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CASCon Program 2023

Join us for the 7th Annual College of Arts & Sciences Conference (CASCon) on Wednesday, November 8, 2023

CASCon showcases the work of Sacred Heart University faculty from multiple disciplines. The conference emphasizes the interdisciplinary nature of faculty scholarship and reaffirms the College's commitment to undergraduate research. Short presentations from multiple topic areas will be presented at the time and locations below. For a full description of presentation topics, titles and locations, view the CASCon 2023 program below.

Students can earn prizes by picking up a passport at the CASCon check-in table in the Martire Atrium before attending the presentations. Then collect stickers from the session moderators after attending the talks and return your passport to the check-in table for your prizes (while supplies last). All students who attend presentations will also be entered into raffles for larger prizes during the reception. The more talks you attend, the more raffle entries you earn. You must be present at the reception to win the larger prizes.

Join us at the reception in the Martire Atrium from 5–6 p.m. for refreshments.

Time	Location	Topic
2-2:55 p.m.	W348	Literature & Healing Trauma
2-2:55 p.m.	E149	Science Sampler
2-2:55 p.m.	E153	Dogs, Dolphins, Development and Defensiveness
3-3:55 p.m.	E149	Exploring Social and Political Issues in Modern Culture
3-3:55 p.m.	E153	Introducing the Dramatic Humanities
4-4:55 p.m.	W348	Lectio Divina: An Ancient Reading Practice for Modern Times
4-4:55 p.m.	E149	Physics Primer
4-4:55 p.m.	E153	Blitz Talks
5-6 p.m.	Martire Atrium	Reception

Session I

Literature & Healing Trauma | W348

Michelle Loris (Languages & Literature) – “Healing Traumatic Grief by Magical Thinking”

The traumatic loss of a loved one can leave us in a prolonged state of 'magical thinking' that we can bring our loved one back to us. While this state of magical belief can seem abnormal, it can sometimes work to help us heal our grief and loss. This talk will integrate psychology with Joan Didion's book *The Year of Magical Thinking* about the loss of her husband John Gregory Dunne.

June-Ann Greeley (Languages & Literature) – “The Madness of Grief: Broken Reality in Namwali Serpell's *The Furrows*”

Namwali Serpell's *The Furrows* is a searing exploration of the destabilizing and destructive force of grief that one experiences at the (unexpected) death of a loved one. As the novel begins, the main character, Cassandra Williams, is 12 and is alone at the beach with her younger brother, Wayne, when he drowns during a sudden storm at sea... or did he actually drown? How did he come to be lost? As Cassandra narrates her story in the ensuing years, she reveals that what cascades unendingly through her life after the tragic loss of her brother is not the detailed narration of his death but the unnavigable waters of grief that flood her mind and soul and cause her sense of reality to warp and shatter. This paper will explore how the novel provides a safe (because familiar) space for anyone 'trapped' by the bonds of grief by offering a portrait of the madness that the grief can excite, as perhaps only the grieving can truly understand.

Marie Hulme (Languages & Literature) – "Developing Narrative Humility in Nursing and Health Profession Students: The Power of Creative Writing in Response to the Literature of Illness, Trauma, Disability and Dying"

This presentation will examine approaches to developing narrative humility in students preparing for a vocation in the health professions through creative writing as part of a larger health humanities curriculum. It will consider the value of writing in response to stories about illness, suffering, trauma and disability as part of a process of healing from them. It will examine some of the ways that elements of the creative writing craft can help unravel the complexity of human suffering and engage with it meaningfully and authentically – both from the perspective of patient and caregiver. Students in health profession majors, particularly nursing, benefit from understanding and developing narrative humility – or the ability to profoundly listen to the stories of others – and to themselves engage in the process of storytelling. In this way, they are also developing a competency to deepen relationships with patients and with their own experiences of illness, suffering, trauma, disability and loss throughout their lives.

Brent Little (Catholic Studies) – “Grief and the Cross in Mary Gordon’s *Final Payments*”

Mary Gordon’s debut novel, *Final Payments*, narrates the story of Isabel Moore confronting her grief over the recent death of her father. Her grief is complicated by her father’s deeply traditional Catholicism, which has shaped Isabel’s sense of purpose and identity in life, even though Isabel herself has abandoned Catholic practices and beliefs. This makes Isabel’s reimagining of Jesus’s crucifixion during the novel’s climax all the more surprising. Instead of the crucifixion upheld as a traditional symbol of sacrifice and self-giving, as her father would prefer, Isabel reimagines the crucifixion as capable of turning women away from dangerous acts of charity and towards healthier constructions of identity.

Nidhi Shrivastava (Languages & Literature) – “#MeToo and the Question of Speaking Up: Exploring Women’s Testimonies In the 1947 Partition Archives”

The narratives of gendered violence that occurred during the Partition of 1947 have been met with deafening silence both within South Asia and in the diaspora because of the shame that is associated with rape and gender-based violence. When it comes to sexual violence, the subject is not widely discussed because it is an uncomfortable subject that reiterates the problematic idea that women’s bodies are tied to the notion of izzat, the Hindi-Urdu term for “honor.” In this paper, I will be discussing my experiences in Berkeley at the 1947 Partition Archives in terms of how women’s testimonies are collected. Is there an effort by the archives to locate women’s testimonies of sexual violence? Can testimonials be read as literary devices to understand the trauma of the Partition victim-survivors? As the #MeToo movement encourages the idea of speaking up, my discussion will situate the attitudes surrounding gendered violence during the Partition based on the testimonies in the archives.

Science Sampler | E149

Jo-Marie Kasinak (Biology) – “Ocean Identity: Understanding human connections with ocean environments”

The United Nations declared 2021-2030 as a Decade for Ocean Science for Sustainable Development and paramount in this effort is increasing ocean literacy to increase stakeholder knowledge of and connection to the ocean. The global ocean provides valuable resources (i.e. ecosystem services) and humans have historically shared a deep connection to the ocean, but little is

formally known about the multiple dimensions of human connectedness to ocean spaces. Environmental identity is a construct that has been well-studied and can be used to explain a person's connection to the environment. Here we are seeking to clearly define and validate the novel construct of Ocean Identity (OI), which integrates cognitive, affective and behavioral components to define this identity. Ocean Identity holds promise to be a new tool to measure human-ocean connections and to evaluate the impact of informal and formal education events centered around the ocean. Upon final validation of the instrument, it will be used to assess education and outreach activities' impacts on participants OI by using Project Limulus, (a long-term research program on horseshoe crabs) as a testbed. Ultimately, we will develop a toolkit for stakeholders to measure the impacts of their programs using this validated reliable instrument.

Torrance Hanley (Biology) – “Oyster Reefs, Seagrass Meadows and Salt Marshes: Studying diversity to inform best practices for conservation, restoration and management”

Foundation species, such as oysters, seagrasses and mangroves, form the basis of many coastal ecosystems, creating structure and habitat that shapes communities and ecosystems. Globally, these ecologically important and economically valuable coastal systems are declining as a result of climate change and anthropogenic stressors. Management of these species and systems, including conservation and restoration, has met with mixed success, due in part to a science-practice gap. My research program focuses on diversity at multiple scales (within and among species) and uses a combination of field surveys, field and laboratory experiments and molecular techniques to assess how genetic and species identity and diversity affect population dynamics, community interactions and ecosystem functions, as well as the capacity of species to adapt to changing conditions. I will highlight ongoing studies of local adaptation in seagrasses and host-parasite dynamics in oysters, with opportunities for students to conduct field and laboratory research, as well as learn molecular genetic methods. This research is conducted in partnership with regional practitioners and state agencies, with the goal of communicating results to a wide audience and developing practical solutions to current conservation, restoration, and management challenges.

Alyssa Woronik (Biology) – “Worm Tails and Evolution”

Dr. Woronik is interested in investigating the genetic and molecular mechanisms that give rise to phenotypic diversity. Specifically, she is

interested in answering these questions in the context of ecology and evolution.

She is currently investigating how gene regulatory networks controlling morphogenesis, or the development of form, evolve. To address this question, she is using a sex-specific morphogenic process that has evolved multiple times independently in the model organism *Caenorhabditis elegans* and related nematode species. To answer her research questions, Dr. Woronik employs various types of nucleic acid sequencing and genetic techniques, such as CRISPR/Cas9 gene editing and transcriptional/translational reporters.

Dogs, Dolphins, Development & Defensiveness (E153)

Deirdre Yeater and Dawn Melzer (Psychology) – Dogs, Dolphins and Preschoolers, Oh My!

Comparative Psychology provides a foundation for performing cross-species comparisons (human and animal), where we can assess the consistency of various cognitive abilities and potentially unravel the influence of environmental pressures on cognitive abilities. Current research projects focus on marine mammal, canine and human children's cognitive development. Our presentation will give a brief overview of our collaborative projects on human and dolphin creativity, canine and otter cognition, play in animals and children, animal-assisted therapy and the new program training service dogs with students as puppy raisers.

Lauren Bryant (Psychology) – “Development of the Social Brain & Cognitive Control: Current & Future Research”

My research program follows two related paths, including psychophysiological (EEG) studies examining the neural underpinnings of early social cognition, and behavioral work examining cognitive control in preschool children. In this presentation, I will briefly review projects that follow these converging lines of inquiry and highlight opportunities for student research. EEG research on social cognition. My psychophysiological line of work uses electroencephalography (EEG) to examine the neural underpinnings of action understanding (the ability to recognize the actions and intentions of others). This is a core component of numerous socio-cognitive functions (e.g., theory of mind). One of my studies in this area examined the effects of experience with a novel action on 3- to 6-year-olds' cortical activity, finding that children exhibited greater occipital alpha reactivity during perception of a task with which they had received motor, as compared to visual, experience. Our

results suggest that during early childhood, action experience may modulate visual attention during subsequent action perception facilitating action understanding during this period (Bryant & Cuevas, 2019). I am also involved in several ongoing projects examining similar cortical activity in infants (Davison, Bryant, Cuevas, & Vanderwert, in prep), with our preliminary findings suggesting that the neural underpinnings of social cognition are active as early as the neonatal period.

Adrienne Crowell (Psychology) – “It’s Not You, It’s Me’: How Self-Affirmation Can Reduce Defensiveness to Self-Threats”

Dr. Crowell's Self and Emotions Lab studies how people respond to self-threats. In this talk, she will provide an overview of previous and ongoing studies that incorporate emotional, physiological and personality measurements to understand responses to threats. Specifically, she will focus on her lab's work on self-affirmation, a theory that provides a framework for reducing defensiveness in response to threats, and its effects on emotion regulation.

Session II

Exploring Social & Political Issues in Modern Culture (E149)

Nidhi Shrivastava (Languages & Literature) – "Is India Experiencing #MeToo 2.0?": Interrogating 2023 Indian Wrestler's Protests"

In January 2023, Indian wrestlers began protesting for investigation into the allegations against the majority-ruling party, Bhartiya Janta Party (BJP) MP (Member of Parliament) Brij Bhushan Sharan Singh, who was allegedly accused of sexual harassment of female wrestlers during his tenure as the president of the Wrestling Federation of India (WFI). Although Brij Bhushan has vehemently denied these allegations, the protests led by leading female wrestlers has caused a worldwide news coverage of the event and bear eerie resemblance to the events that began the #MeToo movement back in 2017 against the media mogul Harvey Weinstein. However, the #MeToo movement itself has faced obstacles in gaining traction within India often being relegated to the media and entertainment industry or being seen as a "Western" movement. In this presentation, I explore the complex and nuanced history of protests in India, especially in the 20th and 21st century, and how these protests are not only revealing to us a new #MeToo movement that is led by wrestlers and involves ordinary men and women. Subsequently, it is also evident that the current laws (modified in 2013) have barely made a dent in

the quest for gendered equality as the systematic institutions continue to cope with making laws that protect women and other marginalized groups against the rise of gendered violence in India. Although there have been changes in the law ever since the 2012 Nirbhaya gang rape case, it can be argued that these currently policies on rape and gendered violence in the Indian judicial system are merely symbolic and often protect powerful men and delay social justice for the rape victim-survivors.

Kelly Marino (History) – “The Young Are at The Gates: College Students and Woman Suffrage in the UK”

Scholars have studied the woman suffrage movement through various lens: race, class, ethnicity and region. Less considered are factors such as age and education. My recent scholarship has looked at the participation of college students in the woman suffrage movement in the United States and campaigns for and against the vote on American campuses. In this presentation, I focus on the student movement in the United Kingdom to show that young people (especially young women) were crucial leaders in the campaign not just in the United States but abroad as well. I challenge popular depictions of suffragettes as elderly spinsters and reframe the campaign in a much more "progressive" light. Suffrage legislation succeeded in the early 20th century because the vote became more mainstream: a cause taken up by diverse activists in diverse settings.

Bill Yousman (Communication & Media Studies) – “The Disinformation Dilemma: A Multivalent Approach”

Terms like “post-truth” and “fake news” became common in public discourse during the 2016 US Presidential campaign when observers commented on what many believed to be an unprecedented quantity of lies from the Republican candidate. In subsequent years research and commentary on misinformation and disinformation has received ongoing attention in academic journals, the popular press and social media. Some scholars and journalists, however, have disputed the notion that we are experiencing a new age of disinformation, and have suggested that this focus is a distraction from more productive and urgently needed analysis of the root causes of our social and political turmoil. In this presentation I will argue against binary impulses to dismiss concerns over disinformation out of hand or to focus on these worries to such an extent that other political problems are marginalized or erased. The first part of the presentation responds to several concerns of disinformation skeptics, including: Disinformation is not at the root of all our political problems. Disinformation is not something new that only emerged with Donald

Trump's descent down an escalator. Disinformation cannot simply be attributed to foreign interventions into US political discourse. Establishment media is not, and has never been, innocent of disseminating disinformation. Government intervention and censorship is not a solution to disinformation. In the second section, I argue for the need to take concerns about disinformation seriously, including: The ideological and material impact of disinformation has been shown to be more than an illusion. Critical scholars have long recognized analysis of propaganda as a crucial element in the critique of power. Disinformation may be one of the last forms of bipartisanship, as it is not solely attributable to either the right or the left. Attention to disinformation should be part of the overall analysis of how power works in both democracies and authoritarian societies, and this should include political economic analysis of the material aspects of disinformation and the involvement of wealthy individuals and industries in creating organized campaigns to deceive and control. While some might categorize misinformation as simply a matter of varying interpretations of the world, disinformation is a deliberate attempt to change the world for specific ends. Critical scholars, writers, artists and activists should both recognize this intention and be prepared to fight for our own visions of the changes that are needed.

Introducing the Dramatic Humanities (E153)

Charles Gillespie (Catholic Studies), Rachel Bauer (Media & Performing Arts) and Emily Bryan (Languages & Literature) – “Introducing the Dramatic Humanities”

Over the last three years, Dr. Rachel Bauer (Media & Performing Arts), Dr. Emily Bryan (Languages & Literatures), and Dr. Charlie Gillespie (Catholic Studies) have developed a new framework for thinking and performing the Dramatic Humanities across disciplines, in classrooms and beyond the academy. Will it cause too much drama to put the human back into the center of the humanities? How does an ensemble create humanities scholarship? Where and how do we perform social justice? Join us in the room where it happens for a collaborative panel that will share published conclusions and where DramaHuma will be going next through ongoing projects. The panel will include an update on how SHU's groundbreaking support for The Untitled Othello Project continues to inspire new ways to reflect, write and teach about Shakespeare, race and what it means to do “the work.”

Session III

Physics Primer (E149)

Marlina Slamet (Physics) – “Solutions of the Schrodinger-Pauli Equation that Satisfy the Pauli Anti-Symmetry Property but Violate the Pauli Exclusion Principle”

We reveal solutions of the Schrodinger-Pauli equation that whilst satisfying the Pauli principle of anti-symmetry requirement, violate the Pauli exclusion principle that no two electrons can occupy the same state. The physical system considered is a semiconductor quantum dot of two electrons with the same spin moment in a magnetic field. These solutions are single-valued, smooth, bounded, square-integrable; satisfy the Wave Function Identity and node electron coalescence constraint; have odd parity about the center of the atom, as well as about each point of electron coalescence. The solutions are node-less. There is only one shell. Therefore, the occupation of this shell by the electrons is forbidden by the Pauli Exclusion Principle.

Frank Robinson (Physics) – “Studying intense storms using satellites and computer simulations”

An analysis of the Tropical Rainfall Measuring Mission (TRMM) satellite database (1994-2015) of 280 tropical islands shows an overall weakening of storm strength with increase in peak island elevation. Computer simulations reveal that the key metric determining storm intensity is the area of moist warm air over the island, which is diminished at higher elevations. The observations and simulations imply that the strongest events occur for islands with low, but nonzero elevations (200-1000m) and weak background wind speed (0-2 m/s); this is because mountain slopes create storm initiation centers.

Lecto Divina: An Ancient Reading Practice for Modern Times (W348)

Callie Tabor (Catholic Studies), Maureen Ruby (Educational & Literacy Leadership), Jenny Strandberg (Philosophy, Theology & Religious Studies) - “Lectio Divina: An Ancient Reading Practice for Modern Times”

This panel will explore how lectio divina, an ancient reading practice, might be used by readers today. In the face of technological distraction and challenges with reading difficult texts, we propose that this ancient practice might help readers to uncover deeper meanings in texts, to exercise the faculty of attention, and to bring intentionality or purpose to their reading. This panel will explain what lectio divina (“sacred reading”) is, invite attendees to a brief practice of lectio divina and explore the relevance of this practice today. The panel will begin with Dr. Callie Tabor from the Department of Catholic Studies offering a brief history of lectio divina, a reading practice dating back to

antiquity. Dr. Tabor will explain the four stages of reading as traditionally practiced by monks, as well as modern analogs used by both contemporary Christians and secular groups. These four stages include: *lectio*, an initial reading of the text; *meditatio*, reflection on what the text means; *oratio*, making connections between the text and one's own life and meaning; and *contemplatio*, reflecting on what the text is calling the reader to notice or even act upon. Next, Dr. Strandberg from the Department of Philosophy, Theology and Religious Studies will lead a practice session where the attendees are invited to read a short philosophical text according to the four steps of *lectio divina* and reflect on their experiences using this method. Following this exercise, Dr. Maureen Ruby from the Department of Educational and Literacy Leadership will offer insights on the relationship of two contemporary K-12 pedagogical terms, close reading and critical literacy, to *lectio divina*. A brief discussion of the influence of student experiences with digital text on brain activity and reading comprehension will follow. Finally, the application of elements of *lectio divina* to deepen engagement, understanding and learning outcomes in the college experience will be explored.

Blitz Talks (E153)

Caroline Comerford (Sociology, Criminology & Criminal Justice) – “Serial Killer Sensationalism and Glorification in True Crime Genres: The Detrimental Moral and Legal Impacts on Victims’ Families and Survivors”

America's rapid escalation and fascination with true crime genres and biopics, particularly regarding serial killers, has been markedly on an unrelenting upsurge. Serial killer biopics and docuseries such as *Dahmer – Monster: The Jeffrey Dahmer Story*, *Conversations With a Killer* (Ted Bundy, John Wayne Gacy, Jeffrey Dahmer), *Night Stalker*, *The Good Nurse*, *Extremely Wicked, Shockingly Evil and Vile* and the like exemplify the over-sensationalism and glorification of serial killers inherent in the exponentially and increasingly popular true crime media. However, serial murder victims, their families and the survivors of serial killers are largely overlooked within such biopics and docuseries. The overarching aim of this talk is to shed light on the negative impacts of true crime's over-sensationalism and glorification of serial killers as it relates to serial killer victims' families and survivors from both moral and legal perspectives. In particular potential avenues for future research through an ethical and legal lens are discussed regarding serial killers' ever-growing true crime genre, explicitly focusing on the narratives and woefully unheard voices of the victims' families and serial killer survivors.

Sue Deschenes (Biology) – “Spicing Things Up: Effect of Pungent Spices on Development of Skeletal Muscle”

Understanding how muscle stem cells can be induced to replenish skeletal muscle lost to aging, injury or disease is the main goal of this research project. Capsaicin, the predominant spicy chemical found in chili peppers, is already known to stimulate skeletal muscle development. One specific aim of our research is to investigate whether capsaicin-like chemicals from ginger and black pepper can also achieve the same effects as capsaicin. Preliminary results suggest that these compounds do not stimulate proliferation of skeletal muscle stem cells from mice, and we are currently studying whether they can induce differentiation of these cells. We expect the outcomes of this research to contribute in some way to the development of new strategies to combat muscle wasting.

Analisa Gagnon (Sociology, Criminology & Criminal Justice) – “True Crime Media: The Untold Stories”

True crime media has captured audience's attention with growing speed. Podcasts, documentaries and mini-series have covered a litany of crimes, including but not limited to murder, abduction and sexual assault. What is often overlooked, with the focus on infamous individuals like Dahmer, Bundy and Ramirez, are the victims. Who are they and how do they feel about such media depictions of themselves and their loved ones? This talk intends to redirect the conversation away from the criminals and towards the victims. Specifically, future directions for research will be looking at the ethics of true crime media and how this may guide future depictions and consumption of true crime.

LaTina Steele (Biology) – “Restoration Heroes: Save the Marsh, Save the World?”

Salt marshes are crucial coastal ecosystems that protect coastlines against erosion and provide nursery grounds and habitat for numerous species. Because these key environments are declining globally, many stakeholders are restoring marshes to recover lost ecosystem services. I have been collaborating with faculty from the Biology Department, as well as other institutions, to develop methods that maximize marsh restoration success in the face of climate change and to understand the differences between restored and natural salt marshes. My recent marsh projects have involved undergraduates in: 1) planning for an upcoming restoration, 2) comparing grazing pressure and plant metrics (density, size and chemistry) in a restored and natural marsh site, 3) conducting experiments to examine factors

contributing to differences between a restored and a natural marsh, 4) monitoring invasive Asian shore crabs at a restoration site and 5) conducting a field experiment to determine the effects of warming on cordgrass from northern and southern source populations. When students participate in this work, they get their hands dirty collecting specimens and ecological data in the field, but they also explore the connection between field-based biological data and lab-based measurements that utilize knowledge and skills from other disciplines like chemistry.

Ashley Stoehr (Biology) – “Worms, White Sharks and Women”

My primary research focuses on how an organism’s anatomy and physiology influence its ability to exploit or persist in changing environments. I investigate the impact of temperature on the physiology, behavior and distribution of marine organisms, be they small, interstitial worms or large, open ocean fishes – but sharks are my favorite. More specifically, I aim to understand how humans impact intertidal communities in Long Island Sound and what specializations, if any, allow some large, open-ocean fishes to hunt in cold foraging grounds at high latitudes or great depths. Through a combination of ecological, biochemical and mathematical techniques I address hypotheses at the cellular through organismal levels of study. This approach helps to elucidate how organisms survive in diverse ecosystems in our changing world.

Tom Terleph (Biology) – “An analysis of gibbon song in mixed-species pairs and their hybrid offspring”

Gibbons are small Asian apes that produce elaborate vocalizations (songs) that typically include well-coordinated duets by mated pairs. The development of gibbon song is largely unlearned, and likely serves territorial and mate bonding functions. Khao Yai National Park, Thailand contains a small zone where the ranges of two gibbon species overlap. In this area, White-handed gibbons (*Hylobates lar*) and Pileated gibbons (*Hylobates pileatus*) hybridize. I have recently begun a project that uses in-person and automated field recording methods to capture recordings of mixed-species pairs and their hybrid offspring. I predict that mixed-species pairs will be less successful in coordinating their vocal duets, and that the unusual vocalizations of their hybrid offspring may be less attractive to potential mates, and less effective as territorial defense signals to potential rivals.