

2013-14 Faculty Development PROGRAMS



NKU
NORTHERN
KENTUCKY
UNIVERSITY

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INTRODUCTION

This publication summarizes the activities and work of Northern Kentucky University faculty members who were supported by the university's faculty development programs during the academic year of 2013-14 and the summer of 2014. Three faculty development programs are currently in place at Northern: sabbatical leaves, summer fellowships, and faculty project grants.

Sabbatical Leaves are granted by the university to promote the professional growth and effectiveness of the faculty. Sabbatical leaves are granted to enable recipients, based on merit, to devote additional time to scholarly activity and research, advanced study, or artistic performance – all in pursuit of academic objectives. Tenured, full-time faculty and department chairs are eligible to apply for sabbatical leave. In 2013-14, 18 faculty members were approved for sabbatical leave.

Summer Fellowships provide funds to support professional development during the summer months. Examples of types of activities that may be applicable include: improving teaching skills; research; scholarly writing; creative or artistic projects; preliminary studies and literature searches; and attending seminars or courses related to one's field or professional work. Full-time tenure-track or tenured faculty may apply for a faculty summer fellowship. Each of the 14 faculty members awarded a fellowship for summer 2014 received an award of \$6,000, for a total of \$90,000.

Project Grants provide funds to pay expenses, purchase equipment, and to cover other financial needs for sabbatical leaves, faculty summer fellowships, and for other instructional, scholarly, and creative activities where financial support is not available through department budgets. Full-time tenure-track or tenured faculty may apply for a faculty project grant not to exceed \$6,000. In 2013-14, 14 faculty members received a project grant, for a total of \$56,000.

The faculty development programs offer an opportunity for faculty members to grow professionally, to keep abreast of developments in their disciplines, and to infuse these experiences into the classroom to enhance student learning. As illustrated in this publication, Northern's faculty development programs have enabled our faculty members to undertake important work and to accomplish great things!

FACULTY DEVELOPMENT PROGRAMS AT NORTHERN KENTUCKY UNIVERSITY

PROJECT GRANT 2013-14

Matthew Albritton
*Department of
Visual Arts*

This House to the White House: Presidential Birthplace

Funding made available with the faculty project grant facilitated the researching, visiting, and photographing the birthplaces of 12 presidents. This is the continuation of a project to document the birthplaces of all the US presidents in photographs and writing. While I photograph the sites, my collaborator, Dr. Andrew Leiter of Lycoming University is completing the writing. The summer's travels included a meeting with Dr. Leiter to continue discussions about our collaborations on the project. In two excursions funded by the project grant, I traveled to the Boston area and made a trip through Vermont, New York, and Pennsylvania. I was able to visit and photograph the following birth sites: John Adams, John Quincy Adams, George H. W. Bush, George W. Bush, JFK, FDR, Coolidge, Pierce, Arthur, Roosevelt, Van Buren, and Fillmore. This leaves only 7 more sites to finish the project and begin putting the book together with Dr. Leiter. The interdisciplinary approach provides multifaceted entry points into American history and culture. In addition to a personal response to place and history through my photographs, the project highlights the intersections of a variety of subjects such as specific historical locales and how they change over time, cultural mythologies of the American presidencies, issues of historical preservation, and 280



Looking in on 'Silent Cal'



Discussing the project with Frank & Eleanor

years of cultural transition from Colonial America (and George Washington's birth in 1732) to the present.

In addition to the work and travel above, the project grant enabled the purchase of an updated camera body and wide-angle lens. The current digital age in photography has many wonderful advantages. However, one of the disadvantages is the blinding speed at which photographic equipment becomes obsolete. With 44 sites to photograph, it is important to keep my vision fresh throughout the project. The combination of the higher pixel count of the camera and the wide angle as well as image-stabilization of the lens has opened up more creative possibilities.

Now I am able to shoot in lower light and tighter spaces and push the composition. As I begin to edit the 12 sites photographed this summer, I can already see the results. This equipment will keep the project fresh and engaging throughout.

SUMMER FELLOWSHIP 2014



Rebecca Bailey
*Department of History
and Geography*

To Make Plain The Issue: The Life and Work of West Virginia Mine War Journalist Winthrop D. Lane

When I applied for funding for *"To Make Plain The Issue": The Life and Work of West Virginia Mine War Journalist Winthrop D. Lane*, I envisioned a very modest monograph project, with a brief biographical sketch and selected annotated writings. I now know that a full-length biography is not only possible, but necessary.

An investigative journalist, Winthrop D. "Dan" Lane played significant roles in: the development of modern social welfare work and criminology (juvenile delinquency, care of the mentally ill and handicapped, and the humane treatment of the incarcerated); opposition to U.S. entry into World War I, and the "militarization of America;" and the establishment of the Federal Emergency Relief Administration during the New Deal. Examples of the individuals with whom Lane worked include: Max Eastman, Jane Addams, and Louis Brandeis. Between 1916 and 1936, Lane faced condemnation by the American Legion, conservatives, and American Fascists—he even publicly disagreed with FBI Director J. Edgar Hoover.

I can now outline my biographical monograph and draft its first two chapters. The discovery of records pertaining to his second wife, and her work in the New Deal will find fruition in a new project. But first, in the upcoming year, I hope to resolve the enigma that surrounds Lane's last twenty years—he virtually disappears in the early 1940s. Was he ill? Was he blacklisted? What brought a prolific life of public advocacy and service to its close?

So We Can Get Better Data: Examining the Discourse of Middle School Science Students During Small Group Projects

The Next Generation Science Standards calls for P-12 students to practice science collaboratively in project-based environments. This reform, published in 2013, represents a significant shift for many teachers who have limited experience with and time to engage students in meaningful collaborative work. The reform also calls for students to engage in science practices that resemble those of professional scientists, which involve specialized language practices shared during scientific discourse (e.g., use of evidence in argumentation and technical vocabulary). Yet, we have little understanding about how students collaborate in science, let alone how to improve their participation in and understanding of science through discourse. The Faculty Development Fellowship enabled me to conduct detailed analysis of data taken in a previous qualitative study in middle school science classrooms in a large urban district in the United States. The primary outcome of this award was the creation and micro-analysis of transcriptions of 18 hours of recordings of discussion during collaborative long-term projects in which students employed various science discourse practices in multiple ways. These analyses resulted in several pieces for dissemination of the research, as well as a plan for subsequent research. A goal of the future research is to develop a corpus of talk data and a model for examining peer group discourse in light of the Next Generation Science Standards. The model would aim to identify teaching practices that support meaning making through peer discourse in science at all levels.

SUMMER FELLOWSHIP 2014



Patricia Bills
*Department of
Teacher Education*

Memory and Risk Society: The Political and Rhetorical Work of Digitally Remembering Environmental Trauma

The application for the sabbatical identified two goals:

Goal #1: To construct a literature review that consists of the scholarship being conducted in the areas of digital memory, genre, risk society, and risk communication.

Goal #2: To construct two working drafts from the analysis of the sites of digital memory with the intention of preparing these drafts for publication in peer-reviewed journals and presentation at national communication and rhetoric conferences.

The first goal was met, evident by the attainment of the deliverables identified in goal #2. Specifically, the sabbatical resulted in the completion of one article, "The Ethics of Memory: Commemorating Disasters in an Age of Risk," that is currently under review for publication in the peer-reviewed journal *Southern Communication Journal*. Papers have additionally been accepted to two national conferences held in 2014, the 37th Annual Appalachian Studies Conference and the 16th Biennial Rhetoric Society of America Conference. Moreover, the semester's activities included the development of two additional working drafts and the emergence of two new lines of scholarly inquiry.

SABBATICAL LEAVE 2013-14



Tom Bowers
Department of English

New Kid on the Block: the Ecology of Callery Pear, an Emerging Woody Invader

In summer 2014, I began an investigation of the ecology of Callery pear, also known as Bradford pear. This small tree, originally from China and Vietnam, has escaped from cultivation as an ornamental plant and has now become an invasive species in our area. I and a student, Miciah Ocasio, attempted to determine seed germination requirements. Unfortunately, the method we used to extract seeds from the fruit introduced fungal infections that interfered with this effort. However, we now know how to best extract seeds, and this effort will be continued this fall and winter, when a new crop of seeds becomes available. We did succeed in collecting light-photosynthesis curves from early to mid-summer, which indicated that the best temperature for photosynthesis is ~20°C; these data also indicated that this species is shade-intolerant, meaning it is most likely to invade open and disturbed areas rather than forest understories. In addition, we cut down a number of pear trees to determine allometric equations. These equations will allow us to estimate the biomass of a number of tree fractions, including wood, bark, branches, leaves, and fruits, based on measurements of diameter and height. This will be of great use in estimating how much biomass this species can attain in invaded areas. Individual trees have been sectioned into components, dried, and weighed. This work is still in progress and is expected to be finished by the end of 2014.

SUMMER FELLOWSHIP 2014



Richard Boyce
*Department of
Biological Sciences*

SUMMER FELLOWSHIP 2014



Steve Crites
*Department of
Teacher Education*

Improving Engagement in Planned Activities by Improving Staff Skills

My summer fellowship project entitled “Improving Engagement in Planned Activities by Improving Staff Skills” was designed as a staff development project to improve staff skills and, in turn, engagement of clients with intellectual disabilities in planned activities at Redwood School and Rehabilitation Center in Ft. Mitchell, KY. I have been partnering with Redwood since arriving at NKU in 2007. The goal of the partnership has been to enhance client services provided in the day program for individuals with severe intellectual and physical disabilities by improving activities and increasing client engagement. This summer fellowship project is an extension of that ongoing partnership with Redwood and addressed the specific need of additional training for staff.

The project was the development of three on-line training courses to be completed by Redwood staff. Each course was designed with a pre/post test, reading materials, videos and models, and activities. I purchased a domain name and a webhosting service and learned to use moodle software to create the courses. They are housed at <http://www.behavioraltraining.org/moodle> and are designed to be self-paced with a pre-test followed by material to read and view and activities to engage the learner. After completing each course, staff members complete the post-test with a proficiency of at least 80% before moving on to the next course.

The three courses I developed are as follows:

- 1) Systematic teaching and motivation of clients
- 2) Improving communication of clients
- 3) Making modifications and accommodations in planned activities for clients

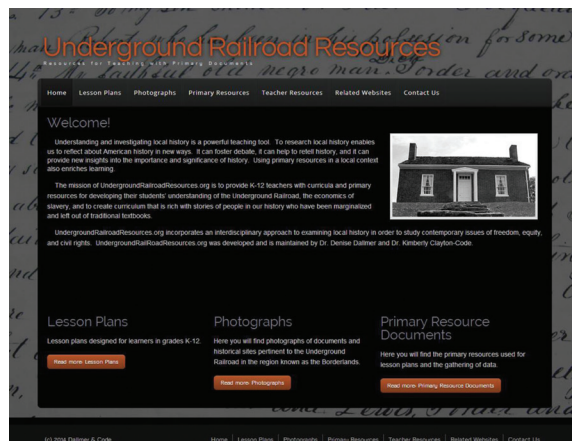
PROJECT GRANT 2013-14



Kimberly Clayton-Code
*Department of
Teacher Education*

Using Primary Resources to Develop Students’ Understanding of the Economic Impact of Slavery in Kentucky

This faculty senate funded project sought to create content-based curriculum rich with the stories of people in our history who have been marginalized and left out of traditional textbooks. We used a multidisciplinary approach to examine our local history in order to study contemporary issues of freedom, equity, and civil rights. The intent was for participating teachers to use the knowledge they gained from local primary resource documents to make this aspect of our region’s unique history come alive for their students. By using the wills and deeds of people who lived in Mason County, Kentucky we created a curriculum that is not only historically accurate but is interesting and thought-provoking for students as well. This was accomplished through the development of the curriculum-based website: <http://undergroundrailroadresources.org/>. The UndergroundRailroadResources.org project website makes connections between historical concepts, primary resource documents, economics, and children’s and adolescent literature. The website also features lesson plans for teachers of students in grades K-12, photographs of historical sites, deeds and wills, additional teacher resources, and related websites.



Denise Dallmer
*Department of
Teacher Education*

Review of Urban School Curriculum Initiatives – 2008-2014

Dr. Doug Feldmann traveled to Philadelphia, Pennsylvania in February 2014 to conduct the culminating portion of his research for a series of professional journal articles he is writing (and has already published) on innovative examples of urban school curricular policy. In the process of conducting his research, Dr. Feldmann identified a cutting edge magnet program in the midst of this urban core. The school, called the “Science Leadership Academy,” actively engages students in grades nine through twelve in a hands-on, learner driven plan of study. As with other research sites he has identified in the recent past, Dr. Feldmann was able to interview the teachers and administrators at the Academy, tour its facilities, and witness first-hand the activities that make it a most worthwhile venture in curriculum application and student engagement – one which other urban school systems could emulate.



PROJECT GRANT 2013-14

Doug Feldmann
Department of Teacher Education



Spinning Black Holes in String Theory

One of the most important questions in theoretical physics is to find a unified theory of all fundamental forces in nature. Among several models that are being studied in the current literature, one of the most popular and studied extensively is the String Theory model. Black holes, which are formed by gravitational collapse of massive stars, are excellent theoretical labs to test new theoretical models describing the fundamental forces of the Universe. In this project, we studied the orbits of test particles around a black hole in string theory. We incorporated Mathematica software for solving equations and also to plot various physical quantities related to the black hole geometry. A full study was performed with various values of the parameters of the theory such as the mass of the black hole, angular momentum of the particle and energy of the particle etc. Two physics majors were involved with the project during the Fall 2013 semester.

PROJECT GRANT 2013-14

Sharmanthie Fernando
Department of Physics and Geology

Peaceful and Wrathful Deities

My sabbatical began with the completion of sculptures called “Peaceful and Wrathful Deities”. This work was exhibited in Imminence: Sculpture by Ana England and Steven Finke at the Weston Gallery in the Aronoff Center for the Arts. For my part of the show I had made nineteen sculptures that had taken the last three years to produce.



The work consisted of unique bronzes, fabricated and machined metals, wood, glass, stone and two articulated skeletons. Images of the pieces can be seen at: <http://www.cincinnatiarts.org/weston-art-gallery/exhibitions/detail/imminence>. More than 5700 people attended the show and related public engagement activities included lectures sponsored by Scripps Howard Center and Santa Fe Community College.

The rest of the sabbatical was split between studio work and site preparation for the next phase of “Peaceful and Wrathful Deities”. The site work has changed since the sabbatical proposal due to the Emerald Ash Borer, which is killing the ash trees. The logging is more extensive and I am milling the logs into lumber to be used for future related projects. This is ongoing work and I am also considering the ecological ramifications and how to respond.

The studio work is focused on small sculptures that still refer to impermanence. These sculptures begin with the relic of a life and enshrine it. I will exhibit some of these pieces in a sabbatical exhibition at NKU this January.

SABBATICAL LEAVE 2013-14

Steven Finke
Department of Visual Arts

SUMMER FELLOWSHIP 2014



Monica Gallegos
*Department of
Communication*

Loneliness, Cultural Values, and Health Across the Lifespan: Understanding the Latino Health Paradox Using Biomarker and Survey Data.

This document is both a formal summary of my accomplishments with the NKU Faculty Summer Research Fellowship, and a “thank you” to NKU and the Benefits Committee and the office of the provost for supporting my research endeavors. My primary focus this summer was a feasibility study, which is an extension of my dissertation work from 2012-2013. My research aims to explain the *Latino Health Paradox*, a phenomenon that identifies Latinos as having better outcomes for some health issues (e.g., lower mortality rates) than non-Latino Whites, despite numerous disadvantages related to health such as less education and lower income. My overarching hypothesis to explain this phenomenon is that cultural values provide health benefits for Latinos. This study included both self-report measures of health and social well-being, but also transcends my previous work by collaborating with the College of Nursing at the University of Arizona to add a biological measure (i.e. salivary cortisol) to bolster potential findings.

The fellowship allowed me to have the time necessary to complete this multifaceted study, including traveling from Kentucky to Arizona and back, as well as a great deal of travel within Arizona to collect saliva samples from participants. I also had time to create and mail over 90 packets with study materials for participants, visit senior centers for recruitment, and regularly meet with my research assistant, and two consultants. Overall my RA and I collected materials from 66 individuals. The goal of this study is to use the results to apply for an NIH grant in October of 2015, and thus far I am on track to do so.

Although the feasibility study consumed most of my time this summer, the fellowship also allowed me to start an additional project with a colleague at Pepperdine, which addresses the role of cultural values and gratitude among people who care for older adults.

In closing, I am extremely grateful for this fellowship, and believe that it will be a major contributing factor in attaining my goals as a scholar.

SUMMER FELLOWSHIP 2014



Kebede Gemene
*Department of
Chemistry*

Simultaneous Detection of Potassium in Red Blood Cells and Plasma Using a Novel Ion-Selective Electrode Technology

The main focus of my research is to develop electrochemical sensors for biomedical, clinical and environmental applications. Accordingly, we work on developing new membrane compositions with enhanced selectivities and new measuring protocols for the analytes of interest. Recent research has shown that in addition to extracellular (plasma) potassium concentration, intracellular, red blood cell (RBC) potassium concentration is associated with levels of blood pressure, where low concentration in RBCs can be an indication of hypertension or risk of developing hypertension. Thus, accurate simultaneous measurement of potassium in plasma and RBCs is critically important for health care applications. Classical potentiometry, which is currently almost exclusively used for the measurement of potassium in plasma in clinical laboratories, and the traditional flame photometry method have limitations to measure potassium in plasma and RBCs simultaneously. Thus, the specific objective of the project supported by this summer fellowship was to develop novel pulsed chronopotentiometric sensors for measurement of potassium in plasma and RBCs simultaneously. The protocol involves measuring of plasma potassium followed by lysis of RBCs and then measuring the potassium concentration in the lysed blood. During this summer fellowship, two of my research students and I worked on two important aspects of the project: (i) extending the measuring range of our technique to higher concentration to enable direct measurement of potassium in undiluted blood plasma and (ii) developing an efficient and rapid protocol for lysis of RBCs. Promising results were found in both of these areas. We have continued this research in fall 2014 to bring the project to completion.

Patterns of Success in Native STEM Learning

In fall 2013, I received a sabbatical leave to focus on a newly-awarded National Science Foundation grant (HRD 1239768). The three-year grant enables me to collaborate with faculty at Brigham Young University and Chief Dull Knife College (CDKC) to investigate the impact of mathematics reforms on students' success in mathematics – with a particular emphasis on developmental mathematics. Year one of the HRD project focused on the creation and initial testing of an interactive database, compiled from evaluation data on the numerous curriculum reform projects at the college. Student data for the years 1996-2013 were made available to the HRD project. Thus, the initial portion of my fall 2013 sabbatical was devoted to the incorporation of approximately 4800 student records into the database. Once these data were incorporated into the database, I examined the utility of the database through numerous research questions. Fall 2013 analyses indicated that implementation of mathematics reforms at CDKC in 2003 have resulted in higher success rates among developmental students and increased durations in developmental mathematics, but have not significantly impacted student performance in college-level mathematics. A cohort-by-cohort analysis of mathematics reform efforts, however, indicates that the curricula received by students has not been static, but has evolved over the years. Ongoing analyses are identifying the characteristics of each iteration of “reform mathematics,” as well as iterations employed by particular instructors. Initial analyses suggest that some versions may result in higher levels of success, a fact that could reveal characteristics of effective mathematics instruction at CDKC.

SABBATICAL LEAVE 2013-14



Theodore Hodgson
Department of
Mathematics and
Statistics

A Comparison of the Indiana, Kentucky and Ohio LLC Acts with the Delaware and Revised Uniform LLC Acts with an Emphasis on the Governance Provisions of Each with Accompanying Teaching Materials

Every Limited Liability Company (“LLC”) is governed by the rules of the jurisdiction in which it is formed. Each jurisdiction’s LLC act contains provisions governing the formation, operation and termination of an LLC. While some provisions in each jurisdiction’s act are mandatory, many are default provisions, applicable only to the extent that the parties do not agree to governance rules they have crafted to meet their specific situation. My initial goal was to compare the LLC statutes of Kentucky, Indiana and Ohio with each other and with the Delaware LLC statute and with the Revised Uniform Limited Liability Company Act to assess the effectiveness of each statute in balancing the flexibility granted LLC participants with the overall purposes of the statute. During my sabbatical I expanded the scope of my research to include the statutes of all fifty states and the District of Columbia. Based on that research I will present materials on one aspect of the LLC law, the indemnification and advancement rights of LLC participants, at ABA Business Law Section’s 2014 LLC Institute. I will incorporate that material in an article on LLC indemnification and advancement rights to be completed during this academic year. In addition, I will use the results of my research to teach a new course, Unincorporated Enterprises, in the spring, 2015 semester.

SABBATICAL LEAVE 2013-14



Dennis Honabach
Chase College of Law

SABBATICAL LEAVE 2013-14



Yi Hu
*Department of
Computer Science*

Design an Adaptive Database Engine for Database Intrusion Prevention

Database system is the nerve center of the IT infrastructure of every organization. It stores every piece of personal and organizational information. Thus defending database servers from unauthorized accesses is critical for every organization. Although a variety of security mechanisms are applied to protect database accesses, database intrusion remains a top threat. My sabbatical research designed an architecture of an adaptive database engine for improving database security. It can understand the semantic relationships of data in databases and thus is able to identify malicious transactions at the heart of the database engine. The benefit of this research is fundamental to the success operations of database systems.

Conventional database security can employ a wide range of access controls including database roles, fine-grained object access and virtual private databases. Access controls are used to protect against malicious attacks and to ensure that established database privileges are not misused. Intrusion detection systems can augment these controls by alerting the intrusion response team after an attack has occurred. While intrusion detection can assist forensic analysis, a passive response to detection can permit the inflicted damage to go undetected for a long period of time, allowing the damage to potentially propagate. In contrast, we propose an adaptive anomaly-based intrusion prevention system to secure the database from attacks. The approach requires the database to learn the activities considered normal using training data taken from production. The model adapts to stringent variations of the training data while in operation, reducing the potential for normal activities to be misclassified as malicious.

SUMMER FELLOWSHIP 2014

Renee Human
*Department of
Communication*

Design and Development of a Career-Preparatory Responsive Gamified Website

The final outcome of this summer fellowship was a proposed web-based experience accessible across multiple platforms and devices, focusing on pre-career preparation for NKU students including online tasks and tips which individual students can undertake and achieve to earn points toward rewards. The project included several stages including the design, refinement and user testing of interface mock-ups; creation, user query and fine-tuning of a gamification system; evaluation of multiple web design and development management systems; and precoding of a framework for the project. Although the project is incomplete due to a few false starts in development, the lessons and trends in web development and gamification are being used in teaching the MIN 440 Advanced Media Interactivity course this semester and a prototype will be built out over the course of the following year in coordination with independent study students in the spring and summer of 2015.



SUMMER FELLOWSHIP 2014



Parmita Kapadia
Department of English

Corporate Globalism and the Female Immigrant Experience

As I wrote in my application, my project examines how increasing global corporatism impacts the immigrant experience, particularly the experiences of South Asian women. The Summer Fellowship award allowed me to conduct research on how the exponential growth in the Information Technology sector in the United States has led to a boom in emigration from India. I explored how the IT industry lobbied congress to increase the number of visas granted to IT professionals. I also researched how the influx of IT workers—people on the H1b visa—and their sponsored spouses—those on the H-4 visa—is affecting Indian diasporic communities across the United States. Through my research, it has become clear that the H-4 visa is limiting not only the lives of the holders and their families but also the contributions that these women can make to their communities. Further, this summer I examined how postcolonial literature and film represents the legal and cultural status of these women. In the “Goals and Criteria” section of the application, I wrote that in addition to expanding my research, I hoped to present my work at professional conferences. I believe I have accomplished this goal as well. The work I did this summer will allow me to propose a paper for the South Asian Literary Association conference.

Developing a New Undergraduate Research Program Focused on Data Mining and Developing Characterization Results and Goodness-of-fit Testing on Distributional Assumptions of Statistical Models



This sabbatical project focused mainly on two aspects. The first aspect aimed to develop a new undergraduate research program on data mining in a statistical framework. I explored several literatures, learnt new developments in data mining and got familiar with available statistical software on data mining. The second aspect was intended to continue my research on characterization and goodness-of-fit testing. I worked on developing and evaluating Empirical Distribution Function (EDF) goodness-of-fit tests for testing the multivariate normal distribution.

SABBATICAL LEAVE 2013-14

Dhanuja Kasturiratna
Department of Mathematics and Statistics

The Influence of Load Configuration on Lower Extremity Biomechanics During a Drop-Jump Task

I received the Faculty Summer Fellowship and Project Grant. Together they were used to support a pilot study and provide preliminary data for a larger project proposal to the United States Department of Defense. The focus of my research is on the optimization of Warfighter health and performance. Warfighters are often required to carry heavy loads during both training and combat. Carriage of heavy loads and or the distribution (configuration) of the loads on the body may cause abnormal movement mechanics increasing a Warfighters risk of a lower extremity injury during tactical maneuvers. Thus, the aim of this project was to evaluate the influence of load carriage configuration on lower extremity biomechanics during a drop-jump task in men and women Warfighters.

For phase 1 (pilot phase) of the project we recruited 11 participants (men and women), to refine the experimental procedures of the project. Participants performed three trials of a drop-jump task under three conditions: 1) wearing combat boots and no combat load, 2) wearing combat boot and full combat load (i.e. helmet, tactical vest, and rucksack) with rucksack positioned on the mid-to-low back region, and 3) wearing combat boots and full combat load with rucksack positioned on the shoulder/upper-back region. Each participant's drop-jump landing mechanics, under each of the three conditions were recorded and analyzed using 2-D videography. Phase 2 of the project will begin Fall 2014. In phase 2, men and women Reserves Officers' Training Corps cadets, active duty military or reservists will be recruited.

SUMMER FELLOWSHIP 2014



Roger Kollock
Department of Kinesiology and Health

SUMMER FELLOWSHIP 2014

William Landon
*Department of History
and Geography*

Atomizing and Re-unifying Machiavelli's Dangerous Genius

I was funded to carry out research in Florence and in Rome during the summer of 2014. In those lovely cities, I worked in Florentine National Archives and at the Vatican Library. Funding provided to me allowed me to do research which led to my third monograph being placed under contract with the best publisher in my field, The University of Toronto Press; and to the foundational research for my fourth monograph. I was originally trained as a Machiavelli expert, but recently I expanded my research interests to include the very importance Renaissance patricians, the Strozzi family of Florence. The patriarch of that family, Filippo di Matteo Strozzi is the subject of my third book. In Florence, I examined the two surviving manuscripts of his biography. Presently, I am finishing the very first critical edition of that work and also working on the first English translation of it. That scholarly work, funded by NKU, will make an important scholarly contribution to Renaissance Studies. After Florence, I had the great pleasure of working in Rome. There, at the Vatican Library, I examined a Machiavelli autograph manuscript that he produced in 1497. That work, a transcription of Lucretius's *De rerum natura* (an ancient Roman epic poem that expounds upon Epicurean philosophy), I have argued, shaped Machiavelli's political vision, allowing him, like the atheistic Epicureans, to drain morality from politics. This theme, Machiavelli's reliance on Epicureanism, is the subject of my fourth monograph.



PROJECT GRANT 2013-14

SABBATICAL LEAVE 2013-14

Andrew Long
*Department of
Mathematics
and Statistics*

Quantifying and Communicating Climate Change in Canada's Northern Forests

This grant was funded to pay travel expenses to workshops that would enhance my understanding of climate change, and to help me to develop relationships with other climate change researchers. While I was unable to participate in all of the conferences originally planned, I was able to achieve my goals.

In May of 2013, I attended the workshop "Impact of climate change on biological invasions" in Banff, Alberta. Unbeknownst to me, several of the workshops to which I had requested travel support were by "invitation only" (and I was not invited). However, thanks to my persistence and the generosity of the leader of this workshop, I was invited to attend. The workshop resulted in my collaboration with Prof. Rebecca Tyson, UBC Okanagan, and a paper in *Ecological Complexity* entitled "Integrating Homo sapiens into Ecological Models: Imperatives of Climate Change".

Unable to attend the other workshops, I received approval to redirect the remaining travel funds to visit a colleague that I met through my fellowship grant – Dr. Adam Fenesh, Director of the Climate Research Lab at UPEI. Dr. Fenesh had earlier provided me with a dataset, created through the amazing foresight of Alexander MacKay, Superintendent of Public Schools of Nova Scotia (circa 1900-1920). Our meeting included a discussion of this dataset and Alexander MacKay (and a consequent tour of Nova Scotia) which has helped me to push the study of this data closer to publication.



Communicating Climate Change in Canada's Northern Forests

My sabbatical focused on sustainability and anthropogenic climate change. Three painful facts emerge:

1. By living unsustainably we have already committed to an unacceptable (and likely catastrophic) level of climate change.
2. Meanwhile, "leaders" of great nations do nothing (or pay mere lip service).
3. Ordinary folks – ignorant of science, confused by politicians, threatened by the uncertain economics of today – retreat into the immediate needs of the present: jobs, health care, minimum wage, etc. They haven't the time or energy for dealing with what seems a distant menace.

As a scientist, I seek to elucidate important features of climate change, pursuing scientifically interesting questions using the best methods I have at my disposal. Unfortunately this sabbatical has convinced me that science, truth, and facts are not enough: “Merchants of Doubt” [2] continue to pound away at the science, perceiving it as a threat to their private fortunes. Beyond mere greed, however, we face the more pernicious obstacle of human nature: we love wasteful first-world lifestyles, and refuse to consider living within our means in deference to future generations. A new book claims that “Our Brains Are Wired to Ignore Climate Change” [1]. I agree.

I see no authentic hope that we can avoid catastrophic climate changes, for which the world is painfully unprepared. Tipping points the likes of which we cannot begin to fathom are set to overwhelm us, and, ultimately, wipe many of us off the face of the Earth. Any “authentic hope” [3] is for future generations, provided they recover from our folly.

[1] G. Marshall. *Don't Even Think about It: Why Our Brains Are Wired to Ignore Climate Change* Bloomsbury USA, 2015.

[2] N. Oreskes and E. M. Conway. *Merchants of Doubt*. Bloomsbury Press, June 2010.

[3] D. W. Orr. *Down to the Wire: Confronting Climate Collapse*. Oxford University Press, 2009.

Artist's Web-Books for Handheld Mobile Devices: An Interactive Channel for Design, Art, Authorship and Exhibition

My 2013–14 Faculty Project Grant was conducted in tandem with a 2013 Faculty Summer Fellowship for the realization of a creative project: the design and production of an iPhone app containing an original, digital artist's book in three volumes. Called *The Book Worm Tales*, each volume is a highly visual, participatory journey through a real, iconic, physically vulnerable rare book artifact as told from the point of view of a theoretical ‘book worm.’ The book objects that serve as settings for the digital book journeys were researched extensively during the grant period, as were media options for production. The books were selected from the special collections of libraries in Cincinnati, Ohio and span religious, literary and scientific genres, which are representative of significant areas of human concern whose proliferation was possible, in part, because of books. “Volume I: A Sacrificial Lamb” is based on a 14th century common Latin bible in UC's Blegen Library; “Volume II: Much Ado About Nothing” is based on a 1632 second edition of William Shakespeare's collected works at the Public Library of Cincinnati; and “Volume III: Body Copy” is based on Friedrich Bilz's 1898 *Das Neue Naturheilverfahren* in the Lloyd Library.

The Book Worm Tales' volumes explore themes including material culture, media evolution, permanence/impermanence, and the history of books as objects. Inspired by the biodegradation of rare and important book works caused by beetle larvae, mold, and other forms of physical damage, the project is an opportunity to poetically reflect on the rapidly changing media landscape of books, while virtually preserving and amplifying experiential and material aspects of books in the process. With the recent proliferation of new devices in which to artfully experience and consume published content, the project also seeks to take advantage of the visual sophistication possible with use of the standards-based web languages of HTML5 and CSS3 for production and widespread dissemination.

PROJECT GRANT 2013-14



Julie Mader-Meersman
Department of
Visual Arts

PROJECT
GRANT
2013-14SABBATICAL
LEAVE
2013-14

Michael Mannheimer
Chase College of Law

The Unusual Case of Anthony Chebatoris: How the Rising Tide of Federal Power Led to the Country's Only Execution in a Non-Death Penalty State

The little-known case of *United States v. Anthony Chebatoris*, arising from a botched bank robbery/murder, has great relevance to today's criminal justice system. Chebatoris was the only person in American history to have been executed by the federal government for a crime in a non-death penalty state. Since 2002, nine people have been similarly sentenced to death by the federal government for crimes committed in non-death states, though none has yet been executed. Dzhokhar Tsarnaev, the alleged Boston Marathon bomber, might be next.

There are obvious federalism concerns that arise when the federal government seeks to punish a person more harshly for a crime than he or she could be punished by the State where the crime occurred. My goal with this project was to uncover whether and to what extent these concerns were recognized and expressed during the *Chebatoris* case by the community at large and by the actors in the case.

My project grant helped pay for travel and incidental expenses to visit the Midland County Historical Society in Midland, Michigan, where the crime occurred, to review newspaper articles, photographs, and other archival items; the Bentley Historical Library at the University of Michigan, to view the papers of Arthur J. Tuttle, the trial judge in the case, and Frank Murphy, the Governor of Michigan at the time; and the Albert and Shirley Small Special Collections Library at the University of Virginia to view the papers of U.S. Attorney General Homer Cummings. I also obtained a file on the *Chebatoris* case from the papers of Franklin D. Roosevelt in Hyde Park, New York. Finally, I was able to order a copy of the entire case file, including the trial transcript, from the National Archives.

My sabbatical provided me with time to travel to conduct archival research at the Midland County Historical Society in Midland, Michigan, the Bentley Historical Library at the University of Michigan, and the Albert and Shirley Small Special Collections Library at the University of Virginia. I also reviewed a file on the *Chebatoris* case obtained from the papers of Franklin D. Roosevelt in Hyde Park, New York. I also reviewed a copy of the entire case file, including the trial transcript, which I obtained from the National Archives. Finally, I conducted more conventional internet and library research on the case, the major players, and the New Deal era.

SABBATICAL
LEAVE
2013-14

Caron Martin
Department of Nursing

Determinants of Success in the Baccalaureate Nursing Program

Student retention is a focus in the strategic plan of Northern Kentucky University. The Department of Nursing is motivated to retain and graduate the students who are admitted to the BSN Nursing Program. During my sabbatical I developed a survey that was administered to the students in the Department of Nursing to determine success strategies for nursing students. In conjunction with the Burkardt Center a statistical analysis was performed to interpret the data collected. Grade point average on entrance into the nursing program was not necessarily predictive of success. However, it was noted that students with higher entrance GPAs tended to progress further into the nursing program than those with lower entrance GPAs. A high percentage of students earned grades of "B" in anatomy and physiology courses prior to entrance into the nursing program. Approximately 60% of students earned a grade of "A" in physiological chemistry prior to entering nursing courses. Additional questions focused on study habits such as working in groups or individually, taking advantage of supplemental instruction offerings, and completion of assigned readings. Additionally, students were asked to rate the value of case studies, lecture and simulations as effective learning tools. The survey indicates that students are putting forth the effort and spending approximately a week studying for nursing exams. Additionally, students are consistently utilizing resources available to them through an outside company that provides case studies, practice exams and quizzes related to content in the nursing program. The ultimate determinant of success in any nursing program is successful completion of the licensure exam. Data will be forthcoming regarding this ultimate success of the students participating in the survey.

CORE Covington • Ohio River • Erosion

“After creating a documentary that explored the issues and problems of erosion along Covington, I wanted to find solutions, so I created the Driftwood Institute to help our community engage, understand and transform our riverbanks and watershed.”

The Driftwood Institute was started by NKU professor of art, Brad McCombs. \$6,000 in seed money from a NKU faculty project grant helped make this a reality.

The first phase of this project was in 2013. McCombs and crew completed preproduction and production of the *Driftwood Chronicles*, a short-film to educate on ecology and watershed issues. This will be available on the website driftwoodinstitute.org.

The second phase of this project began in 2014, as collected driftwood was transformed into pieces of art. McCombs hired student apprentices, NKU Ecological Stewardship Institute (ESI) scholars and visual arts alumni. The team cleaned up trash and collected driftwood along the riverbanks in Covington. With keen eyes and creativity, the collected driftwood was transformed into sculpture and furniture. The created works were exhibited at Covington’s annual art festival, Art Off Pike. The gross proceeds from this event were donated to the Taking Root Campaign. The money will be used to re-plant trees along the riverbank. The Driftwood Institute’s exhibition at Art Off Pike won the Best of Show award and the People’s Choice Award for their display at this community event.

Looking to the future, as a direct result of the community building and networking, McCombs will be exhibiting driftwood artwork at the Weston Art Gallery at the Aronoff Center. His driftwood and ecological work will be part of a national exhibit exploring water in March of 2015.

In addition, McCombs has been commissioned to create a permanent driftwood sculpture for the NKY Convention Center.

PROJECT
GRANT
2013-14

SABBATICAL
LEAVE
2013-14



Brad McCombs
*Department of
Visual Arts*



The majority of my sabbatical research in the fall of 2013 focused on establishing the Driftwood Institute, a public artwork that will help prevent erosion, beautify the banks of Covington, Kentucky and act as a catalyst for public understanding of the Licking and Ohio River watersheds. With help from student apprentices, Ecological Stewardship Institute scholars and visual arts alumni we started the Driftwood Institute. The main goals are to help transform the banks of Covington along the Ohio River, to educate the public on our watershed, and to collect driftwood and transform this material into sellable sculptures and furniture. We completed pre-production and production of the *Driftwood Chronicles*, which is going to be a short-film to educate the public on our watershed.



To further support the Driftwood Institute, I applied for several grants including the L&L Nippert Charitable Foundation Grant and an ArtPlace America Grant.

In addition, I completed a solo exhibition of new work, entitled *Oráculo* at SeedSpace in Nashville, Tennessee; November 9 – December 31, 2013. I was successful in applying for two notable upcoming exhibitions during my sabbatical: Installation Nation in Indianapolis, Indiana in April of 2014 and just found out I was curated into the Too Shallow for Diving, The Weight of Water at The Alice F. and Harris K. Weston ArtGallery in Cincinnati, Ohio in the Spring of 2015.



**SABBATICAL
LEAVE
2013-14**

**SUMMER
FELLOWSHIP
2014**



Joseph Mester
Department of
Biological Sciences

Immunogenicity of Novel Virus-Vectored Vaccines for Hepatitis C

Hepatitis C virus (HCV) is one of the most prevalent and debilitating blood-borne pathogens. While an approved vaccine is currently not available for HCV, several experimental vaccines are in clinical trials. Genetically engineered viruses, some derived from adenovirus, are being developed that make vaccine components of HCV. As HCV vaccines, these hybrid viruses have several advantages over traditional vaccines, including better cell and tissue targeting, and enhanced immunogenicity.

The goal of this sabbatical project was to create novel herpes simplex virus (HSV)-based HCV vaccines for subsequent evaluation. The work was done at the University of Pittsburgh in the laboratories of Drs. William Goins and Joseph Glorioso, who specialize in the creation of HSV-based genetic therapies. Novel HSV-based vaccine vectors were engineered to express the structural proteins (core and envelope) of HCV. Structural components of viruses are major targets of protective immune responses. Genes encoding HCV envelope proteins E1 and E2 and the core protein C were inserted into the HSV vectors using recombinant DNA techniques. The vaccine constructs were verified by gel analysis of restriction enzyme digested DNA, polymerase chain reaction, and DNA sequencing, and grown in amounts sufficient for vaccine studies.

The sabbatical period allowed time for the creation and verification of the HCV vaccine vectors and time to draft a preliminary manuscript detailing their construction. Submission of a complete vaccine manuscript is anticipated following successful preclinical test results. The identification of novel vaccine approaches for HCV will benefit public health efforts worldwide.

Hepatitis C virus (HCV) is a prevalent and deadly blood-borne pathogen. While an approved vaccine is currently not available for HCV, several experimental strategies are being actively pursued.

This Summer Fellowship focused on the design and execution of laboratory experiments to determine the vaccine potential of newly created herpes simplex virus (HSV)-based HCV vaccines. These novel HSV-based vaccines were engineered during an earlier sabbatical project at the University of Pittsburgh in the laboratories of Drs. William Goins and Joseph Glorioso. Genes encoding HCV envelope proteins E1 and E2 and the core protein C were inserted into the HSV vectors using recombinant DNA techniques.

To determine the best cell targets for the vaccines, we sought to verify that the vaccines produced the desired HCV transcripts and proteins when introduced into a variety of cell types. This screening was initiated during the Summer Fellowship, and is expected to continue through Fall 2014. Additional development work was performed during the Fellowship toward optimizing the yield of the novel vaccines during their production in the laboratory.

The Summer Fellowship allowed substantial development work with the novel HCV vaccines to be accomplished, including time to write the details of their characterization in manuscript form. An in-depth collaboration has been established with the molecular virology group at the University of Pittsburgh, potentially leading to co-authored publications in the future and joint federal grant submissions to obtain research funding.



Material Culture and the Politics of Religion in the Early Anglo-Atlantic World

Dr. Debra Meyers, a women's studies, history, and religious studies professor tenured in the Department of History and Geography, spent a very productive sabbatical semester working primarily to complete a book dealing with the early modern American settlement in the Chesapeake. *Order and Civility in the Early Modern Chesapeake*, will be published in 2015 by Lexington Books, the academic division of Rowman and Littlefield. The cutting-edge collection of essays in this volume represent the vast array of experiences in the Chesapeake region, encompassing the racial, class, ethnic, and gender diversity that characterized life in early Maryland and Virginia. *Order and Civility* makes a significant contribution to the growing interest in the Chesapeake as an accurate indication of the English customs, rituals, and beliefs men and women brought to the New World. Ultimately, this study suggests that the multicultural Chesapeake created significant cultural, intellectual and social norms that have shaped the diverse world of the American people.



SABBATICAL LEAVE 2013-14

Debra Meyers
*Department of History
and Geography*

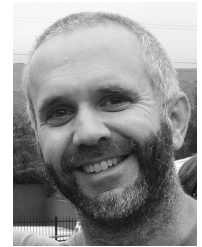
Statistics in Sports

The sabbatical semester led to data collection for both college basketball and college football. The dedicated time allowed the learning of Java to create a program to retrieve a large volume of college basketball player level data. Division I game level results for each player were recorded for the five seasons 2008-09 through 2012-13 and yielded over 550,000 lines of information. Many investigations may be made into patterns contained in the rich data set. For example, although games are scheduled to last 40 minutes, overtime games have resulted in players spending in excess of one hour in a single game.



The second accomplishment was to collect play by play results for over 65 college football games from the 2013-14 season. One outcome so far is that 58.4% of first down plays were running plays, while third down saw a shift to passing plays, which accounted for 55.5% of results. It is also interesting that the second quarter produced the most plays among any of the four quarters in the games, with the second quarter seeing an increase of 13% in the number of plays compared to the opening quarter of games.

SABBATICAL LEAVE 2013-14



Carl Miller
*Department of
Mathematics and
Statistics*

SUMMER FELLOWSHIP 2014



Kelly Moffett
Department of English

Writing with the Black Madonnas in France

Ean Begg, author of *The Cult of the Black Virgin*, states that there are over 450 images of the Black Madonna—not counting those of trans-racial origin in Africa—and that “some of the most famous statues of the Madonna in Western Europe have faces and hands that are black, by intention, and are known to have been for many centuries.” The Church explains the black depiction as a result of exposure to the elements or from candle soot after years of faithful devotion. Others, such as Marie Durand-Lefebvre, hypothesize that there is “an iconographical and cultic continuity between pagan goddesses and the Black Virgins.” Whatever the origin, the Black Madonnas have been centers of pilgrimages since the twelfth century. This past summer, I, too, acted as a pilgrim, using the summer fellowship stipend to travel to France in order to be in the presence of the Black Madonnas. This experiential research led to the creation of over thirty original poems and a travel narrative—all of which explore my relation to the concepts of the “mother” and the “sacred”—as well as serving as my attempt to explore the master narrative of the Mary story and my relationship within it. This raw writing is currently being revised for publication as a single collection entitled *Theotokos* and will be shared this semester at readings scheduled at West Virginia University, Western Kentucky University, Eastern Kentucky University, and the Midwest Modern Language Association.



Notre Dame de Bonne Délivrance, located in Neuilly-sur-Seine



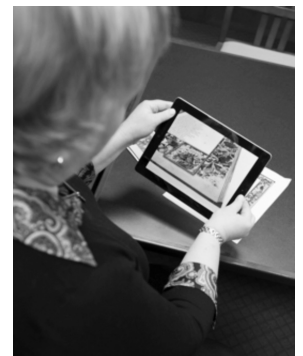
Notre Dame de la Paix, is housed in a small chapel at Picpus Cemetery

PROJECT GRANT 2013-14

Tamara O'Callaghan
Department of English

The Augmented Palimpsest: Teaching Students to Read Middle English Literature

With the aid of a 2013-14 Faculty Project Grant, I completed significant work on a digital humanities project in collaboration with Dr. Andrea R. Harbin (SUNY Cortland). The *Augmented Palimpsest* (formerly, *The Virtual Palimpsest*) engages students with Geoffrey Chaucer's *Canterbury Tales* in a manner that will help them to read Middle English and enhance their understanding of the literary work and historical period. The tool uses a combination of the printed page and e-devices (e.g., iPhone, iPad, android tablets, etc.) to provide textual, audio, graphical, and Augmented Reality enhancements to the literary text. The Faculty Project Grant specifically supported travel in the relation to the project: firstly, to work with Dr. Alan B. Craig, assistant director of Human-Computer Interaction, at the University of Illinois at Urbana-Champaign on an alpha-level prototype of the digital humanities tool and the preparation of an application for an NEH Digital Humanities Start-Up Grant; secondly, to disseminate the early work on the project at the Third International Congress of the John Gower Society, University of Buffalo, Rochester, NY (June 2014) and the New Chaucer Society Congress, University of Iceland, Reykjavik, Iceland (July 2014).



Interplay: The Process of Interpersonal Communication (13th edition)

Interplay: The Process of Interpersonal Communication is one of the most widely used interpersonal communication textbooks in the field. My sabbatical project was to produce the 13th edition of this textbook. I was the lead author (although listed third based on seniority) and took primary responsibility for managing the year-long revision process. In response to review recommendations from 20 users and non-users of the book, as well as from the Oxford University Press editorial team, my co-authors and I wrote new copy, created new sidebars, and incorporated new research (about a third of our 1800 sources are new to this edition). The most substantive changes have to do with expanded coverage of social media and its impact on interpersonal communication. There are also new sections on communication in romantic relationships, co-cultural communication, interpersonal listening styles, and relational maintenance/support. The revision process ran smoothly and punctually, and the book will be out in November 2014 (in time to debut at the National Communication Association convention).

SABBATICAL LEAVE 2013-14



Russell Proctor
**Department of
Communication**

Managing for Multiple Ecosystem Services in Working Landscapes of Sacramento: Urban Agriculture and Soil Lead Contamination.

Funding from this grant supported an NKU undergraduate student to travel to Sacramento, CA for ten weeks and contribute to an active transdisciplinary research project investigating the tradeoffs between elevated soil lead concentrations and urban gardening. David Koenig worked directly with project collaborators at the University of California, Davis and assisted in advancing our research goals by recruiting study participants, analyzing soil for heavy metals, and creating spatially explicit maps of soil lead concentrations. David was fully engaged in the research project, integrating with already established field, lab, and research crews. He gained valuable research skills, learned sample design and implementation, and was part of a large integrated research group at UCD strengthening ties between an R1 university and NKU.

David carefully integrated research questions from disparate disciplines to develop our project website (<https://sites.google.com/site/workingdirtresearch/>). He presented his work at the annual meeting, sharing his research with other scientists and our non-profit community partners. David wrote a manuscript describing his experience working on an interdisciplinary research project entitled "An Undergraduate's Experience in Interdisciplinary Research." The manuscript has been accepted for publication and is currently *In Press* at BIOS. In addition to David's valuable research experience, the time he spent working in CA inspired him to return the following summer to hike the John Muir Trail. He recently shared his long-distance hiking adventure with fellow environmental science students through a formal presentation at our annual social, inspiring his colleagues to pursue their passions wherever they may take them.



*Undergraduate research student
David Koenig conducting soil analyses
in Sacramento, CA.*

PROJECT GRANT 2013-14

Kirsten Schwarz
**Department of
Biological Sciences**

SABBATICAL LEAVE 2013-14



Jamey Strawn
Department of
Theatre and Dance

Research/Composition for a New Musical

In my sabbatical application, I had proposed to write a first draft of a new musical (with writing partners Ken and Christine Jones) that dealt with how we as humans deal with death. Shortly after my sabbatical was approved, we were approached by the Children's Theatre of Cincinnati to write a musical with a holiday theme. The chance to write a show and have it produced was too good to pass up, so we decided to write both! As a result of a productive summer and fall semester, we wrote *THE DAY BEFORE CHRISTMAS*, which was produced by the Children's Theatre of Cincinnati in December 2013, and *DIFFERENT DAY*, which we have submitted to a few new works festivals.

In *DIFFERENT DAY*, eight people live their last day. The compelling characters weave their way through a range of emotions as they cross paths with each other on their final journey. Along the way there is laughter, loss and love. Is the last day of a person's life any different than any other day?

THE DAY BEFORE CHRISTMAS is a charming telling of that wonderful day of preparation for Santa and his crew, only everyone oversleeps! In the hustle and bustle Jack Frost tries to "freeze" Christmas. All of the characters unsuccessfully try to convince Jack that he shouldn't freeze Christmas until Suzy Snowflake and Santa ultimately teach him that giving is the way to "Melt his heart."

SUMMER FELLOWSHIP 2014

Sharon Vance
Department of
History and Geography

Antisemitism in Colonial Algeria and France in the 19th Century

In 1897 a wave of antisemitic violence erupted throughout colonial Algeria, causing widespread property damage, hundreds wounded and a number of fatalities. The immediate origins of this outbreak date to the transition from military to limited civilian rule and the rise of electoral politics, however



the intellectual and cultural origins can be traced back to Europe, in particular France and Spain. This study, under contract with Brill, compares the Algerian *antijuive* crisis with French antisemitism in the 19th century, especially among socialists and radical republicans, and the role of the media and elections in increasing ethnic tension. This study focuses on the print media, analyzing the images and descriptions in the two localities, placing them in historical context and in the context of the history of antisemitic discourse and imagery. It combines both close textual analysis with archival research to trace the production, distribution and diffusion

of this ideology during the formative period of popular antisemitism at the end of the 19th century. I will also be considering relations between European settlers and their attempts to mobilize the native Muslim population against Jews, both native and immigrant. Given the role of the press and combative electoral politics it provides lessons for understanding events in the Middle East and North Africa today, including the rise of inter-communal tension as dictatorships are challenged and elections contested. The colonial legacy is considered and has relevance given the continued interaction between the region and the West.

Comparative Female Social Relations in the Genus Pan and Implications for Human Behavioral Evolution: A Pilot Study

Bonobos share with chimpanzees the distinction of being our closest living relatives. Thus primatologists turn to these species when reconstructing the evolution of human behavior.

Unfortunately bonobos are much less understood than chimpanzees, due in large part to the difficulties in conducting research in their home range. Currently there are only two active long-term



sites for bonobo research, none of which are led by American scholars. I seek to expand understanding of bonobos by initiating a new long-term research project at Iyemba in the Lomako Forest, DRC. I conducted pilot research working in cooperation with the African Wildlife Foundation. My primary goals were to assess habituation status of the bonobos, forge connections with local officials and collaborators, and collect fecal samples and preliminary data.

I was successful on all fronts. My collaborators and I had 17+ contact hours in 14 days. The bonobos were semi-habituated, calm when in trees, but we were not yet able

to follow them on the ground. We had great success in collecting fecal samples – 166 samples for DNA, hormone, and dietary isotope analysis. We concluded that the site was very promising for long-term research. We plan to return next year for further habituation and sample collection. Our initial research questions will use DNA, nesting, and hormonal data to examine how stress correlates with varying grouping patterns. We are particularly interested in examining the social structure of the bonobo “community” and female grouping patterns compared to previously collected data on female chimpanzees.



SUMMER FELLOWSHIP 2014

Monica Wakefield
Department of Sociology, Anthropology, and Philosophy

Remote Monitoring of Female Incubation Behavior in Carolina Chickadees

My project grant enabled me to provide stipends for three NKU undergraduate students to perform summer research in my lab. We investigated the incubation behavior of wild Carolina chickadee mothers using a new technique to continuously monitor each nest. We placed small temperature data loggers called iButtons into the nest of each incubating female. The temperature inside the nest goes up when a female bird is sitting on her eggs and goes down when she leaves to find food for herself, so we could determine exactly when the female was gone by analyzing the temperature data from the iButtons. We found that female chickadees were more likely to leave the nest during the day than at night. We also found that when it was colder outside they would make shorter trips in order to prevent the eggs from getting too cold. This information helps us understand how female birds manage the tradeoff between taking care of their offspring and themselves. The students performed every aspect of this study, including checking nest boxes, installing iButtons, and analyzing iButton data. They also assisted me with trapping birds and taking blood samples for other projects. They have presented their results at several professional conferences, including the joint meeting of the Association of Field Ornithologists and the Wilson Ornithological Society in Newport, RI in May of 2014. These valuable experiences allowed the students to directly participate in the scientific process and will contribute to their future success at NKU and beyond.



PROJECT GRANT 2013-14

Lindsey Walters
Department of Biological Sciences

PROJECT
GRANT
2013-14

SABBATICAL
LEAVE
2013-14



Hongmei Wang
Department of
Computer Science

Using Remote Sensing Techniques for Evaluating Honeysuckle Spatial Distribution – A Case Study at Hamilton County Parks, Ohio

How to manage and control invasive plants, Amur Honeysuckle, is a big challenge for many park managers in the eastern and mid-western United States. *In-situ* surveys or aerial camera systems are impractical to map honeysuckle distributions in large forest areas because of limited staff time and extensive labor costs. The goal of this project is to apply remote sensing techniques to map honeysuckle spatial distributions in a test field, Hamilton County Parks, Ohio.

During the time period between Fall 2013 and Summer 2014, I had finished the project grant using remote sensing techniques to evaluate honeysuckle spatial distribution. I conducted the following work:

- I had worked with my student and other collaborators from local park staff and students from University of Miami on field data collection on six sampling sites (including two low density ones, two medium density ones, and two high density ones) in a local park, Winton Woods, Hamilton County, Ohio in November, 2013;
- I ordered and purchased two meter resolution WorldView-2 satellite image over the study area, which was collected on Nov. 9th, 2013;
- I extracted five different vegetation indexes from the satellite data and further classified the vegetation index data to show spatial distribution of low, medium and high density honeysuckle.
- I decided one of the vegetation indexes, Normalized Difference Vegetation Index (NDVI), as the optimal one for detecting honeysuckle distribution by comparing the classification results with the field data collected on the sampling sites.

As a pilot program utilizing advanced geospatial analysis, this project provides important information for understanding the status of wildlife habitats and for implementing site-specific management in parks and nature preserves.



Honeysuckle in one of the field sites in Winton Woods, Ohio

Interdisciplinary Work in Informatics

In the fall 2013 sabbatical period, I had finished two projects: 1) using remote sensing techniques to evaluate honeysuckle spatial distribution and 2) study of individual and social learning phenomenon in classrooms.

In the first project, I conducted the following work:

- I had worked with my student and other collaborators from local park staff and students from University of Miami on field data collection on six sampling sites (including two low density ones, two medium density ones, and two high density ones) in a local park, Winton Woods, Hamilton County, Ohio in November, 2013;
- I ordered and purchased two meter resolution WorldView-2 satellite image over the study area, which was collected on Nov. 9th, 2013;
- I extracted five different vegetation indexes from the satellite data and further classified the vegetation index data to show spatial distribution of low, medium and high density honeysuckle.
- I decided one of the vegetation indexes, Normalized Difference Vegetation Index (NDVI), as the optimal one for detecting honeysuckle distribution by comparing the classification results with the field data collected on the sampling sites.

In the second project, I conducted the following work:

- I collected learning phenomenon data from the informatics students at the end of Spring 2013;
- My student helped to convert the multimedia data into text data in Summer 2013;
- I analyzed the data and came up a comprehensive understanding of the individual and social learning phenomenon and the relationship between them;
- I also wrote a draft paper based on part of the data collected, named as *Understanding of Individual and Social Learning from Humanistic Perspective*. More papers will be prepared from the data collected.

Investigating the Impact of Improved Pedagogy on Student Learning, Engagement, and Retention

Student retention is the product of many factors. Stated most simply, however, students stay when the pull to stay exceeds the push to leave. Extra curricular activities, friends, a quest for self-discovery are important factors in student retention but the single largest factor that makes the difference is that which all students have in common—they attend classes and interact with faculty and colleagues in a learning community. My project culminated in teaching a course for faculty—Best Practices in College Teaching—during the fall term of 2014 to eleven faculty members new to NKU and the role of instructor. By the conclusion of the fall course, participants will be able to: enhance the overall instructional design of their courses, develop skills for facilitating student learning, better understand student characteristics and their impact on learning and teaching, increase their repertoire of strategies to increase student engagement and significant learning, increase their knowledge and practice of assessments of student learning, and make the learning adventure for both instructor and students more impactful and FUN! The hoped-for, long-term outcome will be an increase in student retention.



SABBATICAL LEAVE 2013-14

Mark Wasicsko
Department of Teacher Education

Using a Web-Driven Learning Ecosystem to Improve Understanding of the Millennial Learner

The millennial learner is different than the student of the 1990s and earlier. Their high school preparation and their socialization necessitate adjustments to teaching in order to make the learning process in Higher Education effective. With the funding of the Project Grant I was able to travel to four unique teaching/learning courses and gain skills that I am using to respond appropriately to the needs of our current learners. The result of attending these training events was to weave together a more active, experiential way to teach marketing students and do it in an environment that more closely mimics the work environment they will encounter upon graduation. The four training sessions entitled “Experiential Classroom”, “Ideas at Play”, “Spaces of Invention” and “Open” each took an independent approach to the challenge of teaching today’s millennial and motivating more ambitious learning. The key elements across the mix of training were working with people from many walks of life who all had a desire to encourage creativity in learners, transcend traditional teaching, gamification, and management of physical surroundings. The outcome has been more active and engaged teaching methods used in classes here at NKU and the development of a workshop (with my colleague David Raska) called Your Classroom: A Contagious Learning Experience, the first of which was offered at the Marketing Management Association meeting in September 2014.



PROJECT GRANT 2013-14

Eileen Weisenbach Keller
Department of Marketing, Economics and Sports Business

**SABBATICAL
LEAVE
2013-14**

Christopher Wilkey
Department of English

Encountering Community Voices: Urban Stories of Struggle and Empowerment

During my sabbatical leave, I conducted community-based research and writing focusing on the literacy and civic skills of NKU students and disenfranchised citizens in Cincinnati's Over-the-Rhine neighborhood, resulting in three major accomplishments: 1) I co-authored an article highlighting how literacy practices confronting gentrification in Over-the-Rhine work to expose the rhetoric of "economic mix" as a tool for blaming the poor for their own plight. This article is scheduled to appear in a major journal in the field of Composition Studies in spring, 2015; 2) For work on a book project, I did community-based research in which I facilitated weekly writing group meetings with residents of the Drop Inn Center, Cincinnati's largest homeless shelter. I also facilitated monthly writing group meetings with Distributors of *Streetvibes*, a street newspaper sponsored by the Greater Cincinnati Coalition for the Homeless; 3) As another component of this book project, I conducted research focusing on literacy practices in Over-the-Rhine based on my teaching in the neighborhood over the past five years involving students and Over-the-Rhine activists. Taken together, these three major accomplishments provide a snap-shot of the kind of university-community partnerships I have been promoting through my teaching, research, and service over the past eleven years as an NKU faculty member.



**PROJECT
GRANT
2013-14**



Karen Mutsch
*Department of Advanced
Nursing Studies*

Implications of COPD Patient Perceptions of Discharge Readiness

Chronic obstructive pulmonary disease (COPD) is one of the three leading causes of death globally. COPD is the third most frequent cause for readmission to hospitals within 30 days (Center for Healthcare Quality and Payment Reform 2010). COPD was added to the readmission reduction program by The Centers for Medicare and Medicaid Services (CMS) beginning October 1, 2014. With the Affordable Care Act, hospitals are penalized for readmissions with 30 days of discharge. Now hospitals have to reexamine operations and discharge decisions. In this study, we assessed COPD patients discharge readiness to help nurses make better discharge decisions. A quantitative study was conducted with a convenience sample (N=122) at two acute care settings in the first and second quarters, 2014 in the Midwest. At the study site, COPD is the second leading cause of readmissions. COPD patients were assessed to determine their readiness to be discharged from the hospital with the aim of reducing readmissions. The Iowa Model © an evidence-based practice model was utilized. Patients were interviewed using the Readiness for Hospital Discharge Scale. Results showed subjects who have support systems will have higher "ready for discharge" scores than those who do not have support. Subjects who have home care will have higher "ready for discharge" scores than those who do not have home care. Among four factors (personal status, knowledge, coping ability, expected support), only personal status is a significant predictor for readiness to be discharged. This research is important to improve COPD patient outcomes. To better understand education needs of patients with COPD, nurses need to understand if patients perceive they are ready for hospital discharge.



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