

Contact: Rachel Boon

PROFESSIONAL DEVELOPMENT ASSIGNMENT REPORTS FOR FY 2018

Action Requested: Receive the professional development assignment reports submitted by the Regent universities for FY 2018.

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 2016, the Board approved 122 professional development assignments for FY 2018. 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 \$4.7 million in grants and other external funding during FY2018; additional grant proposals in excess of \$42 million are still pending notice of award status. Total cost to the universities for FY2018 PDA was \$570,504. The short-term return on investment was about eight times the initial investment, with long-term potential to reach 70 times the initial investment.

A brief description of each professional development assignment completed in FY2018 is available in this report, including 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 2018. 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 122 PDA approved by the Board of Regents for FY 2018; each institution included all completed PDA as part of this report.

- University of Iowa. Reports below are from 57 faculty members on awards during 2017-18. Each faculty member was on leave with pay for one semester unless otherwise indicated. The estimated cost for the program was \$186,881. Five faculty chose to defer their awards to a future term, two chose to decline the award, and one faculty member passed away prior to the start of his award term.
- Iowa State University. Faculty Professional Development Assignment reports for 39 faculty for the academic year 2017-18. Three additional PDA reports are not included due to resignation prior to the start of the PDA. One additional report was not submitted because the faculty member resigned after taking the PDA (and for whom the payback obligation was met). The estimated cost for the program was \$191,815.
- University of Northern Iowa. There were 14 professional development assignments approved for FY 2018. All 14 reports are included below. The estimated cost for the program was \$191,808.

External funding obtained while on professional development assignment. A number of faculty members received external grant funding while on PDA or subsequent to the PDA. In addition, many PDA recipients submitted grant proposals that are still pending.

- At the University of Iowa, seven faculty members received external funding either during their assignment or following the assignment. The total amount received was approximately \$3.1 million. An additional \$27.4 million in funding proposals is still pending; and approximately \$8.3 million will be applied for due to work done during PDA.
- At Iowa State University, six faculty members received external funding either during their assignment or following the assignment. The total amount received was approximately \$1.6 million. More than \$14 million in funding proposals was submitted and is still pending with many more grant applications in process.
- At the University of Northern Iowa, grant proposals developed during or based on work done during the PDA are in development or in review that could result in up to nearly \$800,000 in future awards.

Return on Investment. The estimated cost of the PDA program was \$570,504 for FY2018; however, during the award period faculty earned \$4.7 million in grants, with more than \$42 million in grant applications pending announcement of award status. These assignments produced a return that is more than eight times greater than the initial investment and could result in a return up to 70 times greater than the initial investment.

UNIVERSITY OF IOWA

ADAMS, CHARLOTTE, Professor, CLAS-Dance, 20 years of service, spring 2018

Title: Shelf Life: A Concert Tour of Women Dancing

The PDA was devoted to further development and performance of a self-choreographed solo within a larger project entitled "Dancing on the Ceiling: solos performed by women of a certain age". Conceived and performed with seven accomplished female artists from universities and companies in the U.S., the project continued to tour after the premiere performance at UI to the University of Wisconsin in Milwaukee and Madison, with future performances at the University of Illinois and in New York. Workshops and post-performance discussions for students and community members explored the aging body of the performer. Adams also researched and developed a new work exploring the isolation of the individual and the desire for connection. This initial movement research will be further developed and premiered by dance students at Iowa in Dance Gala 2018.

AN, BRIAN P, Associate Professor, Education-Educ Policy & Leadership Studies, 8 years of service, fall 2017

Title: STEM Access and Preparation in High School: Is Dual Enrollment the Solution?

Professor An worked on two projects during his PDA. First, using large-scale national data, Professor An prepared data for analysis—which required several time-consuming steps—and learned a new statistical technique for his analysis. This study examines the influence dual enrollment participation (i.e., college courses high school students take where they typically receive both high school and college credit), in STEM subject areas. Results informs policy makers interested in whether dual enrollment serves as an avenue to increase the pool of students with the necessary preparation for STEM coursework in college, especially among underrepresented students. Professor An continued to analyze the data in Spring 2018 and expects to reach his first deliverable, a conference submission to the American Educational Research Association. In the second project, Professor An completed a chapter draft for Higher Education: Handbook of Theory and Research. The final draft was due late June 2018 and it will be published in 2019. This paper is the first to provide a comprehensive account of students' experiences in dual enrollment and the effectiveness of dual enrollment on schooling outcomes.

ARTHUR, LOYCE L, Associate Professor, CLAS-Theatre Arts, 20 years of service, spring 2018

Title: Research and Development of Carnival Arts Community Engagement Projects

Professor Arthur continued investigations of Caribbean Carnival Arts with her PDA. She was awarded a Fellowship at the Obermann Research Center where she continued to integrate that scholarship into the courses that she teaches at the University; worked on the Teaching Carnival website under the University of Iowa's Digital Library; created art works for the annual Iowa City Carnival Community Engagement Project and the 2018 parade; completed an article entitled "Interview with Darryl Montana- Black Indian Chief and Suit Master Artisan" for The Routledge Companion to African American Theatre and Performance due out November 2018; made a virtual presentation on Costume Design for Carnival at the Design for Performance Trinidad & Tobago Symposium; met with colleagues in the Theatre Arts Department, Hancher, and artists and community members in Minneapolis about developing a Carnival performance piece based on Haitian- and Guyanese-American Caribbean migration; created art works for the Hancher and Public Space One Dazzle Crawl Project; and coordinated and implemented art workshops at the Iowa City Dream Center as part of the 2016-2018 NEA Out Town grant activities.

BARRETT, TIMOTHY D, Professor, Graduate-Interdisciplinary Programs, 6 years of service, fall 2017

Title: Western Papermaking- Traditions, Tools and Techniques

During Professor Barrett's Professional Development Award he worked on the manuscript for a new book to be titled "European Papermaking, Traditions, Tools and Techniques." (Previously titled "Western Papermaking-Traditions, Tools and Techniques.") The book will complement his earlier widely regarded book on Japanese hand paper making. Prof. Barrett spent the Fall semester of 2017 writing the manuscript, overseeing photography and illustration work, and undertaking correspondence and research essential to producing a quality book. As a result of the PDA, as of February 2018, the manuscript and supportive materials (such as photos and illustrations) were 90% complete. The publisher, Legacy Press, in Ann Arbor Michigan, awaits the complete manuscript and is determined to see the book in print before the end of 2018. Once published, the book will be routinely used in Prof. Barrett's teaching at the University of Iowa, and in any other Regents institutions where classes feature paper making in some way. More important, if the success of the first book on Japanese paper making is any indicator, the new book will be in demand in the US and in other countries around the world.

BOEHMKE, FREDERICK J, Professor, CLAS-Political Science, 18 years of service, spring 2018

Title: Policy Pathways in the American States

Professor Boehmke gathered data to study the adoption and spread of public policies in the American states. In conjunction with NSF funding he led data collection and documentation development that produced the publically released State Policy Innovation and Diffusion (SPID) data set. SPID contains information on the years of adoption for 728 policies and provides unprecedented leverage for studying state policy leadership in general and in specific policy areas like health or transportation. Prof. Boehmke has also developed and release two statistical software packages to facilitate use of the data by other researchers. He and his collaborators have used the SPID data to produce four new research articles, all of which have been presented at a major conference in the past six months and two of which have been submitted to peer reviewed journals. Two undergraduate and three graduate students at the University of Iowa have been employed on or worked on the project. The data and methods resulting from this work will be used in both graduate (POLI:7002) and undergraduate (POLI:1050) courses in 2018-19.

BRIAN, AMBER E, Associate Professor, CLAS-Spanish and Portuguese, 10 years of service, spring 2018

Title: Networks of Imperialism and Sovereignty: Translating and Transmitting the Conquest of Mexico

Professor Brian used her PDA to undertake research for her new book project, Networks of Imperialism and Sovereignty: Transmitting the Conquest of Mexico, which addresses the production and circulation of letters written by native leaders to the Spanish king in the sixteenth century. The quincentenary of the conquest of Mexico is approaching and it will be a topic of interest for scholars, students, and citizens alike. Prof. Brian will directly incorporate the fruits of her research into courses she teaches on Mexican literature and culture and the impact of the conquest and imperialism. During the semester of PDA, Prof. Brian made significant progress on the research and writing of her book. She also completed one other major project, a multi-year, NEH-funded collaborative translation of a seventeenth-century history of pre-conquest and conquest-era Mexico, which will be published by the University of Oklahoma Press in Fall, 2019. Additionally, Professor Brian co-edited a volume to be published by Cambridge University Press, Latin American Literature in Transition.

BROCHU, CHRISTOPHER A, Professor, CLAS-Earth and Environmental Sciences, 17 years of service, spring 2018

Title: Revision of Late Cenozoic East African Crocodiles

During the PDA period, a book-length monograph describing a new living species of African crocodile was accepted for publication and substantial progress was made on other manuscripts. A grant proposal was submitted to the Leakey Foundation to support further research on African crocodiles; a proposal to the US National Science Foundation was completed and will be submitted by the end of September 2018. Museum collections were visited in Mexico City, Jerusalem, and Lisbon. Fossils related to African crocodiles were studied in Mexico City, but the trip also allowed near-completion of a manuscript describing a fossil alligator from Mexico. Specimens from Kenya and Israel were studied in Jerusalem, and DNA from the last crocodile shot in present-day Israel will be analyzed. The trip to Lisbon led to a new collaboration on an important new crocodyliform from Portugal and helped revise the data needed to analyze the African fossils.

BUATTI, JOHN M, Professor, Medicine-Radiation Oncology, 19 years of service, other (October 1, 2017-March 30, 2018)

Title: Augmented Reality Simulation and Treatment Delivery for Radiation Therapy

Dr. Buatti was able to enhance his participation in a variety of research projects by virtue of the PDA. It afforded him time away from clinical duties although he did continue work on previously funded grants and in particular his UO1 award entitled "Quantitative Imaging for Response Assessment in Cancer Therapy Trials." He also continued administrative responsibility for the Department of Radiation Oncology. The award resulted in the development of a new algorithm for the semi-automated contouring of complex skull based meningiomas using a just enough interaction approach. This was developed with computer engineering with the ultimate goal of using augmented reality for editing and simulation. Several papers and grants were submitted. The PDA enabled Dr. Buatti to enhance his knowledge of the interplay of automated algorithms in medical applications and hence will improve his ability to teach students regarding the potential of these technologies. This can improve the overall approach to radiation treatment planning and improve the quality and consistency of treatments for cancer patients.

CAMPBELL, ANN M, Professor, Business-Management Sciences, 18 years of service, fall 2017

Title: Improved Network Restoration after Disasters

During Professor Campbell's Professional Development Assignment, she spent several weeks at Rice University. She explored new extensions of the interdependent network design problem including exploring how this model can be adapted to help a city/region decide what nodes and arcs in the network need to be retrofitted to minimize disaster impact. Also at Rice University, Professor Campbell started work on understanding how inverse integer programming can be useful in logistics planning. Professor Campbell started new work on disaster preparation and recovery. At Iowa, she began exploring how routing changes in a flood environment. This work has a focus on Johnson County, Iowa. With a new PhD student, Professor Campbell started looking at better disaster preparation for islands. Professor Campbell also started looking at autonomous delivery vehicles, as they will have a big impact on the future of logistics. With another new PhD student, she started looking at how this technology can impact short-haul delivery trucks. With a new co-author and previous co-author (at Iowa), she is looking at the impact of using autonomous long haul trucks for cross-country shipping.

CASAVANT, THOMAS L, Professor, Engineering-Electrical-Computer Engineer, 29 years of service, spring 2018

Title: Adapting Computational Methods from Biomedical Genomics to Environmental Remediation

Professor Casavant visited the Center for Mathematical Modeling (CMM) at the University of Chile/Santiago - a leading international research center in environmental microbes. Over the past 22 years, he has applied advanced computing to biomedicine/basic life science. Sustainability and environmental remediation have become strategic foci at the University of Iowa; This award enhanced his knowledge and skills in gene regulation in micro-organisms capable of natural industrial processing, and microbially-based environmental remediation strategies. He worked to adapt methods developed for his research in human DNA sequence variation to metagenomics and the development of new computational/statistical methods. On his return to the UI he has begun collaborations with colleagues in Environment Engineering, and expanded business opportunities at Bio::Neos Inc, which he co-founded 12 years ago. His efforts produced two invited lectures, one \$2.6M research proposal to the National Institutes of Health, and one accepted journal manuscript.

CHANTHANAKONE, PETER, Associate Professor, CLAS-Art and Art History, 6 years of service, spring 2018

Title: Animation Production in Southeast Asia

Professor Chanthanakone completed two animated short films. "Land of Smiles," is a one-minute 3D animated short film about the problems of child prostitution in Thailand. There is up to three million sex workers and up to one-third are children. "Space Junk" explores the universe in a utopian future where humanity's antiquities and inventions are suspended in time and relevance. The virtual reality film requires a headset to view the immersive experience in 360 degrees. Through the UI International Programs office, he was a visiting researcher at Chulalongkorn University, Thailand's top research University. Prof. Chanthanakone wrote an article on Augmented Reality and Animation in Thailand Context, which was published in the Communication & Media in Asia Pacific (E-Journal). For students at the UI, the production of a virtual reality film gives students a new resource to learn about VR production in their own projects. 3D animation production constantly evolves and new knowledge can be passed on to animation students. For Iowa, the creation of digital content gives the state an expert in the future of media, in 3D animation and virtual reality.

CHRISTENSEN, GARY E, Professor, Engineering-Electrical-Computer Engineer, 21 years of service, fall 2017

Title: Improving Lung Cancer Treatment Through Better Image Registration

The primary purpose of Professor Christensen's PDA was to improve methods for treating lung cancer and evaluate their effectiveness. He worked on two NIH-funded lung cancer research projects and three related lung biomechanics projects. This effort resulted in one new NIH grant proposal (Reinhardt, PI) that received the highest possible review (first percentile) and is currently pending funding, a renewal proposal (Hugo, PI) for one of his currently funded NIH projects that is currently under review, three journal papers (one published, two accepted for publication), four additional journal papers (two under revision and two under preparation), two conference papers (one published and one submitted), one published conference abstract, an oral presentation and a poster presentation. Prof. Christensen worked on a NIH grant related to Bipolar Disorder which resulted in one published journal paper. He supervised one student to successful completion of her PhD comprehensive exam. He worked on projects related to

measuring depression in elderly and started development of a Diabetes simulator. He continued to perform his duties as the ECE Undergraduate Coordinator during his PDA.

COLE, RENEE S, Associate Professor, CLAS-Chemistry, 7 years of service, spring 2018
Title: Supporting Adoption and Effective Implementation of Student Centered Pedagogies in STEM Classrooms

Professor Cole completed work to better understand how to effectively support faculty in adopting student centered teaching strategies in science, technology, engineering, and mathematics (STEM) classrooms. The PDA provided Prof. Cole with the ability to work with faculty across the United States and Australia to investigate the adoption of evidence-based teaching practices in a wide variety of learning environments. Faculty at the University of Iowa will be using materials developed during Prof. Cole's PDA to improve student outcomes and employability skills, and the insights gained will be used to inform faculty development efforts across Iowa institutions and nationally.

COX, JEFFREY L, Professor, CLAS-History, 41 years of service, fall 2017
Title: The Age of Liberal Religion in Europe and America, 1970-2015

Professor Cox devoted the fall semester to work on a book that represents a capstone to his lifetime of scholarly inquiry into the history of religion in the modern world, ideas that have been developed not only in scholarly publications but in lectures to undergraduates, especially the thousands of students who have taken Western Civilization. The Age of Liberal Religion will have two parts. The first is a new social theory of religion in the modern age, based in part on the ideas of Tocqueville, and intended to replace the dominant theory of secularization. The second part is an essay on the history of religion in Europe and America since the 1970s, arguing that we do not live in "A Secular Age" but instead in an age in which liberal religion dominates both public and private life. This ambitious and sweeping work is intended to change fundamentally the way in which we view the importance of religion in the modern age.

DICHARRY, BRADLEY C, Associate Professor, CLAS-Art and Art History, 9 years of service, spring 2018

Title: Contemporary Innovations in Typography

Professor Dicharry actively used the time of his PDA to further his pursuit of typographic letterpress compositions by innovative technological means. Specific activities this included site visits to the University of Minnesota (Mankato), time spent learning new software and hardware, and a series of three limited-edition letterpress broadsides for the University of Iowa International Writing Program's Lines and Spaces reading tour program. The knowledge gained through this project allows Prof. Dicharry's work to bridge gaps between graphic design, computer science, printmaking and three-dimensional design. These connections will certainly allow for a richer and more relevant research path as a faculty member at the University of Iowa.

EHRSTINE, GLENN, Associate Professor, CLAS-German, 23 years of service, spring 2018
Title: Devotional Spectatorship in Late Medieval Germany

During the award period, Professor Ehrstine completed "Lay Piety in Practice," Chapter 1 of "Devotional Spectatorship in Late Medieval Germany." He additionally conducted archival research in Germany and finished 30 of a projected 50 pages of the book's third chapter on the Alsfeld Passion Play of 1501. In addition, Prof. Ehrstine corrected the page proofs for two articles on medieval theatre, completed a book review, delivered a paper on medieval theater at a professional conference in Germany, gave three talks related on "German Iowa", and completed an annotated translation of Chapter 11 of Joseph Eiboek's "Die Deutschen von Iowa" (The

Germans of Iowa), which concerns the contentious debate over Prohibition in late-19th-century Iowa and its impact on the state's German Americans. The work accomplished during his PDA will benefit his teaching and service on graduate and honors committees for students studying medieval and Reformation history. It also contributes to our broader understanding of forms of lay piety in pre-Reformation Europe. Lastly, his work on "German Iowa" enriches our understanding of Iowa's history and makes new source material available to state historians.

FARRIN, LAUREL, Associate Professor, CLAS-Art and Art History, 20 years of service, fall 2017

Title: Comedic Abstraction

Professor Farrin completed a body of paintings, digital video, and sculpture exploring comedy in the visual arts. She was awarded three residency fellowships for the time of her PDA; a Yaddo Artist's residency, NY; The McDowell Colony, NH; and a Dora Maar Fellowship, Menerbes FR. Comedy is, and has been, a social practice helping people cope, heal, and work together. Over 30 abstract paintings visually explored the philosophy and structure of comedy and contributed innovative research to the field of contemporary painting by inventing new comedic forms that cultivate empathy through abstract visual situations, circumventing the language barriers of comedy. Prof. Farrin produced comedic digital videos that visually echo her paintings using physical humor and improvisation. This site-specific work was filmed at the three locations of Farrin's fellowships. Farrin will teach multidisciplinary and conceptual aspects of the project developed during her PDA to SAAH's undergraduate and graduate programs. Her PDA work will be shown in art venues in Des Moines, Davenport and Fairfield.

FRANCISCUS, ROBERT, Professor, CLAS-Anthropology, 20 years of service, spring 2018

Title: Humans as a "Self-domesticated" Species: Insights from Foxes, Wolves, and Dogs

Professor Franciscus conducted analyses on skeletal materials acquired from the 60-year long Siberian silver fox domestication experiments in Novosibirsk, Russia to compare to longer term, prehistoric domesticated species such as dogs. These analyses are testing the idea of growth and development shifts via "self-domestication" as an explanatory model for modern human skeletal size and strength reduction from ancestral fossil archaic humans – a model that seeks to explain parallel skeletal shifts seen in domesticated dogs and experimentally tamed foxes relative to their ancestral forms. These PDA activities have expanded his research program in Late Pleistocene human evolution by creating new national and international research collaborations on a topic of great interest to society at large. They have also allowed him to produce novel proof-of-concept results and key theoretical refinements that will help craft competitive external funding proposals. These activities have also augmented teaching materials for several of his courses, and have provided research skills training and professional development opportunities for his graduate students.

FRITZSCH, BERND, Professor, CLAS-Biology, 10 years of service, fall 2017

Title: Detailing Trk Receptor Expression Using Novel Approaches

The mechanotransducing hair cells of the human hearing organ are innervated by two types of sensory neurons that carry hearing information to the brain. The development of these neurons depends critically on two molecules released from the hair cells and neighboring cells and two receptors expressed by sensory neurons. Past analysis suggested both preferential effects and mutual substitution. Using novel techniques developed in the laboratory of Dr. D. Ginty (Harvard), Dr. Fritzsich could demonstrate a distinct distribution of the two receptors in sensory neurons. One of the two receptors is found only in the subset of sensory neuron processes innervating the inner hair cells that mediate nearly all of our hearing. In contrast, the second

receptor is found in all sensory neurons. The details of how this differential, only partially overlapping distribution of the two receptors comes about requires additional work before a paper detailing this surprising finding can be submitted for publication. The finding will affect strategies to retain and restore innervation in hearing impaired seniors in Iowa. It will also affect the teaching of the function of neurotrophins in the ear.

GIBSON, CRAIG A, Professor, CLAS-Classics, 19 years of service, spring 2018

Title: Religious Themes in Medieval Greek Education

During his PDA semester, Professor Gibson revised one journal article that had been accepted for publication shortly before the award period and submitted three new articles for publication; two of the three articles have been accepted, and one article has been returned with an invitation to revise and resubmit. In addition, he completed the first draft of his half of a jointly-authored translation of two medieval Greek works and (with his co-author) completed the second draft of the longer of the two works. This research continues to help Prof. Gibson become more knowledgeable in ancient Greek literature and culture and helps raise the profile of the Department of Classics (and thus of the UI in general) as a center for research and teaching in the fields of Graeco-Roman rhetoric and late antiquity.

GRETEMAN, BLAINE, Associate Professor, CLAS-English, 9 years of service, fall 2017

Title: Shakespeare's Social Network: Authorship, Influence, and the Early Modern Book Trade

During the PDA, Professor Greteman completed research for his book, *Networking Early English Print*, on Shakespeare's contemporaries and their printers, publishers, and booksellers. The book, which derives from Greteman's digital project (<https://shakeosphere.lib.uiowa.edu/>) is under contract with Stanford University Press after successful submission of a proposal during the PDA period. In addition to conducting research at UI and the University of Illinois Special Collections, he wrote three chapters, including one that was also accepted for publication in a collection for Oxford University Press. He also completed and published an article for *Cultural Analytics*, wrote a popular article for *The Week* magazine, and prepared a syllabus for a new course at the UI. The work conducted during the PDA will benefit Iowa by invigorating Prof. Greteman's teaching and raising the profile of the university through publication. The societal impact includes a richer understanding of the way technologies shape the production of culture and the development of new resources for research and teaching.

GREYSER, NAOMI, Associate Professor, CLAS-Rhetoric, 10 years of service, fall 2017

Title: Writing Through Writer's Block

The cursor blinks, yet does not move. Shoulders stiffen or lock; attention glazes, flickers, slows. There is a reason it is called "writer's block:" mind, body and our relationships with technology slow or even shut down. Professor Greyser spent her PDA drafting her second book, *Writing Through Writer's Block*. Her interviews with over a thousand faculty and administrators across North America demonstrate that a growing emphasis in higher education on "productivity" (as opposed to impact, meaning, creativity or other frameworks) turns out to be counterproductive. *Writing Through Writer's Block* offers textured accounts of what flow and block feel like. Working with these thick accounts, the book nails down causes, consequences and antidotes to blocks, contributing to research in history of the senses, literary studies and the rhetorical arts as well as institutional design and university studies. Her practices and frameworks aid administrators in cultivating fertile, sustainable environments for rigorous, creative work, and researchers in rediscovering commitment to and pleasure in projects.

HARTLEY, CAROLYN, Associate Professor, CLAS-Social Work, 23 years of service, spring 2018

Title: The Impact of the University Sexual Misconduct Adjudication Process on Complainants and Respondents

Professor Hartley's PDA activities involved examining the adjudication process of sexual misconduct on the UI campus with the goal of developing research questions and conceptual frameworks to study the experiences of complainants and respondents involved in the reporting process. Allegations of sexual misconduct on college campuses are resolved through student conduct procedures, which differ considerably from Prof. Hartley's previous research examining criminal and civil legal system responses to interpersonal violence. The PDA helped her understand the roles of the offices involved in the reporting and investigation process, the different pathways of reporting, and the various outcomes of reports. Planned research studies from this PDA could provide valuable information to improve the reporting process for involved parties on the UI campus. This project will benefit incoming UI students as Prof. Hartley is using knowledge gained from her PDA to teach a first year seminar on sexual harassment. Given the paucity of research on campus adjudication processes, other colleges and universities may also benefit from the conceptual frameworks created from this PDA.

HOOKS, ADAM G, Associate Professor, CLAS-English, 9 years of service, spring 2018

Title: "Faking Shakespeare"

Professor Hooks continued work on his book project, "Faking Shakespeare." This project redefines the category of evidence within literary studies by examining the fabrication and exploitation of Shakespeare's works. It also offers a new history of Shakespeare studies by providing a genealogy of critical narratives, discovering the origins of the idea of "faking" Shakespeare. Professor Hooks completed the research for one substantial section of the book. The work resulted in presentations at two major international conferences, one book chapter (now in press) and the launch of a website at the University of Iowa (shakespeare.lib.uiowa.edu). The PDA directly and immediately impacted the Shakespeare and book history courses taught by Professor Hooks to both undergraduate and graduate students, starting with two new courses he will offer in the 2018-19 academic year. The PDA also developed the strengths of the University demonstrated by the Iowa Shakespeare exhibition in 2016, curated by Professor Hooks, and further enhanced his public scholarship work.

JUNG, ANITA, Professor, CLAS-Art and Art History, 12 years of service, spring 2018

Title: Local Crafts and Fine Art

During this CDA Professor Jung studied with local crafts people in Rajasthan, India and attended the India Art Fair in Delhi. She also visited the print collector Richard Waswo in Udaipur. Mr. Waswo has donated an important collection of contemporary Indian art to the UI Stanley Museum of Art. Jung received instruction in traditional block printing, using natural vegetable dye, and block carving. Her training in block printing was undertaken at Block Print House in Bagru. She studied Dabu, Bagh and Bagru methods. She was also able to visit silkscreen printing facilities in Sanganer and study with traditional block print carvers. Prof. Jung also conducted a four-day Monotype Workshop at Jawahar Kala Kendra, a multi-arts center located in Jaipur, India. This workshop introduced water-based inks and safer alternative monotype methods, which have been extremely rare in India.

KAARET, PHILIP E, Professor, CLAS-Physics and Astronomy, 14 years of service, fall 2017

Title: Searching for Missing Matter

This PDA supported Professor Kaaret during a critical phase of a NASA-funded project to build a small satellite to search for a hot halo of gas surrounding our Milky Way galaxy. Prof. Kaaret traveled three times to Blue Canyon Technologies (BCT), Inc., of Boulder, CO, where the satellite 'bus' was built. He integrated the X-ray detectors built at UI with the BCT spacecraft and oversaw testing of the integrated satellite. The NASA-required vibration and thermal/vacuum testing of HaloSat is now completed and HaloSat was manifested for launch into orbit in May 2018. Prof. Kaaret traveled to the 16th meeting of the High Energy Astrophysics Division of the American Astronomical Society and to NASA Headquarters to give invited talks. This PDA helped students by training them as aerospace scientists and engineers and helped extend UI's heritage in building space-based instrumentation to the new domain of CubeSats. Two papers on HaloSat, one describing construction of the instrument and one describing calibration of the X-ray detectors, and a new proposal to NASA for a new CubeSat were begun during the PDA.

KOCHANSKA, GRAZYNA, Professor, CLAS-Psychological and Brain Sciences, 27 years of service, spring 2018

Title: The Legacy of Early Parent-Child Attachment: Toward the Next Generation of Research

Professor Kochanska's research addresses a key question of developmental psychology, with profound implications for individuals, families, and the society: Why do some children grow up to become prosocial, rule-abiding, and conscientious, whereas others become disruptive, antisocial, and callous? Professor Kochanska recently obtained a large five-year grant from the National Institutes of Health to follow 200 Iowa infants and their parents up to preschool age in a new study. That project will examine very early parent-child relationships and children's biologically-based characteristics as critical factors that determine future developmental paths. The results will benefit Iowa's parents and society at large by informing evidence-based prevention and intervention programs. During her PDA, Professor Kochanska vigorously engaged in launching that substantial enterprise: Assembling and training a large, diverse research team, recruiting participants, and implementing intensive, massive data collection. Professor Kochanska's research informs her teaching and mentoring: Her laboratory is a vibrant, productive academic environment that fosters careers of students at all levels.

KUSIAK, ANDREW, Professor, Engineering-Mechanical and Industrial Engineering, 30 years of service, spring 2018

Title: Smart Systems

The concepts of internet of things and cloud computing have attracted attention of diverse applications, from manufacturing and transportation to energy, agriculture, and healthcare. The integrated physical assets and data-driven solutions form cyber-physical systems. The newly developed systems are smarter, connected, efficient, shared, sustainable, and cloud-based. Big data differentiates the systems of tomorrow from the past solutions by offering high-fidelity models (e.g., digital twins) of the phenomena of interest. There is a need to form research questions leading the transformative developments in engineering and social systems. Professor Kusiak has used a portion of the developmental leave to formulate valid research questions aimed at the development of large-scale research projects. The research questions have addressed manufacturing resiliency, networked and connected manufacturing, commercialization of sustainability, and transparency of sustainability of materials, products, and processes. These questions make a basis of forming a research agenda in smart systems.

LANDSMAN, MIRIAM J, Associate Professor, CLAS-Social Work, 18 years of service, half time for 2017-18 academic year

Title: Lessons from a Supportive Housing and Child Welfare Demonstration

Housing problems, including homelessness, unsafe and unstable housing, have been identified as challenges for families that become involved with child welfare services, posing risks for child removal and barriers to family reunification. Professor Landsman used her PDA to develop and disseminate knowledge about supportive housing with homeless/unstably housed families who are also involved with child welfare services due to child maltreatment, and who have complex health and social needs. Her PDA followed a five-year demonstration funded by the Children's Bureau of the Administration for Children and Families, U.S. Department of Health and Human Services. The demonstration, one of five in the country, was located in Cedar Rapids and involved a wide range of community stakeholders. Prof. Landsman prepared two manuscripts and gave two conference presentations, one national and one international. She created a new module about the intersection of housing and child welfare for her online course open to both undergraduate and graduate students, Child Welfare Policy and Practice.

LLOPART, ANA, Associate Professor, CLAS-Biology, 10 years of service, fall 2017

Title: The Conserved and Unique Determinants of Recombination Localization

Research in Professor Llopart's laboratory is centered in understanding the genetic processes associated with the formation of new species. As part of her PDA Prof. Llopart developed two new computational pipelines to perform genomic analyses, visited the University of California-Davis, and completed research on the genetic basis of hybrid sterility. The specific outcomes of the PDA include, but are not limited to, two scientific articles that will be published in peer-reviewed journals of high-impact factor. These two articles will increase the visibility of Prof Llopart's research and, in time, the prestige of the University of Iowa. Prof. Llopart's newly acquired skills/knowledge will benefit UI undergraduate students through new material that can be included in already existing investigative laboratory courses. Graduate students will also be positively impacted because these innovative techniques may accelerate their own research projects. In short, all these activities will continue to enhance the excellence in research and teaching of UI making it an even more extraordinary state asset.

LUTGENDORF, SUSAN K, Professor, CLAS-Psychological and Brain Sciences, 23 years of service, spring 2018

Title: Psychobiology of Resilience in Ovarian Cancer Survivors

Professor Lutgendorf's work over the course of her career has provided compelling evidence that the behavioral stress response has multiple effects on tumor growth, particularly in ovarian cancer. Her work under the PDA investigated psychological and biological aspects of resilience, or resistance to stress, in cancer survivors. She spent part of her PDA as a Visiting Faculty at UCLA working with collaborators with expertise in resilience and in gene expression. Collaborations during the PDA period have enabled her to broaden an understanding of pathways by which resilience can influence tumor growth. Products include a manuscript investigating relationships between resilience and cancer survival and several student papers. She is now developing a grant, based partly on her PDA work, to test an intervention to increase resilience in cancer survivors. Graduate and undergraduate students are involved in all phases of this research, and research results are incorporated into undergraduate and graduate teaching in Clinical and Health Psychology. Prof. Lutgendorf's research program also has potentially important health implications for the people of Iowa.

LYNN, FRED A B, Associate Professor, CLAS-Sociology, 10 years of service, half time for 2017-18 academic year

Title: Unpacking the 'College Experience'

Professor Lynn completed research pertaining to a multi-part project on how students "make sense" of their academic abilities and what strategies they enact in terms of course-taking and occupational selection. She completed a book chapter on mathematics-dominant versus verbal-dominant students that will be presented at a conference at the University of Massachusetts-Boston in October 2018. In addition, she submitted a grant application (LOI) to the Spencer Foundation to study undergraduate course-taking trajectories at the University of Iowa, completed in-depth interviews with academic advisors at the University of Iowa, and drafted a new working paper on the values of a nationally representative sample of 10th grade students. In addition to this work, Prof. Lynn actively mentored five graduate students, presented at two major conferences, submitted four manuscripts for peer review, and produced four new working papers. Prof. Lynn has incorporated insights from all of this work into her courses on status, stratification, and networks. Her work on students and their educational pathways benefits society more generally because it helps us understand the production of inequality.

MACGILLIVRAY, LEONARD R, Professor, CLAS-Chemistry, 18 years of service, fall 2017

Title: Mechanical Properties of Organic Crystals and Symposium on Materials for Sustainability

Professor MacGillivray initiated a collaborative program of research with a focus to study mechanical properties of organic crystals. The collaboration involves the Tivanski and Arnold groups in the Department of Chemistry. The collaboration has now assembled preliminary results. Three manuscripts are now either submitted or in preparation to be submitted. Prof. MacGillivray has also performed work toward the development of a symposium on materials chemistry tentatively titled the 'Iowa MATerials for SUSTainability Symposium (IMAT-SUSS)'. In January 2018, Prof MacGillivray gave a lecture at Iowa State U (ISU) and met with Prof Martin Thuo (Materials Science, ISU) to discuss the time period for IMAT-SUSS. The symposium is planned for Spring 2019 and will bring together materials researchers from the University of Iowa, ISU, and UNI, and other institutions, to disseminate knowledge on sustainability related to materials chemistry. Prof. MacGillivray also hosted a lecture of Prof. Laura Jarboe (Microbiology, ISU) at the Iowa meeting of the American Chemical Society to further establish network connections for IMAT-SUSS.

MARRA, KIMBERLEY B, Professor, CLAS-Theatre Arts, 28 years of service, fall 2017

Title: Archiving Horse Power in New York City through Performance and Digital Media

Professor Marra conducted research for her book-in-progress ("The Pull of Horses in Urban American Performance") and developed sections of a parallel video employing dynamic new media for teaching and further public engagement. This project focused on peak decades of reliance on horse power in New York City, 1860-1920, which coincide with Broadway's golden age. Combining interdisciplinary methods of performance studies, American studies, and animal studies, Marra analyzed several of the era's equine performances to examine the ways cross-species interactions shaped modern senses of the body and identity. The video is designed to play to various audiences in a range of academic and community spaces in the state and beyond to prompt wider reflection on what was lost and gained in the transition to mechanical power that might benefit human and non-human species in today's arguably more disembodied, denatured digital age. Marra gave five invited presentations, applied to present at two conferences, published a performance review, launched a new essay project, and applied for funding. She is using her research and digital content to enrich her performance history classes.

MATTES, TIMOTHY E, Professor, Engineering-Civil-Environmental Engineer, 14 years of service, spring 2018

Title: Investigating Nitrogen Cycling in Marine Oxygen Minimum Zones by Sulfur-Oxidizing Bacteria

Professor Mattes' PDA entailed research relevant to marine oxygen minimum zones (OMZs). Ocean OMZs exhibit strong nitrogen cycling activity and significant nitrogen loss to the atmosphere. The research was conducted at the University of Washington, School of Oceanography (Seattle, WA). Growth and physiology of a sulfur oxidizing and nitrate respiring microorganism (*T. autotrophicus* strain EF1), isolated from an OMZ, was studied under aerobic (with oxygen), low oxygen, and anaerobic (no oxygen) conditions in seawater. Professor Mattes also participated in a 19-day research cruise to an OMZ in the Eastern Tropical North Pacific (ETNP) Ocean, where he collected seawater samples featuring different dissolved oxygen concentrations to determine the abundance and activity of nitrogen cycling microorganisms (e.g. strain EF1) therein. At least one published peer-reviewed journal article is expected. New skills learned will benefit graduate students mentored by Professor Mattes. Finally, knowledge of nitrogen cycling processes in OMZs will be applied to nutrient problems in Iowa's waterways, to the benefit of the State of Iowa and society generally.

MCALLISTER, BRYANT F, Associate Professor, CLAS-Biology, 16 years of service, fall 2017

Title: Genetics for Genealogy

Professor Bryant McAllister used this PDA to focus on research and begin preparation of a Genetics for Genealogy textbook. The book draft summarizes concepts relevant to the broad and growing public interest in the applications of genetic principles and technologies for exploration of personal ancestry and biological relationships. Pieces of this project are being used in presentations to a variety of community groups in Iowa. The Human Genome Project represents the foundation for the emergence of the direct-to-consumer (DTC) DNA testing market, and Professor McAllister's research and writing for the book is focused on constructing a framework for communicating major features of the human genome, how these features underlie the technology of DTC tests and interpretations, and uses of these test results. The final product will serve as a reference for internal and external education activities focused on the genetic principles relevant to ancestry and genealogical analysis.

NABHAN-WARREN, KRISTY, Professor, CLAS-Religious Studies, 6 years of service, fall 2017

Title: Brown Religion in America: The Virgin of Guadalupe and Latinx History

Cornbelt America: Work, Food and Faith in the Heartland is Prof Nabhan-Warren's third major book project. The book's five core chapters are organized thematically; by plants and meat, because these are organizing rubrics of the Midwestern Cornbelt, the global food hub of America. Midwestern women's and men's bodies till the soil, harvest the crops, kill the animals and harvest them for our food. It used to be that white ethnic women and men did the hard labor and today it is Latinos/as, Chin Burmese, and African refugee women and men who perform the labor that feeds the world. The research conducted for this book is ethnographic as well as historical. Each chapter tells part of the story of today's Midwest and features women's and men's stories. The goal of each chapter is to convey the interdependence of work, faith, and family in the Cornbelt, and, on a larger scale in the United States. Faith, work, and family are on the move in America and Prof Nabhan-Warren hopes that her book manages to capture how faith, work and family define our lives today. It is here, in the center of America, that foodways bring the trifecta of faith, work and family together.

NINO-MURCIA, M M, Professor, CLAS-Spanish & Portuguese, 28 years of service, fall 2017
Title: Language Assessment of Non-Native Speakers of English for Forensic Interaction
Professor Niño-Murcia has used her PDA during the fall 2017 semester to advance research and writing of her project, titled “Language Assessment of Non-Native Speakers of English for Forensic Interaction.” The resulting piece (ms.23 pages) will be included in a co-edited volume by Professors Virginia Zavala, Susana de los Heros and her, Sociolingüística cultural: teoría y práctica en las Américas. (Cultural Sociolinguistics: Theory and Practice in the Americas [in preparation]). [To be published in Peru by Fondo Editorial PUCP] During the PDA, Professor Zavala with Professor Niño-Murcia co-wrote the Introduction to the volume and the first draft of her chapter to be included in the volume is complete. Professor Niño-Murcia has co-written the introduction to the book with one of the co-editors and they are continuing to work on it with a goal of completion in spring 2018. In addition, Professor Niño-Murcia gave a presentation with her preliminary results at the annual meeting of the Linguistic Association of The Southwest (LASSO), Las Cruces, NM, October, 2017 with a paper titled “Lengua y vulnerabilidad legal para los inmigrantes Latinos.” She also developed a new course.

PACHECO, JULIANNA, Associate Professor, CLAS-Political Science, 6 years of service, fall 2017
Title: A Healthy Democracy? Health Disparities, Political Behavior, and Representation
Professor Julianna Pacheco continued her work on the link between health, political behavior, and political inequality. Specifically, she studied: (1) how health influences the policy representation of individuals, (2) how inequalities in political participation across health status are related to health policies in the states, (3) how inferences from previous research are influenced by the measurement of health. The project was shared with scholars at invited conferences at the University of Houston and the University of Missouri. Information obtained from this work will be integrated into her undergraduate and graduate courses.

PEATE, DAVID W, Professor, CLAS-Earth and Environmental Sciences, 15 years of service, fall 2017
Title: Formation of Magma-Poor Rifted Margins from New Drilling in the South China Sea
Professor Peate worked on interpretation of data obtained through his participation in an international drilling expedition to the South China Sea in May 2017. The expedition recovered rock samples that indicate a new style of continental margin that will change current ideas for how continents break apart. He completed a preliminary study of mineral chemical compositions by electron microprobe, as a first step towards developing a more quantitative geodynamic model of the continental break-up process with international colleagues. Professor Peate submitted several journal articles and reports related to the expedition and other research projects. The University of Iowa benefited from increased visibility through Professor Peate's participation in a major international collaborative scientific expedition, and student teaching benefited from his preparation of improved laboratory exercises for undergraduate classes. Potential societal benefits stem from the fact that these continental margins are frontier regions for oil exploration.

PENNY, H G, Professor, CLAS-History, 15 years of service, fall 2017
Title: German Schools and Global Networks in Latin America
Professor Penny arrived in Berlin in the midst of a perfect storm. Controversies about the Humboldt Forum, a museum complex meant to house Berlin's Ethnological Museum, have made his 2002 book Objects of Culture extremely popular, and he has been invited to take part in

these debates. He traveled to Basel, Hamburg, and Vienna to meet with museum directors and curatorial staff, advising them on their displays, and assessing their potential. He also participated in meetings of the Humboldt Forum as a “critical friend” of the Berlin exhibition, and he has been a participant in the Humboldt Forum GMBH meetings on the state of ethnological research and the history of German ethnology, which are meant to inform the new displays. He also took part in Hawaiian repatriation efforts in Berlin this fall. In the midst of these events, he was approached by a publishing agent, who encouraged him to write a book on the topic for the general public. He eagerly agreed. This book is likely to have a far greater impact on current debates and public opinion than all of his other books taken together.

PORTER, JEFFREY L, Professor, CLAS-English, 12 years of service, spring 2018

Title: The Anatomy of Digression

During his PDA, Professor Porter completed writing a memoir, “Planet Claire: In Search of a Distant Love,” a book about losing one’s partner unexpectedly. It tells the story of two people deeply in love, and how that life was shattered by untimely death. With his wife’s passing, the memoir’s narrator is faced with the unthinkable terror of separation and loss. The book follows his struggle to capture the surprise, grief, and perplexity of his wife’s death as vividly and honestly as possible. With startling clarity, the narrator documents the collapse of his world and the bizarre sense of being torn asunder. How to cope with such a personal tragedy—and the catastrophe of self—are questions that haunt every page of the book. But the narrator refuses to accept pat answers or conventional wisdom. Instead, he sets out on a quest to find his wife, Claire, in memories, dreams, and reflections—to revive their rich life together on the page while staring down the inscrutability of death. Prof. Porter teaches memoir to both undergraduate and graduate students, and as Planet Claire has such broad relevance it is a book that is likely to speak to local Iowans as well as to a national audience.

PUDERBAUGH, DAVID J, Associate Professor, CLAS-Music, 12 years of service, spring 2018

Title: A CD Recording of New Music by Emerging Estonian and American Choral Composers

Professor Puderbaugh used a PDA in spring 2018 to prepare and execute a collaborative recording project with the Estonian choir Voces Musicales in Estonia. The project, which will result in a commercial CD recording by MSR Classics, consists of new choral compositions by emerging composers in Estonia and the U.S. When published, the CD will foster in Estonia a growing awareness of the U.S.’s vibrant culture of choral composition. In the U.S., it will serve as introduction to the progressive choral culture of modern Estonia, exposing American listeners to a new generation of prolific composers. At present, Prof. Puderbaugh is editing the recording session tracks for final production, finalizing lyrics translations, and generating the written material about the composers and their works that will be included in the final CD package. The project has informed Prof. Puderbaugh’s teaching of choral repertory at UI with the addition of new repertoires to the course curriculum. In the fall, his UI choir will perform selected project works for Iowa audiences. Future plans include live performances in both countries of the CD’s pieces and other works by these and other composers.

SOUAIAIA, AHMED E, Associate Professor, CLAS-Religious Studies, 14 years of service, spring 2018

Title: Religion, the Media, and Social Change in Modern Islamic Societies

Professor Souaiaia continued working on his longitudinal research project now in its seventh year. The project consists of building a comprehensive archive of digital primary sources documenting the transformative 2011 events still taking place in Southwest Asia and North

Africa, popularly known as the Arab Spring. Prof. Souaiaia collected and started indexing more than 35,000 files including videos, maps, images, and texts related to the protest movements in the Arab world and the ongoing wars in Iraq, Libya, Syria, and Yemen. Prof. Souaiaia finished writing a journal article dealing with human rights in Southwest Asia and North Africa and drafted three book chapters about the same events. As the founding Editor in Chief of the Journal of Islamic and Middle Eastern Multidisciplinary Studies, Prof. Souaiaia created a policy and procedure manual for the journal and updated the training guide for associate editors and reviewers. In teaching, Prof. Souaiaia developed a new introduction level course, Economics and Religion, and updated existing courses to reflect new scholarly findings and to use data from the new archive.

STEWART, DAVID E, Professor, CLAS-Mathematics, 21 years of service, fall 2017

Title: Modeling Mucous Flow in Cystic Fibrosis

Professor Stewart worked with researchers in the Welsh Lab at the University of Iowa to better understand the mechanical behavior of mucus in airways. Part of this work was experimental in order to understand the basic issues, in particular, the way mucus can transition between behaving like an elastic solid and behaving like a viscous fluid. Another part of the work was development of a mathematical model for the mechanical behavior of mucus, and the development of computational methods for simulating it. While that has not been completed, the outlines of how to do this have been established by Professor Stewart. This will give Prof. Stewart deeper and better models for explaining mathematical modeling and the importance of mathematics. The models should also help with understanding the effects of cystic fibrosis and lead to better therapies.

STONE, BETSY, Associate Professor, CLAS-Chemistry, 8 years of service, fall 2017

Title: Air Quality Impacts of Renewable Energy Use Through Co-Firing

In fall 2017, Professor Stone conducted, presented, and published research; prepared and submitted federal grant applications; and built research collaborations. A major research thrust was the air quality impacts of using biomass as a renewable fuel. She is preparing a manuscript entitled "Emissions of gases and particulate matter from the co-firing of Miscanthus and coal" for the journal Biomass and Bioenergy. In collaboration with researchers at the University of Iowa (UI), Iowa State University, and regional industry, she prepared a grant application entitled "Analysis and de-risking of commercial Miscanthus supply chains and bioenergy conversion" for \$1.88 million (currently pending). Her research supports the expansion of biomass as a renewable fuel, particularly at UI where co-firing is an integral part of campus energy generation. More broadly, the expansion of biomass for energy production will add value to Iowa's agricultural enterprise. Throughout the fall semester, she mentored three undergraduate and seven graduate students in research and developed plans for integrating co-firing research into an undergraduate chemistry laboratory course.

STROHMER, GERHARD O, Professor, CLAS-Mathematics, 32 years of service, fall 2017

Title: Mathematical Models in Electrochemistry

Professor Strohmer carried out some experiment in Prof. Leddy's lab. These did not lead to any scientific results, but allowed him to understand the experimental techniques in the area better. The most important product was a collection of software that allows the calculation of sound waves in electrolytes. This was a continuation of research done by a joint student, in the Applied Mathematics and Computational Sciences program.

TURNER, RICHARD, Professor, CLAS-Religious Studies, 17 years of service, spring 2018

Title: The Golden Age of African-American Islam and Jazz

Professor Turner explored the historical connections among jazz, African-American Islam, and black internationalism from the 1940s to the 1970s. Along with the many other musicians who exemplify the link between Islam and jazz, the book project analyzes the influence of the jazz saxophonist John Coltrane and the Muslim leader Malcolm X on civil rights, human rights, and transnational black religion. The book will fill an important gap in the scholarship on African-American religious history and African diaspora jazz studies. It focuses on the shared values of African-American Islam and jazz and offer a wide lens on the autobiographies of jazz musicians, in an era of global black liberation from World War II to the beginning of the black power movement. The proposed activity is to complete the writing of several book chapters and the expected outcome of the activity is a 300-page book. The PDA will enrich the sections on civil rights, human rights, African-American religion and music in four courses at the University of Iowa. The project will help us understand the human rights legacy of the 1960s and religious and racial diversity in contemporary society.

UNGAR, STEVEN R, Professor, CLAS-Cinematic Arts, 42 years of service, fall 2017

Title: Hiroshima Mon Amour (Alain Resnais, 1959): A Film in History

Professor Ungar's research conducted during his 2017 PDA centered on three related projects. The first of the three involved completion of a book chapter on the 1974 Louis Malle film, "Lacombe, Lucien." The second involved preparation of two articles on the French documentary filmmaker, Jean Rouch. These articles were commissioned in conjunction with the centennial of his birth. The third project focused on the film criticism and film projects undertaken by Chris Marker between 1946 and 1956. The three projects form the basis of Prof Ungar's ongoing research on postwar film in France, research straddling the history of film and the broader political and social histories of France between 1945 and 1970. (A fourth project required archival time to complete references to Andre Breton's writings in the films of Jean-Luc Godard.) The projects remain central to Prof. Ungar's undergraduate and graduate teaching in Cinematic Arts and thus to a teaching mission to educate students about film studies and related visual practices including photography, and graphic art in a global context.

VANDERVELDE, LEA S, Professor, Law-Faculty, 37 years of service, half time for 2017-18 academic year

Title: Research Concerning Systemic Subordination Principles in American Law, Both in the Modern Workplace and During U.S. National Expansion in the 19th Century

The CDA enabled Professor VanderVelde to bring her book, "The Master Narrative of 19th Century Law," quite close to completion, and to lay the foundation for two more books: "Reconstruction Heroes," and a biography of William McIntosh, the litigant in the famous case, Johnson v. McIntosh. Two or three remaining chapters of "The Master Narrative" were completed. In addition, Prof. VanderVelde completed the digitization of two major voluminous text databases: 1) The Territorial Papers of the U.S., and 2) Congressional Debates of the Reconstruction Congress. These databases will be invaluable for further scholarly research on the U.S. Constitution, because they allow analysis of the basic formative texts of nation-building and constitutional amendment to be analyzed on a scale never before done. These databases will also be put to immediate application in her existing course, Law of the Frontier, and the new course, Reconstruction and its Constitutional Amendments, that she designed during the PDA.

VOYCE, STEPHEN C, Associate Professor, CLAS-English, 7 years of service, fall 2017

Title: Unblinking Eyes: Counter Mapping the Cultural Present

Work performed during this PDA addressed the following questions: how do artists, writers, and filmmakers engage the clandestine activities of the national security state? How do they help us to see anew a highly mediated form of warfare that nonetheless conceals the black ops, redacted docs, dark money, and classified landscapes comprising the secretive theaters of twenty-first-century warfare? Imagine, for example, T. Paglen's photographs of classified military installations, M. Hatoum's engaged neon globe of real time border conflicts, L. Poitras's pictures of intercepted drone video feeds, or H. Farocki's films set inside military training simulation programs. This project draws upon an international consortium of makers, including H. Blasim, M. Ghani, A. Pendleton, F. Moten, O. El Akkad, P. Levine, H. Steyerl, W. Bilal, Laura Kurgan, and others who forge a tactical, evidence-collecting artistry fixated on the paper trail left in the wake of conflict. Notably, the book being generated pays particular attention to the growing relationships and shared commitments of North American and Middle Eastern art and fiction.

WANG, ALICE, Associate Professor, Business-Marketing, 13 years of service, spring 2018

Title: Does Social Media Usage Alleviate or Exacerbate Loneliness?

Social isolation is a prevalent phenomenon. Most people have felt lonely at some point in their lives. Certain groups of people, such as college freshmen and residents in isolated rural areas, are more susceptible to loneliness than others. Hence this research is crucial in improving the well-being of Iowa residents. Professor Wang investigated whether and how social media usage and engagement can alleviate loneliness. She conducted surveys and interviews among various groups of people, examined the antecedents of loneliness and consequences of social media usage, and proposed social media strategies that can alleviate loneliness. This research was a valuable addition to the last ten years of her research focusing on media effectiveness and consumer loneliness. Prof. Wang is incorporating the findings of the research into her teaching materials for her Integrated Marketing Communications undergraduate class and Marketing Management MBA class at the University of Iowa. She will also share the findings and major takeaways with the local community—policy committees at the Tippie College of Business, the University of Iowa, and the State of Iowa.

WANZER-SERRANO, DARREL, Associate Professor, CLAS-Communication Studies, 6 years of service, fall 2017

Title: Possession: Crafting Americanness in Congressional Debates over Puerto Rico's Status, 1898-1917

Professor Wanzer-Serrano conducted research for his book examining the manner in which Puerto Rico figures into political debates and shapes how political elites understand national belonging. Prof. Wanzer-Serrano read scholarship related to the topic, continued processing primary sources collected from archives, and began drafting portions of the book-length project. While acting, also, as a fellow-in-residence at the Obermann Center for Advanced Studies, Prof. Wanzer-Serrano drafted and began revising his book proposal. He also used the PDA to revise his Spring 2018 graduate course on race/racism, begin a research project with a graduate advisee (since presented at a national conference), and revise additional undergraduate coursework in a manner that integrates materials from his current research. As such, Prof. Wanzer-Serrano's PDA will benefit students in future semesters who will read new sources uncovered by his research. Prof. Wanzer-Serrano's research benefits society generally by offering new perspectives on how the past shapes current discussions about Puerto Rico.

WENTZELL, EMILY A, Associate Professor, CLAS-Anthropology, 8 years of service, fall 2017
Title: "Research Citizens: Gender, Family and Social Change in a Mexican Medical Research Study"

Professor Wentzell wrote a book entitled "Collective Biologies: Gender, Family and Social Change in a Mexican Medical Research Study." It is based on data from four years of annual in-depth interviews she conducted with couples participating in a Cuernavaca, Mexico-based sexual health study. Social scientists are beginning to understand that globalized medical research can have varied social, economic and political consequences. This book reveals the social consequences of medical research participation in Mexico. It is an original contribution to that knowledge showing how people's culturally-specific ideas about gender and marriage can lead the seemingly individual and biologically-focused experience of medical research participation to have major and unexpected social consequences for participants and their families. This work will help medical research designers and regulators better understand and mitigate such consequences in Iowa and worldwide. Prof. Wentzell will also incorporate the case studies into her undergraduate courses "Medical Anthropology" and "Health in Mexico."

WESELY, PAMELA M, Associate Professor, Education-Teaching and Learning, 9 years of service, spring 2018

Title: Innovation in K-12 Foreign Language Classrooms in Iowa

During her PDA semester, Professor Wesely studied the teaching of fifteen K-12 foreign language (non-English) teachers across Eastern and Central Iowa. Prof. Wesely interviewed the teachers, conducted two full days of observation in all of their classrooms, and interviewed their students. Topics included foreign language instructional practices, teacher and student beliefs about language teaching and learning, and innovation and change in the classroom. Prof. Wesely is working on journal articles and presentations as a result of this work. Furthermore, Prof. Wesely submitted two journal manuscripts about other projects, conducted data analysis on two projects, presented at multiple conferences and webinars, and completed the second edition of a book. This PDA provided Prof. Wesely with examples of effective K-12 teaching to share with her preservice foreign language teaching students. It also enhanced her research experience, which she can share with graduate students. Her work will benefit Iowa by supporting Iowa foreign language teachers, providing information about how to improve their practice, and offering new topics for research.

WINDSCHITL, PAUL D, Professor, CLAS-Psychological and Brain Sciences, 21 years of service, spring 2018

Title: Behavior Under Vulnerability Theory

Professor Windschitl conducted research on how judgment and decision processes are affected by sources of bias, such as objectively irrelevant comparisons or motivated concerns. His research has implications for promoting positive health and safety outcomes for Iowans and others. For example, one paper that was finished during the PDA and has been accepted for publication should lead to improvements in how public health campaigns warn the public about the dangers of radon, a gas found in higher concentrations in Iowa homes than in most other parts of the U.S. For another project, Prof. Windschitl helped organize an interdisciplinary team that is applying for funding to study and improve opioid-prescription decisions. This project could have important implications for stemming the opioid addiction crisis. Numerous experiments on decision making were conducted, and progress was made on several research papers submitted for publication in peer-reviewed journals. Several graduate students and 10 undergraduate students received valuable training experiences in the planning, preparation, execution, analysis, and communication of the experiments.

WINET, JON, Professor, CLAS-Art and Art History, 15 years of service, half time for calendar year

Title: Quilts & Landscapes: Public Digital Humanities Research

During his CY 2017 PDA, Professor Winet continued research as Co-Director of AIDS Quilt Touch, a digital arts and humanities project that allows for the digital expression of the 1.4 million square foot AIDS Memorial Quilt. During the year the team that includes faculty and researchers at the University of Texas, Dallas School of Art, Technology and Emerging Communications produced three exhibits in Dallas and Denton, Texas and Atlanta, Georgia. He also worked with UC Berkeley Art History Professor Margaretta Lovell on "City, River, Mountains: Wayne Thiebaud's California," a digital humanities project on the celebrated California artist. The launch of the project is planned for a linked 2021 exhibition at the UC Davis Jan Shrem and Maria Manetti Shrem Museum of Art, Davis, California. He also gave lectures in San Francisco and California College of the Arts, Oakland, California, and at the University of Las Vegas Nevada where he is now developing an exhibition of casino carpets at the UNLV Barrick Museum of Art. His PDA research has sparked new ideas for both undergraduate and graduate courses that encourage digital creative practice and scholarship.

UNIVERSITY OF NORTHERN IOWA

ATKINSON, KENNETH, History, 18 Years of Service, Fall 2017

The Psalms of Solomon: A Commentary on the Greek Text in Light of Semitic Languages

Professor Atkinson's project consisted of the completion of a historical and linguistic commentary on the Greek and Syriac texts of the first century B.C.E. collection of Jewish poems known as the Psalms of Solomon. This composition provided a rare look at ancient colonization in progress from the side of the oppressed at the time when Jews created the practice of martyrdom to resist Roman occupation. Professor Atkinson completed five goals in his project. First, he finished the draft of a linguistic commentary on the Greek and Syriac texts of the Psalms of Solomon and secured a publisher for it. Second, he completed a book documenting some of the linguistic and historical findings of this PDA. This work, dedicated to the Graduate College, appeared in print in August 2018. Third, he published several articles on the project. Fourth, he gave academic conferences in three countries and the United States. Fifth, he received invitations to participate in several international publication projects and academic conferences. This PDA benefits the citizens of Iowa in four areas. First, it assists in uncovering the lost text of the Old Testament, which remains one of the foundational documents of Western civilization and a sacred book for Iowa's Jewish, Christian, and Muslim populations. Second, this project helps to understand the historical origin of western terrorism which affects all Iowans. Third, it shows the citizens of Iowa how historical research helps to understand and resolve contemporary religious and cultural conflicts through an exploration of how those in the past have dealt with them and highlights the common roots of several of Iowa's major religions, which can help foster unity between them. Fourth, this project benefits UNI because it examines cultural diversity, which comprises an important goal of UNI's current strategic plan.

BAKER, KIMBERLY, Sociology, Anthropology, and Criminology, 5 Years of Service, Fall 2017

Family Friends and Stigma in Addiction-Themed Reality Television Shows

Professor Baker's project involved a content analysis of addiction-themed reality television series to assess whether these shows increase the stigma of addiction. Professor Baker found that family and friends express a deeply conflicted relationship with the person with a substance use problem. Further complicating matters, family and friends often internalize the shame of being intimately connected to someone with a substance use problem. These conflicting feelings generally remain unaddressed and unresolved in the show, possibly leading audiences to conclude that there is no resolution. This research matters because addiction-themed reality shows like Intervention and Celebrity Rehab with Dr. Drew are very popular and widely available. For many viewers these shows may be the only opportunity they have to see what the experiences of addiction and treatment are like. Learning about this research will help UNI students to develop media literacy skills so that they become critical consumers of popular media. In addition, many UNI students (particularly those in the College of Social and Behavioral Sciences) will go on to work in professions in which they will encounter people with substance use histories. If they are aware of the negative impacts of the stigma of addiction, they will be better prepared to interact with people with compassion and empathy. When Professor Baker speaks about her research in public talks, she shows that these stigmatizing depictions of addiction and treatment can actually make it difficult for people to seek out treatment or to leave behind their stigmas when they complete treatment. This kind of social education helps us all to work toward a more informed and compassionate response towards people with substance use problems. This project culminated in conference presentations and a manuscript for a peer-reviewed journal.

***BARNES, ALLISON**, Instructor, Teaching, 7 Years of Service, Spring 2018
Early Childhood Explorers: An Analysis of their Journey of Inquiry

Professor Barnes's project focused on improving the effectiveness of professional development facilitators, while also improving a new professional development model. Early childhood educators are being challenged to provide more science experiences for their young students, and are seeking professional development to learn how to do this (Sheridan, Edwards, Marvin, & Knoche, 2009; Wood & Bennett, 2000). Prof. Barnes conducted a semester-long self-study of a new model of professional development designed to connect with early childhood teachers. She examined the facilitation of an inquiry-based professional development model, assessing successes, concerns and challenges associated with this new model. The data emphasize the use of collaboration, as a group of facilitators reflected through discussions, interviews, drawings and word clouds to uncover some of the essence of facilitation. Not only did this research help to inform the facilitators, but also improved facilitation skills of teachers participating in inquiry-based professional development opportunities throughout the state of Iowa. The implications of this research are apparent and imminent, as the Regents' Center for Early Developmental Education was awarded a grant to continue offering this professional development opportunity for another year. Further, this research has implications for how UNI prepares professional development facilitators in the future. The value added to UNI and the Regents' Center for Early Developmental Education is the contribution in how the institution prepares, facilitates and reflects on professional development models for practicing teachers and how it prepares in-service teachers.

DEL CARLO, DAWN, Chemistry & Biochemistry, 13 Years of Service, Fall 2017
Synthesis and publication of science education research at the University of Northern Iowa

Professor Del Carlo's project focused on the publication of science education research. UNI holds a long and rich history of science education research and professional development. Project topics vary widely and include the development and national dissemination of innovative science curriculum, research in the preparation of pre-service K-12 science teachers, research in and dissemination of professional development for K-12 science teachers, and research in post-secondary science teaching and learning. The four projects that contribute to this body of research and were completed through this PDA were the Life Experiences of Women in the Sciences, Impact of Multiplex Relationships on Rural Science Education, Secondary Science Teachers' Reported Practices and Beliefs on Teaching and Learning from a Large National Sample, and Accelerating Science Undergraduate Identity Transitions through Immersion Experiences. The Women in Science and the Teacher Practices and Beliefs projects were the honors' thesis projects for two undergraduate students who are now teaching high school science themselves. Similarly, the Rural Science Education project was completed as a thesis project by one UNI science education graduate student, who is also a secondary science teacher. Finally, the Science Identity project was a grant proposal to the National Science Foundation that proposed a model of experiential learning for science and science teaching majors. All of these projects directly benefit UNI and its students, as well as the K-12 students and the pre- and in-service teachers involved in the research. Recognition of this work through national, peer-reviewed publications and grants, provides further evidence of UNI as a national leader in science education scholarship. Considering the vast majority (79%) of UNI alumni remain in the state of Iowa after graduation, how UNI prepares them as scientists and science educators, greatly affects the citizens of Iowa. The goals/objectives proposed in the original funding application involved the preparation and submission of three manuscripts for publication. Ultimately, the PDA resulted in the submission of three manuscripts (one accepted, 2 still in review), and a submission of an NSF grant proposal.

DEVLIN, MICHELE, Health Promotion and Education, 22 Years of Service, Spring 2018
Human Migration and Environmental Refugees: Maternal and Child Public Health and Human Service Needs among the Rapidly Growing Population of Pacific Islanders in Iowa

Professor Devlin's project involved research on the maternal, child, and family health concerns among Pacific Islanders in Iowa, and assessed the implications of these concerns for the human service agencies charged with meeting their needs. This PDA provided urgently needed planning, assessment, and programming information for the Iowa Department of Public Health, Iowa Department of Human Services, and related caregivers about the medical and mental health needs of environmental refugees here from the Pacific. Findings also contributed to the growing academic literature on how health and human service providers can provide culturally appropriate programs to meet the needs of vulnerable migrant, minority populations. All project goals and objectives were accomplished, and included the publication of a scientific article on the health of climate change refugees, as well as training and webinars for professional audiences and providers on how to work more effectively with these Pacific climate change migrants. Prof. Devlin conducted extensive literature reviews on the subject of climate change refugees; participated in an on-site field visit to the Marshall Islands; met with numerous Marshallese community members in the Pacific and in Iowa; visited with health and human service professionals in the state and in Micronesia on the topic of forced environmental migration; and developed public health programming strategies to improve the wellbeing of climate change refugees in Iowa from the Pacific. UNI benefited from this project because the knowledge gained is being shared with students in global health, anthropology, pre-medicine, cultural studies, and other fields through presentations and enhanced instructor knowledge on the subject. The publication on this project with the important Encyclopedia of United Nations Sustainability Goals is a peer-reviewed article. Numerous health care providers and staff in the Iowa Department of Public Health, Black Hawk County Health Department, the Marshallese Community Health Project, Seasons Mental Health Center, and others benefited from webinars and trainings on the topic of providing culturally competent health care to Pacific environmental refugees in Iowa.

FABOS, BETTINA, Communication Studies, 13 Years of Service, Fall 2017
Adapting Fortepan Iowa for K-12 Education

Professor Fabos's project intended to expand the public reach of the Fortepan Iowa archive, an open source photo archive of Iowa family snapshots. The initial goal was to research tangible ways to bring the archive into Iowa schools to Iowa history more deeply and thoughtfully: the plan was to use schools to develop a wider audience for the (now) 5,000 images of Iowa life made publicly available on an interactive timeline. Schools were a logical place to focus on, in part because of the local history initiative launched by Governor Branstad, which became a mandate for Iowa K-12 education. During this PDA, however, research confirmed that our K-12 educational system is not yet ready for the project because teachers do not yet have room in their curriculum, and the project needs more public recognition for it to seem more palpable to the K-12 community. As such, the focus of the PDA work switched to gaining more public recognition for Fortepan Iowa and expanding its capabilities. To this end, incredible progress was made—much more than anticipated, both statewide and internationally. Professor Fabos developed a lecture series for retirement centers, then branched out to public libraries and historical societies; she redesigned the interface to include geomapping and alternative search capabilities, as well as an online forum and launched a successful social media campaign. She also developed, designed, and coded an online toolkit to make the archive fully replicable in other states and countries (see fortepan.us/info). The UNI team, with a "sister" team in Hungary, successfully networked with librarians in Denmark, a team led by a web developer in Costa Rica, and a history professor based at the University of Cincinnati, to begin Fortepan Denmark, Fortepan Costa Rica, and Fortepan

Ohio. The researchers are working towards making Fortepan a global brand. These professors are also in the beginning stages of scanning UNI's entire photo archive of UNI life towards a "UNI FORTEGO" project. The Hungarian Fortepan team just developed and released the a freely downloadable app, "Fortego," which geolocates historical photos and allows a user to visualize an historical photo on top of an existing location in real time (augmenting reality). The team will use this app for UNI photos, and create a Fortego experience for the campus. Visitors will be able to take out their phones and immediately pull up an image of a specific building or event as they stand at the same location it was originally captured, slide between "then" and "now," and take a picture documenting past and present imagery. The development of a Toolkit and initial work on UNI FORTEGO has implications for Iowa and UNI's campus, including admissions and alumni relations, and modeling this app for cities and towns across the state. The international reach of Fortepan—and UNI's deep involvement in this new archival paradigm—holds tremendous value for UNI and its Interactive Digital Studies program, from which the Fortepan Iowa project was born. Dr. Fabos is in the process of submitting three national NEH and IMLS grants of \$250,000; \$375,000, and \$100,000, respectively.

GREY, MARK, Sociology, Anthropology, and Criminology, 22 Years of Service, Fall 2017
Public Safety, Emergency Response, and Security Concerns among Climate Change Refugees:
The Case of Pacific Islanders in Iowa

Professor Grey's PDA endeavor consisted of assessing public safety, emergency response, and security concerns among Pacific Islander refugees living in Iowa. As a result of this research, newly created contacts in the Marshallese Communities of Eastern Iowa have created opportunities for faculty outreach and collaboration in the UNI Departments of Social Work, Health Promotion and Education and Sociology, Anthropology and Criminology. The results of this PDA are now a critical part of six courses taught or planned at UNI, including Immigration and Transnationalism, Climate Change, Human Migration and Security, Disaster Planning and Response, International Health, Cultural Competency for the Helping Professions, and Minority Health. The results of the PDA are a new and timely addition to workshops and trainings provided throughout the state. These include presentations at the University of Iowa College of Nursing, The Iowa ACT Conference, Iowa Law Enforcement Academy, Iowa Department of Public Safety Basic Academy, Leadership Iowa, University of Iowa Culturally Responsive Health Care Conference, and The Iowa State Association of Counties Community Services Association. The goals and objectives for this professional development assignment were completed. This includes one accepted peer reviewed article for the United Nations Encyclopedia of Sustainable Development Goals and a forthcoming article in the US Army War College War Room. A closed-captioned YouTube/PowerPoint presentation based on this PDA became available to the public in April 2018 and it has already been viewed more than 80 times. In addition, this work has contributed to numerous trainings, workshops and conferences in Iowa, the United States and Canada. Future presentations for professional audiences are planned.

NIE, HONG (JEFFREY), Technology, 12 Years of Service, Spring 2018
A Novel Low Complexity High Reliable Technology to Measure Time-of-Arriva of Impulse Radio
Ultra Wide Band Wireless Signals for Indoor Positioning and Tracking Systems

Professor Nie's project consisted of creating a novel paradigm on employing nonlinear signal processing technologies in non-coherent detectors to mitigate the severe destructive effects of narrowband interferences and accurately measure time-of-arrival of impulse radio ultra wide band signals. The research outcomes enabled the implementation of low complexity but highly accurate and reliable indoor positioning and tracking systems that fulfilled a core prerequisite to realize the "Industry 4.0". This research benefits UNI through building up a nationally recognized research

team and providing research trainings to not only graduate students, but also undergraduate students in the electrical engineering technology (EET) program. The success stories of those students will encourage more young Iowans pursuing engineering and technology based undergraduate and graduate programs. This project also enriches the content of various graduate and undergraduate courses on complex digital system design (TECH6242), wireless communications (TECH4103), applied digital signal processing (TECH4104), automatic control systems (TECH3129), and wireless networks (TECH4165). According to the Iowa Economic Development Authority, "Manufacturing is Iowa's largest industry sector. Home to some 6,100 manufacturers, operating more than 6,400 factories and employing 200,000 workers". Iowa industrial companies, especially the ones in large scale (like John Deere and Rockwell Collins), have strong demands on the enabling technologies and systems for implementing smart factories that are full of autonomous robots and movable intelligent machines. Thus, the outcome of this cutting-edge research can help them occupy a leading position in the "Industry 4.0", reduce the production and maintenance cost of their products, and increase competitive advantages over their rival entities. The results of this research were disseminated through published conference proceedings, peer-reviewed journal articles and conference presentations.

OBERLE, ALEX, Geography, 12 Years of Service, Spring 2018
Using Visual Literacy and Spatial Thinking to Advance Secondary Students' Literacy Abilities and Geography Content Knowledge.

Professor Oberle's project focused on education methods for teaching geography to middle school students. He adapted, enhanced, and evaluated a geographic inquiry method called the National Geographic Geo-Inquiry Process that engages middle school students in question formulation, data collection, visual literacy and spatial thinking, and communicating research results to address and solve issues in their community. Prof. Oberle worked with educators to implement this inquiry learning method in six classrooms in five Iowa school districts, each with distinctively different student populations. While there are variations across grade levels and among schools, the results demonstrate increases in students' ability to create geographic representations, a geography skill and measure of spatial thinking, as well as advancing students' capacity to articulate a logical process for addressing an inquiry question to take informed action, a measure of inquiry and civic engagement. The project and its results have been presented at professional conferences, shared with middle school educators at teacher institutes across Iowa and nationally, and will be submitted to peer reviewed journals and form the basis for proposals for external funding. This project is of value to UNI because the research reaches a wide audience and is disseminated through academia with journal articles and professional presentations, as well as directly to educators through dedicated institutes and additional outreach. Because of the focus on inquiry in K-12 education, there is a clear pathway for continued external funding for this project with grants advancing key institutional goals such as supporting pre-service teachers and demonstrating the university's commitment to provide outreach to Iowa teachers. This project benefits Iowa because the Geo-Inquiry Process is directly transferable to every middle school social studies and science classroom in Iowa, ideally aligning with the new Iowa Core Social Studies Standards and existing state science standards. Professional development associated with this research has already advanced student learning in Iowa schools and trained educators from 14 Iowa school districts. Prof. Oberle is in the process of preparing a grant submission with Chilean colleagues to the National Geographic Society for approximately \$20,000.

PROPHET, MICHAEL, Mathematics, 17 Years of Service, Spring 2018
Infinitely-defined shapes and shape-preserving projections

Professor Prophet's project objective was to submit for publication a research paper constructing best-possible shape-preserving approximations achieved by Laguerre polynomials. During the PDA period, he refined this mathematical goal by focusing instead on polynomials of fixed degree one. Specifically, for Banach space X and n -dimensional subspace $V_n \subset X$, let $P = P(X, V_n)$ denote the space of projections from X onto V_n . For fixed basis $[v_1, v_2, \dots, v_n] = V_n$, every $P \in P$ can be expressed $P = \sum_{i=1}^n u_i \otimes v_i$ for some $u_1, u_2, \dots, u_n \in X^*$. Dr. Prophet says P_0 is best-possible or minimal if $\|kP_0k\| \leq \|kPk\|$ for all $P \in P$. In the case $X = L_p[-1, 1]$, $1 \leq p \leq \infty$ and V_n is a differentiable subspace of X , the (so-called) Chalmers' equation is a system of differential equations, whose solution (in the appropriate setting) yields necessary conditions for functionals $u_1, u_2, \dots, u_n \in X^*$ in order that $P = \sum_{i=1}^n u_i \otimes v_i$ be minimal. When $V_2 = [1, t]$ (the polynomials of degree one in X), we can employ Chalmers' equation (together with additional considerations) to obtain an explicit formula for a minimal projection $L_p[-1, 1]$ onto V_2 . This addresses a long-standing open question in Approximation Theory. For $1 \leq p \leq \infty$, the only known results are for the cases of $p = 1, 2$ and ∞ . In collaboration with G. Lewicki (Jagiellonian) and W. Wood (UNI), Dr. Prophet discovered a family of projections that are defined for all p and agree with all the (best) known results ($p = 1, 2, \infty$). Moreover, all numeric evidence to date indicates that this family is indeed best possible (subject to small adjustments). This accomplishment is of value to UNI as it will bring international attention to the UNI Department of Mathematics and aid in the recruiting efforts of both undergraduate and graduate students. Additionally this work benefits Iowa by providing unique coursework and research opportunities to students. Indeed, the current project has already provided a UNI graduate student with a thesis topic for an MA degree in mathematics.

RHINEBERGER-DUNN, GAYLE, Sociology, Anthropology, and Criminology, 12 Years of Service, Spring 2018
Work Experiences of Juvenile Detention Officers and Juvenile Probation Officers in the Midwest

Professor Rhineberger-Dunn's project involved extending the literature on the work experience of juvenile detention and juvenile probation officers. The four peer-review journal articles proposed for this project were completed. The first article assessed the predictors of secondary trauma among juvenile detention and probation officers. The second article examined the predictors of job stress and job satisfaction, while the third staff attitudes toward rehabilitation. The fourth article examined the predictors of burnout. Using these findings, juvenile detention and probation agencies can determine what may need to change in order to reduce burnout, job stress, and work-family conflict, and to strengthen juvenile detention and juvenile probation officers' commitment to a rehabilitation ideology. These positive outcomes help state agencies, which can reduce costs associated with employee stress and turnover. Additionally, staff who are more satisfied with their jobs and experience less stress and burn out are more likely to be effective at their jobs. These factors are known to improve relationships between juveniles and their probation or detention officers, resulting in fewer juveniles who re-offend as juveniles or who go on to offend as adults, leading to fewer victims in the community. This research contributes to the national reputation of UNI's criminology program at a time when national attention is drawn to the need to enhance professionalism in the criminal justice workforce. Little research has been done on juvenile detention and juvenile probation officers prior to this work. As most of UNI's criminology graduates go on to work in Iowa, this research impacts the state of Iowa by helping to produce more professional, knowledgeable, and emotionally healthy professionals working in the criminal justice system. Additionally, Professors Rhineberger-Dunn and Mack will be discussing their burnout research at UNI's College of Social and Behavioral Sciences.

ROBERTS, BRIAN, History, 17 Years of Service, Spring 2018
Killing Bambi: Sport Hunting and American Culture, 1880-1950

Professor Roberts' project involved researching and writing on the topic of sport hunting in the United States, Great Britain, and Africa between 1880 and circa 1970. The book planned for this project, *Killing Bambi: Sport Hunting and Anglo-American Culture, 1880-1950*, included four chapters: the first on the elite American hunting association, the Boone and Crockett Club; the second on the African Safari between 1880-1920; the third on the discovery of limits on "game" animals and the commodification of sport hunting; and the fourth on the cresting into visibility of an anti-hunting movement characterized by the efforts of naturalist writers – such as Felix Salten's *Bambi* – to imbue animals with subjectivity. The goal of the project was to challenge the currently dominant interpretations of hunting: one, the environmental interpretation that hunting is good for nature and animals; or two, the humanist approach that hunting is a cultural expression and that its animal targets are objects not worthy of value or study. Another goal was to enter into the field of post-species-centric history. The project benefits the citizens of Iowa through its enhancement of instructor knowledge passed on to students. Much of the research for the project has gone into lecture and discussion materials for UNI courses. This project can also enhance UNI's reputation for supporting politically engaged and controversial research and writing. Judging by the attention the project has received even in its nascent stages, *Killing Bambi* will likely produce several publications, in both popular and academic source. A large part of the value to the citizens of Iowa may come in the form of opening a discussion on a very controversial topic.

ROD-WELCH, LEILA, Rod Library, 6 Years of Service, Fall 2017
Improving Library Services in Support of English as a Second Language (ESL) Learners

Professor Rod-Welch's project consisted of completing an edited book on improving library services for international students and English as a Second Language learners. Not being able to communicate in English well is a huge hurdle that many international students and second language learners face when attending college in the United States. In addition, lack of familiarity with library services is another challenge that these student learners face during their study in the U.S. When international students come from countries in which libraries have very limited services and resources, going to academic libraries in the United States and learning about their services can feel overwhelming. To better serve this increasing underserved population, Professor Rod-Welch completed an edited book with contributed chapters from other educators. The book, *Improving Library Services in Support of International Students and English as a Second Language (ESL) Learners*, is set to be published in early to mid-2019 and highlights ways that libraries can better accommodate international students through outreach initiatives, library instruction, dedicated library liaisons, and library programming. The effective outreach initiatives found in this book, including collaboration with campus partners, choosing best library instruction practices, and building an ESL library collection, will help academic libraries increase the participation rates of international students and ESL learners. Practical resources such as lesson plans and event planning ideas are included in this book. This book will be of value to UNI and other Iowa colleges/universities, and may benefit some of the refugees and immigrants throughout the state. Professor Rod-Welch has firsthand experience with the challenges that international students and ESL learners face as they begin to use academic libraries in the United States. She calls attention to the differences between academic libraries in the US and abroad as well as some of the challenges that international and ESL students face, such as English proficiency, new instructional methods, cultural differences, and homesickness. This book will help librarians across the US gain a better understanding of how to help international students and ESL learners excel and better enjoy their collegiate experience.

SURDAM, DAVID, Economics, 12 Years of Service, Fall 2017
Business Ethics Through the Ages book project

Dr. Surdam's PDA project involved writing and editing text for Business Ethics Through the Ages, a book manuscript examining changing business modes. The book fills a gap in the business ethics literature. Professors use case studies of historical situations but currently there is no overall examination of business ethics across countries and across times. What is considered ethical in business differs between peoples; ethical norms changes across time. Dr. Surdam uses economic concepts in explaining why business people demonstrate certain behavior. People's choices create benefits and impose or incur costs. A typical voluntary transaction leaves both parties feeling better off. For this project, he completed three chapters on business ethics and product safety, commercialized leisure, and children's products and also finished the other chapters in the book. Professor Surdam sent several chapters out to readers, and intends to make additional revisions during the spring 2019. He intends to send the manuscript to Oxford University Press and the University of Chicago Press in spring 2019. Another expectation is to engage an agent in an attempt to place the book with W.W. Norton or Basic Books; these publishers would mean larger book sales and wider marketing. The topic of business ethics should garner considerable interest among not only academics but also the general public and Iowa citizens. The book is written for educated laypeople with a minimum of technical terms. The book is also suitable for use in undergraduate courses in business ethics, and dissemination among undergraduate and graduate students is expected. The findings were disseminated through conference presentations.

IOWA STATE UNIVERSITY

AL-KAISI, MAHDI, Professor, Agronomy, 18 years of service, 2017-18 academic year
Professor Al-Kaisi used the assignment to prepare a manuscript based on his analysis of long-term tillage and crop rotation studies, which will be made available to students, scientists, agronomists and farmers to help them understand the impact of management practices on soil health and productivity. He also developed a collaborative project on climate-smart agriculture with extension and outreach colleagues at Colorado State University and served on a National Academy of Sciences committee dealing with carbon sequestration.

BAILEY, MICHAEL, Professor, History, 15 years of service, 2017-18 academic year
Professor Bailey's assignment focused on a book project, "Religious Falsity in an Age of Faith: Authenticity and Discernment from the Gregorian Reform to the Reformation". He also completed co-editing another volume, *Late Medieval Heresy: New Perspectives*, which was published in September. Material from both projects, as well as research undertaken during the assignment, is being incorporated into Bailey's academic courses.

BEHNKEN, BRIAN, Associate Professor, History, 9 years of service, Fall 2017
Professor Behnken completed 12 chapters of his book manuscript, "Brown and Blue: Mexican Americans, Law Enforcement, and Civil Rights", on a first-of-its-kind research monograph examining Mexican American interactions with law enforcement. His work included processing more than 12,000 documents from newspaper databases and other online sources, which will be included into his undergraduate and graduate courses, and also a new course on policing.

BOSSELMAN, ROBERT, Professor, Apparel, Events and Hospitality Management, 11 years of service, Spring 2018
Professor Bosselman analyzed data on injuries, accidents and deaths in U.S. hospitality businesses during his proposed assignment. Outcomes of this work included the development of four manuscripts, a keynote address, and numerous manuscript reviews for leading restaurant and hospitality journals. Bosselman also used the FPDA to work with five Iowa State University graduate students on their doctoral degrees.

BRUSKI, PAUL RICHARD, Associate Professor, Graphic Design, 13 years of service, Fall 2017
Professor Bruski used his assignment to co-edit "What's on Tap: The State of Beer Culture", the first book to examine how the craft beer craze has changed the quality of beer, as well as its consumers, production and image. In addition to co-editing the book, Bruski also contributed an essay on how the concept of "place" is used in craft beer visuals, including local landmarks and area codes, and incorporated material from the book into his undergraduate and graduate graphic design courses.

CHAN, JASON CHUN KIT, Associate Professor, Psychology, 11 years of service, 2017-18 academic year
Professor Chan examined the efficacy of memory retrieval during his assignment, both to enhance STEM education, and improve the quality of eyewitness evidence. Results of this work included the preparation of six manuscripts, assisting two Iowa State doctoral students with their dissertations and defenses, and developing an external funding request with colleagues from the University of Illinois at Chicago.

CHAPELLE, CAROL, Distinguished Professor, English, 33 years of service, 2017-18 academic year

Professor Chapelle used her assignment to research and write a proposal for her book project, "Argument-Based Validity", which examines validation methods for tests of human capacities, which are commonly used in decisions about university admissions and certification for employment. The book will benefit test developers, researchers, and graduate students at who are developing new computer-based testing methods.

CLOTTEY, TOYIN, Associate Professor, Supply Chain and Information Systems, 8 years of service, Fall 2017

Professor Clottey used his assignment to create a new undergraduate course on Supply Chain Analytics, which will be taught in Spring 2019. Clottey, who received a \$30,000 summer research grant from the National Center for the Middle Market to support his work, also submitted three journal manuscripts and delivered a conference presentation during the FPDA period.

COOK, K. L., Associate Professor, English, 5 years of service, 2017-18 academic year

Professor Cook used the assignment to focus on "Shakespeare West", a novel trilogy set during an Arizona Shakespeare festival on the 400th anniversary of the playwright's death. Cook also worked on eight other periodical and book manuscripts, published three other short stories and essays, and received a Writer-in-Residence Fellowship from the Fairhope Center for the Writing Arts. These efforts also enhance Iowa State's MFA program in Creative Writing and Environment.

COURTWRIGHT, JULIE, Associate Professor, History, 9 years of service, Spring 2018

Professor Courtwright used her assignment to work on several chapters of her monograph, "Windswept: A Great Plains History", an environmental and social history of wind on the Great Plains. The completed book will provide historical context for scientists and engineers working on wind energy in Iowa and across the nation, and educate Iowa State students on how wind connects Iowa's environment with both its future and past.

CROSS, SUSAN, Professor, Psychology, 24 years of service, Spring 2018

Professor Cross focused her assignment on grant-funded research with colleagues in the U.S. and Turkey to test the hypothesis that concern over maintenance or protection of one's reputation among members of honor cultures (e.g., Middle Eastern and North African societies) can interfere with other goal-related behaviors. Results included several journal articles and manuscripts, additional interdisciplinary research opportunities, and enhancement of the internationalization of Iowa State's curriculum and research.

DALAL, VIKRAM, Distinguished Professor, Electrical and Computer Engineering, 30 years of service, Spring 2018

Professor Dalal used his assignment to develop new research capabilities for Iowa State's Microelectronics Research Center, including a new class of image sensors useful for autonomous cars, and a new type of solar energy conversion device. The results are also being incorporated into academic courses, including new online course modules, as well as student research projects.

DOMINGUEZ, JULIA, Associate Professor, World Languages and Cultures, 13 years of service, 2017-18 academic year

Professor Dominguez completed her book manuscript, "Cervantes and Memory in Early Modern Spain", during her assignment. The book examines the role of memory from the ancients to the great Renaissance thinkers to explore how theories and practice of memory make their way into Cervantes' Spain, and will also be used to benefit students in Dominguez's academic courses

and study abroad programs. Three publications and two conference presentations were also completed during the assignment.

ELLINWOOD, NORMAN MATTHEW, Associate Professor, Animal Science, 14 years of service, Fall 2017

Professor Ellinwood studied gene therapy/gene correction for inherited metabolic disorders during his assignment at Justus Liebig University in Germany. His work resulted in two peer-reviewed manuscripts and conference presentations; participation in the Genome Writers guild, a group of academic and industry scholars working in the area of genome editing; and the submission of two NIH research proposals requesting more than \$7.3 million in funding.

EULENSTEIN, OLIVER, Professor, Computer Science, 18 years of service, 2017-18 academic year

Professor Eulenstein completed an assignment at Iowa State and the University of Warsaw in Poland to develop algorithms for building large-scale evolutionary trees, evaluating, and then applying these algorithms to analyze virus evolution. Results from his work include 11 refereed journal articles and conference presentations, an invited presentation, training for students from both institutions, and contributing to the development of bioinformatics and computational biology undergraduate track of study.

FIORE, ANN MARIE, University Professor, Apparel, Events and Hospitality Management, 19 years of service, Spring 2018

Professor Fiore completed an assignment in India, where she led a 16-member team focused on emerging marketing strategies within apparel retailing. Her work resulted in two peer-reviewed articles, one peer-reviewed conference presentation, numerous presentations to graduate students and industry colleagues, online learning materials for business operators, and a \$3,700 research grant.

HERRNSTADT, STEVEN, University Professor, Industrial Design, 38 years of service, Fall 2017

Professor Herrnstadt received training in designing and producing forged blades during his assignment. These activities support his research to advance the quality and manufacture of edge tools, enable new designs and alloy combinations that are not presently possible, and using 3-D and other digital tools in the manufacturing process. Herrnstadt also received a \$10,000 individual artist grant from the Iowa Arts Council.

KATZ, APRIL, Morrill Professor, Art and Visual Culture, 19 years of service, Fall 2017

Professor Katz traveled to Italy and Spain during her assignment, where she completed the research and studio work for two related print series, "Essential Patterns of Perception and Numerical Contemplations". These works explore the relationship of geometric constructions to natural forms, structures, and patterns, as well as their symbolic meanings. Katz' research on new printmaking processes will also be shared with students.

KUPFER, JOSEPH, University Professor, Philosophy and Religious Studies, 47 years of service, Fall 2017

Professor Kupfer completed his book, "Aesthetic Violence and Women in Film: Kill Bill with Flying Daggers", an interdisciplinary effort that speaks a pervasive form of popular culture, and addresses themes related to aesthetics, women's studies, ethics and film studies. The book, published in 2018 by Routledge Press, engages students in a variety of Iowa State courses, and also appeals to a general readership.

LA WARE, MARGARET, Associate Professor, English, 21 years of service, Fall 2017
Professor LaWare used her assignment to complete the first two chapters of a book monograph, “Speaking to America’s College Women: An Analysis of Commencement Speeches at Women’s Colleges from 1970-2000”, and also to gain greater insight into the genres of commencement speeches and women’s speeches. LaWare also rewrote an existing article that was submitted for review and publication.

LEE, YOUNG-JIN, Associate Professor, Chemistry, 10 years of service, Fall 2017
Professor Lee traveled to South Korea to develop new areas of scholarship to expand his research and teaching. Lee also finished several manuscripts during the assignment, explored new teaching approaches, recruited Korean students to Iowa State, and incorporated open educational resources into his courses to reduce students’ financial burdens.

LUBBERSTEDT, THOMAS, Professor, Agronomy, 12 years of service, Spring 2018
Professor Lubberstedt, an expert in maize breeding research, focused on accelerating plant breeding by utilizing double haploid technology during his assignment at La Trobe University in Australia. This work resulted in \$619,000 in external research funding to improve sweet corn production and marketability; an additional \$3.2 million in pending federal grant proposals; and the preparation of 17 manuscripts.

MENEFEE, CHARISSA, Associate Professor, English, 5 years of service, 2017-18 academic year
Professor Menefee used her assignment to research and draft “The Forten Sisters”, a cycle of three stage plays about African American pioneers in the abolition and suffrage movements. Menefee also produced several other plays, published numerous poems and poetry collections, delivered eight conference presentations during the PDA, and received a 2018 Writer in Residence Grant from the Fairhope Center for the Writing Arts.

MU, AILI, Associate Professor, World Languages and Cultures, 17 years of service, 2017-18 academic year
Professor Mu completed portions of her book project, “Cultural Literacy through Chinese Short-short Stories”, which seeks to demonstrate the impact of short-short stories on the Chinese mindset, state policies, political/economic decision-making, and social and cultural behaviors. Mu’s work benefits hundreds of ISU students each year, including translating Chinese texts, cultural traditions, and business culture.

NEWELL, JAY, Associate Professor, Greenlee School of Journalism and Communication, 15 years of service, Fall 2017
Professor Newell used his assignment to research a monograph-length publication that explores advertising as a data-driven STEM field. Results of Newell’s work also included the submission of two manuscripts, development of new student core competencies in Iowa State’s media planning courses, exploring pathways for first-generation and minority students to acquire national-level internships, and establishing numerous partnerships with advertising and media planning agencies.

NEWMAN, JENNIFER, Associate Professor, Mathematics, 19 years of service, Fall 2017
Professor Newman designed and assembled a dataset of StegoDB images – an element of cybersecurity where messages are hidden inside images so that the message is not visible to the eye or otherwise detectable – during her assignment. Newman’s work with the Center for Statistics and Applications in Forensic Evidence at Iowa State and Carnegie Mellon University resulted in seven publications and conference presentations, several grant proposals, additional

material for ISU mathematics courses, and help for ISU Ph.D. students completing their research and dissertation defenses.

PADGETT WALSH, KATE, Associate Professor, Philosophy and Religious Studies, 10 years of service, Fall 2017

Professor Padgett Walsh used her assignment to work on “The Ethics of Debt”, a monograph appropriate for students in numerous disciplines that explores philosophical resources for analyzing the ethical dimensions of debt. Padgett Walsh also revised and published a journal article during the FPDA, and presented her research at two international conferences.

POON, YIU TUNG, Professor, Mathematics, 33 years of service, 2017-18 academic year

Professor Poon explored the ability of quantum effects to solve complex problems unmanageable by traditional computers, and to create more secure cryptology systems, during his assignment spent in Canada and China. Results from this work included the four papers on quantum information science, the development of several research projects, and seminars for Iowa State students and faculty colleagues.

RAMASWAMI, SRIDHAR, Professor, Marketing, 31 years of service, Fall 2017

Professor Ramaswami completed his assignment at the Indian School of Business in Hyderabad, where he worked with a former Iowa State PhD student to complete several publications related to the role of management in fostering innovation and using innovation to drive performance. Results included the five completed and in-progress manuscripts and delivering workshops for Indian industry leaders on the topics of customer centricity and customer satisfaction.

ROSSMANITH, JAMES, Associate Professor, Mathematics, 6 years of service ICE, 2017-18 academic year

Professor Rossmanith used his assignment to launch a multi-year research project on developing high-order computational methods to solve problems in plasma physics. Results of this work also include the preparation and submission of five manuscripts for publication, the establishment of new research collaborations, two external grant submissions, and support for Iowa State graduate students.

SCHWAB, ANDREAS, Associate Professor, Management, 10 years of service, 2017-18 academic year

Professor Schwab earned a Fulbright Senior Scholar Research Grant to support travel to Asia during his assignment where is examined entrepreneurial ecosystems in the Indonesian textile industry. His work led to three publications, three conference papers and presentations, and the delivery of four workshops for colleagues in Australia, China, Malaysia and Indonesia. Schwab’s assignment was also supported by Fulbright Regional Travel Grants, as well as a local research grant from the Institute of Technology Bandung.

SHIN, YEON-KYUN, Professor, Biochemistry, Biophysics and Molecular Biology, 18 years of service, Fall 2017

Professor Shin visited Padua University in Italy to investigate how botulinum toxin (Botox) disables the communication between neurons. Work during the assignment resulted in a published manuscript, new research collaborations, and new capabilities that will aid in both grant renewal and the submission of new external funding proposals.

SLATER, TAMMY JAYNE ANNE, Associate Professor, English, 9 years of service, 2017-18 academic year

Professor Slater used the assignment to work on “Social Practices in Higher Education: A Knowledge Framework Approach to Linguistic Research and Teaching”, a book-length manuscript on language and content learning and teaching that will be submitted to the publisher in 2019. Slater also worked on three other writing projects, including a co-edited volume on project-based language learning; the results of her research will be shared with Iowa State students and faculty colleagues.

TANG, LIE, Associate Professor, Agricultural and Biosystems Engineering, 14 years of service, Fall 2017

Professor Tang used his assignment to improve Iowa State’s teaching curricula and pedagogy in automation systems, which has already been verified through student teaching evaluations. Tang also prepared eight published or accepted manuscripts during the PDA period, worked with a graduate student on a shared invention disclosure related to motorized weed control, earned a \$30,000 grant from the Iowa Corn Promotion Board, and submitted a \$1 million federal research grant that was not funded.

VAIDYA, UMESH, Associate Professor, Electrical and Computer Engineering, 13 years of service, Spring 2018

Professor Vaidya spent the majority of his assignment as a visiting professor at the Indian Institute of Technology-Mumbai, where he worked to expand his research in data-driven analytics and control, and recruited students for Iowa State’s Ph.D. and master’s programs. Results from the assignment include the preparation of 13 publications and conference presentations, and the preparation of five external funding proposals totaling \$3.7 million.

WANAMAKER, ALAN, Associate Professor, Geological and Atmospheric Sciences, 9 years of service, Fall 2017

Professor Wanamaker visited several sites along the eastern U.S. seacoast to learn new computational methods to estimate and illustrate uncertainties in proxy climate archives. Wanamaker’s work resulted in six manuscripts and five conference presentations, and a \$677,000 funding award from the National Science Foundation. Research from the assignment has also been incorporated into Iowa State’s course on Stable Isotopes in the Environment.

WELLS, GARY, Professor, Psychology, 29 years of service, Spring 2018

Professor Wells used his assignment to “join” his laboratory with those of colleagues at Flinders University in Australia, and the University of Arkansas, focused on new methodologies to construct criminal eyewitness lineups. Wells also completed three journal publications, which are in press, as well as a manuscript-length white paper on how lineups should be conducted. The findings will also lead to future grant applications.

WILSEY, BRIAN, Professor, Ecology, Evolution and Organismal Biology, 17 years of service, Fall 2017

Professor Wilsey completed a book during his assignment, “The Biology of Grasslands”, published by Oxford University in 2018, for students, scientists and others interested in the biology of habitats. Wilsey also published several scientific journal articles, completed two grant proposals, and helped to train two graduate students and one postdoctoral fellow.

ZHANG, WENSHENG, Associate Professor, Computer Science, 13 years of service, Fall 2017

Professor Zhang used the assignment to design data access pattern protection algorithms to secure cloud-based data, including the creation of a cloud server prototype that can be used as

an experimental platform, and the development of additional long-term research projects. The research has been incorporated into Zhang's course on Security and Privacy Issues in Cloud Computing, resulting in four publications and conference presentations, as well as a \$250,000 funding award from the National Science Foundation.