

**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.

**Fall Semester 2020 —09/01/20-01/13/21:**Cheryl Armstrong  
Catherine Buell  
Steven Fiedler  
Jane Huang  
Lynne Kellner  
Viera Lorencova  
Kyle Moody  
Erin RehrigPsychological Science  
Mathematics  
Biology/Chemistry  
Earth and Geographic Sciences  
Behavioral Sciences  
Communications Media  
Communications Media  
Biology/Chemistry**Spring Semester 2021—01/14/21-05/31/21:**Lisa Grimm  
Jannette McMenemy  
Abdel Mustafa  
Billy Samulak  
Hildur Schilling  
Thomas Schilling  
Donald Tarallo  
Joseph Wachtel  
Jane FiskeBiology/Chemistry  
Psychological Science  
Engineering Technology  
Biology/Chemistry  
Psychological Science  
Psychological Science  
Communications Media  
Economics, History and Political Science  
Humanities**Full Year—09/01/20-05/31/21:**

No requests

## Sabbatical Summaries:

### Fall 2020

Cheryl Armstrong Psychological Science 09/01/20 to 01/13/21

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 Buell Mathematics 09/01/20 to 01/13/21

Dr. 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  $SL_n(\mathbb{F}'q)$  for each involution of  $SL_n(\mathbb{F}'q)$ . Dr. Buell's project will be to determine the H-orbits of the unipotent elements of  $SL_n(\mathbb{F}'q)$  and start considering the semisimple elements in the generalized symmetric spaces for  $SL_3(\mathbb{F}'q)$  and  $SL_4(\mathbb{F}'q)$  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.

Steven Fiedler Biology/Chemistry 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 Huang Earth and Geographic Sciences 09/01/20 to 01/13/21

During 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 GIS professionals 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 Communications Media 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.

Kyle Moody Communications Media 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 Biology/Chemistry 09/01/20 to 01/13/21  
Dr. Rehrig 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 01/14/21 to 05/31/21  
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.

Jannette McMenemy

Psychological Science

01/14/21 to 05/31/21

Dr. McMenemy 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. McMenemy 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. McMenemy 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 ENVISION 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. Therefore, there is a lack of resources both for students and for faculty teaching a GOB type of 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



