

**Annual Report  
of  
Undergraduate Research Fellows**

**August, 2008 – May, 2009**

**Morehead State University**

# ANNUAL REPORT OF UNDERGRADUATE RESEARCH FELLOWS

August, 2008 to May, 2009

## 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 Programming: Management, Logistics, and Design focused on both practicum and theoretical concepts related to exhibition management manifesting in eight exhibitions both at MSU and in Lexington, and emphasized project management logistics, exhibition design including design and creation of wall text, exhibition and arts programming promotion, visiting artist hospitality and event oversight, public relations specific to visiting artists and scholars, and art handling, packing, and shipping. This fellowship was designed to fully prepare one to either enter directly into arts programming administration, gallery and/or museum work, or to obtain a graduate assistantship in a university gallery in pursuit of an M.F.A. The project's production manifested in exhibitions, lectures, book signing, student forums, exhibition materials, publicity in the Lexington Herald-Leader, Morehead News, and other regional news outlets. This project is supported by the Undergraduate Fellowship Program, the Department of Art, the Caudill College of Humanities, and the Hinkle Endowment for Humanities.

**Project Dissemination:**

**Exhibitions:**

Haywood, Laura and Reis, Jennifer, "I'm Not That Innocent Group Art Exhibition," Claypool-Young Art Gallery, August-September.

Haywood, Laura and Reis, Jennifer, "Ameri-Dreaming Group Art Exhibition," Claypool-Young Art Gallery, October.

Haywood, Laura and Reis, Jennifer, "2008 MSU Annual Art Faculty Exhibition," Claypool-Young Art Gallery, November – December.

Haywood, Laura and Reis, Jennifer, "Memento Mori: Contemporary Translations," Claypool-Young Art Gallery, January – February (even though Laura Haywood was not technically a UG at the time of the exhibition, she spent Fall 2008 coordinating all of the exhibition jurying and logistics).

**Article:**

Haywood, Laura and Reis, Jennifer, "Bluegrass Biennial 2008: A Juried Exhibition," Arts Across Kentucky, Fall, 2008.

**Columns:**

Haywood, Laura and Reis, Jennifer, "Gallery Guide," The Morehead News, August, 2008.

Haywood, Laura and Reis, Jennifer, "Gallery Guide," The Morehead News, October, 2008.

Haywood, Laura and Reis, Jennifer, "Gallery Guide," The Morehead News, November, 2008.

**Awards and/or Honors:**

N/A.

**Post-Graduation Plans (seniors only):**

Laura Haywood intends to begin working in either arts or higher administration by obtaining an entry level administrative assistant position with emphasis on information management.

#### KENDRICK HOLBROOK

**Major:**

Art

**Faculty Mentor:**

Joy Gritton

**Research/Project Title:**

"Eastern Kentucky Arts Project (EKAP)"

**Project Abstract/Summary:**

This project is in its third year of identifying and documenting arts resources and needs in Kentucky's Appalachian counties, beginning with the MSU service region. The Eastern Kentucky Arts Project (EKAP) seeks to nurture the visual arts of Kentucky's Appalachian counties by providing information on the region's arts-related resources. Information is gathered on practicing artists, arts-related groups, art instruction, exhibition and sales venues, public art and architecture, and special arts initiatives available within each county. The EKAP website will serve educators, students, artists, community planners, and other interested individuals working to strengthen Eastern Kentucky communities through the arts.

Drawing on information gathered through personal interviews, web searches, an electronic survey distributed to artists, and printed promotional literature, the project team (Undergraduate Research Fellow Kendrick Holbrook, Faculty Mentor Joy Gritton, and web designer Gloria Stepp) have identified resources for six new counties (as well as updating and revising the resources for the 22 counties previously completed), have devised standard templates for resources in each county, and have designed a new website ([www.ekap.org](http://www.ekap.org)) with greater capacity to feature community art work and improved navigation. This site will be easier to maintain and keep current, an important consideration given the scope of the project and the immediacy of the data. Resources include links to some 500 websites for artists, crafts people, and designers, public school teachers and programs, technical schools and universities offering arts instruction, cultural centers, museums, galleries, arts and crafts shows, community arts groups, public art, architecture, and special events and arts initiatives, as well as general information for each county. We are currently transferring all data from the old site to the new one (the Bath County text, though not the images, is complete and gives an idea of how the site will look and function).

In addition to an improved website and additional counties, EKAP has a new feature--oral histories of artists in the region. The first oral history was completed by MSU history student Kim Gibson on Rika Burchett from Floyd County. Kendrick and Kim presented their work on this collaboration at the Appalachian Studies Association conference in March. Kendrick was selected to present at the Posters at the Capitol event, but was unable to attend due to the severe weather in eastern Kentucky at the time.

For the immediate future the project will prioritize the following: (1) Expansion of data collection to the remaining 24 Appalachian counties in Eastern Kentucky. (2) Completion of the loading of data into new website (3) Identification of contacts in each county who can review the county page regularly for accuracy and provide updates on arts events and developments. (4) Solicitation of images from each county for the website (public art and architecture in the county, art work by students and adults, arts and crafts events, etc.). (5) Systematic analysis of data already collected with an eye towards identifying the role institutions of higher education may play in community development through the arts. Possible arts related service learning projects will be suggested.

**Project Dissemination:**

Website (currently being re-designed, see [www.ekap.org](http://www.ekap.org)).

**Oral Presentation:**

K. Holbrook, "Eastern Kentucky Arts Project," Appalachian Studies Association Annual Conference, Portsmouth, OH, March, 2009.

**Poster Presentation:**

K. Holbrook, "Eastern Kentucky Arts Project," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

Selected to present at the Posters-at-the-Capitol event.

**Post-Graduation Plans (seniors only):**

Kendrick will be beginning a career of public school teaching in the region once his coursework and student teaching are completed.

**CECILY HOWELL**

**Major:**

Art

**Faculty Mentor:**

Jennifer Reis

**Research/Project Title:**

"Thematic and Special Art Exhibitions and Programming"

**Project Abstract/Summary:**

Gallery and Exhibition Programming: Management, Logistics, and Design

The Undergraduate Fellowship in Gallery and Exhibition Programming: Management, Logistics, and Design focused on both practicum and theoretical concepts related to exhibition management manifesting in eight exhibitions both at MSU and in Lexington, and emphasized project management logistics, exhibition design including design and creation of wall text, exhibition and arts programming promotion, visiting artist hospitality and event oversight, public relations specific to visiting artists and scholars, and art handling, packing, and shipping. This fellowship was designed to fully prepare one to either enter directly into arts programming administration, gallery and/or museum work, or to obtain a graduate assistantship in a university gallery in pursuit of an M.F.A. The project's production manifested in exhibitions, lectures, book signing, student forums, exhibition materials, publicity in the Lexington Herald-Leader, Morehead News, and other regional news outlets. This project is supported by the Undergraduate Fellowship Program, the Department of Art, the Caudill College of Humanities, and the Hinkle Endowment for Humanities.

**Project Dissemination:**

The project's production manifested in exhibitions, lectures, book signing, student forums, exhibition materials, publicity in the Lexington Herald-Leader, Morehead News, and other regional news outlets.

**Awards and/or Honors:**

N/A

## WHITNEY SIBCY

**Major:**

Art

**Faculty Mentor:**

Emma Gillespie Perkins

**Research/Project Title:**

"Classrooms with a View: Community-based Visual Arts Education"

**Project Abstract/Summary:**

Cross cultural image development and community service through the arts provides rich opportunities for pre service teachers. This research includes subject matter development for murals, collaboration challenges, universal issues of marginalized groups and issues of poverty. Service learning through the arts is explored as a pedagogy of community populations and social issues. The work of and communication with Latina activist, Judy Baca is utilized as a model for community pedagogy.

**Project Dissemination:**

**Presentations:**

W. Sibcy, "Arts and Service Learning: A Mural Collaboration with Judy Baca," Kentucky Art Education Association Conference, Louisville, KY, October, 2008.

W. Sibcy and E. Perkins, "Urban Meets Rural Art Advocacy: Latin and Appalachian Mural Making," National Art Education Association Convention, Minneapolis, MN, April, 2009.

Ongoing project: Mural for Gateway Homeless Shelter.

**Poster Presentation:**

W. Sibcy, "Urban Meets Rural Art Advocacy: Latin and Appalachian Mural Making," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Whitney is a graduate P-12 eligible teacher. She is applying for positions in Ohio, her home state, but has also applied for graduate school and a graduate assistantship in the art department. If she attends graduate school, she will continue with the arts community outreach.

## KARRI SMITH

**Major:**

Art

**Faculty Mentor:**

Bobby Campbell

**Research/Project Title:**

"The Altered Anatomies Project: The Moving Body in Animation"

**Project Abstract/Summary:**

This project facilitated student work in the creative production of a professional level animation project. The student and professor developed

hand-drawn, frame-by-frame animated sequences that were extended with the special capabilities of Adobe Illustrator, Adobe Flash and Adobe Premiere software. These sequences focused primarily on creative sequences of figurative movement. In the future, each of the sequences will be combined, remixed or edited into final animations to be submitted for entry in animation competitions. The project extended the student's brainstorming, drawing, sequencing and animating abilities and broadened her professional opportunities by providing focused experience through a competitive studio project. At the completion of the year, the student had finished a 1 minute 30 second animation composed primarily of hand-drawn frame-by-frame sequences suitable for entry into animation contests. This project has been supported by the MSU Undergraduate Research Fellowship program.

**Project Dissemination:**

**Poster Presentation:**

K. Smith and B. Campbell, "The Altered Anatomies Project: The Moving Body in Animation," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Karri will graduate in Spring of 2010. Her current plans are to seek employment as a designer/ animator with an advertising agency.

## DEPARTMENT OF COMMUNICATION AND THEATRE

### GARY CORNETT

**Major:**

Communication/Production

**Faculty Mentor:**

Deborah Plum

**Research/Project Title:**

"Get Fit: Body, Mind, and Spirit"

**Project Abstract/Summary:**

Five episodes of a student-targeted television show on fitness were produced for the Morehead State University on-campus television station. These episodes presented information to the students on nutrition, exercise, goal-setting, motivation, and mental wellness. The material presented in these shows was developed with the aid of Morehead State Wellness Center staff and was intended to help improve student health and wellness. Production work was done in the studios of Breckinridge Hall. This included engineering, shooting, and digital editing. The show airs at various times throughout the week on Channel 77

of MSU's cable system. This project was supported by an MSU Undergraduate Research Fellowship.

**Project Dissemination:**

**Oral Presentation:**

G. Cornett and D. Plum, (2009, April), "Get Fit: Body, Mind, and Spirit," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

The television show was broadcast during the Spring semester 2009 on the campus channel 77.

Episodes of the show could also be submitted to student video competitions.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Mr. Cornett plans to take a job in the broadcast television industry.

**DAVID GILLUM**

**Major:**

Communication

**Faculty Mentor:**

Michael Moore

**Research/Project Title:**

"Assessment of Oral Communication: A Review and Explication of Principles and Practices"

**Project Abstract/Summary:**

The National Communication Association (NCA) has commissioned the preparation of a comprehensive review of scholarship on the assessment of oral communication for publication in the association's journal *Communication Education*. This study is a component of the comprehensive review and is focused specifically on establishing a database of scholarly papers on communication assessment presented at National Communication Association conferences since 1973. The study requires a review of both online and hard copy convention programs, identifying conference papers that meet specific keyword criteria and entering the relevant information into a bibliographic management system (RefWorks). 220 conference papers were identified that meet the keyword criteria and entered into the RefWorks bibliographic management database. This will be merged with bibliographic data gathered from national and regional journals and other relevant publications and subjected to a thematic content analysis.

**Project Dissemination:**

**Poster Presentation:**

D. Gillum and M. Moore (2009), "Assessment of Oral Communication: A Review and Explication of Principles and Practices," Posters-at-the-Capitol, Frankfort, KY, February.

**Awards and/or Honors:**

N/A

**MATTHEW HATFIELD**

**Major:**

Electronic Media

**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:**

This panel discussed the creation, production and distribution of MSU-TV's production *Kaleidoscope*. The mission of *Kaleidoscope* (bi-monthly television program) is to create cultural awareness on the campus of Morehead State University and throughout the local community. This program has explored the experiences and ideas of individuals of diverse backgrounds including professionals, instructors, minority students, international students, and administrators. This programming is an excellent recruiting and retention tool because it is available online and it offers leadership opportunities to minority students

**Awards/Honors:**

N/A

**KRISTIN HAUSSTEIN**

**Major:**

Comm. AD/PR and Sociology

**Faculty Mentor:**

Robert Frank

**Research/Project Title:**

"Propaganda and Communication in the German Democratic Republic"

**Project Abstract/Summary:**

Today the word propaganda, particularly in the German cultural sphere, brings to mind the Nazi and communist forms of government that controlled public communication in Germany during much of the twentieth century. According to

scholars such as Grothe and Murty Propaganda is understood to be a one-sided and false means of communication, intended not to inform, but to manipulate the public mind.

Agit-prop, abbreviated from the Russian agitatsiya propaganda, defines the political strategy in which the techniques of agitation and propaganda are used to influence and mobilize public opinion. The Soviet Union and East Germany with its leading Socialist Unity Party (SED) used propaganda as a way to disseminate communist revolutionary ideas and teachings of Marxist-Leninism, while agitation meant the stirring up of public unrest and forming favorable opinions of certain ideological beliefs through speeches and special actions. Agitational activities were strongly encouraged as they acted on the dissemination of ideas such as communism, social class values among the classes, and political education (Barghoorn, 1964). In order to understand the German Democratic Republic (DDR), one must know the methods used through which the SED exerted political, social, and economic power over its people and shaped public opinion. Besides the obvious use of force, there are more subtle means of influence and control. Withdrawing information and limiting communication play an important role in this control and tend to be more effective than physical force, threats and oversight. Nevertheless, language is most often used as a tool of power and manipulation.

This paper examines how the SED-regime used Schlagwörter (catchwords) such as Imperialismus and Kommunismus, to inform the masses of an issue. This essay will contend that these catchwords were frequently subjected to crass simplification of facts and were often questionable in accuracy and truth. According to Picaper (1976) Schlagwörter are used subconsciously to elicit certain reactions and beliefs which become manifested in the listeners' minds over time.

#### **Project Dissemination:**

##### **Oral Presentations:**

- K. Hausstein and R. Frank, "Communication and Propaganda in the German Democratic Republic, Southern States Communication Association's Annual Convention," Undergraduate Research Conference – competitively selected essay in a blind review.
- K. Hausstein and R. Frank, "Communication and Propaganda in the German Democratic Republic," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.
- K. Hausstein and R. Frank, "Communication and Propaganda in the German Democratic Republic," Paper selected for the Camden-Carroll Library's Award for outstanding undergraduate research paper this year and won a \$500 prize. As the

winner, the paper is placed on the library's website.

#### **Awards and/or Honors:**

Winner of the Camden-Carroll Library Undergraduate Research Award (\$500).

## **AMANDA ROMITO**

#### **Major:**

Advertising and Public Relations

#### **Faculty Mentor:**

Janet Rice McCoy

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

"More than Cookies?: The Image of Girl Scouting in Eastern Kentucky"

"Life Lessons Learned from a Service-Learning Literacy Project"

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

#1 - Girl Scouts USA are currently introducing new program materials with a more succinct focus on developing girls as leaders. In the process, they are recreating their "brand" in the public's perception. Using surveys, this study examined what external publics in Kentucky currently know about the Girl Scouts beyond cookies sales and what type of programming they believe is important for today's girls. Over 600 paper and pencil surveys were conducted and a snowball email survey is currently underway. The final results will be tabulated this summer when Ms. Romito takes an independent study and writes her final results. These results will be presented to the Communications Committee for the Girl Scouts of Kentucky's Wilderness Road Council.

#2 - The Adult Learning Center was founded to promote literacy and learning in Morehead, Kentucky and the surrounding county. The service-learning project "Rowan County Reads" was created to support their mission. Students in public relations courses at Morehead State University applied the program planning skills they learned in the classroom to support this literacy project in their community. Using textual analysis, this study explores civic engagement from the students' perspectives through an analysis of their reflective journals. Student reflections clustered around three primary themes: working on teams, the impact of communication on success, and career development. This study was supported by a MSU Undergraduate Research Fellowship. The actual service-learning project has been supported by literacy grants from the Honor Society of Phi Kappa Phi (2007 and 2008) and a Student Civic Engagement Grant from MSU's Center for Regional Engagement (2008).

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

A. Romito and J. McCoy, (2009), "Life Lessons Learned from a Service-Learning Literacy Project," Gulf South Summit on Service-Learning and Civic Engagement through Higher Education, Baton Rouge, LA, March.

**Poster Presentation:**

A. Romito, (2009), "Life Lessons Learned from a Service-Learning Literacy Project," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

Awarded "Student Civic Engagement Grant" to help implement a spring 2009 event for the Girl Scouts of Kentucky's Wilderness Road Council (September, 2008)

Received "Excellence in Civic Engagement Award" for community service while in college (September, 2008)

Awarded "Outstanding Student on Public Relations" by MSU Department of Communication and Theatre (April, 2009).

**Post-Graduation Plans (seniors only):**

Ms. Romito wants to work in the nonprofit sector. Has applied and is interviewing for: (1) position as the Youth Coordinator at two Catholic churches in the Louisville area; and (2) Vista volunteer with the service-learning program at the University of Louisville.

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

English

**Faculty Mentor:**

Ann Andaloro

**Research/Project Title:**

"Hear Me Roar: MSU-TV Production"

**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 project was presented bi-monthly on MSU-TV. Segments were posted on MSU-TV's Website.

**Awards and/or Honors:**

Invited to Posters-at-the-Capitol.

Submitted for National Broadcast Society Video Competition.

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

N/A

**NYSHAI TAYLOR****Major:**

TV Production

**Faculty Mentor:**

Ritta Abell

**Research/Project Title:**

"Kaleidoscope"

**Project Abstract/Summary:**

KALEIDOSCOPE: A bi-monthly television program aspired to create cultural awareness on the campus of Morehead State University through the interchange of ideas, thoughts and activities sponsored by the MSU community to include discussion of diverse cultural issues among participants throughout the campus and regional community (produced 5 TV shows spring semester 2009). Feb 11- MSU-University President & SGA President participated on our show. Feb 25<sup>th</sup>- Islander Theme: Students who are from different islands (i.e. Bahamas, Jamaica, etc.) participated on the show sharing their experiences while here on MSU campus. March 11<sup>th</sup> Interracial Dating was the topic discussed among a diverse group of students. April 1- Active Black Greek organizations participated on our show. April 15<sup>th</sup> Theme: Internalized Racism, MSU students of color discussed how the shades and hues of Black people are internalized.

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

Taylor, N. and Abell, R. (2009, April),  
 "KALEIDOSCOPE: Campus Television (Channel  
 77) as a Canvas for Multicultural Awareness and  
 Creativity at Morehead State University,"  
 Celebration of Student Scholarship, Morehead  
 State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**Awards and/or Honors:**

N/A

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

**RYAN ANDERSON****Major:**

Art/Creative Writing

**Faculty Mentor:**

Crystal Wilkinson

**Research/Project Title:**

"Innovation and Collaboration: The Intersection of  
 Visual Art and Creative Writing"

**Project Abstract/Summary:**

This project explored the intersection of visual art and creative writing at MSU. Ryan will worked with Professor Wilkinson to research the ways in which other universities have effectively utilized the collaboration of art and creative writing with goals to replicate those most successful findings at MSU. Activities included an image/word project Reverse Ekphrasis which involved a collaboration of MSU and Morehead community visual artists and creative writing students; Ryan worked as a liason between the art and literary communities on campus and increased the visual aesthetic of Inscape (where he served in the newly created position of design editor for the publication). He also used his graphic arts skills to produce flyers, posters and a web presence for both Inscape and for the culminating Reverse Ekphrasis celebration which included an art exhibit featuring artworks from visual artist who were given a piece of writing to respond to and a celebratory reading in the Main Gallery of the Art Building. Ryan professionally installed the art exhibit and hosted the reading. The Reverse Ekphrasis Art Exhibit was featured in the Strider Gallery of the Claypool-Young Art Building from April 21-May 1 and the literary reading was held at 7 p.m. April 23 in the Main Gallery of the Claypool Young Building. Participants included professors, students and community artists and writers. Those participating included the student and his mentor; Carl Gibson, Cecily Howell, Chris Prewitt, Brittany Smith, Kyle May, Patrick White, Stacey Greene, Rebecca Howell, Matthew Vetter, Ashleigh Mullins, Brandon Massengill, Sean Corbin, Carl Albright, Chris Holbrook, Adam Doran, George Eklund, and others. Ryan served as the MC for this event.

**Project Dissemination:**

Completed layout and art design for *Inscape*, MSU's literary magazine.

**SAVANNAH VARBLE****Major:**

Electronic Media

**Faculty Mentor:**

Tim L. Creekmore

**Research/Project Title:**

Webmaster for MSU-TV, and Supervisor of the  
 Media Production Team Making MSU Promotional  
 Videos 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 2008 and the Spring of 2009, Savannah supervised two group of production students responsible for the production of 65 total MSU promotional videos and public service announcements. These 30 second videos are used as commercials in the student produced programs airing on MSU-TV. Savannah also maintained the MSU-TV website, which included posting updates about each program and its producers, as well as creating and uploading streaming video versions of each weekly produced program to the site, thereby allowing access to our programs from anywhere in the world. The website provides continuous publicity and recruiting potential for the Department of Communication and Theatre.

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

S. Varble and T. Creekmore, (2009 April), "MSU-TV Webmaster and MSU promotional videos & PSAs", Celebration of Student Scholarship, Morehead State University, Morehead, KY, April 2009.

**MSU-TV Website:**

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

The thirty-second MSU promotional videos that run during commercial breaks in all MSU-TV programming. Fall 2008, MSU campus cable channel 77, Monday through Thursday from 5:00 p.m. to 8:00 p.m. Spring 2009, MSU campus cable channel 77, Tuesday through Thursday from 5:00 p.m. to 8:00 p.m. Available for viewing at <http://www.moreheadstate.edu/msutv>.



**Exhibitions:**

2009 Reverse Ekphrasis Exhibition and Celebration, April –May, 2009, Strider Gallery, Claypool-Young Building; Work included in the exhibit was Ryan's visual art based on his mentor Crystal Wilkinson's writing and writing by Carl Gibson. Ryan also served as the master of ceremony for the celebration reading held in April, 2009, in the Main Gallery of the Claypool-Young Gallery.

**Awards and/or Honors:**

N/A

**LAUREN DECKER****Major:**

Art Education/French

**Faculty Mentor:**

John R. Secor

**Research/Project Title:**

"Child Soldiers and Childhood in French African Literature"

**Project Abstract/Summary:**

In central and west Africa since the 1990s, civil war, tribal strife and ethnic cleansing have been a constant and continuous threat to communities, families, individuals. For the numerous survivors, the singular task of coping with the atrocities committed proves to be a daunting struggle, let alone the process of healing and teaching the next generation about their broken history. The question we seek to answer is this: How is literature (written, musical, cinematographic) dealing with the issue of genocide, and how do authors (writers, musicians, film-makers) present violence to younger readers through storylines and corresponding illustrations? This study investigates the healing of peoples and cultures through literature and art, using three children's books: *\_Charley en guerre\_*, *\_L'enfant de la guerre\_* and *\_Aissata et Tatihou\_* as a foundation for learning.

As a humanistic study, it is difficult to quantify the ongoing results of this project. However, over the course of the year, and in the process of discussions about the vast implications of genocide in Africa, several more focussed topics came to light: (1) the influence of American war films, such as "Rambo," on child soldiers, (2) the promotion of a Peace Movement through popular West African music, and (3) the development of an interdisciplinary course and/or student symposium on issues in modern Africa.

Tangentially, students in Secor's Honors 102 class sponsored a public screening of a film about the crisis in Darfur this semester. Seventy-six students and staff attended the showing, which indicates that there is strong interest in Africa on this campus. This supports the development of topic #3 above.

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

L.Decker, (2009), "Teaching and Learning About Children Victimized by War in French Adolescent African Literature," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**THERESA LANG****Major:**

Teaching/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 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.
- 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 last year enabled 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 Presentations**

"Developing and Enhancing English Education Professional Development and Aid," Kentucky Council of Teachers of English/Language Arts Annual State Conference, February, 2009.

T. Lang and K. Mincey, (2009), "Developing and Enhancing English Education Professional Development and Aid," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Teaching and/or graduate school

"Transgressive Translation: Putting Words into Eve's Mouth in the Old French Drama *Le Jeu d'Adam*," *The Kentucky Philological Review*, 21 (2007): 40-46.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Rachel was accepted at The University of Oklahoma as a candidate for a doctorat in psychology that will encompass models of parenting (an aspect of this current research) and children's acquisition of language.

**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 involved a study of the various representations of femininity in the French Middle Ages. Starting with the presentation of the Mary/Eve dichotomy, the project researched representations of these two characters and archetypes in selected texts, both literary and architectural. Comparisons were 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 aimed at broadening and explicating the modern, reductive view of femininity and its archetypes in the French Middle Ages.

**Project Dissemination**

Research on the first two chapters of the book based on this project were presented at SAMLA (the South Atlantic Modern Language Association) conference, SEMA (the South Eastern Medieval Association) and KP A (the KY Philological Society).

This year we finished discussion of Chapter 3 and I submitted an article representing our work to *The Cincinnati Romance Review*.

Future plans are to publish the book with a scholarly press.

**Oral Presentation**

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

**Poster Presentation**

R. Messer and K. Taylor, (2009), "Archetypal Women: Representations of the Female in French Medieval Literature," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Publications:**

"Maternal Mediatrix or Violent Virgin? How the French Middle Ages Read the Role of Mary." Accepted September 2007 for publication, *The Kentucky Philological Review*.

**ALEX SCHULZ****Major:**

English

**Faculty Mentor:**

Chris Holbrook

**Research/Project Title:**

"Development, Enhancement, and Documentation of the MSU Creative Writing Program and Creative Writing Community"

**Project Abstract/Summary:**

Developing, enhancing and documenting the efforts, effectiveness, value and production of the Creative Writing Program and the Student Creative Writing Program at MSU. Activities included: editorial management of *Inscape* with the goal of further refining the process of the journal's production (working with a large *Inscape* staff comprised both of literary and design editors as well as writing a detailed evaluation of and guidelines for the production process); involvement with the organization and facilitation of extra curricular creative writing activities at MSU (communicating with visiting authors, conducting written interviews with authors and arranging for or conducting audio and visual recordings of creative writing events); facilitating open mike events for student authors and acting as liaison for the MSU Creative Writing Community, and participation in additional activities conducted by the MSU creative writing program.

**Project Dissemination:**

The results of this project were, and will continue to be, disseminated in several ways.

A manual outlining the editorial process of the undergraduate arts and literature journal, *Inscape*, has been created and will be made available to future editors of *Inscape*.

The journal, *Inscape*, was produced and printed through Alex's tenure as Managing Editor.

Video recordings of creative writing events (readings and panel presentations) have been made and will be incorporated into the MSU Creative Writing Website now in development. These videos will serve as an enhancement of the Creative Writing program and help provide information for prospective students in the Creative Writing program.

**Oral Presentation:**

A. Schulz and C. Holbrook, (2009), "Development, Enhancement and Documentation of the MSU Creative Writing Program and Student Creative Writing Community," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Alex Schulz has been accepted to the Masters of Fine Arts degree program at Memphis University in Memphis, TN. The work he did with this project directly relates to the study and activities he will be engaged in at the graduate level.

## **DEPARTMENT OF GEOGRAPHY, GOVERNMENT, AND HISTORY**

**ERIC BOOS****Major:**

Government

**Faculty Mentor:**

Ric Caric

**Research/Project Title:**

"Was Jesus Too Radical for Socialism?"

**Project Abstract/Summary:**

The student performed research in a variety of sources in the history of ideas on Jesus and capitalism, including the Bible, a proto-socialist Philadelphia newspaper, Andrew Carnegie, and contemporary mergers and take-overs. As the project developed, the student focused more on the views of Jesus toward wealth and capitalism than the original topic of Jesus and socialism. His core thesis was that Jesus condemned wealth and would have strongly condemned capitalism as an economic system. The student found that Andrew Carnegie's views were somewhat closer to those of Jesus because Carnegie stressed the need to use wealth to contribute to society. However, he argued that contemporary American capitalism focuses so much on the accumulation of wealth that it would have been strongly condemned by Jesus.

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

E. Boos, "Jesus, Wealth, and Capitalism: Analysis of Capital and its Relationship to Jesus," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Mr. Boos currently plans to apply for graduate school during the 2009-2010 academic year.

**AMELIA CONWAY****Major:**

Paralegal Studies

**Faculty Mentor:**

William Green

**Research/Project Title:**

"The Odyssey of Depo-Provera: The Politics of Pharmaceutical Risk"

**Project Abstract/Summary:**

The odyssey of Depo-Provera began when the Upjohn Company received Food and Drug Administration (FDA) approval to test the drug for contraceptive use in 1967. In 2008-2009, my research, with Amelia Conway's assistance, explored the 25 period from 1967 to 1992 when the FDA approved the drug for contraceptive use. During this time, our research investigated the state medical malpractice and products liability issues raised by its non-FDA approved contraceptive use and the constitutional criminal legal and civil liberties issues raised by its non-FDA approved criminal use in state courts as a sentencing alternative for sex offenders. In sum, this research has provided a collective and comprehensive examination of the politics of pharmaceutical risk in our federal system. In 2009, I propose to continue this research by exploring legal questions raised by its post-approval contraceptive and criminal justices uses.

**Project Dissemination:**

N/A

**Awards and/or Honors:**

N/A

**ERIK HALE****Major:**

History

**Faculty Mentor:**

Adrian Mandzy

**Research/Project Title:**

"Battlefields, War and Memory"

**Project Abstract/Summary:**

Created a museum exhibit on Mt. Sterling and The War (1914-1945) for the Mt. Sterling Historical Society, Conducted an analysis of the materials recovered from the Blue Licks Battlefield Survey, Wrote and submitted a Final Phase IA and IB Project Report of the Blue Licks Battlefield Survey to Kentucky Parks and the Kentucky Heritage Council.

**Project Dissemination:****Publication:**

E. Hale and A. Mandzy, "Is a Battlefield Ever Truly Lost? – Blue Licks and the Question of Impact," special edition of the *Middle Atlantic Archaeological Journal*.

**Oral Presentation:**

E. Hale and A. Mandzy, "Is a Battlefield Ever Lost? – Blue Licks and the Question of Impact," joint paper, Middle Atlantic Archaeological Conference, Ocean City, MD.

**Poster Presentation:**

E. Hale and A. Mandzy, (2009), "Is a Battlefield Ever Lost? – Blue Licks and the Question of Impact," Posters-at-the-Capitol, Frankfort, KY, February.

**Awards and/or Honors:**

N/A

**ERIC PATTON****Major:**

Geography

**Faculty Mentor:**

Jason Holcomb

**Research/Project Title:**

"Wheat Harvesting and International Migration in the Great Plains"

**Project Abstract/Summary:**

This year's focus continued to be on collecting data regarding use of international labor by custom harvesting operations in the Great Plains. The principle investigator and undergraduate fellow mailed an updated questionnaire to all members of the U.S. Custom Harvesters Association Incorporated (USCHI) based in Hutchinson, KS. Dr. Holcomb used internal grant funds to pay for associate membership in the USCHI and travel to its annual convention in Topeka, KS. At the convention Dr. Holcomb disseminated information about the research project, talked with labor placement business owners and custom harvesters. So far the questionnaire has yielded a response rate of 21 percent. The questionnaire may also be completed on an Internet Survey Website, which will remain open throughout this year. Approximately twenty-five survey respondents indicated a willingness to continue with the project, which should result in additional data collection.

Survey respondents provided useful information about the shortage of Americans willing to do this seasonal work and numerous explanations for the current labor problem. Problems cited were Commercial Driver's License requirements for truck drivers, the seasonality of the work that precludes many college students from doing the fall harvest work, the shrinking farm population, depopulation in the Great Plains, a poor American work ethic, insurance policies that do not insure employees under the age of twenty-one, and several others. Labor shortage is not new to the Great Plains, as this sparsely populated region has always required a large workforce for the short period of the summer harvest season. Dr. Holcomb and Mr. Patton found additional source materials documenting the historical harvest labor

problems dating back to the late 19<sup>th</sup> century. But, like other agricultural businesses, custom harvesting now increasingly relies on labor from South Africa, Australia, New Zealand, Romania, Denmark, Argentina, Ukraine, Switzerland, Germany, and other countries. A recent development is the United States Government in early 2009 placed restrictions on the number of labor sending countries, thus further limiting the harvest labor supply for 2009. Mr. Patton discovered a very important source of H2-A Visa "disclosure data" that reveals all businesses that applied for and were granted H2-A Visas for 2006, 2007, and 2008. This data shows that over one thousand H2-A seasonal agricultural worker visas were sought and granted to custom harvesters for each of the years listed. The data also reveal that labor shortage is common throughout the United States and in a multitude of agriculture-related businesses, from bee keeping to horticulture work to sheep herders. As a result of this discovery, Dr. Holcomb will present a broader overview of American farm labor at an AAG regional meeting in the fall of 2009. Dr. Holcomb will complete a manuscript toward the end of the summer of 2009, with a focus on custom harvesting labor, and submit it to one of three peer-reviewed journals.

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

E. Patton and J. Holcomb, "International Labor, Custom Harvesting, and the H2-A Visa: wither American Farm Labor?" Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Forthcoming:**

E. Patton and J. Holcomb, "American Farm Labor and the H2-A Visa Program," Annual Meeting of the Great Plains/Rocky Mountain Division of the Association of American Geographers, Utah State University, Logan Utah.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Eric Patton graduated in May of 2009 and is currently seeking employment in a field that uses Geographic Information Systems. He plans to work for awhile and then attend graduate school.

**CHRISTOPHER WISEMAN****Major:**

History/Social Studies

**Faculty Mentor:**

Kris DuRocher

**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," under contract for by the University Press of Kentucky for

publication. During the 2008-2009 year, Chris helped pursue the final avenues of research as requested by the editor for the remaining three chapters. In addition to participating in primary and secondary source research, Chris did proofreading, copy-editing, fact-checking and some copyright work for the photographs. As a result, the chapters requiring new research were written and revised, leaving only minor edits in the remaining chapters before the manuscript goes to the press in August 2009.

**Project Dissemination:**

**Outcomes for Chris Wiseman**

**Oral Presentations:**

"History Written with Lighting: The Second Rise of the Invisible Empire," The Robert & Susan H. May Student Humanities Conference, Longwood University, Farmville, VA, March, 2009.

"On Screen Masculinity: The Birth of a Nation and the Second Rise of the Invisible Empire," Phi Alpha Theta Conference, Eastern Kentucky University, Richmond, KY, April, 2009.

C. Wiseman and K. DuRocher, (2009), "History Written with Lighting: The Second Rise of the Invisible Empire," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Outcomes for Dr. Kristina DuRocher**

**Publications:**

"Violent Masculinity: Ritual and Performance in Southern Lynchings, 1877-1939," in *Southern Masculinity: Perspectives on Manhood in the New South*, ed. Craig Friend, University of Georgia Press, February, 2009.

Book Review: Susan C. Cahn, "Sexual Reckonings: Southern Girls in a Troubling Age," published in the *Journal of Southern History*, Fall, 2008.

**Awards and/or Honors:**

For the Fall of 2008 Chris was the recipient of the Dr. George T. Young Memorial Scholarship, demonstrating departmental recognition for his excellence as a student and young researcher.

**Project Abstract/Summary:**

A cornerstone of the clarinetist's repertoire, Wolfgang Amadeus Mozart's quintet for clarinet and strings, K 581, was written near the end of Mozart's life, and it displays some of his most mature writing. Full of complex weaving of the musical line from instrument to instrument and delicate and refined treatment of the clarinet voice, this work creates an intimate setting displays true chamber writing. Divided into four movements, the quintet explores a range of textures and melodies. It begins in the beautiful first movement marked Allegro (written in Sonata-Allegro form). The second movement is a Larghetto. It is very slow and lyrical, and includes a short cadenza-like passage for the clarinet. The third movement is in Minuet and Trio form. An unusual feature of this movement is the inclusion of two different trios, one with only the strings playing, and one which includes the clarinet. The fourth movement is in a lively Theme and Variations, employing changes of instrumentation, key, and melody in its set of variations, which provide a pleasant and clear conclusion to this well-crafted work. This research was supported by an MSU Undergraduate Research Fellowship.

**Project Dissemination:**

**Oral Presentations:**

T. Bailey, "Mozart and the Clarinet: A Study of Mozart's Clarinet Quintet in a Major, k. 581," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

T. Bailey, MSU Clarinet Studio in Performance Class, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Student plans to pursue a position as a high school music educator with the possibility of beginning graduate work in musicology or music theory while continuing clarinet study.

## DEPARTMENT OF MUSIC

### TIMOTHY BAILEY

**Major:**

Music Education

**Faculty Mentor:**

Lori Baruth

**Research/Project Title:**

"Mozart and the Clarinet: An In-Depth Study of Wolfgang Amadeus Mozart's Quintet for Clarinet and Strings, K.581"

### NICHOLAS C. BREINER

**Major:**

Music Performance

**Faculty Mentor:**

Jeanie Lee

**Research/Project Title:**

"The Influence of Choral Music in Trombone Literature through Arranging and Performing"

**Project Abstract/Summary:**

The project involved researching the use of choral works in trombone literature. In addition to gathering information on the history of arranging

choral works for trombone, Mr. Breiner supplemented his project by arranging Joseph Martin's "The Awakening" for 8 part trombone choir. "The Awakening was originally written for SATB choir with piano or orchestral accompaniment. Mr. Breiner also premiered this work with MSU's Trombone Choir in four performance venues: a lecture recital on MSU's student recital, a performance on the MSU Trombone Choir's Spring Concert, MSU's 4th Annual Trombone Day, and the MSU Celebration of Student Scholarship.

**Oral Presentations:**

A lecture recital on MSU's Student Recital.  
MSU's Trombone Choir's Spring Concert.  
MSU's 4<sup>th</sup> Annual Trombone Day.  
"The Influence of Choral Music in Trombone Literature through Arranging and Performing,"  
Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

The privilege of having my work performed on MSU's 4<sup>th</sup> Annual Trombone Day with guest artist, Douglas Yeo. I am currently discussing the possibility of publication of my work with Shawnee Press.

**Post-Graduation Plans (seniors only):**

Graduate school. I plan on pursuing a master's in music performance.

**KEVIN M. CALLIHAN, JR.**

**Major:**

Music Education

**Faculty Mentor:**

Stacy Baker

**Research/Project Title:**

"New Concert Transcriptions, Arrangements, and Compositions for Tuba/Euphonium Ensemble"

**Project Abstract/Summary:**

This project focused on creating effective new concert transcriptions and arrangements of works chosen from public domain or with permission of copyright holders as well as new original compositions premiered in concert by the Morehead State University Tuba/Euphonium Ensemble. The challenge in writing for instruments that share the same tessitura lies in maintaining balance between melody and accompaniment. The process of discovering effective scoring to address this issue involved experimenting with featuring the euphonium as a solo instrument accompanied by brass quintet. Building a broader concert repertoire for Tuba/Euphonium Ensemble through the creation of new transcriptions, arrangements, and original compositions fostered greater interest in the like-instrument ensemble as a viable performance medium. This project included four successful performances/presentations: J.D. Handshoe's Sophomore Euphonium Recital; The MSU

Celebration of Student Scholarship; MSU Tuba/Euphonium Ensemble Spring Concert with live recording; and MSU Music Department Student Recital. This research was supported by MSU Undergraduate Research Fellowship.

**Project Dissemination:**

**Performances:**

- K.M. Callihan & S.A. Baker (2009, April), "New Concert Transcriptions, Arrangements, and Compositions for Tuba/Euphonium Ensemble, Premier Performance of "Amelioration," Euphonium soloist, J.D. Handshoe assisted by Horizon Brass, Sophomore Euphonium Recital, Morehead, KY, April, 2009.
- K.M. Callihan & S.A. Baker (2009, April), "New Concert Transcriptions, Arrangements, and Compositions for Tuba/Euphonium Ensemble," performance presentation by MSU Tuba/Euphonium Ensemble, Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.
- K.M. Callihan & S.A. Baker (2009, April), "New Concert Transcriptions, Arrangements, and Compositions for Tuba/Euphonium Ensemble," performance at MSU Tuba/Euphonium Ensemble Spring Concert, Morehead, KY, April, 2009.
- K.M. Callihan & S.A. Baker (2009, April), "New Concert Transcriptions, Arrangements, and Compositions for Tuba/Euphonium Ensemble," performance presentation by MSU Tuba/Euphonium Ensemble and Horizon Brass at MSU Music Department Student Recital, Morehead, KY, April, 2009.

**Awards and/or Honors:**

Selected to present at the Morehead State University Celebration of Student Scholarship.

**JUSTIN CROUSHORE**

**Major:**

Music Education

**Faculty Mentor:**

Jeanie Lee

**Research/Project Title:**

"The History and Compositional Trends in Trombone Solo Literature from the Baroque Period to the Present"

**Project Abstract/Summary:**

The use of the trombone as a solo instrument has seen great changes in the past centuries. With this research project, Mr. Croushore has shown how the role and demands of the trombone soloist have changed since the first known solo for trombone, "La Hieronyma", was written by Giovanni Cesare in 1621. He has also shown compositional trends in trombone use, related to different musical periods. He conducted detailed research on a representative solo from each

musical period and prepare each solo for performance culminating in a lecture recital that combined verbal explanation of the significant changes in trombone solo literature with live performance of the works. This performance, along with many other opportunities to present his findings, proved to be equally entertaining and full of rich and interesting information for the audiences at all presentations.

**Project Dissemination:**

**Oral Presentations:**

N. Breiner, J. Croushore, K. Callihan, R. Shimizu, S. Hanson, J.D. Handshoe, R. Elswick, J. Burks, R. Miller and J. Lee, (2009), "The Influence of Choral Music in Trombone Literature through Arranging and Performing," MSU's Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

A full lecture recital in Baird Music Hall with all solos in their entirety.

A condensed lecture recital during the student recital hour in Baird Music Hall with excerpts from the solo literature.

**Awards and/or Honors:**

Mr. Croushore's research and prepared works were asked to be presented and performed at MSU's Celebration of Student Scholarship, an opportunity for the school to show some of the most outstanding projects that have been working on. He also presented in a solo recital setting to high praise.

**MALLORY DRAUGHN**

**Major:**

Music Education

**Faculty Mentor:**

June Grice

**Research/Project Title:**

"The Correlation between Howard Gardner's Theory of Multiple Intelligences and Various University Majors"

**Project Abstract/Summary:**

During year I (2007-2008), the philosophy of the research was that the cognitive framework of musicians' brains may use different intelligences as compared with the general population. The national survey representing Howard Gardner's research with the Theory of Multiple Intelligences was delivered to music education students and education majors at Morehead State University. This research provided data showing that music majors view themselves higher than others in almost all area of intelligences.

During year II (2008-2009), the research was expanded to include art and physical education majors at the University level. This data showed the differences in perceptions of how the students

perceived themselves. There were differences in the perceptions depending on the area.

Conclusions were shared at the Celebration Day at Morehead State University and there is a projected article for scholarly publication.

**Project Dissemination:**

**Poster Presentation:**

M. Draughn and J. Grice, (2009), "Results of Howard Gardner's Theory of Multiple Intelligences and the Correlations between Three University Groups," Celebration of Student Scholarship, Morehead, State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Ms. Draughn plans on teaching in the public schools or graduate school.

**MOLLY MAYNARD**

**Major:**

Theatre

**Faculty Mentor:**

Greg Detweiler

**Research/Project Title:**

"I Want to Make Magic: The Importance of Acting for the Vocal Performer"

**Project Abstract/Summary:**

This research project focused on the relationship between theatre and music. By using exercises cited in the book "Acting One" by Richard Cohen and referencing theories from Tom Carter's "Choral Charisma", Ms. Maynard worked to improve the quality of performance for the vocal performer. She learned that by teaching and utilizing acting techniques to the choral singer that not only will the performer improve in vocal technique, but also gave a more commanding and honest performance that will energized and inspired an audience. The research was tested during the Choir's 2009 Spring Concert Tour, and at each venue the audience members commented overwhelmingly about their appreciation of the choir's expressiveness.

**Project Dissemination:**

**Oral Presentation:**

M. Maynard and G. Detweiler, (2009), "I Want to Make Magic: The Importance of Acting for the Vocal Performer," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

One of the greatest achievements made by the researcher and her mentor was their submission and acceptance as Clinicians at the 2010 Kentucky Music Educators Association Professional Development Convention. They will be using what they've learned over the past year and new insights from the coming school year to present a workshop based on The Importance of Acting for the Vocal Performer.

## **SARA SIPES**

### **Major:**

Music Performance

### **Faculty Mentor:**

Nathan Nabb

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

"Developing Interpretation: Understanding Contemporary Saxophone Repertoire through Gestalt Principles and Cognitive Science"

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

The Gestalt Theory deals with how information is processed. The total picture is viewed with patterns or as a whole rather than as distinct component parts combined to create information. Fred Lerdahl used the Gestalt theory to analyze tonal music. The process of grouping is the most basic component of music understanding. Using grouping, rhythmic analysis, metrical structure, and reduction, performers are given a way to perceive a piece of music as an entire picture. To listeners, contemporary music is a different subject. The typical person has trouble understanding the intricacies of contemporary music and as a result have no understand of it. Through analysis and performance, I will apply the Gestalt Theory to contemporary music in order to give listeners and performers a better understanding of this type of music.

### **Project Dissemination:**

#### **Oral Presentation:**

S. Sipes and N. Nabb, (2009), "Developing Interpretation: Understanding Contemporary Saxophone Repertoire through Gestalt Principles and Cognitive Science," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

### **Awards and/or Honors:**

N/A

## **JOEY THIEMAN**

### **Major:**

Jazz BM

### **Faculty Mentor:**

Paul Taylor

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

"Genesis of a Transcription: Voice to Trumpet"

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

The composition of a transcription of an original vocal/piano score to one for trumpet and piano requires the author to make a thorough analysis of the composition so that the transcription adequately reflects the essence of the original work. This must occur due to the inevitable re-composition of some portions of the original work to accommodate the transcribed version. In this case, the revisions were caused by the inherent differences between the genres. These differences included 1) Finding ways to allow the trumpet to perform lyrically while also playing

"piano" 2) Developing a lyrical sense of rubato to mimic a vocal style 3) re-writing the piano accompaniment to support the generally louder tone of the trumpet.

### **Project Dissemination:**

The work "Late Love" composed by Paul Taylor and edited by Joey Thieman for trumpet and piano was performed in November of 2008 in a public recital in Baird Music Hall with mention on the program that this performance was a direct result of the UGF project. It was also advertised in over 150 newspapers, and on public radio.

### **Awards and/or Honors:**

N/A

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

## **MICHELLE FIORE**

### **Major:**

Sociology

### **Faculty Mentor:**

Bernadette Barton

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

"Lesbian and Gay Perceptions of Felt and Enacted Stigma: Religion and Homosexuality in the Bible Belt"

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

This quantitative study focuses on the extent, frequency and degree in which certain types of stigma happen to gay and lesbian persons in the Bible Belt. The region of the United States known as the "Bible Belt" covers most southern states and stretches north to Missouri, and west to Texas. Using results from an online survey, this poster 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 reported. The survey's responses show the levels of hate, sexual and violent crimes (Enacted). Respondents reported being evicted from their homes, and losing their jobs just because of their sexual orientation. Others reported being abused, or having their homes vandalized. Informants also answered questions about their perceptions of support from various institutions (Felt). Some reported that they were not supported by friends or family and felt unwelcome in places of worship. Over 70% of gays and lesbians grew up in a religion that criticizes homosexuality. The data shows that gay men experience more physical and sexual violence than lesbians do. The vast majority of participants believe that their sexual orientation matters to others in the Bible belt. This



poster examines gay and lesbian perceptions of the effects of felt and enacted stigma on homosexuals living in a staunchly conservative, religion-based environment.

**Project Dissemination:**

**Poster Presentations:**

Fiore, M., Barton, B. and Swank, E. (2009), "Lesbian and Gay Perceptions of Felt and Enacted Stigma: Religion and Homosexuality in the Bible Belt," Posters-at-the-Capitol, Frankfort, Kentucky, February.

Fiore, M., Barton, B and Swank, E., (2009), "Lesbian and Gay Perceptions of Felt and Enacted Stigma: Religion and Homosexuality in the Bible Belt," Eastern Sociological Society in Baltimore, MD, March.

Fiore, M., Barton, B. and Swank, E. (2009), "Lesbian and Gay Perceptions of Felt and Enacted Stigma: Religion and Homosexuality in the Bible Belt," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**ANSLEY LAMBERT**

**Major:**

Sociology/IRAPP

**Faculty Mentor:**

Eric Swank

**Research/Project Title:**

"Social Class and Role Immersion among College Students"

**Project Abstract/Summary:**

This study grounds itself in the Social Reproduction theory of education. This model asserts that educational processes are largely conservative forces that maintain class boundaries. Schools mostly provide the sort of information and cultural capital that keeps children in the same social class as their parents. On topics of issues of funding, school curriculums and tracking biases, schools also impart a sense of belonging. Many social reproduction studies are qualitative and focus on why poor and middle class students never graduate from middle school or high school. This study is quantitative and addresses the disenfranchised youth who currently attend colleges in Kentucky. In creating a stratified sample (n=339) of college students at four types of colleges, (research university, private liberal arts, comprehensive university, and regional state university), this study uses regression to determine whether or not students from poor and working-class backgrounds feel comfortable in their current student role. Stated otherwise, are college students from lower socio-economic standings more likely to feel "out-of-place" or like an "imposter" than students who grew up in more affluent families?

We found that the large majority of college students do a lot of pretending in college. Our theoretical model was much better at explaining the plight of

poor and affluent students. Demographic variables do not explain much of the variance for pretending. The only significant coefficient was women in the the upper incomes pretended more (indicating a gender power difference for people from higher class standing). Race and parent's education were never significant.

Interactions with class overtones were occasionally significant: poor students felt less comfortable when other students ignored their economic hardships and assumed that they could afford middle class expenditures; poor students did not seem to be affected by classist statements about the poor (assuming that classist statements were even made in front of low income students); higher income students pretended more when they recognized classist comments by their schoolmates.

Class perceptions were more important only for lower and higher incomes. Class salience was important for lower and higher income students which suggests the poorer and more affluent students feel less comfort at college when they think others are routinely thinking about the respondent's social class.

School type was mostly irrelevant. Student's pretending did not vary for lower and middle class students at the different college types. Upper income students, however, showed less comfort in large public universities than their brethren who were at private liberal art colleges.

**Project Dissemination:**

**Oral Presentation:**

"Class Backgrounds and Students Sense of Belonging at College," 79<sup>th</sup> Eastern Sociological Society Annual Conference, Baltimore, MD, March, 2009.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Student will graduate December 2009. Plans include graduate school continuing the study of sociology.

**COLLEGE OF BUSINESS**

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

**AMIR AHMADI**

**Major:**

Math/Finance

**Faculty Mentor:**

Thomas A. Creahan

**Research/Project Title:**

"Using Mathematica to Develop Animations and Demonstrations to Facilitate Learning Economic and Mathematical Concepts"

**Project Abstract/Summary:**

This proposed Undergraduate Fellowship will provide Mr. Amir Ahmadi the opportunity to learn Mathematica and to work with Dr. Tom Creahan in his ongoing research, including developing computer applications to demonstrate economic concepts. The research will utilize Mathematica, a mathematical and technical computing program. The primary goal of this program is collaboration in the publication or presentation of extensions of Dr. Creahan's ongoing research program. Dr. Creahan has used Mathematica to generate graphics for Flash presentations for exposition or pedagogical uses. The latest version of Mathematica offers a significant new feature that allows variables to be manipulated by several mechanisms, for example, by slider bars, with real time continuous rendering of the graphics. This new functionality can be manipulated with Mathematica Player. Expository applications of the programs will be especially useful in teaching courses with mathematical content, such as ECON/MNGT 300, Quantitative Methods in Business and Economics. This fellowship will enable Mr. Ahmadi to develop expertise in Mathematica. These skills will be valuable in his own academic development as well as providing input into the proposed research. Mr. Ahmadi will also assist in literature review and will be involved in developing research strategies.

**Project Dissemination:**

As a result of this fellowship, Amir has published two demonstrations on the Wolfram Demonstrations Project website (<http://demonstrations.wolfram.com/index.html>). They are "Optimization of Cobb-Douglas Function" and "Comparison of Trigonometric Functions."

**Oral Presentations:**

"Demonstrating Economic Concepts with *Mathematica* to Facilitate Learning: Econ Made Easy," Kentucky Mathematics Association Conference.

A. Ahmadi and T. Creahan, (2009), "Demonstrating Economic Concepts with *Mathematica* to Facilitate Learning: Econ Made Easy," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

"Demonstrating Economic Concepts with *Mathematica* to Facilitate Learning: Econ Made Easy," College of Business Student Showcase.

**Awards and/or Honors:**

Amir's presentation at the CoB Student Showcase won the "Best Mixed Media" Award in the Business and Technology Category. This slide show presentation was created within

Mathematica and displayed in Mathematica Player. The presentation uses interactive graphics and audio narration to explain the Cobb-Douglas production function.

**ERICA BELMONT****Major:**

Management

**Faculty Mentor:**

Janet Ratliff

**Research/Project Title:**

"College Student's Knowledge of Basic Personal Finance: Who Knows What and What Do We Need to Know"

**Project Abstract/Summary:**

This study tests the personal financial knowledge of students prior to and after taking a personal finance course in the spring semester of 2008 at a regional university in Kentucky. Overall knowledge of the subject matter improves with education; however, the effect of family background of personal financial knowledge was found to be statistically significant when compared to pre test and post test scores. In addition, practitioners and professionals contribute knowledge accumulated from years of experience in the field of finances to recommend that educators focus on teaching the most basic concepts of personal finance to achieve the most significant impact to improve students' lives.

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

J. Ratliff and E. Belmont, "College Student's Knowledge of Basic Personal Finance," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Poster Presentations:**

J. Ratliff and E. Belmont, "College Student's Knowledge of Basic Personal Finance: Who Knows What and What Do We Need to Know?" Annual Posters-at-the-Capitol, Frankfort, KY, February, 2009.

J. Ratliff and E. Belmont, "College Student's Knowledge of Basic Personal Finance: Who Knows What and What Do We Need to Know?" National Council for Economic Education Annual Conference, Biloxi, MS, October, 2009.

**Awards and/or Honors:**

N/A

**NICHOLAS K. CHRISTY****Major:**

Accounting

**Faculty Mentor:**

Ali Ahmadi

**Research/Project Title:**

"The Role of Income Inequality, Drug Use, and Educational Attainment in Crime for Kentucky Counties"

**Project Abstract/Summary:**

The purpose of this research was to investigate the role of drug use, income inequality and level of education in the rates of crimes in Kentucky. Using data gathered from the US Census Report in 2000 as well Kentucky crime data from Kentucky State Police Crime in Kentucky Annual Report for 2000, this study tested a Multiple Regression Model by regressing the Crime Rate, the dependent variable, as a function of the Gini Index, Percentage of population more than 25 years with 4 year degrees and the number of drug arrests per county, as independent variables. The result of the study indicated that income inequality and number of drug arrests play a significant role in the number of crimes in Kentucky. The third variable, level of education does play a significant role but the role is counter-intuitively positive. This may have to do with the fact that higher education is more prevalent in the more urban areas of the state where the crime rate is, in general, higher and relatively more cases of crime may be reported. Additionally, those with higher education and income are expected to have home and property insurances; this will require them to report any theft, leading to higher rate of reported crimes in their communities.

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

"The Role of Income Inequality, Drug Use, and Educational Attainment in Crime for Kentucky Counties," National Social Science Association's Annual Conference, Las Vegas, NV, April, 2009.

N. Christy and A. Ahmadi, (2009), "The Role of Income Inequality, Drug Use, and Educational Attainment in Crime for Kentucky," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

The Paper will be submitted for presentation at the Kentucky Economic Association's Annual Meeting in October 2009.

The paper will also be submitted for publication for one of a few good prospects for publication in economic journals this summer.

**Awards and/or Honors:**

Best Undergraduate Research Award at the College of Business, May, 2009.

**Post-Graduation Plans (seniors only):**

Kyle is contemplating pursuing graduate studies after passing his CPA exam. Kyle became interested in pursuing graduate studies after getting involved with research.

**DEPARTMENT OF MANAGEMENT,  
MARKETING, AND REAL ESTATE****STEVEN FIFE****Major:**

University Studies

**Faculty Mentor:**

Brian Whitaker

**Research/Project Title:**

"The Individual and Organizational Antecedents of Moral Imagination"

**Project Abstract/Summary:**

This project got off the ground during the Fall, 2008 semester and is an ongoing data collection effort. Steven helped with collecting literature, but because he could only help for a little over two months, he wasn't exposed to all aspects of the research process. Below is a summary of the research.

Due to the surge of recent business ethics scandals, many researchers have begun to investigate the possibility of influencing organizational processes in order to develop research-based solutions for promoting and fostering moral awareness, workplace integrity, and internal codes of ethics. To date, a dearth of research exists investigating the individual and contextual antecedents of moral imagination - an important individual difference variable that has been found to influence creative and ethical problem solving ability.

Building on and extending prior research on moral imagination (e.g., Seabright & Schminke, 2002; Moberg & Seabright, 2000), this study seeks to contribute to the research literature by providing guidance to organizations with regard to the selection of employee with a predilection towards moral imagination.

Using a scenario-based and survey design, this project involves requiring participants to identify important ethical issues and recommend courses of action based for an business-related ethical situations. Participants are also be surveyed with respect to several important personality variables. The goal of the research is to better understand those individual differences and organizational elements that contribute to one's moral imagination.

The initial literature review has been completed. At this stage, scenario and questionnaire design have begun. Following this, data collection will begin.

**Project Dissemination:**

N/A

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Steven has been accepted into the MBA program and is currently completing classes toward his degree.

**JOHN DUSTIN HIGH****Major:**

Marketing

**Faculty Mentor:**

Michelle Kunz

**Research/Project Title:**

"The Role of Social Networking Media in Retailer's Marketing Strategy toward a Clearer Definition of Cross-Channel and Multi-Channel Shopping: the Same, but Different?"

**Project Abstract/Summary:**

To assist Michelle Kunz with research, literature review, statistical analysis, and paper/proposal development on two current projects:

I am currently working on two conference papers for the Academy of Marketing Science/American Collegiate Retailing Association Triennial Retailing Conference, next fall. One paper will focus on analyzing how retailers are currently using social network media/marketing activities such as Facebook, MySpace, YouTube, etc. The second paper is a content analysis of current literature on multi-channel/cross-channel shopping, with the intention of clarifying terms often used interchangeably. The deadline to submit is June 1, so this project needs to be completed by the end of this spring semester.

Each paper will require a literature search, as well as review of literature, paper development, writing and submission. While I have the basic concept and direction for each paper, both are just in the formative stage, with some initial gathering literature and pertinent data, so there is much to do in a relatively short time. Furthermore, even the title of the paper needs to be critically reviewed and finalized. AMS/ACRA encourages graduate student research, and an undergraduate student research assistant's work with a faculty mentor will readily be accepted at this conference.

Update: Dustin has completed all of his assigned work: literature search, review of literature, as well as overall summary analysis from his perspective. I am currently working with Peggy Osborne on finalizing the conference papers and readying them for submission/review to the AMS/ACRA conference. Submission deadline is June 1, and we will have them completed on or before that date to submit for conference review/consideration.

**Project Dissemination:**

Conference papers submitted to AMS/ACRA Triennial Conference – Submission Deadline: June 1, 2009; Conference September/October 2009.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Dustin will graduate in December, 2009. He is currently trying to obtain a position at St. Claire over the summer, with the hope it will be an internship. He is investigating graduate schools, and seriously considering healthcare management. His purpose for the summer job is to ascertain for sure if this is the direction he wants to go upon graduation.

**BRANDON LEISHMAN****Major:**

Business/Accounting

**Faculty Mentor:**

Lindsey Godwin

**Research/Project Title:**

"Exploring the Impact of Codes of Ethics on Behavioral Intentions in the Workplace"

**Project Abstract/Summary:**

Although there has been a surge of interest in creating and promoting corporate codes of ethics in the aftermath of recent corporate scandals. Yet, the big question still looms: "Do codes actually affect behavior?" Prior research has provided mixed answers for this question. As such, this research sought to further explore the impact of codes of ethics on employees' intentions to engage in ethically questionable behaviors. Using an experimental design based on Ford, Gray and Landrum's original study (1982), we manipulated the attribution of behaviors as to being either within or outside the scope of an organization's code of ethics to determine the impact such attribution has on the respondent's reported likelihood to engage in that behavior. While findings suggested that the provisions of an ethical code do not necessarily determine ethical intentions, we did find that respondents were least likely to report an intention to engage in ethically questionable behavior when the behavior was specifically prohibited by a company's code of ethics. Also, the mere reminder of a code of ethics being present in an organization (even if it did not specifically prohibit the behavior in question) was found to have a positive impact on reported ethical intentions.

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

L. Godwin and B. Leishman (2009, April), "Exploring the Impact of Codes of Ethics on Behavioral Intentions in the Workplace," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

L. Godwin, and B. Leishman (2009, February), "Exploring the Impact of Codes of Ethics on Behavioral Intentions in the Workplace," Posters-at-the-Capitol, Frankfort, KY.

**Paper Presentation:**

L. Godwin and B. Leishman (2009), "Exploring the Impact of Codes of Ethics on Behavioral Intentions in the Workplace", Accepted for paper presentation at the Annual Society for Business Ethics Conference, Chicago, IL, August, 2009.

**Awards and/or Honors:**

N/A

**NATHAN MILLS**

**Major:**

Chemistry

**Faculty Mentor:**

Fatma Mohamed

**Research/Project Title:**

"The Relationship between Innovation and Economic Performance is a One-Way or a Two-Way Self-Reinforcing Relationship: A Dynamic Perspective"

**COLLEGE OF EDUCATION**

**DEPARTMENT OF CURRICULUM AND INSTRUCTION**

**HEATHER FLYNN**

**Major:**

Secondary Education

**Faculty Mentor:**

Lesia Lennex

**Research/Project Title:**

"Marketing, Access, and Design Toward Recruitment and Retention of Teacher Education Candidates Using an NCATE Accreditation Online Artifacts Room"

**Project Abstract/Summary:**

National Council for the Accreditation of Teacher Education (NCATE) is a state-required continuing accreditation for the College of Education. Dr. Lennex is the NCATE Web Manager for the 2010 accreditation visit. In planning the site for successful reviews, extensive research in the Rehabilitation and Workforce Act section 508 toward site access for all users, marketing, learning objects, Web programming, and graphic design will be necessary to ensure the vision of the NCATE site. The planned site will include marketing, recruitment, retention, and house all documents necessary to succeed in the teacher education programs, graduate and undergraduate. It is intended that Ms. Flynn will be able to assist in marketing research, design of the NCATE site,

and implement Web programming features necessary for section 508 compliance. Although the site framework will be in place Fall 2008, the research and its implicated transformations will occur throughout 2009, 2010.

**Project Dissemination:**

**Publications:**

Lennex, L. Swetnam, B. and Flynn, H. (2010), "The Online Exhibit Room: Complement to NCATE Accreditation," *Technology Leadership in Teacher Education: Integrated Solutions and Experiences*, Dr. Christian Penny, ed., London: IGI Publishing., under review.

Lennex, L. and Flynn, H. (2009), "Wisely Using Cyberspace: Needs Analysis of P-12 Teacher Web Pages," *Journal of Technology and Teacher Education*, under review.

Lennex, L. and Flynn, H. (2009), "Wisely Using Cyberspace: Needs Analysis of P-12 Teacher Web Pages," In C. Crawford et. al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2009* (pp. 3473-3480), Chesapeake, VA: AACE.

**Poster Presentation:**

Flynn, H. and Lennex, L. (2009), "Communication and Social Dynamics of Web Space Within Educational Constructs P-16," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

Ms. Flynn has made significant research contributions to our NCATE Web site with her work on languages, culture, and Internet perceptions.

**Awards and Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Ms. Flynn has switched majors from English Education to English. She will be completing her English degree in December.

**BRITTANY HERRERA**

**Major:**

Learning and Behavior Disorders (P-12) and Elementary Education (P-5)

**Faculty Mentor:**

Kimberly Nettleton and Sara Lindsey

**Research/Project Title:**

"A Chance to Read: A Possible Solution to Reading Fluency Problems"

**Project Abstract/Summary:**

Every day, millions of children go to school just to sit in their chairs overwhelmed with a sense of confusion. These are the children who suffer from dyslexia. An official definition for this disorder has not yet been given because there is believed to be many different types of dyslexia. However, it has been shown that this disorder revolves around brain abnormalities. This research focuses on dyslexia and reading fluency. Schools participating in the study identified students whose reading fluency was below grade level. Identified

students were examined to determine if the RAD Prism could provide positive intervention. The effect of RAD Prisms on reading fluency is the main focus of this project. A new assistive device, created in Kentucky, the RAD Prism has been used by over 1300 people, who claim significant improvement in reading fluency.

The quantitative study was designed to determine if the RAD Prism is an effective assistive device for struggling readers. Students participating in the study were fitted and provided with a RAD Prism. Students were asked to wear them during reading instruction.

At the end of this school year, pre and post study data will be evaluated to measure and document improvement in reading fluency that may have occurred. The results will be analyzed and used to attract new participants and gain a deeper understanding of this facet of dyslexia and the possible relief of one of its damaging aspects.

**Project Dissemination:**

**Poster Presentations:**

Herrera, B. and Nettleton, K. and Lindsey, S. (2009, February), "A Chance to Read: A Solution to Reading Fluency Problems," Posters-at-the-Capital, Frankfort, KY, February, 2009.

Herrera, B. and Nettleton, K. and Lindsey, S. (2009, April), "A Chance to Read: A Solution to Reading Fluency Problems," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

N/A

levels in a college population. Trend data indicated no difference in PA between the wearers and the non-wearers (less than 1,000 and 1200 steps noted between the two groups). Based on the limitation that most of the subjects represented a homogenous group (i.e. current exercisers), a more heterogenous subject pool has been identified and are subjects in a follow-up study. Support for this project provided through the UG research Fellowship.

**Project Dissemination:**

**Poster Presentations:**

Conklin, C. and Griffith, C., "Immediate Vs. Delayed Feedback On Step Count and The Effect on Physical Activity," Kentucky Association for Health, Physical Education, Recreation and Dance (KAHPERD), Louisville, KY, October, 2008.

Conklin, C., "Immediate Vs. Delayed Feedback On Step Count and The Effect on Physical Activity," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (Seniors only)**

Student is making applications to Graduate School.

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

### **CHRISTOPHER CONKLIN**

**Major:**

Exercise Science

**Faculty Mentor:**

Gina Blunt and Jennifer Dearden

**Research/Project Title:**

"Use of the Body Media SenseWear Pro in Physical Activity Research in a College Population"

**Project Abstract/Summary:**

Sedentary lifestyle is a major health concern in the US and the state of Kentucky. Lack of physical activity (PA) is linked to obesity and a variety of other chronic diseases. A major limitation of physical activity research is a valid and reliable outcome measure to energy expenditure in free living conditions. The Body Media SenseWear Pro 3 Armband (BMSPA) is an instrument that measures a variety of physiological data to compute energy expenditure. The pilot study utilized the BMSPA as an outcome measure to test behavior theory to increase physical activity

### **SARA FITZPATRICK**

**Major:**

Health and Physical Education

**Faculty Mentor:**

Monica Magner and Gina Blunt

**Research/Project Title:**

"Using Gaming Technology to Promote Physical Activity in Middle School Students"

**Project Abstract/Summary:**

The Martin County on the Move (MCOTM) Project is focused on reducing obesity and the risk of obesity by increasing physical activity in middle school students. The HPC, created by Humana, Inc. seeks to increase activity by incorporating student fitness and gaming technology. The HPC is an online game where students create an avatar, track their progress and see their steps online. Steps are calculated and uploaded wirelessly using an actiped, an accelerometer attached to students' shoes. The actipeds were an important part of the study; however, they created some technology issues. This study outlines benefits and drawbacks of gaming technology and the effects it has on physical activity.

**Project Dissemination:**

**Poster Presentation:**

S. Fitzpatrick and A. Sexton, "Using Gaming Technology to Promote Physical Activity in Middle School Students," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

N/A

## **DANIEL F. LORENZ**

### **Major:**

Sport Management

### **Faculty Mentor:**

Julia Ann Hypes/Michael Hypes

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

"Guidelines for Administering a Little League Baseball Program: Safety First"

### **Program Abstract/Summary:**

The project is the result of a qualitative research study with a document analysis methodology conducted over the last three years. Phase I of the project was a comprehensive review and categorization of all Little League negligence cases. The Phase II document analysis narrowed the legal transcripts into categories indicative of landmark cases. Little League Baseball rules and regulations were analyzed and changes to those rules and regulations as impacted by the landmark case decisions were noted. Phase III concludes with identifying risk management best practices and their integration into Little League Baseball. A little league baseball facility model and supporting facility management plan was developed to illustrate areas of risk. A manuscript and legal case analysis have been submitted for consideration in professional journals.

### **Project Dissemination:**

#### **Poster Presentation:**

D. Lorenz, J. Hypes and M. Hypes (2009, April), "Guidelines for Administering a Little League Baseball Program: Safety First," Celebration of Student Scholarship, Morehead State University, Morehead, Ky, April, 2009.

#### **Awards and/or Honors:**

N/A

#### **Post-Graduation Plans (seniors only):**

Daniel is completing his internship this summer and hopes to either attend graduate school beginning Spring 2010 or pursue a career in sport/physical activity facility management.

## **AMY SEXTON**

### **Major:**

Exercise Science

### **Faculty Mentor:**

Gina Blunt/Monica Magner

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

"Using Gaming Technology to Promote Physical Activity in Middle School Students"

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

The Martin County on the Move (MCOTM) Project is focused on reducing obesity and the risk of obesity by increasing physical activity in middle school students. The HPC, created by Humana, Inc. seeks to increase activity by incorporating student fitness and gaming technology. The HPC is an online game where students create an avatar, track their progress and see their steps online. Steps are calculated and uploaded

wirelessly using an actiped, an accelerometer attached to students' shoes. The actipeds were an important part of the study; however, they created some technology issues. This study outlines benefits and drawbacks of gaming technology and the effects it has on physical activity.

### **Project Dissemination:**

#### **Poster Presentation:**

S. Fitzpatrick and A. Sexton, "Using Gaming Technology to Promote Physical Activity in Middle School Students," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

#### **Awards and/or Honors:**

N/A

#### **Post-Graduation Plans (seniors only):**

Amy is planning to become a Physical Therapist and is applying to Physical Therapy School for the fall semester.

## **STEPHANIE TEATER**

### **Major:**

Sport Management/Paralegal Studies

### **Faculty Mentor:**

Steve Chen

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

"Perceptions of Students, Faculty, and Administrators on Pregame Tailgate Parties in a State Regional University"

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

#### **Project 1:**

This study examines the collegiate students' motives for attending athletic events and their perceptions on creating a student incentive program to reward student participation. Based on the responses from 224 participants, the students primarily attend the events due to free of charge and social gathering functions. Bad weather and time-conflict are the key barriers to hinder student attendance. Unlike their female counterparts, the male participants' were more likely to be drawn to the games due to excitement and entertainment, instead of pricy gift items. To further increase the student participation for the events, the athletic department must actively reward those who travel a greater distance to attend or spend more money on athletic merchandises. Practical strategies for implementing a reward program are further discussed.

#### **Project 2**

This study presents administrative and marketing-related information on how the Kaohsiung City prepares for 2009 World Games, which is the first major international sport competition held in Southern Taiwan. A qualitative research method was utilized to interview the Chief Executive Officer and Marketing Director of KOC, along with

other city councilmen. In addition, information on promotional strategies and activities, projected financial and sales data, reports on constructions, and issues and challenges related to the Games were further documented and analyzed. In conclusion, the researchers will address the unique aspect of the “non-profit organization” approach as many of the East Asian Countries have adopted to host a major sport event. Recommendations on increasing the commercialized activities and minimizing the potential political conflicts are discussed to ensure the best operation of the Games.

**Project Dissemination:**

**Project 1**

**Poster Presentation:**

Teater, S., & Chen, S. (2009, April), “Student Fans’ Motives for Attending Athletic Events and Perceptions on a Student Incentive Program,” Celebration at Student Scholarship, Morehead State University, Morehead, KY, April.

Two presentation proposals based on Project 1 and 2 have been submitted for a review. If they are accepted, they will be presented in the 2009 Annual Sport Marketing Association Conference in Cleveland, OH in November.

**Awards and/or Honors:**

Student was honored during the College of Education Award Luncheon as a Undergraduate Research Fellow.

grown in OH were evaluated. The main objective of the study was to identify the specific isolate responsible for phytophthora resistance in soybean for obtaining high yields. The Rps1c-containing isolines obtained high yields in field observations and were determined to be phytophthora resistant. An assessment of acreage in KY and the U.S. was conducted to determine the significance of no-till agriculture. There are many benefits to no-till agriculture and at present, about 80% of the tillable acreage in KY is planted using no-till technology. In the U.S., the goal is for 60% of the tillable acres to be planted via no-till technology. Due to savings in energy and in lowering carbon dioxide emissions, a significant amount of the global acreage is expected to move quickly to no-till technology.

**Project Dissemination:**

**Poster Presentations:**

K.A. Dillon, J.M. Phillips, T. Wistuba, D. Steiger, K. Poling, D. Neiling, D. Eggers and T. Platt (2009), “Comparison of Phytophthora Tolerance between Rps1c and Rps1k Isolines in Soybean, American Society of Agronomy,” Southern Branch, Graduate Poster Competition, Atlanta, GA, February, 2009.

K.A. Dillon, J.M. Phillips, T. Wistuba, D. Steiger, D. Neiling, D. Eggers and T. Platt (2009), “Comparison of Phytophthora Tolerance between Rps1c and Rps1k Isolines in Soybean,” Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

K.A. Dillon, and J.M. Phillips (2009), “No-Till Agriculture,” Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

Third Place, Graduate Student Research Paper Competition, Agronomy Section, American Society of Agronomy Southern Branch Annual Meetings, February, 2009.

**Post-Graduation Plans (seniors only):**

Accepted into the M.S. program in Crop and Soil Sciences at Mississippi State University under the direction of Dr. Tim Walker.

**COLLEGE OF SCIENCE AND TECHNOLOGY**

**DEPARTMENT OF AGRICULTURAL AND HUMAN SCIENCES**

**KEVIN DILLON**

**Major:**

Agribusiness

**Faculty Mentor:**

J. Michael Phillips

**Research/Project Title:**

“Comparison of Phytophthora Tolerance between Rps1c and Rps1k Isolines in Soybean”

**Project Abstract/Summary:**

Phytophthora is a foliar disease that is common to soybean. It is commonly found where soybean is grown in heavy, clay soils and especially where cold, wet environmental conditions persist in the late spring and early summer months. This study was initiated in 2006 and concluded in 2008 where several hundred soybean isolines commonly

**LATISSA O’CULL**

**Major:**

Veterinary Technology

**Faculty Mentor:**

Phil Prater

**Research/Project Title:**

“Incidence of Bovine Viral Diarrhea Virus – Persistent Infection in Kentucky Cattle”

**Project Abstract/Summary**

Bovine Virus Diarrhea (BVD) is a devastating disease of all cattle. The disease reduces productivity and increases death loss of cattle. Clinical signs of mucosal erosions and diarrhea have obvious impacts on infected animals, but more devastating are those animals that do not



thrive through lower weight gains, increased disease susceptibility, and diminished reproductive performance. Controlling BVD is a daunting task. Key to the success of these programs is testing, vaccinations and bio-security. The major source of BVD infection is persistently infected animals (PI's). PI's result from cows being exposed to the virus during pregnancy and the fetal calf becoming infected. Although frequently these calves show no signs of illness themselves, they shed the virus in such great numbers that even well-vaccinated animals may become infected. This project seeks to determine the approximate infection rate of BVD-PI cattle in the State of Kentucky, with a particular focus on Eastern Kentucky cattle farms. Cattle will be sampled by obtaining a single ear notch from the edge of the pinna of the ear. Capture antigen-ELISA: BVD-PI testing will be used in the analysis of determining whether cattle are positive or negative for BVD-PI. This is a specific one time test. Overall, state-wide occurrence of BVD-PI will be tabulated. The data collected will also be analyzed (ANOVA) for age, weight, farm size, management scheme, and herd health / vaccination status. The ultimate goal of this project will be to identify problem herds in our region and state. Outcomes of the data analysis will be disseminated throughout the state as a spear-head for developing a statewide BVD-PI Control program.

**Project Dissemination:**

**Poster Presentation:**

L. O'Cull, S. Touroo, T. Wisbuba, P. Prater (2009), "Incidence of Bovine Viral Diarrhea Virus – Persistent Infection in Kentucky Cattle," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

Latissa received a Buffalo Trace Veterinary Medical Association Veterinary Technician Award in 2008 and 2009.

**Post-Graduation Plans:**

Latissa will continue to pursue her B.S. in Veterinary Technology at MSU in 2009-2010.

**RUDI PITZER**

**Major:**

Animal Science

**Faculty Mentor:**

Tammy Platt/Troy Wistuba

**Research/Project Title:**

"Screening of Lactobacillus Brevis 1E1 for Pro-and Anti-inflammatory Effects in the Cell Culture System"

**Project Abstract/Summary:**

Lactobacillus brevis 1E1 has been utilized as a direct-fed microbial added to milk replacer to supplement piglets during the lactation period. Studies of lymphocyte subpopulations using flow

cytometry has shown L. brevis 1E1 to have anti-inflammatory properties systemically and in the gastrointestinal tract of piglets. Moreover, L. brevis 1E1 has the capability to minimize the pathogenic load in the gastrointestinal tract. Therefore, this study evaluated cytokine profiles to determine the immunological responses of the IEC-6 rat intestinal epithelial cell line to L. brevis 1E1 alone and in the presence of a challenge. The authors were unable to draw a definitive conclusion from this data. However, the study is being repeated currently utilizing PCR data. This research was supported by the Undergraduate Research Fellowship program.

**Project Dissemination:**

**Oral Presentation:**

M. Mann, R. Pitzer, E. Davis, T. Platt, R. Miculinich, and T. Wistuba (2009), "Screening of Lactobacillus Brevis 1E1 for Pro- and Anti-inflammatory Effects in a Cell Culture System," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

R. Pitzer, E. Davis and T. Wistuba (2008), "Screening of Lactobacillus Brevis 1E1 for Pro- and Anti-inflammatory Effects in a Cell Culture System," Agtech internship presentation.

**Awards and/or Honors:**

Awarded graduate endowed fellowship at the University of Georgia to persue a masters degree in meat science.

**Post-Graduation Plans (seniors only):**

Attending the University of Georgia to persue a master's degree in meat science.

**JESSICA ROBINETTE**

**Major:**

Animal Science

**Faculty Mentor:**

Rebecca Miculinich

**Research/Project Title:**

"The Effect of Initial Market Grade on Linear Measurements and Carcass Characteristics of Feeder Goats"

**Project Abstract/Summary:**

The purpose of this project was to determine the impact of initial market grade on linear and carcass characteristics of Boer goat buck kids. Forty five kids ( $20.9 \pm 2.9$  kg) were purchased at local auction on January 14, 2007, processed upon arrival and allowed ad libitum access to feed and water during a 14 d adaptation phase. Goats were then visually evaluated and classified into one of three market grades. The analysis of variance was generated using PROC MIXED (SAS Inst., Cary, NC), the model included market grade. Market grade 1 and 2 goats did have larger chest widths, forearm circumferences, and cannon bone circumferences when compared to market grade 3 goats. Additionally, market grade 3 goats had longer lengths than market grade 1

goats ( $P < 0.05$ ). Market grade classification had no impact on rack or loin length. After 45 d on feed, goats with a market grade 1 had greater ( $P < 0.05$ ) end weights than goats in market grade 3. Results of the present study indicate that initial market grade classification is a relatively accurate estimation of final carcass yields.

#### **Project Dissemination:**

##### **Oral Presentations:**

J. Robinette, B. Galbreath, R. Miculinich, T. Platt and T. Wistuba (2009), "The Effect of Initial Market Grade on Linear Measurements and Carcass Characteristics of Feeder Goats," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

J. Robinette, B. Galbreath, R. Miculinich, T. Platt and T. Wistuba (2009), "The Effect of Initial Market Grade on Linear Measurements and Carcass Characteristics of Feeder Goats," Southern Section of the American Society of Animal Science.

##### **Awards and/or Honors:**

Placed fourth in the undergraduate research competition at the Southern Section of the American Society of Animal Science.

##### **Post-Graduation Plans (seniors only):**

Currently has an assistantship waiting at the University of Arkansas to pursue a master's degree in nutrition.

## **SHANNON TOUROO**

##### **Major:**

Veterinary Technology

##### **Faculty Mentor:**

Phil 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 objective of this study was to determine the influence of BLV infection on the proportion among bovine leukocyte populations in the blood of cows. Bovine leukemia virus (BLV) is an oncogenic (tumor forming) retrovirus similar to HIV, FeLV, FIV, EIA. Approximately 3-5% of cattle that test positive for BLV will develop clinical signs of cancer. BLV infection is life-long in cattle so demonstration of serum antibodies to BLV indicates persistent infection. Persistent lymphocytosis (elevated lymphocyte count) is seen in approximately 30% of BLV-infected cattle. Lymphoma (lymphosarcoma) develops in approximately 3-5% of BLV-infected cattle but usually not until they are at least six years-of-age. Blood sampling: 10 ml of blood was collected into

vacutainer tubes containing EDTA via jugular venipuncture. Sample preparation: Blood films were prepared and stained for analysis. Sample analysis: Hemavet® electronic cell counter was used to enumerate WBCs, RBCs, platelets, reticulocytes, hematocrit, and RBC indices. Manual differentials were done to determine WBC percentages, WBC and RBC morphology, and platelet estimates. Data was analyzed as a randomized complete block design (experimental unit = animal) using ANOVA generated— PROC GLM (SAS Inst., Inc., Cary, NC). Model included age block and BLV status. Least-squares means were calculated and separated using pair-wise t-tests (PDIF option). Anecdotal clinical observations have previously indicated an association between elevated lymphocyte counts and clinical manifestations of Bovine Leukosis. TWBC were greater in BLV positive cows ( $P < 0.09$ ). Eosinophil counts were greater in BLV positive cows ( $P < 0.01$ ). Lymphocytes tended to be increased in the BLV negative cows ( $P = 0.11$ ). Even though differences were detected in leukocyte populations, in this study, the biological significance of this finding is questionable in predicting clinical manifestations of BLV in cattle.

#### **Project Dissemination:**

##### **Publication:**

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," *J. Anim. Sci.* (Southern Section), Dallas, TX.

##### **Poster Presentations:**

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," 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 (2009), "The Effect of Bovine Leukosis Virus Infection on the Proportion Among Bovine Leukocyte Populations in the Blood of Cows," Posters-at-the-Capitol, Frankfort, KY, February.

##### **Awards and/or Honors:**

N/A

##### **Post-Graduation Plans (seniors only):**

Upon completion of her B.S. in Veterinary technology, Shannon will pursue her plans to become a Large Animal Veterinary Technologist in the Equine Veterinary Health Industry.

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

### **AMBERLEE BYRD**

**Major:**

Biology

**Faculty Mentor:**

Stephanie Welter

**Research/Project Title:**

"Diversity and Size Class Distribution of Larval Dragonflies in Eagle Lake, Morehead, KY"

**Project Abstract/Summary:**

Dragonfly larvae play important roles in aquatic ecosystems as part of the food web and also as bio-indicators of habitat and water quality. Conducting surveys to determine diversity and species identity of dragonflies will lend insight into the ecology and health of the surveyed habitat. Dragonfly population structure can also be inferred by examining size class distributions. Surveys of dragonfly larvae were conducted in Fall 2008 and Spring 2009 at Eagle Lake, on Morehead State University's campus, to determine species presence and size class distribution. Eagle Lake supports several species of dragonfly larvae which can be found at a range of size classes. This study is part of a long-term monitoring project.

**Project Dissemination:**

**Poster Presentation:**

A.C. Byrd and S.M. Welter (2009), "Diversity and Size Class Distribution of Larval Dragonflies in Eagle Lake, Morehead, KY," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Amberlee was accepted to veterinary school, and she is going to Auburn University, to start in Fall 2009.

### **TYLER ELAM**

**Major:**

Biology/Pre-Med

**Faculty Mentor:**

Janelle Hare

**Research/Project Title:**

"Analyses of Polyhydroxyalkanoate Inclusion Biogenesis"

**Project Abstract/Summary:**

DNA is vulnerable to mutation through elements such as UV irradiation, so to protect genomes, organisms contain certain gene sequences to combat damage, such as the umuDC operon which is required for the error prone SOS mutagenesis response to DNA damage. The gram-negative bacterium *Acinetobacter baylyi*

has a unique umuDC operon. To further elucidate the uniqueness of this operon in the genus, several dot blot assays have been used to identify the presence of these genes in this operon. Most of the strains contain either all of the umuDC operon, or none of it. We are also testing whether the unusual umuD gene found in *Acinetobacter baylyi* can complement the umuD deficiency of an *E. coli* umuD mutant strain. We developed an SOS mutagenesis assay that shows SOS mutagenesis occurring in wild type *E. coli* cells: 100-fold greater frequency of antibiotic resistance was observed after DNA damage than in unexposed cells. IIs. We acquired a strain of *E. coli* that is an umuD mutant strain, and observed that that the umuD mutant strain does not exhibit any induced antibiotic resistance, indicating it cannot perform SOS mutagenesis. We have now inserted the *Acinetobacter umuD* gene into the *E. coli* umuD mutant, and are analyzing the response of this strain to determine if the *Acinetobacter umuD* gene can provide the function of the UmuD protein in the error-prone polymerase.

**Project Dissemination:**

**Poster Presentations:**

- T. Elam and C. Caldwell (2008), "Using SOS Mutagenesis Assays to Observe Whether a Unique umuD Allele found in *Acinetobacter baylyi* Can Complement UmuD Function in *Escherichia Coli*," Kentucky Academy of Science, November.
- T. Elam, "Genetic Manipulations and Presence of umuDC Operon in *Acinetobacter*," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

Tyler won second place in the Undergraduate Microbiology poster competition at the 2008 General Meeting of the Kentucky Academy of Sciences in Lexington, KY.

**Post-Graduation Plans (seniors only):**

Tyler Elam will graduate in December, 2009, and attend medical school.

### **COURTNEY FORBIS**

**Major:**

Biology/Pre-Med

**Faculty Mentor:**

Darrin DeMoss

**Research/Project Title:**

"The Effect of Diltiazem on Osteoblast Viability in a Cell 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.

**Project Dissemination:**

**Oral Presentations:**

- S. Slone, C. Forbis, R. Green, M. Fultz and D. DeMoss (2007), "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.
- C. Forbis, M. Fultz and D. DeMoss (2009), "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.

**Awards and/or 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.

**JEREMY GAYHEART**

**Major:**

Biology

**Faculty Mentor:**

Doug Dennis

**Research/Project Title:**

"Analyses of Polyhydroxyalkanoate Inclusion Biogenesis"

**Project Abstract/Summary:**

Jeremy has been working on the AFM analyses of the PHA inclusions. The preliminary data suggests that the inclusion can be isolated in a manner that will facilitate AFM tapping analyses. Jeremy has been fine-tuning the isolation technique and his AFM interpretation skill. The work has resulted in novel data and insights on PHA inclusion structure.

**Project Dissemination:**

**Poster Presentation:**

- J. Gayheart and T. Stacy (2009), "Application of Freeze-thaw Techniques for Release of Polyhydroxyalkanoate Inclusions from Cells," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**ALAN T. GRUBB**

**Major:**

Biology

**Faculty Mentor:**

Allen Risk

**Research/Project Title:**

"Plant Biodiversity Surrogacy and Plant Diversity Patterns in Spaws Creek Gorge, Menifee and Morgan Counties, Kentucky"

**Project Abstract/Summary:**

A research grant proposal was prepared by Alan and myself and submitted to the Kentucky Academy of Science Summer Undergraduate Research Fund. This proposal was funded in January 2009 and is for research to be conducted during the 2009 calendar year. Alan's fellowship time (only 3 months) during the spring 2009 semester was spent establishing permanent research plots and developing his abilities to identify bryophytes. The three months he had the fellowship were simply foundational and will allow him to more knowledgeably work in the field during the summer and the upcoming fall.

**Project Dissemination:**

No results at this time to report (see above).

**Awards and/or Honors:**

Completed a funded research grant proposal to the Kentucky Academy of Science Summer Undergraduate Research Fund.

**WILLIAM HANKINSON**

**Major:**

Biology

**Faculty Mentor:**

Michael Fultz

**Research/Project Title:**

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

**Project Abstract/Summary:**

It has been suggested that remodeling of the cytoskeleton may explain the unique contractile properties exhibited by smooth muscle. We have provided evidence of differential remodeling of the alpha- and beta-actin as well as smooth muscle myosin II cytoskeletal structures, however, the mechanism(s) are not understood. The goal of this project was to test the hypothesis that inhibition of Rho kinase would alter remodeling of the alpha-actin cytoskeleton in A7r5 smooth muscle cells. Cells treated with the specific Rho kinase inhibitor Y-27632 before and after stimulation with PDBu did not undergo normal alpha-actin remodeling and actin cable structure was lost. In addition, resting A7r5 cells were exposed to Y-27632 and after five minutes of exposure, disruption of the  $\alpha$ -actin cytoskeleton

was evident with an almost complete disruption of the alpha-actin cytoskeleton by 40 minutes exposure. This implicates a critical role of Rho kinase in alpha-actin dynamics in smooth muscle.

**Project Dissemination:**

**Oral Presentation:**

S. M. Pike, W.R. Hankinson and M.E. Fultz (2008), "Effect of Rho Kinase Inhibition on Alpha-actin Remodeling in the Contracting A7r5 Smooth Muscle Cell," Kentucky Academy of Science, Lexington, KY, November.

**Poster Presentations:**

W.R. Hankinson, S.M. Pike and M.E. Fultz (2008), "Rho Kinase Inhibition of Podosome Maintenance in the Contracted A7r5 Smooth Muscle Cell," Kentucky Academy of Science, Lexington, KY, November.

W.R. Hankinson, S.M. Pike and M.E. Fultz (2009), "Effect of Rho Kinase Inhibition on Alpha-actin Dynamics in the Contracting A7r5 Smooth Muscle Cell," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

Winner Undergraduate Physiology and Biochemistry Research Poster Competition, W.R. Hankinson\*, S.M. Pike, and M.E. Fultz, "Rho Kinase Inhibition of Podosome Maintenance in the Contracted A7r5 Smooth Muscle Cell," Kentucky Academy of Science, Lexington, KY, November 2008.

**GREGORY C. 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.

**Project Dissemination:**

**Manuscript:**

L. Ashley, 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:**

B. Kidd, 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.

**Oral Presentations:**

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

"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.

G. Howard, B. Kidd, E. Nickel, L. Ashley, M. Harmon, A. Auxier and D. DeMoss (2007), "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.

B. Kidd, L. Ashley, M. Harmon, G. Howard, A. Auxier, E. Nickel and D. DeMoss (2007), "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.

G. Howard, L. Castle, L. Ashley, S. Ganguly, D. Peyton, M. Fultz, and D. DeMoss (2009), "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.

**Awards and/or 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.

## 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 has specifically greatly improved her gel technique, experimental organization and is poised to improve on her communication and presentation skills.

**Project Dissemination:**

N/A

**Awards and/or Honors:**

N/A

## 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:**

**Oral Presentations:**

"Developing RNA Linking Libraries for Combinatorial Chemical Candidates," Kentucky Academy of Sciences 2008 Meeting, Lexington, KY.

"Developing RNA Linking Libraries for Combinatorial Chemical Candidates," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Accepted and will attend the University of Louisville Medical School in Fall, 2009.

## 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 have analyzed the sequence from multiple different individuals. This gene is responsible for pigmentation in all vertebrates examined to date and we hypothesized that it would also contribute to the variety of distinct pigments seen in ornamental koi. So far we have observed only a few polymorphisms that are not consistent with color changes in the organism. We have a small amount of analysis left but we are also beginning a new project on the molecular phylogeny of mosses.

**Project Dissemination:**

**Poster Presentation:**

M. Minch and D. Peyton (2009), "Comparison of Pigmentation Genes Between the Ornamental Koi and the Common Carp," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

## LOGAN MURPHY

**Major:**

Biology/Pre-Med

**Faculty Mentor:**

David Saxon

**Research/Project Title:**

"Interaction of Bisphenol A with Copper and the Potential for DNA Oxidation"

**Project Abstract/Summary:**

Bisphenol A (BPA), was initially synthesized as a synthetic estrogen to promote growth of cattle and poultry. BPA was replaced by a more potent synthetic estrogen, diethylstilbestrol (DES), which

was ultimately discontinued because DES caused cancer and reproductive abnormalities in humans. BPA now widely used in linings of bottles, cans, and water pipes, leaches from these items, as well as dental sealants and is found in the serum of humans. BPA is classified as an environmental pollutant known as an endocrine-disrupting chemical (EDC) and has been linked with increased risk of cancer and birth defects. Cu(II) reduction to Cu(I) by BPA was observed using BCS a Cu(I) specific –chelator. This concentration dependent response supports an electron donor capacity for BPA and is a significant step in redox events with the potential to utilize O<sub>2</sub> and form O<sub>2</sub><sup>-</sup>. This capacity of BPA and copper to participate in the production of reactive oxygen species (ROS) and result in oxidative damage to DNA may provide an answer in regard to the mechanisms responsible for the harmful effects produced by BPA. Incubation of double-stranded plasmid DNA in an ROS generating system of H<sub>2</sub>O<sub>2</sub> (25 μM) and Cu II (10 μM) produced strand breaks in the DNA, but neither Cu(II) nor H<sub>2</sub>O<sub>2</sub> alone produced oxidative damage to DNA, and BPA (without O<sub>2</sub>) did not alter the H<sub>2</sub>O<sub>2</sub> + Cu(II) effects. Incubations of DNA with 10 μM Cu(II) and 100, 200 or 300 μM BPA in the presence of minimal O<sub>2</sub> did not produce detectable strand breaks in DNA. Studies are being conducted/planned to determine if increasing the availability of O<sub>2</sub> by bubbling filtered air into PBS (used for preparation of all solutions) and/or increasing the concentration of Cu(II) will result in ROS generation and strand breaks in DNA, which would support the hypothesis that a BPA-copper dependent redox mechanism has a significant role in producing oxidative damage to DNA.

**Project Dissemination:**

**Poster Presentation:**

L. Murphy and D. Saxon (2009), "Interaction of Bisphenol A with Copper and the Potential for DNA Oxidation," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**KRISTIN M. PLATT**

**Major:**

Biology

**Faculty Mentor:**

Geoffrey W. Gearner

**Research/Project Title:**

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

**Project Abstract/Summary:**

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 fingerprint. Previous work has shown that fingerprints can vary among different isolates of E. coli, and that isolates collected from a given host species typically have identical fingerprints. Host source tracking studies involve first producing a database of E. coli DNA fingerprints from a variety of known host sources, e.g., humans, cattle, horses, pigs, dogs, chickens, etc. Analysis of the database by appropriate phylogenetic software can produce phylogenetic trees in which E. coli isolates from the same host species tend to cluster together, resulting in a "library of known host source E. coli isolates." Kristin has completed the production of the "library of knowns" which can now be used to identify the host source of E. coli isolates from environmental sources. This method is currently being used to identify the host source(s) of fecal contamination in the Dry Creek Watershed.

**Project Dissemination:**

**Poster Presentation:**

K. Platt, A. Potter and G. W. Gearner (2009), "Progress on Identifying Host Sources of Escherichia Coli in the Dry Creek Watershed," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**AMY POTTER**

**Major:**

Biology

**Faculty Mentor:**

Geoffrey W. Gearner

**Research/Project Title:**

"Mapping the Incidence and Density of Escherichia Coli in the Dry Creek and the Triplett Creek Watersheds"

**Project Abstract/Summary:**

The objectives of the projects are to determine incidence, distribution and density of E. coli in the Dry Creek and Triplett Creek watershed and to build a database prior to the development and implementation of remedial efforts. Amy's participation in the project was to confirm the identification of bacterial isolates collected from Dry Creek Watershed samples as E. coli. Then, isolate DNA from the isolates and using repPCR to generate DNA fingerprints of the E. coli isolates. The fingerprints were then compared to those of E. coli isolates from a variety of known host sources (human, cattle, horse, pig, dog, etc.) to

determine the host source. Initial application of this method identified human, horse and cat as sources of fecal contamination in selected sites of the Dry Creek Watershed.

**Project Dissemination:**

**Poster Presentation:**

K. Platt, A. Potter and G. W. Gearner (2009), "Progress on Identifying Host Sources of Escherichia coli in the Dry Creek Watershed," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Amy will graduate in December, 2009, and is considering graduate school.

**JAMES C. RICHARDSON**

**Major:**

Biology

**Faculty Mentor:**

Allen Risk

**Research/Project Title:**

"Plant Biodiversity Surrogates"

**Project Abstract/Summary:**

All bryophytes and woody plants were identified from six 10 X 20 m plots at Spaws Creek, Menifee County, Kentucky. Bryophyte identifications were based on specimens (400 collected) examined with dissecting and compound microscopes. Woody plants were identified in the field based on bark and twig features. Seventy bryophyte and 28 woody plant species were identified overall. Woody plant diversity was found to be fairly constant across plots whereas bryophyte diversity varied. As a result, regressions between bryophyte and woody plant diversity had very low R<sup>2</sup> values. Moss to liverwort ratios were higher in upland plots as compared to lowland plots.

**Project Dissemination:**

**Oral Presentation:**

J.C. Richardson and A. Risk, (2009), "Can Woody Plant Diversity Be Used as a Surrogate for Bryophyte Diversity?: A preliminary answer," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Graduate school at Oklahoma State University.

**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.

**Project Dissemination:**

**Oral Presentations:**

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

S. Slone, M. Fultz and D. DeMoss (2008), "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, Kentucky, April.

**Awards and/or 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.

**ANDREW STACY**

**Major:**

Biology/Pre-Pharmacy

**Faculty Mentor:**

Sean O'Keefe



**Research/Project Title:**

“Development of Quantitative Trapping Methods for Necrophilous Insects”

**Project Abstract/Summary:**

No report submitted.

**Project Dissemination:**

No report submitted.

**Awards and/or Honors:**

No report submitted.

each computer. The system supports an interface that can be accessed both locally from the server and remotely via the Internet. Current status data, history usage data, as well as a live video of the computer lab can be monitored from any smart device with Internet access. Alarm emails will be automatically sent to the lab manager when the CPU usage and memory usage of any computer reaches the predefined limit. This project is tested on the computers in lab LC305, and can be applied in computer labs for better computer monitoring and management.

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

R. Agrawal, “LabVIEW-based System for Computer Remote Monitoring,” Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

R. Agrawal, “LabVIEW-based System for Computer Remote Monitoring,” presented at the Department Senior Project Presentations at MSU, May 2009.

**Awards and/or Honors:**

The best senior project at IET Department for Spring 2009.

**TIFFANY STACY****Major:**

Biology

**Faculty Mentor:**

Doug Dennis

**Research/Project Title:**

“Analyses of Polyhydroxyalkanoate Inclusion Biogenesis”

**Project Abstract/Summary:**

Tiffany has been working on developing techniques for the gentle release of polyhydroxyalkanoate inclusions from bacterial cells. She has made much better progress than I had anticipated. Virtually every time she comes into the lab she finds something new using atomic force microscopy. I am hoping that we can piece together these experiments so that they can be published. Also, she has become remarkably adept at interpreting AFM images.

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

T. Stacy, J. Gayheart and D. Dennis, (2009), “Application of Freeze-Thaw Techniques for Release of Poly-hydroxyalkanoate Inclusions from Cells,” Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE****EVAN BOYD****Major:**

Mathematics

**Faculty Mentor:**

Chris Schroeder

**Research/Project Title:**

“Investigation into the Development and Improvement of Mathematical Systems Designed to Rank Competing Sports Teams”

**Project Abstract/Summary:**

We considered a paper: The Bowl Championship Series: A Mathematical Review by Thomas Callaghan, Peter J. Mucha, and Mason A. Porter which discussed how ranking college football teams can be accomplished mathematically. Given a group of monkeys, each with a favorite football team, a p-value is fixed which is the probability a monkey will switch their vote from their “favorite team” to the winning team given the outcome of a single game chosen at random at the end of the season. This can be modeled using Markov Chains with the final rankings being a solutions of a matrix equation. We thought of a way to change this model to include the factor of where the game was played. That is, monkeys were more likely to switch their votes to a team that won on the road and were less likely to switch

**DEPARTMENT OF INDUSTRIAL AND ENGINEERING TECHNOLOGY****RASHIKA AGRAWAL****Major:**

Telecommunications/Computer Technology

**Faculty Mentor:**

Jaby Mohammed

**Research/Project Title:**

“LabVIEW-based System for Computer Remote Monitoring”

**Project Abstract/Summary:**

This project has established a LabVIEW-based system to monitor lab computer status remotely via the Internet. Data monitored on lab computers include the CPU usage and the memory usage of

votes to a team that won at home. Both the 2008 SEC and Big 12 football teams were ranked using the original formula as well as the modified "home-field advantage" formula. We found that taking home-field advantage into account did (and should, in our opinion) have an effect on the outcome of the final rankings.

**Project Dissemination:**

**Oral Presentation:**

E. Boyd and C. Schroeder, (2009), "Ranking the SEC with Monkeys," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**MICHAEL BLANKENSHIP**

**Major:**

Computer Science

**Faculty Mentor:**

Biswajit Panja

**Research/Project Title:**

"Hybrid Broadcast Encryption Scheme for Heterogeneous Mobile Ad Hoc Networks"

**Project Abstract/Summary:**

In mobile wireless networks, a simple way to ensure data security is to utilize a broadcast encryption scheme that encrypts all messages before transmission, ensuring that in the event the encrypted data is received by unauthorized users, they will not be able to use the data. The problem with this broadcast encryption scheme is that if a node is cut off from the network during a message broadcast, it has to have a way of retrieving this message. There are two general ways of guaranteeing reliable message delivery in the broadcast scheme, interactive or non-interactive. In an interactive message recovery scheme, nodes which have recently rejoined the network query the beacon for any missed messages. The problem with this method is that potentially any number of nodes may leave the network and rejoin it at any given time, which can result in the beacon becoming overwhelmed with message requests, resulting in possible packet implosion at the source. Non-interactive schemes employ a technique which allows each node to store a given amount of previous beacon messages, whenever a node rejoins the network, it queries its neighboring nodes for any messages that it may have missed. Most non-interactive schemes use too much of a nodes limited resources to be viable.

**Project Dissemination:**

**Oral Presentation:**

Kentucky Section Meeting of the Mathematical Association of America, Frankfort, KY, March, 2009.

**Awards and/or Honors:**

N/A

**JOSHUA BRADLEY**

**Major:**

Computer Science

**Faculty Mentor:**

Sherif Rashad

**Research/Project Title:**

"Mobile Data Mining for 4G Mobile Networks"

**Project Abstract/Summary:**

The 4G mobile networks will support more multimedia communications and provide mobile services every time and everywhere. Also, mobile handsets will be able to understand the behavior of mobile users to provide better quality of services and to support new services. The mobile handsets will make suggestions for different activities during the day according to the profiles of mobile users. Also, mobile handset will be able to understand the patterns of other mobile users and make smart suggestions to communicate effectively with these users. There is a need to a new generation of mobile data mining algorithms that can be used in the mobile environment to support new services and to enhance the current services with the new integrated structure in the 4G mobile networks. In this research project, we have designed, implemented, and evaluated two mobile data mining algorithms that can be used to support the new services and the new integrated structure of the 4G mobile networks. These algorithms are called Fixed-MobileSPADE algorithm and Dynamic-MobileSPADE algorithm. These algorithms are modified versions of the SPADE (Sequential Pattern Discovery using Equivalence classes) algorithm. Fixed-MobileSPADE algorithm was designed to extract mobility sequential patterns of mobile users with frequent behavior. Dynamic-MobileSPADE algorithm was designed to extract mobility sequential patterns of mobile users with sporadic behavior. Also, prediction algorithms were designed and implemented to predict future movements of mobile users using mobility sequential patterns that are generated by Fixed-MobileSPADE and Dynamic-MobileSPADE algorithms. These algorithms were evaluated

using the mobility data of 100 mobile users for a period of 9 months. These data were collected by the MIT Reality Mining project. Prediction analysis results show that most of the mobile users are predictable. Also, results show that as the quantity of items that are taken into consideration for mining mobile sequential patterns increases, the prediction accuracy correspondingly increases.

**Project Dissemination:**

**Oral Presentations:**

- J. Bradley and S. Rashad (2008), "Development of Data Mining Algorithms for the 4G Mobile Networks," 94th Annual Meeting of the Kentucky Academy of Science, Computer and Information Sciences Section, Lexington, KY, November.
- J. Bradley and S. Rashad (2009), "Mobile Data Mining," 2009 Annual Meeting of the KYMAA, Frankfort, KY, March.
- J. Bradley and S. Rashad (2009), "Mobile data mining algorithms for fourth generation (4G) mobile networks," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

- First Place, Undergraduate Research Competition, Computer and Information Sciences Section, the 94th Annual Meeting of the Kentucky Academy of Science, Lexington, KY, November, 2008.
- Mr. Bradley was accepted in the 2009 Research Experience for Undergraduates (REU) Program (research on wireless networking and mobile computing), Summer 2009, University of Notre Dame.

**ANDREW CROWE**

**Major:**

Computer Science

**Faculty Mentor:**

Biswajit Panja

**Research/Project Title:**

"Database Design and Implementation of KySat Orbital-1"

**Project Abstract/Summary:**

The goal is to create a database and web front end for the KySat Orbital-1 cubesat. The database software will be integrated into the satellite command and control software to store all data packets sent and received, as well it will watch a multitude of APRS-IS streams and parse packets into the database for several layers of redundancy. The web front end will be the face of KySat Orbital-1 and will include many auxiliary functions in addition to displaying database information. It will implement a Content Management System to ensure ease of use for the KySat team. The website will make use of PHP to call on the MySQL database for information printouts. Light use of Javascript will be necessary for dynamic graphs and charts as well as some minor website functions. The main challenges in this project are

the distanced work group which is spread across several universities in Kentucky, keeping the front end simple while supplying a large amount of information, and a short deadline of just 3.5 months for design, construction and testing. Andrew made significant progress.

**Project Dissemination:**

**Poster Presentation:**

Poster presentation at EPSCoR Conference.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Mr. Crowe graduated in December and immediately found employment in the computer science field.

**CHRISTOPHER R. ESTES**

**Major:**

Computer Science

**Faculty Mentor:**

Sherif Rashad

**Research/Project Title:**

"Intrusion Detection in Mobile Networks using Data Mining Techniques"

**Project Abstract/Summary:**

Intrusion detection in mobile networks plays an important role to detect and prevent unauthorized access to information in the mobile computing environment. The problem of intrusion detection is easier in wired networks. But it is a difficult problem in mobile networks because of the mobility of nodes and the absence of fixed structures in many of mobile network configurations. The problem of Intrusion detection becomes more difficult in integrated mobile networks, where different structures of mobile networks are integrated to provide better quality of service every time and everywhere. In this research project, we started to design and implement new intrusion detection techniques for mobile networks using data mining technology. The proposed solution is one of the anomaly detection techniques. Anomaly detection looks over past sets of data and finds patterns which generally constitute to intrusions. It then classifies the data by checking various tests, finding which test is going to be the best for classifying the data as intrusions or non-intrusions, and then applies that test to all new data that comes in. If a new value is classified as an intrusion by the tests, a warning will be given to alert the network to the intruder. Data mining techniques are used to classify data using one of the classification algorithms. The C4.5 algorithm was implemented and tested. The C4.5 algorithm determines what tests to perform and in which order by calculating the information gain from each test. The one with the highest gain is then declared as the first test and the process is repeated for subsequent tests

until all data are classified. The end result is a decision tree structure that can be used to classify future data. Other techniques such as Bayesian Classification and Support Vector Machines (SVM) were studied in this project. Also, a widely used data mining tool called WEKA was used in this project to learn how to classify different types of data and how to compare between different classification techniques.

**Project Dissemination:**

**Poster Presentation:**

C. Estes and S. Rashad (2009), "Intrusion Detection in Mobile Networks using Data Mining Techniques," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

## RUSSELL FUGATE

**Major:**

Computer Science

**Faculty Mentor:**

Biswajit Panja

**Research/Project Title:**

"Coding for Sensor Networks"

**Project Abstract/Summary:**

Tinyos/Nesc coding for sensor networks  
Server setup  
Oracle database setup

**Project Dissemination:**

None – student did not complete project

**Awards and/or Honors:**

N/A

## JAMES GIBBS

**Major:**

Computer Science

**Faculty Mentor:**

R. Duane Skaggs

**Research/Project Title:**

"The Sum Cost of Sum Graphs"

**Project Abstract/Summary:**

A sum graph is a graph that consists of vertices labeled with positive integers with edges between vertices if and only if the sum of those labels is another label. The sum cost of a graph is the minimum sum of a valid labeling of the graph. This project will calculate the sum cost of various classes of graphs and consider applications of sum graphs to graph storage and representation.

The Fellow began his involvement in the project in January. He completed background research in the topic and participated in algorithm development and implementation for calculating the sum cost of paths with isolates. He was responsible for gathering the resulting data and analyzing it for patterns. The Fellow, the mentor, another MSU faculty member, and a faculty

member at NKU are currently developing proofs of the resulting patterns. These results will ultimately be applied to graph compression and storage for use in other graph algorithms.

**Project Dissemination:**

**Oral Presentation:**

J. Gibbs, Z. Wagner, F. Harary, J. Ward, R.D. Skaggs and G. Fricke, (2009), "On the Sum Cost of Sum Graphs," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

A paper containing his work is being prepared for submission to a professional mathematics journal.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Mr. Gibbs plans to attend graduate school in computer science. He is currently completing an internship at a computer science research and development firm in southern Ohio.

## JONATHAN HARRIS

**Major:**

Computer Science

**Faculty Mentor:**

Biswajit Panja

**Research/Project Title:**

"Introduction for Malicious Node Detection in Wireless Sensor Networks"

**Project Abstract/Summary:**

Wireless sensor network security is a quickly evolving discipline. Several methods have been created for detecting and negating intrusions into sensor networks. While many previous ideas are good at detecting malicious nodes I believe some improvements can be made to the detection of not just a problem in the network, but the specific node which is attacking the network. In this paper I will discuss a new process for finding a malicious node in the network. Ideally this process would be paired with another security measure which detects a problem in the network. The process which I propose would be used to locate the node which is causing problems in the network. The method I have created to locate a malicious node brings more control of identifying and eliminating the node back to the base station. It would be most effective at identifying malicious nodes which have a lot of traffic moving through them to the base station.

The method of detecting malicious nodes which I propose involves occasionally adding a tag to a packet which is being sent to the base station. This tag contains identifying information about the node which the tag originated at and the two nodes it gets sent to on the first hop. It will also contain information about the packet such as the size and time it was sent. These parts of the tag

will be encrypted with an encryption that only the originating node and the Base Station have the key for. There will also be a counter which every node that it goes through will increase. A tag or packet with a tag would have priority over other communications in the network so that it isn't slowed down by traffic in the network so that the tags should arrive at the base station within a short period of time of each other.

**Project Dissemination:**

None – student did not complete project.

**Awards and/or Honors:**

N/A

**DIONNA HALL**

**Major:**

Mathematics

**Faculty Mentor:**

Michael Dobranski

**Research/Project Title:**

“Distance between Strands of DNA”

**Project Abstract/Summary:**

Initially, Dionna Hall studied the distance between DNA strands and Markov processes and she used the chapter on epidemiology to branch off for her capstone research which included an investigation of the study of epidemiology, elementary epidemic models and their critical parameters. This knowledge was applied to investigate the mathematical models used in the administration of antiviral therapy to a homogeneous population who are uninfected and infected with the Human Immunodeficiency Virus (HIV).

**Project Dissemination:**

**Poster Presentation:**

Hall, Dionna, “A Silent Killer... A Mathematical Voice,” Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

**Awards and/or Honors:**

Due to family issues, Dionna had to take on a full time job and will not continue with her fellowship in her senior year.

**AMBER HARRISON**

**Major:**

Mathematics

**Faculty Mentor:**

R. Duane Skaggs/Gerd H. Fricke

**Research/Project Title:**

“The Sum Cost of Sum Graphs”

**Project Abstract/Summary:**

A sum graph is a graph that consists of vertices labeled with positive integers with edges between vertices if and only if the sum of those labels is another label. The sum cost of a graph is the minimum sum of a valid labeling of the graph. This project will calculate the sum cost of various

classes of graphs and consider applications of sum graphs to graph storage and representation. The student began work during her first semester in school, and successfully completed background reading on the topic. She began the research, but soon found that time constraints did not allow the necessary time for a research project at the time. She and the mentors, in discussions with the department chair, decided that it would be best for her to wait until she had adjusted to university before future participation in research activities of this nature.

**Project Dissemination:**

Student did not complete project.

**Awards and/or Honors:**

N/A

**JULIE E. LANG**

**Major:**

Mathematics

**Faculty Mentor:**

Dora Ahmadi

**Research/Project Title:**

“Neck Endurance Test Data Analysis”

**Project Abstract/Summary:**

The goal of this project is to perform statistical assessment regarding the agreement of inter- and intra- rater reliability of static neck endurance test data. The study will determine normative data for males vs. females in a non-painful population to use in comparison to a patient/painful population. It was found the agreement of inter- and intra-rater reliability was nearly 1 or highly correlated. Although a significant difference was found between males and females, the investigators recommended that additional data should be collected to reach a definite conclusion.

**Project Dissemination:**

**Oral Presentation:**

Neck Endurance Test Data Analysis,” Celebration of Student Scholarship, Morehead State University, Morehead, KY, April 2009.

**Awards and/or Honors:**

N/A

**LAUREN A. MAY**

**Major:**

Mathematics

**Faculty Mentor:**

R. Douglas Chatham

**Research/Project Title:**

“Kentucky Rook Strategy”

**Project Abstract/Summary:**

The ultimate goal of this project is to use simulation and game theory to determine optimal betting and playing strategies for the card game Rook. This year Python programs were developed to determine the probabilities of getting given numbers of points or suits in one or two hands.

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

L. May and D. Chatham (2009), "Point and Suit Probabilities in the Card Game Rook," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**BRIAN SALYER****Major:**

Engineering Technology/Mathematics

**Faculty Mentor:**

Robin Blankenship/R. Douglas Chatham/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 are permitted to separate queens, thus allowing 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.

Mr. Salyer has continued his fellowship research from the previous year, which extends the work of the faculty mentors, a prior Undergraduate Research Fellow, two externally funded research students, and several capstone students. Most notably, this year he has found a family of counterexamples to a conjecture the second-named mentor presented at a professional

conference. In addition, he has developed a Maple program that calculates upper bounds for the desired graph parameters and aids in the development of new conjectures which can then be proved using mathematical techniques.

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

Salyer, Hufford, Wahle, Blankenship, Chatham and Skaggs (2009), "Chessboard problems with Obstructions," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

Salyer, "Equivalence Numbers of Graphs," Shenandoah Undergraduate Mathematics and Statistics Conference, Harrisonburg, VA, October, 2008.

Chatham, "Equivalence Numbers of Graphs," Mathematics Section of the Annual Meeting of the Kentucky Academy of Science, Lexington, KY, November, 2008.

Salyer, "Equivalence Number of G," Annual Meeting of the Kentucky Section of the Mathematical Association of America, Frankfort, KY, March, 2009.

Salyer, Chatham, Skaggs and Blankenship (2009), "Equivalence Number of Graphs, with Focus on "N Go K" Family," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Poster Presentation:**

Hufford, Salyer, Wahle, Blankenship, Chatham and Skaggs (2009), "Chessboard Problems with Obstructions," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

Website: Chatham, "The N+k Queens Problem Page, <http://npluskqueens.info>, last updated May, 2009.

**Awards and/or Honors:**

Based in part on his work in this project, Salyer was awarded the C.R. Hammons Award for Computational Mathematics by the Mathematics and Computer Science Department.

**BRADLEY SCHNEIDER****Major:**

Computer Science

**Faculty Mentor:**

Biswajit Panja

**Research/Project Title:**

"Ground Station Software: A Dynamic and Scripted Approach"

**Project Abstract/Summary:**

The single largest problem with existing ground station software is that it isn't as flexible as software developers try to make it. Most implementations use Java as their language of choice because it is considered a reliable cross-platform solution. While this might be true, Java is a very static language, just like most popular languages, such as C and C++. These languages are powerful and well-tested, but that alone does

not qualify them as good choices for ground station software. While they are flexible languages in a sense that they can perform many diverse tasks, the paradigms and design patterns they dictate are not always desirable. Certain goals for this new project need to be enumerated in order to fully understand the need for a project of this type. The main goal is to provide a reusable and extensible application for the manual and automated control of networked ground stations. Essentially, the focus of this project is to address the problems perceived in existing ground station software. These problems are generally addressed through the use of a dynamic language, an object-oriented approach (everything, including primitive data types, is an object in Ruby), and the fact that the program is essentially open source because it is written in an interpreted language.

**Project Dissemination:**

**Oral Presentation:**

Kentucky Section Meeting of the Mathematical Association of America, Frankfort, KY, March, 2009.

**Award and/or Honors:**

Received the Outstanding Freshman Award in Computer Science.

**Project Dissemination:**

**Oral Presentations:**

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

M. Huellemeier and D. Corley (2009), "Selecting Healthy Choices in Fast Food Restaurants," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Poster Presentations:**

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

M. Huellemeier and D. Corley (2009), "Assessing External Factors that Influence Students Food Choices When Eating Out," Posters-at-the-Capital, Frankfort, KY February.

M. Huellemeier and D. Corley (2009), "Assessing External Factors that Influence Students Food Choices When Eating Out," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

Honors graduate BSN Program, Department of Nursing.

**Post-Graduation Plans (seniors only):**

Interviewing with University of Kentucky for BSN to PhD or BSN to DNP program. Plans to begin in August.

## **DEPARTMENT OF NURSING**

### **MEGAN E. HUELLEMEIER**

**Major:**

Nursing

**Faculty Mentor:**

Donna J. Corley

**Research/Project Title:**

"Selecting Health Choices from Fast Food Menues"

**Project Abstract/Summary:**

Poor eating behaviors during college life place college students at risk for obesity and negative health outcomes such as hypertension. Fast food restaurants provide foods that are economical and easily accessible but often high in fat and sodium. This study investigated healthier choices available at "fast food" restaurants frequented by a group of college students. Students ate out three to four times weekly and selected "fast food" high in calories, fat, sodium, and sugar. Combination meals from McDonalds, Wendys, Taco Bell, and Subway were assessed to determine nutritional value and cost. Suggestions for more nutrient dense meal options at "fast food" restaurants will be provided to help college students identify healthier choices. This research was supported by the MSU Undergraduate Research Fellowship.

## **DEPARTMENT OF PSYCHOLOGY**

### **JAMIE BAIRD**

**Major:**

Psychology

**Faculty Mentor:**

Gilbert Remillard

**Research/Project Title:**

People can learn the structure underlying a sequence of events in the absence of conscious awareness of the structure. Sequence learning allows the individual to anticipate the next event in the sequence given prior events. The purpose of the current project was to examine whether or not people could acquire one sequential structure under one context and another sequential structure under a different context (i.e., could an individual link different sequence representations to different contexts).

Jamie read the relevant literature, programmed the experiment, recruited participants, collected the data, and analyzed the data. The results revealed

that individuals could link different sequence representations to different contexts. However, the different representations were not equally strong (i.e., the different sequences were not learned equally well).

**Project Dissemination:**

**Poster Presentation:**

J. Baird and G. Remillard (2009), "Simultaneous Learning of Two Sequences from the Same Perceptual Domain: Evidence for a Blocking Effect," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

N/A

**Post-Graduation Plans (seniors only):**

Pursue a graduate degree in Clinical Psychology.

**HANNA GASH**

**Major:**

Psychology

**Faculty Mentor:**

Shari Kidwell

**Research/Project Title:**

"Patterns of Parenting in the Development of Children's Emotions and Social Behavior"

**Project Abstract/Summary:**

Hanna assisted in the development of a coding scheme for a task in which parents were asked to discuss with their child a time during the past week in which they were both "good" and "bad." Previous research had linked the manner in which parents discuss such incidents to children's basic emotion knowledge, as well as their behavioral problems. Both the coding and interpretation of results was challenging. Parents of children with behavior problems tended to use more positive emotion words with their children. (e.g., "I was proud of you.") Parents of children with behavior problems also focused more of their time and attention to discussing negative behavior. During the 10-minute discussions of both positive and negative behavior, these dyads were often not productively engaged in discussing the incidents, talking about feelings, or problem-solving alternatives to negative behavior. While further work is required to fully understand the processes underlying these interactions, Hanna's observations have been quite insightful. They will lead both to future empirical hypotheses that can be examined, as well as interventions that may improve parenting to more positively influence children's emotional and behavioral socialization.

**Project Dissemination:**

**Oral Presentation:**

H.E. Gash, R. Messer, S. Silger, S.L. Kidwell, (2008), "Reminiscing About Past Behaviors: Parental Sensitivity as a Predictor of Children's Internalizing and Externalizing Problems,"

Kentucky Academy of Sciences Annual Conference, Lexington, KY, November.

**Poster Presentations:**

R. Messer, H.E. Gash, S. Silger, and S.L. Kidwell, (2009), "Children's Emotional and Behavioral Problems: Associations with Parenting During an Emotion Socialization Task," Kentucky Psychological Association's Annual Conference, Lexington, KY, March.

R. Messer, H.E. Gash, S. Silger, and S.L. Kidwell, (2009), "Children's Emotional and Behavioral Problems: Associations with Parenting During an Emotion Socialization Task," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

Nominated for Outstanding Senior Psychology Scholar. Received Psychology Senior Scholar Research Award.

**Post-Graduation Plans (seniors only):**

Hanna will be attending UK's Master's in Social Work Program in August and intends to pursue doctoral work in Psychology after completing that program. She will specialize in clinical work with children who have physical health conditions.

**T. ZACH H. GOBLE**

**Major:**

Psychology

**Faculty Mentor:**

Laurie Couch

**Research/Project Title:**

Originally, Zach was to work on two projects: "Psychological Outcomes Following Romantic Betrayal" and "Personality and Social Psychological Aspects of Love: Analyzing the Importance of Matching Styles of Loving within a Couple. Due to unexpected circumstances (mentor and lab-team related) he instead helped design and implement a project entitled "Relationship History and Attitudes: Loneliness and Infidelity Among College-Aged Students."

**Project Abstract/Summary:**

Previous research has outlined both positive and negative strategies for coping with loneliness; however no research has addressed whether the generally lonely vs. generally non-lonely may cope with such feelings in different ways. It was hypothesized that when experiencing feelings of loneliness, those who claim to be a lonely people would utilize more negative coping strategies than those who claim to be non-lonely. Correlational analyses and analyses of variance were conducted on survey data from 129 college student volunteers. Results using both methods indicated that self-reported lonely individuals tended to use negative strategies to cope with their feelings of loneliness (e.g., behavioral disengagement), whereas non-lonely individuals



tended to use more positive strategies to deal with their loneliness (e.g., positive reinterpretation & growth, use of instrumental support, active coping, turning to religion, seeking emotional support, and planning). Results will be discussed in terms of their therapeutic implications.

**Project Dissemination:**

**Oral Presentation:**

"How to Deal: Coping Strategies of the Lonely versus the Non-Lonely," Annual Meeting of the Kentucky Psychological Association (KPA), Lexington, KY.

**Awards and/or Honors:**

Zach won first place in the Meyer undergraduate research competition at KPA.

**KELLY GRUBER**

**Major:**

Psychology

**Faculty Mentor:**

Sean Reilley

**Research/Project Title:**

"The Impact of Studied AD/HD Information of Knowledge of Symptoms, Experiences, and Treatment for Adult AD/HD"

**Project Abstract/Summary:**

The fellowship project aimed to address a lack of current data in clinical psychology concerning the influence of AD/HD symptom reporting by knowledge gained from publically available information on the world wide web. Given that there is no gold standard test for AD/HD and adults with AD/HD are often prescribed stimulant medication which can be sold on the street, or can receive disability payments or accommodations, this is an important area to address. Unknown at present, is whether or multiple sources of information if studied for 30-minutes or more would be sufficient to enhance knowledge of AD/HD symptoms, common AD/HD experiences, and AD/HD treatments. Ms. Gruber's fellowship led to a new research methodology to approach this issue which better mirrors the real world in which participants briefly studied credible sources of AD/HD symptom or case history information and had their knowledge of AD/HD assessed in a pre-post fashion. When asked to mangle or to respond truthfully following review of information, Ms. Gruber's research demonstrated a review of information for 5-10 minutes was sufficient to lead to mangled AD/HD symptoms of commonly used self-report scales. Ms. Gruber was responsible for directly contributing to data collection and analysis of a total 120 participants for the 2008-2009 academic year. Appropriate with her level of training, Ms. Gruber learned how to design and implement an experimentally based study and to administer common psychological measures under the supervision of Dr. Reilley, a Licensed Psychologist in the State of Kentucky. These skills enhance Ms. Gruber's familiarity with

basic research skills and some of those common to clinical work. In addition, Ms. Gruber learned data management and analysis skills using SPSS, a major research package used in academic research settings. Ms. Gruber was involved in all aspects of project development, pilot work, data collection, data entry, data analysis, and presentation of results at multiple, state (Kentucky Academy of Science and Kentucky Psychological Association), regional (TriState Psychology Conference and Carolinas Psychology Conference), and national (Association for Psychological Science) professional conferences. Ms. Gruber received a research and an academic excellence award from the Department of Psychology and the Outstanding Psychology Junior from the College of Science and Technology for her research efforts.

**Project Dissemination:**

**Published Abstract:**

K.D. Gruber and S.P. Reilley (2009), "The Impact of Studying Specific AD/HD Symptom Information on AD/HD Knowledge and Malingering of AD/HD Symptoms," *Journal of the Kentucky Academy of Science*, 69(2), 207.

**Oral Presentations:**

- K.D. Gruber and S.P. Reilley (2009, April), "Replication of the Impact of AD/HD Knowledge on Malingered AD/HD Symptoms," Annual Meeting of the Carolinas Psychology Conference, Raleigh, NC.
- K.D. Gruber and S.P. Reilley (2009, April), "The Impact of AD/HD Knowledge on Malingering Strategies," Annual Meeting of the Tri-State Undergraduate Research Conference, Morgantown, WV.
- K.D. Gruber and S.P. Reilley (2008, November), "The Impact of Studying Specific AD/HD Symptom Information on AD/HD Knowledge and Malingering of AD/HD Symptoms," Annual Meeting of the Kentucky Academy of Science, Lexington, KY.

**Poster Presentations:**

- S.P. Reilley, C.M. Watkins, K.L. Gruber, H. Scott, N. Weyh, M. Berry and R. Cooley (2009, May), "Impact of Enhancing AD/HD Knowledge on Malingering on Barkley AD/HD Symptom Scales," Annual Meeting of the Association for Psychological Science, San Francisco, CA.
- K.D. Gruber and S.P. Reilley (2009, March), "An Examination of AD/HD Malingering Strategies as a Function of AD/HD Knowledge Enhancement," Annual Meeting of the Kentucky Psychological Association, Lexington, KY.
- K.D. Gruber and S.P. Reilley (2009, April), "An Examination of AD/HD Malingering Strategies as a Function of AD/HD Knowledge Enhancement," Celebration of Student Scholarship, Morehead State University, Morehead, KY.

**Awards and/or Honors:**

Awarded Outstanding Psychology Scholar Academic Excellence and Research Excellence Awards at Psychology Awards Banquet. Awarded Outstanding Psychology Junior by the College of Science and Technology.

**TRACY OSBORNE****Major:**

Psychology

**Faculty Mentor:**

Shari Kidwell

**Research/Project Title:**

"Parental Insight into Children's State of Mind: Correlations with Children's Attachment Perceptions and Behaviors"

**Project Abstract/Summary:**

Tracy was involved in developing a coding scheme for children's behavior during an attachment interview, a measure she had previously developed expertise in via coding the children's transcripts (i.e., verbalizations). However, with her previous coding partner recently graduated and her newly-assigned partner often not readily available, I modified her Fellowship duties to focus on a different project. Specifically, Tracy assisted in the coding of transcripts and audiotapes from a study of attachment among college students. She was uniquely suited to learn and implement such complicated ratings from her previous work in attachment among preschoolers. Tracy's work on both studies resulted in interesting and important findings: 1) Preschooler's who told more secure attachment stories (i.e., more coherent, detailed, and positive) had fewer emotional and behavioral problems; and 2) Female college students had more difficulties following a romantic betrayal (particularly anger and somatic complaints) if they were insecurely attached to their parents.

Knowledge gained from Tracy's work is very likely to help inform the development of effective parent-child and adult intervention strategies in our community.

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

T. Osborne, S. Anderson and S.L. Kidwell (2008), "Insecure Representations of Attachment and Children's Internalizing and Externalizing Symptoms," Kentucky Academy of Science Annual Conference, Lexington, KY, November.

**Poster Presentation:**

T. Osborne, K. Alexander, A.S. Day-Brown and S.L. Kidwell (2009) "Interview and Questionnaire Methods of Measuring Attachment: Associations with Post-Betrayal Adjustment," Kentucky Psychological Association's Annual Conference, Lexington, KY, March.

T. Osborne, K. Alexander, A.S. Day-Brown and S.L. Kidwell (2009) "Interview and Questionnaire Methods of Measuring Attachment: Associations with Post-Betrayal Adjustment," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

Received Psychology Senior Scholar Research Award.

**Post-Graduation Plans (seniors only):**

Tracy will be attending Radford University's Master's in School Psychology Program in August. She will specialize in working with, within school settings, children who have learning disabilities and emotional and behavioral problems.

**CORY RUFFING****Major:**

Psychology

**Faculty Mentor:**

Ilsun M. White

**Research/Project Title:**

"Involvement of Amygdala in Drug Abuse"

**Project Abstract/Summary:**

This project examined the involvement of amygdala in amphetamine-induced behavioral activation. Consistent with previous reports, amphetamine reliably produced behavioral activation. However, excitotoxic (permanent) damage to the amygdala failed to affect amphetamine-induced activation. Injection of dopamine antagonist blocked amphetamine effects on behavior in both lesioned and control rats, suggesting that amphetamine effects are mediated via dopamine. In a parallel study, temporary inhibition of amygdala also failed to affect amphetamine-induced behavioral activation, whereas stimulation of amygdala further potentiated amphetamine effects. Our data suggest that under normal condition influence of amygdala to behavioral activation is minimal, but over-excitation of amygdala potentiates psychostimulant effects on behavior.

**Poster Presentation:**

C. Ruffing and I.M. White (2009), "Biphasic Modulation of Behavior Following Excitation of Amygdala in Rats," Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

C. Ruffing, B. Maynard, S. Osborne, W. White (2009), and I.M. White, "Excitation of the Amygdala Augments the Affects of Amphetamine on Behavior," Posters- at-the-Capital, Frankfort, KY, February.

C. Ruffing, B. Maynard, and I.M. White (2008), "Does Amygdala Contribute to Amphetamine-induced Behavioral Activation?" Kentucky Academy of Science, University of Kentucky, Lexington, KY, November.

**Awards and/or Honors:**

Research Excellence Award, Psychology Department, April, 2009.

Academic Excellence Award, Psychology Department, April, 2009.

**Post-Graduation Plans (seniors only):**

PhD in Psychology

**MATTHEW WAMPLER****Major:**

Psychology

**Faculty Mentor:**

Laurie Couch

**Research/Project Title:**

Originally, Matt was to work on two projects: "Psychological outcomes following romantic betrayal" and "Personality and social psychological aspects of love: Analyzing the importance of matching styles of loving within a couple. Due to unexpected circumstances (personal) he instead helped design and implement a project entitled "Relationship History and Attitudes: Loneliness and Infidelity Among College-Aged Students."

**Project Abstract/Summary:**

Due to personal circumstances, Matt left school mid-semester in Fall 2008. Thus, his fellowship was terminated early. He did, though, successfully design the study discussed above, and he completed IRB CITI training and lab training. The project is off to a great start due to his contributions.

**Project Dissemination:**

See above.

**Awards and/or Honors:**

N/A

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

Psychology

**Faculty Mentor:**

Sean Reilley

**Research/Project Title:**

"The Use of Multiple Publically Available Information Sources to Successfully Maligner Adult AD/HD"

**Project Abstract/Summary:**

Malingering of psychological disorders is a major problem for accurate diagnosis and treatment. Few studies have specifically evaluated malingered AD/HD and none to date have assessed the impact of using freely available web-based resources on subsequent knowledge of AD/HD and subsequent success in malingering. As part of her fellowship project, Ms. Watkins developed and created an Adult AD/HD Knowledge Scale which was used in an experimental lab based project involving use of different, credible sources of AD/HD symptoms

and case histories on successful malingering. Ms. Watkins was involved in all aspects of project development, pilot work, data collection, data entry, data analysis, and presentation of results at multiple state (Kentucky Academy of Science and Kentucky Psychological Association), regional (TriState Psychology Conference and Carolinas Psychology Conference), and national (Association for Psychological Science) professional conferences. Ms. Watkins was responsible for directly contributing to data collection and overseeing other undergraduate lab members in the collection and analysis of a total 100 participants for the 2008-2009 academic year. Appropriate with her level of training, Ms. Watkins learned how to design and implement an experimentally based study and to administer common psychological measures under the supervision of Dr. Reilley, a Licensed Psychologist in the State of Kentucky. These skills and the fellowship experience in general enhanced Ms. Watkins's familiarity with basic research and data analysis skills and components of those which are common to clinical research work. Ms. Watkins received a research award from the Kentucky Academy of Science and Departmental and College awards. She also received three offers for graduate study from Seton Hall, East Tennessee State University, and Morehead State University.

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

C.M. Watkins and S.P. Reilley (2009), "The Impact of Enhanced AD/HD Knowledge on Successful Malingering of Childhood Symptoms on the Wender Utah Rating Scale," *Journal of the Kentucky Academy of Science*, 69(2), 206.

**Oral Presentations:**

C.M. Watkins and S.P. Reilley (2009, April), "Initial Assessment of the Adult Knowledge of Attention Deficit Disorders Scales," Annual Meeting of the Carolinas Psychology Conference, Raleigh, NC.  
 C.M. Watkins and S.P. Reilley (2009, April), "The Impact of Experimental Increases in Adult AD/HD Knowledge on AKADDS Scores," Annual Meeting of the Tri-State Undergraduate Research Conference, Morgantown, WV.  
 C.M. Watkins and S.P. Reilley (2008, November), "The Impact of Enhanced AD/HD Knowledge on Successful Malingering of Childhood Symptoms on the Wender Utah Rating Scale," Annual Meeting of the Kentucky Academy of Science, Lexington, KY, and awarded 2<sup>nd</sup> place in Undergraduate Research Competition.

**Poster Presentations:**

S.P. Reilley, C.M. Watkins, K.L. Gruber, H. Scott, N. Weyh, M. Berry and R. Cooley (2009, May), "Impact of Enhancing AD/HD Knowledge on Malingering on Barkley Ad/HD Symptom Scales," Annual Meeting of the Association for Psychological Science, San Francisco, CA.

C.M. Watkins and S.P. Reilley (2009, March), "Development of the Adult Knowledge of Attention Deficit Disorders Scales," Annual Meeting of the Kentucky Psychological Association, Lexington, KY.

C.M. Watkins and S.P. Reilley, (2009, April), "Development of the Adult Knowledge of Attention Deficit Disorders Scales," Celebration of Student Scholarship, Morehead State University, Morehead, KY.

**Awards and/or Honors:**

Awarded 2<sup>nd</sup> place in Undergraduate Research Competition at the Kentucky Academy of Science. Awarded Outstanding Senior Academic Excellence and Research Excellence Awards at Psychology Awards Banquet. Awarded Outstanding Psychology Senior by the College of Science and Technology.

**Post-Graduation Plans (seniors only):**

Accepted for Graduate Study (Master's) at Seton Hall University, East Tennessee State University, and Morehead State University. Has accepted the offer from East Tennessee State University given their financial package (full tuition paid).

## **SPACE SCIENCE CENTER**

### **JIM C. BROWN**

**Major:**

Space Science

**Faculty Mentor:**

Benjamin Malphrus

**Research/Project Title:**

"Multiwavelength Variability Studies of Blazars"

**Project Abstract/Summary:**

This project was to be undertaken as a collaboration with the AGN astronomy research group at Western Kentucky led by Dr. Michael Carini. Dr. Carini and his student researchers will monitor a targeted set of AGNs using WKU's 24" optical telescope, while our student will monitor the same targets at 1420 MHz using the 21 m Radio Telescope. The multi-wavelength data will be correlated by the WKU group for analysis (described below).

The generally accepted model of the Active Galactic Nucleus (AGN) phenomena involves a central, supermassive black hole, surrounded by an accretion disk. Clouds of gas, which comprise the Broad Line Region, exist above and below the disk and are illuminated by the accretion disk. Perpendicular to the accretion disk are two jets of material, and the type of AGN we observe depends on the angle the jet makes with the line of sight and the strength of the jet itself. In the case of the Blazars, we are looking straight down the mouth of the jet, and the radiation is being beamed directly at us. Blazars are composed of two other classes of AGN known as BL Lacerate

objects (BL Lacs) and flat spectrum radio quasars (FSRQ). Thus, we see an object that is an extreme example of the AGN phenomena, and which provides a laboratory to test models of relativistic jet physics.

A fundamental question that is by no means clearly answered is what is the mechanism (or mechanisms) producing the observed variability and the two hump nature of the SED in Blazars. There are two broad classes of models that can explain the structure observed in the spectral energy distributions of Blazars, of which Blazar objects are a sub class: leptonic and hadronic models. The key to testing and distinguishing between the various models of the SED lay in multiwavelength monitoring. The specific project goals are to:

- 1.) Produce weekly radiometric (1.4 GHz) and optical photometric data (R-band) for a targeted set of Blazars
- 2.) produce a set of SEDs including radiometric data (at 1.4 GHz) and optical data in R-band for a target set of Blazars
- 3.) Analyze the SEDs for insight into the radiative mechanisms and for inter-day and intra-day variability.

**Project Dissemination:**

N/A

**Awards and/or Honors:**

N/A

### **DANIEL CLAY GRAVES**

**Major:**

Space Science

**Faculty Mentor:**

Thomas Pannuti

**Research/Project Title:**

"Chandra X-ray Observations of the Nearby Starburst Galaxy NGC 253"

**Project Abstract/Summary:**

This project involved the reduction and analysis of archival datasets produced by three separate observations made of the nearby starburst galaxy NGC 253 with the Chandra X-ray Observatory. The primary goal of this project is to identify remnants of supernova explosions (which should manifest themselves as discrete X-ray sources with soft spectra) in this galaxy and to compare the population of supernova remnants in a starburst galaxy (that is, a galaxy with an enhanced rate of star formation) with the population of supernova remnants in a normal galaxy (like the Milky Way). The reduction and analysis was accomplished "in house" using software packages installed on computers operating with the Linux operating system and located at the Space Science Center. Four candidate X-ray supernova remnants were identified: in addition, no X-ray counterparts were

detected for supernova remnants detected by prior optical and radio observations of this galaxy.

**Project Dissemination:**

**Published Abstract:**

T.G. Pannuti, E.M. Schlegel, D.C. Graves, and W.D. Staggs, "The Supernova Remnant Populations of the Sculptor Group Galaxies," 2009, 213th Meeting of the American Astronomical Society, *American Astronomical Society Meeting Abstracts*, Long Beach, CA, 213, #488.07.

**Posters and Oral Presentations:**

D.C. Graves, and T.G. Pannuti, "Chandra Observations of the Nearby Starburst Galaxy NGC 253," 2008, 94th Annual Meeting of the Kentucky Academy of Science, Lexington, KY, October – November.

T.G. Pannuti, E.M. Schlegel, D.C. Graves, and W.D. Staggs, "The Supernova Remnant Populations of the Sculptor Group Galaxies," 2009, 213<sup>th</sup> Meeting of the American Astronomical Society, Long Beach, CA, January.

D.C. Graves, W.D. Staggs, N.D. Fite, and T.G. Pannuti, "An Archival X-ray Study of Supernova Remnants in Nearby Spiral and Irregular Galaxies with the Chandra X-ray Observatory," 2009, Kentucky Posters-at-the-Capitol Undergraduate Research Conference, Frankfort, KY, February.

D.C. Graves, "An X-ray Study of Supernova Remnants in Nearby Starburst Galaxies," 2009, Celebration of Student Scholarship, Morehead State University, Morehead, KY, April.

**Awards and/or Honors:**

First Place, Undergraduate Research Paper Competition, Psychology Section, Kentucky Academy of Science, November, 2005.

**BRANDON MOLTON**

**Major:**

Space Science

**Faculty Mentor:**

Benjamin Malphrus

**Research/Project Title:**

"Development of a Flatsat Version of the KySat-1 Orbital Satellite for Software Testing and Subsystems Development"

**Project Abstract/Summary:**

The Kentucky Satellite (KySat) consortium is a collaborative effort of public and private partners throughout the state of Kentucky focused on small satellite development and access to space for small payloads. KySat's ultimate goal is to solicit public and private payloads for an on-going series of launches of near-space, sub-orbital and orbital missions. The KySat consortium has developed a bus standard, utilizing a combination of Commercial-Off-the-Shelf (COTS) CubeSat class technology that is rapidly establishing itself for

access to space worldwide and proprietary technology for which the consortium is rapidly developing a flight heritage. The use of the KySat bus based on components available for the PC-104 form factor mitigates risk while minimizing the development time and maximizing the performance of the bus.

The satellite bus consists of a command and data handling processing module, system support module (SSM), amateur band radio, electrical power system, solar arrays, and a payload interface module (PIM). The SSM and PIM (along with other subsystems including solar cell boards, antennas and deployment systems, etc.) were developed exclusively by the student team. The C&DH system along with the transceivers and on-board camera are modular COTS systems that conform to the cubesat standard. The processing module consists of a Texas Instruments MSP430 microcontroller, mass data storage interface as well as the supporting interface circuitry. It is provided by Pumpkin Inc. The system support module is a custom module that provides additional necessary functionality to the space craft bus. The primary communication system is based on a commercially available transceiver purchased from the StenSat Group. It transmits in the UHF, 436.795 MHz, at one watt equivalent isotropically radiated power (EIRP) and receives in the VHF band, 145.850 MHz, with a sensitivity of 113 dBm. The electrical power system, purchased from Clyde Space out of Scotland, interfaces with the solar arrays as well as four lithium polymer batteries. The solar arrays are made with custom printed circuit boards that combine improved triple junction solar cells (TASC) from SpectroLab with the protection circuitry necessary for reliable operation. The payload interface module is a custom system that allows the bus to communicate and interface with the payloads onboard the spacecraft. The space craft structure consists of a chassis constructed from sheet aluminum that has been hard-anodized and alodined with stainless steel fasteners also provided by Pumpkin Inc. The entire space craft conforms to the CubeSat Design Specification (CDS).

The purpose of this project is to develop a Flatsat version of the KySat-1 Orbital system. Flatsats were developed by NASA as a form factor for development and testing of satellite subsystems. Currently, software systems are being developed (flight support software and ground station software) and flight hardware systems are being tweaked and tested. The Flatsat form factor will be developed during this project to facilitate these efforts.

### **Results/Accomplishments**

The student team has studied in detail the satellite subsystems comprising KySat-1. They have designed the FlatSat, constructed the frame, built models of the components, and laid out the design in CAD. Most of the subsystems and materials have been procured. Future work will include assembly of the FlatSat, installation of the subsystems, wiring and integration of components, driving the system with a Pumpkin development board, testing functionality of subsystems, and disseminating results.

### **Project Dissemination:**

#### **Oral Presentation:**

B. Molton, "Development of a FlatSat Version of the KySat-1 Orbital Satellite for Software Testing and Subsystems Development", Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.

### **Awards and/or Honors:**

N/A

## **ANTHONY N. SHELLEY**

### **Major:**

Space Science

### **Faculty Mentor:**

Benjamin Malphrus

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

"Design and Implementation of a 40 ft. Space Tracking Antenna for Small Satellite Mission Support and Radio Astronomy Research"

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

Key infrastructure is currently on-hand at the Space Science Center to develop an additional full motion parabolic dish space tracking systems—a 40 foot diameter system. This additional ground resource will serve as space tracking antennas to support the astrophysics and satellite telecommunications programs and satellite operations support. The primary function of both is to serve as a redundant system to the 21 Meter antenna. NASA contracts require a 99.98% data return rate for telemetry missions and redundant systems are necessary to provide this level of accuracy. Additionally, the 40 foot system will be designed to support specific missions such as NASA launch and early orbit support (LEOS) services. These systems will be designed to support essentially the same science program as the 21 Meter, but at lower gain. The URF student will be intimately involved in the development of these systems including engineering the electromechanical drive systems, interfacing and feedback systems, software development for automation and control of the system, software development for data collection and analysis, and

in the operation of these space tracking systems.

The 40 ft. reflector is slated for refurbishment and a series of feeds will be designed to replace the current C-band prime focus system, permitting use in L, S, C, and low X bands (1-10 GHz).

The 40 ft. system will primarily supports undergraduate student research projects in observational astrophysics, hardware and software design related to radio astronomy observations, telecommunication systems, and space systems operation. The 40 ft. will be engaged in radio observations of microvariability in active galactic nuclei (AGNs), observations of transient events, (i.e. radio afterglow of Gamma Ray Bursts) and surveys (i.e. kinematic surveys of atomic hydrogen in the Milky Way Galaxy). In Earth station mode, the 21 m is capable of tracking a variety of satellites including LEOs, MEOs, and GEOs. The 40 ft. will serve as a redundant Earth station for the KySat-1 and -2 orbital missions, as an Education and Public Outreach (E/PO) Earth station for NASA's PharmaSat mission, and as an Earth station for future NASA (and potentially ESA) missions.

### **Results/Accomplishments**

A primary outcome of this project has been the design of the 40 ft. Space Tracking Antenna, including major subsystems:

- 1.) 40 ft. parabolic reflector
- 2.) foundation
- 3.) power and data lines, conduit, and trenching
- 4.) full-motion positioner
- 5.) focal feed support structure
- 6.) feed ring adaptor
- 7.) pointing and tracking software system
- 8.) position angle feedback system
- 9.) controlling computer system
- 10.) schematic diagrams

The positioning and RF systems have been designed. The foundation has been designed and a work order placed. The L-band feed was characterized by the student researcher. The parabolic dish was assembled.

Future work will involve pouring the foundation, installation of the positioner and dish, installation and testing of RF and IF systems, measurements of performance characteristics, and operationalizing the system.

### **Project Dissemination:**

N/A

### **Awards and/or Honors:**

Outstanding Senior in Space Science, College of Science and Technology Awards Dinner, April, 2009.

### **Post-Graduation Plans (seniors only):**

N/A

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

## **ASHLEY ADKINS**

### **Major:**

Government/IRAPP

### **Faculty Mentor:**

Paul D. Steele

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

“National Prison Population Trends, with Particular Attention to the Commonwealth of Kentucky”

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

The purpose of this research is to further the understanding of the influence of social factors on growing incarceration rates. Comparisons were made between states with rapidly growing prison populations, such as Kentucky, slow-growing states, and the nation as a whole. Relying on secondary data from federal and state agencies, we examine the relative influence of changes in the State’s criminal incidents and arrests, demographic and economic indicators, and criminal justice statutes and operational policies on overall incarceration trends and those for various subpopulations of prisoners. Through policy analysis we conclude that statutes and policies have had a relatively strong influence on prison populations. The support for this project was provided by the Kentucky Department of Corrections, and the MSU Undergraduate Research Fellow Program.

Research has been completed with national level criminal justice data to show that traditional assumptions concerning prison growth tend to be erroneous. Guided by the research results and recent contributions to the literature, the project is moving into the collection of additional demographic, educational, and political data for the Commonwealth and nation.

### **Project Dissemination:**

#### **Poster Presentations:**

- A. Adkins, “National Prison Population Trends, with Particular Attention to the Commonwealth of Kentucky”, Posters-at-the-Capitol, Frankfort, KY, February, 2009.
- A. Adkins, “National Prison Population Trends, with Particular Attention to the Commonwealth of Kentucky”, Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.
- A. Adkins, “National Prison Population Trends, with Particular Attention to the Commonwealth of Kentucky”, Posters-on-the-Hill, Council on Undergraduate Research, Washington, DC, May, 2009.

### **Awards and/or Honors:**

Selected as the first student from MSU to participate in Posters-on-the-Hill in Washington DC.  
Received congratulatory letters from Robin Webb for Ashley's accomplishment. Her success contributed to Ashley's selection as a Legislative Research Commission Intern for Spring 2010.

## **SUSAN BROWN**

### **Major:**

Environmental Science

### **Faculty Mentor:**

Brian Reeder

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

“Preliminary Comparison of Nutrient and Total Suspended Sediment Data from Water Samples Collected using Teledyne Portable Autosampler and EPA Field Methods for Wadeable Streams”

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

Collecting water samples for measuring water quality in streams can be a very labor-intensive and time consuming process. Autosamplers can take samples in remote regions on time schedules that would be difficult or impossible with human labor. Autosamplers can reduce the amount of field work involved in stream research and are ideal for taking multiple samples over short intervals of change, such as during a storm event. The MSU Center for Environmental Education has been involved in a number of projects to assess changes in surface water quality in Eastern Kentucky; however, we are concerned about the reliability and validity of water samples taken with autosamplers compared to traditional grab samples. We compared water quality measurements of simultaneously collected water samples (autosampler and grab). Samples were collected from Dry Creek and Morgan Fork, tributaries of Triplett Creek, an “impaired” stream under section 303(d) of the Clean Water Act.

### **Project Dissemination:**

#### **Poster Presentations:**

- S.R. Brown, et al. (2009, April), “Preliminary Comparison of Nutrient and Total Suspended Sediment Data from Water Samples Collected using Teledyne Portable Autosampler and EPA Field Methods for Wadeable Streams,” Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2009.
- S.R. Brown, et al. (2009, March), “Preliminary Comparison of Nutrient and Total Suspended Sediment Data from Water Samples Collected using Teledyne Portable Autosampler and EPA Field Methods for Wadeable Streams,” Kentucky Water Resource Research Institute, Lexington, KY, March, 2009.

### **Awards and/or Honors:**

N/A

## **LAURA HALL REED**

### **Major:**

Criminology

### **Faculty Mentor:**

Paul D. Steele

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

“Survival Analysis of Sex Offenders in Treatment:  
Considering the Influence of Static and Dynamic  
Risk Factors”

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

As a part of a larger investigation of sex offending and public safety in Kentucky, this study employs survival analysis to explore the contribution of personal and social risk factors to the completion of mandatory sex offender treatment programs in the Commonwealth. Since the successful treatment completion has been inversely associated in several studies with criminal recidivism, it becomes important to identify the risk factors influencing completion, and to recommend policies and procedures resolving barriers to successful treatment outcomes. As treatment completion rates increase, the criminal recidivism rate of such offenders is likely to decrease, resulting in safer communities in Kentucky. The project was made possible through MSU's Undergraduate Research Fellow program, and the Mental Health Division of Kentucky's Department of Corrections.

Thus far, Laura has collected the data, entered it into an electronic database, conducted initial analysis, and has generated some preliminary findings. Her results show that those who fail early in treatment are likely to have substance abuse and mental health problems, and those that fail later in treatment are likely to have situational problems such as transportation and employment problems. Those who are able to successfully complete treatment tend to have indigenous social supports, primarily through their family. Due to chronic health problems, the more sophisticated multivariate analysis of the data have not been completed. However, since Laura will be entering the graduate program in the SSWC Department, we will continue to analyze the data, and this project will possibly be the basis of her Master's thesis.

### **Project Dissemination:**

Laura was scheduled to present at the Celebration of Student Scholarship in April, 2009, but a health crisis precluded her participation.

### **Awards and/or Honors:**

None. Graduated with honors in May, 2009.

### **Post-Graduation Plans (seniors only):**

Enrollment in MA program in SSWC, with an emphasis in criminology. Will continue to work at the Center for Justice Studies as a Research Assistant.