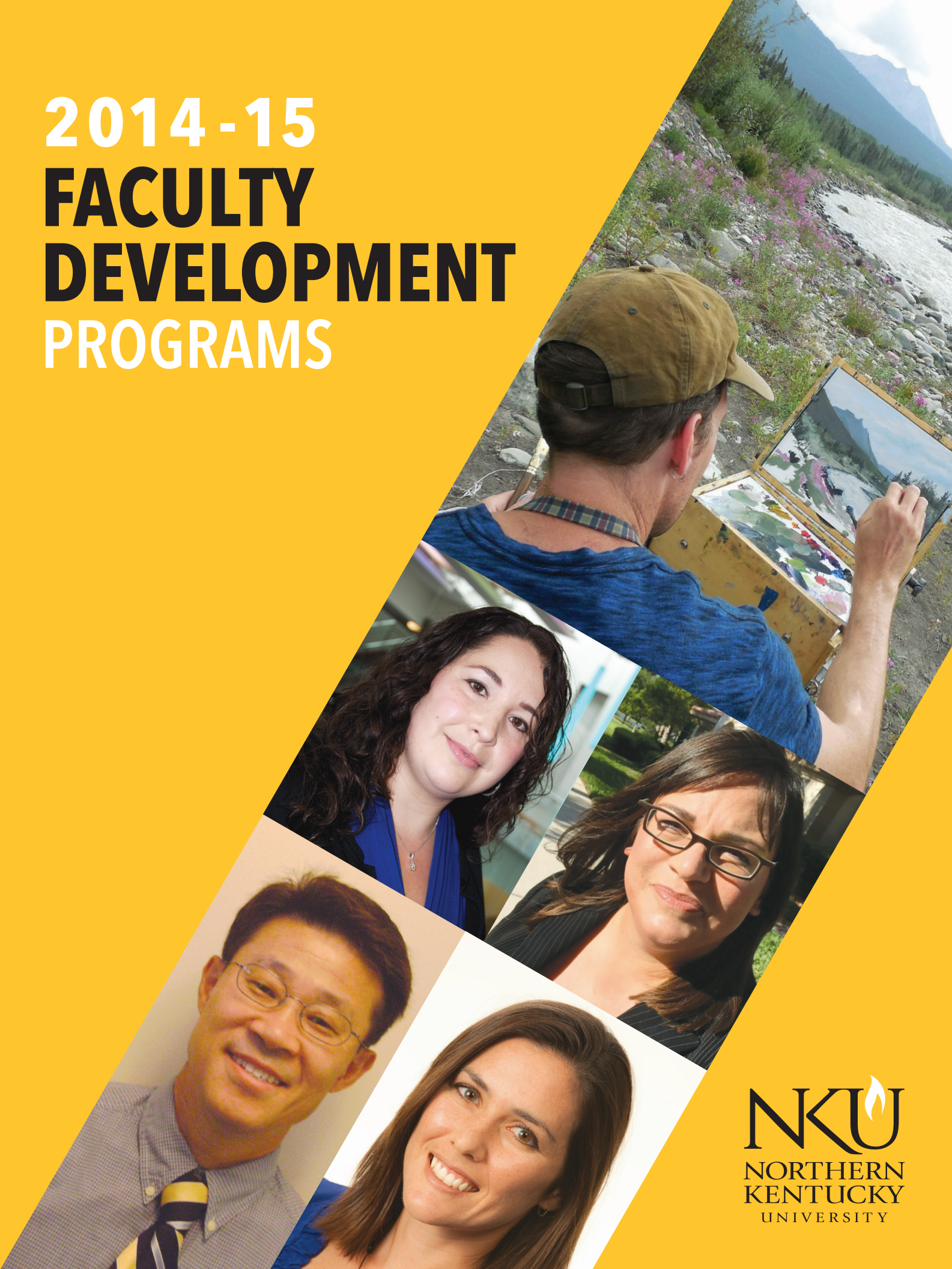


2014-15 FACULTY DEVELOPMENT PROGRAMS



INTRODUCTION	3
MATTHEW ALBRITTON, PROJECT GRANT Visual Arts Program	4
MARK E. BARDGETT, SABBATICAL LEAVE Department of Psychological Science	4
BETHANY V. BOWLING, SABBATICAL LEAVE Department of Biological Sciences.....	5
ALINA CAMPAN, SABBATICAL LEAVE Department of Computer Science.....	5-6
HAYLEY ERICKSEN, SUMMER FELLOWSHIP Department of Kinesiology and Health.....	6
JOAN FERRANTE, SABBATICAL LEAVE Department of Sociology, Anthropology and Philosophy	7
MONICA L. GALLEGOS, PROJECT GRANT Department of Communication	7
ANDREA GAZZANIGA, SUMMER FELLOWSHIP Department of English	8
SUSAN GRIEBLING, SUMMER FELLOWSHIP Department of Teacher Education	8
LOIS HAMILL, SUMMER FELLOWSHIP Special Collections and University Archives	9
WEI HAO, SABBATICAL LEAVE Department of Computer Science.....	9
SARAH KASTEN, SUMMER FELLOWSHIP Department of Teacher Education	10
JANG-CHUL KIM, SABBATICAL LEAVE Department of Economics and Finance.....	10
ROGER KOLLOCK, PROJECT GRANT Department of Kinesiology and Health.....	11
JENNIFER ANGLIM KREDER, SABBATICAL LEAVE Salmon P. Chase College of Law	11-12
TONYA KROUSE, SUMMER FELLOWSHIP Department of English	12
EDWARD KWON, SABBATICAL LEAVE Department of Political Science, Criminal Justice and Organizational Leadership.....	12-13
ISABELLE LAGADIC, SUMMER FELLOWSHIP Department of Chemistry.....	13
WILLIAM LONDON, PROJECT GRANT Department of History and Geography	13-14
CECILE A. MARCZINSKI, SABBATICAL LEAVE Department of Psychological Science	14
BEN MARTZ, SABBATICAL LEAVE Department of Business Informatics	15
CARRIE A. McCOY, SABBATICAL LEAVE Department of Nursing	15-16

TABLE OF CONTENTS

TABLE OF CONTENTS

(continued)

JOSEPH MESTER, PROJECT GRANT Department of Biological Sciences.....	16
P. ANDREW MILLER, SABBATICAL LEAVE Department of English.....	16
KEVIN MUENTE, SABBATICAL LEAVE Visual Arts Program	17
BRIDGET NICHOLS, SUMMER FELLOWSHIP Department of Marketing, Sports Business and Construction Management.....	17
JOSEPH NOLAN, SUMMER FELLOWSHIP Department of Mathematics and Statistics	18
SCOTT NUTTER, SABBATICAL LEAVE Department of Physics, Geology and Engineering Technology.....	18
TAMARA F. O'CALLAGHAN, SABBATICAL LEAVE AND PROJECT GRANT Department of English.....	19
JULIE CENCULA OLBERDING, SABBATICAL LEAVE AND SUMMER FELLOWSHIP Department of Political Science, Criminal Justice and Organizational Leadership.....	20-21
DAVID RASKA, SUMMER FELLOWSHIP Department of Marketing, Sports Business and Construction Management.....	21
JONATHAN T. REYNOLDS, SABBATICAL LEAVE Department of History and Geography	21-22
KIRSTEN SCHWARZ, SUMMER FELLOWSHIP Department of Biological Sciences.....	22
EMILY SHIFLEY, SUMMER FELLOWSHIP Department of Biological Sciences.....	23
ERIN STROME, SUMMER FELLOWSHIP Department of Biological Sciences.....	23
SHARON VANCE, PROJECT GRANT Department of History and Geography	24
MONICA L. WAKEFIELD, PROJECT GRANT Department of Sociology, Anthropology and Philosophy	24-25
ROBERT K. WALLACE, SABBATICAL LEAVE Department of English	25
LINDSEY WALTERS, SUMMER FELLOWSHIP Department of Biological Sciences.....	26
ANDREA S. WATKINS, SABBATICAL LEAVE Department of History and Geography	27
PAUL WIRTZ, SABBATICAL LEAVE Department of Counseling, Social Work and Leadership.....	27
NICHOLAS B. ZEMAN, PROJECT GRANT Department of Communication	28

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 2014-15 and the summer of 2015. 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 2014-15, 20 faculty members participated in the sabbatical leave program.

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 15 faculty members awarded a fellowship for summer 2015 received an award of \$6,000.

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 2014-15, nine faculty members completed project grants.

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 2014-15

MATTHEW ALBRITTON
Visual Arts Program

THIS HOUSE TO THE WHITE HOUSE: PRESIDENTIAL BIRTHPLACES

Funding made available with the faculty project grant facilitated the researching, visiting, and photographing the birthplaces and childhood homes of five presidents. This is the culmination 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. This year's travels included visiting the final three sites with Dr. Leiter to continue discussions about our collaborations on the project and to plan for our publishing proposal. In two excursions funded by the project grant, I traveled to California, Texas, Arkansas, and Missouri. I was able to visit and photograph the following birth sites: Nixon (Yorba Linda, CA), George W. Bush (Midland Texas – childhood home), Harry Truman (Lamar, MO), Bill Clinton (Hope, AR) and Dwight Eisenhower (Lamar, MO). The interdisciplinary approach of this unique project 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 years of cultural transition from Colonial America (and George Washington's birth in 1732) to the present.



*Matthew Albritton
at the birthplace of
Harry S. Truman in
Lamar, MO.*

SABBATICAL LEAVE 2014-15



MARK E. BARDGETT
Department of
Psychological Science

LONG-TERM CONSEQUENCES OF EARLY-LIFE ANTIPSYCHOTIC DRUG ADMINISTRATION

Over the past 20 years, the use of antipsychotic drugs in pediatric populations has increased eight-fold – a phenomenon that has garnered considerable attention in the scientific community and national media. Remarkably, there is little data regarding the long-term effects of early-life antipsychotic treatment on later behavioral, cognitive, or brain function. Over the last five years, students in my lab have used laboratory rats to determine the effects of early-life administration of the antipsychotic drug, risperidone (Risperdal®), on brain development and behavioral maturation. During my sabbatical, my students and I prepared three journal articles describing this research. These papers showed that adult rats administered risperidone early in life exhibit deficits in social behavior, enduring increases in activity levels, a heightened behavioral sensitivity to stimulant drugs and changes in the release of dopamine, a neurotransmitter important in impulsivity and drug-seeking behavior. At the same time, the sabbatical leave allowed me time to establish a sophisticated method for measuring in vivo neurotransmitter release. Our manuscripts should serve an important addition to the scientific literature because they provide insights to researchers, practitioners and policy makers into the long-term consequences of antipsychotic drug treatment in pediatric populations. This work further exemplifies the superlative research conducted by NKU undergraduates and the unique experiential learning opportunities at NKU, placing the University among the vanguard of undergraduate research and creativity.

ALIGNMENT OF GENETICS EDUCATION TO PRACTICAL APPLICATION OF GENETICS KNOWLEDGE AND CONTINUING EFFORTS OF PROJECT FORCE



My sabbatical was spent deepening my knowledge of clinical human genetics, ensuring my teaching and scholarship keep pace with this rapidly advancing field. In February, I was in residence at HudsonAlpha Institute for Biotechnology in Huntsville, Alabama. My primary focus was to learn about clinical whole genome sequencing in children with developmental delay, and develop curricular materials for HudsonAlpha's outreach and a variety of post-secondary educational settings. During that time I met with several individuals on the National Institute of Health funded project, observed a variant classification case conference, attended research presentations,

toured the sequencing facility, and had frequent conversations with genetics education professionals. I also visited Myriad Genetics in Salt Lake City to learn about their extensive variant classification process, and sat in on relevant seminars and courses at the University of Cincinnati Genetic Counseling Program including Cancer Genomics, Topics in Medical Genetics and Laboratory Genetic Counseling. I produced a collection of four case studies using authentic patient data, in which students simulate the processes of clinical researchers and analysts while critically examining the significance of genomic information for patients. These materials were shared at the American Society of Human Genetics Undergraduate Educators Workshop in October of 2015 and are undergoing pilot testing.

As the principle investigator of the National Science Foundation (NSF) funded Project FORCE, I continued some aspects of managing the grant and disseminating findings. I am finalizing a manuscript titled "Professionalizing the Role of STEM Peer Mentors" published in the Journal of STEM Education. I was also part of a team that submitted an NSF Improving Undergraduate STEM Education proposal building on aspects of Project FORCE, and presented a webinar for STEMCentral and the Association of American Colleges and Universities titled "Using Data Mining and Visualization to Investigate Retention in STEM."

SABBATICAL LEAVE 2014-15

BETHANY V. BOWLING
Department of
Biological Sciences

ONLINE SOCIAL NETWORKS - KNOWLEDGE DISCOVERY AND PRIVACY PROTECTION

My sabbatical work during the 2014-2015 academic year had two components: research and internationalization.

RESEARCH. With the advent of Facebook, LinkedIn, etc., social networks have grown to a new dimension – the online social network – allowing huge numbers of people to participate. Many analysis methods developed in the infancy of the social network analysis discipline did not envision such a data explosion. Thus, developing fast and accurate solutions for large social networks is becoming more essential. I continued my research project on community preservation through social network anonymization and also approached the problem of minimum dominating sets in social networks. In numbers, I coauthored three papers on these topics: a journal paper, one published in a conference proceeding and a third currently under review at a conference workshop. Another series of experiments on measuring community

SABBATICAL LEAVE 2014-15



ALINA CAMPAN
Department of
Computer Science

preservation through anonymization is completed and results will be presented in a paper. In this research work, I collaborated with NKU undergraduate student Matthew Beckerich – supported via an NKU project grant, NKU Professor Traian Marius Truta, Yasmeen Alufaisan, Ph.D. student at the University of Texas at Dallas and Babeş-Bolyai University Professor Anca Andreica.

INTERNATIONALIZATION. During April-July 2015 I visited at Babeş-Bolyai University (BBU) in Cluj-Napoca, Romania, that has a student and faculty exchange agreement with NKU. I tried to recruit Romanian students to come to NKU and also initiated research work together with two BBU faculty members. Also, I advised a computer science student at NKU who will spend a study abroad semester at BBU in spring 2016.

SUMMER FELLOWSHIP 2015



HAYLEY ERICKSEN
Department of
Kinesiology and Health

THE EFFECT OF FOCUS OF ATTENTION ON REDUCING RISKY LANDING MECHANICS DURING A JUMP-LANDING TASK

Anterior cruciate ligament (ACL) injuries are common among females. Risky landing mechanics have been linked to increased risk of ACL injury. Interventions including feedback have demonstrated success in modifying risky landing mechanics. Internally focused feedback (IF) directs attention to ones mechanics while completing a task, while externally focused feedback (EF) directs attention toward the outcome of the movement. Purpose: To determine which mode of feedback, IF or EF, is more effective at increasing knee flexion and decreasing vertical ground reaction force (vGRF) during jump-landing. Design: Pilot investigation. Participants: Eight participants. Interventions: Participants performed three sets of six jump-landing off a 30 cm box and stuck the landing. The IF group was told to land softly and with increased bending in the knees. The EF group saw a vector on the screen in front of them and were instructed to try and reduce the size of the vector during landing. Main Outcome Measures: Participants performed a rebound jump-landing task from a 30 cm box placed 50% of their height away from the target force platform and upon landing, rebounded for maximum height. Results: There were no significant differences between groups in vGRF ($F_{1,6}=1.13, P=.328$) or knee flexion angle ($F_{1,6}= 3.69, P=.103$). A significant time main effect for vGRF ($F_{1,6}=13.38, P=.011$) was observed, both groups demonstrated decreased forces following both interventions. Conclusions: Results of this pilot investigation indicated both feedback groups were able to decrease forces following the interventions. More data should be collected to increase statistical power and the opportunity to find statistical significance.

WHAT CAN YOU DO WITH A DEGREE IN SOCIOLOGY? NKU STUDENTS KNOW THE ANSWER

During my spring 2015 sabbatical I made a concerted effort to track down the 370 sociology majors and 158 minors who graduated from NKU since 1990, with the goal of learning the kinds of jobs they hold (or have held), and the ways they apply their sociologically-informed academic training in the workplace. In spite of many obstacles, I was able to gather information about the employment status and career paths of 142 or 27% of sociology program graduates. This information came from two sources: conducting face-to-face interviews with 71 graduates, and reviewing the LinkedIn profiles of another 71. The two data-gathering approaches yielded 460 current and past job titles, names of employers and job descriptions. From the 71 graduates interviewed, I learned about their lives since graduating; the memories of their experiences with the sociology program; the ways sociology is important to personal and work lives; their career histories; jobs they believe a graduate with sociological training are qualified; future career plans; and their advice to NKU sociology majors for succeeding in the job market. The data gathered offers new and vital knowledge about the labor market our students negotiate—knowledge that must inform our teaching and be incorporated into the curriculum. The jobs sociology graduates currently fill (and have filled) is one measure of NKU Sociology Program's contribution to the local community and economy. It is also a measure of this program's regional, national and global reach as many of our graduates work for global corporations and work outside the Greater Cincinnati/Northern Kentucky area.

SABBATICAL LEAVE 2014-15



JOAN FERRANTE
Department of
Sociology, Anthropology
and Philosophy

LONELINESS, CULTURAL VALUES, AND HEALTH ACROSS THE LIFESPAN: UNDERSTANDING THE LATINO HEALTH PARADOX USING BIOMARKER AND SURVEY DATA

My 2014 NKU Faculty Project Grant funded a feasibility study to examine the relationship between Latino cultural values, loneliness, and health. One major goal I achieved was hiring two top scholars in this area of research as consultants: Dr. Tad Pace and Dr. Chris Segrin. The grant also provided a blueprint for how to prepare a National Institute of Health grant application, including budgeting for materials (saliva sample test tubes, envelopes, coolers and ice for collecting saliva samples, travel, postage, etc.) and understanding how to address potential issues with data collection.

Although the original proposal included only one round of data collection, I decided to utilize a longitudinal design to make the study more robust. Time 1 data collection took place in May – August 2014 and Time 2 took place in November – December 2014. Sixty-six people completed the study at Time 1 and 31 completed the study at Time 2. Collectively, my research assistant and I drove over 2,500 miles within southern Arizona and spent over 250 hours recruiting participants, collecting surveys and saliva samples, and preparing materials. The final round of saliva analysis was complete in March, 2015. Data entry from surveys and data cleaning will soon be complete and analysis is scheduled to begin in spring 2016.

The most important goal I achieved was being able to demonstrate that I have the ability to direct an interdisciplinary, multi-wave study requiring a great deal of resources and funding to execute. This knowledge will benefit me greatly when applying for external funding for a larger study in the future.

PROJECT GRANT 2014-15



MONICA L. GALLEGOS
Department of Communication

SUMMER
FELLOWSHIP
2015



ANDREA GAZZANIGA
Department of English

MAKING ROOM FOR WOMEN: MICHAEL FIELD'S *WILD HONEY FROM VARIOUS THYME* AND THE SONNET TRADITION

During my 2015 summer fellowship, I researched and wrote a journal article on the collaborating Victorian poets Edith Cooper and Katherine Bradley ("Michael Field"), which I successfully completed and submitted to the peer-reviewed journal *English Literature in Transition, 1880-1920*. In order to complete my article, I travelled to England to conduct archival research, supported in part by a Project Grant, at the British Library in London and the Bodleian Library in Oxford. Because Cooper and Bradley's private letters and diaries spanning 16 years are housed in these two libraries, and because they serve as vital artifacts for understanding their same-sex romance and uniquely collaborative writing process, I studied and documented this rich manuscript material to support the two major claims I make in my article and in my ongoing scholarship on Michael Field: one, that women writers significantly contributed to late-Victorian literary movements traditionally attributed to male authors; and two, that Bradley and Cooper's unprecedented creative partnership and poetry must be understood vis-à-vis their life-writings.

My article, "Michael Field's *Wild Honey from Various Thyme* and the Sonnet Tradition" brings fresh insight into this neglected work because it uses material mined from Cooper and Bradley's unpublished diaries and letters to uncover ways in which their poems house private memories and experiences. Moreover, I argue that the sonnets contained in *Wild Honey* imagine the sonnet as a shared space between two women and as a sight for expressing same-sex love, which radically departs from traditional definitions of the sonnet as a masculine, heterosexist, and solitary space. In this way, my article offers not only a much-needed analysis of Michael Field's *Wild Honey*, it also poses an original thesis about how women transform and appropriate a traditionally masculine genre. More importantly, my article directs the critical conversation to consider Michael Field's place in the canon not as a token offering but, rather, as a key contributor to literary innovation.

SUMMER
FELLOWSHIP
2015



SUSAN GRIEBLING
Department of
Teacher Education

PROJECT WORK IN THE MIDDLE SCHOOL CLASSROOM

The project approach, where students design and implement an investigation of a topic they are interested in with support from their teacher, is an integrated curriculum approach that is well known in the field of early childhood education, but has not been used in middle or secondary school. This is a case study of a teacher, his students and the process they experience while implementing the project approach in a sixth grade classroom for the first time. This research is being conducted by educators from three disciplines - myself, an early childhood educator who has researched the project approach for many years; Dr. Patricia Bills, an elementary educator who has expertise with middle school education and some experience with the project approach, and a middle school language arts teacher with expertise in teaching sixth graders, but little experience in the project approach. We are developing a multi-perspective understanding of the key issues when using the project approach in middle level classrooms. The Faculty Development Summer Fellowship enabled me to conduct student interviews and work with data from the first two years of this study. The fellowship enabled me to conduct content analysis of 14 teacher and 13 small group student interviews. In addition, the fellowship allowed me to submit two conference proposals (Association for Middle Level Education and American Educational Research Association) and write a first draft of a manuscript that discusses findings from the first two years of data collection to be submitted to the peer-reviewed journal, *Research in Middle Level Education*.

RESEARCH FOR GRADUATE LEVEL TEXTBOOK ON ARCHIVAL ARRANGEMENT AND DESCRIPTION

Archivists are the professionals who are educated in how to arrange and describe a vast array of raw, unpublished, primary source information so that people can locate the specific information they want for reuse in new ways.

When archival materials (primary source documents like correspondence, photographs, meeting minutes) were only analog, they were arranged or physically organized according to the principles of provenance and original order.¹ Once physically arranged, the archivist described the arrangement, typically in a narrative finding aid describing the information content of the materials. Archival repositories now have hybrid combinations of analog and digital records. The advent of digital records has changed arrangement, description and how researchers access, or find, archival information.

During my Summer Fellowship I took training and conducted research on arrangement and description of digital records. While archival theory for analog formats is still valid, digital records are heavily dependent upon software and hardware to read them. This dependency affects the specific tasks and methods used to arrange and describe digital records.

My research will be applied to writing an archival textbook on arrangement and description and the development of a digital records program by Steely's Special Collections and University Archives.

¹The Principle of Provenance requires that records made by one creator not be mixed with those of another creator. For example the President and Treasurer's records are arranged separately in order to better reveal the information in each. The Principle of Original Order says to maintain the original order of records whenever possible.

SUMMER FELLOWSHIP 2015



LOIS HAMILL
Special Collections and
University Archives

IMPROVING CLOUD PERFORMANCE WITH EDGE COMPUTING

Currently, more and more websites are moving to the cloud. Performance of cloud-hosted web sites is a critical issue that we are facing. Long client-perceived response latency would cause web sites to lose business and revenue. During my sabbatical, from August to December 2014, I researched an edge computing based approach to reduce response latency of cloud-hosted websites. The major accomplishments include; (1) I designed a VM (virtual machine) based system model to facilitate web application and data replication. I designed a mechanism to redirect client requests to edge servers; (2) I used log mining and clustering techniques to design a cloud database partitioning algorithm so the "hot" data can be selected from a backend database and cached at edge servers; (3) An NKU graduate student and I co-authored a research paper titled "Horizontal Cloud Database Partitioning with Data Mining Techniques." The paper was accepted by the 12th IEEE (Institute of Electrical and Electronics Engineers) Consumer Communications and Networking Conference (CCNC 2015). I presented the paper at the conference in spring 2015; (4) Based on my sabbatical research, I am writing a journal paper titled "Improving Cloud Performance with Edge Computing;" and (5) I used Amazon Elastic Compute Cloud (EC2) for my sabbatical project so I gained a deep understanding of Amazon EC2. It helped me develop new teaching materials (slides, hands-on labs and examples) for Computer Information Technology (CIT) 668 System Architecture. I am teaching CIT 668 in spring 2015. The students like the topics about Amazon EC2 and the hands-on labs.

SABBATICAL LEAVE 2014-15



WEI HAO
Department of
Computer Science

SUMMER FELLOWSHIP 2015



SARAH KASTEN
Department of
Teacher Education

DELVING INTO DEVELOPING MIDDLE GRADES MATHEMATICS PRESERVICE TEACHERS' MATHEMATICAL EXPLANATIONS

An important skill for any mathematics teacher is the ability to explain mathematics to students clearly and conceptually. "To explain mathematics is to focus on the meaning, on the ideas and concepts. To explain is to say why, to justify the logic, or to identify the convention" (Ball, 1988, p. 7). Research has shown that preservice mathematics teachers struggle to create and use meaningful mathematical explanations and often fall back on procedural explanations (Ball, 1990; Borko et al., 1992) rather than conceptual ones that better support deep understanding. The Faculty Summer Fellowship enabled me to collaborate with two other researchers (currently at Iowa State University and the University of Missouri) to further our inquiry in the area of middle grades preservice teachers' mathematical explanations. We began by conducting a detailed analysis of 44 recorded mathematical explanations from two classes of middle grades mathematics preservice teachers, previously recorded during methods courses at two universities. Based on this analysis we submitted one manuscript and are currently finishing a second. A future goal is to seek external funding to continue this line of inquiry with a longitudinal studying focusing on the development of prospective mathematics teachers' mathematical explanations across time and teaching contexts (i.e., methods courses, clinical experiences, and first years of teaching).

SABBATICAL LEAVE 2014-15



JANG-CHUL KIM
Department of
Economics and Finance

A MARKET MICROSTRUCTURE ANALYSIS OF MONETARY POLICY ANNOUNCEMENT

I want to first express my gratitude to the Faculty Development Committee for supporting my research. I was awarded the sabbatical leave during the 2014 fall semester for the project "Fed Speak After 2005: A market microstructure analysis."

During my sabbatical period I have collected and retrieved all Trade and Quote (TAQ) data from TAQ dataset released by the New York Stock Exchange. Each observation in the TAQ has the quote date, time-stamp, ticker symbol, bid price, ask price, bid-depth, ask-depth, volume, trade price, and exchange code where the quote and trade originated. In addition to the TAQ database, I have collected other financial data from Standard & Poor's COMPUSTAT Research Insight database and the Center for Research in Security Prices (CRSP). Fortunately, NKU subscribes to such databases.

I analyzed the effects of monetary policy announcements on stock market liquidity using intraday data from January 2005 to 2011. I find that liquidity decreases significantly, with spreads widening and depth falling, at the time of policy announcements. Liquidity remains abnormally low for up to an hour. I find that the impairment in liquidity associated with policy announcements occurs primarily after, rather than before, the announcements. However, when I examine changes in liquidity at five minute intervals, I find some evidence that liquidity begins to decline five to ten minutes prior to the policy announcements, and is relatively short lived, lasting about 0.5 hours. Overall, my results show that informed traders have an information processing advantage over uninformed participants rather than access to private information over Federal Reserve's monetary policy announcements.

THE INFLUENCE OF LOAD CONFIGURATION ON LOWER EXTREMITY BIOMECHANICS DURING A DROP-JUMP TASK

I received the Project Grant, which I combined with an NKU Research, Grants and Contracts Seed Award to purchase all necessary equipment to conduct the study. This project will provide preliminary data for a larger project proposal to the United States Department of Defense. 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 or lower back injury during tactical maneuvers. Thus, the aim of this project was to evaluate the influence of load carriage configuration (i.e. positioning) on lower extremity and trunk (i.e. back) biomechanics during a drop-jump task (DJT) in men and women Warfighters. Eleven participants (eight male; three female) with prior military service (i.e. Reserve Officers' Training Corps cadets, active duty military, or reservists) were recruited. Participants performed three trials of a DJT under three different load configurations: 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 DJT landing mechanics, under each of the three conditions were recorded and analyzed using two-dimensional videography. Preliminary analyses of this very small sample indicated there were no significant differences in lower extremity and trunk movement mechanics (i.e. patterns) across various load configurations.

PROJECT GRANT 2014-15



ROGER KOLLOCK
Department of
Kinesiology and Health

TAINTED ART: THE STILL UNFINISHED BUSINESS OF WWII

I spent the sabbatical year working towards publishing my first book, *Hidden behind Paintings: The True Story of Nazi-Era Extortion and Modern Justice*. The book is about the Holocaust-era art restitution movement. The Monuments Men famously rescued art during and in the aftermath of World War II, returning masterworks to their source nations. The rest of the story is not so glorious and remains largely untold. The art market continued to thrive throughout and after the war. The fight to reclaim art that traded hands during that time continues today. Despite extraordinary efforts of our military and the executive branch dating back to the war, the State Department now abandoned the cause – and even worked against it. Experts on the subject find themselves on one side or another of various claims, often having been hired by one side or the other, sued for defamation, or had their reputations tarnished. What remains is a vacuum of non-partisan experts active in the field. To enter the fray is to open one's self to reputational harm. But, this true story must be told before there are no longer non-partisan witnesses with the ability to tell it. For more information, visit JenniferKreder.com.

As part of the process of vetting the book, I made the following presentations:

- "The Future of Databases and Holocaust-era Art Claims," Nova Law Review Symposium, New Media and Old Metaphors, Davie, FL. (March 2015).
- "After the Monuments Men: Nazi-Era Art, Modern Legal Problems," Association of American Law Schools 2015 Annual Meeting, Washington, DC. (January 2015).
- "Nazi-Looted Art," International Association of Legal Ethics, London, UK. (August 2014).
- "Nazi-Looted Art," International Conference for Academic Disciplines, Venice, Italy. (July 2014).
- "Nazi-Looted Art," The Arts in Society Conference, Rome, Italy. (July 2014).

SABBATICAL LEAVE 2014-15



**JENNIFER ANGLIM
KREDER**
Salmon P. Chase College of Law

In addition to the book project, I completed an article, "The Public Trust," which I placed with the *University of Pennsylvania Journal of Constitutional Law* in April 2015. This article is important to my work, because museums often claim to be prohibited from returning art because they hold it in the "public trust." In researching the term, I learned that it was used in the Religious Test Clause of Article VI of the U.S. Constitution. I was shocked to find virtually no scholarship about it. My Article is the first scholarly attempt to define the term by exploring historical evidence pre-dating the nation's founding through the Constitution's adoption, including British and colonial trust law that influenced the Founders' conception of the term.

SUMMER FELLOWSHIP 2015



TONYA KROUSE
Department of English

THE DEATH OF THE AUTHOR AND THE DEATH OF THE NOVEL IN D.H. LAWRENCE AND JONATHAN FRANZEN

D.H. Lawrence and Jonathan Franzen have much in common. Intensely fascinated by the natural world, both authors are equally preoccupied with the negative impact of modernization. Each believes that the novel is a genre under threat, and each purports to try to save it. Each is beleaguered by critical controversy and opprobrium. With the support of a summer fellowship in 2015, I examined Lawrence and Franzen's oeuvres alongside each other, establishing the link between Lawrence's narrative experiments and trends in contemporary American fiction. During the month of the fellowship period, I immersed myself in Lawrence and Franzen's major novels, their published nonfiction, and interviews with the authors. Additionally, I conducted a comprehensive literature review of critical appraisals of these authors' works. In the second month, I drafted one article, "D.H. Lawrence's Legacy in the 21st Century: Women in Love in Jonathan Franzen's Freedom," which is in the final stages of revision and which I will submit to *D.H. Lawrence Review* no later than September 15, 2015. I also conducted research and began drafting "The Death of the Author, The Death of the Novel," which will become chapter one of my larger book project on Lawrence and Franzen. Finally, the work that I have completed this summer has positioned me to apply for external funding through the National Endowment for the Humanities, as well as to collaborate with scholars outside of Northern Kentucky University to organize a panel for the 2016 International Conference on Narrative, which will take place in Amsterdam, the Netherlands.

SABBATICAL LEAVE 2014-15



EDWARD KWON
Department of Political
Science, Criminal Justice and
Organizational Leadership

CONFLICT ON THE KOREAN PENINSULA: NORTH KOREA'S PROVOCATIONS

During my sabbatical leave, my three research papers were accepted by peer reviewed journals. I reviewed over four decades' worth of documents, including government documents, North Korean newspaper *Rodong Sinmun*, South Korean newspapers and other foreign newspaper sources containing North Korea's military provocations. I collected about 3,000 event data relating North Korea's military provocations against South Korea, major U.S. - Republic of Korea (ROK) military drills, statistics of two Koreas, skirmishes between the North and South through library work and a field trip to Seoul and the Joint Security Area of Panunjeom in Korea. My research clarified common patterns and processes of North Korea's military provocations. First, North Korea tends to carry out military provocations right after the U.S.-ROK joint military drills. Second, North Korea's massive level of military provocation (the artillery shells to Yeonpyeong Island) happened during the power transition period. Third, North Korea was used to foster artificial military tension with South Korea intending to divert domestic discontent from its chronic economic

hardships. The strategic purpose of military provocations by North Korea is based on four policy intentions. First, North Korea would like to influence South Korea's foreign policy in various issues areas. Second, North Korea tries to measure the preparedness of military of South Korea. Third, North Korea would like to challenge a status-quo condition (Northern Limited Line in the West Sea) through continuing military infiltration and naval invasion. Lastly, North Korea does not want to escalate military provocation into war, but wish to prove its military capability against the U.S.-ROK alliance.

INVESTIGATING POLYMER AND MICROWAVE CHEMISTRY FOR THE ADVANCEMENT OF RESEARCH AND TEACHING

Organoclay-polymer nanocomposites represent a class of hybrid materials comprising a polymer within which clay nanofillers have been dispersed. Compared to pure polymers, these composite materials exhibit several enhanced properties such as higher stiffness, corrosion resistance, gas barrier, or inflammability, which makes them very attractive for applications in the aerospace, automotive, energy, food packaging, and biomedical industries. During the summer, two undergraduate students, an NKU chemistry major, and an intern from the Institute Universitaire de Technologie de Lannion (France), our French partner in our international research exchange program, and myself investigated the microwave-assisted synthesis of polystyrene-organoclay nanocomposites by surface-initiated polymerization from the surface of a one-step prepared organoclays containing thiol functional groups as polymerization initiating sites. Characterizations of the composites by a variety of methods showed the importance of the choice of solvent when microwave is used as the heating source. We also found a high content of grafted polystyrene in our composites, making these new materials excellent candidates as polymer fillers. I was also able to acquire a better understanding of both the microwave technique and surface-initiated polymerization reactions, through numerous discussions with our collaborator, Dr. Eric Fossum and his research group who specialized in polymer science at Wright State University (Dayton, OH). The results of the work accomplished this summer will be presented at various professional meetings, and will be used as preliminary data in a grant proposal to be submitted to the National Science Foundation and for the development of experiments in upper-level teaching labs.

SUMMER FELLOWSHIP 2015



ISABELLE LAGADIC
Department of Chemistry

ATOMIZING AND RE-UNIFYING MACHIAVELLI'S DANGEROUS GENIUS

During the summer of 2014 I had the great good fortune to travel to Florence and Rome, Italy, where I carried out research on numerous projects, the most important of which being a new monograph on Niccolò Machiavelli's intellectual indebtedness to the ancient Roman materialist poet/philosopher, Lucretius. In my estimation, Machiavelli's rejection of traditional Christian morality and probable embrace of atheism can be attributed to the fact that he spent a tremendous amount of time personally transcribing Lucretius' epic poem *De rerum natura* ("On the Nature of Things"), a work that is almost without doubt, the greatest pre-modern statement of unbelief – in any sort of divinity – that survives from the classical world. Much of Machiavelli's own political thought, I have found and therefore argued in writing, descends from Lucretian "unbelief." If there is no afterlife and no concomitant judgment, princes and leaders of all sorts are free to act in the most appallingly hypocritical, unethical and immoral ways without any fear of divine retribution. The only

PROJECT GRANT 2014-15



WILLIAM LANDON
Department of
History and Geography

thing that they have to fear is the loss of their power. While this conclusion certainly helps to explain how and why politics since the time of Machiavelli have descended into such abysmal depths, it does nothing to lessen the anxiety and distrust that even the most astute contemporary observers often feel for those who are in power.

SABBATICAL LEAVE 2014-15

CECILE A. MARCZINSKI
Department of
Psychological Science

ALCOHOL MIXED WITH ENERGY DRINKS: WHAT ARE THE RISKS?



For my semester spent on sabbatical, I accomplished several goals that furthered my research program which examines the risks of using energy drinks as mixers for alcoholic beverages when compared to alcohol alone using laboratory studies. First, I submitted a National Institute of Health R15 grant application to renew my funding in this area. This grant application included significant funds for undergraduate

research stipends, supplies, and travel. This external grant of approximately \$330,000 was recently awarded (funding period runs September 2015 to August 2018). Second, I prepared two manuscripts which were accepted for publication. The first manuscript (Marczinski, 2015, "Nutrition Reviews") is a review paper on the topic of alcohol mixed with energy drinks. The second manuscript (Stamates, Maloney & Marczinski, 2015, "Drug and Alcohol Dependence") is a report of a laboratory-based study demonstrating that blood alcohol concentrations are significantly higher when alcohol is mixed with diet mixers as compared to sugar-sweetened mixers. Co-authors on this paper include Amy Stamates and Sarah Maloney. Both are graduates of our psychology B.S. program and were undergraduate researchers in my lab. Currently, these alumni are doctoral students at Old Dominion University (Stamates) and Virginia Commonwealth University (Maloney). Finally, I gave two invited talks during my sabbatical. The first was for the Nutrition and Exercise Science graduate program at the University of Buffalo. Following this talk, I worked with two separate individuals at this university on grant applications related to energy drinks that are currently under review at the National Institutes of Health. The second talk involved travel to Australia. I served as keynote speaker for the First International Energy Drinks Conference in Geelong, Australia. This conference brought together experts from around the world who study the health implications of energy drink use. This experience was invaluable in growing my reputation as an internationally recognized expert on this topic. Furthermore, I was interviewed by the Australian national news, resulting in a nice feature in an international setting of the scholarship conducted by a faculty member at NKU.

ACTIVE LEARNING EXERCISES FOR PROBLEM SOLVING

My sabbatical for 2014-2015 was awarded to help recharge my teaching and restart my research efforts after being chair for the business informatics department for eight years. Thanks to the award, I was able to make great progress in both research productivity and in teaching preparation, and prepare for a productive return to the faculty in 2015.

During the sabbatical, two papers were presented at conference proceedings, two articles were written and accepted for journal publication, three more manuscripts were developed and submitted to journals, and two new additional research streams were started. The co-authored manuscript "Creativity and Problem Solving: Closing the Skills Gap," has been accepted for publication in the peer-reviewed, *Journal of Computer Information Systems*.



Ben Martz discusses problem solving and creativity as employer hiring criteria.

For me, the most exciting and promising activity was the very positive reception concerning our course development and research around the topic of problem solving and creativity. Over the past several years, problem solving and creativity skills have grown in demand in the workforce. In response, we have developed and offered a class geared around teaching problem solving and creativity. Data from this class was the basis for the research. While the discussion is ongoing about "Can one really teach creativity?," it seems clear from data collected that we are able to teach students techniques and methodologies to be more creative, *when* the opportunity presents itself.

While the sabbatical provided time to present my current research to the larger academic community, it more importantly allowed time to plan how best to develop academic curriculum to provide students both a more practical and yet educationally sound learning environment that matches current business needs.

SABBATICAL LEAVE 2014-15



BEN MARTZ
Department of
Business Informatics

INTER-PROFESSIONAL EDUCATION IN HEALTH CARE CURRENT BEST PRACTICE MODELS AND IMPLICATIONS FOR INTER-PROFESSIONAL EDUCATION AT NKU

The purposes of this sabbatical project were to research current best practices related to interprofessional education in the Health Professions, make recommendations for strengthening inter-professional education (IPE) and communication among health professions students and programs at Northern Kentucky University. Sabbatical activities included an extensive literature review, interviews and attendance at webinars. Findings: Some countries, particularly smaller European countries, Canada and the United Kingdom (U.K) have clear policies and substantial government support for interprofessional education. Several countries including the United States have developed interprofessional education competencies and proposed frameworks to guide interprofessional education and collaborative practice. However, most education programs lack a cohesive, intentional curricular approach to interprofessional education. Curricular plans need to include how and when faculty and students will be involved, as well as teaching strategies and evaluation. A number of evaluation tools have been developed and validated to measure the impact of interprofessional education, but they are all constrained by specific sub-scales/factors and the populations within which they were validated. There is limited research on the longitudinal effects of an IPE curriculum on undergraduate health and human service students' attitudes towards IPE; interprofessional teamwork

SABBATICAL LEAVE 2014-15



CARRIE A. McCOY
Department of Nursing

and overall student satisfaction. Best practices for translating IPE into interprofessional practice and team-based care are not yet well defined. Conclusion: It will be important for those who are planning the new Institute for Transdisciplinary Innovation to consider the recommendations of the Institute of Medicine and the Core Competencies for Interprofessional Practice.

PROJECT GRANT 2014-15



JOSEPH MESTER
Department of
Biological Sciences

CHARACTERIZATION OF NOVEL VIRUS-VECTORED VACCINES FOR HEPATITIS C

Hepatitis C virus (HCV) is a prevalent and deadly blood-borne pathogen that currently lacks a protective vaccine. This Project Grant focused on the laboratory characterization of newly created herpes simplex virus (HSV)-based vaccines for HCV. The use of HSV-based vectors represents a novel approach to HCV vaccination. These novel vaccines were genetically engineered in 2014 during my sabbatical project at the University of Pittsburgh.

Three undergraduate students, Brooke Kenneda, Krystal Dyson, and Hailey Shanahan, participated in the characterization of the novel vaccines. We first verified that the vaccines produced the desired HCV product when introduced into human skin cells, liver cells, and monocytes (immune system cells). Further testing was done to determine what effect the vaccines had on the cells. Enhanced levels of inflammatory messengers were detected from vaccine-infected liver and skin cells, which would attract immune responder cells to the site of vaccination. Human monocytes infected by the vaccines demonstrated HCV gene expression and immune activation. Immune activation was highest in monocytes infected by vaccines containing bacterial DNA sequences that remained in some of the vectors after genetic engineering. These results demonstrated the functionality of the vaccines in skin, liver, and immune cells. The next step for this project is to advance the vaccines to testing in preclinical models.

This Project Grant allowed substantial development work with the novel HCV vaccines, and exposed NKU undergraduates to novel techniques in the laboratory. The identification of novel methods for generating protective immune responses to HCV will benefit public health efforts worldwide.

SABBATICAL LEAVE 2014-15



P. ANDREW MILLER
Department of English

BUTTERSCOTCH MONDAY: EXPLORATIONS IN YOUNG ADULT FICTION

My sabbatical for spring 2015 was an exploration of writing for young adults. In order to accomplish this, I attended the Writers in Paradise Conference sponsored by Eckerd College. The Young Adult (YA) course was taught by author David Yoo. In the workshop, I presented a story for critique and critiqued others' stories as well. David also lectured about specifics for writing YA literature. After the workshop, I started writing and submitting short fiction to YA markets. I also read these new works at two conferences: The Kentucky Philological Association Conference and the International Conference of the Fantastic in the Arts. Related to this work, I was one of the judges for a contest sponsored by the Kenton County Library to write an origin story for their mascot, Tales the Dragon. Also related to the sabbatical, Dr. John Alberti and I completed a book proposal for a collection of essays on the adaptation of the Harry Potter novels into film.

From this sabbatical, I took what I learned and created a class on writing for young adults which I am teaching this semester.

LANDSCAPE: HISTORY, MEMORY, AND NARRATIVE, FINDING IDENTITY THROUGH PLACE AND TIME



My sabbatical was extremely successful. In my proposal I stated that I would make three series of paintings; seasonal, national parks, and narrative work. I also proposed to exhibit my work and complete an artist residency at a national park. All of these goals were achieved. During my sabbatical I completed over 80 paintings of various

sizes; 52 of which will be shown in NKU's small gallery in January 2016 in an exhibition entitled *52 Tuesdays*. I traveled to Belgium and I also co-lead a Spring Break Study Abroad Program in Italy.

Highlights of the sabbatical include three solo shows; my first major museum exhibition at the Museum of Modern Art, Jacksonville, Florida; seven group shows; traveling in Italy with students; traveling in Belgium as a co-leader on a tour for Taft Museum of Art members; and being selected as artist-in-residence at the Wrangell Mountains Center in McCarthy, Alaska.



Glacier Creek, late afternoon



What Remains

SABBATICAL LEAVE 2014-15



KEVIN MUELTE
Visual Arts Program

RIVAL TEAM INFLUENCE ON RESPONSES TO CAUSE-RELATED SPORTS MARKETING

During this summer this project was furthered extensively. First, I personally designed several mock-advertisements to use for testing specific hypotheses. Additionally, I created four new Qualtrics surveys that were instrumental in data collection. In order to collect data, I posted recruiting messages on sport team message boards and through Amazon Mechanical Turk (MTurk). This project was also supported by a University Project Grant which provided funding for MTurk recruitment. During the time period from May-August I collected responses from over 1,000 U.S. sports fans using these online survey methods. I have added this data to an existing data set that was collected in spring 2015, and now have over 1,000 responses and am drafting a three-study manuscript. Based on the current findings, I have titled this paper, "Cause-Related Marketing in Major League Sports: The Role of Brand-Cause Fit and Team Imagery in League-Wide Advertising Promotions." My intention is to submit the manuscript to a leading marketing conference, and subsequently to a top tier academic journal in the sport field, such as *Sport Marketing Quarterly*. My goal is to complete the manuscript by October 1, 2015. I am working with two co-authors from my department on the final manuscript: Dr. Joe Cobbs and Dr. David Raska.

SUMMER FELLOWSHIP 2015



BRIDGET NICHOLS
Department of Marketing,
Sports Business and
Construction Management

SUMMER FELLOWSHIP 2015



JOSEPH NOLAN
Department of
Mathematics and Statistics

THE PRACTICAL APPLICATION OF STATISTICAL METHODS TO HEALTHCARE RESEARCH

This project focused on completion of a textbook that is currently used by the author in STA 614 – Statistics for Healthcare Research. The text is titled *Applying Statistics to Healthcare: Turning Variability into Useful Decisions*. The project added two chapters to the text in addition to editing and updating nine original chapters based on student feedback from recent years. More than 75 pages of new examples, literature-based case studies, and exercises were incorporated. Several healthcare journal articles were newly referenced as case study materials. Additional chapters relate to multiple and logistic regression (topics chosen based on my own survey of healthcare literature). The new version of the text will be incorporated into the fall 2015 version of the course, evaluated, and revised as needed in 2016. Future publication is being explored. In addition to meeting planned goals for the project, I have also begun adding content related videos connected to each chapter. Thus far a total of 13 videos correspond to the first six chapters; I plan to continue adding to my video library with the hope of completing this task “just-in-time” for use in STA 614 this fall.

SABBATICAL LEAVE 2014-15

SCOTT NUTTER
Department of Physics, Geology
and Engineering Technology

PARTICLE ASTROPHYSICS RESEARCH ON THE CREST AND CREAM PROJECTS

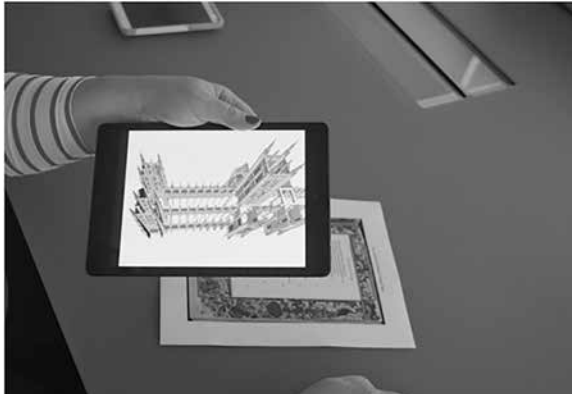


Scott Nutter assists in the preparation of the ISS-CREAM instrument at NASA.

My full-year sabbatical was focused on furthering astroparticle physics at NKU through continued research on the Cosmic Ray Electron Synchrotron Telescope (CREST), Cosmic Ray Energetics and Mass (CREAM) and International Space Station-Cosmic Ray Energetics Mass (ISS-CREAM) experiments. All three of these collaborative NASA-sponsored experiments measure aspects of the cosmic rays in order to better understand their acceleration to near light speeds in some of the most violent places in the galaxy: the expanding shock waves of super nova remnants. CREST and CREAM have flown on high altitude balloons from

Antarctica, while ISS-CREAM is slated for installation in the International Space Station (ISS) next summer. The fall of 2014 was spent primarily in putting the final touches on detector simulations of backgrounds to help interpret the 2011 CREST flight data. Preliminary results were presented at the International Cosmic Ray Conference in The Hague, Netherlands, in August. On ISS-CREAM, a great deal of effort was spent preparing the instrument for launch (necessitating trips to assist in that effort) and trying to reproduce 2012 beam test data at CERN of a detector component for ISS-CREAM (the Boronated Scintillator Detector, or BSD) in simulations. That data showed that the detector worked well, even better than expected, detecting about 20-30 times more light than predicted. A physical mechanism for that additional light could not be motivated through simulations, so the year has culminated with a trip back to CERN for another beam test with changed parameters. We now have a complete understanding of the detector and are confident of our ability to interpret data taken during its upcoming sojourn on the ISS. In addition to these accomplishments, a new experiment proposal, The Helix, was submitted to NASA last spring and approved for funding beginning this fall.

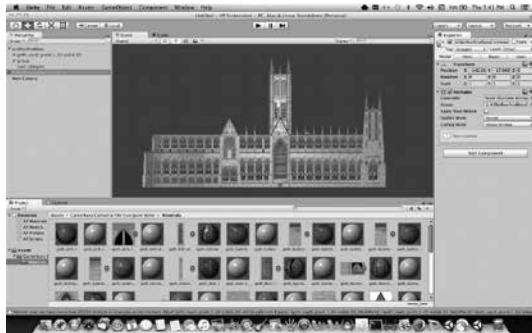
THE AUGMENTED PALIMPSEST: ENGAGING STUDENTS THROUGH AR ENCOUNTERS WITH THE PAST



During my sabbatical (spring 2015), I primarily worked on my research project, "The Augmented Palimpsest: Engaging Students Through AR Encounters with the Past," which is currently supported by a National Endowment for the Humanities (NEH) Digital Humanities Start-Up Grant (2014-15). This collaborative digital humanities tool explores how the medium of

Augmented Reality (AR) can be used in teaching medieval literature. Using Geoffrey Chaucer's *Canterbury Tales*, a 14th Century poem written in Middle English, the app delivers digital enhancements that emerge from the printed page via a smart device. They provide the reader with linguistic, historical, and cultural contexts, thus giving students greater access to medieval material culture and history. Working with Andrea R. Harbin (The State University of New York at Cortland), I directed the development of a prototype of the tool, gave a public presentation on the project to the Northern Kentucky/Cincinnati community, and submitted successful proposals for two conference presentations and three academic articles. With an NKU colleague, I also wrote and submitted a grant application to the NEH for "The Humanities in the Public Square" initiative requesting \$143,547.00 to fund a public outreach initiative that will emphasize the ways in which the humanities can enrich the daily lives of 21st Century Americans.

THE AUGMENTED PALIMPSEST: ENGAGING STUDENTS THROUGH AR ENCOUNTERS WITH THE PAST



With the support of a 2014-15 Faculty Project Grant, I purchased the most current version of Unity 3D Pro software with the Pro add-ons for iOS and Android, as well as a team license that allows the software to be shared among five users. Unity is the software platform that my project team is using to create the mobile app with three-dimensional digital

enhancements for our research project, "The Augmented Palimpsest: Engaging Students Through AR Encounters with the Past." This collaborative digital humanities tool explores how the medium of Augmented Reality (AR) can be used in teaching medieval literature. Using Geoffrey Chaucer's *Canterbury Tales*, a 14th Century poem written in Middle English, the app delivers digital enhancements that emerge from the printed page via a smart device. They provide the reader with linguistic, historical, and cultural contexts, thus giving students greater access to medieval material culture and history. In addition to the software, the Faculty Project Grant allowed me to purchase both a Samsung Galaxy tablet and a Google Nexus tablet for testing the mobile app on a variety of smart devices.

SABBATICAL
LEAVE 2014-15

PROJECT
GRANT 2014-15

TAMARA F. O'CALLAGHAN
Department of English

SABBATICAL
LEAVE 2014-15

SUMMER
FELLOWSHIP
2015

**JULIE CENCULA
OLBERDING**
Department of Political Science,
Criminal Justice and
Organizational Leadership

A NEW BOOK ON "CREATING AND MANAGING SPECIAL EVENTS IN THE ERA OF SOCIAL ENTERPRISE"



A sabbatical during the fall 2014 semester enabled me to further my research in the areas of community development, service learning, and nonprofit management. Specifically, I completed two manuscripts and submitted them to academic journals, and I finalized a book prospectus and drafted five chapters. One manuscript examines inter-community planning and

development, including a case study of two neighborhoods in Cincinnati. The second manuscript, which was co-authored by an MPA student, focuses on the longer-term impacts of service-learning projects on nonprofit community partners particularly their organizational capacity as it relates to volunteer management and fundraising. I presented it at the Annual Conference of the Association of Research on Nonprofit Organizations and Voluntary Action (ARNOVA) in Denver in November.

The proposed book – tentatively titled *Events in the Era of Social Enterprise* – is designed to shed light on events created and managed by nonprofit organizations, government agencies and collaborative efforts across the nonprofit, public and private sectors. Existing books tend to focus on for-profit events and many of them are "how to" manuals. My proposed book explores nonprofit, public, and cross-sectoral events primarily through the conceptual lens of social enterprise, which has been defined as a venture that advances a social mission using business methods. The book highlights other concepts and practices important in the nonprofit and public sectors, but often overlooked by existing books such as collaborative governance, social capital, community building, diversity, and advocacy. It will contain research, case studies and tools for scholars, students, and practitioners interested in these types of events.

SOCIAL ENTERPRISE AND SPECIAL EVENTS: A BOOK EXPLORING MISSION-DRIVEN EVENTS IN THE MODERN ERA



Increasingly, special events are being organized with a social mission, purpose or cause by nonprofit organizations, government agencies, or collaborative efforts among different types of organizations. The social mission, purpose or cause may be: raising funds for a nonprofit organization to address a social need; increasing awareness about a particular nonprofit or cause; increasing participation and

engagement in a particular nonprofit or cause; enhancing image of or pride in a city or community; and/or other purposes. While there are a handful of books on events, they tend to focus on "mega," sport and corporate events, so many chapters are not relevant to these mission-driven or cause-related events and their organizers. Further, the existing books tend to deal mostly with the implementation of mega, sport and corporate events.

The book on which I am working – entitled *Social Enterprise and Special Events* – takes a different approach to studying and learning about events in modern society.

First, the book focuses on events with a social mission, purpose, or cause. It does so by using the conceptual framework of social enterprise and by considering other concepts important in the nonprofit, public and collaborative arenas, including governance, volunteerism, public engagement, social capital, community building, multiculturalism, and diversity. Further, *Social Enterprise and Special Events* looks at event creation, implementation, evaluation, and innovation rather than just implementation. The 2015 Summer Fellowship supported my research, writing and editing of a few chapters. I have signed a book contract with Routledge (Taylor & Francis Group) with the expectation that it will be published in spring 2016.

COMING TO CAMPUS NEAR YOU? STUDENTS' RESPONSES TO CALORIE DISCLOSURE ON MENUS

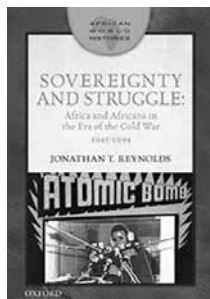
In 2014, The Food and Drug Administration finalized and enacted its health regulation which requires restaurants and similar retail food establishments to label calories on menus. While extant research has paid attention to the impact of labeling, the research studying the impact of such strategies on lower-calorie choices has yielded mixed results (Long et al., 2015). Whereas some research shows that listing calories helps making a healthier choice (Auchincloss et al., 2013; Bollinger et al., 2011; Roberto et al., 2010), other research shows it has a counter-productive or minimal effects (Downs et al., 2009; Finkelstein et al., 2011; Tandon et al., 2010). This research project builds on existing research and (a) examines conditions under which calorie labeling on menus actually induces lower-calorie choices (i.e., health cues, framing) and, importantly, (b) tests such effects in a point of purchase setting, across one of the most vulnerable and influential consumer group—Millennial college students. These consumers are not only shaping their own health habits and habits of future generations (Heidal et al., 2012; Mayfield et al., 2014), but are also one of the most vulnerable groups; almost one third of them is already overweight or obese with majority having lower income, frequently eating at fast food restaurants, consuming insufficient amounts of healthy foods, and yet, claiming to be health conscious (Mayfield et al., 2014; Wie et al., 2014; Yepes, 2015). Given the current regulations, empirical inquiry in the context of this group is of a critical importance (Wansink and Chandon, 2014).

SUMMER FELLOWSHIP 2015



DAVID RASKA
Department of Marketing,
Sports Business and
Construction Management

FINAL PRODUCTION AND EDITS OF PAPER AND ELECTRONIC EDITIONS OF WORLD IN MOTION: A DYNAMIC HISTORY OF HUMANKIND



From August 2014 to May 2015, it was my honor to be awarded a two semester sabbatical. The main goal of this sabbatical was to complete the editing and “production” of the 12 chapters I have written for *World in Motion: A Dynamic History of Humankind*. This book, co-authored with Erik Gilbert, is under contract with Prentice Hall. As a result of work completed during my

sabbatical, *World in Motion* is on track for publication in 2017. My sabbatical proposal also included the completion of a monograph entitled *Sovereignty and Struggle: Africa and Africans in the Era of the Cold War, 1945-1994* for Oxford University Press. This text

SABBATICAL LEAVE 2014-15



JONATHAN T. REYNOLDS
Department of
History and Geography

was published in November of 2014. In the spring of 2014, I was contacted by Ivy Press (UK) with an offer to create and edit a title for their publication entitled, *The 30-Second Twentieth Century*. Work on this title, which included collaboration with a number of NKU colleagues and alumni, was completed in the fall of 2014. The book was published internationally in May of 2015.

Other scholarly publications during the sabbatical year include an invited article for the *Journal of West African History* and editing and contributing to an issue of *World History Connected* focusing on "Food in World History." Finally, I continued to present at professional conferences and community events so as to maintain my professional presence in my field and our region.

SUMMER
FELLOWSHIP
2015

KIRSTEN SCHWARZ
Department of
Biological Sciences

**WORKING DIRT: COMMUNITY BASED RESEARCH ON LEAD,
GARDENS, AND PLACE**



Kirsten Schwarz (second from the left) with research students.

Funds from the Faculty Summer Fellowship allowed me to continue my research on understanding potential tradeoffs between soil lead contamination in cities and urban gardening. Specifically, I was able to work on manuscript preparation, submitting two manuscripts for publication and working on two additional manuscripts that are currently being revised by co-authors for submission this fall. All of the manuscripts are based on an active transdisciplinary research project in Sacramento, CA that I have been a Co-Principal Investigator on since 2012. In addition, I was able to advance similar research in the Cincinnati and Northern Kentucky area allowing for future comparative studies between cities with different environmental conditions and social structures. During the summer, my lab intensively sampled 13 sites in the Cincinnati/NKY area for soil lead. Results were shared in the form of spatially-explicit maps with study participants. I advised five research students this summer, three of which presented their research at the 100th Ecological Society of America Annual Meeting in Baltimore, MD. I presented my research at two conferences this summer, as an invited symposium contributor at the International Association of Landscape Ecology World Congress in Portland, OR, and as a presenter in a contributed oral session at the 100th Ecological Society of America Annual Meeting in Baltimore, MD. I also attended a writing retreat in Davis, CA with colleagues, advancing our ongoing research in the Sacramento, CA region.

Funds from the Faculty Summer Fellowship allowed me to continue my research on understanding potential tradeoffs between soil lead contamination in cities and urban gardening. Specifically, I was able to work on manuscript preparation, submitting two manuscripts for publication and working on two additional manuscripts that are currently being revised by co-authors for submission this

GENETIC REGULATION OF THYMUS DEVELOPMENT



This summer, I was supported by the Faculty Senate Summer Fellowship to perform research studying embryonic development. My research efforts were assisted by several NKU undergraduates working in the lab. We used the African clawed frog, *Xenopus laevis*, as a model organism for vertebrate development. Specifically, we were examining the development of the pharynx, part of the embryo that gives

rise to a number of important structures in the head and neck, including the thymus gland. We were able to collect *Xenopus* embryos and examine gene expression in the developing pharynx using two different molecular techniques: in situ hybridization and immunohistochemistry. We also manipulated developing *Xenopus* embryos with an inhibitor of the fibroblast growth factor (FGF) signaling pathway to see what role this genetic pathway plays during pharynx development. FGF-inhibited embryos showed changes in certain gene expression patterns. These results will help us start to understand the genetic signaling cascades that normally guide the development of the pharynx. Additionally, this research will help us better understand why certain birth defects occur when the pharynx does not develop properly. Each of the undergraduates assisting in this research have presented their results at the Celebration of Student Research and Creativity. In the future, using the techniques we have optimized over the summer, we will generate additional results to be used together as preliminary data for external grant applications in order to continue this important research.

SUMMER
FELLOWSHIP
2015

EMILY SHIFLEY
Department of
Biological Sciences

IDENTIFYING GENES INVOLVED IN CANCER INCIDENCE, INSIGHT INTO EARLY DIAGNOSIS, AND TREATMENT



The field of cancer genetics seeks to identify all gene mutations that result in higher incidences of cancer. Broadly, genes are the carriers of our genetic information and the regions of our DNA that encode functional products. Mutations can therefore cause complete loss or alteration of these functional products. As one can imagine, identification of those gene mutations with the largest impact were easiest to find. The focus of current research has shifted to identifying gene mutations, which convey lower (albeit significant) cancer risks. Many studies have relied on a candidate gene approach,

wherein prior knowledge is used to identify candidates of interest to be investigated. Many limitations exist in this study design however: 1) prior knowledge of candidates must exist restraining identification of genes whose function might not be obviously linked to known cancer pathways and; 2) very large populations are needed in order to derive statistical significance. Thus, additional methods are needed in order to find as yet unidentified genes. In our work we have determined the procedure and started a pilot study to implement a novel experimental design to circumvent these limitations. Using *Saccharomyces cerevisiae* we are implementing a comprehensive screening method to identify mutations for lower-impact genes with roles in cancer incidence.

SUMMER
FELLOWSHIP
2015

ERIN STROME
Department of
Biological Sciences

PROJECT
GRANT 2014-15

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.

PROJECT
GRANT 2014-15

MONICA L. WAKEFIELD
Department of Sociology,
Anthropology and Philosophy

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, neither of which are led

by American scholars. I seek to expand understanding of bonobos by initiating a new long-term research project at Iyema in the Lomako Forest, Democratic Republic of the Congo. 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.

FREDERICK DOUGLASS IN CINCINNATI AND STUDENT ART EXHIBITIONS AT NKU



Robert K. Wallace and Emma Rose Thompson at the Dickinson Exhibition.

Marathon Reading of the novel, a symposium on *Moby-Dick* in the 21st Century at the Cincinnati Art Museum and a symposium on *Moby-Dick* and the Arts at NKU. The planning and execution of all of these events are the primary subjects of the book-length blog that I began in August 2014 and completed in August 2015: *Dickinson and Moby-Dick in 2015* (<https://dickinsonandmobydick.wordpress.com/>). This blog has been accepted for publication by the Dickinson Electronic Archive and the Melville Electronic Library. During the sabbatical year I also made excellent progress in the book I am writing on Frederick Douglass in Cincinnati in the 1850s.

SABBATICAL LEAVE 2014-15

ROBERT K. WALLACE
Department of English

A sabbatical grant for the 2014-15 academic year enabled me to mount two major exhibitions of artwork created by students in my NKU classes over the last 20 years, an exhibition of Emily Dickinson art in the Eva G. Farris Reading Room of the W. Frank Steely Library from February 6 – May 9, 2015, and an exhibition of *Moby-Dick* art at the Covington Branch of the Kenton County Public Library from April 17 – May 15, 2015. Each exhibition was accompanied by a full-color catalog designed by my co-curator and co-editor for both projects, Emma Rose Thompson, a BFA Art History major at NKU. We highlighted the opening of the Dickinson exhibition with a three-day Arts Fest including a Marathon Reading of the complete poems, an Emily Dickinson song recital, presentations by students and visiting artists, and an Emily Dickinson Tea Party. We showcased the opening of the *Moby-Dick* exhibition with a

SUMMER FELLOWSHIP 2015



LINDSEY WALTERS
Department of
Biological Sciences

HARMLESS VAMPIRES: DO BLOOD-SUCKING BIRD BLOW FLY LARVAE REALLY HARM THEIR AVIAN HOSTS?

I worked with three NKU undergraduate students to investigate the effects of bird blow fly infestation on the health and behavior of wild Carolina chickadees. Despite the fact that bird blow fly larvae feed exclusively on the blood of nestling birds, previous research on different bird species has found conflicting results about whether these vampire-like parasites actually cause harm to their avian hosts. For this project, we monitored Carolina chickadee nests at a local field site and compared the number of blow fly larvae in each nest to several measures of nestling health. We found that although nestling size and weight were not related to larval abundance, nestlings infested with more blow fly larvae had lower hemoglobin concentrations in their blood. Since hemoglobin is the molecule responsible for carrying oxygen to the body, this could have a negative impact on the future health of these nestlings. We expected that the parents of these heavily infested nestlings would bring them more food to counteract the negative effects of the parasite. However, when we measured parental provisioning rates, we found no relationship between the presence of blow flies and the rate that parents fed their nestlings. So although these vampires were not harmless, we found no evidence that the parent chickadees responded to this potential threat to their offspring. This project provided new information about a bird blow fly host species that had not been studied before and contributes to the larger discussion of whether or not bird blow flies actually negatively impact their hosts.



Nestling chickadees



Bird blow fly larva

THE OLD DUKE: ROBERT WICKLIFFE AND HIS FAMILY IN ANTEBELLUM KENTUCKY MONOGRAPH

This sabbatical leave was for the spring 2015 semester and was used to conduct further research and to begin the first draft of a biography of Robert Wickliffe, 19th Century legislator and Kentucky's largest slave owner. The original intent of the project was to focus solely on Wickliffe's personal relationships with his wives, children, and slaves. The sabbatical began with the hope to have a completed first draft of the monograph finished by the end. However, as renewed research in the 88 boxes of primary source materials at the University of Kentucky began, the focus of the project shifted to include Wickliffe's legal practice, as well as his political views and career in government. As the sabbatical months progressed, I decided to write an extensive and complete biography of this significant 19th Century Kentuckian that illuminates the importance of this one man in the development of Kentucky, the role of male privilege and responsibility in the South and challenges faced by African Americans and women. Currently, there are no biographies of Wickliffe, a contemporary of Henry Clay, and this work will provide insight into the nature of honor, 19th Century politics, the early practice of law, the meaning of family, women's property rights, and patriarchy in a changing world. While a complete first draft was not finished by the end of the sabbatical, the time was used for new research and writing that will lead to a better and more important finished work in the next year.

SABBATICAL LEAVE 2014-15



ANDREA S. WATKINS
Department of
History and Geography

PARENT INVOLVEMENT AND PARENT ENGAGEMENT: CURRENT PRACTICES AND IMPACT

During my one semester sabbatical leave in fall 2014 I researched practices and outcome measures of parent involvement and parent engagement as reported by programs, schools, districts, state agencies, and national organizations. In general, I found that practices vary and attempts to measure impact are limited and inconclusive. As a result of my work I will be presenting a session entitled, "Building a Strong and Equitable Family-School Partnerships Network in a Large Diverse School District" at the 2015 National Family and Community Engagement Conference in Chicago June 22-24, 2015 with a team of Boone County Kentucky education leaders. In addition, with a pair of early childhood specialists I have submitted a manuscript "Service Learning in Preschool: How does a service learning early education experience benefit preschool and kindergarten children... and their families?" for review and possible publication in *Young Children*, a journal of the National Association for the Education of Young Children. A major theme of this manuscript is engaging parents along with their preschool children and the whole family in large service learning projects.

SABBATICAL LEAVE 2014-15



PAUL WIRTZ
Department of Counseling,
Social Work and Leadership

PROJECT GRANT 2014-15



NICHOLAS B. ZEMAN
Department of Communication

MISSION NUTRITION 2014

Mission Nutrition was a Summer Grant project aimed at creating an interactive nutrition learning system using game-like elements for children ages six to eleven years old. The original concept was to create the game using Unity 3D, a popular middleware game development environment. The design of the gameplay was to be an interactive, three-dimensional, physics-based semi-cartoon styled platform obstacle race, in which players would have a character that would race through the course, dodging obstacles and doing tasks. These tasks would have multiple levels of difficulty, based on the user skills of strength, stamina, and speed. The player would be timed running through the obstacle course and given a score when finished.

The Character Creator was the first step to the system, using the principle of Embodiment to connect the player to his or her avatar, which they would be able to genderize, itemize, and accessorize to their taste. The child would then exercise (physically) to award points in Speed and Strength, which would be awarded in a separate module by a Coach user, who would be responsible for monitoring the child's physical fitness level, and awarding points when appropriate. The coach could be any adult supervisor with a separate login and menu screen.

When the player was ready to race, the food selector scene would pop up, urging them to choose a number of food items before the race. A hashtable with "fitness values" of the food choices would be used to facilitate a simple algorithm to calculate the total stamina added or subtracted from the food choices made. That value would then control the amount of Stamina each player would possess. Stamina points controlled how far a player's character could run before it had to stop and gasp for air. The higher the stamina, the longer the player could run without stopping for air, thus decreasing the time it took to complete the course and increasing the player score.

Speed points increased the general speed of the character's running motion, and Strength increased the arm and leg strength, making the job of the character easier by jumping higher and being able to lift heavier objects.

This project attempted to use the principle of "Gamification" to create a system that could increase the physical fitness level of the character and simultaneously increase the decision-making abilities of children in food selection. It also strived to make a one-to-one connection between the child player and the effect exercise and food choice makes on your physical self.



and the power of transdisciplinary collaborati