no two queens attack each other. This question has led to many interesting applications, particularly those related to parallel computing and network communication. This project explored a recent variation of the original problem in which pawns can be placed to separate queens and allow more queens to be placed on the board. The question is then how many pawns are needed in order to allow a specified larger number of queens to be placed.

A preliminary goal was to examine chessboard graphs for a variety of pieces. The queen, bishop, rook, knight, and fantasy combination pieces such as the marshal (rook+knight), cardinal (bishop+knight), and amazon (queen+knight) have been studied in order to develop a general theory. The results obtained from the corresponding calculations provide a conceptual description of a more general framework.

This general framework for separation in graphs is described in terms of the new concept of transit graphs. The notion of transit graphs describes chessboard graphs as well as more general situations, such as graphs obtained from transportation models. Prior research from seemingly unrelated areas has been used as inspiration for new conjectures and results on separation in transit graphs. While many calculations concerning separation are provably hard, results from this project show that under certain hypotheses the calculations can be greatly simplified.

**Project Dissemination:****Poster Presentation:**

Hufford, C., Salyer, B., Wahle, B. N., Blankenship, R., Chatham, R. D., & Skaggs, R.D., (2008, April), "Chessboard Problems with Obstructions," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

Hufford, C., Wahle, B.N., Blankenship, R., Chatham, R. D., & Skaggs, R. D., (2008, January), "Chessboard Problems with Obstructions," Posters-at-the-Capitol, Frankfort, KY, January.

**Oral Presentation:**

Wahle, B. N., (2007, October), "The Equivalence Number and Transit Graphs for Chessboard Graphs," Shenandoah Undergraduate Mathematics and Statistics Conference, Harrisonburg, VA, October.

**Awards/Honors:**

Outstanding Undergraduate Mathematics and Computer Science Award.  
Outstanding Mathematics Students Fouch Award.

**Post-Graduation Plans (Seniors Only):**

Accepted into the Ph.D. program in mathematics at Louisiana State University.

**DEPARTMENT OF NURSING****Megan Huellemeier****Major:**

Nursing/BSN

**Faculty Mentor:**

Donna J. Corley

**Research/Project Title:**

"External Factors Influencing College Students' Food Choices"

**Project Abstract/Summary:**

The effects of diet on health status are well documented. College Students represent a population vulnerable to poor eating habits. Adjustment to college life introduces difficult food choices. Economic strains, convenience, and individual preferences influence students' meal decisions. This study will assess external factors that influence college students' food choices. Forty-eight junior and senior BSN students will complete a computer based food frequency questionnaire and Food Choice Survey. This sample is assumed to have a basic level of nutritional knowledge based on the required curriculum courses and content completed by each student. Data from this study will be used to guide preventative health interventions targeted towards this population.

**Project Dissemination:****Oral Presentation:**

Huellemeier, M. & Corley, D., (April, 2008), "Assessing External Factors that Influence College Students' Food Choices," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Poster Presentation:**

Huellemeier, M., Johnson, S., & Corley, D., (April, 2008), "External Factors Influencing College Students' Food Choices," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards/Honors:**

N/A

**DEPARTMENT OF PHYSICAL SCIENCES****TABITHA MARIE ALDRIDGE****Major:**

Physics and Geology

**Faculty Mentor:**

Ignacio Birriel

**Research/Project Title:**

"The Measurement of the Radioactivity in the Sunbury and Ohio Shale and its Environmental Implications in the Town of Farmers, Kentucky"

**Project Abstract/Summary:**

It is known that outcrops of radioactive Sunbury and Ohio shale are scattered throughout Kentucky, locally the outcrops can be found in the town of Farmers, Ky. Towns and communities are built right on these outcrops of shale increasing exposure levels to those that live there. Farmers tend crops on these lands. Plants absorb radiation and pass the effects along to humans. Radiation in the soil particularly applies to tobacco. Once tobacco smoke is inhaled these radioactive isotopes are stored in tiny sacs in the lungs. The major objective of this project is to measure the amount of radioactive found in the rocks and soil, in addition, using a Tel-Atomic Multichannel Analyzer to identify the type of isotope. The outcrops of Sunbury and Ohio Shale have an exposure of twenty feet and two hundred feet, respectively. A Thermo Luminescence Dosimeter (TLD) by Landauer will be placed every three feet as to measure the intensity of the shale with respect to horizontal placement. The TLD's are for environmental monitoring that can be used for low level exposure studies.

The project is not finished. We will be collecting data this summer.

**Project Dissemination:****Poster Presentation:**

Tabitha Aldridge and Ignacio Birriel, (November, 2007), "The Measurement of the Radioactivity in the Sunbury and Ohio Shale and Its Environmental Implications in the Town of Farmers, Kentucky," Kentucky Academy of Science, Louisville, KY.

**Awards/Honors:**

None as of yet. The project is not finished.

**Post-Graduation Plans (Seniors Only):**

Student is planning to be at MSU for two more years.

**KYLE BENTLEY****Major:**

Physics

**Faculty Mentor:**

Kent Price

**Research/Project Title:**

"Photovoltage Decay in CdTe Solar Cells"

**Project Abstract/Summary:**

Spring 2008 was Kyle's second semester as a URF. He split his time working in the solar cell research laboratory with Dr. Price and, testing new equipment and lab exercises in the PHYS 202/232 instructional laboratory with Dr. Birriel. In the research laboratory he spent most of his time writing a computer program to improve the data analysis for photovoltage decay. He acquired photovoltage data with the new bright LED he set up in the Fall and presented the results at the Spring Celebration of Student Scholarship at MSU.

In the instructional laboratory, Kyle worked with Dr. J. Birriel in set-up of 202/232 laboratories and testing new apparatus for possible later use by the 202/232 students. Due to a rigorous course schedule, Kyle did not work all of his allotted hours in the Spring. He has received approval from Dr. DeMoss to work an additional 96 hours in May/June 2008. He will continue his work with Dr. Price starting May 19, 2008.

**Project Dissemination:****Oral Presentation:**

"Photovoltage Decay in CdTe Solar Cells,"  
Celebration of Student Scholarship, Morehead  
State University, Morehead, KY, April, 2008.

**Awards/Honors:**

N/A

**TABITHA CARWILE****Major:**

Physics/Astrophysics

**Faculty Mentor:**

Jennifer Birriel

**Research/Project Title:**

"Spectroscopic and Photometric Monitoring of Io and Titan"

**Project Abstract/Summary:**

The student and faculty mentor will monitor the spectroscopic and photometric properties of Io and Titan using "off-the-shelf" commercial astronomical equipment that is relatively affordable to both amateur astronomers and small colleges and universities. Io is Jupiter's second largest moon and has a substantial atmosphere that results from extensive volcanic activity. Titan is Saturn's largest moon and has a thick atmosphere rich in organic compounds. The substantial atmospheres of these two moons are fairly unique in the solar system and understanding their dynamic nature requires constant monitoring. Observation time using large research grade instruments is typically very competitive and therefore very limited. However, Io and Titan are bright enough that they can be observed by students and amateurs from the "backyard" so to speak, allowing us to make valuable scientific contributions with an

experimental setup totaling less than \$11,000. All the equipment used in this study is already available, having been purchased with grant funds obtained by Dr. Birriel.

Fall 2007: Ms. Carwile has familiarized herself with the concepts of astronomical spectroscopy and spectroscopic monitoring as well as the basic concepts of charge-couple detectors (CCD's). She presented a poster at KAS in November in which she examined the overall spectroscopic and photometric properties of the combined telescope-CCD-spectroscope system.

Spring 2008: This past Spring term Ms. Carwile worked an average of about 4 hours per week, due mostly to a mismatch in our schedules. During the Spring 2008 term Ms. Carwile experimentally verified the manufacturer's specifications on the Rainbow Optics Spectroscope Grating using its diffraction properties, obtained data from various spectral lamps and familiarized herself with the image scale of the CCD/telescope system. In addition, she downloaded and installed the ViSpec Software for spectroscopic CCD data analysis. She determined how to port her data from the CCD to the analysis program and familiarized herself with the basic data analysis tools.

**Project Dissemination:****Poster Presentation:**

"Spectroscopic Monitoring of Io," Kentucky Academy of Science Meeting, Louisville, KY, November, 2007.

**Awards/Honors:**

N/A

**ELIZABETH LYON****Major:**

Geology

**Faculty Mentor:**

Jennifer O'Keefe

**Research/Project Title:**

"Characterization of Coal Combustion By-Products from Stoker-Boiler Systems"

**Project Abstract/Summary:**

Few published examples of petrographic and geochemical analyses of ash from stoker boilers exist. Those that do exist are out of date or for industrial, rather than municipal or university-based systems. To remedy this, a pilot study on three university-based stoker boilers was completed on coal and ash samples collected in July of 2006. Petrographic and geochemical data from Morehead State University (MSU), Eastern Kentucky University, and the University of Kentucky's boilers was generated to characterize the feed coal characteristics and relate these characteristics to coal-combustion-by-products and possible pollutants of concern (O'Keefe et al., 2007; Mardon et al., 2007). This was presented

as two studies (O'Keefe et al., 2007 and Mardon et al., 2007) at the World of Coal Ash meeting in Covington, KY in May of 2007.

Ms. O'Keefe has been developing a research program with Drs. Macintosh and Coker in the department of Physical Sciences to study the MSU Heating Plant boiler combustion by-products in more detail. The plan was to sample the plant three times a year before and after renovations to the ash handling and pollution control systems and analyze the feed coal and ash for trace metal contents in relation to ash composition and size. This will involve using the ICP to examine specific element compositions, the Ortholux optical microscopes to look at size fractions and optical characterization through petrography, and the SEM to conduct additional size fraction and chemical analyses. We have identified two senior thesis students in chemistry and one chemistry research student to develop techniques to analyze and to analyze coal and ash samples for three elements (Arsenic, Lead, and Vanadium, respectively). Ms. O'Keefe would like to request an undergraduate fellow to learn organic petrography and fly ash petrography and participate in the optical characterization component this study.

The original plan has been altered somewhat due to recent developments at the MSU Heating Plant. The two stoker boilers have been shut down pending renovation of the existing ash handling system and construction of a full baghouse. We will only have the currently available ash to examine this year and may not have new ash generated until 2009. This is sufficient for the three chemistry students, and for one year's work for an undergraduate research fellow, but not for a multi-year project, or for our interests as faculty in starting a service-learning-based research program centered around stoker-boiler ash at MSU. As such, we are in the process of making contacts with facility managers at Eastern Kentucky University (which had to install pollution controls similar to those recommended for MSU) and elsewhere to determine if ash samples can be obtained from those boiler systems and analyzed as possible estimates of what we may expect to see following renovations at the MSU Heating Plant.

Elizabeth Lyon was assigned to Ms. O'Keefe to learn general reflected-light petrography and SEM characterization of geologic materials for this project. Elizabeth has spent her first year on the project learning necessary techniques for preparing coal and ash for optical and SEM analyses, as well as learning how to do optical coal and ash petrography. She has mastered "pellet" making and made good progress in learning petrography, especially of fly ash. It is anticipated

that she will have additional time to devote to the project next year and can continue to grow as a petrographer, which will give her good experience toward her future goals in studying volcanoes.

**Project Dissemination:**

**Poster Presentation:**

Carroll, R., Noel, M., Gray, Lauren, Lyon, E., Coker, N., Macintosh, A., O'Keefe, J., (April, 2008), "Preliminary Leaching and Petrographic Studies of Coal Combustion By-Products Produced by Morehead State University," Celebration of Student Scholarship, Morehead State University, Morehead, KY.

**Awards/Honors:**

N/A

## **DEPARTMENT OF PSYCHOLOGY**

### **JARED DILLOW**

**Major:**

Psychology

**Faculty Mentor:**

Sean P. Reilley

**Research/Project Title:**

"The Impact of Psychiatric Symptoms on AD/HD Ratings"

**Project Abstract/Summary:**

Substance abuse and dependence are serious, highly prevalent problems in college populations. Substance abuse has been linked with impulsivity and inattention symptoms and is a comorbid condition with AD/HD. As part of the fellowship, we provided validation data in one study from 300 college students for the alcohol and drug abuse scales of the Psychiatric Diagnostic Screening Questionnaire (PDSQ). Two subsequent studies were completed in which the impact of substance abuse symptoms (measured using the PDSQ and the SASSI-III) on attention ratings on AD/HD scales were evaluated. Prior research showed outpatient substance abusers scored above average on the Conners Adult ADHD Rating Scale (CAARS). In our studies, validation data were provided for the CAARS and well used AD/HD rating scales using college students who screened positive for substance abuse (n=21; using Psychiatric Diagnostic Screening Questionnaire) or substance dependence (n=36; using Substance Abuse Subtle Screening Inventory-3). would report above average levels of impulsivity and inattention relative to controls (n=38) on the CAARS and the Adult AD/HD Self-Report Scale. As expected, AD/HD students scored greater than controls and were in the AD/HD range. However, no significant AD/HD scale differences emerged for substance dependent, substance abusing, and normal controls on the CARRS and ASRS. These studies strengthen the empirical base for use of AD/HD

cut scores on AD/HD rating scales and enhance knowledge regarding the impact of other non-AD/HD conditions. As part of the fellowship, Mr. Dillow received advanced training in research ethics via completion of the CITI on-line modules (required training for MSU faculty researchers), computerized data entry and analysis skills involving SPSS, and literature search and human data collection experience. He also received paper presentation and poster presentation experience at multiple local (Celebration of Student Achievement) State (Kentucky Academy of Science, Posters-at-the Capital, Kentucky Psychological Association), and national meetings (Association for Psychological Science). He was awarded 2nd place for his Kentucky Academy of Science presentation in the competitive undergraduate research competition. All of these experiences were central to enhancing Mr. Dillow's competitiveness for graduate study in clinical psychology.

**Project Dissemination:**

**Publication:**

Dillow, J., & Reilley, S. P., (In Press), "The Relationship of Substance Abuse Symptoms on the Psychiatric Diagnostic Screening Questionnaire and Substance Abuse Subtle Screening Inventory-3," Kentucky Academy of Science, Louisville KY.

**Poster Presentations:**

Watkins, C., Dillow, J., & Reilley, S.P., (May, 2008), "High Test Anxiety Biases Narrow & Broad Band AD/HD Ratings," Association for Psychological Science Meeting, Chicago, IL.

Dillow, J., & Reilley, S. P., (March, 2008), "The Impact of DSM-IV Substance Abuse and Dependence Symptoms on AD/HD Rating Scales," Kentucky Psychological Association Meeting, Louisville, KY.

Watkins, C., Dillow, J., & Reilley, S.P., (January, 2008), "High Levels of Test Anxiety May Bias Scores on Popular Narrow Band AD/HD Rating Scales," Posters-at-the Capital Meeting, Frankfort, KY, and the Celebration for Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Oral Presentation:**

Dillow, J. & Reilley, S.P., (November, 2007), "The Relationship of Substance Abuse Symptoms on the Psychiatric Diagnostic Screening Questionnaire and Substance Abuse Subtle Screening Inventory-3," Kentucky Academy of Science, Awarded 2<sup>nd</sup> Place in Undergraduate Research Competition, Louisville, KY, and presented at the Celebration of Student Scholarship, Morehead State University, Morehead, KY, April 2008.

**Awards/Honors:**

Awarded second place, Undergraduate Research Competition, Kentucky Academy of Science, Louisville, KY, November, 2007.

**Post-Graduation Plans, (Seniors Only):**

The Undergraduate Research Fellowship significantly enhanced Mr. Dillow's competitiveness for graduate study. He received three offers of admission into M.A./M.S. in Clinical Psychology programs from Eastern Kentucky University, Ball State University, and Morehead State University. He will be attending the M.S. in Clinical Psychology program offered by MSU in Fall, 2008.

**CAITLIN LINEPENSEL**

**Major:**

Psychology

**Faculty Mentor:**

Lynn Haller

**Research/Project Title:**

"Prevalence of Relational Aggression"

**Project Abstract/Summary:**

We are still currently in the design stage of this project but we have the basic idea for how we plan on testing our theories. I have learned an amazing amount of information about relational aggression and its social functioning. Our experiment aims to gauge the acceptability and occurrence of relational aggression in a college sample. After completing this research I plan on continuing my research in relational aggression. Because of this fellowship I discovered that my talent truly lies in experimental as opposed to clinical. Soon I hope to gain IRB approval so we can begin running our experiment in the fall.

**Project Dissemination:**

The experiment is not yet complete and I did not present in the Celebration of Student Scholarship this year due to personal problems. Our research also has not been published and I have not presented any oral presentations on the subject.

**Awards and/or Honors:**

N/A

**CHRISTINA MILLER**

**Major:**

Psychology

**Faculty Mentor:**

Lynn Haller

**KIERSTEN SANDFOSS**

**Major:**

Psychology/Spanish

**Faculty Mentor:**

Laurie Couch

**Research/Project Title:**

"Appraisal Process Model of Trust and Betrayal" (2007) and "Love Styles & BIS/BAS as Related to Betrayal Experiences" (2008)"

**Project Abstract/Summary:**

During 2007-08 Kiersten Sandfoss was involved in two projects (listed above). She completed data collection, data entry, data analysis, and prepared three presentations based on this work (KAS, KPA, and the Celebration of Student Scholarship). At this time Kiersten is preparing a manuscript based on results from her first project, and she is designing a study for her senior project.

**Project Dissemination:****Poster Presentation:**

Sandfoss, K., (April, 2008), "Betrayal Consequences: Whats Love Got To Do With It?", Celebration of Student Scholarship, Morehead State University, Morehead, KY, April. Also presented at KAS and KPA.

**Awards/Honors:**

Kiersten was named as an outstanding junior in psychology.

**ROYCE KENDALL LAMBERT VANCE****Major:**

Psychology

**Faculty Mentor:**

Shari Kidwell

**Research/Project Title:**

"Transmission of Attachment Insecurity, Anxiety, and Fear: An Investigation of Parenting in Tasks Involving Separation and Exploration"

**Project Abstract/Summary:**

Insecure attachment to parents has deleterious effects on adjustment and is often "handed down" from parent to child. Decreased parenting sensitivity is thought to be a primary influence on this intergenerational transmission of attachment, though the process is not well understood. Data for this project involved 55 parents and their children, who participated in the larger study when their children averaged 4.5 years of age. As part of this fellowship, ratings were made of the Strange Situation standardized separation and reunion procedure. Behaviors that were rated included parental affect (i.e., sadness, anxiety), proactive preparation of the child for separation, intrusive and controlling behavior, and misunderstanding of the child's affective needs upon reunion with the parent. Ratings had previously been made of another task that involved parents playing a game with their child. Questionnaire data assessing parenting and affect and an interview assessing parental attachment had also been collected. The obtained results showed that parents with dismissing/avoidant attachments tended to have lower empathy and greater intrusive behavior towards their children in

the separation-reunion procedure, but preoccupied/ambivalent parents had higher levels of self-reported anxiety and depression, greater inconsistency in discipline, and lower warmth in the game with their children. These findings suggest there may be different pathways of influence for the two types of insecure attachments, thus necessitating unique intervention approaches. The research efforts for the larger study were funded by the Kentucky Statewide EPSCoR program and the Institute for Regional Analysis and Public Policy at Morehead State University.

**Project Dissemination:****Oral Presentation:**

Vance, R.K.L., Schulze, A.E., Vetter, S.L., & Kidwell, S.L., (2008, April), "Parenting Behavior and Attachment: An Examination Across Various Methods of Assessing Parenting," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Poster Presentations:**

Schulze, A.E., Vance, R.K.L., Kidwell, S.L., & Vetter, S.L., (2008, March), "Parental Attachment: Associations with Distress and Parenting Sensitivity," Kentucky Psychological Association, Louisville, KY, March.

Vance, R.K.L., Schulze, A.E., & Kidwell, S.L., (2007, November), "Parental Attachment: Associations with Distress and Parenting Sensitivity," Kentucky Academy of Sciences, Louisville, KY, November.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (Seniors Only):**

Accepted into Psy.D. program at Marshall University.

**BERNARD VOSS****Major:**

Psychology

**Faculty Mentor:**

Sean P. Reilley

**Research/Project Title:**

"The Impact of Test Anxiety on AD/HD Ratings"

**Project Abstract/Summary:**

Despite having a very productive freshman year in his fellowship, Mr. Voss resigned the position 4-weeks into the Fall, 2008 semester due to joining a fraternity. His fellowship was replaced with Cassie Watkins who was very productive during her fellowship year.

**Project Dissemination:**

N/A – fellowship resigned

**Awards/Honors:**

N/A

**CASSIE WATKINS****Major:**

Psychology

**Faculty Mentor:**

Sean P. Reilley

**Research/Project Title:**

"The Impact of Test Anxiety on AD/HD Ratings"

**Project Abstract/Summary:**

Attention Deficit Hyperactive Disorder (AD/HD) is a common, but frequently misdiagnosed psychiatric disorder in adults. Attention rating scales are commonly used in the diagnostic process for determining AD/HD. Few of these measures, however, have comparable clinical data which aid the clinician in discriminating between attention problems due to AD/HD and those which are secondary to other related psychiatric disorders, such as anxiety. As part of the fellowship, we extended current knowledge in this area by demonstrating the impact of test anxiety on scores from popular narrow and broad band AD/HD rating scales in college students. Three hundred college adults completed extensive psychosocial and academic history gathering questionnaires, the Wender Utah Rating Scale, the Test Anxiety Inventory, and several narrow band AD/HD Rating Scales (e.g., Adult AD/HD Self Report Scale-v1.1., Connors Adult AD/HD Rating Scales). As predicted, individuals' reporting high levels of test anxiety (1.5 standard deviations above norm), yielded significantly higher attention rating scores on narrow and broad band AD/HD rating scales in contrast to those with normal levels of test anxiety. In addition, the level of reported test anxiety among test anxious individuals was sufficient to yield false positive scores on narrow band AD/HD rating scales in the absence of any history of AD/HD. As part of the fellowship, Ms. Watkins received advanced training in research ethics via completion of the CITI on-line modules (required training for MSU faculty researchers), computerized data entry and analysis skills involving SPSS, and literature search and human data collection experience. She also received paper presentation and poster presentation experience at multiple local (Celebration of Student Achievement) State (Kentucky Academy of Science, Posters-at-the Capital, Kentucky Psychological Association), and national meetings (Association for Psychological Science). She was awarded 3rd place for her Kentucky Academy of Science presentation in the competitive undergraduate research competition. All of these experiences will enhance Ms. Watkins's research experiences and competitiveness for advanced undergraduate research work and graduate study in clinical/counseling psychology.

**Project Dissemination:****Published Abstract:**

Watkins, C., & Reilley, S.P., (In Press), "The Ability of the Wender Utah Rating Scale to Differentiate Among Mixed Symptoms of Major Depression, Anxiety Disorders, and AD/HD."

**Poster Presentations:**

Watkins, C., Dillow, J., & Reilley, S.P., (May, 2008), "High Test Anxiety Biases Narrow & Broad Band AD/HD Ratings," the Association for Psychological Science Meeting, Chicago, IL.

Watkins, C., & Reilley, S. P., (March, 2008), "Impact of Chronic Test Anxiety on CAARS Broad Band AD/HD Scales," Kentucky Psychological Association Meeting, Louisville, KY.

Watkins, C., Dillow, J., & Reilley, S.P., (January, 2008), "High Levels of Test Anxiety May Bias Scores on Popular Narrow Band AD/HD Rating Scales," Posters-at-the Capital Meeting, Frankfort, KY., and Celebration for Student Scholarship, Morehead State University, Morehead, KY, April.

**Oral Presentation:**

Watkins, C., & Reilley, S.P., (November, 2007), "The Ability of the Wender Utah Rating Scale to Differentiate Among Mixed Symptoms of Major Depression, Anxiety Disorders, and AD/HD," Kentucky Academy of Science, Louisville KY (awarded 3rd place in Undergraduate Research Competition).

**Awards/Honors:**

Awarded third place, Undergraduate Research Competition, Kentucky Academy of Science, Louisville, KY, November, 2007.

## SPACE SCIENCE CENTER

**DANIEL C. GRAVES****Major:**

Space Science

**Faculty Mentor:**

Thomas Pannuti

**Research/Project Title:**

"An X-ray Search for Supernova Remnants in the Nearby Spiral Galaxy NGC 247"

**Project Abstract/Summary:**

This project involved the analysis of archival X-ray observations made with the *XMM-Newton* Observatory of the nearby spiral galaxy NGC 247: for the purposes of comparison, archival X-ray observations made with the *Chandra* X-ray Observatory of a galaxy with a much higher star formation rate (NGC 253) were also analyzed. A total of three separate *Chandra* observations of NGC 253 were analyzed in detail: datasets for each observation of this galaxy were reduced and the standard source detection algorithm "wavdetect" was used to identify detected sources. We determined that the X-ray source population of NGC 247 was far more modest in size than the X-ray source population of NGC 253 (approximately 10 sources compared with other 80 sources, respectively). A catalog of X-ray sources in NGC 247 was prepared: the short exposure time (~5000

seconds) prevented a detailed analysis and a proposal for a much deeper observation of this galaxy with *Chandra* was submitted in March. We have commenced identifying sources in NGC 253 that were detected by multiple observations, performing spectral classification of the detected sources, searching for time-variability in the emission from the detected sources and finally searching for X-ray counterparts identified by prior optical and radio studies of this galaxy. The skills learned and developed included general Linux management, knowledge of phenomena in high energy astrophysics, and the use of a standard software package (CIAO) to reduce datasets from *Chandra* observations and running such tasks as source-detection algorithms as well as the extraction and subsequent fitting of spectra of discrete X-ray sources.

**Project Dissemination:**

**Poster Presentations:**

Graves, D. C. and Pannuti, T. G., (April, 2008),  
“*Chandra* Observations of the Nearby Starburst Galaxy NGC 253,” Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

Pannuti, T. G., Schlegel, E. M., Lacey, C. K., Filipovic, M. D., Short, A. J. and Graves, D. C., (June, 2008), “A *Chandra* Observation of the Nearby Sculptor Group Sd Galaxy NGC 45,” 212<sup>th</sup> Meeting of the American Astronomical Society, St. Louis, MO, June.

**Awards/Honors:**

N/A



# **INSTITUTE FOR REGIONAL ANALYSIS AND PUBLIC POLICY**

## **DANIELLE AKHLAGHI**

### **Major:**

Sociology/Geography with IRAPP Emphasis

### **Faculty Mentors:**

Timothy Hare and Christine McMichael

### **Research/Project Title:**

"Assessing the Relationships between Reportable Disease Incidence and Associated Factors in Kentucky"

### **Project Abstract/Summary:**

This project examined the nature of environment-disease relationships in both environmental and socioeconomic contexts across Kentucky for several gastrointestinal diseases. The specific objectives achieved include (1) gathering empirical climate, socio-economic, and disease data covering all of Kentucky and extending chronologically from 1991 through 2005, (2) assessing the historical and geographical patterns manifested by climatic characteristics, socioeconomic factors, and selected diseases in Kentucky, and (3) conducting a preliminary analysis of the relationships among the study variables. The study revealed geographical clusters of high and low incident rates and locations where multiple variables are strongly related. The identified patterns, such as incidence clusters and geographical relationships among variables were briefly inspected for statistical significance and the findings are expected to improve understanding of the linkages among climate, socioeconomic factors, and disease and help identify high-risk areas for disease outbreaks.

Perhaps the most important long-term contribution of this project was to construct a comprehensive database linking climate, socioeconomic, and morbidity variables. These data cover the entire state of Kentucky at the county level and are temporally aggregated at the monthly and yearly scales for 1991 through 2005. The database is stored on local workstations in standard geographical formats that facilitate mapping and statistical analyses for ongoing analyses.

### **Project Dissemination:**

#### **Poster Presentations:**

Ahadi-Akhlaghi, Danielle, Britney Y. Huron, Nick Rose, Timothy S. Hare, and Christine McMichael, 2008, "The Impact of Climate Variability on the Incidence of Gastrointestinal Disease in Kentucky," Poster-at-the-Capitol, Frankfort, KY.

Ahadi-Akhlaghi, Danielle, Britney Y. Huron, Nick Rose, Timothy S. Hare, and Christine McMichael, 2008, "Spatial Analysis of the Influence of

Climactic Factors on Incidence of Disease in Kentucky," 2008 Appalachian Studies Conference, Marshall College.

"Spatial Analysis of the Influence of Climactic Factors on Incidence of Disease in Kentucky," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

### **Awards/Honors:**

N/A

## **SUSAN BROWN**

### **Major:**

Environmental Science

### **Faculty Mentor:**

Brian Reeder

### **Research/Project Title:**

"Licking River Watershed Analysis"

### **Project Abstract/Summary:**

Susan has been involved with three projects: 1) Collection of stream samples to determine nutrient and pollutant loading in the Licking River watershed. This included operating autosamplers, flow measurements, maintaining and using multiparameter datasondes, keeping accurate logs of field and lab measurements and work, chemical analysis of water samples, and reporting data. 2) Susan helped a graduate student with her research on hatchery pond management, including collecting samples and performing diel measurements, water sample analysis, and summarizing data. This work resulted in a presentation at a regional scholarly meeting. 3) Susan has been active with the Center for Environmental Education, including helping with teacher workshops and Watershed Watch volunteer training, and participating in training workshops, resulting in her own certifications.

### **Project Dissemination:**

Nelson, C.S., B.C. Reeder, A. D. Haight, S.R. Brown, T. Platt, 2007, "Affects of Long-Term Organic Fertilization on Water Quality in Largemouth Bass (*Micropterus Salmoides*) Brood Ponds at Minor Clark Fish Hatchery, Kentucky," *proceedings of the annual meeting of the Ohio River Basin Consortium for Research and Education*, Miami, OH.

S.R. Brown, B.C. Reeder, C.S. Nelson, A.D. Haight, and T. Platt, 2007, "In Situ Measurements of Dissolved Oxygen (DO), pH, Conductivity, and Temperature in Minor Clark Fish Hatchery Ponds: Comparison of Electronic Probes from Two Manufacturers," *proceedings of the annual meeting of the Ohio River Basin Consortium for Research and Education*, Miami, OH.

### **Awards/Honors:**

N/A

## **AINSLEY E. LAMBERT**

### **Major:**

Sociology

**Faculty Mentor:**

Ed Reeves

**Research/Project Title:**

"The Gender Gap in 12<sup>th</sup> Grade Math Achievement"

**Project Abstract/Summary:**

This study investigated social factors perpetuating the gender gap in mathematic achievement among 12th grade high school students nationwide (N=12,543). For data, we used the nationally representative Educational Longitudinal Study Database:2002/04. After conducting an extensive literature review to determine the social factors that were identified by previous research, we chose the following variables for this study: the standardized math achievement test score, student gender, race/ethnicity, family socioeconomic status (a composite of family income, parents' highest education level, and parents' occupational prestige), the type of high school attended (private or public), and units taken in Algebra I, Geometry, Algebra II, Trigonometry, Pre-calculus, and Calculus courses. Six ordinary least squares multiple regression models were specified to determine which factors best accounted for girls' lesser performance in math. We found in this national sample that girls lagged behind boys an average of 1.5 points on the math achievement test. While this gap is not substantively large (0.15 standard deviation), it is very significant ( $p < .001$ ). The regression analyses also revealed that race and ethnicity, private school attendance, and family socioeconomic status influenced the achievement differences between boys and girls only to a small degree. The largest source of influence by far was that girls learn less mathematics in Geometry and Algebra II classes than boys. In fact, the differences between girls' and boys' learning in these specific subject areas accounted entirely for the significant gender gap in math achievement. The results appear to have identified a bottleneck in girls' math learning which occurred around the 9<sup>th</sup> and 10<sup>th</sup> grades. Those girls who successfully passed through the bottleneck and went on to take more advanced math courses were found to have a math achievement score that was on par with the boys' score. Our study could not fully diagnose the causes of the bottleneck because of limitations in the database. However, race/ethnicity, school type, and family socioeconomic status had little influence creating the bottleneck.

**Project Dissemination:****Oral Presentation:**

"The Gender Gap in Twelfth-Grade Mathematics Achievement," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2008.

**Awards/Honors:**

Application was made in November 2007 for a 2008 Kentucky Academy of Sciences Undergraduate Summer Research Grant. The grant would have allowed Ms. Lambert to continue working on the project with Dr. Reeves through the summer. As it turned out, only two KAS undergraduate summer grants were awarded statewide, both to biology students. Thus, despite a solid grant proposal, our effort was not successful.

**Post-Graduation Plans (Seniors Only):**

Ms. Lambert will seek a Ph.D. in Sociology after graduating from MSU.