

Contact: Diana Gonzalez

PROFESSIONAL DEVELOPMENT ASSIGNMENT REPORTS FOR FY 2013

Action Requested: Receive the professional development assignment reports submitted by the Regent universities for FY 2013.

Executive Summary: Each year, the Board of Regents is asked to approve faculty professional development assignments as specified in the Board Policy Manual §4.09. In December 2011 (Agenda Item #9a), the Board approved 111 professional development assignments for FY 2013. Board Policy §4.09E directs the institutions to submit a yearly report of the completed professional development assignments. HF 45 specifies that “the board shall annually prepare a report comparing each assignment proposal to the results received.”

A brief description of each professional development assignment completed in 2012-2013 is available in Attachments A-C (pages 3-35); this report provides information about the value added to the students, university, and state from the assignments, including more than \$7.1 million of funds obtained during or after the faculty member’s professional development assignment; there are a number of grant proposals that have the potential for funding but they are still pending. This report addresses the Board of Regents Strategic Plan priority for “educational excellence and impact” as well as “economic development and vitality.”

Background:

- ◇ Review process. A rigorous review process was conducted for each proposed professional development assignment. Faculty recipients were selected on the basis of peer review and recommendation at the department and college levels at each university and final approval by the provost. One of the criteria considered is the impact of the proposed professional development assignment to the university, students, and the state.
- ◇ Proposed activities. Faculty members engaged in a variety of productive activities during their professional development assignments in FY 2013. 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 member 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 professional development assignments 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(13) requires that a faculty member return to the institution for twice the length of time of their professional development assignment or to repay the costs associated with the professional development assignment if the faculty member does not return to the institution. Following their professional development assignments, faculty members are responsible for reporting the results of their assignments as specified by Board Policy §4.09E and their institutional guidelines.
- ◇ Number of professional development assignments. There were 111 professional development assignments approved by the Board of Regents for FY 2013; 101 reports are included in the Attachments.
 - ☑ University of Iowa. There were 64 professional development assignments approved for FY 2013; however, five faculty members deferred their PDAs to a later time, one faculty member did not take a PDA, one faculty member spread her award over spring and fall and her report will be included with the 2013-2014 reports, and two faculty members who had deferred their assignment from previous years undertook their PDAs during 2012-2013. The total number of reports included for SUI is 59.
 - ☑ Iowa State University. There were 29 professional development assignments approved for FY 2013. There were four professional development assignments cancelled. The total number of reports included for ISU is 25.
 - ☑ University of Northern Iowa. There were 18 professional development assignments approved for FY 2013. One PDA was cancelled due to a faculty resignation. The total number of reports included for UNI is 17.
- ◇ Faculty replacement costs. Costs are minimized to the greatest extent possible by using a variety of strategies, including having colleagues cover courses, deferring non-required courses to a later time, and adjusting schedules of existing faculty members. Faculty members who are on professional development assignment for a full year receive only half their salary; the balance is used to offset replacement costs.
- ◇ Average length of service. The average length of service for the proposed professional development assignment recipients in FY 2013 was 16.5 years at SUI; 17.0 years at ISU; and 14.4 years at UNI.
- ◇ External funding obtained while on professional development assignment. A number of faculty members received external grant funding while on professional development assignment or subsequent to the PDA. In addition, many PDA recipients submitted grant proposals which are still pending.
 - ☑ At the University of Iowa, 9 faculty members received external funding either during their assignment or following the assignment. The total amount received was approximately \$4.86 million.
 - ☑ At Iowa State University, seven faculty members received external funding either during their assignment or following the assignment. The total amount received was approximately \$1.78 million.
 - ☑ At the University of Northern, Iowa, five faculty members received external funding prior to their assignment, during their assignment, or following the assignment. The total amount received was \$449,500.

UNIVERSITY OF IOWA (*denotes Faculty Scholar)

ADRAIN, JONATHAN M, PROFESSOR, GEOSCIENCE, 14 YEARS OF SERVICE, FALL SEMESTER

Title: Preparation and Editing of the Treatise on Invertebrate Paleontology Part O (Arthropoda 1, Trilobita, Revised)

Professor Adrain completed a one semester PDA assignment during Fall 2012. The primary work carried out was to coordinate a large reference work authored by researchers from fifteen countries. The work is a compendium of information on fossil trilobites, which are extinct marine animals which were common from about 521 to 251 million years ago. The work is the Treatise on Invertebrate Paleontology, Part O (Trilobita). The second of four planned volumes was greatly advanced, and is expected to be published in 2014. Five peer reviewed publications were also submitted, and a further two were substantially completed. Two National Science Foundation proposals were submitted, and two national conference presentations were given. The Treatise is a standard reference work used in all university level paleontology courses worldwide, as well as by professional researchers and the general public. Extensive new and revived relationships with international colleagues provide multiple opportunities for new collaborations. They also provide opportunities for SUI students to study abroad, and contribute to the visibility of the paleontology program at the University.

ALI, SABA R, ASSOCIATE PROFESSOR, PSYCH & QUANT FOUNDATIONS, 10 YEARS OF SERVICE, FALL SEMESTER

Title: Career Guidance Services in the Age of Accountability

Vocational psychologists and career counselors have been providing career guidance services for K-12 youth throughout the 20th century, yet accountability metrics that can be used to evaluate the impact of these services is lacking. In the age of accountability of the 21st century, it is important that career guidance services be assessed for their effect on the workforce readiness of students graduating from high school. As a vocational psychologist who conducts research on school based career interventions in middle schools, Professor Saba worked with colleagues who were part of the National Collaborative on Career and Workforce Policy and Development (NCCWPD) as well as completing a public policy fellowship at UI's Center for Public Policy to develop public policy related documents to strengthen evaluation of career/workforce development services. The work resulted in a journal article, book chapter and a prospectus for an edited book. The work also resulted in five grant proposals and the growth of already existing research and service career development program for K-12 students.

ARTHUR, LOYCE L, ASSOCIATE PROFESSOR, THEATRE ARTS, 15 YEARS OF SERVICE, FALL SEMESTER

Title: Caribbean and Latin American Carnival Arts Traditions and Community Engagement in Iowa.

During her Fall 2012 PDA, Professor Arthur worked on a public engagement arts curriculum based on Caribbean and Latin American carnival traditions that can be used to explore and celebrate Iowa and Iowa's cultural diversity. Professor Arthur partnered with educators and international carnival artists to create a series of teaching modules to use in classrooms, share on a carnival arts website, and publish in an arts education text. This work and the arts events that she is coordinating at local schools libraries, museums, and community centers will enhance the relationships between SUI and Iowa communities. Four hundred K-12 and university students are already involved. Professor Arthur also co-created a carnival-themed play that is touring Iowa and addresses themes of global migrations. This past Spring, Professor Arthur headed a team of faculty that provided opportunities for students to study community life

in Iowa and contribute to the cultural life of Iowa City through arts events, culminating in the Iowa Arts Festival parade, June 9th 2013. In 2014, an expansion of the carnival arts education curriculum across the state of Iowa is planned.

BERN-KLUG, MERCEDES E, ASSOCIATE PROFESSOR, SOCIAL WORK, 10 YEARS OF SERVICE, FALL SEMESTER

Title: Improving the quality of life of nursing home residents with dementia

For her PDA, Professor Bern-Klug designed, implemented, and completed a pilot study geared toward improving the quality of life of persons with Alzheimer's disease and other forms of dementia. The study tested a group story creating intervention called, "TimeSlips," designed to tap the imagination of persons with dementia (PWD). TimeSlips relies on imagination rather than on memory because in PWD, imagination lasts longer than memory. During the pilot study students were trained to deliver TimeSlips and to collect data to measure indicators of mood and social engagement immediately before and after TimeSlips. Outcomes included a research instrument to measure social engagement of PWD; a new service learning "TimeSlips" course; and a grant proposal. Benefits to students included engaging eight students in the research; the development of a new course; and the development of specialized lectures for other courses. Benefits to state include a low cost, non-pharmaceutical strategy that may improve the quality of life of Iowa's 70,000 PWD.

BIANCHI, ALISON J, ASSOCIATE, SOCIOLOGY, 6 YEARS OF SERVICE, SPRING SEMESTER

Title: Race/Ethnicity and Group Processes

During her PDA, Dr. Bianchi moved to Baltimore, Maryland, to set up a Small Groups Laboratory at Towson University which was approved by Towson's Dean of the College of Liberal Arts. She received approval from Towson University's IRB for 3 experiments, finished writing 3 computer protocols, and filmed and edited her research subjects. Next, Dr. Bianchi trained 4 Towson undergraduates, 3 of whom were persons of color, to run the experiments. By the end of the semester, one experiment, which examines how skin tone organizes group dynamics for African Americans, was nearly complete, and the two other experiments, one that examined the "doing white" social cues theory and the other that explored how gender and race organize task group behavior, were well underway. Understanding how race/ethnicity affects group dynamics will help professors design inclusive group assignments, and will also allow researchers to develop effective intervention strategies to ameliorate discrimination based on race.

CHAN, KUNG-SIK, PROFESSOR, STATISTICS & ACTUARIAL SCIENCE, 22 YEARS OF SERVICE, HALF TIME FOR ONE YEAR

Title: Lung Data Interrogation via Cluster analysis

Professor Chan revised an NIH proposal entitled "An Integrated Statistics-Guided Image-based Multi-Scale Lung Model" with Professor Ching-Long Lin as the PI and Chan and several other colleagues as the co-PIs. The proposal is funded by the NIH for five years, starting in August, 2013. Chan published a new approach for using regression analysis with large data sets. He also visited the Hong Kong University of Science and Technology (HKUST) in the spring semester, 2013 to collaborate with two colleagues on a publication for a new approach to model volatility clustering in data. These research results provide potentially useful tools for analyzing lung-image data. Further, the project has generated several potential PhD research problems. In particular, a PhD student has been developing new statistical method for discriminating abnormal lungs from normal lungs based on lung-image data.

CHEATUM, CHRISTOPHER, ASSOCIATE PROFESSOR, CHEMISTRY, 10 YEARS OF SERVICE, SPRING SEMESTER

Title: Developing 2D IR Microscopy

Professor Cheatum used this PDA to expand his research program in two-dimensional infrared spectroscopy (2D IR) into new applications. 2D IR spectroscopy measures the motions of molecules at the time scale of trillionths of a second, the exact time scale on which chemical reactions happen in solution. He developed tools that will allow him to construct a custom-built infrared microscope to take the first 2D IR spectroscopic images. This imaging technique will offer new ways of taking pictures of the structure complex samples at the micron length scale. Professor Cheatum is a Co-PI on a \$3,000,000, five-year, multi-investigator proposal pending at the National Science Foundation based on the preliminary results obtained during his PDA. In addition, he has developed simple computational models to present these new techniques in graduate and undergraduate courses. This research is developing new ways of looking at complex samples that will have a wide range of applications in fields from medicine to agriculture.

CHRISTENSEN, ALAN J, PROFESSOR, PSYCHOLOGY, 20 YEARS OF SERVICE, FALL SEMESTER

Title: Patient Preference Tailoring in Health Care Delivery

Professor Christensen's research activities during the PDA period involved developing clinical practice strategies for the tailoring of medical care delivery to match patient preferences and expectancies toward healthcare. With the support of the PDA he has collaborated with colleagues at the National Institutes of Health (primarily in the Office of Behavioral and Social Sciences Research, OBSSR) for a semester on the development of new applications for health information technology, particularly as it relates to individualized chronic disease management. This collaboration has included frequent trips to the NIH campus. He also had three related papers accepted for publication during or very proximal to the award period and has submitted another paper for publication. The work conducted during the PDA period will contribute to both the refinement and updating of current courses he teaches (e.g., 31:154 Health Psychology, 31:190 Psychology of Chronic Illness Seminar; 31:252, Clinical Behavioral Medicine). The work will provide important information regarding the public health impact of patient adherence and ways to enhance health among the chronically ill.

DOVE, EDWIN L, ASSOCIATE PROFESSOR, BIOMEDICAL ENGINEERING, 28 YEARS OF SERVICE, SPRING SEMESTER

Title: Decreased Heart Rate Variability as a Predictor of Death in Pediatric Patients Who Have Undergone Cardiac Surgery

Congenital heart defects are the most prevalent type of birth defect affecting 1 in every 100 to 200 infants. Hypoplastic Left Heart Syndrome (HLHS) is a congenital heart defect characterized by an underdeveloped left ventricle, aorta, and aortic valve. HLHS infants typically undergo a 3-stage reconstructive procedure; the first stage is performed in the first days of the neonate's life. For an unknown reason approximately 20% of these HLHS infants die after the first surgical procedure. Heart rate variability (HRV) is often used to assess cardiac autonomic tone and reduced HRV has been correlated to increased risk of cardiovascular mortality in adults. During this PDA, Professor Dove tested the assertion that the patients undergoing the procedure may have alterations or interruptions in the cardiac autonomic innervation coursing over the aortic arch. He collected data from 48 normal and 33 HLHS infants and showed large differences in the development of cardiac control. The techniques developed will be published, and included in future grant proposals. The new analysis techniques will be included in future offerings of the

courses that he teaches in Biomedical Engineering.

DURHAM, FRANK D, ASSOCIATE PROFESSOR, JOURNALISM & MASS COMMUNICATION, 13 YEARS OF SERVICE, FALL SEMESTER

Title: "Not the Six O'Clock News: Understanding the New Media Environment for Journalism"

As a result of this PDA, Dr. Durham has already begun sharing the products of his research with his journalism students. During the PDA he developed key concepts on the conservative media in a book chapter, "The media logic of fragmentation: Breitbart, O'Keefe, and mass self-communication" and a journal article, "Framing as Media Ritual: Fox News." He also conducted historical research on the journalist Walter Lippmann's effort to modernize the press within the context of the early conservative movement. This work will continue to add significantly to the curriculum at the School of Journalism and Mass Communication here at the University of Iowa. In an immediate sense, the upper-division course Durham teaches, "Conservative media and framing," has been revised to include concepts developed in this PDA-sponsored research. In more general terms, Durham's embrace of conservative media as a subject within the broader study of journalism is bringing a kind of diversity to the University's curriculum that his students embrace and that most Iowans would likely appreciate.

EBERLE FINK, KATHERINE A, PROFESSOR, MUSIC, 22 YEARS OF SERVICE, FALL SEMESTER

Title: In This Moment: Women and their Songs

During this PDA, Professor Fink conducted a concert tour of art songs by women composers at universities and concert venues in the eastern United States and recorded and edited a compact disc of those same composers for publication and use by students and the general public. Thus, this PDA work provides students and the general public the opportunity to experience, understand, and appreciate of women composers.

ECKSTEIN, BARBARA J, PROFESSOR, ENGLISH, 23 YEARS OF SERVICE, FALL SEMESTER

Title: American Bottoms

Through further research, interaction with the State Archaeologist, and conversation with UI's Sponsored Programs, Professor Eckstein tested the framing of her new project "American Bottoms" and developed a strategy for external funding for this book project. The reframed project "A World Otherwise: Journeys in the American Bottoms" examines three sets of human and interspecies encounters in the Upper Mississippi River Basin: those of the Mississippian peoples, especially in SW IA and WI; those of Joseph Nicollet with natives peoples retreating from NW IA and MN; and those of slave William Wells Brown, abolitionist Elijah Lovejoy, and Rev. Quinn of the AME church around Alton, IL. The book investigates unexpected ways of moving through the Upper Mississippi River Basin and being human with its nature other than those familiar narratives of native dislocation and Euro-American settlement. In addition, Professor Eckstein worked with the "People's Weather Map" team to amass and organize historical and scientific information and to build this interactive, on-line weather map of IA. She also developed a new undergraduate seminar about the representation of rivers in literature.

EMERY, MARY L, PROFESSOR, ENGLISH, 30 YEARS OF SERVICE, FALL SEMESTER

Title: Strange Furniture: Global Houses and the Arts of Modernism

Professor Emery worked on a book-length study focusing on literary portrayals of a style of house – the bungalow – that has circuted the globe over a period of more than four centuries. The project contributes to a recent turn in literary criticism toward the study of material culture

and, more specifically, to emerging studies of literary interactions with architecture. It will deepen the more general reader's sense of the cultural history of houses, especially that of the iconic bungalow, prevalent in Iowa and across the Midwest. In particular, fictional portrayals of the bungalow signal social tensions associated with the forces of modernity – from the plantation economies of the 17th and 18th centuries to the expanding middle class of the early 20th century. Professor Emery conducted research for the project, wrote almost all of three chapters, presented her work at two national conferences, including a keynote lecture at Simpson College, and began research for a fourth chapter. Her research is guiding current revisions of two courses that she regularly teaches and benefits her supervision of two PhD students working on literary engagements with architecture.

GALLANIS, THOMAS P, PROFESSOR, LAW, 4 YEARS OF SERVICE, OTHER (HE WAS AWARDED A PDA AFTER 2 YEARS OF SERVICE AT IOWA AS PART OF HIS EMPLOYMENT CONTRACT).

Title: Two Projects in the Legal History of Eighteenth-Century England

A fellowship at All Souls College, Oxford, for his PDA enabled Professor Gallanis to work on two book-length projects in English legal history. The first is a scholarly edition of the notes of Sir Dudley Ryder, Chief Justice of the Court of King's Bench 1754-56, which shed invaluable light on the history of English law and legal institutions. This book will be published by the Selden Society in London in 2014. In the second project Professor Gallanis joins an international team of scholars on a new edition of Sir William Blackstone's seminal four-volume treatise, Commentaries on the Laws of England, first published in 1765-69. This project tracks the variations in the text through all original editions. It will make the whole available in print and online and will be published by Oxford University Press in 2015 or 2016. This fellowship will benefit students by providing context for Professor Gallanis's courses and broadening the knowledge he shares with the history graduate students he helps supervise. The state of Iowa benefits in practical ways from the many professional contacts the fellowship has provided and the favorable attention its receipt brings to the SUI.

GIDAL, ERIC, ASSOCIATE PROFESSOR, ENGLISH, 17 YEARS OF SERVICE, FALL SEMESTER

Title: Ossianic Unconformities

On his PDA, Professor Gidal researched and composed a scholarly monograph which studies the dialogue between poetry and geology in the reception of The Poems of Ossian, an eighteenth-century rendition of Gaelic oral traditions which had an enormous influence on European and American arts and letters. Drawing on research conducted in Scotland and Northern Ireland, his work unites literary history and book studies with geological and industrial histories to present and consider imaginative responses to environmental catastrophe. Professor Gidal will publish this study as a book with an academic press and will use its methods and findings to contribute to the Sustainability at Iowa initiative as well as collaborative events and initiatives in the state of Iowa. This work will inform a range of courses in eighteenth- and nineteenth-century British literature and in ecological literary studies on both the undergraduate and graduate levels.

GREEN, CARIN M, PROFESSOR, CLASSICS, 22 YEARS OF SERVICE, HALF TIME FOR ONE YEAR

Title: The Gods in the Circus

From the 6th century B.C.E to 6th century C.E., the Circus Maximus was the iconic expression of Roman wealth, power, and self-confidence. Professor Green's PDA project, The Gods in the Circus, pulls together for the first time the evidence showing that the Circus Maximus was a place of religion, one that codified the identity of Rome as a place of wealth, power and favor of the gods. Professor Green completed her research for The Gods in the Circus, and will now be able to focus directly on the completion of the final four chapters. In addition, she co-authored a GIS (correspondence) course, an introduction to Latin literature, which is now enrolled with 32 students. As well, she wrote two extended papers, one on sacred healing and the other on a Latin religious history of Rome. Her research will inform her classes in English and in Latin and Greek. In particular the research will help students connect Iowa as place of rivers and cities on rivers, with ancient Rome, and will allow them to understand how the land and prosperity of the people are so definitively intertwined.

GUENTNER, WENDELIN, PROFESSOR, FRENCH AND ITALIAN, 28 YEARS OF SERVICE, FALL SEMESTER

Title: "Remembrance of Things Present: Jules Claretie's 'La Vie à Paris' (1880-1913)"

During her PDA, Professor Guentner finished manuscript preparation for a forthcoming book, "Women Art Critics in Nineteenth-Century France: Vanishing Acts." It will be published by the University of Delaware Press in March, 2013. In addition, Professor Guentner completed a draft of chapter 4 "The Power of the Press: Journalism as Mirror, Sword and Shield " for her new book project, "Remembrance of Things Present: Jules Claretie's 'La Vie à Paris' (1880-1913.)" In preparation for chapters 2 and 3 of this book she read broadly in the theoretical literature related to the acceleration of change in cultural history. The themes of these books, the history of women's social role as writer in the 19th century, and technological and social change at the turn of the 20th century, are explored in courses taught by Professor Guentner and are related to challenging social and cultural issues that Iowans encounter in our day. During August 2012 Professor Guentner gave an invited lecture at the International Symposium on Art History, Universidad de Los Andes, Bogota, Colombia.

GUPTA, PRAHLAD, ASSOCIATE PROFESSOR, PSYCHOLOGY, 15 YEARS OF SERVICE, SPRING SEMESTER

Title: Toward an Understanding of Word Learning

Professor Gupta carried out two behavioral experimental studies investigating how people repeat and learn new words, examining whether similarity of the sounds of new words affects their processing, and whether the meaning of the word impacts learning of the word sound pattern. He also conducted a computational simulation study that tested hypotheses about the mechanisms of word learning. The results should make a substantial contribution to our understanding of language learning. The results will also inform the content of courses that he teaches. These results may also have implications for language learning under conditions of language delay, which is an issue of considerable societal significance. Professor Gupta also learned two major new research techniques, both of which have already been incorporated into the studies described, and which should strengthen his applications for external grant funding. He and his colleagues and students also submitted two research articles for journal publication.

HAN, WEIMIN, PROFESSOR, MATHEMATICS, 22 YEARS OF SERVICE, SPRING SEMESTER

Title: Analysis and Numerical Approximation of Optical Imaging Tomography

During his PDA in Fall 2012, Professor Weimin Han conducted research on problems arising in optical imaging tomography, including development of mathematical theory, numerical method, and numerical simulations. Most of the research involved graduate students and provided an excellent training opportunity for the students. Research results from the PDA on optical imaging tomography are reported in four papers: two of them will be published in refereed proceedings by AMS and by Springer, the other two papers were submitted to journals. Supported by the PDA, Professor Han also conducted research on computational mechanics, and during this time period, he published the second edition of a research monograph on plasticity, and completed and submitted two journal papers on contact mechanics.

HESLI CLAYPOOL, VICKI L J, PROFESSOR, POLITICAL SCIENCE, 24 YEARS OF SERVICE, SPRING SEMESTER

Title: Transition in Egypt: The Role of the Muslim Brotherhood

During the PDA period, Professor Hesli used her time writing articles, giving presentations, and submitting grant proposals. In addition, Hesli conducted elite interviews in Cairo, Egypt and she conducted a post-election survey in the Republic of Georgia (for the purpose of writing about voting behavior in a competitive-authoritarian regime). She also submitted two National Science Foundation grant proposals and wrote about the Muslim Brotherhood in Egypt – the most influential Islamist organization in the largest Arab country. Her work provides the background needed to understand the depth of the conflict between the Egyptian government and the Muslim Brotherhood. Both of the courses that Hesli teaches on the Middle East have been significantly enhanced by work done on the PDA.

HITLIN, STEVEN, ASSOCIATE PROFESSOR, SOCIOLOGY, 8 YEARS OF SERVICE, SPRING SEMESTER

Title: The Equality-Difference Paradox and the Study of American National Character

Sacred moral values underlie group differences and motivate social movements, especially in times of cultural conflict. However, established models rarely engage with the role of culture and social identities in shaping moral values, collective beliefs, and social movements. As such, policy makers lack proper tools for understanding social unrest and devising effective strategies for promoting social stability and decreasing violence. During the PDA, Professor Hitlin developed a proposal to address this gap by investigating the interplay of social and mental mechanisms for the formation and modification of moral values within a cross-cultural perspective. This project was funded (\$581,000) and will advance knowledge about how social networks and cultural values reciprocally influence the brain, and help advance neurosociology, a new field that will help obtain future grant funding for SUI. Funding will support a postdoctoral student, a graduate student, and will help train undergraduates. Additionally, Professor Hitlin completed work on 4 peer-reviewed articles and 4 book chapters.

HUCKLEBERRY, ALAN, ASSOCIATE PROFESSOR, MUSIC, 9 YEARS OF SERVICE, FALL SEMESTER

Title: Video Database Creation of All Major Piano Pedagogical Compositions for Elementary to Intermediate Piano Students

Dr. Huckleberry recorded approx. 2500 videos of piano teaching pieces for beginners to intermediate students and has made them available to all at YouTube. This is the beginning of a massive project, which in the end will encompass some 9,000 videos. The project has

received local, national, and international attention. There are currently over 1000 subscribers to his UIPianoPed channel. There have been over 500,000 views in the US and 174 countries. He has received testimonials from composers, publishers, teachers, and students alike, who are extremely excited about the database. He is recording the Iowa Music Teachers Association's repertoire list, thus this project has become a valuable teaching tool for teachers across our state. And beyond the state of Iowa, teachers, students, and parents are using his videos as professional high-quality examples of how their pieces should sound. This database will give graduate students great opportunities in research for years to come, as such data has never been compiled before.

JOHNSON, ALAN K, PROFESSOR, PSYCHOLOGY, 40 YEARS OF SERVICE, SPRING SEMESTER

Title: The Hunger for Salt

During Professor Johnson's PDA he 1) spent two one-month periods at the Howard Florey Institute of Neuroscience and Mental Health, Melbourne, Australia; 2) maintained his ongoing externally funded research program; 3) developed new units and upgraded teaching materials for 31:128, Psychopharmacology, and for 31:230, Behavioral Pharmacology; 4) completed co-editing a book on body fluid homeostasis; and 5) gave several invited presentations, and taught in an NIH sponsored short course in integrative physiology. The time spent working with Australian colleagues was on a book titled "The Hunger for Salt" that explores how to decrease salt intake and thus improve health. Material from the book will be used in his courses.

JORGENSEN, PALLE E, PROFESSOR, MATHEMATICS, 30 YEARS OF SERVICE, SPRING SEMESTER

Title: Interdisciplinary and applied research and course development.

In the PDA semester, Professor Jorgensen completed his proposed research and published his work in leading journals in applied mathematics. For much of this work he collaborated with leading researchers in Israel and this was supported in part by a BSF grant between SUI and BGU in Israel. He also traveled to Germany and Canada for other collaborative work and his co-researchers visited SUI for shorter periods. The outcomes will promote research across departmental and collegiate boundaries, and forge relationships with Iowa's insurance, financial service, and energy industries. Much of the research concerns risk analysis and the pricing of financial products. The results will likely help to attract new industries to Iowa that need a skilled workforce. Jorgensen is using his research results in courses 22m313 and 22m280 (financial math).

JUNG, ANITA, PROFESSOR, ART AND ART HISTORY, 7 YEARS OF SERVICE, FALL SEMESTER

Title: Chhaaps Residency in Baroda

Prof. Jung focused upon her creative research during her PDA, completing over twenty-five monoprints and two exchange portfolios. She spent a month at a print residency in Vadodra, India where she participated in the Navarati festival. She presented an exhibition and delivered a lecture of her and her program's work at MS Univ. of Baroda as well as a lecture at the Emami Chisel Art Fair in Kolkata. She visited several potential artist residencies and NGO's looking for potential student internships, and exchanges. Her work created during the PDA is being displayed at Clark Univ. in Dubuque, where she will give lectures and printmaking workshops. This work has led to a new direction in Jung's research and she will be submitting to other venues for exhibition this coming year. She also co-organized a national symposium and assisted the UIMA in bidding to become the stewards of an important print archive. She is incorporating material from her PDA into her courses.

KAYLE, JENNIFER, ASSOCIATE PROFESSOR, DANCE, 8 YEARS OF SERVICE, SPRING SEMESTER

Title: Intensive Survey of Somatic Practices; Tuning the Dancer's Instrument for Technical and Creative Range

Professor Kayle used her PDA to conduct a survey of somatic practices to update and expand knowledge in teaching modern dance. Initial research led to a focus on Alexander Technique and Feldenkrais Method. Concurrently, she produced new creative research presented in Iowa, Philadelphia, Dominican Republic, was invited to present at the National Conference, Imagining America, and integrated principles of Feldenkrais Method across her technique curricula. To improve the process of learning movement, instructional material has been revised to account for the sensory/motor techniques of the Feldenkrais Method. Her research provides students with means to reduce/heal injuries, and promotes more effective, safe, efficient motor learning. Kayle is pursuing the 4-year, 800-hour certification through Feldenkrais Institute of New York. Feldenkrais Certification will improve student recruitment as the Method grows in popularity in the profession.

KOPELSON, KEVIN R, PROFESSOR, ENGLISH, 21 YEARS OF SERVICE, FALL SEMESTER

Title: Tales from School

During the PDA period, Professor Kopelson completed and published his sixth book, "Confessions of a Plagiarist: And Other Tales from School." It is a work that combines scholarship and creative nonfiction. It combines confessional writing and satire as well. Professor Kopelson also continued work on three other books: one of them to be on the critic Roland Barthes; another one to be for children as well as adults; another one to be a memoir. His books are enjoyed by many readers outside academics and material from his books is regularly integrated into his courses.

KRUGER, MARIE, ASSOCIATE PROFESSOR, ENGLISH, 8 YEARS OF SERVICE, SPRING SEMESTER

Title: "Therapeutic Commodities: Apartheid, Trauma and Visual Culture in the New South Africa."

Professor Kruger conducted substantial field research in Johannesburg and Cape Town for her book project on South African visual culture and its representation of the traumatic experiences of apartheid survivors and perpetrators. Based on her research in South Africa and comparative work at memorial sites in Germany (Munich; Berlin), she completed drafts of the first two book chapters, and presented her research at two international conferences in Cape Town and Berlin. Her presentation in South Africa resulted in an invitation to participate in an international research colloquium in Berlin and publish her paper in the conference proceedings. The primary and secondary materials she obtained in South Africa, together with her survey of the exhibitions, videotaped interviews, and collection of archival and media documents provide a unique multimedia resource for her undergraduate and graduate students, as well as the general public. Professor Kruger's expertise in trauma, visual and postcolonial studies substantially expands the course offerings of the English Department, and serves to fulfill the Iowa Promise "to infuse international and multicultural perspectives in our institutional missions."

LARONDE, MICHEL S, PROFESSOR, FRENCH AND ITALIAN, 28 YEARS OF SERVICE, FALL SEMESTER

Title: Paris, 17 octobre 1961: Une histoire forclosée [Paris, 17 October 1961: History Forclosed]
Professor Laronde completed the translation of his book *Postcolonialiser la Haute Culture à l'École de la République* [Postcolonializing High Culture in the Schools of the Republic], into English from the original version published in French in 2008. The book was accepted by Lexington Books in September 2012, with a projected date for publication of July, 2013. He also wrote 100 pages of his project for a book, *Paris, 17 octobre 1961. L'Histoire forclosée* [Paris, 17 October 1961: History Foreclosed] on the massacre of North African immigrants in Paris on October 17, 1961, during a peaceful demonstration in favor of the independence of Algeria, the last colony to free itself from French rule in 1962. As a result of the award, he organized a panel at the 2013 meeting of the 20th-21st French and Francophone Studies International Colloquium in Atlanta, and presented a paper. He presented another paper at the 20th Congress of the International Comparative Literature Association in Paris, in July 2013. Three of his courses at the undergraduate/graduate level in French and two graduate courses will be revised to include his research on October 17, 1961.

LARSEN, SARAH C, PROFESSOR, CHEMISTRY, 18 YEARS OF SERVICE, SPRING SEMESTER

Title: Development of Nanomaterials for Biomedical Applications
Professor Larsen used her PDA to develop porous, nanomaterials (particles with very small sizes of less than 100 nanometers and spongelike adsorption properties) for use in biomedical and environmental applications. These novel nanomaterials are being designed to improve the treatment and detection of diseases and to adsorb environmental pollutants from contaminated water, both of which offer clear benefits to the state of Iowa. One manuscript and one book chapter have been accepted for publication and a second manuscript has been submitted based on this research. Two grant proposals related to the environmental health and safety of nanomaterials were submitted during the PDA. In addition, Professor Larsen visited three universities to present her research results and participated in four Science, Technology, Engineering and Mathematics (STEM) outreach events. Professor Larsen also collaborated to develop a science experiment related to nanoscience and nanotechnology that can be used in the university classroom, as well as in K-12 STEM outreach venues.

LAURIAN, LUCIE, ASSOCIATE PROFESSOR, URBAN & REGIONAL PLANNING, 9 YEARS OF SERVICE, SPRING SEMESTER

Title: Sustainability-promoting local institutions: The case of European Cities
During her PDA, Professor Laurian expanded on her National Science Foundation-funded research to investigate the features of local government that promote the implementation of sustainability. Her NSF project contrasts American and New Zealand planning systems. She investigated planning practice in New Zealand and broadened the scope of the project by adding case studies in Amsterdam and Venice, two European cities addressing major flood hazards in different governance contexts. She interviewed 37 elected officials, planners, academics and lay stakeholders to assess the institutional and socio-political factors that support implementation. She presented preliminary findings at Dunedin University (NZ) and the international planning conference ACSP-AESOP. She is now finalizing and writing up the analysis. Her work contributes to the UI commitment to sustainability. The results will be published in scholarly and professional journals. They will also inform her teaching on environmental planning and prepare Iowa planning students to best address institutional barriers to sustainability when they join the workforce.

LEDOLTER, JOHANNES, PROFESSOR, MANAGEMENT SCIENCES, 35 YEARS OF SERVICE, HALF TIME FOR ONE YEAR

Title: Studies on the Analysis of Time Series and Duration Data

The PDA supported Professor Ledolter to research and write a book entitled "Data Mining and Business Analytics with R" (R is a widely used open-source statistical software). Its objective is to provide a thorough discussion of the most useful data mining tools that goes beyond the typical "black box" description to show why these tools work. The text combines explanations of the statistical foundation of data mining with useful software so that the tools can be readily applied. The book is written at a level that can be understood by the MBA student interested in quantitative methods and is designed for use in courses on data mining and business analytics in quantitative MBA programs and in upper-level undergraduate and graduate programs that deal with the analysis and interpretation of large data sets. The PDA also supported the research and the writing of eight scientific publications that deal with issues such as experimental designs for conducting field experiments and the surveillance of patient characteristics when attempting to detect the onset of disease.

LIDDELL, DEBORA L, ASSOCIATE PROFESSOR, EDUC POLICY & LEADERSHIP STUDIES, 20 YEARS OF SERVICE, FALL SEMESTER

Title: Development of Higher Education Professionals

During her PDA, Dr. Liddell did research on the job satisfaction in the student affairs. As in most fields, satisfied employees lead to retention and stronger job commitment. The majority the project was completed during the PDA and Professor Liddell is now finishing the work. From this PDA, two assessment instruments were developed and used in two national studies conducted by Dr. Liddell. Results from the studies will be published and also formed the foundation for part of a new undergraduate course to be offered in the Fall 2013. This PDA is of benefit to graduate students and their campus site supervisors in the field because the findings will be incorporated into their curriculum. Undergraduates also benefit from the new course. By understanding the elements that contribute to socialization to the higher education field, retention of professional staff may be improved.

MAIERHOFER, WALTRAUD, PROFESSOR, GERMAN, 23 YEARS OF SERVICE, FALL SEMESTER

Title: Digital Edition: Illustrations in the Viennese Editions of Goethe's Collected Works During His Lifetime.

During her PDA, Professor Maierhofer did research on the illustrations (title images and frontispieces) in the Austrian editions of the complete works by Goethe, Germany's most eminent writer at the time. These illustrations during his lifetime have been remarkably absent from scholarship on book illustration. Outcomes include the publication of the images with an introduction and commentary as a "digital monograph". Professor Maierhofer submitted an analysis of two editions (25 and 56 images, respectively) to a major online platform for digital scholarship on the Age of Goethe, Goethezeitportal.de, housed at the U of Munich, Germany. Other outcomes include one article submitted and under review, one article accepted pending revisions, two abstracts for international conferences, an invitation to a related book project, preliminary research on follow-up project and book proposal. She uses illustrations wherever she teaches works by Goethe and other appropriate literature, so the PDA work improves her classes. Further, through the digital editions and open-access scholarly platforms anyone can enjoy the work.

MARTIN-ESTUDILLO, LUIS, ASSOCIATE PROFESSOR, SPANISH AND PORTUGUESE, 8 YEARS OF SERVICE, SPRING SEMESTER

Title: Europe Undreamt: Spanish Culture on the Margins of Modernity

Prof. Martín-Estudillo used the PDA to advance the writing of his next book, titled "A Union Undreamt: Spanish Culture and the Rise of Euroskepticism (1939-2013)." The book deals with the sustained scrutiny of the ever-evolving idea of Europe by artists and intellectuals, which helped to pave the way for the current protests against the European Union (EU). Martín-Estudillo addresses this phenomenon by examining a variety of Euroskeptic texts from a historical perspective. His book transforms our understanding of Euroskepticism by focusing on its artistic manifestations, rather than viewing it exclusively as a political-economic matter. Knowing about this eclipsed critical tradition contributes to a deeper understanding of Europe, its institutional embodiments, and their current crisis. This knowledge is crucial, as our nation has recently started negotiating a free trade agreement with the EU whose possible outcomes could be of great importance for the economies of the USA and Iowa for decades. Prof. Martín-Estudillo will incorporate his findings into his undergraduate and graduate courses on Spanish and European contemporary issues.

MCGUIRE, STEVE, PROFESSOR, ART AND ART HISTORY, 23 YEARS OF SERVICE, FALL SEMESTER

Title: Single Speed Geography: Deliver a Dynamic Landscape

During his PDA, Professor McGuire created the drawing and sculpture exhibition, Single Speed Geography: Deliver a Dynamic Landscape, that explored the design and fabrication of hand built bicycles and endurance performance. The award was an opportunity for Professor McGuire to work on a skill-set and courses that make a substantive contribution to the realigned curriculum of the Studio Division in the School of Art and Art History. Two new courses were created as a result: Locative Visual Art Practice as Research and Design and The Hand Built Bike II. The project comes on the heels of the School of Art and Art History consolidating Sculpture, Ceramics, Jewelry/Metals, and 3-D Design to form one new curricular Area (of 38 MFA Students and over 50 courses that serve approximately 700 undergraduate majors in studio art) designated as "Dimensional Practice. Seeking to further establish creative work in the fields of design and metals the faculty member conducted a workshop and performance at the University of Kansas. The work of the award resulted in a forthcoming exhibition at ESDI (Escola Superior De Design Industrial) at Rio de Janeiro State University in Brazil.

MUTEL, ROBERT L, PROFESSOR, PHYSICS AND ASTRONOMY, 38 YEARS OF SERVICE, FALL SEMESTER

Title: Sturm und Drang: Probing the radiophysics of planetary and stellar magnetospheres

Professor Mutel spent his PDA conducting stellar magnetospheric research at the National Radio Astronomy Observatory (NRAO) in Socorro NM rather than the Meudon Observatory in Paris. There were three primary research foci: (1) Observations of radio emission from jets of young stars using the Very Large Array, (2) analysis of six-epoch global array observations (summer 2012) of an active binary, and (3) a study of certain 'ultra-cool' stars that emit pulsed radio emission. During most of the PDA, one of Professor Mutel's Ph.D. students (Christene Lynch) was also at the NRAO collaborating on topics (1) and (3), while another Ph.D. student (Evan Abbuhl) collaborated on topic (2) remotely via weekly Skype meetings. They completed the young star research program during the PDA and submitted a paper to the Astrophysical Journal. They also completed analysis of the active binary research and are currently writing a paper. They also scheduled and observed ten epochs of pulsed radio emission from ultra-cool

dwarfs (Nov-Dec 2012) and are completing analysis of that data now. Professor Mutel also prepared and presented an invited talk at an international meeting on planetary magnetospheres in Boulder CO (October 2012).

OHLMANN, JEFFREY W, ASSOCIATE PROFESSOR, MANAGEMENT SCIENCES, 10 YEARS OF SERVICE, SPRING SEMESTER

Title: Supply Planning in a Lean Logistics Network

During the period of his PDA, Professor Ohlmann resided in Brescia, Italy, and collaborated with Professor Luca Bertazzi of the University of Brescia. Professor Ohlmann examined the formulation and solution of mathematical models to design vehicle routes that facilitate lean manufacturing principles. Lean manufacturing has helped enable the success of Iowa-based companies such as Rockwell Collins, Pella Windows, and the HNI Corporation. Research on extending lean principles to the logistics domain has the potential of assisting companies become more competitive. Professor Ohlmann conducted research and drafted two different working papers on this topic. He presented the preliminary findings of these two papers at a major annual conference in October 2013. While in Italy, Professor Ohlmann visited local companies and observed their lean manufacturing practices. These experiences have improved Professor Ohlmann's teaching directly through the development of lecture materials as well indirectly by informing his awareness of current industry practice and expanding his professional network.

***ONWUACHI WILLIG, ANGELA, PROFESSOR, LAW-FACULTY, 7 YEARS OF SERVICE, FALL SEMESTER**

Title: According to Our Hearts

During her PDA, Onwuachi-Willig finished edits/preparations for her book on the Rhinelander v. Rhinelander case. She presented chapters at three law schools and co-authored a 75-page Yale Law Journal essay, which inspired her use of weekly op-ed assignments to teach effective writing to her spring seminar students. Some op-eds were accepted for publication in national outlets; they highlighted the University's impressive students and Iowa's ability to recruit stellar out-of-state students in addition to the best within Iowa. She worked with co-principal investigators on a Robert Wood Johnson grant project on the effectiveness of bullying policies in Iowa public schools, which has direct benefits for Iowa. She conducted empirical research for a book collection chapter in honor of South African professor David McQuoid Mason. She authored two more law review essays and a short essay in honor of the late Derrick Bell. She also shortened a published chapter for reprint in the Chronicle of Higher Education.

PAIK, ANTHONY, ASSOCIATE PROFESSOR, SOCIOLOGY, 10 YEARS OF SERVICE, FALL SEMESTER

Title: Signaling in Sociological Phenomena

Professor Paik used his PDA to develop a book project on the sociology of signaling. Signals are observable symbols, cues, or behaviors that indicate difficult-to-observe traits. Despite the increasing popularity of signaling theory across a number of disciplines, it is rarely employed in the discipline of sociology. Professor Paik completed one draft chapter and began empirical analyses underlying another chapter. This research project will benefit both undergraduate and graduate sociology students at the University of Iowa; it will highlight the importance of a theoretical perspective that is generally underappreciated in the discipline of sociology. More generally, this research will benefit society by highlighting how signaling processes are present in everyday interactions. This knowledge may facilitate increased understanding about how to manage these processes.

PRUSSING, ERICA, ASSOCIATE PROFESSOR, ANTHROPOLOGY, 9 YEARS OF SERVICE, SPRING SEMESTER

Title: Community-based epidemiology and indigenous activism: An international comparison

Indigenous researchers worldwide are increasingly using quantitative science as they advocate to eliminate health disparities. Professor Prussing used her PDA to complete the initial phase of a multi-year, international comparison of quantitative public health research being conducted by and for indigenous peoples. This project focuses on epidemiological researchers in both New Zealand and the United States, and is supported by two major externally funded grants. The PDA enabled Professor Prussing to complete 4 months of ethnographic and archival research in New Zealand. It also enabled her to complete one article that is accepted for publication, and to submit a second that is under review. A third is also presently in progress. Professor Prussing is integrating her PDA experiences and findings into Health of Indigenous Peoples and other undergraduate and graduate courses here at Iowa. Her research challenges common stereotypes among scholars and interested citizens by promoting greater awareness of the activities and skills of indigenous researchers, their shared challenges, and the ways in which different political and cultural conditions also shape their activities.

QIAN, YIMING, ASSOCIATE PROFESSOR, FINANCE, 11 YEARS OF SERVICE, SPRING SEMESTER

Title: Pre-IPO Market

During his PDA, Professor Yiming Qian produced a research paper entitled “Pre-Market and IPO Pricing”, to be submitted to academic journal for publication. She (together with three collaborators) studies the new phenomenon of pre-IPO markets as a potential solution to the most challenging issue in an initial public offering (IPO), the pricing of the stock. A pre-IPO market is where investors trade a firm’s stock before the firm undertakes an IPO and becomes a public firm. She documents evidence for the usefulness of the pre-market but also finds that underwriters’ self-interested incentives prevent the pre-market prices from being fully incorporated into the IPO offer price. The paper contributes to the IPO literature, and offers useful insights to firms, investors and regulators (e.g., on how to regulate a pre-market). She has also incorporated the findings and insights of the paper into the finance courses she teaches.

SANDERS, KATRINA M, ASSOCIATE PROFESSOR, EDUCATION-EDUC POLICY & LEADERSHIP STUDIES, 14 YEARS OF SERVICE, FALL SEMESTER

Title: The Rise and Fall of Black Catholic Education, 1939-1979

During her PDA, Professor Sanders interviewed people associated with 3 black Louisiana Catholic schools from 1939-1979, visited relevant archives, and transcribed and analyzed data. She spent 6 weeks in LA to conduct additional interviews, collected data at 2 archives, presented research, and met with a publisher and National Endowment of the Humanities representatives to strengthen her 2013 grant proposal. She also spent a week in Bethel Park, PA with Catholic priests who taught at the schools in her study. Her research fills historical gaps in the history of blacks educated in black Catholic schools and informs state/national conversations on Catholic school success with minority students. Iowa has 106 Catholic schools. In 2009 Des Moines began exploring the creation of the Cristo Rey school—a Catholic college prep high school for low income and minority students. Professor Sanders’ research offers lowans like those in DM needed context on Catholic school success stories. She is also incorporating her research into her courses.

SCHNELL, SCOTT R, ASSOCIATE PROFESSOR, ANTHROPOLOGY, 20 YEARS OF SERVICE, HALF TIME FOR ONE YEAR

Title: Hunters as Conservationist Role Models in Northeastern Japan

This PDA project is an ethnographic analysis of the matagi—traditional hunters of bear and other animals in Japan’s mountainous interior. Professor Schnell investigated the role of the matagi as vital intermediaries between the forested mountain and domesticated lowland environments, and ongoing efforts to legitimize their activities through a clever manipulation of religious and literary narratives that would otherwise discredit and exclude them. His work focused in particular on the matagi’s recent promotion through ecotourism and the popular media as instructive models for “coexisting with nature.” It also weighs political opposition to hunting from urban-based animal rights activists against the importance of preserving local knowledge and the perceived need for control of wildlife populations in order to limit crop damages and threats to public safety. The project will generate new material for Professor Schnell's courses. It will result in several publications and enable further collaborative research with Japanese colleagues. It will also provide wildlife managers and conservationists in Iowa and throughout the midwest with useful comparative data for addressing current environmental issues.

SCHULTZ, SUSAN K, PROFESSOR, PSYCHIATRY, 18 YEARS OF SERVICE, HALF TIME FOR ONE YEAR

Title: An Historic Opportunity to Edit the Manual of Psychiatric Diagnoses: The DSM-5

Dr. Schultz edited the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders, referred to as DSM-5. This was a unique opportunity for the University of Iowa to be involved in this landmark effort for the field of psychiatry. This PDA allowed Dr. Schultz to devote half-time to serving as the text editor of this 947 page volume, published in May of 2013 by American Psychiatric Publishing, Inc. The DSM-5 serves as the primary manual for disease classification in psychiatry and it is used for diagnostic decision-making world-wide. It has been harmonized with the International Classification of Disease for professional use in healthcare, and it also serves as a key resource for clinical diagnostic criteria for students and researchers. As detailed in this report, other written products by Dr. Schultz arose from the DSM-5 effort, and she has continued to expand her work with American Psychiatric Publishing, Inc., including a “Consumers Guide to the DSM-5,” written for the lay public that is scheduled for publication in the Spring of 2014.

SMITH, FREDERICK M, PROFESSOR, RELIGIOUS STUDIES, 22 YEARS OF SERVICE, SPRING SEMESTER

Title: Translation of the final four books of the Mahābhārata

During his PDA, Professor Smith translated three quarters of the last four books of the Sanskrit national epic, the Mahabharata. This will be added to his long manuscript containing the translations of the last five books of the epic, which will eventually be published by the University of Chicago Press. The results of the PDA are directly applicable to his teaching, because he teaches several courses in which this material will be used. These include various courses on Indian religion, and classes in Sanskrit language, in which some of this material can be assigned as classwork. The Mahabharata is unique among the world's epics because in spite of its encyclopedic scope it conveys on nearly every page ambiguity and a new moral dilemma. It consciously serves as a template for human action in a more generally distributed manner. Thus understanding it will shed much needed light on our own actions and polity, on our hopes, fears, and innate human resources. Thus it will serve both the state of Iowa and society in teaching many much-needed lessons.

STEWART, KATHLEEN, ASSOCIATE PROFESSOR, GEOGRAPHY, 6 YEARS OF SERVICE, SPRING SEMESTER

Title: Semantic Data Modeling for Geospatial Applications

Dr. Stewart's PDA research focused on geoinformatics and health as well as advancing geoinformatics theory. Her project involved developing geographic models for healthcare including an analysis of the geographic pattern of stillbirth occurrences in Iowa in relation to maternal prenatal exposure to drinking water contaminants over a period of six years using geographic analysis techniques, and modeling space and time accessibility for in vitro fertilization care that improves the chance for access to quality reproductive health care for Iowans and estimates where barriers to service may exist. Invited talks were given at Argonne National Laboratory and at the University of Minnesota. Her visit to Minnesota has resulted in a new graduate student research symposium this fall where students from Minnesota and Iowa will present their research and exchange ideas. A new first-year seminar for undergraduates on digital mapping was developed. She co-organized a workshop at The International Conference on Spatial Information Theory to be held this fall.

STIPP, CHRISTOPHER, ASSOCIATE PROFESSOR, BIOLOGY, 10 YEARS OF SERVICE, FALL SEMESTER

Title: Establishing A Novel Experimental Model of Metastatic Breast Cancer

During his PDA, Professor Stipp completed and published a study that identified a protein on prostate cancer cells that functions as a gate-keeper, preventing more aggressive, metastatic behavior. The study produced a matched set of prostate cancer cells with lesser and much greater propensity for metastasis. Professor Stipp used a technique called microarray gene expression profiling to identify several differences in gene expression between the low and high metastasis prostate cancer cells. This dataset will be incorporated into his Cell Biology Lab course, where students will participate in testing hypotheses generated by the microarray data. Longer term societal benefits include identification of proteins in prostate cancer cells that might be clinically manipulated to curtail metastatic growth in advanced prostate cancer. Professor Stipp also made significant progress on 3 additional studies ongoing in his lab, one of which is under review, and 2 in progress and nearing submission. He presented work accomplished during the PDA at 3 venues, including an international meeting. A model of metastatic prostate cancer was submitted for the model of metastatic breast cancer due to technical reasons.

SUNSTEIN, BONNIE S, PROFESSOR, TEACHING AND LEARNING, 21 YEARS OF SERVICE, SPRING SEMESTER

Title: Math on the Margins: High School Partners Write Across Disciplines and Miles

Professor Sunstein drafted a book, under contract with the U of Chicago Press, during her PDA. She also used education settings in Massachusetts and Iowa, in real time and online, to study cross-curricular writing partnerships between high school and college students as they interpret "nonfiction" and "writing-across-the-curriculum," in relationship to the new national "Common Core." In an associated project, she created a pilot for thirty high school teachers from Iowa, Illinois, California, and Massachusetts. This PDA work will impact her students, students in twelve sections of TA-taught college courses she supervises, and in the high school classes of those schools involved in the studies. In another project, the University of Chicago press provided Professor Sunstein with a grant to fund a professional development day in Chicago and a year's technical support toward updating a classic text, A Student Guide to Writing College Papers. She serves as principal author of the text. The text will be widely used and influence students at Iowa and beyond.

THAGGERT, MIRIAM, ASSOCIATE PROFESSOR, ENGLISH, 7 YEARS OF SERVICE, SPRING SEMESTER

Title: The Technology of Jim Crow: Race and Identity in American Culture

Professor Thaggert researched and began writing a book on the impact of the railroad on Americans' perceptions of race, class, gender, and nationality. "The Technology of Jim Crow" offers an intervention into the studies of technology and race by examining technologies of transportation and their social impact on American race and gender relations. She used the semester of the award to define the precise range of the book, to formulate a prospectus, and to write two chapters and draft a third. One of these chapters will be submitted to a peer-review journal. In addition to seeing publication, all of this research will inform her teaching of American and African American literature in both undergraduate and graduate courses. By studying little-known aspects of US railroad history—such as the lawsuits filed by women of color contesting racial segregation, including a suit adjudicated in Iowa—the study broadens the public's understanding of the cultural and social impact of the railroad in American culture. The study expands the public knowledge of the railroad by examining the impact of women's presence on a form of technology conventionally perceived as masculine.

TINELLI, CESARE, PROFESSOR, COMPUTER SCIENCE, 14 YEARS OF SERVICE, SPRING SEMESTER

Title: Educating Software Engineers in Formal Methods for Software Development

This PDA allowed Professor Tinelli to focus on his research as well as seek new collaborations and funding opportunities. He worked on an Air Force-funded project on verifying the correctness of software embedded in safety- and mission-critical systems such as aircraft. He also worked on a project funded by the National Science Foundation on automated methods to detect security holes in computer software. He furthered his collaborations with previous industrial partners (Intel and Rockwell Collins) and established new ones with United Technology and NASA. He prepared research proposals to DARPA and NASA to fund future work. The PDA resulted in conference publications, research contracts with industry, grants, and pending proposals. It will benefit students through research assistantships, exposure to cutting edge research in courses and in work done in Professor Tinelli's group, and better post-graduation placement. Benefits for the state include external funds for the University of Iowa, and technology transfer to Iowa-based Rockwell-Collins. Society will benefit from safer and more secure software that could result from using the techniques developed in the projects above.

TURNER, RICHARD, PROFESSOR, RELIGIOUS STUDIES, 12 YEARS OF SERVICE, FALL SEMESTER

Title: Afro-Atlantic Religion: Malcolm X, John Coltrane and the Sixties

During his PDA, Professor Turner completed research on his book on Malcolm X and John Coltrane. He wrote one-third of the book, which he will show to editors at Indiana University Press or Oxford University Press, in consideration for a book contract. Professor Turner also published a chapter in Omid Safi and Julianne Hammer ed., *The Cambridge Companion to American Islam* (Cambridge University Press, 2013). The PDA benefited teaching and students in his Spring 2013 course, 129:108 Malcolm X, King & Human Rights. The outcome of the PDA will benefit the state of Iowa generally by providing insight on the civil rights legacy of the 1960s. In January 2013, Professor Turner participated in a panel discussion at the University of Iowa on the play, *The Mountaintop*, about Martin Luther King Jr.'s human rights legacy.

WASSERMAN, EDWARD A, PROFESSOR, PSYCHOLOGY, 41 YEARS OF SERVICE, FALL SEMESTER

Title: Comparative Psychology of Analogy

The natural science of mind applies exacting experimental and statistical methods to cognitive phenomena that have historically been studied with philosophy's tools of introspection and logic. The natural science approach does not distinguish human from animal minds; the same means that disclose the laws of cognition in one kind of organism should do so in others. During his PDA, Wasserman expanded his scientific research in comparative cognition to include the formation of analogies—what theorists deem to be the acme of human reasoning and intelligence. At The University of Iowa, Wasserman and his staff studied analogy and other higher-order relational concepts in pigeons and people. At the CNRS research station in Rousset-sur-Arc, France, Wasserman and Joël Fagot studied analogy and other higher-order relational concepts in baboons. The results of their joint research investigations challenge conventional wisdom that only humans are capable of higher-order relational thought. This work will significantly advance the natural science of mind as well as enhance Wasserman's graduate and undergraduate instruction in the Department of Psychology. Research at The Great Ape Trust had to be delayed because of severe financial problems and the downgrading of the facility to sanctuary status. Instead, Professor Wasserman expanded his scientific research in comparative cognition to include the formation of analogies – what theorists deem to be the acme of human reasoning and intelligence.

WHALEY, DEBORAH E, ASSOCIATE PROFESSOR, AMERICAN STUDIES, 6 YEARS OF SERVICE, SPRING SEMESTER

Title: Sequential Subjects: Black Women in Comics, Graphic Novels, and Anime

Professor Whaley used her PDA to complete her book *Sequential Subjects: Black Women in Comics, Graphic Novels, and Anime*. The book examines sequential art (i.e., visual and written text in sequence) to interrogate the relationship between US history, civil rights, international relations, racial, gender, and sexual representations of Black women. In addition, Whaley wrote and published an introductory essay to an exhibition catalogue on sequential art. Completion of the research and the book will form the foundation for a new course at UI on Blackness and sequential art, which furthers the University's mission to offer diverse courses in the visual arts. This work will also help Iowans understand the relationship between cultural production (e.g., sequential art), its consumption, and its importance to American civil rights.

WINDSCHITL, PAUL D, PROFESSOR, PSYCHOLOGY, 16 YEARS OF SERVICE, FALL SEMESTER

Title: Developing Tools to Investigate Decisions Under Risk

Professor Windschitl conducted research on how people make decisions under uncertainty and how they think about and represent the uncertainty. A new version of a computer program called JIV-Test was created. This program, which is supported by funding from the National Science Foundation, was designed to become a valuable research tool for decision scientists investigating theories of how multiple factors influence perceptions of vulnerability and behavior in the face of risks. Numerous experiments, many involving JIV-Test, were conducted during the PDA. Extensive progress was made on several research papers, and five papers were accepted for publication in peer-reviewed journals. Three undergraduate honors students and three Ph.D. students gained valuable experience as collaborators on various projects that were conducted. The new version of the JIV-Test can be used in courses to dynamically illustrate a complex decision theory and how it can be tested. The theories that this project advances could ultimately shape how health-behavior interventions are designed, which has clear relevance to

the health and safety of lowans and others.

**WITTENBERG, DAVID H, ASSOCIATE PROFESSOR, ENGLISH, 15 YEARS OF SERVICE,
FALL SEMESTER**

Title: Anatomy of Irony

Professor Wittenberg accomplished two chief tasks on his PDA: editing and proofing his book manuscript, "Time Travel: The Popular Philosophy of Narrative", published in December 2012, and further research on a second book manuscript, "Big Culture: Toward an Aesthetics of Magnitude." The latter is near completion, and he has met with an editor at University of Chicago Press who has invited him to submit it for review. He also continued work on a book project entitled "Anatomy of Irony", and was invited to submit several articles and reviews for peer-reviewed journals and books, currently in progress. In Spring 2012 and Fall 2013, he taught a science fiction class partly based on his PDA research and in Fall 2013 he also taught a literary and cultural theory class based on both of his recent books. In Spring of 2014, he will have an Honors Proseminar entitled "Time," partly based on his PDA work.

**WU, XIAODONG, ASSOCIATE PROFESSOR, ELECTRICAL-COMPUTER ENGINEER, 9
YEARS OF SERVICE, SPRING SEMESTER**

Title: New Automated Segmentation Paradigm for Medical Images

Efficient detection of globally optimal surfaces representing object boundaries in volumetric images is fundamental and remains challenging in modern computer-assisted medical diagnosis and treatment. In this PDA project, Wu worked on the development of a novel segmentation paradigm for medical imaging, which has the potential to greatly accelerate the pace of 3D dimensional medical image processing, thus improving health care. This project will directly benefit many collaborative activities that are underway or planned between the Colleges of Engineering and Medicine at the University of Iowa. The results in this project will be used in classes and will influence the Ph.D. and MS topics of UI graduate students.

**YUEN, KEE-HO, PROFESSOR, ART AND ART HISTORY, 13 YEARS OF SERVICE, SPRING
SEMESTER**

Title: Innovation through art and technology.

Professor Kee-ho Yuen used computer numeric control (CNC) technology and equipment newly acquired by the School of Art and Art History to produce functional, expressive household design objects (e.g. a table or container) and jewelry. The new possibilities and production capability it provides enhanced his creativity and productivity. The technology made it possible to produce multiple copies of his work. The project greatly enhanced his understanding of integrating designs, technologies, and materials together. Fourteen of his pieces were exhibited in 2013 in Taiwan, Hong Kong, and in the US. He built samples and a manual for a cross-disciplinary course on creativity and technologies. He also assisted students from different disciplines with new technologies. This work is crucial for recruiting students both nationally and internationally, and provides designs for industries in the state.

ZEBROWSKI, PATRICIA, PROFESSOR, COMMUNICATION SCIENCES & DISORDERS, 25 YEARS OF SERVICE, SPRING SEMESTER

Title: Two Projects: Service-Learning in Communication Sciences and Disorders and Research in the Nature and Treatment of Stuttering

Professor Zebrowski completed several teaching, research and service projects during her PDA. In teaching, Professor Zebrowski created materials for a recently initiated undergraduate service-learning course that to date has involved over 100 students in collaboration with the preschool program at Roundy Elementary in Columbus Junction, Iowa. In research, Dr. Zebrowski submitted two grants during her PDA, and plans to resubmit one (NIH R21) based on the reviews. In addition, she completed data analysis from two projects, leading to two national presentations and two publications (in progress). Dr. Zebrowski also devoted time during her PDA to complete journal articles with two former Ph.D. students, both whom graduated within the last two years. Both of these papers were based on the students' dissertation, and were initiated just prior to the beginning of the PDA period. Finally, she initiated a research project with therapists at the Micheal Palin Centre (London, UK). In service, along with faculty in an Obermann Working Group at the UI, Dr. Zebrowski organized the "Envisioning an Engaged University of Iowa" workshop that was held on campus on April 26, 2013.

IOWA STATE UNIVERSITY

BERESNEV, IGOR, PROFESSOR, GEOLOGICAL AND ATMOSPHERIC SCIENCES, 15 YEARS OF SERVICE, 1/1/13-5/15/13

Professor Beresnev spent his assignment in Ames and Moscow, Russia, where he conducted research on environmentally clean energy supplies from fossil fuels, and technologies for removing organic pollutants from groundwater. To date, this work has resulted in the writing of two grant proposals for a combined \$937,000; and the submission of a manuscript on seismic wave propagation in oil- and gas-bearing geologic formations; and an expansion of Beresnev's international collaborations.

BOBIK, THOMAS, PROFESSOR, BIOCHEMISTRY, BIOPHYSICS AND MOLECULAR BIOLOGY, 9 YEARS OF SERVICE, 10/01/12-05/15/13

Professor Bobik gained expertise in protein crystallography and crystallographic methods during his PDA. The experience will help in the design of interdisciplinary research projects, improve competitiveness for external funding, and provide a broader research and educational opportunities for undergraduate and graduate students. Bobik also determined the crystal structures of three proteins during his PDA, which will help improve production of renewable chemicals, the engineering of better drug delivery vehicles, and the development of anti-obesity drugs.

CARDINAL-PETT, CLARE, ASSOCIATE PROFESSOR, ARCHITECTURE, 30 YEARS OF SERVICE, 8/16/12-12/31/1

Professor Cardinal-Pett's PDA allowed her to finish *A History of Architecture and Urbanism in the Americas*, a groundbreaking book that provides an important model for how designers are prepared for careers in an increasingly globalized world. Cardinal-Pett's manuscript also explores the contemporary relationships between urban and rural systems of infrastructure, and will be used as a text in her undergraduate course.

CEYLAN, HALIL, ASSOCIATE PROFESSOR, CIVIL, CONSTRUCTION AND ENVIRONMENTAL ENGINEERING, 11 YEARS OF SERVICE, 8/16/12-12/31/12

Professor Halil spent his PDA at the Delft University Technology in the Netherlands, working with colleagues in the areas of quieter pavements, advanced and rapid road infrastructure analysis techniques, and developing long lasting concrete roads technology. To date, the assignment has resulted in four publications and four invited lectures. The knowledge he gained has also been incorporated into his external grants, and into his teaching of undergraduate and graduate courses in pavement technology.

DEBINSKI, DIANE, PROFESSOR, ECOLOGY, EVOLUTION AND ORGANISMAL BIOLOGY, 19 YEARS OF SERVICE, 07/01/12-12/31/12

Professor Debinski, a conservation biologist, worked with colleagues in Canada to analyze butterfly responses to climate change. The collaboration also resulted in her inclusion on a scientific advisory panel dedicated to butterfly biodiversity, conservation, and education. Debinski's assignment has resulted in the publication of nine peer-reviewed articles, two presentations (including one to NASA), and an ISU ADVANCE (advancing women and minorities in academic faculty careers) final report to the NSF.

GALLAGHER, PAUL, ASSOCIATE PROFESSOR, ECONOMICS, 25 YEARS OF SERVICE, 10/19/12-05/15/13

Professor Gallagher spent his PDA at the USDA's Office of Energy Policy, where he worked to better understand the nation's biomass fuel industry. Gallagher's research into biomass raw materials supplies, barriers to processing, and policies to encourage development, has resulted in three papers and two scholarly presentations, and a \$57,000 USDA grant to study ethanol demand. He will also incorporate the work into his course on agriculture policy.

GHOSH, ARKA, ASSOCIATE PROFESSOR, STATISTICS, 8 YEARS OF SERVICE, 8/16/12-12/31/12

Professor Ghosh used his assignment to conduct research on theoretical modeling, and control/optimization of networks, with colleagues at the University of North Carolina and University of Minnesota. The work has resulted in one new submitted manuscript, and one revised manuscript recently accepted for publication in the journal *Stochastic Models*. Ghosh is also preparing a grant proposal on network control problems that will be submitted to the National Science Foundation.

GORDON, MARK, DISTINGUISHED PROFESSOR, CHEMISTRY, 21 YEARS OF SERVICE, 02/01/13-5/15/13

Professor Gordon spent his PDA at the Australian National University performing research related to his National Science Foundation grant in software infrastructure. A supplemental NSF grant also allowed Gordon to bring two Iowa State graduate students, and a postdoctoral researcher, to the assignment. Gordon and his collaborators' research into quantum chemistry and high performance computing will produce at least two manuscripts, as well as an NSF funding proposal.

HERRIGES, JOSEPH, PROFESSOR, ECONOMICS, 25 YEARS OF SERVICE, 01/01/13-05/15/13

Professor Herriges used his PDA to write a third edition to the classic economics text, *The Measurement of Environmental and Resource Values: Theory and Methods*. This work is the principle text on nonmarket valuation, and an important reference and resource for environmental economists. The new edition will be used in Iowa State's highly ranked doctoral program in environmental economics, including Herriges' advanced course on the subject, and help ISU maintain its leadership position.

HOHMANN, HEIDI, ASSOCIATE PROFESSOR, LANDSCAPE ARCHITECTURE, 13 YEARS OF SERVICE, 08/16/12-12/31/12

Professor Hohmann conducted field visits to more than 100 parks in Minneapolis during her PDA, as well as archives in Boston, Maryland, and Washington, D.C, as part of a book proposal on the Minneapolis Park System. Hohmann's research also resulted in a paper on the influence of Japanese national parks, and has been incorporated into her undergraduate course on the history of landscape architecture. Hohmann also reduced her assignment from two semesters to one, to take advantage of a \$70,000 grant she received as her PDA proposal was being reviewed.

JOHNSTON, DAVID, DISTINGUISHED PROFESSOR, PHYSICS AND ASTRONOMY, 26 YEARS OF SERVICE, 09/01/12-12/31/12

Professor Johnston used his assignment to continue work on a new solid state physics textbook, as well as develop a new approach for teaching antiferromagnetism that will be a great benefit to students at Iowa State and around the world. Johnston's one-of-a-kind textbook, once finished, is expected to be adopted by many institutions teaching courses in solid state physics.

KEINERT, FRITZ, ASSOCIATE PROFESSOR, MATHEMATICS, 25 YEARS OF SERVICE, 01/01/13-05/15/13

Professor Keinert worked with colleagues at the University of Bologna, Italy, to explore compressed sensing applications such as automatic data clustering and face recognition. This knowledge will help Keinert in his continuing work with Iowa State's Department of Electrical and Computer Engineering. His collaborations in Italy resulted in a joint research paper, and the completion of an earlier manuscript.

KRIER, DANIEL, ASSOCIATE PROFESSOR, SOCIOLOGY, 9 YEARS OF SERVICE, 08/16/12-05/15/13

Professor Krier explored how midwestern states look to entertainment and tourism to counter the loss of manufacturing jobs. Krier conducted a detailed case study of the American motorsports industry, completing primary research in Newton and Knoxville, Iowa, among other locations. His work with a co-author from Augustana College in South Dakota has resulted in five journal manuscripts and one conference presentation; the research has also been incorporated into Krier's undergraduate teaching, and may lead to the development of a new course on consumption markets and culture.

LIU, XIAOYUAN, PROFESSOR, HISTORY, 13 YEARS OF SERVICE, 01/01/13-05/15/13

Professor Liu used her PDA to write substantial portions of *Himalayan Dominos*, a book examining the role of Tibet in China's Cold War international relations in the 1950s and 1960s. Liu also prepared a book manuscript in Chinese, to be published in 2013 year, which includes previously published English-language essays on China's borderlands. Knowledge gained during her assignment has also been incorporated into her teaching.

MILLER, WYATT ALLEN, PROFESSOR, PLANT PATHOLOGY AND MICROBIOLOGY, 25 YEARS OF SERVICE, -09/01/12-06/30/13

Professor Miller traveled to France during his PDA to research RNA-protein interactions, and new mechanisms for the suppression of polioviruses in plants. His work resulted in two scholarly articles, and a grant proposal to study a virus that devastates rice fields in Africa. Miller also received 70,000€ to support his work through a Fulbright Fellowship and Gutenberg Chair award.

PAXSON, LYNN, PROFESSOR, ARCHITECTURE, 21 YEARS OF SERVICE, 08/16/12-05/15/13

Professor Paxson's PDA resulted in a signed contract for a book profiling contemporary indigenous (American Indian, Native American, etc.) architecture and placemaking. The work is expected to be a major contribution to the field of environmental design. Paxson and her colleagues are also creating a regional art exhibit in collaboration with the Institute of American Indian Art and the Indian Pueblo Cultural Center. The knowledge gained in her PDA will be

used to enrich her current course on the history of indigenous architecture, and to develop a new course in indigenous placemaking.

POST, CONSTANCE, ASSOCIATE PROFESSOR, ENGLISH, 27 YEARS OF SERVICE, 08/16/12-05/15/13

Professor Post traveled to China and England during her assignment, conducting research for her book, *Making Revolution: Isabel Brown Crook and the Rise of Modern China*. In addition to making substantial progress on the book, Post also submitted two articles for publication, made four presentations at international conferences, and served as senior editor of the *Journal of Transatlantic Studies*. The experience will also benefit students taking Post's courses in autobiography, biography, and memoir, and multicultural literatures.

PRITCHARD, JAMES, ADJUNCT ASSISTANT PROFESSOR, NATURAL RESOURCE ECOLOGY AND MANAGEMENT, AND LANDSCAPE ARCHITECTURE, 12 YEARS OF SERVICE, 08/16/12-12/31/12

Professor Pritchard spent his assignment in Ottawa, Ontario (Canada), where he completed scholarly work on U.S. national parks and great plains history. His work included manuscripts on Midwest landscapes, the development of Grand Teton National Park, and sections for a book on Olaus Murie, director of the Wilderness Society.

PROKOS, ANASTASIA, ASSOCIATE PROFESSOR, SOCIOLOGY, 6 YEARS OF SERVICE, 08/16/12-05/15/13

Professor Prokos used her PDA to construct data sets for better understanding how family transitions in three-generation families are related to family members' well-being. These data sets are expected to lead to large-scale research projects and external funding. Prokos' research has also resulted in one grant submission for \$50,000, four lectures and conference presentations, and two articles, and has led to additional scholarship and student projects related to women veterans.

REDDY, MANJU, ASSOCIATE PROFESSOR, FOOD SCIENCE AND HUMAN NUTRITION, 18 YEARS OF SERVICE, 08/16/12-12/31/12

Professor Reddy spent his PDA with colleagues at Rutgers University and Iowa State, studying the effect of green tea polyphenols on Parkinson's disease, and developing a simple method to measure iron absorption in humans. To date, this work has resulted in two published papers, one manuscript submitted for publication, and three grants totaling \$175,000.

SMITH, JONATHAN D. H., PROFESSOR, MATHEMATICS, 29 YEARS OF SERVICE, 08/16/12-05/15/13

Professor Smith traveled to Poland during his PDA, where he developed and taught a graduate course on advanced algebra to students at the Warsaw University of Technology. He also conducted research on quasigroup theory and complex systems; to date, this work has led to one research monograph, one published article, two articles to appear later in 2013, six articles submitted to leading journals, and three papers in progress. Smith's assignment was also supported by an \$18,500 Fulbright grant.

**STURM, JONATHAN, ASSOCIATE PROFESSOR, MUSIC, 14 YEARS OF SERVICE,
08/16/12-12/31/12**

Professor Sturm used his assignment to explore innovative ways to connect American orchestras to modern audiences who may not be familiar with classical music. As a result, Sturm has created a multimedia orchestral production (featuring a PowerPoint presentation and live acting) on the history, ideas, and philosophy of Charles Ives, with the goal of providing audiences with a greater appreciation of his music.

**TIAN, JIN, ASSOCIATE PROFESSOR, COMPUTER SCIENCE, 11 YEARS OF SERVICE,
01/01/13-05/15/13**

Professor Tian spent his PDA at the University of California, Los Angeles, where he conducted research with a leading expert in the field of causal interference. Tian's research has resulted in the preparation and/or submission of four papers; the knowledge gained during his assignment is also being used to direct the research of his graduate students.

**WOHLSDORF-ARENDT, SUSAN, ASSOCIATE PROFESSOR, APPAREL, EVENTS, AND
HOSPITALITY MANAGEMENT, 8 YEARS OF SERVICE, 08/16/12-05/15/13**

Professor Wohlsdorf-Arendt used her PDA to attend a qualitative health research conference, complete training on research software, writing grant applications and manuscripts, and co-teaching a course in the College of Human Sciences. To date, these efforts have resulted in one published article, four articles under review or in press, four presentations, and \$425,000 in new external funding.

**ZHU, ZHENGYUAN, ASSOCIATE PROFESSOR, STATISTICS, 4 YEARS OF SERVICE,
08/16/12-12/31/12**

Professor Zhu used his assignment to develop statistical methods for large datasets with applications for climate variability in agriculture, and wireless sensor networks. His research, conducted in Colorado and Australia, has resulted in three scholarly papers, and two grant proposals submitted to the USDA and NSF. Knowledge gained during the assignment is also being used in Zhu's course on spatial statistics.

UNIVERSITY OF NORTHERN IOWA

BERENDZEN, PETER, ASSOCIATE PROFESSOR, BIOLOGY, 8 YEARS OF SERVICE, SPRING 2013

Establishing conservation units of two species of native fishes in northeast Iowa

Prior to the start of the PDA, Professor Berendzen was awarded a 3-year \$107,000 State Wildlife Grant from the Iowa Department of Natural Resources (IDNR) for research to provide information for better management of two species of native fishes identified as in greatest conservation need in Iowa, black redhorse, and longnose dace. The objective of Professor Berendzen's PDA was to work on this project, while mentoring graduate and undergraduate students, to continue collection and analysis of data for all components of the study, prepare an annual report on the progress of the study, and present the results to state and regional fisheries technical meetings. **The objectives of the PDA were met.** Professor Berendzen and his students completed a large amount of data collection and made significant progress on the data analyses. Preliminary results of the study were presented at two regional fisheries technical meetings and an annual progress report was submitted to the IDNR and the U.S. Fish and Wildlife Service. Graduate and undergraduate students were involved in all of these activities, giving them valuable professional experience for their future careers. Professor Berendzen and two graduate students attended an international scientific meeting where the students presented their research, which will be the basis of their Master's theses in Environmental Science. One new grant proposal was submitted but not funded. Professor Berendzen's PDA research directly benefits the citizens of Iowa by determining where the emphasis of conservation and management efforts should be placed to help maintain the species composition and genetic diversity of Iowa's native fauna. The results will identify genetic diversity, habitat requirements, and environmental stressors of two vulnerable species of fishes in northeast Iowa. Recommendations for effective management of these species will be given to the IDNR in the form of a publically available final report at the end of the project, December 2014.

CUTTER, BARBARA, ASSOCIATE PROFESSOR, HISTORY, 13 YEARS OF SERVICE, SPRING 2013

The Alps of America: American Mountains, Identity and Empire in a Transnational Context: 1850-1920

Nineteenth-century Americans believed their country had the world's largest mountains and a boundless frontier of free land. They also believed that the greatness of their land made the American people and nation the greatest in the world. Professor Cutter's PDA research explored the identity crisis that arose in the late nineteenth century when Americans were confronted with the fact that their beliefs about the mountains and the boundless frontier were incorrect. Specifically, the research examined the experiences of Americans who wrote about, painted, photographed, and traveled in the mountains, in the United States and in the rest of the world, in the late nineteenth and early twentieth centuries. **The objectives of the PDA were met.** Due to the new availability of several key primary source journals online, Professor Cutter was able to spend less time than expected in physical archives and accomplish more in the PDA period than originally planned. During the period of the PDA, Professor Cutter completed all the primary research for a substantial part of the book-length project, and used this research to draft a book chapter. Eventually, the entirety of the research will be published in book form. The book chapter already drafted will be the basis for an article, which will be submitted to the journal *Environmental History*, called "A Mountain Utopia: 19th century American mountain clubs and climbers in a transnational context." Because of the relatively unstudied nature of the topic and Professor Cutter's approach to it, this project will be an important contribution to the field of

history, and because of its focus on outdoor recreation, it also has potential to reach a popular audience. In addition, she has already begun to integrate some materials from her research into her classes. When 2 years have elapsed since PDA, for eligibility, she will apply for a \$45,000 writing fellowship from the American Council of Learned Societies (ACLS).

DEFRANCISCO, VICTORIA, PROFESSOR, COMMUNICATION STUDIES, 24 YEARS OF SERVICE, FALL 2012

Gender in communication: A critical introduction

The goal of Professor Defrancisco's PDA was to complete the reworking of a textbook on gender in communication to shift the audience from upper-level undergraduates to introductory-level students. Her specific objectives for the PDA were a) to provide co-author leadership in completing the writing and editing of the chapters; b) to locate or create illustrations for the book; and c) to take the lead in updating and revising the instructors' resource website. The work was extensive and needed to be done within a short time frame. During the PDA Professor Defrancisco completed five extensive chapter revisions, located/created and obtained approval for approximately 12 illustrations for the book, helped edit her co-authors' work, and researched and wrote several pieces for the instructors' resource website. **The objectives of the PDA were met.** Because of the focused time that Professor Defrancisco was able to devote to the work, the complete book was submitted to the publisher by January 3, 2013, just two days past the date promised.

GOLDMAN, JOANNE, ASSOCIATE PROFESSOR, HISTORY, 21 YEARS OF SERVICE, SPRING 2013

Atomic Energy Education, 1947-1957

The dropping of the atomic bomb on Japan ended World War II but also marked a critical point in the U.S. approach to atomic science. What had been a classified scientific research program was now a matter of public record and this demanded the "proper" education of the American public. The Iowa Department of Public Instruction spearheaded a program to develop a comprehensive atomic science and social science curriculum for elementary, secondary, college, and adult education. It published *The Iowa Plan for Atomic Energy Education* between 1950 and 1952. This was the first of its kind in the nation in terms of the scope of its content, the audience it hoped to address, and the consistency of its message. Professor Goldman's PDA project was to analyze *The Iowa Plan* within the context of the culture of the Cold War and to examine the United States government's vision for atomic science education and the extent to which *The Iowa Plan* shared it. Professor Goldman also considers the extent to which this vision was implemented in Iowa's public schools. **The objectives of the PDA were met.** In August 2013, Professor Goldman submitted an article-length manuscript, "First in the Nation: the Iowa Plan for Atomic Energy Education" to *The Annals of Iowa*. She will be also presenting a formal talk "Before the 'New Social Studies': Atomic Energy Education" at the national History of Education Annual Meeting on November 2 in Nashville, TN. Professor Goldman's research will be of interest in fields as diverse as science education, Cold War history, and education policy history. She will also incorporate her work into her classroom teaching at UNI.

JEPSEN, LISA K., ASSOCIATE PROFESSOR, ECONOMICS, 13 YEARS OF SERVICE, FALL 2012

An Inquiry into the Effects of Athletic Participation and Team Success on Alumni Donations

During Professor Jepsen's PDA, she considered the effects of athletic participation and sports team success on alumni donations in several ways. First, she estimated the probability that former student-athletes at UNI donate to the alumni association compared to their non-student-athlete counterparts. She found that former football players and former men's basketball

players are more likely to donate than former students who did not participate on these teams. Second, she investigated whether the number of wins by UNI's three high-profile sports teams – women's volleyball, football, and men's basketball – influence the propensity for people to donate to the alumni association. She found a positive effect of athletic success for all three sports. Third, she analyzed whether team wins have a positive influence on the likelihood of former team members to donate. **The objectives of the PDA were met.** The results of Professor Jepsen's research can guide future budgeting decisions. The results will be of interest to many groups at UNI, including the athletic department, UNI Foundation, UNI Alumni Association, administration, faculty, staff, and students. Because private donations relieve some of the pressures to provide public funding at UNI, the public benefits from knowing if athletic expenditures influence private donations. Professor Jepsen will submit a paper on this research for presentation at the annual Eastern Economic Association meetings in Boston, MA, to be held in March 2014. She will also submit a manuscript to the *Journal of Sports Economics* as a co-authored paper with a former student who began work on this topic while an undergraduate economics major.

KIDD, TIMOTHY, ASSOCIATE PROFESSOR, PHYSICS, 8 YEARS OF SERVICE, SPRING 2013

Development of Novel Nanostructured Materials

Professor Kidd's research is on the physics of layered materials, which exhibit novel electronic and chemical characteristics, making them of interest not only to fundamental science, but also for applications in solar energy, energy storage, catalysis, and advanced electronic devices. Prior to the PDA period, Professor Kidd had a 6-month \$18,500 grant from NASA-EPSCoR funding related to this research. The objective of Professor Kidd's PDA was to create and characterize the properties of new nanostructured versions of layered chalcogenides, to explore how restricting the physical size of these systems to the nanometer length scale can impact their physical properties. **The objectives of the PDA were met.** In this work, Professor Kidd and his collaborator in Chemistry were able to successfully create 1D magnetic nanostructures and patterned nanostructures on the surfaces of various layered materials. Professor Kidd submitted two other grant proposals totaling over \$500,000, which were unfortunately not funded. Work performed during the PDA period contributed to the publication of three research articles, with another three in preparation and one currently in review. Five undergraduate students performed research under Professor Kidd's mentorship during the PDA, and work continued in the summer involving over a dozen undergraduate students, of which seven were supervised directly by Professor Kidd. Students performing this research also became involved in UNI outreach projects, such as the UNI Physics of Mario Kart camp held this summer.

LEE, MIN HO, PROFESSOR, MATHEMATICS, 27 YEARS OF SERVICE, SPRING 2013

Automorphic Properties of Pseudodifferential Operators

A soliton is an isolated wave, or a solitary wave, which travels without dispersing its energy and has the property of retaining its identity after collision with another wave of the same type. The theory of solitons is an important area of mathematics and has applications in many branches of science and engineering such as hydrodynamics, plasma physics, optical communication, electrodynamics, classical and quantum field theory, and biophysics. Pseudodifferential operators play an essential role in the theory of solitons (applied mathematics), and they are linked to various other branches of mathematics, including number theory (pure mathematics). The objective of Professor Lee's project was to investigate connections between pseudodifferential operators and certain types of functions widely used in number theory. **The objectives of the PDA were met.** During the PDA period, Professor Lee discovered the desired connections and submitted two papers to research journals for publication. In addition,

he collaborated with Professor Youngju Choie at Pohang University of Science and Technology in Korea to work on a research monograph which will be submitted for publication in the near future. The results will open the door for further study of various properties of pseudodifferential operators and soliton equations by examining the corresponding properties of functions used in number theory.

LUO, SHANGZHEN, ASSOCIATE PROFESSOR, MATHEMATICS, 8 YEARS OF SERVICE, SPRING 2013

Game Theory in Insurance Business

In Professor Luo's PDA, some game-related problems for insurers and reinsurers were studied. Cooperative and competitive/non-cooperative games were investigated. Two research projects were conducted. In the first research project, Professor Luo focused on games formulated to model cooperative behaviors of insurance and reinsurance companies (players). For the first time in the literature of insurance differential games, Professor Luo combined objectives of both insurer and reinsurer, and the resulting optimization game benefits both players. Comparing to zero-sum games, solvability of the games is more challenging, but, Professor Luo successfully found new methods to characterize the optimal solutions that are very different from the existing works in the literature of game theory. In the second research project, Professor Luo considered some non-cooperative games between insurance companies (players) to study the competitive interactions between insurance companies. The games were solved completely, and more specifically, Professor Luo found the optimal decision-making reinsurance strategies of the games for both players. **The objectives of the PDA were met.** Professor Luo prepared two journal articles on this research and a book is in preparation. He has also given talks on this research at UNI and abroad. The financial implications of the research can be used to guide insurers/reinsurers to cooperate and compete. The results provide insights on strategic planning and operation behavior and they can be introduced in both finance and mathematics.

MILAMBILING, JOYCE, ASSOCIATE PROFESSOR, LANGUAGES AND LITERATURE, 16 YEARS OF SERVICE, SPRING 2013

Bilingual Education in Practice: Implications of the Welsh Experience for the U.S. Context

The Welsh language, long overshadowed by English in Wales, is being revitalized through policies spearheaded by the Welsh Assembly. One goal of Professor Milambiling's PDA project was to analyze the different practices used in schools that teach through English and Welsh, to draw implications for language policy and educational practice in the U.S. During the PDA period, Professor Milambiling conducted classroom observations and interviews in schools and educational agencies in Wales. The data are being examined in order to answer the project's original research questions and the process has opened new avenues of investigation. Activities during the on-site phase of this project have also contributed to a better understanding of which policy elements could be implemented in the U.S. and which ones are better suited to the social and linguistic environment of Wales. **The PDA objectives had to be modified from those originally proposed.** Professor Milambiling was to have been a visiting researcher at the University of Bangor Bilingual Research Center. However, due to staff changes at University of Bangor since she applied for PDA in Fall 2011, they were unable to accommodate her during the PDA semester. She made alternate arrangements to conduct on-site research in a shorter time-frame in different locations in Wales, and **the goals of the study did not fundamentally change.** Professor Milambiling has drafted a book chapter for a volume on comparative multilingualism, and will give a paper at an international conference on heritage languages in March. She is currently incorporating her research in two UNI classes, one in her own department and one in Psychology. This project benefits the state of Iowa as it becomes

more diverse, and the issues of difference, language skills, and educational opportunity are becoming increasingly relevant to Iowa students and their teachers.

NIE, HONG (JEFFREY), ASSOCIATE PROFESSOR, TECHNOLOGY, 7 YEARS OF SERVICE, SPRING 2013

Multi-band Differential Code-Shifted Reference Technology for Ultra Wide Band Radio Applied to Intra-Vehicle Wireless Control and Communications Systems

The goal of Professor Nie's research is to improve ultra wide band radio as a means of wireless communication and control in vehicles. Professor Nie's PDA project was undertaken in three parts. In part one, he mentored several students to measure intra-vehicle ultra wide band (UWB) channels for various configurations, extract statistical characteristics, and build an accurate channel model for in-vehicle UWB channels. In part two, by including the newly built channel model into computer simulations, Professor Nie mentored another group of students to thoroughly evaluate the reliability and efficiency of current UWB transceiver technologies under in-vehicle environments and adapt those technologies to fulfill the demanding requirements for intra-vehicle control and communications applications. In part three of the project, Professor Nie was awarded a \$19,000 grant from Telink Micro LCC located in Orange County, California, where he worked in its research lab for several months. He worked on implementing the newly developed UWB transceiver technology with integrated circuits, to achieve a good balance between performance and system complexity. **The objectives of the PDA were met.** Professor Nie's project has resulted in one refereed journal article and five refereed conference papers, all with student co-authors. Aside from the obvious applications to automobiles, Professor Nie's research has the potential for state impact because the same technologies could be used in tractors and airplanes by John Deere and Rockwell Collins.

Pecen, Recayi (Reg), Technology

Dr. Pecen resigned the PDA to take a position at another university.

PROPHET, MICHAEL, PROFESSOR, MATHEMATICS, 14 YEARS OF SERVICE, SPRING 2013

Low-dimensional Shape-Preserving Approximation

The original objective of Professor Prophet's PDA project was to submit for a publication a research paper establishing specific characteristics of (so-called) low-dimensional shape-preservation, an area of applied mathematics that can be used in modeling a data set, for instance. During the Fall 2012 semester, Professor Prophet added an objective to the PDA as a result of a research collaboration that developed between him and Drs. E. M. Garcia-Caballero and S.G. Moreno from the University of Jaen, Spain. The additional PDA goal was to exploit newly discovered relationships between Viete's Formula and Fibonacci and Lucas Numbers. **The objectives of the PDA were met.** The result of the collaboration has been three research papers submitted or accepted for publication, the near-completion of a fourth research paper, and work on a fifth. The results of the work on Fibonacci and Lucas numbers will be included as examples in the mathematics courses Number Theory, Dynamical Systems, and Linear Algebra. The result from one of the papers on shape-preserving approximation also establishes a simple but important example in functional analysis that can be used as a starting point for a graduate-level research paper.

SOANS, FRANCESCA, ASSOCIATE PROFESSOR, COMMUNICATION STUDIES, 8 YEARS OF SERVICE, FULL YEAR

Waterloo: A History of Place, Episode 3: The North End

Professor Soans is in the process of completing a five-part documentary series, *Waterloo: A History of Place*, offering a unique perspective on the diverse histories of Waterloo, Iowa, tracing the intersections between place, memory, and identities. The first episode in the series was completed, premiered in November 2012 and won six awards from the Iowa Motion Picture Association. *The North End*, is a 60-minute documentary exploring the history and meanings of the "Black Triangle" neighborhood within the larger histories of African Americans in Iowa and of Waterloo. The documentary records the memories of the residents of this region as they recall the once-prosperous streets and businesses of their youth. **Many, but not all, of the objectives of the PDA have been met.** *The North End* is in the production phase of the project. Interviews have been collected, logged, and edited into a work sample for the project. Archival material has been identified. Professor Soans has received a \$5,000 grant from Humanities Iowa, and is seeking additional external funding to cover the expanded project. The project has provided valuable contributions to the university and the citizens of Iowa: student mentorship during the production, new skills to share with students, ideas for future course development, recognition for the university, and service to the community.

STALP, MARYBETH C., ASSOCIATE PROFESSOR, SOCIOLOGY, ANTHROPOLOGY AND CRIMINOLOGY, 10 YEARS OF SERVICE, SPRING 2013

Gendered Cultural Production: Caring for the Self through Quilting and Knitting

Professor Stalp conducted ethnographic research on women's creative activities in Ireland. With this study she continues her examination of women's creative work; including how and why women in modern times choose to engage in quilting (patchwork, in Ireland). Professor Stalp's research contributes to the body of scholarship on women's cultural production from a comparative and international perspective, and addresses a gap in qualitative research methods. **The objectives of the project were met**, and in fact, interviews and focus groups were conducted with 100 women instead of the proposed 25-30, as she completed 331 hours of fieldwork. Data analysis is in progress. Professor Stalp has applied for over \$10,000 in external funds and also a Fulbright Fellowship. She has submitted one peer-reviewed journal article, published one general audience article, and made two presentations in Ireland and one in the Czech Republic. Since 2006 Professor Stalp has given eleven guest quilting lectures to lay audiences, primarily in Iowa (local quilt and embroidery guilds). UNI students benefit from her international research as Professor Stalp integrates her expanded knowledge in the classroom and in individual research opportunities. Finally, while abroad Professor, Stalp disseminated information about how quilts are made and used in Iowa, including the Grundy County Barn Quilt Project, introducing the idea of quilt-related tourism to Ireland.

STAPLES, AMY, ASSOCIATE PROFESSOR, SPECIAL EDUCATION, 11 YEARS OF SERVICE, FULL YEAR

The Literate Development of Children with Significant Developmental Disabilities

During the year-long PDA, Professor Staples' efforts focused on two primary goals: (1) analyzing existing research data and preparing and submitting manuscripts for publication; and, (2) carrying out a new research project that would extend findings from previous work and create new opportunities to pursue federal grants. Professor Staples has multiyear grant support from the Iowa Department of Education at the level of \$300,000 last year and this year. **The objectives of the PDA project were met.** With regard to the first goal, two manuscripts were written, submitted for publication, revised, and published in peer-reviewed journals. The

first manuscript was a research article summarizing findings from a study of the composition development of young students with significant developmental disabilities during a particular writing activity. The second article, for practitioners, provided a description of the writing activity, paying particular attention to the procedures, how to adapt the activity to allow students with a range of disabilities to participate, and how to assess student progress. Two additional manuscripts were prepared for submission after completing the analysis of qualitative data, again one research article and one for practitioners. The second goal, to conduct a new study, was completed. The new research study examined the writing development of young children in classrooms in Iowa and Minnesota. Data were collected and analysis is underway. Professor Staples is sharing her research with both undergraduate and graduate students, and graduate students have benefited increased their research skills by being involved. The dissemination of research findings to research and practitioner audiences through professional publications and conference presentations benefits Iowa citizens in many ways, but the greatest immediate impact of Professor Staples PDA is the enhanced learning opportunities Iowa's students with disabilities receive.

SURDAM, DAVID G., ASSOCIATE PROFESSOR, ECONOMICS, 8 YEARS OF SERVICE, SPRING 2013

Century of the Leisured Masses: The Rise of Leisure in Twentieth-Century America

During the PDA period, Professor Surdam completed a draft of his book, *Century of the Leisured Masses: The Rise of Leisure in Twentieth-Century America*. Over the course of the twentieth-century, Americans of all income levels enjoyed increased amounts of leisure and a vastly enlarged set of leisure opportunities. They were able to do so because of three factors: growing worker productivity allowed workers to have more consumption and more leisure; better diets and public health measures increased average longevity; and a set of infrastructure changes, such as electricity, air conditioning, and better roads and automobiles, made travel for leisure more accessible. **The goals of the PDA project were met and exceeded.** Professor Surdam completed a draft of the entire book, not only the proposed chapters. Because of the book's potential interest to a broad audience, Professor Surdam hopes to place this book with a top-tier university press. He currently has a query letter out to the University of Chicago Press.

VAN WORMER, KATHERINE, PROFESSOR, SOCIAL WORK, 23 YEARS OF SERVICE, FALL 2012

Social Welfare Policy for a Sustainable Future: The U.S. in Global Context

Professor VanWormer's project for the PDA was to complete background research and co-author a textbook on global social policy. She had a contract with SAGE Publishing Company, an academic publisher, before the start of the PDA period. The sustainability focus and the secondary focus of economic globalization are timely and of interest to the social work profession. **The original goals of the PDA project were met in that the proposed chapters were written and sent to the publisher. However, due to suggestions from 7-8 academic critics that were six months in coming, additional chapters were requested.** Professor VanWormer is now writing the last of the added chapters and responding to the editor's suggestions for changes in the manuscript. The textbook has the potential to make a real impact in the field of social work as an introductory text. Three of the critics said they would adopt the book because of its sustainability and international focus, and Professor VanWormer will use it in teaching the UNI Liberal Arts Core class Social Welfare: A World View, and the UNI affiliation on the published book will bring positive attention to the university. Some of the content comes from the state of Iowa, for example, references to agricultural practices, the

Postville raid, and the resilience of the Waterloo African American women of the Great Migration to Iowa. Photographs from Iowa highlight the book.

WAGGONER, MICHAEL, PROFESSOR, EDUCATIONAL LEADERSHIP AND POSTSECONDARY EDUCATION, 25 YEARS OF SERVICE, FALL 2012

Religion and Education: A Primer

Since September 11, 2001, the profile of religion's role in our global society has increased significantly. In the United States, religion has long been a force in people's lives as a number of studies and polls have shown. Yet we continue to struggle with understanding differing religious traditions and what they mean for our common life. Many Americans harbor misconceptions with the result of either missing opportunities for growth and mutual benefit or, in the worst cases, engendering distrust and conflict. With fewer places where Americans can meet together to learn about each other and to share in the common construction of our futures, the public schools are an opportunity to create a "new commons" to address the well documented problem of religious illiteracy and the consequent lack of respect and understanding. Professor Waggoner's PDA project was to edit a book entitled *Religion in the Public Schools: Negotiating the New Commons* and also to write a chapter for it. **The objective of the PDA was met.** The book was published in late Spring 2013 by Rowman Littlefield and is available through standard online retailers, as well as on the publisher's website. The purpose of Professor Waggoner's book is to illustrate the complexity of the social and cultural milieu of public schooling in the United States regarding the goal of improving religious literacy and understanding. Professor Waggoner's book benefits Iowa because it addresses a key area of diversity that has been under-addressed in teacher and administrator preparation to this point. *Religion in the Public Schools* could be used in classes for teacher and administrator preparation at every level, as well as in teacher in-service for those already in the field.