EB Caron’s research interests have always been in child intervention to prevent longer-term mental health problems and, over time, have come to focus on implementation science that gets research into the community. “Even in medical research, it takes over 20 years for effective interventions to be taken up in practice and it’s even tougher for mental health interventions.” One specific branch of Caron’s implementation research examines consultation, where therapists and clinicians meet weekly or monthly with experts who provide feedback on their practice.

Some of Caron’s post-doctoral research on childhood anxiety has been on specific locations for such interventions. “One implementation strategy of getting children to access high-quality mental health care is to work with the settings that we often find children in, like school.” During her post-doc work, she would train community-based counselors on brief interventions for anxiety and depression, particularly measurement-based care where practitioners gather data regularly through a 30-question survey on youth symptoms to track outcomes over time. She also did research on anxiety interventions by school nurses and counselors. Surprisingly, much of the post-doc research has yet to support that evidence-based treatment is more effective than simplified intervention in school settings as had been hypothesized. “This really points us back to the fact that this is hard.”

Since coming to Fitchburg State, Caron has started a new project on Parent-Child Interaction Therapy (PCIT) for preschoolers diagnosed with depression. “A therapist working with an infant or a five-year-old for an hour a week isn’t going to be able to do much with that child, but by teaching the parents to interact differently with that child, the therapist can have a much greater impact because they’re training the parent to provide therapeutic parenting.”

PCIT focuses on improving parent-child relationships through communication strategies such as paraphrasing a child’s words or praising a child that ultimately constitutes “ways that the parent can show that they’re interested and engaged in the child’s play without taking over the play and directing the play.” Specifically, her project measures the fidelity of a therapist’s ability to coach parents. The therapists in his study had their coaching sessions recorded, and these sessions were coded by Caron and a team of Fitchburg State students. The most notable finding was that responsive coaching was ultimately more effective than directive coaching. Much of that responsive coaching amounted to the therapist pointing out and giving positive feedback about parent interactions with their child. Beyond the timing of the coaching, the frequency of such comments predicts success in altering parental behavior. The more often the therapist commented on a parent’s behaviors, the more effective they were in altering parent behavior. Her study also found that child externalizing behavior also tracked with the type and frequency of therapist coaching statements.

The next stage of the research will examine...
therapist coaching sessions as the coaching moves toward assisting parents to help children with emotion regulation. Caron is particularly interested in determining “how coaching differs from standard PCIT, which was developed for children with externalizing behavior, and whether we’ll see a link between therapist coaching and children’s depression outcomes.” Caron is also working on a paper on interventions implemented over telehealth. She compares in-person and telehealth sessions following the outbreak of COVID-19. “I was surprised that the pandemic and the transition to telehealth didn’t affect [coaching session] fidelity. They’re doing it just as well and they’re continuing to improve over the course of their training.” Ultimately, her work since arriving at Fitchburg State has included students as collaborators. She trains three students in coding parent and therapist behavior in PCIT. “I really couldn’t do everything I’ve done without them.”

Congrats to Recipients of the Deans’ Anti-Racism Fund

**Dr. Ronald Krieser**, on behalf of the Inclusive Excellence Group at FSU, for a faculty and staff development program with a book reading group and a speaker series focused on inclusive excellence.

**Drs. Kori Ryan and Zachary Miner** for an exploratory process using student focus groups to identify and examine barriers to student success in the Behavioral Sciences.

**Librarian Lori Steckervetz** and the Library’s Anti-Racism Team for an online/virtual film festival for students and the university community focused on race and the impact of systemic racism.

**Dr. Denise Sargent** and the School of Education for a year-long faculty professional development program to explore equity and social justice issues related to curriculum, instruction, and advising.

**Dr. Katherine Jewell** for a program on hip hop history with an appearance on campus by Boston-based MC Akrobatik.

**Julie Pierce Onos** for attendance at the National Conference on Race & Ethnicity in Higher Education (NCORE) Conference to be held virtually in June, 2021.

From the Co-Coordinators, Eric Budd and Elise Takehana

With the return of April showers, and the anticipated arrival of May flowers, this academic year will soon be drawing to a close. The end of this academic year marks the end of our 2-year term as co-coordinators of the Center for Faculty Scholarship. We have agreed to stay on for another two years, and look forward to continuing to promote research, scholarship, and creative activity on campus.

Over the course of the past two years, we’ve focused our activities in the following three areas: recognizing/publicizing faculty achievements, facilitating inter- and intra-disciplinary dialogue around research, and supporting faculty in their research and scholarship. Despite having a 4/4 course load, along with seemingly endless meetings and committee responsibilities, not to mention their personal commitments, FSU faculty are incredibly engaged with their research and extremely prolific.

With Connie Strittmatter in the Library, we have organized book launches to celebrate faculty publications, and launched this newsletter to highlight faculty research and scholarship. In order to facilitate dialogue across the disciplines, we started the annual FSU Research Colloquium, which is spotlighted in this issue and will occur on Wednesday April 28th from 3:30-5pm. Finally, we’ve tried to identify and address barriers to faculty research, and to find different ways to support faculty efforts. This is an ongoing effort and we invite those interested in doing such work to join our advisory board next year!

Over the next two years, we’d like to find new ways to promote discussion across the disciplines, to “re-launch” the Google Groups we created pre-Covid, and organize some more cross-disciplinary panels either on broad research topics faculty are interested in, or common issues faced in conducting research and scholarship.

We’d love to hear from you about how the Center for Faculty Scholarship could best serve you. We are glad to meet anytime, either live or via Google Meets, or drop us an email with your thoughts. If you have an idea for a panel or a talk, we’d be glad to work with you to bring it to fruition! We wish you a happy spring, a smooth ending of the semester, and look forward to seeing all of you in the fall!
On Wednesday, April 28th, from 3:30-5:00 pm, the Center for Faculty Scholarship will be hosting the 2nd annual Faculty Research Colloquium, “Inequality in the Economy, Society, and Culture.” It will feature presentations of their research by Professors DeMisty Bellinger-Delfeld, Adem Elveren, Viera Lorencova, and Christa Marr. This year’s colloquium will be held through Google Meets (invitation to follow), while future ones will be live with a reception after the talks.

In his presentation, Dr. Elveren will be examining the connection between a nation’s level of military spending and its income inequality. Having grown up in Turkey, Dr. Elveren grew interested in the topic because while Turkey is the 16th largest spender on its military globally, and is the 6th largest arms importing nation, it is marked by persistently high income inequality. Increased military spending tends to crowd out expenditures on the social programs that could lessen income inequality. Since such programs are especially important for women and children, his research also explores how military expenditures exacerbate gender inequality by negatively impacting women’s welfare.

Gender inequality will also be addressed in the presentation by Dr. Marr. Her work explores inter-generational mobility between mothers and their daughters. According to Marr, she is specifically interested in exploring how parental, or mother’s, time investment during a child’s developmental years impacts subsequent economic and mobility outcomes. Mobility, as compared to income inequality, has greater policy implications as it exposes our society’s lack of a level playing field.” Despite our belief in the American Dream, the degree of social mobility and intergenerational mobility is much less than our peer nations, thereby perpetuating inequality.

Social mobility is also addressed in the presentation by Dr. Bellinger-Delfeld. Her presentation will address the value of a degree in writing for disadvantaged students hoping to use their degree to make their way up the socio-economic ladder. Dr. Bellinger-Delfeld said that “ultimately I want to show that working-class students should be able to study what they love without stigma, and to argue that degrees in the liberal arts and humanities can be applied to professional fields.”

If writing and creative expression can play a role in addressing economic inequality, so too can they help bring attention to cultural exclusion and inequality. Dr. Lorencova’s work focuses on the representation of LGBTQ rights advocacy in the media, and the role of cultural production in fostering social change. Her paper will focus on how LGBTQ identities are represented in various media forms, such as podcasts, e-magazines, blogs, user-generated videos, and social networking sites in Slovakia. According to Lorencova, her paper will address the following two questions: What do these different approaches to the representation of LGBTQ identities have in common? Who are their creators, what stories do they tell, and why does it matter?

After each faculty member has presented their work, there will be plenty of time for Q&A and discussion. Applications for the 2022 Faculty Research Colloquium are due by Friday, April 30th. Panels should address a broad theme, and consist of faculty from at least two departments. Anyone interested in applying is encouraged to speak to one of the Center for Faculty Scholarship’s co-coordinators. We look forward to seeing you on April 28th for this year’s colloquium on “Inequality in the Economy, Society, and Culture.”
While much of Connie Strittmatter’s research has focused on the ethics of academic integrity, since coming to Fitchburg State in 2016, much of her research has focused on community development and meeting the needs of a diverse student body. “In my first role as public services librarian, I was doing a lot of programming so that’s where I got started, with the LGBTQ series that we did in 2018.”

In fact, a panel talk at the Fitchburg High School on the experiences of LGBTQ+ teens became that early spark in a shift in Strittmatter’s research “I started thinking more about how we, as a library, make sure that our environments are conducive, comforting, welcoming, and play a role in helping students be successful. It has been a thoughtful turn going from the ethics of academic integrity to thinking about something that’s a little bit more concrete.”

Strittmatter is currently working on two collaborative research projects: one on how underrepresented students of color use and view the library and another on supporting students on the autism spectrum. “A lot of the library literature is about the scholarship of librarianship, and so taking what we do in our day-to-day practices and sharing it with the broader audience. When you turn to the literature for ideas and best practices, a lot of times it’s not scalable for a smaller school with a more modest budget. So, in the last year, I’ve been thinking about the importance of publishing and presenting our work so smaller schools’ experiences are reflected in the literature.”

For her study on library use amongst students of color, she and her co-researchers, Danette Day and Lorenzo DeMalia, interviewed students using questions that focused on past library use and experience as well as their perception of a library and a librarian. They also ask about their current use of the FSU library and if they have experienced micro-aggression or racism in that space. They are currently analyzing the data and aim to hone in on where any inadvertent bias exists.

The project on supporting students on the spectrum, which Strittmatter is working on with the Kelly Boudreau and Sherry Packard, sought out alternative communication strategies and shifts in the library environment that might help students using the library. They have since developed and are currently piloting a training module for student employees of the library that aims to help increase understanding of and empathy for those with autism as well as provide communication strategies that would be more effective for that community. “Librarians try to ask open-ended questions so we can get people to give us more information, but sometimes you need to ask a closed-ended question because an open-ended question can be too overwhelming.” Strittmatter, Packard, and Boudreau present on the project at the ACRL-NEC conference in May and will draft on a paper on the project to submit for publication over the summer.

Beyond these two collaborative research projects, Strittmatter is also working as a SPARC fellow to activate her longstanding interest in OER (Open Education Resources) and bridge her interests in copyright and community engagement and social justice. Her passion for open education and open scholarship is palpable. “If we share information and make it more broadly accessible, everyone is going to benefit from it. The author benefits because the research is getting broader reach. We are relatively fortunate because we work at a university and we have access to journals,
but the broader community isn’t able to go online and find quality research at no cost. [Open scholarship] just benefits society as a whole.”

The SPARC Fellowship is a nine-month program on OER practices and culminates in a capstone project. Strittmatter has chosen to develop an assessment plan for university OER adoption that identifies target and stretch goals for the deployment of OER and the assessment criteria of those goals. She is excited to share this assessment project with other universities under a Creative Commons license should it prove successful at Fitchburg State.

While her research in community building and social justice has dominated her efforts in recent years, Strittmatter would still like to expand conversations on campus about academic integrity and she and Dean Jackie Kremer have begun to do so through the New Faculty Academy. Strittmatter would love to see a module on introducing the idea of academic integrity for new students on our campus that address both unintentional and intentional plagiarism.

Getting Started with OER
BY CONNIE STRITTMATTER

What are Open Educational Resources (OER)?
OER are “teaching, learning, and research materials in any medium - digital or otherwise - that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation, and redistribution by others with no or limited restrictions.” (William and Flora Hewlett Foundation)

What are the advantages to OER?
1. Students can access OER online for zero cost. They may download and keep a digital copy of resources, print, or purchase a low-cost hardcopy.
2. Educators can curate, tailor, and share OERs to perfectly suit their curriculum, and share their innovations freely.
3. Authors can disseminate their work to a worldwide audience while still receiving attribution.

Want to learn more about creating, publishing and licensing your own open educational materials?

For more information about Open Educational Resources, please visit the OER Library Guide at https://fitchburgstate.libguides.com/oer or contact Connie Strittmatter at cstrittm@fitchburgstate.edu or any member of the Open and Affordable Education Committee.

Open and Affordable Education Committee Members:
• Jacalyn Kremer, Dean of Library,
• Connie Strittmatter, Library
• Lori Steckervetz, Outreach Librarian for Student Success (ex officio)
• Collin Syfert, English Studies
• Peter Staab, Mathematics
• Kerry McManus, SGA president, student
• Jason Smith, Assistant Dean for Retention and Student Success
• Kisha Tracy, English Studies
• Andrew Goodwin, Early College and Dual Enrollment
• Nicole Chelonis, Director of Digital Learning, SGOCE
• Laurie Link, Education
• Ricky Sethi, Computer Science
Searching for a Cure

BY ERIC BUDD

With a doctorate in Pharmaceutical Sciences, Dr. Mathangi Krishnamurthy’s research focuses upon Medicinal Chemistry. Specifically, she is a Synthetic Organic Chemist who works on synthesizing small molecule drugs that can be used against various diseases. From hemorrhagic shock in war zones, to the war on cancer, Dr. Krishnamurthy’s research is part of an on-going struggle to synthesize cures for what ails us.

While a doctoral student at the University of Tennessee, Dr. Krishnamurthy got interested in the development of cannabinoid-based drugs to treat different diseases. Such drugs use THC, a component found in marijuana. Her initial focus was on whether such drugs would show any promise in the treatment of hemorrhagic shock, which can prove to be fatal if the patient loses too much blood. Dr. Krishnamurthy chemically modified the THC to make it less addictive, although she argues that it is actually much less addictive than opioids and even caffeine! When she tested the compounds that she had synthesized, she found that they not only stopped the bleeding, but they also actually led to the rapid closure of the blood vessels. This discovery led Dr. Krishnamurthy to focus her research on the fight against cancer, but also, as will be discussed shortly, to attain a patent on those compounds.

The discovery that the synthesized compounds closed off the blood vessels raised the question of whether they could be used to fight cancer cells as well? Cancer cells require a large blood supply, and one way to kill cancer cells would involve cutting off their access to that supply. Dr. Krishnamurthy and her colleagues tested her compounds on brain tumor cell lines. To do so, tumor cancer cell lines were injected into the brains of healthy mice, and the tumors were allowed to grow. Once the tumors had reached a certain size, the mice were broken up into three groups--- a control group that received no drugs, another group that received varying doses of commonly used anti-cancer drugs, and then a third group that received varying doses of her compounds. The third group showed a considerable degree of tumor shrinkage when compared with the other two groups, and since those results were consistent with tests done in vitro (in test tubes), Dr. Krishnamurthy and her colleagues applied for, and received, a patent for those compounds.

Dr. Krishnamurthy has continued her research on whether cannabinoid-based drugs can be used to fight cancer, and how cannabinoid receptors work in our bodies. The way that chemicals like THC produce their effects is by binding to specific targets, or receptors, which are proteins and found on the cell membrane. The chemicals bind to the receptors, and then in what Dr. Krishnamurthy compares to a relay race, they pass their information (like a baton) to molecules downstream. Ultimately, that information is transferred from the drug molecule to the cell’s nucleus, causing the cell to respond by producing new proteins.

There are two types of cannabinoid receptors in our bodies—CB1 and CB2. CB1 receptors are found all over the body, everywhere from the nervous system, brain, spinal cord, and reproductive organs. CB2 receptors, on the other hand, are only found in the immune system’s cells. According to Dr. Krishnamurthy, she initially targeted CB1 receptors since they are so ubiquitous, but the compounds she synthesized seem to show more of an affinity for CB2 receptors. It still isn’t clear if the success combatting the cancer cells is due to the cannabinoid receptors, or some other receptors. Additionally, it is not clear whether the receptors operate independently, or engage in “cross-talk” where they communicate with each other.

So, while the search for cures continues, Dr. Krishnamurthy is convinced that cannabinoid-based drugs will play a key role in fighting different diseases. She feels that these drugs will be used in fighting cancers, as well as immunity-based conditions, opioid addiction, and for the relief of pain as well as the nausea induced by chemotherapy. Marijuana is actually much less addictive than opioids because it does not produce a physical dependence where the body craves increasing doses. There is tremendous potential in cannabinoid-based drugs, and Dr. Krishnamurthy’s work is helping to unlock that potential.
Updates from Several 2020-2021 Special Projects Grant Winners

**EB CARON**
In the fall semester, I led 3 Psychological Science majors in coding PCIT-ED (Parent-Child Interaction Therapy - Emotion Development) therapists’ coaching of parents in early intervention sessions, and in October, the students presented data in a poster at the New England Psychological Association virtual conference, comparing therapists’ coaching in PCIT-ED with published norms for coaching in PCIT, the therapy from which PCIT-ED was adapted. I also presented preliminary results in the December Faculty Speaker Series, in which I found that therapists’ frequency of responsive coaching predicted parent and child treatment outcomes. These results were accepted as a talk in a symposium that I am chairing on early childhood parent coaching interventions at the Society for Research in Child Development biennial conference. In addition, one of my students, Matt Legere, received a Faculty-Student Research Grant for the spring, to compare therapists’ coaching of mothers and fathers, as fathers tend to be underrepresented in parenting and family therapy research.

**ELYSE CLARK**
The goal of my project is to evaluate the impacts of road salt applications on the water quality of the Nashua River. I have an undergraduate student working with me, and in fall 2020 we installed six sensors in the river that continuously record salt concentrations. We also collected and analyzed >120 soil samples collected adjacent to the river in fall 2020 and winter 2021. Additionally, we collected roadside snow samples in the winter for salt content analysis. The undergraduate student presented our research at the Northeastern section of the Geological Society of America conference in March 2021 and will continue the soil and water analyses this summer.

**DANETTE DAY AND CONNIE STRITTMATTER**
To gain a better understanding of students, and in particular, underrepresented students’ perceptions and uses of the Library, Connie and Danette are working with student, Lorenzo Demalia, to conduct semi-structured interviews with African-American, LatinX, Asian-American, and White students about their experiences with the university library, and their current use of the library. To date, we have interviewed 17 students. We would like to interview between 24-28 students and have interviews completed by the end of February. Once interviews are completed, we will have materials transcribed and begin our analysis.

**MICHAEL HOBERMAN**
I was awarded a course release for the spring 2021 semester. The award was to facilitate the completion of a conference paper and the beginning stages of a new book project. As it happens, the conference in question (the Southern Jewish Historical Society) was postponed until October 2021, but I’ve made headway on my presentation in the interim. Among other things, I published an article based on my research this past summer in a widely circulated daily online magazine, Tablet (https://www.tabletmag.com/sections/arts-letters/articles/judah-benjamin). The course release was also intended to help be to get started on a book on how early Jewish American history has been popularized in the last few decades. I will be drafting the first chapter of this book this spring, and I intend as well to complete a book proposal.

**BEN LEVY**
With the course release and travel funding I attended a conference and research workshop in Blantyre, Malawi. I presented recent modeling work at the conference, helped facilitate a STEM workshop for local high school teachers, and continued work on a modeling project related to elephants in Kenya with a team of mathematicians. Perhaps the most rewarding aspect was bringing a senior mathematics major with me on the trip to Southern Africa to expose them to the research project and have a unique cultural experience. The elephant project has transformed and been extended many times over the last two years. In short, we have partnered with the Amboseli Elephant Trust who has helped us obtain a considerable amount of detailed life history data related to a large herd of elephants in Kenya. With this data we have formulated a discrete population model and two statistical models that relate past population dynamics with environmental factors such as drought indices. Our ultimate goal is to predict future population growth and/or decline in different environmental scenarios that could occur due to climate change. We are currently writing up all of our work, analyzing results, and considering how to present our findings.
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.

Peter Staab presents his talk “Same Score Streaks in Baseball: What are the Odds?” as a part of the FSU Speaker Series.

Proposal for the 3rd annual Faculty Research Colloquium (send to centerforfaculty-scholarship@fitchburgstate.edu) and Special Projects Grant applications (send to ProvostGrants@fitchburgstate.edu).

Michael Hoberman presents his talk “Don’t Know Much About Theology: The Case for Building Religious Literacy into the University Curriculum” as part of the FSU Speaker Series.

The Annual Faculty Symposium with panels of faculty research and creative work in the morning with an award ceremony for the Faculty Award winners.

Amelia V. Gallucci-Cirio Library’s Faculty Spotlight

Our library has continued to profile faculty research during the 2020-2021 academic year. Since we’ve missed seeing physical displays in the library, we celebrate them here again!


February 2021 - Eric Williams, Biology and Chemistry - https://library.fitchburgstate.edu/about-the-library/library-news/faculty-spotlight-eric-williams/


