

Contact: Rachel Boon

PROFESSIONAL DEVELOPMENT ASSIGNMENT REPORTS FOR FY 2017

Action Requested: Receive the professional development assignment reports submitted by the Regent universities for FY 2017.

Executive Summary: Each year, the Board of Regents is asked to approve faculty professional development assignments as specified in the Board Policy Manual 2.1.4.R. In December 2015, the Board approved 100 professional development assignments for FY 2017. Board Policy 2.1.R (a-e) directs the institutions to submit a yearly report of the completed professional development assignments. Pursuant to the 2011 Iowa Act, Chapter 122 (HF 45), “the board shall annually prepare a report comparing each assignment proposal to the results received.”

Regent faculty on professional development assignment obtained more than \$6.3m in grants and other external funding during FY2017; additional grant proposals in excess of \$15m are still pending notice of award status. Total cost to the universities for FY2017 PDA was \$469,000. The short-term return on investment was about 14 times the initial investment, with long-term potential to reach 45 times the initial investment.

A brief description of each professional development assignment completed in FY2017 is available in Attachments A-C; this report provides information about the value added to the students, university, and state from the assignments. This report addresses the Board of Regents Strategic Plan priority for “promoting and supporting innovation in teaching, research, and economic development” as well as “promoting effective use of resources to meet institutional missions.”

Background:

Review process. Each proposed PDA was rigorously reviewed prior through peer review and recommendation at the department and college levels at each university and final approval by the provost. Criteria considered include the impact of the proposed PDA to the university, students and the state.

Professional development assignment activities. Faculty members engaged in a variety of productive activities during their PDA in FY 2016. For example, faculty members had the opportunity to engage in intensive research, write scholarly books and articles, create new works of art and composition, present papers, work in industry, develop modeling systems, and develop grant proposals, software, course materials and multimedia resources for their disciplines.

Professional Development Assignments enrich the educational environment of the universities and are considered essential to the academic vitality of the universities. Educational excellence results from a vital faculty which actively pursues new developments in knowledge and teaching. Additional significant benefits obtained by the faculty members are the collaborations that occur during the professional development assignment; they frequently lead to continued mutual efforts and in some cases open doors for external grant funding

Length of assignments. Professional development assignments were either one or two semesters in length. For PDA that were two semesters in length, compensation was limited to the amount of compensation a faculty member would receive during a semester-long assignment.

Obligation to institution. Iowa Code §262.9(14) requires that a faculty member return to the institution for twice the length of time of their PDA or to repay the costs associated with the PDA if the faculty member does not return to the institution. Following their PDA, faculty members are responsible for reporting the results of their assignments as specified by Board Policy 2.1.4.R. (a-e) and their institutional guidelines.

Number of professional development assignments. There were 100 PDA approved by the Board of Regents for FY 2017; each institution included all completed PDA as part of this report.

- University of Iowa. Reports from 49 faculty members on developmental awards during 2016-17 are in appendix A. Each faculty member was on leave with pay for one semester unless otherwise indicated. The actual cost for the program was \$105,324; this is below the original projected cost of \$136,668. Four faculty members approved for leave in 2016-17 deferred their developmental assignments awarded for academic year 2016-17 to a later date. Two faculty members declined their awards, and one spread the award over spring 2017 and fall 2017 (to be reported in 2017-18). Finally, three faculty members deferred awards from a previous year and took developmental assignments in academic year 2016-17. Descriptions of these faculty members' assignment activities are included in this report.
- Iowa State University. Faculty Professional Development Assignment reports for 27 faculty for the academic year 2016-2017 are in attachment B. Four additional PDA reports are not included due to resignation or PDA cancellation or postponement.
- University of Northern Iowa. There were 17 professional development assignments approved for FY 2017. One faculty member passed away before this report was filed. There are 16 reports included in attachment C.

Return on Investment. Faculty members already received external grant funding from their PDA of greater than \$6.3m, with more than \$15m still pending award status. The replacement cost of the faculty on PDA was projected to be \$469,054, indicating a strong return on investment.

UNIVERSITY OF IOWA

ADAMEK, MARY, Professor, Music, 21 years of service, spring semester

Title: Music in Special Education, by Adamek and Darrow, 3rd Edition Textbook Revision Project: Music in Special Education, 3rd edition by Mary S. Adamek, PhD, MT-BC and Alice Ann Darrow, PhD, MT-BC. Professor Adamek completed revisions on the 3rd edition of her co-authored textbook, Music in Special Education, during her spring 2017 PDA. This textbook will be published by the American Music Therapy Association (AMTA) (publication date in 2018). The first two editions of this text were widely for the past twelve years in college-level music education and music therapy programs throughout the US and internationally. According to the publisher, the 2nd edition is one of the top three texts sold by AMTA. The University of Iowa will use this text in the music therapy program and the music education program, to help prepare future music therapists and music educators for working with students with disabilities in school settings. This text is extensively by in-service music educators to learn more about working with students with disabilities, and by parents to advocate for music therapy services.

BARBUZZA, ISABEL, Associate Professor, Art and Art History, 20 years of service, spring semester

Title: LandEscapes-Bolivia

Professor Barbuza's spring 2017 PDA award, LandEscapes-Bolivia, concluded her research on the social and environmental impact from current and future lithium extraction in Argentina, Chile and Bolivia. She edited and printed four images from the salt flats to include in her 2018 midcareer exhibit at the Dubuque Museum of Art. In her studio in Iowa City, she experimented working with different materials to create two new pieces that inspired her conceptually to present a public art proposal for the UI Psychological and Brain Science Building through the Art in State Buildings. She was invited to submit a Public Art Proposal by Los Angeles County Arts Commission and is a finalist for the project in the lobby at the Zev Yaroslavsky Family Support Center in California. In May she presented her research in the Sculpture Programs at SungShin Women's University and Seoul University in Seoul, South Korea. She is invited to the 2017 Jeonnam International Sumuk Pre-biennale organized by Jeollanamdo Provincial Authority, South Korea. These scholarly efforts are also being integrated into her course materials.

BOOS, FLORENCE, Professor, English, 44 years of service, spring semester

Title: Completion of Book, The Hard Way Up: Memoirs of Victorian Working-Class Women During her leave, Professor Boos completed a monograph, Victorian Working-Class Women's Memoirs: The Hard Way Up (Palgrave). Although by far the majority of nineteenth-century British women were members of the working (or "laboring") classes, their writings have received scant attention. Based on many years of research, this book is the first to identify a significant body of life narratives by working-class Victorian women and demonstrate their inherent significance. Placing each memoir within its generic, historical, and biographical context, Victorian Working-Class Women's Memoirs traces the shifts in such writings over time, examines the circumstances which impeded or enabled publication, explores the effects of occupational and regional differences, and considers the relationship of these memoirs to a wider autobiographical tradition. Most important, this volume enables readers to appreciate the clear-sightedness, directness, and poignancy of these works at their best. Professor Boos also used her PDA to complete work on an expanded edition of William Morris's Socialist Diary, to appear in the fall, and a Routledge Companion to William Morris, for which she is editor.

BUREK PIERCE, JENNIFER, Associate Professor, School of Library & Info Science, 12 years of service, fall semester

Title: Recording Childhood: Documenting Children's Development in the U.S. from the 20th Century Forward

Young people's development and well-being are topics of considerable interest to policy makers, parents, and educators and librarians. Professor Burek Pierce used her PDA to respond to an invitation to substantially revise a well-received book on adolescence that she published 10 years ago. While always an interdisciplinary project, the new iteration emphasizes both recent research and community partnerships that support teens' successful transition into adult roles. The book is currently in press. At the University of Iowa, the previous edition supported students' ability to become proficient in working with young people in public and school libraries. Professor Burek Pierce also provides continuing education sessions for area practitioners. Related research produced on the historical antecedents of youth wellness was completed and will be forthcoming in a learned society's journal.

CARLSON, JONATHAN C, Professor, Law, 34 years of service, spring semester

Title: Global Environmental Law Practice: Exercises and Problems for Skills Development
Professor Carlson worked on developing teaching materials aimed at simulating real-world problems that practicing lawyers encounter that require them to make use of, apply or understand international environmental law. He researched the arenas in which lawyers in private and public practice use international environmental law, and he communicated with practicing lawyers to seek input and feedback on the problems he was developing. The work is currently in progress, and a prominent publisher of law textbooks has expressed interest in publishing the teaching materials when finalized. Professor Carlson also received a Fulbright Award, and he spent time serving as the Fulbright Distinguished Professor of Law at the University of Trento in Trento, Italy. He also prepared a set of teaching materials on Comparative Conflict of Laws which he used to teach a short course in Conflicts at Trento and which he plans to incorporate into his future teaching of Conflict of Laws at the University of Iowa.

CATES, DIANA F, Professor, Religious Studies, 27 years of service, spring semester

Title: Ethics of Love and Hatred

Professor Cates rewrote two chapters and drafted a new, third chapter for a book manuscript entitled 'Morality of Love and Hatred.' Chapter one will be published first as "Approaching the Morality of Emotion: Specifying the Object of Inquiry," which will be the lead chapter in a forthcoming collection of essays entitled 'Feeling Religion,' edited by John Corrigan (Durham, N.C.: Duke University Press, 2017). Professor Cates also wrote a book proposal for 'Morality of Life and Hatred.' In addition, she presented research-related material at one professional conference and prepared a presentation for an upcoming conference. Her award outcomes will facilitate student learning of undergraduates and graduates regarding the moral significance of emotions and the possibility of transforming one's own emotional habits in light of ethical ideals. In addition, it will aid Iowans and the broader society in understanding how the emotion of hatred is constructed mentally and can be managed intelligently through deliberate ethical practices.

CHENG, CHI-LIEN, Associate Professor, Biology, 27 years of service, fall semester

Title: Genes Control Asexual Reproduction in Nature

Professor Cheng's lab discovered that somatic embryogenesis in angiosperms and apogamy in ferns share a common pathway. They showed that the angiosperm BBM gene, when overexpressed, promotes somatic embryogenesis in angiosperms and apogamy in ferns. No BBM homolog exists in non-seed plants but they identified a fern gene CrANT that groups with BBM in one clade. Overexpressing CrANT promotes apogamy. During her PDA, Professor

Cheng succeeded in creating transgenic fern lines with CrANT expression knocked down—the first time in any non-seed vascular plants. This important manuscript is published in *Plant Journal* on line and is in press. She sought additional opportunities to publicize the exciting findings. She served on a panel at NSF in October 2017. She was invited to give international presentations, one in Fujian Agriculture and Forestry University in China and one in Academia Sinica in Taiwan. These efforts allowed her to establish new connections that are likely to result in collaborations. The results have been used to teach undergraduate and graduate students in the lab. They are being incorporated into a summer course for high school students (an NSF outreach effort).

CHOI, KYUNG K, Professor, Mechanical and Industrial Engineering, 33 years of service, spring semester

Title: Conservative Reliability-Based Design Under Limited Test Data for Random Input Variables and Variable Output Performances

It is crucial for the US manufacturing industries and Department of Defense (DOD) to produce and acquire optimized and reliable products for the success of their businesses and reduction of costs for warranty, maintenance and operation. Professor K.K. Choi developed novel confidence-based uncertainty quantification (UQ) and reliability assessment methods by integrating computer simulation results and limited input/output test data. These methods can be applied for optimized performance and reliability of manufactured product designs. Under Army Small Business Innovation Research (SBIR) funding, these methods will be refined and made available through the commercialized RAMDO (Reliability Analysis and Multidisciplinary Design Optimization) software that has been commercialized by the Iowa start-up company RAMDO Solutions, LLC. These new technologies will impact U.S. manufacturing industries and DOD significantly by giving them the ability to obtain optimum designs prior to prototype development, reducing product development costs significantly. Professor Choi has co-authored eight journal papers and four conference papers.

CIOCHON, RUSSELL L, Professor, Anthropology, 30 years of service, spring semester

Title: Early Hominins and Pleistocene Climate in Southern Wallacea

Dr. Ciochon used his PDA to analyze the results from his 2015 field research on understanding early hominin biogeography and habitats in Island Southeast Asia (ISEA) with a focus on Southern Wallacea. This project is evaluating stratigraphy and geochemistry at eight sites of known paleontological and/or archaeological significance on two Southern Wallacea islands, Timor and Sumba, Indonesia. Even at the lowest Pleistocene sea-levels, these islands were separated from the rest of the Wallacea islands. Dr. Ciochon is determining the timing and nature of the habitats that drew and/or sustained early hominin populations here. This project has resulted in several journal articles and new material for Dr. Ciochon's undergraduate and graduate courses.

COHEN, MARY L, Associate Professor, Teaching and Learning, 10 years of service, fall semester

Title: Silenced Voices: Music-Making in U.S. Prisons

Professor Cohen's line of research about music-making in prisons has positively influenced incarcerated Iowans, their families, UI students, and broader society, especially through the innovations of the Oakdale Prison Choir (OPC). Her PDA and Obermann Fellowship resulted in three publications, four original songs, a collaborative proposal for the 2017 College Music Society Conference, progress toward a book about music-making in U.S. prisons, and 210 people attending the December OPC concert. This performance, "Look on the Bright Side," broadened audience members' perspectives of prisoners. With permission from the author, Cohen used one paper from the Proceedings of the Community Music Activity Seminar, which

she edited, with her spring 2017 undergraduate class. Professor Cohen established two new initiatives to benefit the learning experiences of her undergraduate students: a partnership with Mann Elementary and a Buddy Mentor program with Iowa alumni. Her PDA provided professional growth that positively affects society and the UI.

COMERON, JOSEPH M, Associate Professor, Biology, 15 years of service, spring semester
Title: Molecular causes of variation in recombination rates

Recombination is a fundamental cellular and evolutionary process, but little is known about why recombination rates vary under diverse conditions. Professor Comeron investigates 'why' there is variation in recombination rates by studying the molecular causes and the evolutionary consequences with a multidisciplinary approach that includes state-of-the-art genomics, bioinformatics, theoretical models and machine learning methods. Building on Professor Comeron's earlier work, the studies have provided new insight into the mechanistic links between recombination rates and different biotic and abiotic conditions. More specifically, the research suggests an impact of environmental and cellular stressors on chromatin structures that can be a key aspect for recombination control. These results are a crucial component of a new NIH R01 Grant proposal. Professor Comeron has also developed a new genotyping strategy and written a new study. The knowledge developed during this PDA will be incorporated into the courses that he teaches at the University of Iowa. This benefit will be direct for the new course 'Human Population Genetics and Variation' that he has developed during this PDA.

COOHEY, CAROL A, Professor, Social Work, 21 years of service, spring semester
Title: The Relation between Field Supervision, Self-Efficacy and Preparedness for Social Work Practice

Purpose: The goal of the PDA was to advance our understanding of how field and classroom instructors facilitate students' development of work self-efficacy. To facilitate this goal, Professor Coohy validated a scale to measure the quality of field instructors' helping behaviors and evaluated whether a licensure study group increased students test-taking self-efficacy and decreased their test anxiety. Professor Coohy drafted one grant, submitted one manuscript for publication, had one manuscript accepted for publication (in press), has one manuscript in progress, submitted two abstracts for national conference presentations (both accepted), completed one advanced statistics course, and revised two graduate courses. The results of Professor Coohy's research will also be used to (a) develop training to improve field instructors' supervision of graduate students in their field placement and (b) modify our intervention to prepare students for the licensure exam.

CWIERTNY, DAVID M, Associate Professor, Civil-Environmental Engineer, 6 years of service, half-time for one year

Title: Translating Water Research into Sustainable Policy through the AAAS Science & Technology Policy Fellowship Program

For the past year, Professor Cwiertny served as a Science Technology and Policy Congressional Fellow through the American Association for the Advancement of Science (AAAS). In this capacity, he was Democratic staff for the House of Representatives Energy and Commerce Committee, working extensively with their Energy and Environment Subcommittees on issues including: updating the Safe Drinking Water Act, Brownfields reauthorization, energy infrastructure and delivery systems, management of nuclear waste, and oversight of EPA implementation of revisions to the Toxic Substances Control Act. He served full-time as a Fellow while maintaining the responsibilities of his research group at UI, graduating 2 PhD students and 1 MS student, submitting 5 proposals to the National Science Foundation (2 of which were funded, while another is pending), and publishing 5 papers (with 3 currently in review) thus far in

2017. Upon returning to UI, he will use his experiences and expertise developed as a Congressional Fellow to create a new course on policy for sustainable food, energy and water resources.

DE LA PENA, GEORGE R, Professor, Dance, 12 years of service, fall semester

Title: Competition Documentary

This project involved research on adolescent emotional and cognitive development in a focused, arts-training “conservatory” setting with an eye on cultural values and practices. The primary focus was on dance training, though the study more broadly involved other performing and visual arts. He conducted interviews with students, teachers, dance scholars, child psychologists, developmental psychologists, neuropsychiatrists and other relevant professionals. This investigation will be the basis for a new Certificate in Teaching at UI. It has also enriched and modified Professor de la Pena's teaching of dance and performance technique, as well as provided important future planning strategies for students with professional aspirations. Results should positively affect future students of dance in the state of Iowa and the nation.

DUERLINGER, JAMES P, Professor, Philosophy, 46 years of service, fall semester

Title: Shantaraksita and Kamalasila on the Refutation of the Existence of a Soul

During the period of this award, Professor Duerlinger was able to complete most of the work he intended to complete. Because he was unable to travel to India to put the finishing touches to the work, he managed only to complete most of the translations and commentaries on Shantaraksita's examination of the examination of the Vatsiputriya and Mimansa theories of persons. However, he has already published his translations and commentaries on Shantaraksita's examination of the Samkhya, Jain, and Nyaya-Vaishesika theories of persons, and he has submitted for publication his translation and commentary on the Advaita theory of persons. He anticipates within the next year being able to complete the work already mostly completed and work the whole into a book-length manuscript. These materials will support Professor Duerlinger's undergraduate and graduate courses.

EICHINGER, WILLIAM E, Professor, Civil-Environmental Engineer, 20 years of service, spring semester

Title: Bora Wind Study in Slovenia

Professor Eichinger was awarded a PDA in conjunction with the award of a Fulbright Fellowship from the US State Department. The PDA was sponsored by the University of Nova Gorica, Slovenia. Professor Eichinger and his student, Dani Law, went to Slovenia to study the Bora winds - periodic, strong (>150 mph) winds that can be destructive and dangerous - using their laser radar (lidar) instruments. One paper has been submitted for publication, three more are expected; one joint project has been funded and another is being written. Professor Eichinger also helped build a lidar for the Slovenes that they are using to study the atmosphere. The goal of the joint effort is to improve the predictability of the Bora so that precautions can be taken.

ENLOE, JAMES G, Professor, Anthropology, 27 years of service, fall semester

Title: Late Pleistocene Adaptations: the Magdaleniens of Verberie

During his Fall 2016 PDA, Professor Enloe continued the analysis of animal bones from the late Ice Age archaeological site of Verberie in northern France. This was a prehistoric reindeer hunters' campsite, which he excavated as a UI advanced archaeological field school between 1991 and 2002, in collaboration with Dr. Françoise Audouze of the Centre National de la Recherche Scientifique in Paris. Professor Enloe identified 28,752 specimens of reindeer bone to examine hunting and butchering patterns that allowed survival in the harsh glacial environment. He made significant progress in writing his results in French for publication in Gallia

Préhistoire. Additionally, he conducted analyses and wrote the annual report to the Corps of Engineers for the 2016 field school at Woodpecker Cave, Coralville Reservoir. Results of that research are presented at professional meetings. These field schools have a direct and positive impact on undergraduate students in training for professional and academic careers. The Woodpecker Cave projects give a better understanding of the first significant corn farmers in Iowa.

ESTRADA HERNANDEZ, NOEL, Associate Professor, Rehabilitation & Counselor Ed, 11 years of service, spring semester

Title: Validation of Participatory Ethics in Counseling

Professor Estrada studies the application of professional ethics within helping relationships, the construct named Participatory Ethics. During the spring 2017 semester, data was further analyzed on a sample of 307 Certified Rehabilitation Counselors in order to further establish the psychometric properties of the PES model and related measure, the Participatory Ethics Scale. Confirmatory Factor Analysis, validity and reliability analysis, as well as an Item Response theory analysis were conducted in order to further establish the structure of the PES model and measure. Professor Estrada has one peer article under review, one article in finishing stages, and conducted one national presentation on the topic. As Director of the Institute on Disability and Rehabilitation Ethics, the knowledge gained will inform the ethics training of professional counselors and the provision of ethical services to individuals with disabilities in the State of Iowa. Professor Estrada will now focus on the consumer perception of PES. During this period, Professor Estrada also was able to design other studies that will further his agenda in the study of professional ethics.

FIGEL, JENNIFER, Associate Professor, Chemical & Biochem Engineering, 11 years of service, fall semester

Title: Advanced Inhalation Therapies For the Treatment of Bacterial Infections in the Lungs: Moving From the Bench Toward the Clinic

During the Fall 2016 semester, Professor Fiegel completed a PDA as a visiting researcher in the Colleges of Public Health and Medicine at the University of Iowa. Outcomes of the PDA were: 1) new research related to pulmonary disease, 2) submission of three major grant applications (one for the National Institutes of Health and two for the National Science Foundation) and three pilot grant proposals, and 3) submission of two scientific publications and significant progress on several others toward publication. During the PDA, Professor Fiegel established several new collaborations to advance her research in new directions, resulting in further grant applications and scientific publications. The PDA benefits students of the University of Iowa through new research opportunities and the development of a new upper level undergraduate and graduate course. This work will ultimately be beneficial to Iowans through improved treatments for and prevention of pulmonary disease.

FILIOS, DENISE K, Associate Professor, Spanish and Portuguese, 18 years of service, spring semester

Title: Conquering Heroes: Memories of 711 in early Islamic Historiography

Professor Filios wrote two chapters of her book about stories of the conquest of Iberia (al-Andalus, or Muslim Spain, 711-1492) in ninth-century Arabic and Latin historical writing, entitled "Stories of the Conquest: Forging Iberian Identities." Her analysis highlights the vast shared cultural patrimony that informs the contradictory accounts of Muslim Andalusian and Christian Asturian writers, especially materials from the Old Testament and Classical Antiquity. This project applies literary and cultural theories of memory, performance, and post-colonial power relations to medieval Iberian historiography. Through this work, Professor Filios sheds new light on the

relationship between Arabic and Latin historical traditions and brings to Iowa expertise in the complexities of Christian and Islamic contact, which she shares in her scholarship and teaching.

FOLEY NICPON, MEGAN, Associate Professor, Ed Psych & Quant Foundations, 9 years of service, fall semester

Title: Talent and Life-Skills Development for High Ability Students with Disabilities

Professor Foley Nicpon completed several projects during her Professional Developmental Assignment: (1) Two invited presentations in Chile regarding twice-exceptionality and the psychological needs of high-ability youth; (2) grant support to Chilean faculty regarding their twice-exceptional project; (3) two referred presentations at the NAGC in Orlando; (4) along with colleagues from the APA High Ability Coalition in person consultation with the Palo Alto California School District to develop social skills interventions; (5) directed one dissertation that was successfully defended; (6) supervised two on-going grant projects; (7) submitted five peer-reviewed manuscripts [3 have been accepted for publication]; (8) submitted three book chapters; (9) submitted two external grants; and (10) finalized one edited book. These activities will benefit students at UI through joint publications, exposure to research project development, and course material development. Professor Foley Nicpon's work benefits society in that it increases our understanding of empirically-validated social skill interventions that work with high ability students with disabilities.

FREEMAN, JOHN H, Professor, Psychology, 19 years of service, fall semester

Title: Optogenetic Analysis of the Neural Circuits Underlying Learning

The goal of this PDA was for Professor Freeman to learn cutting-edge optogenetics methods for activating and inhibiting neural circuits in the brain during learning. Optogenetics is a molecular neuroscience method in which a non-replicating virus is injected into the brain that has a DNA code for a light-sensitive molecule, an opsin, which is linked to a cellular mechanism that can activate or inhibit brain cells. Professor Freeman and his students learned the optogenetics methods and then applied them in an experiment examining the neural mechanisms of learning in rats. The results of the experiment will be used as preliminary data for a research grant application. This award benefitted Professor Freeman's teaching by providing students with laboratory training in optogenetics and in classroom instruction by teaching students about cutting-edge methods in neuroscience. Discoveries from Professor Freeman's work on the neural mechanisms of learning is providing important basic science that could be used for developing interventions to help people with learning deficits.

FRIESTAD, GREGORY K, Associate Professor, Chemistry, 12 years of service, fall semester

Title: Developing the Interface of Synthesis and Medicinal Chemistry

Professor Friestad's PDA aimed to expand research productivity and funding opportunities beyond a currently funded National Science Foundation project, and to establish a publishing contract for preparation of a new laboratory textbook. Outcomes included two manuscripts on synthesis of a cardiovascular drug candidate, tetrafabricin, new funding to support a neuropsychiatric drug discovery project in collaboration with Andrew Pieper (Carver College of Medicine), and a research exchange visit to Kunming, China to build research strengths and enhance graduate recruiting opportunities for UI. Instructional improvements included an international textbook contract proposed by W. W. Norton, currently in negotiation, and new insights in teaching to a diverse international population gained during a visiting professorship in Kunming. Innovations in UI laboratory instruction impact students, both domestic and international, to better prepare for careers in STEM with economic growth for Iowa. Neuropsychiatric disorders and cardiovascular disease impact millions of people, and drug

discovery research prepares graduate and undergraduate students for careers contributing in these areas.

GLANVILLE, JENNIFER, Associate Professor, Sociology, 16 years of service, half time for year
Title: Does the Social Welfare State Promote Happiness?

Professor Glanville completed four research articles, drafted another article, and conducted data analysis for two additional articles during her PDA. She extended her earlier work on (1) the consequences of social capital (social connections that enhance the capacity of individuals and communities to achieve goals) and (2) the origins of trust in strangers. She also began a new line of research on the social determinants of subjective well-being (or happiness). Trust and subjective well-being are critical to well-functioning modern societies. For example, nations with higher levels of trust exhibit higher economic development and lower rates of violent crime. Thus, an understanding the sources of trust has important implications for public policy. The PDA also contributed to Professor Glanville's teaching. She revised her undergraduate research methods course around a student-centered learning pedagogy that actively engages students in the learning of challenging material. She is also incorporating her PDA research in her undergraduate methods and graduate statistics courses as empirical examples and class exercises.

GLASS, LOREN D, Professor, English, 13 years of service, spring semester

Title: Mapping the Workshop

During his PDA, Professor Glass worked on two closely related projects: a Digital Humanities Initiative called the "Program Era Project" for which he is the Principal Investigator and a literary history of Iowa City entitled City of Literature. Progress on the "Program Era Project" was made on two fronts: building the database and developing text mining tools. At this point, all individuals, both teachers and students, affiliated with creative writing at the University of Iowa are in the database. The project team also applied for and received a grant from the Hathi Trust Research Center to begin developing textual corpora on which to use the PEP's custom text mining software tools, LitMap and StyleCard. For his monograph, Professor Glass conducted extensive interviews with Marvin Bell and Chris Merrill, both of which will be published in The Los Angeles Review of Books, and completed research and writing for his introduction and first chapter. All of this research will benefit Professor Glass's graduate and undergraduate courses on the Writers' Workshop and the Program Era.

HAZELTINE, RICHARD, Professor, Psychological & Brain Sciences, 14 years of service, spring semester

Title: How Does the Brain Represent Tasks to Control Behavior?

A hallmark of human behavior is flexibility. Our ability to behave flexibly is often attributed to control processes that configure mental operations to match the current task demands. Unfortunately, theories of control are often vague and fail to specify the information included in the task-relevant representations. Professor Hazeltine examined these limitations by probing how task structures provide a framework for voluntary behavior. He developed experimental tasks to assess the effects of task representations on widely studied behavioral phenomena and determine how to adapt these procedures so they can be used in neuroimaging studies. This project engaged undergraduate researchers working in Professor Hazeltine's laboratory and informed his graduate seminar on cognitive control. The work resulted in submitted grant to the National Science Foundation in collaboration with Dr. Eric Schumacher at the Georgia Institute of Technology and six submitted articles, two of which have already been accepted for publication.

HOWES, GREGORY G, Associate Professor, Physics and Astronomy, 9 years of service, spring semester

Title: Experiments on Solar Wind Physics and Popular Book Explaining Space Weather
During this Professional Development Assignment, Professor Howes envisioned, organized, and ran "Bringing Space Down to Earth: Exploring the Physics of Space Plasmas in the Laboratory," a three-day workshop gathering 25 experts in laboratory experiments, theoretical plasma physics, high-performance computer simulations, and spacecraft instrumentation to map out collectively a strategy for future efforts and collaborations that can exploit laboratory facilities to understand better the fundamental plasma physics mechanisms at play in space plasmas. This strategic planning event generated six new experimental concepts to be pursued as part of the Physics of the Solar Wind Campaign at the UCLA Basic Plasma Science Facility over the next four years. Furthermore, Professor Howes laid the groundwork for the writing of new book, "Partly Cloudy with a Slight Chance of X-Rays: Space Weather Explained," a popular science book explaining the science and impact on society of extreme space weather.

KAWAMURO, KEIKO, Associate Professor, Mathematics, 8 years of service, spring semester

Title: Applications of Open Book Foliations
Professor Kawamuro has finished a paper "The defect of Bennequin-Eliashberg inequality and Bennequin surfaces" with Tetsuya Ito. The paper has been submitted to a peer refereed journal for publication. Professor Kawamuro worked with a graduate student during the PDA period on daily basis to discuss knot-theory problems and proved several theorems. They are currently writing a paper titled "On the defect of Bennequin inequality." Professor Kawamuro has visited Professor Ito and they have continued investigating the defect of Bennequin-Eliashberg inequality. They have improved their result in a published paper and are planning to write a new paper. In addition to three seminar presentations at the University of Iowa, Professor Kawamuro presented her research domestically and internationally. Professor Kawamuro began organizing "The 6th Midwest women in mathematics symposium" held in April 7, 2018 at Purdue University. She has applied an NSF grant as a Co-PI with Monica Torres (Purdue University). Professor Kawamuro has been advising three graduate students toward Ph.D. degrees and mentoring one post-doc.

LEONARD, JULIA A, Associate Professor, Graduate-Interdisciplinary Programs, 5 years of service, fall semester

Title: Erosion: Artist Bookworks
Professor Leonard used her PDA to conduct research for an artist book edition that examines our natural and built environments, and how we interact with both. She worked in Cortona, Italy, where the environmental and cultural history is multi-layered. The resulting work integrates traditional and current methods to produce quality editions that are intended for greater distribution through bookstores, libraries, and other community settings than a unique artist book can offer. Leonard made photographs, wrote the text, and attended lectures on current best practices for digital printing. This last is already being used in course work, preparing students for work in the quickly evolving publishing, digital technology, and design fields. A unique version of the book is complete, was exhibited in Cortona, Italy, and is now on display in Athens, Ga. The digital version is in process, implementing this new material and technical knowledge. The project furthers Leonard's goals as an artist through the creation of new and experimental work, and adds to the UI's reputation for innovative work in the arts through national exhibitions of and public presentations on her work.

LEVINE, MARK, Associate Professor, Creative Writing, 18 years of service, half-time for year

Title: "Endangered": A Book of Poems
Professor Levine spent a year immersed in reading and writing poetry. He produced a large body

of new poems that form the core of his current work-in-progress, which is nearing completion. He believes that the poems he produced extend his explorations into poetic language and form, and engage social and historical currents, as well as tending to the traditional concerns of lyric poetry. He developed materials for a new graduate seminar dealing with sound in poetry. Recognizing the changing nature of both the American poetry community and of his program at University of Iowa, Professor Levine studied works by writers outside the traditionally constituted poetic canon, particularly works by poets of color throughout American history, and developed a particular interest in indigenous societies of Latin America, including pre-Hispanic cultures and post-Colonial poetries of the Americas. All of this work informed Professor Levine's creative work and curricular development, and will, he hopes, allow him to remain fully responsive to the challenges of teaching the current and future generations of students.

MANAK, JOHN R, Associate Professor, Biology, 9 years of service, spring semester
Title: From Developing a Course to Expanding My Scientific Expertise: Studies in Human Disease and Neuroscience

Professor Manak used the PDA in the Spring of 2017 for two purposes; first, to enrich his neurobiology skillset by interacting with colleagues at the University of Missouri, and second, to develop a new undergraduate course in biology. Regarding the first goal, Professor Manak has interacted with Professor Bing Zhang (a respected neurobiologist at Missouri) and his colleagues through several avenues, including Skype and phone calls, and visits to Missouri. This led to many stimulating discussions as well as an exciting collaboration. For the second goal, Professor Manak developed a lower level undergraduate course entitled, "Good genes gone bad: genetic disorders of notable celebrities," which will be launched in Spring 2018. This course will introduce basic genetics concepts, in easy-to-understand language, in the context of popular culture. Because there is a significant need at the University to provide a basic knowledge of genetics to undergraduates, given the rapid advances in genetics of disease and its use in the medical field, this course should have high enrollment. Several case studies will be presented, preceded by a lecture that provides the necessary biological background.

MARGULIS, CLAUDIO J, Professor, Chemistry, 14 years of service, spring semester
Title: Ionic Liquids, Structure and Dynamics

During the Spring semester of 2017, Professor Margulis had the opportunity to fully devote his time to research endeavors as well as a set of international research presentations. The focus of his work was in the area of room-temperature ionic-liquids and in particular their theory. The work in the Margulis group is computational and theoretical with an emphasis to explain and predict structural and dynamical properties of complex condensed phase systems. The PDA helped in several fronts; Margulis was able to work one-on-one with students, a post-doc and external collaborators on his research projects on ionic liquids. He was also able to present his work at a university in China, two universities in Hong Kong and the very prestigious Solvay Workshop in Brussels.

MCLEESE, DONALD G, Associate Professor, Journalism & Mass Communication, 14 years of service, fall semester

Title: Trudging Toward Serenity: A Memoir of Recovery From High-Functioning Alcoholism
Professor McLeese made significant progress on Trudging Toward Serenity: A Memoir of Recovery From High-Functioning Alcoholism, finishing 13 chapters and planning to complete the manuscript this summer. Amid the surge of interest in memoirs, and recovery memoirs in particular, few have dealt with the "highly functioning alcoholic." Through six years of sobriety, McLeese has achieved a clearer perspective on the line distinguishing habit from addiction and has found a richness in a life without alcohol he had never anticipated. The memoir also explores

the culture of Alcoholics Anonymous, how a faith-based organization has transitioned to a more secular society, one in which anonymity has largely been lost to the Internet and social media. The book will enrich the journalism curriculum, in courses including magazine, feature, freelance, narrative non-fiction and book writing, as well as health journalism and health courses outside the SJMC. A 6,000-word article drawn from the same material and written in the same first-person narrative style was commissioned by No Depression and was accepted for publication in its Spring 2017 issue.

MITCHELL, SARA B, Professor, Political Science, 13 years of service, spring semester
Title: Water Wars? Conflict and Cooperation over Cross Border Rivers and Maritime Areas
Professor Mitchell worked on a project that examined how countries handle diplomatic claims to river and maritime resources and how water issues influence states' internal and external security risks. Her project included diplomatic conflicts over cross-border rivers, such as the Tigris-Euphrates, Amu Darya and Syr Darya basins, and diplomatic conflicts over maritime areas, such as conflicts between China and its neighbors. She analyzed factors that increase the risks of violence over contested water resources and examined how cooperative treaties and international organizations (e.g., UN Law of the Sea Convention) help to prevent escalation of water-related diplomatic conflicts. In addition to writing several draft chapters of a book project, she also published five journal articles, worked on four other journal articles, wrote two new papers, secured a travel grant, and engaged in various service activities to the university/discipline. Material collected from this project will be incorporated in a new undergraduate honors class on water and conflict in spring 2018. Given Iowa's issues with water quality, this project also connected local issues to global ones.

NOONAN, MARY C, Associate Professor, Sociology, 16 years of service, half-time for year
Title: Variation in the Motherhood Penalty Among Women Lawyers
Professor Noonan used data from the World Value Survey (collected from 1999 to 2009) to examine the relationship between marital status and happiness across a diverse set of 71 countries. Noonan focused on a comparison of married individuals, cohabitators, and never-married singles and tested whether a measure of national-level cultural context moderates the relationship between an individual's marital status and happiness. Noonan's results show that the relationship between marriage and happiness varies significantly across nations, and is not ubiquitously positive. She theorizes that marriage may be more conducive to happiness in modern societies compared to traditional ones, because in modern societies people have more freedom to enter and exit marriage, and because the meaning of marriage is more closely tied to individual fulfillment. Noonan's work resulted in one research paper which is currently under review. Noonan has incorporated insights and lessons from this project into her courses on gender, family, and quantitative methods. This project benefits society generally because it furthers our understanding of the relationship between culture, marriage and happiness.

PETTYS, TODD E, Professor, Law, 18 years of service, fall semester
Title: The Iowa Constitution: A Reference Guide
Professor Pettys used his PDA to complete about half of the book he is writing, titled "The Iowa Constitution: A Reference Guide." The book is being published by Oxford University Press and will appear in print in late 2017 or early 2018. The book provides a detailed discussion of Iowa's constitutional history, from its territorial days to the present moment. The book then provides an in-depth analysis of each provision of the Iowa Constitution. The only resource of its kind, the book is targeted to serve the needs of Iowa's judges, legislators, gubernatorial staff, and attorneys, as well as students and citizens doing research on Iowa law.

PIGGE, CHRIS, Associate Professor, Chemistry, 12 years of service, fall semester

Title: Synthetic Studies and New Applications of Heterocyclic Compounds in Organic and Bio-Organic Chemistry

Professor Pigge performed research in the areas of organic synthesis and bio-organic chemistry. Specifically, he designed and implemented new approaches for the construction of complex heterocyclic ring systems related to structures encountered in bio-active natural products and pharmaceuticals. Additionally and in collaboration with researchers in the Carver College of Medicine, Professor Pigge developed synthetic approaches to novel fluorescent delocalized lipophilic cations derived from heteroaromatic tetraarylethylenes with the aim of utilizing these materials for selective optical imaging of, and drug delivery to, cancer cell mitochondria. He published two papers on these topics and submitted two external grant proposals. These activities increased his breadth and depth of knowledge in organic and medicinal chemistry and refreshed his teaching skills in these areas.

PLAKANS, LIA M, Associate Professor, Teaching and Learning, 8 years of service, fall semester

Title: English Language Learners Integrating Reading With Writing: Language Instruction, Development, and Standards in Schools

Dr. Plakans' PDA project focused on assessment to inform how elementary-aged English Learners (ELs) develop their language and academic abilities. Initially, Dr. Plakans proposed study of literacy; however, using a community-based participatory research model, she worked collaboratively with a local Iowa school district to determine research to serve their current needs. This led to a co-designed study with assessments the school has been collecting on English, Spanish, reading, and mathematics. Relevant literature was reviewed and documentation on current tests were gathered and organized in a database. From this foundation, two areas of data collection for a longitudinal two-year study began: (1) evidence for the validity of the school's assessment system and (2) trajectories of the ELs' language and academic achievement. This study informs two of Dr. Plakans' courses: Second Language Assessment and Reading in a Second Language. Concurrent with this study, she began work on a recently awarded grant (U.S. Department of Education), spent a week re-establishing a university partnership in Norway, and was able to complete five research articles accepted for publication.

REINHARDT, JOSEPH M, Professor, Biomedical Engineering, 20 years of service, fall semester

Title: Deep Learning To Detect, Characterize, and Quantify Chronic Obstructive Pulmonary Disease (COPD)

Professor Reinhardt teaches and performs research in the area of medical image processing. During this PDA he developed new image processing and machine learning algorithms to detect, characterize, and quantify the extent of lung disease in subjects with chronic obstructive pulmonary disease from computed tomographic (CT) images of the thorax. The CT images were used to extract anatomic, functional, and biomechanical biomarkers to describe the lung tissue. The biomarkers were used to train and test machine learning systems to automatically classify normal and abnormal lung tissue regions and predict which regions represent stable disease and which regions will likely progress toward more severe disease. This information may lead to valuable new insights about lung disease etiology. Professor Reinhardt will use the new image processing algorithms developed in this PDA to enhance his teaching at the undergraduate program level and in graduate level courses. The results from this PDA will also serve as preliminary data to support applications for external research funding.

STORRS, LANDON R Y, Professor, History, 5 years of service, half time for one year
Title: Feminist Internationalism During the Cold War: Caroline Ware in Latin America
Professor Storrs completed bibliographic work and archival research for her book on the American social scientist Caroline Ware (1899-1990). She read widely in fields new to her: US-Latin American relations; international development programs; international feminism; the social work profession in Latin America; and the histories of Puerto Rico, Venezuela, Colombia and Bolivia. She corresponded with scholars in those fields for advice on research and interpretation. In scattered and remote archives, she located documents related to Ware's varied career and personal relationships. She located and interviewed elderly associates of Ware, some of whom had rich, unique papers and photographs in their possession. Storrs scanned these materials and transcribed many hard-to-read handwritten letters; all will become part of Ware's collection at the FDR Library. Storrs's immersion in the fields listed above will benefit UI students by deepening the international dimension of her classroom teaching and thesis instruction in 20th-century U.S. history. Storrs's eventual book, and the new materials she has located or created, will benefit future scholars in many fields.

THOMAS, BARRETT, Associate Professor, Management Sciences, 15 years of service, fall semester

Title: Methods and Business Models for Same-Day Delivery
Professor Thomas was awarded a PDA for the fall semester of 2016. He used the opportunity to relocate to Braunschweig, Germany, for the entire semester. While in Braunschweig, he worked with Professor Doctor Dirk Mattfeld and Doctor Marlin Ulmer at the Technical University of Braunschweig. The purpose of the collaboration was to explore business models and ways of solving operational problems that are emerging in the same-day delivery industry with the hope of offering insights to the the burgeoning industry. The collaboration resulted in three papers submitted to the top journal in the field of transportation science as well as four additional papers that are still in preparation. The collaboration also resulted in a \$4,000 grant that supports travel for an in-person meeting of collaborators on one of the papers that was begun during the PDA. Further, Professor Thomas is incorporating knowledge gained from the collaboration into a PhD course that he is teaching this semester. During the period abroad, he also gave four invited talks and spoke at the Conference of the German Operations Research Society.

THOMAS, GEB W, Professor, Mechanical and Industrial Engineering, 20 years of service, fall semester

Title: Formal Testing of Iowa's Orthopaedic Surgical Simulator At Midwestern Residency Programs

During fall 2016, a PDA allowed Professor Thomas to devote extra effort to his two primary research fields: orthopedic surgical simulation and wireless sensor networking. He dedicated a portion of his time to inventing, designing and refining two novel devices for planned experiments: a surgical simulator and a wireless aerosol monitoring system. He led and participated in developing five proposals for \$5,000,000 of federal funding, and co-authored eight journal articles and four conference papers that are either accepted or under review. During this time, he traveled to and conducted experiments at medical schools and factories around the Midwest. He also worked with undergraduate and graduate students, managing the design and construction of the new devices, providing valuable hands-on experience. The award has benefited the people of Iowa by improving the training of orthopedic surgeons, and by improving the monitoring of hazardous aerosol particles in factories. Professor Thomas has also used this work in teaching students in his laboratory, strengthening their skills, and providing practical examples for his teaching.

VARADARAJAN, KASTURI, Professor, Computer Science, 17 years of service, fall semester
Title: The Approximability of Geometric Covering Problems

Professor Varadarajan's PDA resulted in three notable outcomes. First, he conducted an extensive literature review, together with some of his graduate students, on the capacitated covering problem. This effort culminated in the formulation of a new covering problem, and its resolution. It is likely that this line of work will become the focus of one of Professor Varadarajan's PhD students. Second, he began a collaboration on the geometric transportation problem while visiting Duke University. This resulted in an article, currently being reviewed, describing a fast algorithm for computing transportation maps. Such an algorithm is of interest in a variety of domains. Third, Professor Varadarajan attended two conferences and visited Duke University. The resulting interactions are likely to substantially enrich his teaching and research.

VECERA, SHAUN P, Professor, Psychology, 19 years of service, spring semester
Title: Cognition in the Car: Attention, Distractibility, and Driving Performance

Safe automobile driving requires that drivers not be distracted by irrelevant objects or secondary tasks, such as cell phone use. Recent technologies have encouraged multitasking, in which someone juggles multiple activities, such as watching television while checking email or driving and cell phone use. Overwhelming evidence indicates that humans are poor multitaskers. In this PDA, Professor Vecera studied the role of cognition, specifically visual attention, on driver distraction. The research is ongoing and (1) aims to identify the characteristics of drivers who are likely to engage in unsafe multitasking behaviors and (2) aims to understand how directing visual attention to a driving-critical location (e.g., side-view mirror) is influenced by having previously attended that location. Data collection is continuing with both projects and will result in several publications involving undergraduate and graduate research assistants who will gain research experience. By identifying drivers who might engage in unsafe behaviors, this research will be critical for intervening with such drivers to improve driving safety.

WHITE, SUSAN C, Professor, Art & Art History, 17 years of service, spring semester
Title: Art in Embassies Installations and Exhibition

Professor White worked on two projects for the US State Department's Art in Embassies program installed in Jerusalem and Turkmenistan. She completed three national public commissions, a high profile project in Washington DC and two closer to home in Iowa. White devoted all of her PDA time to her creative research. Her work is in a three-year exhibition with Art in Embassies for the Consul General's residence in Jerusalem. Her second project is in the new US Embassy being built in Ashgabat, a large sculptural installation that will be a permanent part of the art collection of the new embassy. Professor White's third permanent commission was for Art Place/Fort Totten, commissioned by Americans for the Arts and the Cafritz Foundation in Washington, DC. She also finished a permanent 30 ft. sculptural painting commission for Unity Point Clinic in Waterloo. Most recently, Professor White completed three large-scale commissions for a new dining hall at ISU. The PDA has allowed her time to develop a course that will offer students a launch pad to establishing careers in public art.

WIEMER, DAVID F, Professor, Chemistry, 39 years of service, fall semester
Title: Synthesis of Biologically Active Compounds

During his PDA, Prof. Wiemer conducted research in synthetic organic and medicinal chemistry. He focused on the design and syntheses of new compounds intended to mimic the isoprenoid phosphates that are central to human metabolism. These compounds have been supplied to his collaborators at the U of CT, the U of NE Medical Center, and Penn State Cancer Institute, to determine their biological activity. Active compounds have been discovered that may be of value

as potential treatments for myeloma, or as stimulants of g,d T-cells which may lead to new ways to encourage the immune system to respond to malignancies. He also pursued synthesis of biologically active natural products that may serve as potential anti-cancer agents or growth stimulants (to speed wound healing). He actively pursued external funding to support these programs, published or submitted for publication journal papers describing his findings, and presented his research at the UI, the U of Minnesota and Penn State University. He has filed a US Patent application and other disclosures to protect the intellectual property. He has mentored grad and undergrad students in research, and written new problem sets for his graduate class.

WILDER, DAVID G, Professor, Biomedical Engineering, 21 years of service, spring semester
Title: Nonlinear Response of Back Muscles to Seated Whole-Body Vibration

Operating vehicles can expose people to harmful whole-body vibration. Why the back muscles of a seated human respond the way they do when bouncing up and down during exposure to a combination of two vertical vibration motions (2.5 and 5 times per second) has eluded explanation. Professor Wilder discovered a new path to follow to investigate this phenomenon. When muscles sense imposed force and motion they begin to respond due to a change in acceleration, also known as jerk. During his PDA, he evaluated jerk in the above vibration. He found that some was quite large, could explain why back muscles responded the way they had, and suggested new research. Benefit to teaching/students and the University of Iowa: The results of the PDA are a metaphor for the challenges involved in gaining insight from research and will guide future study. Benefit to the state of Iowa or to society generally: Poor mechanical interactions between a person and the physical environment create musculoskeletal problems and outcomes as tragic as diminished quality of life, lost productivity, burden on society, disability and opioid addiction. Understanding how to prevent such problems has many benefits.

WILSON KIMBER, MARIAN, Associate Professor, Music, 13 years of service, fall semester
Title: Female Composers at the White House: Phyllis Fergus's Advocacy for Women in American Music

Professor Wilson Kimber researched and wrote a substantial article exploring the role of Chicago composer Phyllis Fergus (1887–1964) in promoting the music of American women composers in the 1930s. Fergus served as the president of the National League of American Pen Women, an organization that sponsored concerts in Chicago, Miami, Chautauqua (New York), as well as two White House recitals for First Lady Eleanor Roosevelt. Wilson Kimber visited seven archives, including the FDR Presidential Library, to examine correspondence, programs, scrapbooks, diaries, and scores; she took 1350 photographs for future study. Wilson Kimber's article is only the third publication to treat the NLAPW, the largest literary organization of the period with over 2000 members, and the first scholarship to consider how its musical activities were part of a larger agenda to promote women's compositions using nationalistic means. It is thus a major contribution to the history of American women composers' activities in the early twentieth century and to women's history in general. Wilson Kimber's research will inform her classes in musicology, American music, concert life, and women composers.

YABLON, NICHOLAS, Associate Professor, American Studies, 14 years of service, fall semester

Title: The Birth of the Time Capsule: The Politics of Posterity, 1876-1938

Professor Yablon completed his book on the history of American efforts to communicate across time. Historians tend to privilege "unintended sources" – for instance, letters that individuals sent to their contemporaries, or documents they produced for their own, present needs. Consequently, they overlook the ways in which cultures reach out to other periods. By exploring the emergence of the time capsule in Gilded Age America, Professor Yablon reveals the changing ways in which

people have addressed future generations (or even future historians) and encapsulated the present for them. Furthermore, in tracing the emergence of a sense of “duty to posterity,” he contributes to public debates about environmental (or economic) rights of those who come after us. His project will inform undergraduate and graduate courses in American cultural history, in particular those relating to issues of temporality, memory, monuments and media.

IOWA STATE UNIVERSITY

ARNDT, GRANT, Associate Professor, Anthropology, 9 years of service, full year
Professor Arndt completed a book manuscript during his assignment, based on his research to understand how indigenous people in the mid-20th century used the dominant media of their time to gain political agency and voice. This work provided new material for his courses in Anthropology and American Indian Studies. The assignment also led to the preparation of two journal articles, two conference abstracts, and an invited lecture in Germany.

BAHNG, EUNJIN, Associate Professor, Education, 9 years of service, fall semester
Professor Bahng studied how Japanese teachers in STEM disciplines prepare, work with students, and collaborate with each other. Her efforts, which will benefit current and future K-12 science teachers, also resulted in two new research collaborations, four research presentations, two manuscripts, several invited lectures, and a \$900 research grant from the University of Aizu.

BOGDANOVIC, JELENA, Assistant Professor, Architecture, 5 years of service, spring semester
Professor Bogdanovic completed a book project, *Perceptions of the Body and Sacred Space in Late Antiquity and Byzantium*, as well as continued work on a single-author work, *Spatial Icons*, both of which examine the relationships between micro-architectural structures and the human body. The research material that went into these projects will also be included in Bogdanovic's advanced classes on meaning and form in architecture.

CHAMBERLIN, DENNIS, Associate Professor, Greenlee School of Journalism and Mass Communication, 12 years of service, full year
Professor Chamberlin spent the academic year as a Fulbright Scholar, teaching photojournalism and multimedia to journalism students at the Ukrainian Catholic University in Lviv. He also established collaborative projects between Ukraine and Iowa that build upon similarities and differences between the two regions, including the modernization of Ukraine's agricultural economy. His work was funded through a Fulbright Scholar Stipend.

CLARK, LYNN GAIL, Professor; Ecology, Evolution & Organismal Biology; 30 years of service, January-June (6 months)
Professor Clark continued her work to document and describe an estimated 300 species of Brazilian bamboos, including species new to science. Clark published four peer-reviewed papers using the data gathered during her assignment, with seven additional papers in review, seven manuscripts in preparation, and several conference presentations. She was also invited to submit an NSF grant proposal worth \$215,000.

DINSMORE, STEPHEN J., Professor, Natural Resource Ecology and Management, 12 years of service, spring semester
Professor Dinsmore finalized and published findings from his work on threatened and endangered animals, including a visit to an endangered bird habitat in Oregon. Outcomes from this work included the completion of two book chapters, six published manuscripts, six additional manuscripts in press or review, and \$633,000 in external research funding.

EISMAN, APRIL, Associate Professor, Art & Visual Culture, 10 years of service, full year
Professor Eisman visited Germany and study the life and work of Angela Hampel, one of East Germany's most successful female artists. Eisman made substantial progress in a book manuscript on Hampel, as well as organized the Transatlantic Workshop on East German Art.

Additional activities during the assignment included two invited lectures, four completed journal articles, and earning a \$50,000 National Endowment for the Humanities fellowship.

FOX, RODNEY O., Distinguished Professor, Chemical & Biological Engineering, 19 years of service, spring semester

Professor Fox served as an International Francqui Professor by the Francqui Foundation, a prestigious honor reflecting his contributions to the field of computational fluid dynamics. Fox delivered numerous invited lectures at universities throughout Belgium, as well as taught a one-week intensive course, and established potential collaborations with students and colleagues.

FRANZ, KRISTIE JEAN, Associate Professor, Geological and Atmospheric Sciences, 11 years of service, fall semester

Professor Franz visited the National Center for Atmospheric Research in Colorado, researching a new forecasting model, WRF-Hydro. This model has been incorporated into Franz' hydrologic modeling course, and also provides opportunities for faculty to conduct comprehensive whole-watershed studies of interest to Iowa and the Midwest. This work resulted in four published manuscripts, five conference presentations, and a \$230,000 federal research grant.

GALLUS, WILLIAM, Professor, Geological and Atmospheric Sciences, 22 years of service, fall semester

Professor Gallus, an expert in understanding and predicting small-scale weather events, completed an assignment in Italy to study how warmer Mediterranean Sea water affects thunderstorm rainfall intensity and tornado frequency. Outcomes included 8 refereed publications, 18 conference and academic presentations, and more than \$625,000 in federal research funding.

GRASS, SEAN C., Associate Professor, English, 5 years of service, full year

Professor Grass completed a monograph, *Life Upon the Exchange: Autobiography, Sensation, and the Commodification of Identity in Victorian Narrative*, which examines the rise of autobiography to popular and commercial prominence in England during the first half the 19th century. The research has also led to the creation of a new graduate-level course at Iowa State, as well as an undergraduate course offered to more than 100 students each year.

HONG, WEI, Associate Professor, Aerospace Engineering, 10 years of service, fall semester

Professor Hong expanded his research in the study of lightweight flaw-tolerant composite structures and developed collaborations in additive manufacturing with experts in nano-fabrication and polymer composite synthesis. It resulted in four published manuscripts and creating a study abroad opportunity for Iowa State undergraduate students at Xi'an Jiaotong University in China.

HOPKINS, CHRISTOPHER, Associate Professor, Music & Theatre, 13 years of service, full year

Professor Hopkins, an expert in electroacoustic musical composition, designed and implemented a real-time computational modeling application to analyze and invent musical sonorities, essentially creating a "smart palette" for his experimental composition. The results of this work are incorporated into lectures and lab assignments in Hopkins' musical technology courses.

HUGHES-BELDING, KERE ELIZABETH, Associate Professor, Human Development & Family Studies, 14 years of service, fall semester

Professor Hughes-Belding's assignment extended her research on home visiting programs that serve families with young children. This work resulted in the completion of four manuscripts, 10 peer-reviewed and invited presentations, and a \$225,000 funding award from the Iowa Department of Public Health for the second phase a project to improve home visit quality. Hughes-

Belding will also use the research to benefit early childhood professionals and students in Iowa State's School of Education.

HURST, JESSICA LYNN, Associate Professor; Apparel, Events & Hospitality Management; 10 years of service; spring semester

Professor Hurst studied the importance of internships on employers' hiring decisions. Outcomes of this work resulted in the preparation of five peer-reviewed manuscripts and one peer-reviewed professional presentation. The knowledge gained during the assignment will also be used to mentor undergraduate and graduate students in the Apparel Merchandising and Design program.

JAHREN, CHARLES T., Professor; Civil, Construction & Environmental Engineering; 24 years of service; fall semester

Professor Jahren's assignment displayed how online content developed for hybrid courses in construction methods and management at Iowa State can be developed for similar applications at international universities. Courses were presented for students in Germany, India, New Zealand and the United Kingdom. Outcomes of the assignment also included numerous invited lectures, new research collaborations, and enhanced external funding proposals.

KAMINSKI, ADAM, Professor, Physics & Astronomy, 13 years of service, fall semester

Professor Kaminski constructed and completed performance testing of a sample cooling stage – one of only three in the world – that can reach extremely low temperatures (less than 2 Kelvin) without the use of expensive liquid helium. This work, focused on studying the electronic properties of quantum materials, led to 12 publications and created valuable training opportunities for graduate students.

KAWALER, STEVEN, Professor, Physics & Astronomy, 28 years of service, fall semester

Professor Kawaler visited colleagues in Denmark and England to complete an analysis of a newly discovered white dwarf (a star at the end stages of its stellar lifetime), as well as the planets around the star. Outcomes included a conference paper, published manuscript, 2 external funding proposals, and provided Kawaler and two students (one graduate and one undergraduate) an opportunity to help prepare for NASA's upcoming TESS mission to survey transiting exoplanets.

MCKILLIGAN, SEDA, Associate Professor, Industrial Design, 7 years of service, full year

Professor McKilligan worked with colleagues in the Netherlands to study how students learn to be innovative, and how instructors use feedback to help students create innovative designs. Her work resulted in a book chapter, five peer-reviewed journal articles, 11 conference papers, three workshops, four invited lectures, and the submission of two grant proposals to Google and the National Science Foundation.

NIEHM, LINDA S., Professor; Apparel, Events & Hospitality Management; 15 years of service; fall semester

Professor Niehm developed programming and funding for a Retail and Consumer Product/Services Business Incubator at ISU. This work also resulted in a manuscript and webinar on family business sustainability during recessionary periods, and a \$500,000 USDA grant with collaborators in Texas and Michigan to use big data to map economic opportunity in rural America.

RIVERO, IRIS, Associate Professor, Industrial & Manufacturing Systems Engineering, 5 years of service, fall semester

Professor Rivero designed and validated microbially mediated zinc sulfide as an effective antibacterial to promote the rapid healing of badly burned skin. Results from this work include the

completion and submission of two manuscripts, three research presentations, a patent application with colleagues at Oak Ridge National Laboratory and new and enhanced courses at Iowa State.

SHROTRIYA, PRANAV, Professor, Mechanical Engineering, 14 years of service, spring semester

Professor Shrotriya used his assignment to work with colleagues at Iowa State and other institutions to develop large proposals that accelerate the development of new devices and manufacturing processes using ultrahard materials. Outcomes included six peer-reviewed journal publications, new research collaborations, enhanced course materials for Iowa State engineering students, and forthcoming invention disclosures with Aptalogic, an Ames-based small business, to develop portable sensors for detection and monitoring of patient health.

SMILEY-OYEN, ANN, Associate Professor, Kinesiology, 17 years of service, spring semester

Professor Smiley-Oyen extended her research on motor sequencing and brain activation in young adults and children with developmental dyslexia, and developed applied learning activities that require both critical thinking and problem solving for her undergraduate courses. Outcomes from this work included the preparation and submission of seven manuscripts, a conference presentation, and an intramural grant proposal.

TANG, LIANG, Associate Professor; Apparel, Events & Hospitality Management; 8 years of service; full year

Professor Tang prepared "Bald Eagle and Panda" U.S.-China Culture Exchange Conference programs (supported by the U.S. Embassy in Beijing) on the campuses of Henan Normal University and Harbin University of Science and Technology (HUST) in China, and visited nine additional Chinese universities. Tang also planned a 10-day U.S. study trip for Chinese college students to spur their interest in studying at ISU; created joint research and coursework in tourism, hospitality, and event management with colleagues at HUST; completed three journal papers, one book chapter, and nine conference presentations; and earned \$328,000 in external funding.

TIRTHAPURA, SRIKANTA, Associate Professor, Electrical & Computer Engineering, 15 years of service, fall semester

Professor Tirthapura's assignment was focused on data mining and analytics, and included visits to research laboratories at IBM, AT&T, Laserlike Inc., and universities in India. Outcomes of this work included new research collaborations, three journal articles, one conference presentation, and a \$308,000 award from the National Science Foundation to study streaming data analysis.

WELK, GREGORY JOHN, Professor, Kinesiology, 17 years of service, fall semester

Professor Welk spent time at four universities in the United Kingdom to facilitate their work with the Youth Activity Profile, a self-report tool developed at Iowa State that is used in national school-based activity assessments in the U.S. Welk also built collaborations with colleagues in Brazil, Poland, and the Czech Republic, to integrate the Profile with existing international assessments.

YU, CHENXU, Associate Professor, Agricultural & Biosystems Engineering, 10 years of service, fall semester

Professor Yu went to Dalian Polytechnic University and National Engineering Research Center for Seafood in China, expanding his research capabilities in seafood supply chain management, food safety, quality control, and seafood processing engineering. Outcomes of this work include seven published journal articles, three additional articles in process, a new graduate level class at ISU, and an \$855,000 funding proposal to the Walmart Food Safety Collaboration Center.

UNIVERSITY OF NORTHERN IOWA

AGBESE, PITA, Political Science, 28 years of service, spring 2017

Regional Counter Terrorism Strategy: West Africa's War against Boko Haram

Professor Agbese's project examined West African regional military cooperation to defeat the Boko Haram terrorist group. The project sought to analyze the effectiveness of a regional military alliance as a counter-terrorism strategy. Relying on a large data base on Boko Haram, the project assessed the development, operation and effectiveness of the military alliance among Nigeria, Chad, Niger, Cameroon and the Republic of Benin against Boko Haram. To this end, Professor Agbese conducted field-work for the project in West Africa, interviewing central government officials, military officers and other security personnel and local government officials. Professor Agbese accumulated an empirical data set on military operations against terrorism in West Africa and analyzed a substantial part of this data set. This project is of immense value to Iowa and UNI in several specific ways. First, the research and the book that emerged from it enhance a comparative understanding of global terrorism. Second, it expands the corpus of knowledge on strategies of defeating terrorism. Third, this knowledge informs upper division undergraduate courses on African politics and Non-Western Cultures (Africa) at UNI. The results of this project include: an external collaboration with Matthew Enyigwe (Sahara Reporters), a journalist with extensive experience in Boko Haram; two scheduled conference presentations; a training at the National Security Symposium; a conference presentation, a conference presentation under development, one book manuscript, *Defeating Terrorism through Regional Collaboration*, currently under development and one grant proposal under development.

BARRETT, KOREY, Music, 10 years of service, spring 2017

The Exploration and Performance of Rare French Opera and Art Song Repertoire.

Professor Barrett's project consisted of music research intended to culminate in a post-PDA period of performances and other creative activity. His main objectives were to conduct research regarding French art song and opera repertoire, seldom heard by American audiences, at the Bibliothèque-Musée de l'Opéra National de Paris and perform the music through concerts and recitals at UNI, at a summer opera company in San Diego, and elsewhere. In addition, Professor Barrett observed students at the Conservatoire de Paris and professionals in venues across Paris in order to become more familiar with the diverse French vocal repertoire performed there and to become more versed in the French style of classical singing, a style quite foreign to American singers. UNI students will benefit from this PDA experience not only by performing in enjoyable and thought-provoking rehearsals and performances, but by being part of an environment that continues to value intellectual and cultural curiosity. Iowa audience members will also benefit intellectually and culturally from the opportunity to experience high-quality performances of this diverse repertoire. Hopefully, such forays into relatively-unknown arenas will encourage others to follow suit, enriching life at UNI and in Iowa, and reinforcing the university's commitment to preparing students for participation in a diverse global community. Professor Barrett will bring his expertise in French music to the studio this fall at UNI as he coaches his voice students and to the classroom as he teaches a French Song Literature course. Furthermore, he will continue to reinforce the university's positive public image and recruiting efforts by presenting novel concerts with students and faculty at UNI and in venues across the state. His culminating activities as a music director include directing OperaNEO, cabaret concerts, rehearsals and performances of the opera *Armide* and one external collaboration. As vocal coach, he has scheduled French Art Song recitals at UNI that include the French repertoire discovered during this PDA. Professor Barrett will conclude this project by taking his performances on the road to museums and other venues both in and near the Cedar Valley.

CHENOWETH, JONATHAN, Music, 26 years of service, spring 2017

Leonard Bernstein: Two Answers to Everything.

The purpose of Professor Chenoweth's project was to write a book that featured Leonard Bernstein, America's preeminent conductor/composer, as a touchstone of American musical culture. The premise of the book states that versatility was both an essential strength of Bernstein's work and an important catalytic factor in the broader alchemy of twentieth-century American life. Bernstein's example exposes prevailing false binaries in the criticism, scholarship and presentation of music, and challenges audiences to reconsider highbrow and lowbrow traditions in light of his compositional eclecticism and populist appeal as a conductor within an elitist art form. His approaching centennial offers an excellent opportunity to celebrate his contributions and to place these in a comprehensive context that ultimately illuminates twentieth-century America and the enterprise of music. Professor Chenoweth's goal is to reach out to regional concert presenters and educators to promote Bernstein's interdisciplinary educational vision. Many UNI students will benefit from Professor's Chenoweth research and commitment to music education. The results of this project include a monograph entitled: *Leonard Bernstein: Two Answers to Everything*, currently under development, and external collaborations with readers from various disciplines, GBPAC and Music Director Jason Weinberger.

GAFF, DONALD, Sociology, Anthropology & Criminology; 10 years of service; spring 2017

The Archeology of the Black Medicine Site (13BH 164).

Professor Gaff's project involved the study and analysis of archaeological materials recovered from Hartman Reserve Nature Center during the course of four years of excavation as part of the University of Northern Iowa's Archaeological Field School. The goal of the project was to inventory artifacts, synthesize records and produce a report of those archaeological activities for distribution to government agencies. Results of the project include a complete inventory of artifacts recovered from Hartman Reserve between 2008 and 2011, preparation of those artifacts for curation, completion of a map documenting everything found at the site, and a manuscript detailing four years of excavation. This archaeological research is of value to the University of Northern Iowa in several ways. One of the most important is that the report will be distributed to the staff at Hartman Reserve and Black Hawk County Conservation. Doing so will help them to continue to have an awareness of cultural and historical resources on their property as well as to help them comply with heritage preservation laws. Ideally, the report will be produced as a book that would be available to local citizens via sale at Hartman Reserve's gift shop. The report will also be distributed to interested state agencies such as the Office of the State Archaeologist (who will utilize the information for the purpose of both planning and academic research), the State Historic Preservation Office, and the Iowa Department of Transportation. Finally, this work has value for students at the University of Northern Iowa. Future field school students will be able to benefit from the knowledge gained from excavating at Hartman Reserve over several years as well from having a synthesis of that information. In addition, local archaeological research is discussed in classes in the Anthropology program including Human Origins, Archaeology of the New World, and Interpreting the Archaeological Record.

GOLDMAN, JOANNE, History, 25 years of service, spring 2017

Molycorp and the US Rare Earth Industry: A Quagmire of Economic, Environmental, and National Interests, 1950-2010.

Professor Goldman's project consisted of a book project that examined two crises that led Molycorp to stop mining rare earths in 1998 and again in 2016. It considers the impact of external regulation, internal objectives, and foreign competition upon the rise and fall of this important US

Corporation. Inasmuch as Molycorp is the only US company with the capability of providing rare earths for production of permanent magnets, its rise and fall has had important consequences. The history of Molycorp tells the story of a company that withdrew from mining critical materials, reinvented itself to mine those materials to serve the nation's interest, only to succumb to a perfect storm that resulted from the burden of federal policies and regulations, ambitious internal objectives, and unpredictable international market fluctuations. For lowans, this study is particularly significant because Iowa State University plays a critical role in the rare earth industry. In addition, this project contributes to the body of literature relevant to courses at UNI, including several offered by the College of Business and the Departments of Earth Science, Political Science, and History. The results of this project include a peer-reviewed article accepted for publication and a manuscript in progress.

HALL, KENNETH, Art, 9 years of service, fall 2016

Investigation of Photo-Realistic Painting Techniques in a New Series of Large Works.

Professor Hall's PDA project consisted of a body of creative work: four large oil paintings were proposed in his original application and have been completed. These works involve a combination of art historical references and photo-real painting techniques. Additionally, Professor Hall completed a one-month artist residency at GlogauAIR in Berlin, where he created several smaller works and exhibited his work in a group show at the residency. This PDA allowed Professor Hall to travel to Berlin, where his interaction with several hundred European art lovers at the Open Studios event served as a form of publicity for UNI and Iowa. He anticipates exhibiting the new works in national and international art venues that, again, will bring positive recognition to UNI.

HITLAN, ROBERT, Psychology, 15 years of service, spring 2017

Advancing our Understanding of the Nature of Correlates of Social and Workplace Ostracism: Implications of Intergroup Relations and Organizational Effectiveness.

Professor Hitlan's project investigated the relations among social ostracism, biological markers of stress, and psychological and physical health and the impact of workplace ostracism on interpersonal and organizational outcomes. To this end, Professor Hitlan utilized the Psychoneuroendocrinology Lab (PNE Lab) within the Department of Psychology to collect, store, and quantify biomarkers typically found in saliva via salivary enzyme-linked immunoassays. By utilizing this procedure, Professor Hitlan was able to assess concentrations of various analytes including hormones (e.g., testosterone), stress and inflammation (e.g., C-reactive protein), and other biological substrates. This project culminated in a peer-reviewed article submission, two articles in progress, attendance at a special conference/training and in external collaborations. Publication of these manuscripts benefits UNI through increased national (and potentially international) recognition, inter-institutional research collaborations, and the potential for increased minority student interest in UNI. Iowa citizens also benefit by having an expert on social and workplace ostracism available for consultation, and hosting workshops related to social ostracism and the interplay among social ostracism, immigration and intergroup relations.

MACHEN, EMILY, History, 9 years of service, fall 2016

Women of Faith and the Reconstruction of French National Identity: Catholic, Protestant, and Jewish Women Facing the Twentieth Century.

Professor Machen's project consisted of revising and reorganizing a book manuscript that explored the place of women in religious communities in early twentieth-century France. Early twentieth-century France offered an important case study for understanding how women of faith could shape the place of religion within a nation's culture. Professor Machen's study explored a moment in French history between 1880 and 1930 when the public's relationship with religion

underwent rapid change. French women guaranteed that religion continued to be an important component of French national identity, despite the secularism that was fast becoming a cornerstone of French society. At the same time, French Catholic, Protestant and Jewish communities' support for women's suffrage and access to education was critical to undermining women's subordinate position to men. This project illuminates religious questions faced by people around the world, including lowans. Western societies have come to judge faith communities by how they treat women. Religious women's actions, dress, and public visibility often indicate the compatibility of a faith group with Western culture or a faith community's seeming rejection of "modern," Western values. This issue can be seen in recent French debates about the acceptability of wearing the hijab and burka in public, in concerns about polygamy among some American Mormon sects, and in Catholic debates about family planning and the all-male composition of the clergy. Putting those debates in their historical context can help UNI students and lowans understand the consequences of religious belief and governmental policy on individuals, nations, and cultures. This is particularly important as Western nations search for ways to integrate new immigrants and Islam into their national communities. This project culminated in a book, which is currently under review, and in a research article in progress.

O' LOUGHLIN, JIM, Languages & Literatures, 14 years of service, spring 2017

James Hearst Digital Archive.

Professor O'Loughlin's endeavor consisted of creating a digital humanities project that used technology to make possible humanities research (James Hearst Digital Archive). The aim of this project was to become an adaptable resource for researchers and an easily expanded opportunity to allow UNI students to undertake humanities research. The JHDA draws upon a series of existing resources (*The Complete Poetry of James Hearst* (2001), *James Hearst: A Bibliography of His Work* (1980) and the Hearst Family Papers, making the materials of those works digitally available and searchable online. However, the JHDA is value-added in that it also allows for thematic organization of Hearst's poems and provides online exhibits that integrate scholar's insights with pre-existing materials from the archive. One of the major accomplishments of this PDA was to transfer the archive from a provisional format (in Omeka) to a format consistent with Rod Library's digital profile (Drupal). The results of this project include a complete digital archive viewable at hearstarchive.uni.edu; a published book, *Planting Red Geraniums: Discovered Poems of James Hearst*; a book chapter accepted for publication; two presentations in progress; two creative productions; and a grant contract proposal accepted for funding.

ROBERTS-DOBIE, SUSAN, Health, Physical Education & Leisure Services; 15 years of service; fall 2016

Planning Social Support in the Post-Partum Period.

Professor Roberts-Dobie's rationale was to demonstrate that social support provided numerous health benefits during the postpartum period when support seemed positively associated with breastfeeding, infant care, and maternal adaptation. To this end, Professor Roberts-Dobie conducted a qualitative research study to explore how women in the postpartum period experience social support, specifically (1) types received; (2) types desired, but not received; (3) sources of social support; and (4) the variance between soon after birth (1 month postpartum) and later (3 months postpartum). The sample consisted of 22 women whose ages ranged from 24 to 36 years. The results indicated that social support was present in all participants' postpartum periods, although it varied in quality and quantity. Social support was also subjective and perceived differently by different respondents. While some respondents reported at the three-month interview that the amount of support had waned as compared to at the one-month interview, the sources and forms of support remained relatively constant between interviews. Consistently, respondents indicated the presence of instrumental, emotional and informational

support made the postpartum period easier, less stressful and more enjoyable. The information obtained is valuable to the residents of the State of Iowa as it can be translated into concrete programs to meet the needs of postpartum women. One such program, a mobile phone app, is under development by the John Pappajohn Entrepreneurial Center at UNI. This project also benefits university students, future health promotion specialists in Iowa and beyond, as Professor Roberts-Dobie has used the project as a teaching example in the course: Implementing Health Promotion Programs. This project culminated in five conference presentations, an article submitted for publication; and one article in progress.

SOANS, FRANCESCA, Communication Studies, 13 years of service, spring 2017

A River Speaks. Working toward New Discoveries and Opening the Door to Future Funding Opportunities.

Professor Soans's project included the creation of a documentary. *A River Speaks* (working title) is an hour-long documentary, shot in high definition video, chronicling the battle waged by a small rural community in the foothills of the Himalayas to operate its own community radio station. Over three years, the documentary follows the efforts of grassroots organization Mandakini Ki Awaz and People's Power Collective, an NGO, to organize and train community members to build, manage and sustain a radio station to give voice to their own concerns. Through their story, the documentary highlights the challenges faced by the burgeoning community radio movement in India and its impact on rural communities. This project benefits the university and the state by contributing to the knowledge and understanding of international communities, by developing courses in global/cross-cultural documentary and community engagement in the Digital Media major, by portraying the important role of radio in rural development and civic participation, and by serving as an educational resource on issues of rural development, diversity, women's issues, and the spread of grassroots democracy. This project culminated in a creative piece (100 hours of footage) in progress, a conference presentation and two grant proposals in progress.

SUTTON, ELIZABETH, Art, 8 years of service, fall 2016

Beyond the Surface: Art, Animals, and Experience.

Professor Sutton used the PDA to research and write about art creations that invite viewer contemplation of humans' relationships to the natural world through their use of animals as mediators of experience. In addition, she investigated how audiences today make meaning and connections to the works. She demonstrated how artists employ animals and the sensory experience of the composition to engage viewers in contemplative reflection of natural and spiritual worlds. Using collected student reflections and surveys of tourists to Horseshoe Canyon, Utah, she showed how meaning is made in experiencing art with animals and how the connections articulated between a person and animal or art piece can be called upon for creating future empathetic interactions and collaborations. The results of this project are a book publication *Art, Animals and Experience*, and two invited lectures. Her work contributes to engaging the community in interpreting art, promoting active pedagogies, and supporting UNI's artistic mission.

TAFT, STEPHEN, Theater, 17 years of service, spring 2017

The Theater in You: An Electronic Textbook Proposal.

Professor Taft's project consisted of writing a digital textbook that is creative, enlightening and informative. *The Theatre in You* is as an interactive, electronic Introduction to Theatre textbook with such capabilities as video, sound and animation, that utilizes captivating photographs to illustrate a specific concept in addition to review, study and assessment resources embedded within the text. This text offers a more practical perspective illustrating the relevancy of theatre to the student in the present and into the future. Interviews with personal contacts in theatre, television and film are an important component of the textbook and include a producer, art

director, voice-over actor, a director/choreographer, a stuntman and actors who have participated in Broadway, in television and Oscar-winning films such as *12 Years a Slave*, *The Butler* and *Birdman*. This PDA resulted in a publication of the interactive digital textbook, *The Theatre in You* published by Great River Learning of Dubuque, Iowa. This text is a great pedagogical tool which is currently being used in the course Theatrical Arts and Society (section 05) during the fall 2017 semester at the University of Northern Iowa.

WAGGONER, MICHAEL, Educational Leadership & Postsecondary Education, 29 years of service, fall 2016

Documenting and Teaching the History of Religion and Education in the United States.

Professor Waggoner undertook a different project due to a funding failure by the proposed granting agency. His new project consisted of a book proposal accepted by Oxford University Press for *The Oxford Handbook of Religion and American Education*, which brings together preeminent scholars to craft a comprehensive survey and assessment of the study of religion and education in the United States. There are five sections: 1) Frameworks, a unit designed to expose readers, both lay and scholar from a variety of disciplines, to three frameworks that inform the study of religion and education: privatism, secularism, and pluralism; 2) Faith Development, a unit that surveys the various ways that three institutions—the family, religion, and the state—can contribute to the moral, intellectual and faith development of learners across their lifespans; 3) Faith-Based K-12 Education, a unit surveying the various pedagogical, political, and legal issues associated with homeschooling, private religious schools, and religiously affiliated charter schools; 4) Religion and Public Schools, a unit reviewing public school church/state legal issues classified into five areas in which the state tends to regulate religion in public schools: religious expression, curricula, extracurricular activities, religious displays, and access to facilities; and 5) Religion and Higher Education, a section addressing the current state of American higher education, examining the place of religion within and across each of its sectors. Designed for an interdisciplinary audience, the *Oxford Handbook* serves as a legacy project for leading scholars who are critically shaping the future direction of the field of religion and American education. Faculty, staff, and administrators of public and private educational institutions throughout Iowa, as well as those who prepare these educators at the University of Northern Iowa and all colleges and universities in Iowa, will benefit from the material offered in this handbook by better understanding religion as an aspect of diversity in American education. In this endeavor, Professor Waggoner served as lead editor, authored one chapter and co-authored the introduction.

WASHUT, ROBERT, Music, 37 years of service, spring 2017

A Full-Length CD Recording of New Original Compositions and Arrangements for Jazz Dodecetet
Professor Washut's project consisted of the production of a full-length CD recording to document his original compositions and arrangements for jazz dodecetet (12-piece jazz ensemble). In addition, he recorded the music of a band of Denver, CO-based musicians with the assistance of a recording engineer who had experience in big band CDs, saxophone player Chris Merz (UNI faculty member), and two UNI distinguished alums, Paul McKee and Michael Conrad. This project will benefit UNI through the positive exposure the recording will provide to the UNI School of Music through reviews and radio airplay, as well as from performances and recordings by other ensembles. Because Professor Washut's reputation is well-established throughout Iowa high school music programs, the potential to recruit talented students to UNI is enhanced. The citizens of Iowa will benefit through their support of the creation of new music by an Iowa jazz composer/arranger. A vital artistic culture is essential to the well-being of the state's population. Professor Washut plans to disseminate his work through the distribution of his CD around the country through radio stations and jazz journals. This project culminated in a creative production:

a complete CD recording to be released, the printed music of the CD to be submitted to *ejazzlines*, and two scheduled concerts.

ZEMAN, CATHERINE, Health, Physical Education & Leisure Services; 25 years of service, spring 2017

Correlation Investigation of High Infant Mortality Rate Regions in Iowa: Environmental and Demographic Factors.

Professor Zeman's project sought to understand what patterns of fetal death, infant mortality and neural tube defect were present by county in Iowa, and if those patterns correlated with specific social and environmental determinants of health. This project consisted of a mixed method (multiple group [counties] and time-trend [2010-2015] analysis) ecological analysis that was both descriptive and analytic. This project greatly benefits our state since the information gathered will allow one to further analyze and describe data distributions for many social and environmental determinants of health by county. This project culminated in one accepted article for publication (in press), one article under review, three scheduled or accepted presentations, a chaired conference session, and six external collaborations.