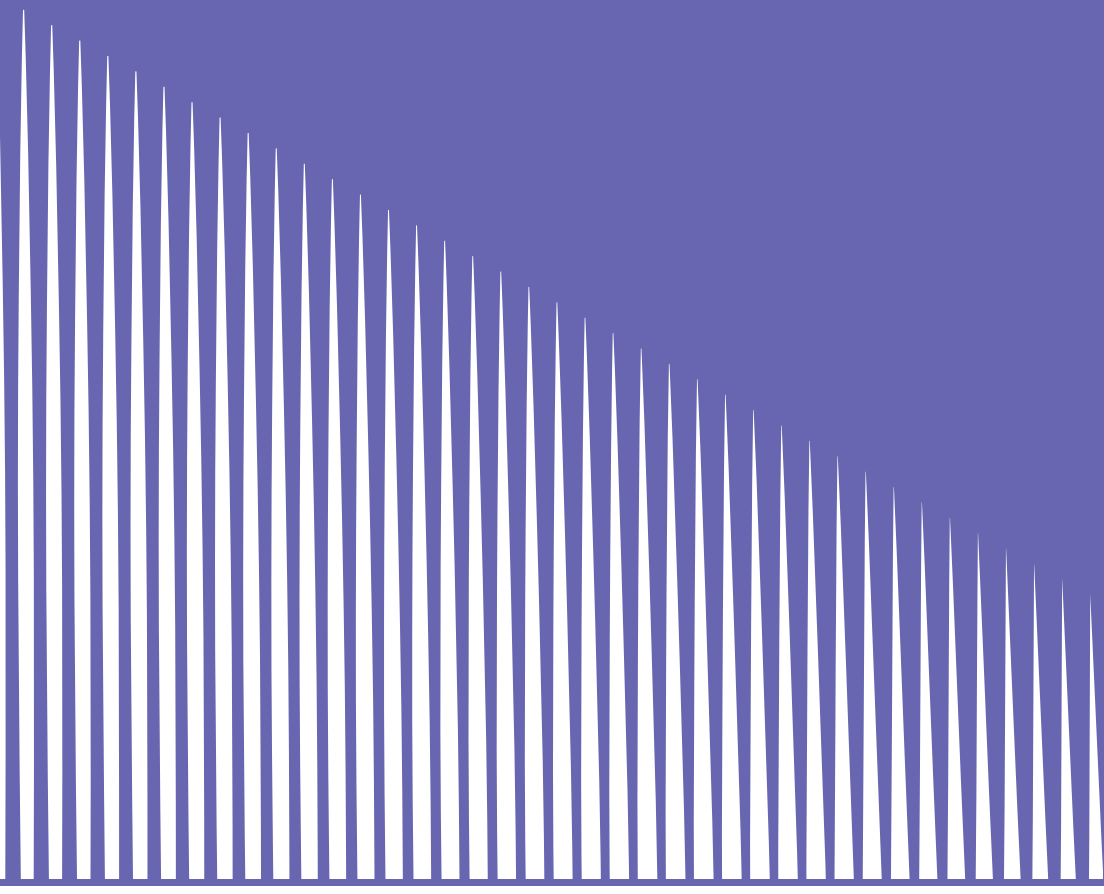
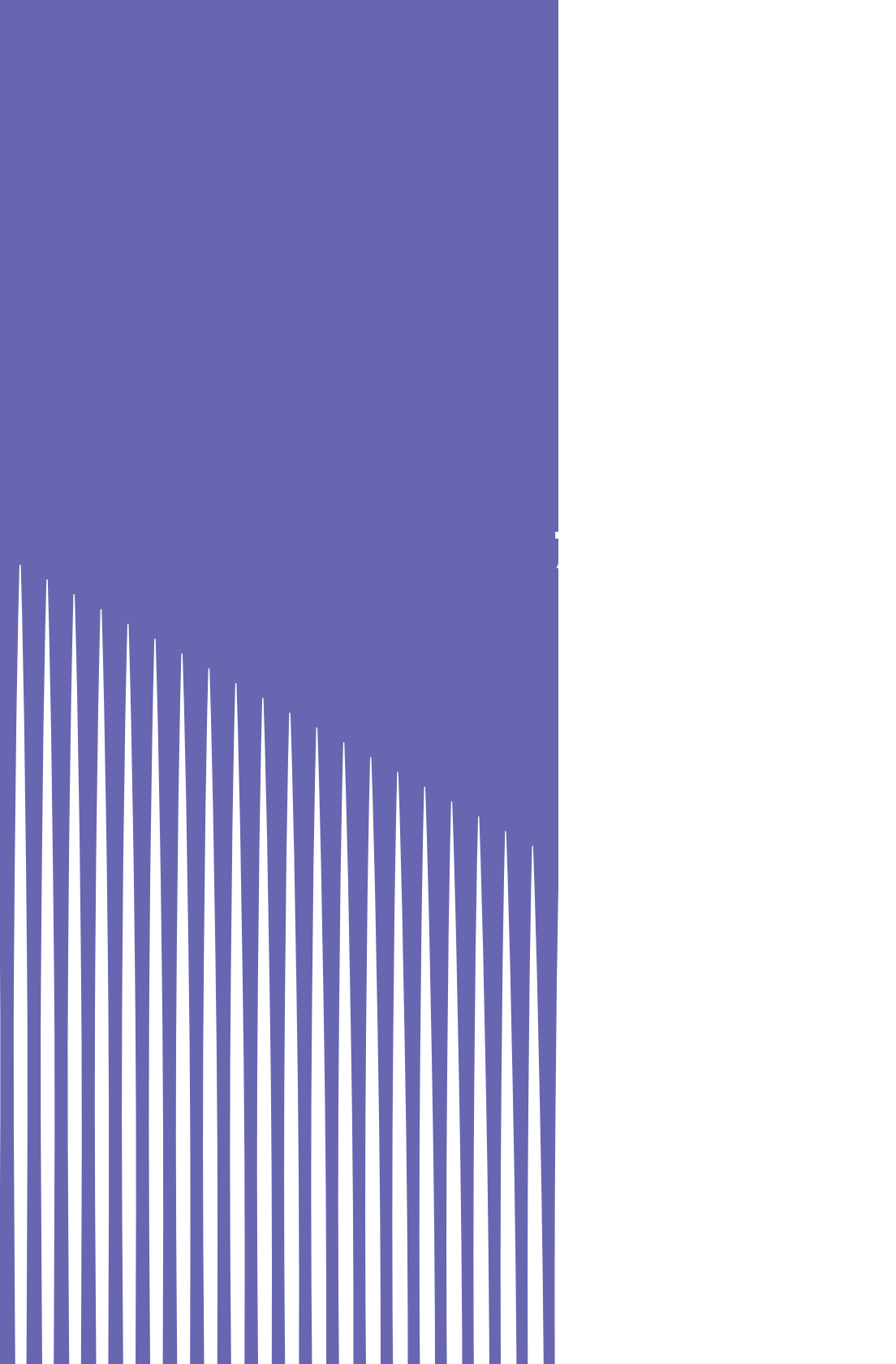




ST. THOMAS AQUINAS COLLEGE  
**7<sup>th</sup> ANNUAL ART, DESIGN &  
SCHOLARSHIP EXHIBITION**





## **Ignite your curiosity. Ignite your imagination.**

Welcome to Ignite, St. Thomas Aquinas College's Seventh Annual Art, Design, and Scholarship Exhibition. Ignite is a celebration of our undergraduate students, their research, and their creativity from multiple disciplines across campus. The scope of the presentations featured showcase the outstanding caliber of our undergraduate students at St. Thomas Aquinas College. We hope that this exhibition will ignite the passion for discovery and ingenuity in all of our students for years to come.

The projects on display also demonstrate the ongoing commitment of our faculty to supporting undergraduate research. As is true of the faculty advisors who support them, these students and their work hold the potential to contribute positively to the world. Each of these students has benefited from mentoring provided by exceptional faculty. We thank the faculty for their efforts on behalf of these students.

We encourage you to share in this showcase as you visit the poster presentations and portfolios, and read the collection of abstracts included in this program and at <https://www.stac.edu/academics/ignite>.

Organized and curated by

Members of the Ignite Committee:

Professor Nina Bellisio, Professor Kimberly Burns, Dr. Meghan DeWitt, Dr. Carolyn Fraker, Dr. Staci Shultz, Dr. Rossen Trendafilov, and Dr. Benjamin Wagner

Special thank you to Annie Lombardi and the Office of Campus Communications

# **IGNITE: 7<sup>th</sup> ANNUAL ART, DESIGN & SCHOLARSHIP (VIRTUAL) EXHIBITION**

**May 5, 2022**

## **College FED Challenge 2021**

Presenters: Juliana Mannine, Maximilian Kendler, Ryan Collins, Maximilian Heuter, Jan Fosterling, Leonardo Osawa  
Faculty Advisors: Dr. Meghan Mihal, Professor of Economics; Dr. Rossen Trendafilov, Associate Professor of Finance

The College Fed Challenge is a team competition for undergraduate students where they analyze economic and financial conditions and formulate a monetary policy recommendation, modeling the Federal Open Market Committee. For the competition we were required to record a 15 minute presentation to be evaluated by economists at the Federal Reserve Bank of New York. As a team, we had to analyze many different economic indicators to develop the best monetary policy recommendation, and for context, this information was presented in October 2021. The team utilized STAC's Bloomberg Lab and access to the Bloomberg Terminals permitted us to conduct this analysis in the best way possible.

## **Blockchain Voting System: The future of Democracy**

Presenter: Christopher Valvo  
Faculty Advisor: Dr. Robert Vermilyer, Professor of Computer Science

Unless you live under a rock, then I'm sure you've heard of all the election fraud speculation in the 2020 Election. Well, if you do live under a rock then I will explain the United States Election process quite simply. United States citizens go to a registered voting facility, fill in the bubble for their candidate of choice and then drop the ballot into the box. Once the voting expiration date is over, all the votes are transported to a facility where the votes are counted manually by hand.

Many people claimed ballots were dumped out, and people strongly believed that their vote was not counted which is a major violation of democracy. What if there was a way to vote and see your vote

get applied to a public ledger in real time the second you hit the vote button? What if one day your social security was linked to a blockchain ledger and the minute the clock hit 12:01 on your 18th birthday your social security linked to this voting protocol deemed you eligible to vote. Of course, that isn't the only rule set, there will be many others such as only one vote per social security, only the government can register voters, termination of an accounts voting privileges and much more. For the sake of this application, we are going to be in a Utopia and this blockchain is un-hackable. As of now we know certain Blockchains are un-hackable but only time will tell.

## **Professional Soccer Players - Living the Dream?**

Presenter: Amaan Aslam

Faculty Advisor: Dr. Carolyn Fraker, Assistant Profesor of Sociology

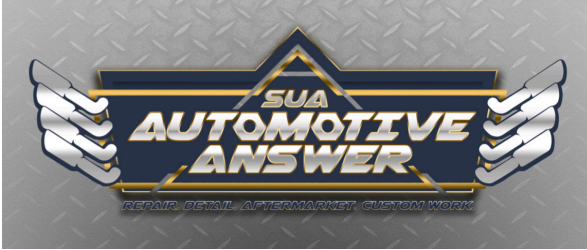
My Ignite presentation is based upon my research for the Justice Studies Institute over the last 2 years. This research is based on the complex question of What is Justice? In seeking to dissect this question my research paper has split this question into two parts - The History of Justice and The Future of Justice. My presentation will briefly discuss historical interpretations of "justice," however, my main focus will be on a particular aspect of the modern interpretations of "justice," - specifically commercialized justice and the way how professional soccer players today are mere 'puppets' for their respective teams; being controlled, used, and exploited by the clubs for which they play in a plethora of ways. I have various examples that demonstrate this thesis, as I have undertaken thorough sociological and scholarly research on this topic. These examples will fit under two main sub-headings - the first is that the identity of professional soccer players' are exploited by the clubs they play for, and the second is that these professionals have little if any control over the club/team they play for. This presentation will help one to understand that professional soccer players are often seen as having the 'perfect' job, however, my presentation will demonstrate that this is ultimately a romanticised view.

## **College Seniors Post Pandemic Panic**

Presenter: Jacob Holland

Faculty Advisor: Dr. Carolyn Fraker, Assistant Profesof of Sociology

We are still trying to understand the full scope of how the Covid-19 pandemic impacted society. College seniors are entering the workforce at this turbulent time, and their futures are extremely uncertain. This research focuses on these college seniors' idea of work, and how the pandemic will impact their success immediately out of college and in the long term. We conduct interviews with 4 seniors in order the gauge their feelings on graduating into the post pandemic



## **VISUAL COMMUNICATIONS IN GRAPHIC DESIGN**

### **Minor in Marketing**

Karl Wepler

world. These semi-structured interviews allowed for participants to take the conversation in whichever direction they saw fit. Additionally, it allowed for them to speak as much or as little as they wanted on a particular question. This research seeks to expand on the field of research that focuses on the transition from student to working adult

## **Addressing the Food and Poverty Crisis in Haiti through the lens of the United Nations Sustainability Goals**

Presenters: IBESCC Case Study Team: Juliana Mannine, Paolo Bruzzesi, Juan Cedeno Varea

Faculty Advisor: Christine Cahill, Esq., Professor of Business Administration

Our student team competed in the 2022 International Business Ethics and Sustainability Case Competition (IBESCC), held virtually through Loyola Marymount University. The IBESCC consists of three separate competitions: a 25-Minute Presentation followed by Q&A and feedback; a 10-Minute Presentation and a 90-Second Presentation, all on a topic of the teams choosing that addresses the United Nations Sustainability Goals. We were required to explain the legal, financial, and ethical dimensions of the problem, then recommend a viable solution. Presentations are judged by executives with experience in corporate ethics, compliance, corporate social responsibility, executive leadership, and sustainability.

We chose to tackle the food and poverty crisis in Haiti and proposed an ethical, sustainable and financially responsible solution of microfinancing and micro-insurance. We recommend partnering with non-government organizations such as the IFAD and MIN to make micro-financing and micro-insurance possible. We aimed to defeat the food and poverty crisis by building on what Haiti does best: agriculture, which is currently declining, but can and should be revived. Haitian farmers would benefit significantly from the use of micro-insurance with respect to their agricultural supplies that will allow farmers to avoid expensive, high-risk insurance payments, thus giving them the ability to afford long-term sustainable farming technology. These technological tools have the ability to withstand natural disasters and other climate issues in Haiti, will increase the flow of money within the Haitian economy and give the Haitian people the ability to be less dependent on imported goods. These sustainable solutions are the gateway to tackling Haiti's current crisis.

## **The Impact of Carbohydrates on Athletic Performance**

Presenters: Bryan Valdes, Tchasky Mentor, Katarina Ott

Faculty Advisor: Dr. Joseph Charleman, Associate Professor of Healthcare Management

The purpose of this research is to assess the impact of a high carbohydrate diet to athletic performance. Many studies have investigated the benefits of protein consumption for athletes, but now studies are shifting to the consumption of carbohydrates before big days for athletes. Carbohydrates are considered a main macronutrient and sufficient source of energy. Carbohydrate loading is thought to be one of the most effective ways to enhance athletic performance. There have been negative thoughts speculated around the consumption and use of carbohydrates for people who wish to maintain a healthy lifestyle. This study will focus on the benefits from actively consuming these carbohydrates and other macronutrients. The researchers will survey between 10 to 50 college athletes both male and female. The college athletes used within this research, will help the researchers understand and analyze how athletes are aware of their bodies and how the body breaks down the carbohydrates as a fuel source and enhances overall performance. Using qualitative research methodology, the analysis of the collected data from surveys, and the outcomes of other studies in the literature review will be evaluated. While conducting the research, the hypothesis made is that the consumption of carbohydrates does increase and aids athletic performance in high intensity workouts. From this research athletes can develop nutritional plans and diet regimes to enhance their athletic performance. This holistic approach will benefit college athletic programs and athletes ensuring an alternative pathway for athletic performance enhancement.

## **Understanding and Treating Daily Discrimination with Virtual Reality**

Presenters: Members of XLAB: Melissa Etter, Phoebe Hemmerling, Makendy Midouin, Raveena Varghese, Justin Rosenberg, Felicity Popovich

Faculty Advisors: Dr. Benjamin Wagner, Associate Professor of Psychology; Dr. Staci Shultz, Professor of English; Dr. Robert Vermilyer, Professor of Computer Science; Nina Bellisio, Professor of Visual Communications; Dr. Evan Matthews, Associate Professor of Music

This project aims to investigate and treat discrimination bias in the lives of college students through the use of virtual reality. Specifically, the study focuses on gender, race, and weight biases. The participants of the study will be given the opportunity to put on a virtual reality headset and be placed into a virtual mall scenario. In this mall, they are able to wander the halls, listen to the music in the mall, and see other shoppers. They will then be instructed to enter one of three specific rooms: a dance studio, a movie theater, or a clothing store. Each room depicts one of the three biases: gender, race, and weight. In their



2022 SPARTANS LACROSSE SCHEDULE

THIS IS  
**SPARTAN**  
COUNTRY

Date	Location	Opponent
FEB 19	HOME	WV
MAR 2	AWAY	AB
MAR 9	HOME	WV
MAR 11	AWAY	AB
MAR 13	AWAY	WV
MAR 15	HOME	WV
APR 15	HOME	WV
APR 20	AWAY	WV
APR 23	AWAY	WV
MAR 19	AWAY	WV
MAR 22	HOME	WV
MAR 25	HOME	WV
APR 2	HOME	WV
APR 4	AWAY	WV
APR 9	AWAY	WV

**VISUAL COMMUNICATIONS IN GRAPHIC DESIGN**  
**Minor in Marketing**

Michael Bavarro

assigned rooms, the participant's character will speak to prejudiced characters and experience bias first-hand. At the end of this experiment, their character will look into a mirror and have their physical identity revealed to them. In the dance studio, it will be revealed that they are an overweight person, in the movie theater, it will be revealed that they are a woman, and in the clothing studio, it will be revealed that they are a black person. After going through the simulation, the participants will then be asked to fill out a survey that measures their own personal prejudices against the marginalized groups depicted. We hope that experiencing bias in this unique, personal way will help students empathize with marginalized groups and will even re-evaluate any biases they may have.

### **Instituting LEED Accredited Buildings on College Campuses**

Presenter: Isabella O'Hara

Faculty Advisors: Dr. Bianca Wentzell, Interim-Dean of School of STEM; Monica Wendel, Associate Professor of Creative Writing

LEED (Leadership in Energy and Environmental Design) is an organization focused on supporting the environment through sustainable building practices and architecture. LEED accredits its buildings on four distinct levels using a points system. Research has shown that LEED accredited buildings waste less energy and water, and produce fewer emissions as well as indoor pollutants. Furthermore, a financial analysis reveals that despite an initial increased cost of construction, LEED accredited buildings reduce an owner's cost over time. LEED accredited buildings should be implemented on all new and if applicable existing buildings due to their positive financial and environmental effects. A survey study is being conducted to explore STAC students and employees perceptions of LEED accredited buildings on their college campus. Gathering their perspectives allows us to address the acceptance of LEED accredited buildings on college campuses. Questions will be in regards to the performance and effectiveness of the building as well as if they feel LEED buildings should be implemented, should not be implemented, and or are indifferent to the prospect.

### **What do YOU have living underneath your nails?**

Presenters: Brianna Randazzo, Melani Sanchez

Faculty Advisor: Dr. Clara Tóth, Professor of Biology

Wanting to discover what kinds of microorganisms existed under nails of different composition prompted this research. A previous study investigating the nails of healthcare workers examined the difference between the composition of their nails and how many microorganisms were found. We conducted a similar research investigating the number of bacteria underneath

nails of non-healthcare workers, such as individuals attending St. Thomas Aquinas. A criteria list that included: 1) participants must be older than 18 years old, 2) fill out a handwashing checklist, 3) meet the length of nail criteria (10-12 mm), and 4) sign a consent form, was compiled in order to create a uniform pool of comparable participants. Each participant was assigned a number in order to protect their identity and split into categories: natural nails, natural nails with gel polish, and acrylic nails with gel polish. Sampling included the left and right middle fingers and thumbs of each qualifying participant. After sampling underneath the nail using a sterile saline solution and swab, the swab was submerged in 1 milliliter of saline and aliquots of 25 and 100 microliters were plated onto the surface of tryptic soy agar using a spreader. After plating the samples, the plates were incubated and checked at 24 hours and 48 hours. Colony counts and colony morphologies were documented. Based on previous findings, it was hypothesized that acrylic gel nail composition will present with the most bacterial numbers, whereas regular nails will have the least.

### **Drug Analysis of Cocaine with the DEA**

Presenter: Daniel Agostinho-Vides

Faculty Advisors: Dr. Clara Tóth, Professor of Biology; Dr. Paul Dent, Assistant Professor of Chemistry

During my internship with the Drug Enforcement Administration (DEA) I shadowed a chemist who analyzed many different illicit drugs, one of which was single units of cocaine. I learned the process from beginning to end which includes handling multiple exhibits, preparing samples, processing data analysis and closing exhibits and forming lab reports. When analyzing the single units of cocaine there is a two step process: a presumption test and confirmation test. The tests that were used were a cobalt thiocyanate color test, gas chromatography-mass spectrometry (GC-MS) and Infrared spectroscopy (IR) analysis. The color test showed a presence of cocaine while the GC-MS and IR positively confirmed the drug. The way the DEA can positively identify cocaine with the GC-MS is by matching the retention time that is within 0.1 with a reference sample. For the IR analysis the drug is confirmed by matching the wavenumber that is within 0.1 with a reference sample in their library.

## **The Feasibility of Agent-Based Computer Aided Dispatch: Efficiency vs. Effectiveness in Automation**

Presenter: Meghan Ruane

Faculty Advisor: Ira Promisel, Assistant Professor of Criminal Justice

Increased implementation of technology is not always a benefit to organizations. Agent-Based Computer Aided Dispatch (ACAD) uses increased employment of technology in dispatch centers through the implementation of multiple interfaces to transmit emergency response data (initial incident information, dispatched unit's response time, deployment requests and tasks, etc.). The centralization of the interactions between the interfaces may decrease response time and potentially improve the management of multiple emergency responses in larger suburban and urban areas simultaneously. However, the extensive reliance on technology raises concerns about employment for dispatchers and call takers and more importantly, the reliance on technology to increasingly replace the tasks of humans interacting with those in emergency situations may negatively impact the effectiveness of call taking and dispatch operations in exchange for the potential of more efficient processing. This research proposal will explore the literature on the effectiveness, efficiency, and possible ramifications of ACAD, identifying possible data sources, and methods for evaluating ACAD and the adjacent issue of centralization versus decentralization of call taking and dispatch operations.

## **The Impacts of Technology on Education**

Presenter: Madilyn Tiderencel

Faculty Advisor: Dr. Meghan De Witt, Associate Professor of Mathematics

Over the past 40 to 50 years, the use of technology in the classroom has been on a steady incline. However since the start of the Coronavirus pandemic, many aspects of education have been shifted to utilize more technology. Whether this be in elementary levels or college levels, programs across the world began to incorporate technology, for better or for worse. When the world shut down, educators had to switch almost all of their teaching methods to virtual learning and have had to adapt even more between then and now. There was a lot of trial and error during these times which brought about both new technologies and new and innovative uses of existing technologies. These technologies include Zoom, different forms of Google (Google Meet, Google Classroom, etc.), SeeSaw, and many others. As technology continues to become a more prominent part of society in general, research has been done to determine how educators really feel about technology in the classroom. Surveying educators from many different age levels and backgrounds, we will determine how technology is impacting education now and how we can use it to our advantage in future classrooms.



## **VISUAL COMMUNICATIONS IN GRAPHIC DESIGN**

Michael Bucci

Providing ongoing assistance  
for **pets & shelter animals**  
impacted by **Hurricane Ida.**

And **we** need  
**your** help.



**VISUAL COMMUNICATIONS IN GRAPHIC DESIGN**

Zachary Knecht

## **Wounded Knee 1973: The American Indian Revolution**

Presenter: Kyle D. Kratzok

Faculty Advisor: Dr. Stacy Sewell, Professor of History

I will be examining the occupation of Wounded Knee in 1973 by members of the Oglala Lakota tribe, supported by members of the American Indian Movement [AIM]. To establish the context under which this occurred, I will briefly discuss the months leading up to the occupation beginning around 1972, and continue through the occupation and its aftermath until around 1975. The primary focus question will ask why the Bureau of Indian Affairs [BIA] supported Dick Wilson, the tribal chairman, despite numerous allegations of malfeasance against him. My current working thesis is that the BIA had adopted a policy of supporting the local tribal government, and due to the occupation of the BIA headquarters by AIM prior to stand-off, the BIA and other federal authorities escalated the situation to the point that traditional residents had no one else to turn to besides AIM. The initial demands made by the occupiers were not unreasonable, and the situation could have been deescalated if the BIA granted them, but due to their new policy and fear of more unrest on other reservations, they refused to do so. This tragically led to the deaths of two of the occupiers, and many other protesters and law enforcement being wounded.

## **The Effects of Polyethylene Microplastics on the Habitat Selection of Damselfly & Dragonfly Nymphs**

Presenter: Declan Pattermann

Faculty Advisor: Dr. Bianca Wentzell, Interim-Dean, School of STEM

While plastics have increased humans' quality of life and raised our standard of living, it is clear they are being overproduced, overused, and not properly disposed of. Part of the problem with improper plastic disposal is that they take a very long time to break down. A plastic cup can take as long as 400 years to break down. Plastics can be broken down into microplastics, plastics that are 1 $\mu$ m to 5mm in size, which have a wide range of effects, on terrestrial and aquatic life and on the water quality of the water systems that they interact with. One organism that is affected by the presence of microplastics are benthic macroinvertebrates. Benthic macroinvertebrates are stream and river inhabiting organisms that can be seen with the naked eye and live near or on the bottom of streams and rivers. Benthic macroinvertebrates in the order Odonata, which include damselflies and dragonflies, are somewhat sensitive to pollution. This study aims to determine how damselfly nymphs and dragonfly nymph's habitat selection are affected by the presence of microplastics. To determine the effect on their habitat selection, three experiments were carried out on 24 dragonfly nymphs and 24 damselfly nymphs. Throughout the three experiments,



the macroinvertebrates were placed in designed tanks with different sediment concentrations and different stimuli, ranging from a 0% microplastic sediment concentration to a 100% microplastic sediment concentration. Their choice of habitat throughout all three experiments was recorded and defined as spending a consecutive minute in their chosen habitat.

## **A Resemblance of Removals: An Analysis of the Parallelism Between the Withdrawals of Federal Troops from the South During the Reconstruction Era and U.S. Troops in Afghanistan**

Presenters: Jessie Hohenstein & Samantha Pisano

Faculty Advisor: Dr. Heath Bowen, Dean of the School of Arts and Social Sciences

The deployment of federal troops in a designated location prevails to present an overwhelming hindrance on the lives of the corrupt. The Reconstruction Era in 1865-1877 exemplified this obstacle through the stakes of military presence in the South. Succeeding the withdrawal of federal troops, white southerners revealed to be the American Taliban of modern day. The withdrawal of federal troops from the South in 1877 depicts profuse parallelism to the recent withdrawal of the U.S. military from Afghanistan. In an attempt to establish a concrete analysis of the correspondence between these events, an expansive investigation of the effects of military withdrawal in the American South and Afghanistan was conducted. Throughout this investigation, the immense comparisons of the underlying political influences, national mood, and the military, civilian, and moral failures associated with the removal of U.S. military forces from Afghanistan and the withdrawal of federal troops from the American South following the Compromise of 1877 were revealed. Furthermore, the ensuing repercussions of the pull out of these troops and the lasting effects on women's rights and black rights in Afghanistan and Southern United States, respectively, will be evaluated through this research.

## **What's Going On**

Presenter: Jeanette Dick

Faculty Advisor: Dr. Evan Matthews, Associate Professor of Music

As an Art Therapy major, I am more than aware of the power of the arts, and more importantly, the process of creation. For the past two years, we have created virtual musical projects for Ignite using recycled materials. This year, we've chosen to share the experience of the process with you.

Through this interactive installation of reused materials, we invite you to create with us. Art and music allow us to channel feelings into an expression to be shared. "What's Going On" as an installation is a combination of conventional





## **VISUAL COMMUNICATIONS IN GRAPHIC DESIGN**

Devin Sargent

instruments and “trash” instruments. Hit, clang, pop, and play. You are an integral part of this installation; Give these materials a new life. Explore the possibilities of music and expression, and what it means to create. We simply invite you to immerse yourself in the experience. By doing so, you become a part of the piece and share it with the community.

### **STAC Students Build Weather Station On Campus**

Presenters: Umar Rehman, Paolo Bruzzesi

Faculty Advisors: Dr. Bianca Wentzell, Interim-Dean, School of STEM; Dr. Robert Ingolia, Adjunct Professor of History; Nina Bellisio, Professor of Visual Communications

WeatherOverSTAC is STAC’s official weather station, which was constructed by STAC students in Fall 2021. The goals of the weather station project is to show people that they can create their own weather station and teach how to use the data we collect to better understand global climate change. The creation of the weather station was a multi-step process: 1. assemble the weather station, 2. establish a wireless connection between the outside components and the inside console, 3. establish a wired connection between the console/collector and the PC running the software, 4. initiate communication between the software components of the console and the PC, 5. build the website and send the collected data to the website, 6. share the data with the Citizen Weather Observer Program and WeatherUnderground, and 7. display our efforts to STAC and the local community. This successful, student-led project resulted in a functional, reporting weather station, which will provide a wealth of on-campus weather data for years to come. We anticipate that the data will be utilized in many student projects on campus, in addition to being shared with the wider community.

### **Post Covid Brain Fog: Defining the Problem**

Presenter: Emily Fitzpatrick

Faculty Advisor: Dr. K. Emma Emanuel, Visiting Professor of Biology

Covid-19 is a global pandemic that, according to the Center of Disease Control and Prevention, has infected 23.6% of the United States population. Of those who survived the infection, up to 67% have reported experiencing “brain fog”. Through the use of cognitive tests symptoms of “brain fog” were identified to be impairments to memory encoding, memory recall, category fluency and processing speed. The hypothesis proposed is that adults post-covid have a worse working memory than before infection. Through literary research, prevalence of these cognitive impairments and their severity were recorded. Cognitive tests to assess attention, working memory, processing speed, executive function, memory encoding, recall and language ability were performed on patients to record which symptoms were most prevalent. A possible mechanism for these cognitive

changes was noted. Covid-19 causes increases in interleukin-6 (IL-6), interleukin-1 $\beta$  (IL-1 $\beta$ ) and tumor necrosis factor- $\alpha$  (TNF $\alpha$ ). IL-6 and TNF $\alpha$  can cross the blood brain barrier and activate microglia which release IL-1 $\beta$ . The hippocampus, which has a major role in learning and memory, is especially vulnerable to IL-1 $\beta$  causing disruption to memory. This research suggests that while Covid-19 is considered a respiratory illness, it also negatively affects brain function.

## **Analysis of Language and Its Impact on Children's Relationship with Food; A Call to Action on the Affect and Power of Language**

Presenter: Emma Neil

Faculty Advisor: Monica Wendel, Associate Professor of Creative Writing

The language children hear determines the way they understand the world around them for the rest of their lives. Parents use the word no to discipline their kids, associating it with the word bad when they do something they don't like. Similarly, they use positive enforcement and the word good as a basic way to say that their action was appropriate and deserves to be rewarded or praised. These words enter a child's vocabulary at a young age and even with a basic understanding, they will be able to comprehend the ideas connected to the words when applied to other topics, especially food. Foods soon begin to fall into the good and bad categories based on how the adults in a child's life describe food to them, and how they are taught to feel about food. This influence can be very powerful on a child's developing relationship with food; therefore, categories like good and bad should not be used to describe food to children.

## **STAC COVID-19 Dashboard**

Presenter: Jojo Jose

Faculty Advisor: Dr. Andrew Lee, Assistant Professor of Mathematics

Data dashboards have been an important part of the COVID-19 pandemic response and planning. Throughout the pandemic, developers and statisticians have been working together with the data that had been collected to create dashboards to inform the general population on how the virus had been affecting the world. In this study, we developed a working COVID-19 Dashboard in R-Studio with the data that was collected by the STAC COVID Taskforce. RStudio is an integrated development environment (IDE) made to be generally used with the R programming language. R offers a variety of statistics-related libraries and packages for statistical computing and design. We wanted to create a user-friendly dashboard that would enable the user to change the parameters and look at the data through graphs which would show the overall shape of the data that had been collected. With the help of the shiny package, the graphs that were created from the imported data were turned into a website. The website takes in user input which means that users that were visiting the website were able to

manipulate the parameters of the Date variable to look at graphs for a specific time period. We were also able to create graphs that compared the positive COVID cases of Rockland county to the COVID cases at STAC. We also calculated the 7-day rolling average to better understand the peaks and the valleys in the graph, this is useful because it filled in the gaps for days when no data was collected.

## **How Social Networking Sites Use Algorithms and Psychology to Create Persuasive Technology**

Presenter: Isabella Szklany

Faculty Advisor: Elaine Winship, Associate Professor of Communication Arts

Algorithms, “a process or set of rules to be followed in calculations or other problem-solving operations” (Lexico Dictionaries, 2021), have become a fixture of daily life and are used for everything from calculating GPS routes to organizing books in a library. Specifically, they have been used by social networking sites (SNS) to determine the content that users will see on their feed. Recent research (Burr et al., 2018; Deilbert, 2019; Rettberg, 2020; Zuboff, 2019) has shown how SNS have applied psychological principles to their algorithms to keep users engaged. A literature review will provide the foundation for this study to identify psychological theories algorithms use and how they are expressed to create persuasive social media. This research aims to find the link between psychology, algorithms, and SNS in determining how sites like Facebook, Instagram, Twitter, Snapchat and YouTube have become forces of persuasion over humans’ thoughts and behaviors.

## **Leaving the Bubble**

Presenters: Daniel Casciano, Gabriella Correale, Amanda Demmerle, Gregory Digiaro, Stephane Fortune, Jacob Holland, Claire Kelly, Zachary Longua, Malik Lucas, Viktoriia Pavlovets, Samantha Pisano, Umar Rehman, Mateo Reyes, Eric Simon, John Thompson

Faculty Advisor: Erica Soto, Assistant Professor of Communication Arts

An audio story featuring graduating seniors as they explain what college life has been like living through the pandemic and what fears or fortitude they have as they leave college. Produced by students in Broadcast Journalism.



## **TV JOURNALISM: Dominican Sisters of Sparkill Documentary**

Mark Keegan, Zachary Longua, Peter Molina, Michael Parrot, Umar Rehman

# AZARIAN MCCULLOUGH ART GALLERY

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AZARIAN MCCULLOUGH  
ART GALLERY