

## Sabbatical Summaries

### Fall 2019

Randall Grometstein Behavioral Sciences 09/01/19 to 01/15/20

Randall Grometstein, Ph.D., will complete a manuscript for a textbook for the area of Psychology of Crime. Criminal justice students at every university study criminology, the array of sociological theories that have been developed to understand why people commit crime. However, sociological theories operate at the cultural and societal levels of explanation and thus are incapable of explaining individual-level factors that may lead to crime. Furthermore, sociological theories are present-oriented and cannot explain changing levels of crime. Since 1990 biosocial theories of crime have been proposed. Professor Grometstein became interested in these in graduate school. Biosocial theories add several levels of explanation to theories of crime, most importantly, individual-level variables and a developmental perspective that makes it possible to explain changes in crime rates over historical time. Although biosocial theories are by now well-established, few if any criminological textbooks mention them. She will collaborate with Dr. Richard Wiebe. Both worked together to develop the Psychology of Crime course and have been teaching it here at Fitchburg State as a supplement to the course SOC 2750 Criminology.

Joann Nichols Education 09/01/19 to 01/15/20

Professor Nichols plans on working with her licensed reading partner therapy dog, Beauty, in the McKay Arts Academy Fitchburg State campus laboratory school. While trained as a therapy golden retriever who inspires social and emotional benefit, she is also a certified “reading partner,” meaning that she exhibits various encouraging behaviors in response to children reading to her. Students of all literacy abilities enjoy her unconditional acceptance and attention to their efforts. The leave would allow her to make multiple, consistent visits per week within the reading lesson times of a designated classroom in an urban setting. The scheduling would control for multiple variables affecting the children’s reading aloud behaviors and provide a well-planned way to collect authentic assessments before and after this more-consistent treatment. Pre- and post-testing would be done using the Fountas and Pinnell widely-regarded assessment tool of children’s reading fluency and prosody. Research on the efficacy of animal reading partner therapy would strengthen not only her Education Department classroom instruction in guiding new teacher candidates toward superbly effective classroom environments, but would also legitimize and clarify the goals for her continued reading partner therapy work at McKay.

Benjamin Railton English Studies 09/01/19 to 01/15/20

Professor Railton, specializing in American literature and American Studies, plans to use his sabbatical time to complete his fifth book manuscript, *Exclusion and Inclusion: The Battle to Define America*. He plans to deliver 8 to 10 presentations that will connect this project to many different communities, including not only academic institutions and secondary schools but also museums and historic sites, bookstores and book festivals, historical societies and book clubs, and other communities. Additionally, he will also start work on a digital humanities project concerning exemplary American figures called, *The Hall of Inspiration: Exemplary American Figures and Stories*, which will feature multimedia dimensions and interactive digital resources as well as an accompanying book manuscript. This presentation of his topic will allow audiences to engage and add their own voices to the historical conversations. These very timely and interesting projects will result in not only worthy scholarly publications and presentations, but also will enrich his laudable teaching here at Fitchburg State in the areas of American literature and American studies.

Jason Talanian Exercise and Sports Science 09/01/19 to 01/15/20  
Professor Talanian's plan of the study is to observe the effects of chronic strength training on measures of body composition and performance in subjects with cerebral palsy (CP). CP significantly impacts movement and muscle tone, and exercise training is commonly prescribed to limit these deficiencies. Our study observing the effects of chronic strength training on body composition and movement performance can be impactful in the field. The results may benefit trainers and therapists that work with CP patients.

Jiang Yu Earth and Geographic Sciences 09/01/19 to 01/15/20  
Professor Yu's goal for this sabbatical is to adapt existing courses in physics to the standards of the American Physical Society (APS). This is important because as a program that does not receive specialized/professional accreditation the standards of the APS improve our ability to instruct and attain the most contemporary competencies in physics. Through the sabbatical the APS definition of the calculus-based introductory physics in terms of topic coverage, methods of teaching, laboratory requirement, and learning objectives will be reviewed and outlined for course adaptation. Through the sabbatical, research into the common practice in American universities in terms of textbook options, supporting materials, available online products, and related academic issues and trends will be carried out. The most critical component of the courses research, redesign and implementation will be the development of a collection of lab experiments with pedagogical design, required instrumentation and learning outcomes.

## **Spring 2020**

Jonathan Amakawa Communication Media 01/16/20 to 05/31/20  
Professor Amakawa will work on creating an independent Augmented Reality (AR) project with a focus on subject matter outside of his recent professional work. His work in technology offers tremendous potential for teaching public history and combines the fields of Game Design and Digital History. He would like to develop an Augmented Reality project for a historical subject outside of "Slavery and the Underground Railroad" and is interested in several potential areas including presenting historical locations in the ancient city of Kamakura, Japan; or Dejima Island in Nagasaki Harbor where the Dutch East India Company maintained a trading post during Japan's Edo period. His plan is to select a historical subject, conduct research and create and publish a fully functional AR app that will be made available to the public. He would also like to present the project at a future Academic Conference – preferably one with a focus on Serious Games and AR.

DeMisty Bellinger-Delfeld English Studies 01/16/20 to 05/31/20  
Professor Bellinger-Delfeld, Associate Professor specializing in Creative and Professional Writing, will use her sabbatical time to finish two book-length projects as well as to work on her poetry writing. The first is a novel about male aggression, gun violence, and racism, currently under revision at the request of her agent. She plans to complete, revise and submit this manuscript to publishers during her sabbatical period. She will also continue work on her second project, a novel about the African-American entertainer and businesswoman Bricktop, a project that she began in 2017 during a trip to France, sponsored by a Whiting fellowship that she was awarded. This novel explores the life of Bricktop. It elucidates some aspects of how to succeed financially in a sexist society and explores how this black woman succeeded in spite of 1920s and 1930s racism. As a teacher of creative writing who instructs her students in the creative writing, editing and researching processes, Dr. Bellinger-Delfeld will undoubtedly bring much of her work successfully and inspirationally back to her Fitchburg State classroom. Her novel on Bricktop will also certainly enhance her teaching in her feminist and gender studies classes and in her course on African-American women.

Laura Garofoli

Psychological Science

01/16/20 to 05/31/20

Professor Garofoli will work on two, book-writing projects. The first book has a working title of “The Last Self-Help Book You Will Ever Need: How the Real Science of Psychology Can Help You Make the Lasting Changes You Have Always Wanted to Make.” Its purpose is to explain, in laymen’s terms, the behavioral phenomena and processes that make behavior change difficult, as well as the behavior self-modification practices that are essential to helping people make lasting changes in their problematic behaviors, thoughts, and feelings. The second book she would like to work on has a working title of “Science and Scripture: The Developmental and Behavioral Science Supporting God’s Plan for a Healthy Family.” This book has a significant personal relevance, but it has tremendous academic value as well. Christians spend a great deal of time and money on bible studies and devotionals, and one of the most popular subjects in this pursuit is marriage and family. In fact, many Christians engage in what is known as bibliotherapy (the use of a book to promote healing) by completing themed bible studies and devotionals. However, very few Christian bible studies incorporate scientific findings as support for the bible’s teachings. Science and religion are often seen as opposing forces, but as both a developmental psychologist and a Christian, she feels a sense of responsibility to fill a void in the literature and write a book that integrates scientific evidence with biblical teachings on healthy marriages and child rearing.

Cheryl Goldman

Psychological Science

01/16/20 to 05/31/20

Professor Goldman has been using a book of autobiographical case studies, written by young adults, in her Adolescent Development class for about 15 years. She uses them in homework assignments and on tests. The authors are diverse in terms of race, gender differentiation, SES, and ethnicity. All these years she has been looking unsuccessfully for another source of autobiographical case studies or just different case studies to use in this class. She would like to put together a collection of these case studies that would be relevant for her Adolescent Development course. She would like this collection of case studies to be as diverse as those in the book she has been using, but needs time to do this. The second thing she would like to do is improve her class presentations, most importantly, the class discussions. Usually, a small handful of students participate verbally and when they finish talking, there is silence. She would like to learn how to comfortably tune into and break that silence, and sensitively encourage more dialogue by students who tend not to talk in class. Sometimes tense moments come up during discussions and she would like to be better able to turn them into teachable moments and to minimize, or even eliminate, when mistakes and the unexpected happen. CSZ Boston/Business in Roslindale, MA runs improv trainings and interactive workshops that use an “improvisational mindset to attack old problems with a fresh approach.” They work with people in business and education to increase public speaking skills by learning to think on your feet.

David Heikkinen

Exercise and Sports Science

01/16/20 to 05/31/20

Professor Heikkinen intends to perform a comprehensive review of the literature on the sport of alpine ski racing. The purpose of this review of literature will be to examine the physical characteristics, biomechanics, physiology, and training methodologies of athletes in the sport of alpine ski racing and facilitate and prepare for his primary goals of writing, scholarship, and publishing about strength & conditioning modalities and programming for the sport of alpine ski racing. There is not a recent, comprehensive review of literature on the subject of strength & conditioning in the sport of alpine ski racing. He would like to write and publish such a review in hopes of contributing to the discipline. Once his review of literature is complete, he plans to disseminate this information in several ways: peer review process for publication, as a poster abstract to the National Strength & Conditioning Association’s Annual Conference, and using this updated information on the subject of Training Alpine Ski Racers and present at Regional- and National-level conferences.

Margaret Hoey Biology/Chemistry 01/16/20 to 05/31/20

Professor Hoey will continue her scholarly activity by conducting experiments and analyses associated with the DNase II project. The goal of her sabbatical is to also redesign the Human Genetics course to update content and embed LA&S learning outcomes. She returned to the faculty in fall 2017 after holding a leadership role at the university for 3 years. While dean, she did not teach nor did she participate in scholarly activity. Now that she has returned to the faculty she has rejoined the DNase II research group (Drs. Ron Kreiser, Lisa Grimm, and Elizabeth Kilpatrick) as an active participant. Their research group is focused on the functional evolution of the deoxyribonuclease II (DNase II) gene family. She would like to take the opportunity during her sabbatical to complete aspects of their research objectives. The DNase II project is ongoing, but the exact experiments completed during her sabbatical would depend somewhat on the progress of the project over the next year.

Sanjay Kaul Industrial Technology 01/16/20 to 05/31/20

Professor Kaul will use this sabbatical for researching existing technology and pioneering technological breakthroughs in the field of energy technology and policy. His research procedures will mainly use an energy audit approach, combining the laws of thermodynamics with an economic perspective to explain why renewable resources are now inevitable for wholesome and integrated energy planning. This will be carried out by making contact, interviewing and researching the use of these technologies with leading technology companies in the field, plus research on the literature. This area of research looking at energy technologies and their ROI will assist various concentrations within the Industrial Technology department and bolster their collaboration with our business department specialties. The resulting collaboration (may allow us to) establish Technology and Management courses that will reflect emerging changes. Similarly, efforts in this sabbatical will be used to develop this research into a publishable manuscript. The sabbatical deliverable will enhance teaching in multiple energy courses required in various disciplines of industrial technology. With this work, courses will reflect updated and forward-looking ideas within energy technology, which will be of great interest (to our department and institution) as well as students looking for the cutting edge in energy technology education.

Peter Staab Mathematics 01/16/20 to 05/31/20

Professor Staab has been involved in the Webwork Project ([webwork.maa.org](http://webwork.maa.org)), which is an online homework system that is useful in mathematics and other scientific fields. Webwork is used in many of the mathematics classes here at Fitchburg State and more than 700 other colleges and universities across the world. A few hundred thousand students have used the system. He has been working on an improved user experience for the web interface and other improvements to the system to get more teachers and professors to use the system. He proposes to continue on this project and focus on two main subprojects: 1) on the student view of the system, which is the way the students work on their homework; use some of the same user experience for the professor-side of things; and then include a messaging system that doesn't exist in the current version; 2) improve the graphing interface of the system. Currently graphs on webwork are very crude in that they use technology from the 1990s and there are better ways to do that currently.

Annette Sullivan Education 01/16/20 to 05/31/20

Professor Sullivan would complete a research study on the effects of topic choice and prompts on student writing. The purpose of the project is twofold. First, she plans to create a Professional Development Program on best practices of writing instruction for teachers at the McKay Arts Academy (MAA) and for Education Department faculty. Second, she intends to write an article based on her research and have it published in a peer-reviewed journal such as the *National Council of Teachers of English's Language Arts*. By taking a closer look at student writing for a semester, she believes that she will be able to enhance her teaching of candidates who will need to teach students how to write in their future classrooms. She anticipates the Professional Development Program she plans to create following her study will have a positive impact on the MAA teachers

and their students and on department faculty, teacher candidates, and future students. Thus, this project would fit with her service obligations as well as her continuing scholarship.

Heather Urbanski English Studies 01/16/20 to 05/31/20

Dr. Heather Urbanski, Associate Professor specializing in Professional Writing Composition and Rhetoric and Culture Studies, plans to revise and complete a book manuscript from a science-fiction series that she began several years ago. She has completed the first draft of a manuscript for *Legacies: Raiders*, a space opera novel, and has also a nearly-finished sequel, *Legacies: Debtors*. During her sabbatical time, she plans to complete a revision of *Raiders* and will send the manuscript out to readers. She will then undertake revisions to *Debtors*. Although full completion may take longer than the sabbatical, the preparation work done during the sabbatical will be invaluable to her projects. Dr. Urbanski plans to send queries out to agents and publishers. During this time she will participate also in some online writing workshops (such as those conducted by award-winning author Mary Robinette Kowal and seminars offered under the "Writing the Other" organization). Dr. Urbanski's projects will yield not only satisfying professional, creative publications, but will also enrich the knowledge about process that she offers to her students in many classes about writing, revision and publishing, most notably in "Writing the Science Fiction Novel" and in her classes that school students in the writing, revision and marketing processes key to creative and professional writing success.

Daniel Welsh Biology/Chemistry 01/16/20 to 05/31/20

Professor Welsh has two goals. He created a trivia-style game to help engage students in a discussion of the primary literature. It involved students working in groups to answer questions related to the reading through timed rounds of 2-4 questions, which are then scored, creating an interactive atmosphere that engages them with the material. His sabbatical will be used to write a manuscript for publication in an education journal so that he can share this game more broadly with peers and colleagues. Second, his current area of research interest is in understanding how fish adapt to changes in their environment. Through his years here at Fitchburg State, one thing that he has noticed is that we are at a junction point between two very different, unconnected rivers—the Nashua River runs through town and heads generally southeast of here while the Miller's River is located just west of here (in Winchendon and that vicinity) and generally flows to the southwest. During his sabbatical leave, he would collect water and analyze the water coloration to determine quantitative differences.

### **Spring/Fall – full year**

Amy Wehe Mathematics 09/01/19 to 05/31/20

Professor Wehe's sabbatical would allow her to strengthen her ability to instruct using project-based learning strategies. As a mathematician trained in pure mathematics, she did not have much background in applied mathematics. This year-long sabbatical would provide the opportunity to explore applied applications to statistics, which will in turn give her the background to teach statistics courses from an applied point of view. She will immerse herself in an applied university setting as an assistant professor at the University of Applied Sciences at Bielefeld in Germany, which will provide further opportunity to see project-based learning in action. In addition, she will reach out to professors who are members of the Mathematical Association of America (MAA) Special Interest Group (SIGMAA) on Statistics, many of whom already teach statistics using project-based learning. She will interview them about the pedagogical structures of their class. During the sabbatical Dr. Wehe will enroll in a MOOC course that will give her additional literature and content for her development of a project-based approach to teaching statistics. The lessons from the sabbatical will be shared with the department as a whole to see how we can incorporate project-based learning across their program (e.g., in our freshman seminar, capstone work, statistics courses (1000-level, 3000-level, or 4000-level)).