



The Stories Behind the Music

BY ERIC BUDD

When Dr. Jonathan Harvey started college, he planned to become a professional tuba player. That all changed when his orchestra conductor asked him to lead a sectional rehearsal for the brass members of the orchestra. According to Dr. Harvey, "It was so fun to be able to shape the sound of the group, and to suddenly think of the music as a collection of all of its parts, rather than just focus on your individual contribution as a player." The loss for tuba-philes has been a great gain for FSU and the local music community. A former student nominated Dr. Harvey for a GRAMMY Music Educator Award, and while he was not one of the 10 finalists from across the country, the nomination was a great honor.

In addition to being an Assistant Professor of Music and the conductor for the campus choirs, Dr. Harvey is also the Musical Director for the Brattleboro Concert Choir and the Brattleboro Camerata. He was asked to create the latter group, and it is now going into its 2nd season. As the Musical Director for both groups, he is responsible for everything from auditioning musicians, selecting the music, scheduling and running rehearsals, leading performances, arranging publicity, and more. Twice a week, after a long day of classes, rehearsals, and meetings on campus, he heads to Brattleboro for the groups' rehearsals.

The Brattleboro Camerata is a smaller chorus, consisting of just 16 members, and its specialty is music from the Renaissance, or music inspired by the Renaissance style. This fall, the Camerata will be performing music from the Renaissance era

that originated in Latin America. According to Dr. Harvey, this music is not performed very often, but there was a huge musical infrastructure throughout Latin America at that time. The music interests him because it shows how colonialism manifested itself, but also because, while the music incorporated certain indigenous dialects, it was done in a very European-imported style. "The meeting of different traditions" in the music interests Dr. Harvey.

In his dissertation, and in several publications and presentations, he has focused on the work of Adrian Willaert. Willaert was very active during the Renaissance, holding one of the top positions in the music world of the day as the music director of St. Mark's Basilica in Venice. Several of his students were among the most famous musicians in the generation after Willaert, while his own work has fallen out of fashion. On the one hand, studying Willaert's work provided an opportunity to consider such questions as "How are canons formed? How is a musical reputation constructed?" In addition, "How do they develop over time?"

What also intrigued Dr. Harvey about Willaert's work was a series of pieces on the margins that were in Latin but were not for the Catholic liturgy. Typically, most Latin-texted music would have



been written for the liturgy, but Willaert wrote several pieces that were not. For example, Willaert used excerpts from *The Aeneid* in several pieces. Why use Latin? What function did the Latin texts serve in these pieces? Part of the answer lies in Humanism. During the Renaissance, other artists such as poets or sculptors had models from antiquity that they could draw upon, but musicians could not do that, because there were no musical notations from antiquity that anyone understood. Therefore, the only way to connect to the Humanist tradition was to use texts from antiquity and set them in a contemporary musical style.

The use of Latin in the musical pieces also evoked certain emotions and ideas within the listeners. In his research, Dr. Harvey also examines Civic Motets, which are pieces of vocal music with Latin texts written for a civic event such as a diplomatic visit or a military victory. The reason why they were written in Latin rather than the vernacular was that the use of Latin brought ceremonial weight and solemnity to the occasion. Through its association with the Catholic Church, Latin made a text and its musical setting feel more weighty.

In his research, Dr. Harvey explores how the music and the text create certain images

in the minds of their listeners and evoke different ideas and emotions. In one of his conference presentations, Dr. Harvey compared two anti-war pieces by Ralph Vaughan Williams and Benjamin Britten. While separated by a generation, both sought to incorporate anti-war texts from the past to propose an alternative future. Hopefully, according to Dr. Harvey, “the arts can create a space for solidarity, for unity, and for the consideration of alternative options besides violent conflict.” Music not only has the power to soothe savage beasts, but also to tell us stories about our past, and to help us to strive for a better tomorrow.



From the Co-Coordinator, Eric Budd and Elise Takehana



As we begin our fourth and final year as co-coordinators of the Center for Faculty Scholarship, we have set a fresh goal for ourselves: make all of the campus events more inclusive of students and the wider community. As part of that effort, we are planning to host two Research Weeks this academic year.

The first Research Week will be from Monday, October 3rd to Friday, October 7th. We have organized a Poetry Slam to coincide with the University's celebration of LGBTQ+ History Month and Latin X History Month. On Monday, October 3rd from 3:30-4:30, there will be a few poems during the Opening Ceremony with more poems to follow during the reception from 4:30-5 pm. On Wednesday, October 5th, from 3:30-5 pm in the Hammond Main Lounge the CFS and ALFA are co-sponsoring a talk by Dr. Jeremy DeSilva (Dartmouth) on his book *First Steps: How Upright Walking Made us Human* with a reception after the talk. Finally, on

Thursday, October 6th from 2-3:00 pm, faculty will be presenting their research on posters. Then, from 3-4:30, there will be a series of “Lightning Talks” where faculty members will briefly present something from their research or scholarship. There will be a reception after the talks as well.

From March 13-17, we are planning to hold another Research Week. We will build that week around a specific theme or topic. We are reaching out to the Student Government Association and others to help us pick the theme. On Monday, March 13th, from 3:30-5 pm, there will be a panel discussion of the theme, with a reception to follow. On Wednesday, March 15th we will be hosting a talk by a guest speaker on the selected theme (and yes, there will be a reception to follow!) Finally, on Thursday, March 16th at a venue to be determined, we will be having an informal discussion and social hour on a selected topic.

All of the events are open to everyone, and we hope that faculty will encourage their students to attend, or even bring their class if they take place during class time. Hope to see you there!

Life After Fitchburg: Research and Activism

BY ERIC BUDD

When Dr. Michael Turk retired in 2015 after 33 years of teaching economics, he began a new phase of his life that has been full of research, scholarship, and political activism. As a former chair of the Economics, History, and Political Science Department (then known as the Social Sciences Department), a long-time leader of the MSCA, and an active committee member on a slew of committees, Dr. Turk's years at Fitchburg State left him little spare time for his research and scholarship. However, since retiring, he has had two books published, volunteers as a housing policy expert for a local union, and continues to advocate for affordable housing.



While teaching at FSU, Dr. Turk created and taught the class "The History of Economic Thought," so his current research continues his focus on the intersections of history and economics. His research, scholarship, and activism converge on the economics of the housing market and the evolution and reconfiguration of urban space for both residential housing and commercial development. For example, in the late 18th and early 19th centuries, New York City placed the railroad lines that ran through it underground, thereby creating prime real estate such as Park Avenue. Developers built skyscrapers throughout Manhattan on land that was once crisscrossed by the city's railroads. Thereby creating valuable land out of nothing.

The history of condominiums

offers a similar case of creating something out of nothing.

The passage of the Horizontal Property Acts redefined space to allow for the creation of condominiums. According to Dr. Turk, the traditional way of defining property was that there was land underneath it.

With the passage of these Acts, developers could carve properties into separate units, and those condominiums did not need to have any land directly underneath them. While many economists have focused on the 1968 Housing Act, Dr. Turk feels that the discipline has overlooked the impact of the Kennedy Administration's 1961 Housing Act. It was meant to democratize the housing market by allowing FHA mortgages for condominiums, theoretically increasing affordability. In practice, it facilitated urban gentrification and squeezed out the working class, as evident in the past 50 years.

Dr. Turk collected his work on urban space in the manuscript *Historical Narrative, Urban Space, and a New Cast to Urban Economics*. (Common Ground Publishing, 2018). While that book was slowly winding its way towards publication, he was encouraged to turn an article that he had published in the *Journal of the History of Economic Thought* into a manuscript. That article was about the economist, philosopher, sociologist, and political activist, Otto Neurath. Building upon the research he had done for the

article, Dr. Turk wrote *Otto Neurath and the History of Economics* (Routledge, 2018). Ironically, both books came out in the same month. He currently is researching the philosophical and historical origins of economics.

To complement his research on urban economics, Dr. Turk also volunteers as a housing policy expert for the Service Employees International Union of Massachusetts. Additionally, he also works to promote rent stabilization throughout Massachusetts. As an activist, he has championed legislation on rent control, worked with tenant organizations, advised tenants of their rights, written op-ed pieces, and much more.

In his work as a policy expert and as an activist, Dr. Turk uses his academic training and expertise to make the case for rent stabilization and policy change. Drawing upon his academic and research interests in urban economics and the economics of the housing market, he has filled his retirement with research, scholarship, and activism.

Historical Narrative, Urban Space, and a New Cast to Urban Economics

Rethinking Urban Economics from a Conceptual Standpoint

MICHAEL TURK



How's the Weather Next Winter?

BY ELISE TAKEHANA

Jessica Oehrlein admits her own academic identity is split. “As an educator, I am very much a statistician and a mathematician. As a researcher, I am much more in the atmospheric science space, but I am trying to bend that more statistical because the field sure needs it.” While it is generally important to know what affects our climate, Oehrlein is looking at short-term weather changes and wants to be able to better predict what an upcoming season might be like. Many industries benefit from having as precise of an idea of the season to come as they can.

Although most of her publications are in atmospheric science, she came into graduate school knowing nothing of the field. Instead, she brought her background in engineering and mathematics, especially her interests in fluid and thermal dynamics and chaos theory, to her doctoral work, where she happened upon atmospheric science. But being the statistician that she is, there is also space for simultaneous coincidences. “There is a different origin story where I grew up in a place within three miles of the three most destructive tornadoes in Oklahoma history. So there is a story where this has always been an interest of mine and there’s a story where I figure it out as an undergraduate.”

While much of her work is concerned with polar events in the stratosphere, Oehrlein’s first research project instead rebutted a prominent paper on the effects of the 11-year solar radiation cycle on weather in the troposphere, the lowest atmospheric level where we humans live. The paper she rebutted claimed that the effects of that solar radiation

could be seen in the North Atlantic climate at a two to four year lag. To Oehrlein, this claim seemed like it could have used more evidence.

While her first foray into research in atmospheric science was to rebut claims about solar cycles, ultimately, Oehrlein was less interested in working on solar and found a new focus in the polar stratosphere and its effect on the North Atlantic winter. For Oehrlein, that system has a “fun combination of things happening with seasonal cycles and surprising dynamical events.” In short, during the summer, the winds above the poles are weak and move east to west. This wind changes direction and blows more strongly beginning in September. But in winter, that strong west-to-east vortex can break down, which causes a spike in the temperature high above the poles in the stratosphere called sudden stratospheric warmings (SSWs). That increased temperature some thirty miles above the surface of the earth often results in a cold snap a few weeks later.

Because SSWs are fairly rare with only a few a decade and only forty years of satellite data of such events and because their impact, intensity, and timing vary greatly, Oehrlein bootstrapped the existing sample to study the patterns in resulting weather at the surface of the earth. While ultimately weather prediction is the goal of such work, Oehrlein’s

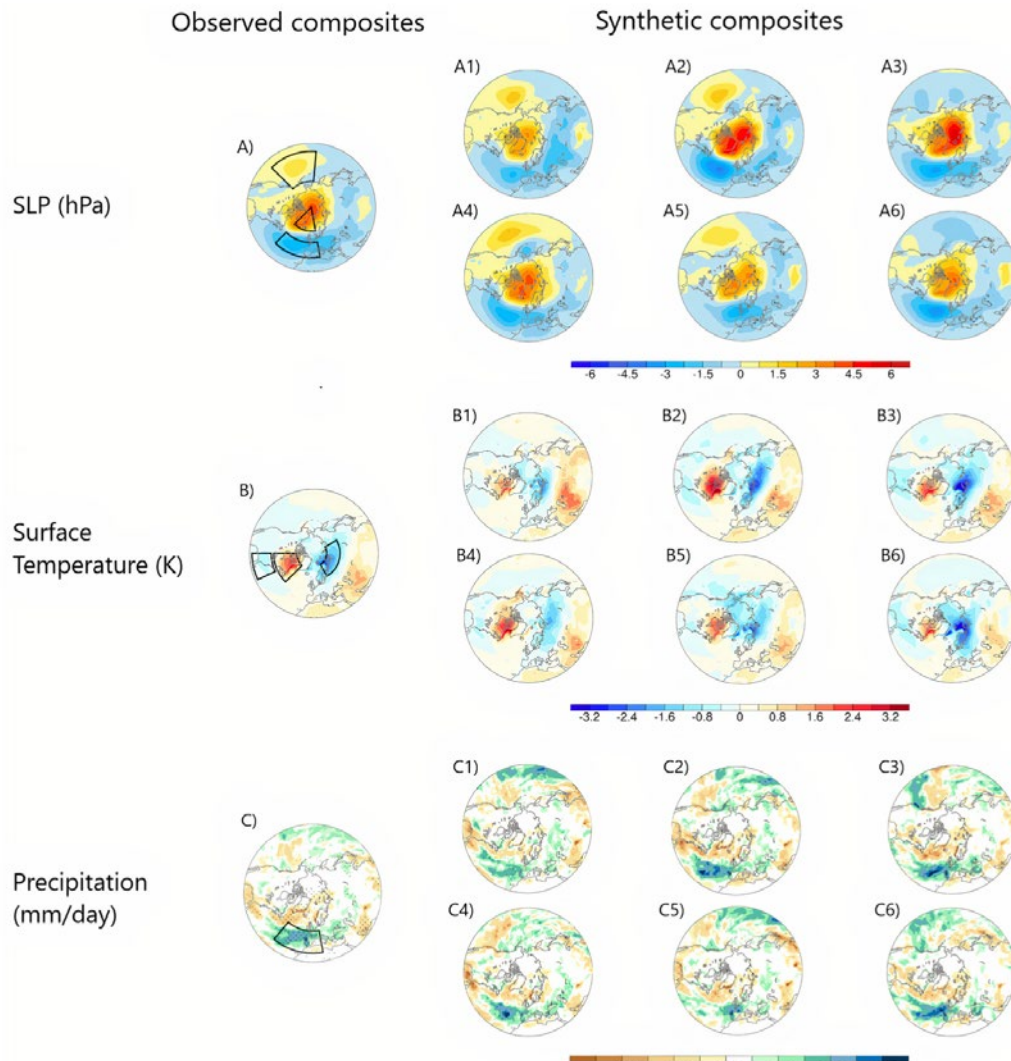
research works to describe observations from the data to determine if there are “other sources of predictability” scientists can use to predict seasonal weather. For instance, Oehrlein provides an example: “Does what’s going on in the tropical Pacific help us say anything about how the polar stratosphere will behave?”

In her article “How Well Do We Know the Surface Impact of Sudden Stratospheric Warmings?” she took 39 instances of observed SSWs and their resulting weather patterns and treated that data set as its own universe from which she could take several parallel universes that sample events at different rates. From those samples, she found that “we definitely get cooling over Europe, but it can be a little bit of cooling or a lot of cooling. Sometimes we get cooling on the Eastern Seaboard, and sometimes we don’t.”

Ultimately her findings complicate the argument forwarded in stratospheric atmospheric science in these past decades that the breakdown of a polar vortex would have a “clear signal that we see at the surface that gives us increased predictability.” While, on average, such a trend is true, Oehrlein and her collaborators, found that there is still an enormous amount of variability in the resulting weather.

Prior to this study on SSWs, Oehrlein and her collaborators published a study on the effect of ozone chemistry on stratospheric





CAPTION: Average surface climate in the two months following sudden stratospheric warmings, both for the events actually observed (left) and for six of the bootstrapped “parallel universes” (right).

polar events. Rather than bootstrapping existing data, this study used model simulations to determine if it is “worth the extra computational time and expense to include the modeling of chemistry when we’re thinking about SSWs and their effect.”

In her model, considering chemical reactions in the ozone did make a difference in sudden stratospheric warming events when the polar vortex was weakening but not when it was strong. While in the model, chemical reactions had a clear impact on weather outcomes, it turns out it does not seem to hold in the real world. Although that is not

particularly helpful to weather prediction, it does help scientists build better models. While Oehrlein prefers to do studies where she can examine real data and a model, doing model-based research turns out to be a necessity in atmospheric science where it is not possible to turn off the solar radiation cycle or disable chemical interactions in our actual ozone. Building strong models is thus important to the field.

What’s next for Oehrlein? In her model work, she has been using a language that has since died, so she is devising a new workflow using Python and R to continue her research in atmospheric

science. She is also working out how to best include students in that language migration. From a science perspective, she is interested in looking at final warmings that transition winter to spring. “We have ignored these events for a long time. The transition from summer to fall is really consistent and there’s not much to look at there, but this transition from winter to spring can vary a lot more. Sometimes it’s this slow seasonal change and sometimes it’s this sudden warming.” Anticipating spring has its own science and Oehrlein is at the ready with her statistical toolkit.

Memory: A Many-Varied Thing

BY ELISE TAKEHANA

Hildur Schilling's new book *Memory Matters: Amnesia, Inattention and Eyewitness Memory*, published by Kendall Hunt, stems from her curiosity about how memory functions, fails us, and influences our decisions and behaviors. But like all books, its roots run deep.



Schilling's early work on memory focused on cryptomnesia, the unconscious plagiarism that results when someone thinks of an idea and does not remember the source, so they assume the idea is their own. She ultimately tested the prevalence of cryptomnesia by asking groups of students to take turns naming items from a category (e.g., fruits) and then recall which fruit they contributed and which others named.

In her next project, she considered what happens to memory when one is exposed to false information, as is the case when students are taking a multiple-choice exam and see the wrong answers. Schilling asked study participants a series of basic trivia questions like "What is the longest river?" After receiving their score, Schilling had participants look at questions followed by incorrect answers and asked participants to select which wrong answer people were most likely to choose if they were taking a test. When participants would take the trivia quiz again, they performed poorly on questions whose incorrect answers they had studied. "When you study those wrong choices, you

connect them with information in your long-term memory and are later likely to believe that the information is correct even though, at the time you looked at it, you were told that the information is wrong."

Moving into her doctoral work, Schilling stayed the course with memory though she shifted to considering how memory could be recalled more quickly if it is primed with associative concepts. Schilling recorded eye movements with an eye tracker to study factors that affect how we access the meaning of words from memory. If you are asked to read the word "lemon," you will read it faster if you just saw a picture of a lime rather than an elephant. Seeing a lime activates related concepts, so you take less time to process the word "lemon" when you encounter it. Schilling continued to conduct research on semantic priming with her students in her lab at Fitchburg State.

Throughout her years of teaching, Schilling has involved dozens of students in devising and executing experiments on memory in her lab. One such experiment examined how talking and texting on a phone impacts our ability to notice changes in our surroundings. Participants in this study were talking or texting on a cell phone while they watched scene changes on a computer screen. They were asked to respond to scene changes such as a traffic light changing color. Their cell

phone use dramatically impaired their ability to register changes in their environment. This was especially pronounced when participants were asked to generate new knowledge (e.g., type/say a word that begins with the last letter of the word they just saw/heard).

While Schilling loves lab research and teaching, she considers working for the benefit of her community an especially rewarding experience. She collaborated with Tom Schilling to create a survey of Fitchburg residents to gauge community priorities for spending on city development and maintenance. The Schillings analyzed the results in a report that was used in deciding which city projects to approve for funding from the Community Block Development Grant. "When the city reached out needing people who can do research, that sounded exciting. It was fun to collect data on the city and help the community. Those are the most rewarding activities." Schilling also contributed to two research reports for the County of Worcester on the opioid crisis ravaging the region. Led by Tom Schilling and Beth Walsh, the projects studied the effectiveness of drug diversion programs and factors affecting the overdose death rate in Worcester County.

When the COVID-19 pandemic cloistered community members in their home, closed labs, and moved courses to the virtual classrooms of Zoom and Google Meets, Schilling turned to writing her textbook, *Memory Matters*. A compelling feature of the book is the frequent "Try This!" pull-out boxes that feature classroom exercises she has built over the course of her teaching career. These exercises help readers understand

how information is stored and retrieved from memory in an engaging manner that often replicate experiments. For instance, one such activity asks students to recall what a penny looks like and draw it. Despite having seen a penny countless times, most students cannot remember the details of the coin. The book has dozens of such experiments for students to learn about the limits and quirks of memory by testing their own.

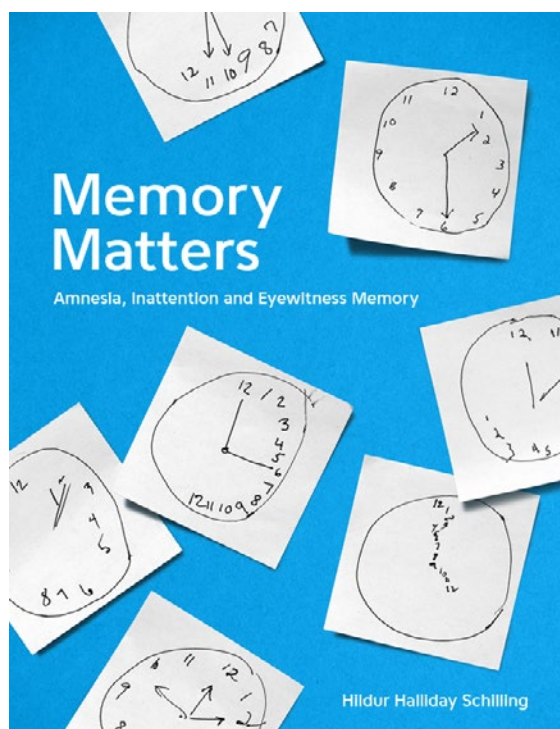
The book also includes case studies of extraordinary and impaired memories to spark discussions on the nature of memory. In one instance, her book mentions Lonni Sue's inability to recall she had just played the viola, though she could play beautifully. A virus damaged her hippocampus, making it impossible to store memories. "One of the things

that students come to class thinking is that we either have good memory or bad memory. It's way more complicated than that. We have different kinds of memory and her procedural memory, the ability to play through music, to read music, to execute all those motor functions, was all intact. But what she couldn't do is transfer information from short-term memory to long-term memory." Other cases show the grave consequences of misunderstanding memory. For example, preschool teacher Kelly Michaels spent years in prison for molestation, charges resulting from children's testimony that came from improper interviewing techniques.

Writing the book was really spurred on by the course she created on memory, itself provoked by her experience on jury

duty. "I was stunned being on a jury at what people think you should remember, what you shouldn't remember. Then I talked to my nephew, a prosecuting attorney who was a criminal justice major, who said that he never had a class on memory." For Schilling, everyone in a field that involves interviewing people should understand the limitations of our memory and know how easily memories can be distorted.

Schilling is using *Memory Matters* in her memory classes this semester and looks forward to adding experiments and case studies to the book in the years to come as well as using her research to benefit her local community.



15.1.1 Try This! False Memory

Instructions to your friends: *I am going to read you a list, just listen to these words.*

STEP 1: Read the following list (from Roediger & McDermott, 1995) to your friends:

BED REST AWAKE TIRED DREAM WAKE SNOOZE BLANKET DOZE SLUMBER SNORE NAP PEACE YAWN DROWSY

STEP 2: Instruct your friends to write down what they recall from the list.

Repeat the above instructions and steps, replacing the words with this list:

DOOR GLASS PANE SHADE LEDGE SILL HOUSE OPEN CURTAIN FRAME VIEW BREEZE SASH SCREEN SHUTTER

Check the answers – *Did anyone write down SLEEP in the first recall list? Did anyone write down WINDOW in the second recall list?*

3.1.1 Try This! Serial Position Effect

STEP 1: Give your friend a pen and paper and the following instructions:

I will read a list of 20 words. When I am done reading the list, please write down what you can recall.

STEP 2: Read aloud the following list of words at the rate of about one word every 3 seconds:

LOLLIPOP, ZEBRA, SNOWMAN, NOODLE, TREADMILL, BASKETBALL, AIRPLANE, MOUNTAIN, WINDOW, PILLOW, MUSEUM, CLOUD, MONSTER, SWEATER, APARTMENT, SIGNATURE, SUNTAN, FINGERNAIL, FIREPLACE, MARSHMALLOW

STEP 3: Instruct friend to write down items from the list.

Did your friend recall Lollipop? Window? Marshmallow?

Repeat the demo with several other friends.

Have you published a book in the past year?

Please let Eric Budd or Elise Takehana know! We are hoping to plan our annual book panel and would love to include all faculty whose books came out recently.

Events

Please send details of events related to faculty research or intellectual life to etakehan@fitchburgstate.edu for inclusion on the Center for Faculty Scholarship's calendar and newsletter.

10 03 22

12:30 Google Meets

Faculty Speaker Series featuring Dr. Daniel Welsh (Biology) in his talk "Patterns of variation in fish scale size within individuals and across population"

10 03 22

3:30 Hammond Street Patio

The CFS joins the celebration of LGBTQ+ History and Latin X History Months, sponsored by the Office of Student Development, with poetry readings that celebrate diversity and inclusion.

10 05 22

3:30 Hammond Main Lounge

Jeremy DeSilva, paleoanthropologist and Associate Professor of Anthropology at Dartmouth College, speaks on his book *First Steps: How Upright Walking Made Us Human*. Co-sponsored with ALFA.

10 06 22

2:00 Hammond Main Lounge

Faculty research poster session! Learn more about the research faculty across campus are doing right now. Refreshments served with a raffle held for students.

10 06 22

3:00 Hammond Main Lounge

Faculty share 5-7 minute lightning talks on compelling questions and findings from their research. Refreshments served with a raffle held for students.

10 13 22

12:30 Antonucci Building

Faculty in the sciences share posters on active lab projects that students can participate in during the Spring 2023 semester. Refreshments served.

11 07 22

3:30 Google Meets

Faculty Speaker Series featuring Dr. Michael McCutcheon (Criminal Justice) in his talk "Emotional Intelligence and the Police"

12 05 22

12:30 Google Meets

Faculty Speaker Series featuring Dr. Heather Urbanski (English Studies) in her talk "Interpretive Gaps in the Marvel Cinematic Universe"

2022-2023 Special Projects Grant Winners

RESEARCH ASSISTANT

- Eric Budd - Economics, History, and Political Science
- Elyse Clark - Earth and Geographical Sciences
- Daniel Welsh - Biology and Chemistry
- Eric Williams - Biology and Chemistry

MAJOR GRANTS

- Michael Hove - Psychological Science
- Jon Krasner - Communications Media

MINOR GRANTS

- Dennis Awasabisah - Biology and Chemistry
- Elyse Clark - Earth and Geographical Sciences
- Katharine Covino - English Studies
- Erin Rehrig - Biology and Chemistry
- Jason Talanian - Exercise and Sports Science
- Jeffrey Warmouth - Communications Media

ANTI-RACISM

- Zachary Miner - Behavioral Sciences
- J.J. Sylvia - Communications Media

During Rock the Block, students entered their own research questions for a raffle prize. Here are a couple gems they shared:

- How do styles of architecture affect different moods?
- How do nurses overcome stress?
- How has the representation of cis-gendered, straight relationships changed in media over time?
- What attracts people to a business?
- Is *Waiting for Godot* about a loss of religion?
- How has COVID impacted learning?
- How do hydration levels affect physical performance?

Research Live

[The Center for Faculty Scholarship](#)

Co-Coordinators: Eric Budd and Elise Takehana

If you are interested in having your work featured in *Research Live*, contact Elise Takehana at etakehan@fitchburgstate.edu

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