

Richard S. Lapidus, Ph.D. PRESIDENT

MEMO

TO: Board of Trustees

FROM: Dr. Richard S. Lapidus President

RE: Sabbatical Leave Requests AY2020-2021

DATE: November 5, 2019

In accordance with the agreement between the Board of Higher Education and the Massachusetts State College Association, I am recommending approval of sabbatical leaves for the 2020-2021 academic year. Such leaves are granted on the basis of academic quality of the proposal, as well as other criteria. Prior to my review requests were initially reviewed by department chairs and Dr. Alberto Cardelle, Provost and Vice President for Academic Affairs.

Cheryl Armstrong	Psychological Science
Catherine Buell	Mathematics
Steven Fiedler	Biology/Chemistry
Jane Huang	Earth and Geographic Sciences
Lynne Kellner	Behavioral Sciences
Viera Lorencova	Communications Media
Kyle Moody	Communications Media
Erin Rehrig	Biology/Chemistry

Spring Semester 2021-01/14/21-05/31/21:

Biology/Chemistry Lisa Grimm **Psychological Science** Jannette McMenamy Engineering Technology Abdel Mustafa **Biology/Chemistry** Billy Samulak **Psychological Science Hildur Schilling Psychological Science** Thomas Schilling **Donald Tarallo Communications Media** Joseph Wachtel Economics, History and Political Science Jane Fiske **Humanities**

Full Year-09/01/20-05/31/21:

No requests

Sabbatical Summaries:

Fall 2020

<u>Cheryl Armstrong</u> <u>Psychological Science</u> <u>09/01/20 to 01/13/21</u> The project will contribute to the goal of developing more hands-on experience courses within the Psychological Sciences curriculum. By the end of this, Dr. Armstrong will have completed a manual with at least eight labs. Each lab would include background information on topic/concept, and all materials required to complete the lab. This is an important contribution because there is a lack of an appropriate published "manual" to use with the course. In addition, Dr. Armstrong will develop the course proposal for this specialized lab course.

Catherine BuellMathematics09/01/20 to 01/13/21Dr. Buell will work with multiple collaborators to further their study of orbits of symmetric subgroups
acting on generalized symmetric spaces defined over finite fields. More specifically, she intends to
characterize the H-orbits of the elements in the generalized symmetric spaces of SLn(IB'q) for each
involution of SLn(IB'q). Dr. Buell's project will be to determine the H-orbits of the unipotent elements
of SLn(IF'q) and start considering the semisimple elements in the generalized symmetric spaces for
SL3(IF'q) and SL4(IF'q) for each inner involution. Currently, there are many researchers worldwide
looking at applications related to generalized symmetric spaces. The results of this project will be
fundamental in the development of the field of generalized symmetric spaces and their applications.

<u>Steven Fiedler</u> <u>Biology/Chemistry</u> 09/01/20 to 01/13/21 Dr. Fiedler's oral presentation at the Fall 2018 National Meeting introduced a convergence test that could expand the functionality of a well-established electronic structure method. Such a study has been sought by theoreticians in the field, however, no results along these lines have been published to date. Dr. Fiedler will continue to strengthen his work in this area to result both in a manuscript for publication and a grant for national funding. To get this accomplished, Dr. Fiedler will work on three components of the project: a. Method Development in Chemical Theory; b. Software Development to test the previous resultant theoretic formulation; c. Manuscript Preparation once data has been collected.

Jane HuangEarth and Geographic Sciences09/01/20 to 01/13/21During this sabbatical in Fall of 2020, Dr. Huang will work toward the following three goals:1. Pursue a series of GIS training, offered by ESRI (vendor of the prevailing GIS program) for GISprofessionals and higher education instructors.

2. Updating/reorganizing GIS labs and other teaching materials based on the training taught by Dr. Huang.

3. Prepare a faculty-led study abroad course in Peru during the Spring of 2021. The course, geographic and health applications in Peru, is the first to be offered in Peru for the university.

Lynne Kellner

Behavioral Sciences

09/01/20 to 01/13/21

The Human Services program at FSU is the only 4-year accredited program in New England and the longest standing 4-year program in the country (initial accreditation was in 1981). Dr. Kellner will analyze program data that we have been routinely collecting on student achievement indicators, specifically using data collected from practicums and internship evaluation process, class assignments, advisory board, student surveys, and Student Success platform to complete this analysis. Dr. Kellner will also edit the Fall 2020 issue of the *Bulletin,* the Council for Standards in Human Service Education publication of best practices in Human Service Education.

Viera Lorencova 09/01/20 to 01/13/21 During this sabbatical, Dr. Lorencova will conduct a research study about the forms of cultural production of/for/by LGBTQI-identified people in contemporary Slovakia, specifically with focus on cultural production surrounding QYS magazine, Drama Queer Theatre Festival (Divadelny festival Drama Queer) and Slovak Queer Film Festival (Filmovy festival Inakosti). Both festivals are scheduled to take place in Bratislava, Slovakia in October 2020.

Communications Media Kyle Moody 09/01/20 to 01/13/21 The purpose of this sabbatical is to continue Dr. Moody's research into fake news/false information narratives, online communities of practice, and the distribution of misinformation that affects said communities in terms of rituals, values, and norms. Dr. Moody will be working on a collaborative, edited volume with a Fitchburg State University colleague about the impact of fake news on popular culture, and will be editing the volume and coordinating with others during the sabbatical. There will be a complete draft of the edited manuscript ready to be sent to the publishers by the end of this sabbatical. Dr. Moody will also work on his research emerging from his dissertation for a manuscript submissions to Games and Culture and New Media and Society. The work focused on video game mods, which are legally-authorized changes to video game software made through authorized software toolkits. He will also be working with the Grant Center to identify and submit for grant funds for future research projects involving the distribution of misinformation through social media platforms.

Erin Rehrig Dr. Rehriq will use this sabbatical to devote time and attention to two projects. First, a research line around "The Effect of Silver Nanoparticles on Plant Growth, Health, and Herbivory Using Digital Image Analysis." In this project, Dr. Rehrig will collaborate with two, Fitchburg State colleagues to digitally measure the effects of nanoparticles on plant growth and health. This is a simple, robust, and novel way of assessing plant growth and health. The method was described in a manuscript draft in the Fall of 2019 and it is currently under review for publication. It was also presented at the 2019 Annual Conference for the American Society of Plant Biology where several researchers from other institutions were very interested in applying it to other plant responses. The second project is the revamp, roll-out, and assessment of the General Biology I Laboratory. This is a three-year project that started with testing the curriculums for the general course and developing a new curriculum. This project will now develop the accompanying laboratory curriculum.

Spring 2021

Lisa Grimm

Biology/Chemistry

Dr. Grimm will advance her research on the Deoxyribonuclease 2 (DNase 2) gene. Her research has just recently progressed to the point where a period of full-time focus is needed. The objective is to make significant progress on the goal of confirming the existence of two forms of DNase 2 by finding the XI and X2 RNA transcripts in chicken tissues. Progress on this objective requires the use of molecular biology techniques and process, which in turn necessitates intensive and daily work in a laboratory. Dr. Grimm has carried out this work in collaboration with other Fitchburg State colleagues. Successful completion of this project will help our team move closer to writing a paper for submission to a peer-reviewed journal and will help our team produce data to be competitive for a National Science Foundation (NSF) grant. Publication of this research and funding from an NSF grant would establish our team and Fitchburg State as important contributors to the DNase 2 story. Most importantly, this project will have real impact on increasing student literacy in research science as the department is creating web tutorials that allow students at all levels (high school and university) to follow this DNase project.

Communications Media

Biology/Chemistry

09/01/20 to 01/13/21

01/14/21 to 05/31/21

Psychological Science

Dr. McMenamy will embark on a new research study related to her area of interest in the areas of prevention science, health literacy, and mental health literacy. In this project, Dr. McMenamy will investigate how mental health and mental illness are portrayed in media targeted toward adolescents. This topic, notably "how children and teens acquire health-related knowledge through social and cultural factors (e.g., media). She will conduct qualitative analyses of the most popular television series for adolescents that include portrayals of mental health and illness. She will review content, conduct the analyses and develop an article to be submitted for publication. The sabbatical will allow Dr. McMenamy to develop a new line of research that will involve Psychological Science students as research assistants.

Abdel Mustafa Engineering Technology 01/14/21 to 05/31/21 Dr. Mustafa will contribute to the ongoing efforts to strengthen the capacity of developing countries to enhance the positive environmental sustainability impacts of major foreign infrastructure investments. For example, it is estimated that China, through its Export-Import Bank and China Development Bank, has signed infrastructure contracts with more than 37 African countries and The African Union to deliver various water, energy, transport and other civil infrastructure major facilities that are expected to have tremendous impact on the continent economy, environment and the wellbeing of its people. However, given the weak technical and fiscal capacities of many states and local governments in Africa, such assessments and matrix applications and verifications are often not possible. A method of strengthening this capacity is through the applications and recommendations of a verified tested sustainability matrix such as the ENVISION Sustainability Rating System--developed by the American Society of Civil Engineers, Harvard Design School and the Institute for Sustainable Infrastructure (ISI). Envision is proved to be successful here in the United States and in several other countries. Part one of the project will focus on literature review and theoretical analysis in which the ENVISON standards and requirements will be compared and contrasted with other International System, namely the European Union (EU) Sustainability Standards and in particular, those standards currently used in Germany (in collaboration with colleagues at our partner university Rhine Waal University of Applied Sciences in Germany). Part two of the research will focus on the application and the findings of part one to a selected case study (Hydropower dam infrastructure project on the Nile in Northern Sudan) and will build on previous research work and on Dr. Mustafa's familiarity of the region and existing research collaborations. The research work is expected to result in a peer-reviewed publication and conference paper presentation, as well as a policy briefing paper to be submitted to relevant international development entities.

Billy Samulak

Biology/Chemistry

01/14/21 to 05/31/21

Dr. Samulak's sabbatical will focus on the teaching of GOB courses (General, Organic, and Biochemistry). GOB courses are offered as one- or two-semester sequences. Chemistry and biology majors do not take this type of course, these are for students in majors other than biology and chemistry (particularly health sciences students). These are difficult courses because the chemistry needs of a nursing student compared to a biology or chemistry major are vastly different. Nursing students need content from general chemistry, *and* content from organic chemistry *and* content from biochemistry, but don't need *all* the content. Currently, there are 996 schools in the United States that offer a Bachelor's Degree in nursing, many of which offer a GOB course, which is primarily taught by chemistry faculty. However, even though this course is offered across the country, it is very difficult to find resources to support faculty and learners in this specific course. Students now search the internet for help and resources before they pick up their textbook. Dr. Samulak plans to survey the status of this class across the country and identify how these courses are being taught. The research questions to be answered include -- Are the classes being taught as 1-semester or 2-semester sequences? Are they being taught with labs or without? How long are the labs? What kinds of labs are

being done and what skills are students learning? Who are the students besides health sciences majors taking these classes? This will be followed by a deep review of the existing literature and online resources available to general chemistry, organic chemistry, and biochemistry students and faculty. In this review, the appropriateness of activities, labs, and open-source materials for GOB classes will be assessed. The results will form the basis for a conference paper and a manuscript to be submitted to the *Journal of Chemical Education*, and the results will also inform the teaching here at Fitchburg State.

Hildur SchillingPsychological Science01/14/21 to 05/31/21Through this sabbatical, Dr. Schilling will work on four, different projects. The first two revolve around
a grant with the Worcester District Attorney's office. The first will be on Opioid Diversion Treatment
Program for Worcester County. In this project, Dr. Schilling will collaborate with colleagues here at
Fitchburg State in evaluating the effectiveness of a treatment program, in lieu of prosecution for low-
level drug offenders with substance abuse. The research will result in two, paper presentations—one
at the Academy of Criminal Justice Sciences and to Northeastern Association of Criminal Justice
Sciences. The second research area in this project is the Opioid Prosecution Solutions Project for
Worcester County. In this project, Dr. Schilling's work with her colleagues will determine (using
geocoding) areas of overdoses, and deaths from overdoses, in 60 communities in Worcester County.
The goal is to improve investigation and prosecution response to combat violent crime and illegal
opioid distribution. Dr. Schilling will also update a book manuscript and begin work on a second book.
Finally, she will develop an online cognition lab for the department.

Thomas Schilling Psychological Science 01/14/21 to 05/31/21 Dr. Schilling has various projects lined up for his sabbatical. The first is an analysis of data from two Department of Justice grants. The first looks to determine whether a new diversion program sponsored by the Worcester County District Attorney's office designed to give arrested drug addicts the option of directly entering a rehab program, in lieu of incarceration. The second investigates the effects of treating opioid drug deaths as homicides. This program, in conjunction with the Worcester DA's office and several Worcester County police departments, is designed to decrease the number of drug overdose deaths due to laced narcotics by increasing the level of charges and prison sentences of arrested drug dealers. Dr. Schilling is also planning on completing a paper critical of philosophers' use of the scientific literature to support nativism theories of infant Cognition. A final and fourth project is to complete experimental work examining the nature of moral heuristics utilized when people consider resolutions to moral dilemmas.

Donald Tarallo Communications Media 01/14/21 to 05/31/21 During Professor Tarallo's sabbatical, he will undertake several activities surrounding his creative practice and scholarship in typeface design and web technology. The primary activity will be to carry out the evolution of some of his typefaces (fonts) and to develop concept sketches for a new one. Design of a typeface is a slow, complex, and methodical process. His plans are to evolve his existing typeface, Binario, to include a fourth variety—a thin condensed version. The work is relevant to web designers who now utilize the variable font technology through code. In addition, he would like to develop his typeface, Scanno. He will like to create a **rounded** version of the heavy weight of this font. Professor Tarallo will also use this time to revise his website; www.tarallodesign.com. He self-coded this site and would like to be able to better understand the complex relationships between web typography and code to improve the overall typographic, aesthetic, and functional quality of the website. <u>Joseph Wachtel</u> Economics, History and Political Science 01/14/21 to 05/31/21 Dr. Wachtel's proposal includes two projects. First is the completion of a book manuscript analyzing the founding of North American colonies through the lens of trans-Atlantic religious politics. Previously, such works have focused on the Puritan utopia in New England. This analysis will look at the influence of the early formation of both New France between 1603 and 1635 and Virginia between 1607 and the dissolution of the Virginia Company in 1624. The second project is an exciting opportunity to work with Oxford University Press. Dr. Wachtel will form part of a three-person team that Oxford University Press solicited in writing an annotated Pennsylvania Constitution to fill a long-standing gap in their series (which itself continues on from the Greenwood series Oxford took over in the early 2010s but had existed since the 1990s). Pennsylvania is one of few states left to complete, and Oxford is looking to wrap the series up within the next few years.

Jane Fiske Humanities 01/14/21 to 05/31/21 The primary goal of this sabbatical by Dr. Fiske will be to prepare, perform, and record four-hand piano works by some of the following composers: Amy Marcy Cheney Beach (1867-1944); Cecile Chaminade (1857-1944); Germaine Tailleferre (1892-1983); Stefani Germanotta (1986-present); Francis Poulenc (1899-1963); Maurice Ravel (1875-1937); Wolfgang Amadeus Mozart (1756-1791); and Johannes Pachelbel (1653-1706). This process requires significant rehearsals, recording, and processing. The recording process will include recording the various tracks, editing, preparing the cover graphics, and program notes. The recording will be marketed to benefit the Music Scholarship at various concerts and to the Alumni Association, as well. Additional funding for the project comes from the Frank Patterson Fund. A secondary goal of the sabbatical is the continued research into Dr. Fiske's manuscript "Teaching Critical and Creative Thinking Skills by Playing an Instrument." As a result of the sabbatical. Dr. Fiske will continue to research and write additional chapters (first two chapters already written) and test the new reading material in a departmental course titled "Critical and Creative Thinking."

Spring/Fall – full year

<u>No requests</u>