



IGNITE

ST. THOMAS AQUINAS COLLEGE

**5th ANNUAL ART, DESIGN &
SCHOLARSHIP EXHIBITION**

Ignite your curiosity. Ignite your imagination.

Welcome to Ignite: St. Thomas Aquinas College's second 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 mentors who support them, these students and their work hold the potential to contribute positively to the world. Each of these students has benefitted 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 virtually visit the poster presentations and portfolios, and read the collection of abstracts included in this program and at <https://www.stac.edu/5th-annual-ignite>.

Organized and curated by

Members of the Ignite Committee:

Nina Bellisio, Meghan DeWit, Kimberly Holt, Melissa Collucci, Rossen Trendafilov,
Eric Schaffer and Ryan Wynne

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

IGNITE: 5th ANNUAL ART, DESIGN & SCHOLARSHIP (VIRTUAL) EXHIBITION

May 7, 2020

The STAC New Hope Movement

Nicholas Fiore, Gary Peters, Desiree Bermudez, Erica Smith, Emily Hayden and Hiwot Tadesse

Mentors: Dr. Deirdre-Noel Engels, Associate Professor of Marketing, and Dr. Rossen Trendafilov, Assistant Professor of Finance

St. Thomas Aquinas College is a Business Development University Partner for Spes Nova. STAC students sell fair-trade goods through their STAC New Hope Movement, organized by Dr. Deidre Noel-Engels and Rossen Trendafilov. Our team is comprised of Gary Peters, Desiree Bermudez, Nicholas Fiore, Emily Hayden, Erica Smith and Hiwot Tadesse. STAC New Hope Movement envisions a better trading method consisting of the following goals: 1. To give artisans from economically disadvantaged areas a foothold to global audiences 2. To give STAC students a collaborative academic experience by building a startup business which implements fair trade.

Fair Trade is more than just ensuring that producers are paid a fair enough salary to satisfy the basic needs of everyday life. Many Fair Trade items are organic which can lead to reduced; pollution, soil erosion, conserve water and use less energy. Workers can also be guaranteed their safety from harmful banned chemicals through this type of trade.

Fair Trade USA®, the leading certifier of fair trade products in North America, reports significant growth in its produce category, evidenced by a 30 percent increase in produce sales volume in 2018. As a result of Fair Trade Certified sales in 2018, produce farmers and workers earned nearly 8 million in Community Development Funds, providing significant funding to farmers, workers, and their communities in 12 countries. STAC New Hope Movement currently has the following fair trade products located on campus: Bark Thins, Starbucks Decaf Coffee, Twinings Organic Tea and Ben and Jerry's Ice Cream.

The College Fed Challenge

Isabella Diaz, Gary Peters, Paul Voigt, Luke Taplin, Anna Ristova, Hiywot Tadesse, Niamh McKeivitt

Mentors: Dr. Meghan Mihal, Professor of Economics and Dr. Rossen Trendafilov, Assistant Professor of Finance

In the fall of 2019, STAC gathered a team of seven students to participate in the nationwide College Fed Challenge competition. The ultimate goal was to create a compelling, yet practical, proposal for U.S. monetary policy that aligned with the Federal Reserve's dual mandate of stable prices and maximum sustainable employment. To achieve this, we spent much of our time in the Bloomberg Laboratory analyzing key economic trends in domestic production such as labor market conditions, unemployment, the productivity wage gap, and market volatility. In addition, the team also kept potential risks in mind, such as geopolitical factors, overall debt level, capital markets, and global deflationary pressures. At the conclusion of our research, we compiled our findings and monetary policy suggestion into an informative, coherent presentation that was given at the Federal Reserve Bank of New York. Our final recommendation for the Federal Open Market Committee was to maintain the targeted federal funds range between 1-1/2 to 1-3/4 percent. Additionally, we recommend maintaining the IOER at 1.55 percent. Lastly, we recommend continued organic growth of the balance sheet to ensure ample supply of reserves. We were invited back for the semi-finals, and STAC's team earned an Honorable Mention in District II's competition.

Adjusting the Phillips Curve for the Productivity Wage Gap

Isabella Diaz and Niamh McKeivitt

Mentors: Dr. Meghan Mihal, Professor of Economics and Dr. Rossen Trendafilov, Assistant Professor of Finance

The divergence between real hourly wages and labor productivity has led to the phenomena called the productivity wage gap. Evidence of a flattening Phillips curve arose in the 1980's, around the same time as the emergence of the productivity wage gap. We hypothesize that the growing productivity wage gap is one of the explanations for the current low inflation despite the tight labor market, thus inferring that there is an inverse relationship between the two. We test this hypothesis through regression analysis, and we find that the correlations between the productivity and various measures of inflation further explain and verify this relationship regarding the productivity wage gap as a determinant of inflation.

VISUAL COMMUNICATIONS
Jeanique Montinat *Dunkin': Cyprus*



The Price of Being Connected: App Usage Effects on Mental Health of 18-to-25 Year Olds

Isabella Szklany

Mentor: Dr. Ben Wagner, Assistant Professor of Psychology

Smartphones in the past decade have become a staple in daily life. Although the full effects of these devices are still unknown, psychology and mass media research have shown a correlation between smartphone use and mental health among 18-to-25-year olds. Twenge (2019) showed that adolescents and young adults who reported using digital media more often also were more stressed, lonely and exhibited more depressive symptoms, than those with limited media use. The research demonstrates a positive correlation between time spent on smartphones and mental illness. With current research still examining the connection between the two, I propose a study examining different apps' effects on the mental health of St. Thomas Aquinas College Students. During the study, students will use either social networking apps, such as Instagram, Snapchat, and Facebook, or other, non-social apps. After a small duration of time, students will self-report their overall feelings and moods. These results will hopefully help us understand the relationship between smartphone use and mental illness in college-aged students.

Survey Says: Some People are More Likely to Respond than Others!

Melissa Etter

Mentor: Dr. Benjamin Wagner, Assistant Professor of Psychology

This research project was created to investigate the potential relationship between several factors of personality and one's attitudes toward taking surveys. It was hypothesized that two factors of McCrae and Costa's (1987) five-factor personality scale, commonly referred to as OCEAN, would correlate with a desire to take surveys: Openness to Experience and Agreeableness. Self-reports such as surveys are an integral part of psychological research; therefore, it is important to study the types of people who are more likely to participate in data collection. To study this potential correlation, we gave 115 participants a two-part survey to fill out. The first part of the survey consisted of a short-form version of the OCEAN scale. Next, they filled out a forty-question survey that we created, called the "Desire to Participate in Surveys Scale." Our results will have implications for the reliability and validity of many real-life surveys, such as consumer satisfaction surveys, student evaluations of instructors, and possibly even the U.S. census.

The Effects of Vitamin A on Tumor Formation in Plants

Natalia Swiecki

Mentor: Prof. Kimberly Burns, Instructor of Biology and Lab Coordinator

Cancer remains to be one of the leading causes of death in the United States and around the world. Research is continuously growing on the subject, and various models are being used to develop an understanding that potentially may lead to prevention and better treatments. Plant model systems are being used as they have helped advance the understanding of pathogen defense, disease resistance, as well as impacting the understanding of human biology. *Agrobacterium tumefaciens*, a soil bacterium, has the ability to infect plant cells and cause abnormal growth, resembling tumor growth in humans. There have been studies that have connected vitamin A in preventing tumor growth. Vitamin A is a group of fat-soluble retinoids that are involved in various functions, such as immune function and vision. The research is being conducted by exposing sunflowers to *Agrobacterium tumefaciens* and using a vitamin A solution to determine whether vitamin A may be useful in the prevention of tumors. The hypothesis for the experiment is that when exposed to *Agrobacterium tumefaciens*, the plants watered with the vitamin A solution will have reduced tumor formation. The outcomes of this study include the further development of the understanding of tumors and the possible use of vitamin A as a prevention for tumor growth.

Using Duckweed to Reduce Algal Blooms in Eutrophic Water

Elizabeth Collins

Mentor: Dr. Bianca Wentzell, Assistant Professor of Biology

Algal blooms often occur as a direct result of eutrophication; a process in which nutrients such as nitrogen and phosphorus accumulate in water bodies. These blooms have been occurring more frequently throughout the United States in recent years, with increasingly deleterious effects such as toxin production with blue-green algal blooms, as well as the creation of “dead zones” from the reduction of dissolved oxygen. Duckweed, a floating aquatic plant, can be used to combat the effects of eutrophication by taking up excess nitrogen and phosphorus. In this study, duckweed will be introduced into eutrophic systems already containing large algal populations. Reduction in concentrations of nitrogen and phosphorus will be measured, as well as possible reduction in algal biomass. Duckweed growth and dissolved oxygen concentrations will also be monitored. It is predicted that duckweed’s phytoremediation abilities will indirectly limit the growth of the algae, in addition to improving water quality.

The Duality of Clare Kendry: Structuralist and Feminist Implications of Nella Larsen's *Passing*

Kiera Egan

Mentor: Dr. Staci Shultz, Associate Professor of English

In Nella Larsen's *Passing*, Irene, our black woman protagonist, has a chance encounter with an old childhood friend, Clare, who has decided to "pass" and live her life as a white woman in order to have a more privileged life in 1920s America. Clare seems to dually embody the female literary archetypes of the maiden (Clare is childlike, the victim, exquisite) and the femme fatale (Clare is manipulative, seductive, untrustworthy). However, these two different characterizations of Clare come from the point of view of Irene, who is a patriarchal woman herself and classifies women by type, including herself as the matriarch. Thus, Clare's portrayal as a female character is closely related to Irene's own ideas surrounding females and the roles they play. Structuralist and feminist readings of *Passing* would assert Larsen paints Clare as both the maiden and the femme fatale archetype from Irene's patriarchal point of view to subvert expectations of female characters in literature and to provide social commentary on real gender roles.

Developing a Growth Strategy for Coinsource: A Reflection of the 2020 IACBE Student Case Study Competition

Isabella Diaz, Tara Fears, Taylor Hickey, and Taylor Trinidad

Mentor: Prof. Christine Cahill, Associate Professor of Business Administration

Experiential learning at STAC connects real-world experiences with our curriculum and enhances our liberal arts and business education. In the IACBE team experience, STAC students are given a collaborative academic experience by building a case study team and analyzing a current business. The 2020 IACBE Case Study Competition team was tasked with aiding Coinsource, the world's leader in Bitcoin ATMs, in developing a B2B model. The growth strategy also includes a including a market, competitor, and target audience assessment.

VISUAL COMMUNICATIONS

John Sullivan Voyager Literary Journal



Women's Shoe Print Database: A Piece of the Puzzle in Crime Scene Investigation

Gianna Fasano

Faculty Mentor: Dr. Clara Toth, Professor of Biology

When a shoe print is found at a crime scene it can be collected and compared to known prints placed into a database. This is helpful to the police being able to figure out the style and brand of the shoe worn by the suspect, which can then be used to link a potential suspect to the crime. Therefore, it would be beneficial to create a women's shoe print pattern database since a database of just women's shoe print patterns has not been created yet in order to help law enforcement.

This database consists of different styles of women's athletic shoes from the following brands: Skechers, Nike, Adidas, and Under Armour. In the future, more shoe print patterns can be added to enlarge the database.

An Analysis of Death Row Last Meals and Their Impact on Our Perception of the Death Penalty

Andrew Dacuba

Mentor: Prof. Nina Bellisio, Associate Professor of Visual Communications

America is in a unique situation in the countries modern, western world, being the only of these countries to still allow the death penalty. Because of this unique practice, these last meals have interwoven with American culture, seemingly to the point people are wondering if the accused will have ketchup or mustard on their last french fries. This reflects the disturbing fascination the public has always had around executions, which has simply shifted to a new medium now that executions are a private affair. An inmate choosing his or her last meal is similar in many ways to George Orwell's short story "A Hanging." In the story, the speaker notices the man he is leading to the gallows step to avoid a small puddle, but this inconsequential detail has huge ramifications. Just like the last meal, despite being a minor event, it is an insight into someone's last moments. It reveals that they are someone with their own thoughts, desires, and dreams. While many Americans are fascinated by the last meal that inmates choose before their execution, the spectacle of it is no better than the fanfare around public hangings; in reality, the last meal shows how those society has put to death are still human, which has ramifications to the death penalty as a whole.

VISUAL COMMUNICATIONS

Aida Torpey Vitamin U



Implementing A/B Design Testing for an Entrepreneurial Startup

Doris Osei, Mikeala Fils-Aime

Mentor: Dr. Deirdre-Noel Engels, Associate Professor of Marketing

The purpose of this research project is to employ the principles of digital marketing conversion-centric design in a real-world setting. We will create two versions of a graphic design and background to be used for an apparel startup, and A/B test the design options in order to determine which version generates the greatest lift in click-through rates and engagement. Design version (A) is focused on chapter one of the bible, the Creation. Design version (B) is focused on the Garden of Eden. We will have two mock-ups ready for prospective customers to survey and give their opinion on the design. In order to complete this research we will also design and build a website for a startup apparel business named Dashion. Founded by STAC student Doris Osei as a way to express her creative side, Dashion is a christian based clothing line that looks to preach the gospel through abstract designs on t-shirts and casual apparel.

A Sound Piece on *Trash*

Jeanette Dick

Mentor: Dr. Evan Matthews, Professor of Music

“Trash” is an interactive performance art piece exploring garbage, refuse and other disposable things and their possibilities for sound and visual presentation. The global problem of disposable stuff, from plastic, metal, glass to Styrofoam and other packaging material is with us and becoming more critical each year. With a visual display and accompanying musical sounds derived mostly from found objects and everyday disposable materials we will create a one-of-a-kind experience devoted to Trash. The general public will be invited to participate in this performance piece.

VISUAL COMMUNICATIONS

Ariel Cangialosi *Al Bicerin*



Using The Therapeutic Thematic Arts Programming Method To Enhance Socialization And Mood In Those Diagnosed With Early-Onset Alzheimer's Disease

Christine Winter, Alanna Barnes, Amy Mauro, Lauren Desimone, Ariel Salmon, and
Amanda Kythreotis

Mentor: Dr. Levine-Madori, Professor of Therapeutic Recreation

For the following research study, six students visited the Promenade at Blue Hill. This facility offers assisted living as well as a compassionate memory care unit and is located in Pearl River, New York. Over the past few years, these types of facilities have become commonplace as more older adults are diagnosed with the early stages of Mild Cognitive Impairment and Alzheimer's disease. Both conditions cause residents to self-isolate, decrease participation in daily activities, and lose socialization and language abilities.

The students, from St. Thomas Aquinas College and under the supervision of Dr. Levine Madori, were asked to provide weekly TR programming specifically designed to enhance socialization, increase time spent in programming, and decrease isolation. Furthermore, these activities were carried out with the goal of increasing mood and relaxation through implementing the Therapeutic Thematic Arts Programming (TTAP®) Method.

Residents self-selected to participate in these themed activity sessions, which were run by students once a week for nine consecutive weeks. They attended each session and gradually developed rich social bonds with one another during this time. Additionally, the residents reported that they looked forward to these creative arts activities more than any other programming offered by the facility. As evidenced by the pre-post questions and student observations, it is clear that the residents demonstrated positive outcomes in all five psychosocial domains.

VISUAL COMMUNICATIONS

Cassandra Rohr TEDx



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