FITCHBURG STATE UNIVERSITY

Faculty and Librarian Development Day
Tuesday, May 23, 2023

Faculty and Librarian Research Symposium

HAMMOND HALL – MAIN LOUNGE

8:00 – 8:30 A.M.   **Check-In**

8:30 – 8:45 A.M.   **Welcome and Overview of Faculty Research Symposium, Updates from the Center for Faculty Scholarship**
Dr. Elisabet Takehana
Associate Professor, English Studies
Co-Coordinator of the Center for Faculty Scholarship (CFS)

8:45 – 9:10 A.M.   **Everyday Play: The Arcade, the Mobile and the Miniature**
Dr. Samuel Tobin
Professor, Communications Media
2022 Recipient of the Faculty Award for Research & Scholarship

9:20 – 10:20 A.M.   **Concurrent Sessions I**
- **Panel 1: Researching Teaching and Teaching Research**
  Hammond Hall – G01/G01B

- **Panel 2: Challenging Social Issues**
  Hammond Hall – Ellis White Lecture Hall

10:20 – 10:40 A.M.   **BREAK**

10:40 – 11:40 A.M.   **Concurrent Sessions II**
- **Panel 3: Reading, Writing and Rehearsing**
  Hammond Hall – G01/G01B

- **Panel 4: Technology and Change**
  Hammond Hall – Ellis White Lecture Hall

11:40 – 11:55 A.M. BREAK

11:55 A.M. – 12:15 P.M. **Cyber Security Awareness**
Eric Boughton, Information Security Officer, Technology

Each year, the state requires every employee to complete a Cyber Security Awareness course and assesses our efforts to keep both faculty and staff aware of current issues in Information Security.

Eric Boughton will present a 15-minute in-person training session at the end of our Development Day that will satisfy the training requirement for all faculty members who attend.

Celebration of Faculty and Librarian Excellence Ceremony

HOLMES DINING COMMONS

12:30 P.M. **Luncheon / Presentations**
Dr. Richard Lapidus, President

Dr. Patricia Marshall, Provost and Vice President for Academic Affairs

- o Tenure
- o Promotions
- o Retirements
- o Presentation of Emeritus Faculty
- o Faculty Award for Service
- o Faculty Award for Research and Scholarship
- o Contributions to Graduate Programs Award
- o Dr. Vincent J. Mara Award for Excellence in Teaching

PANEL 1: RESEARCHING TEACHING AND TEACHING RESEARCH
HAMMOND HALL — G01/G01B

Notetaking Among Nursing Students: A Literature Review
- Amy Kendrick, PhD, RN, Assistant Professor, Nursing
- Co-author: Lisa Cross, PhD, RN from MCPHS Department of Nursing

Abstract: Notetaking is frequently used by college students and is a proven learning strategy. College students are increasingly comfortable with online learning environments and technology. Many students prefer to take notes using electronic platforms rather than handwriting notes during lecture. There has been less research for notetaking among nursing students. This review will determine the current state of the literature for notetaking among nursing students, as well as identify implications for education and research.

Exploring Synchronous Roleplaying Over a Video Conferencing Platform to Promote Cognitive Rehearsal and Skills Acquisition in Higher Education Students
Dr. Audrey Pereira, Professor, Business Administration

Abstract: In the midst of COVID-19, many educators moved to online learning platforms, such as Zoom, in order to continue synchronous education. Online teaching faces the challenge of using roleplaying as a method to stimulate cognitive rehearsal (CR) and skills acquisition in students. Roleplaying over a video conferencing platform (VP) could promote CR and skills acquisition in an online learning setting. Research shows that studies on activities that promote deeper learning principles (DLPs) have historically been less likely to be conducted in an online environment. To address this issue, the purpose of this study is to use and evaluate a synchronous roleplaying module administered over a VP to a class of undergraduate students studying the social and political environment of business. This module could aid in improving students' understanding of the diverse social and political perspectives of various stakeholders in business, thereby promoting CR and skills acquisition.

A C.U.R.E. for Plant Biology Lab Doldrums
Dr. Erin Rehrig, Professor, Biology / Chemistry

Abstract: Over the past 10 years, my plant biology course has morphed into a Course Based Undergraduate Research Experience (CURE) with the goal of having all students actively participate a semester-long research project. My research focuses on the effects of silver nanoparticles (AgNPs) on plant growth, physiology, and herbivory.

In the last 3 classes, students have found that AgNPs negatively affect plant growth, including root and shoot growth, cause chlorosis, and significantly inhibit seed germination in both Brassica and Arabidopsis plants. We have also shown that insect feeding, performance, and pupation in 2 different insects is not deterred by plant AgNP treatment, suggesting that AgNPs did not alter plant defenses nor did they become unsuitable food sources. Published studies show that AgNPs affect a host of plant cell functions including cation transport and membrane integrity, both which require acute and targeted stress signaling pathways. These pathways are often mediated by small chemicals called Reactive Oxygen Species (ROS). Recently, students in my lab have been using fluorescent dyes to visualize ROS production in both spinach and Arabidopsis plants using fluorescent microscopy. Our initial experiments found that wounding, AgNP treatment, and chemical induction by TBHP caused ROS production in both leaf and root tissue, which can be visualized using the ROS-binding dye, H2DCFDA.

Centering Student Voices in Conversations on Equity and Inclusion
- Dr. Lisa Grimm, Associate Professor, Biology / Chemistry
- Dr. Ronald Krieser, Professor, Biology / Chemistry

Abstract: The goal of faculty and staff within the Department of Biology and Chemistry is to create an inclusive and supportive environment for our students, but it has been a challenge due to the limits of our understanding and expertise. In a thoughtful and intentional way, faculty and staff in the department hope to identify and remove barriers impeding student success and realize that our approach would work best if it centered around students rather than faculty. Therefore, why not ask students about their perceived barriers and let them take the leadership role in the process? Four biology majors were hired to form the team that would take the lead in this project. This student leadership team formulated guiding questions and facilitated conversations during three focus groups sessions composed of students who were underrepresented minorities, first generation college students, or both. The conversations were carried out in a neutral location without any faculty present. Morgan Hakala from the Academic Coaching and Tutor Center was present in order to monitor the software program responsible for transcribing conversations. The transcripts have allowed us insight into the barriers that students have experienced both inside and outside of the classroom. The STEM inclusive excellence team that initiated this project as well as the entire department have reviewed the transcripts, identified barriers uncovered in the conversations, and are working to formulate action plans to reduce or eliminate the barriers.

Historical Redlining and Food Environments: A Study of 102 Urban Areas in the United States
Dr. Min Li, Assistant Professor, Behavioral Sciences

Abstract: Unhealthy food environments are disproportionally concentrated in neighborhoods with clustering of racial/ethnic minorities and poverty. This disparity has been blamed, in part, on market self-regulation. This explanation risks overlooking past and current practices of racial segregation that have created and reinforced the obstacles blocking investments from food retailers in marginalized neighborhoods. We fill this gap by investigating how the long-term ramifications of redlining, discriminatory housing practices enacted by federal Home Owner Lending Corporation (HOLC) in the 1930s, has evolved generations later to disproportionally exposing neighborhoods to unhealthy food environments.

The Dark Side of Social Media – A Behavioral Analysis of Users, Corporations, and Governments
- Dr. John Crawley, Associate Professor, Business Administration
- Dr. Yang Liu, Assistant Professor, Business Administration
- Dr. John Lohmann, Assistant Professor, Business Administration

Abstract: With the growth of social media, we are observing a change in people's life. Some people bully others, and some people are bullied by strangers. Some of them end up with depression and some commit suicide. We will discuss potential policies and Corporate Social Responsibility of social media corporations. By offering a theoretical model of behavioral analysis, this research provides an explanation regarding three responsibilities: users' responsibility for social media, corporate social responsibility, and government responsibility and internet law involved in these circumstances. This research targets to offer a solution to the current "dark side" of social media and provide suggestions to social media businesses and the governments they operate in which must develop rules that control and protect the billions of users of these utilities.

What Do You Mean by Workload?: Reflections on the MSCA Contract Article XII.A.
Dr. Elise Takehana, Professor, English Studies

Abstract: After spending some time producing an MSCA Workload survey and writing the resulting report, it is clear how overworked many faculty feel and the depths of the morale issue on campus. While there are many and diverse reasons for this, I'd like to use this presentation to explore how a part of that concern lies in the disconnect between the experience of working here and the language used to describe our work in the MSCA contract, particularly the "Faculty Workload" section in Article XII.A.

While it's certainly not surprising that contractual language fails to capture the phenomenological experience of actually working, the disconnect between the two aggravates the problem ordinary language philosophers have long struggled with: that understanding the use of language is hard, but our best option of doing so is understanding how a term is ordinarily used in a specific context. My presentation will compare how workload is used in the MSCA contract and how it is used in faculty responses to workload concerns.

Lessons from the Chronic Illness and Mental Health Experience: Forgiveness, Normalizing, and Real Talk Pedagogy
- Dr. Kisha Tracy, Professor, English Studies
- Dr. Heather Urbanski, Associate Professor, English Studies

Abstract: Pedagogical and student support resources are full of advice on time management, self care, and study strategies, among other tips. But for many with chronic illnesses, those who are neurodiverse, and/or those who have traumatic life experiences, that advice often doesn't work, at least not as intended. As both teachers and scholars, this experience of shame and ensuing need to support the normalization of invisible disabilities has caused both of us to adapt our work inside and outside of the classroom. In this presentation, we plan to share our own experiences with advice that didn't work, the workarounds we've created to adjust for our chronic illness and mental health, as well as tested strategies, including applying the Real Talk pedagogy, for helping our students normalize, recognize, and manage their own invisible disabilities.

10:10 – 10:25 A.M.   BREAK

10:40 – 11:40 A.M. / CONCURRENT SESSIONS II

PANEL 3: READING, WRITING AND REHEARSING
HAMMOND HALL — G01/G01B

Renaissance Music and the Future – A Concert Examination
Dr. Jonathan Harvey, Associate Professor, Humanities

Abstract: The Brattleboro (VT) Camerata, a semi-professional vocal ensemble directed by Jonathan Harvey, specializes in the performance of both Renaissance-era and Renaissance-inspired music. This presentation will include an investigation of the Renaissance-era pieces, how they connect to the later music, and will feature recordings from the concert.

Voudon, Gris-Gris, and Black Girl's Magic
Dr. DeMisty Bellinger-Delfeld, Associate Professor, English Studies

Abstract: In researching for a book-length project that is Voudon-adjacent, topics and areas that do not quite fit into my novel but still demand attention work their way into a growing collection of short work that features folk magic which stems from West African, Haitian, and Black American traditions. This project explains some of my research and offers a quick reading of a piece of short fiction.

Baseball, Bigotry, and Ben's Book: Public Scholarship in Progress
Dr. Benjamin Railton, Professor, English Studies

Abstract: For the last year and a half, I've been trying to find a home for my 7th book (in progress), Two Sandlots: Baseball, Bigotry, and the Battle for America. The process has opened my eyes to many aspects of public scholarly writing & work in the 21st century, from agents and editors/presses to the variety of media available for sharing our voices.

In this brief talk, I'll say a bit about the project but focus more on the process, and on some of the things I've learned that I believe might be valuable for colleagues and community members across all disciplines.

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PANEL 4: TECHNOLOGY AND CHANGE
HAMMOND HALL – ELLIS WHITE LECTURE HALL

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Adaptive Reuse: Design Transformations for Community Healthcare
- Dr. Patricia Kio, Assistant Professor, Engineering Technology
- Dr. Kiernan Riley, Assistant Professor, Nursing

Abstract: The project focuses on adaptive reuse and considers how an underused commercial structure could be transformed into a healthcare setting with thoughtful sustainable design interventions. The project seeks to convert an underused newspaper building on Main Street into a voluntary substance abuse care center. The project will use local traditions, building materials, and connections to engage the community. By addressing a specific need of the community, the project will increase preventative care, reduce risk and provide educational services to enhance ongoing community care in the Fitchburg area.

Developing a Macro with Randomization and Pronouns in WeBWorK
Dr. Peter Staab, Professor and Chair, Mathematics

Abstract: WeBWorK is an open-source homework management system useful for mathematics and sciences. It is extremely versatile with the ability to write macros that give problem authors additional capabilities. This past year, I developed and refined a macro that allows authors to select a random name with a pronoun set as well giving the capabilities to select the proper pronoun and verb agreements. I will demonstrate this with a set of problems that I rewrote in conjunction with a ROTEL grant.

Go Beyond AI ANN Supervised Deep Learning to NI BNN Unsupervised Deep Learning
Dr. Hong Yu, Assistant Professor, Engineering Technology

Abstract: In the past months, more researchers focus on Artificial Intelligence (AI), especially on ChatGPT. However, AI relies on the electronic signals supervised and supported by computation algorithm. With the rapid development of graphics processing unit (GPU) features, the machines can apply their fast massive parallel electronic computing AI capability with Artificial Neural Network (ANN). The electronic logic IQ slows its thinking with big data analysis vs the sensors for machine deep learning. On the other hand, the rapid diffusions of hormone's macromolecules show human e-IQ fast thinking of so-called Natural Intelligence (NI) with Biological Neural Network (BNN). The human-brain signal, called electroencephalogram (EEG) that based on human emotion shows the brain activities with gamma wavelets, beta wavelets, alpha wavelets, theta wavelets and delta wavelets. Therefore, Future-AI not only rely on the supervised electronic and unsupervised chemical signals (EEG). Together the slow thinking IQ & fast thinking e-IQ complete the emulation of NI. It might be referred to as "Cutting Edge AI" with the human emotion.