**FALL 2024** 

# POLY

Thursday, November 21, 2024

11:30 AM - 1:00 PM

**Bronco Student Center** 

(Ursa Major, Ursa Minor and Andromeda)



### TABLE OF CONTENTS

Event Schedule	1
Showcase Remarks	1
Planning Committee	2
PolyX Projects	3
Don B. Huntley College of Agriculture 3	
College of Business Administration 13	
College of Engineering31	
College of Letters, Arts, and Social Science 39	
College of Science41	
College of Education, Integrative Studies49	
Acknowledgment	50

### **EVENT SCHEDULE**

Thursday, November 21, 2024 - 11:30 AM - 1:00 PM

10:00 - 11:30 AM Check In

11:30 AM - 12:15 PM Poster Presentations

12:15 PM - 12:30 PM Showcase Remarks

12:30 - 1:00 PM Poster Presentations

### SHOWCASE REMARKS



Dr. Dora Lee

Assistant Vice President of Academic Engagement & Success



Ericka Olguin

Director Innovation Incubator

### PLANNING COMMITTEE



Dr. Nina Abramzon
Professor and Associate Chair
College of Science



Priyatham Bazaru
Technical Lead
Innovation Incubator



Caitlyn Kubulan

Communications Specialist

Office of Academic Innovation



Dr. Dora Lee
Assistant Vice President of
Academic Engagement &
Success



Ericka Olguin

Director

Innovation Incubator



Josue Ruiz

Web Developer

Office of Academic Innovation



Christian Rivera
Assistant
Academic Support and
Learning Services



Dr. Joanne Sohn
Professor
College of Science



Debbie Tanaka

Micro-Internship

Program Coordinator
Innovation Incubator



Dr. Preeti Wadhwa
Professor and Faculty Fellow
College of Business
Administration



Matt Walsh
Associate Director
Volunteer Engagement Alumni,
and External Relations

### PolyX Projects

### Don B. Huntley College of Agriculture

A Comprehensive Analysis of Campus Vending Machines: Accessibility, Cost, and Health Implications

Team Members: Cristian Castillo, Jose Ureno Fernandez, Haley Nurre, Jalen Kim, Amanda Ishtam Eriksson, Jesse James Watt, Muhammad Hamida and Christopher Koyamatsu

Faculty Mentor: Dr. Emily Kiresich

Course Name: NTR 1000

Project Summary: Our research delves into the accessibility, cost, and health implications of vending machines on our campus. By surveying all vending machines, we aim to provide a comprehensive analysis of their contents, identifying potential health risks and exploring how these machines serve the needs of our student body. Our findings will inform discussions about improving campus food options and promoting student well-being.

# Addressing the Quality of Food at Centerpointe and its Selection of Healthy Options

Team Members: Evan Garcia and Marcus

Del Rosario

Faculty Mentor: Dr. Xu Yang

Course Name: FST 1000

Project Summary: Centerpointe is the

primary choice for many residents because of the "all you can eat" aspect and diverse food choices, however, there is discourse amongst the community that it is simply not an enjoyable experience. The food quality at Centerpointe is less than desirable for many options, and there aren't many healthy food choices available for consumers.

### Alternative Motives for On-Campus Transportation

Team Members: Xochitl Berber, Jade Kingston, Daniel Romo, Parvathi Prasad, and Elisa Foeng Zheng

Faculty Mentor: Dr. Xu Yang

Course Name: FST 1000

Project Summary: The Silver Streak has become a vital transportation option for the Cal Poly community, with routes extending from Montclair to South Downtown Los Angeles (DTLA). While this service has been incredibly useful, the campus stop operates only Monday through Friday, from 7:00 AM to 7:00 PM. Unfortunately, this limited schedule makes it difficult for students living on campus to use the service on weekends. Our research introduces a promising alternative for on-campus transportation during weekends, offering students a more convenient and accessible solution.

#### Are Restaurants at CPP Healthy?

Team Members: Kathleen Ng, Nathan Chiang, Jasmine Ramirez, Uriel Juarez Ventura, Jay Martinez, Manuel Navarro, Fernado Ramirez, and Miela Ganzon

Faculty Mentor: Dr. Emily Kiresich

Course Name: NTR 1000

Project Summary: Cal Poly Pomona is home to a wide variety of restaurants. However, questions still arise about how healthy, quick, and accessible these restaurants are for students. Our research examines how well restaurants of Cal Poly Pomona perform when it comes to how healthy, accessible, and expensive they are for students.

#### **Benefits of On-Campus Grocery Store**

Team Members: Bryan Dao, Arrenia Corbin, Jose Calva, and Luke Arias

Faculty Mentor: Dr. Emily Kiresich

Course Name: NTR 1000

Project Summary: Many Cal Poly students live on campus but our campus seems to lack a grocery store where students can buy general produce and protein that fit many dietary needs.

### Bite Into Goodness; Exploring Nutritious Choices with Children

Team Members: Kimberly Lopez, Gladys Fremont, Miles Bothwell, Ariel Castaneda, and Francis Cardenas

Faculty Mentor: Sangeeta Shrivastava

Course Name: Nutrition Education and

Counseling

Project Summary: Early nutrition education will assist children in adopting healthier food choices. We provided nutrition education to children from k-6 attending CalPoly Pomona Discovery farm field trips where hundreds of children showed up and interacted with us. We provided additional resources to educators and parents.

#### Cats VS Houseplants

Team Members: Mikayla Ball, Daniela Michel, Madalena Arellano, Mia Bermudez, and Leanne Hong

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: Having houseplants have become popular with a lot of households now having at least one plant. Due to this, the risk of toxic poisoning in domestic animals, specifically in cats, has increased. We hope that through educating pet owners of the symptoms of toxic exposure and what plants to avoid bringing into your house to keep your fur babies happy and healthy.

#### **Diabetic Student Aware**

Team Members: Suzantha Jasso, Anna Godina, Analisa Guerrero, Jasime Lau, and Tirsa Sanchez

Faculty Mentor: Dr. Emily Kiresich

Course Name: NTR 1000

Project Summary: Bringing awareness of accessibility to sugar throughout the campus.

### **Examining Students Knowledge of Nutritional Options on Campus**

Team Members: Josie D'ambrosio, Sabrina Go, Joseph Palakiko, Jose Davalos, and Annie Sheldon

Faculty Mentor: Dr. Xu Yang

Course Name: FST 1000

Project Summary: Looking at the idea of students' knowledge of healthy food available on campus and how much students are willing to go to these places vs. the more accessible but less healthy foods.

# Examining the Correlation Between Use of Caffeinated Beverages and Hours of Sleep for Students on Campus

Team Members: Saja Darwish, Alonzo Araujo, Daniel Sanchez, Claire Desimone, and Andy Gonzalez

Faculty Mentor: Dr. Xu Yang

Course Name: FST 1000

Project Summary: Students at Cal Poly Pomona are often torn between meeting academic standards and getting enough sleep. As the semesters progress, more and more students rely on caffeine to make up for the lack of sleep. This habit can lead to various health problems, including anxiety, poor concentration, and sleep disturbances. Raising awareness of this issue is crucial as poor sleeping habits can negatively affect academic performances and well-being. By understanding the relationship between sleep habits and caffeine consumption by Cal Poly students, we can explore healthier options to promote better sleep management.

### Examining the Effects of Racial Inequality on Korean American Food Practices

Team Members: Cyril Russell, Howard Cheng, Daniel Lawandy, Jerico Miciano, and Julie Perez

Faculty Mentor: Dr. Fatheema Begum Subhan

Course Name: NTR 2180

Project Summary: In the US, minority groups have historically experienced various barriers that limit their access to healthy and culturally relevant food options. Our research aims to document and detail the effects of these disparities on the food security and dietary practices of Korean Americans.

### Examining the Effects of Therapy Dogs on Cal Poly Pomona Students

Team Members: Hazel Berrios, Sierra Gonzales, Mia Obregon, Lisette Flores, and Esmeralda Joaquin

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: Many Cal Poly Pomona students undergo stress throughout the semester mainly based around education. However, C.P.P. provides weekly therapy dog sessions where students can come to relieve that stress while interacting with the dogs. Our research examines how the therapy dogs affect students stress levels after a session with them.

### Food Security and Dietary Practices of Latin American Communities in the U.S.

Team Members: Daniel Nava, Kevin Cabrera, Amber Robles, Janett Aguilar, and Dishdaily Real Faculty Mentor: Dr. Fatheema Subhan

Course Name: NTR 2180

Project Summary: Food security challenges in Latin American communities in the U.S. are shaped by socioeconomic inequities and limited access to nutritious food. Our research examines how these factors disrupt traditional diets, impacting health outcomes, and explores culturally appropriate solutions to build more sustainable, equitable food systems for these communities.

#### Food Security Issues and Dietary Practices in the Mexican -American Community

Team Members: James Cerussi

Faculty Mentor: Dr. Fatheema Subhan

Course Name: NTR 2180

Project Summary: Our project examines some of the disparities relating to food and nutrition that the Latino community has experienced over time.

### Friendship Finder: A Survey That Matches You With Your Perfect Friend

Team Members: Suevanny Figueroa

Faculty Mentor: Dr. Xu Yang

Course Name: FST 1000

Project Summary: This project is for new CPP students looking to find friends instantly. Many freshman and newly transfer students find it hard to connect with people. This may be due to not living on campus or struggling to begin that first step to form a new friendship. With our project, students are instantly matched with

people that they can message on any preferred social media. This will allow students to engage with their peers on topics like similar taste in music and shared hobbies, interests, or humor.

### Has Food Seen Equality in Latin Communities?

Team Members: Devin Jackson, Evelyn Gonzalez, Letzy Sanchez, and Mario Campos

Faculty Mentor: Dr. Fatheema Subhan

Course Name: NTR 2180

Project Summary: Latinx communities have been impacted in the food community by not being able to afford healthy sustainable foods. Our research show that oppression and what it has done to our past.

### Help Us Help Them; Overcrowding in Shelters

Team Members: Ivette Molina, Sofia Lee, Abeygail Rose Garcia, Nicole Bitangcol, and Camila Jimenez

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: Overcrowding in animal shelters is a problem not many people are aware of. Animals are held in challenging conditions that makes it harder for them to become adopted by the public, causing euthanization rates to go up. Our goal is to make these conditions known to lessen overcrowding and euthanasia.

#### **How Heat Affects Dog's Health?**

Team Members: Alondra Uribe, Aline Salas, Sarahbeth Palacio, Ruby De La Riva, and Jasmine Sanchez

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: Findings on how many dog owners are educated on how heat affects a dog's health. Survey results will be shown as evidence. There will also be information on what side effects the heat brings.

### How to Make Veterinary Visits Less Stressful

Team Members: Sonam Avanti

Mangu, Malia Bautista, Candy Xolalpa, Katie

Hunt, and Alexis Perez

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: Veterinary visits induce a great amount of stress on dogs. We aim to educate pet owners on making veterinary visits more tolerable for their dogs via cooperative care, force-free training, LIMA, and reading body language.

#### Lack of Healthy and Affordable Dining Options for CPP Students Living on Campus

Team Members: Phillip Basobas, Lisa Fonti, Janet Dao, Isamar Gollas, and Eric Liu

Faculty Mentor: Dr. Xu Yang

Course Name: FST 1000

Project Summary: Dormitory students have

limited means to cook themselves a

nutritious meal, due to the lack of knowledge in meal planning and lack of cooking appliances at the dorm facilities. Therefore, most CPP students living on campus rely on fast food options and can't solely resort to the dining hall due to it not meeting satisfactory standards. In our research we showcase the preferences CPP students have for their dining options and how to provide students with a more affordable and healthy food regiment.

### Marketing Healthy Meal Options for Commuters

Team Members: Gabriela Patino, Leila Ortega, Jason Lou, Michael Kanemitsu, Ivan Llamas, and Ayman Nasouf

Faculty Mentor: Dr. Fatheema Subhan

Course Name: NTR 2180

Project Summary: Commuters make up a large percentage of the community at Cal Poly Pomona yet they are not utilizing the dining centers available. Dorming students on campus refuse to eat at the dining halls therefore commuters do not want to use the dining halls either. Our purpose is to increase dining hall visits and promote the healthy available options Centerpointe, Vista Market, Poly Fresh and Brick break have to offer.

#### Menstrual Health and Hygiene

Team Members: Diana Roldan

Faculty Mentor: Dr. Fatheema Begum Subhan

Course Name: NTR 1000

Project Summary: CPP actively provides free menstrual products on campus. We've found that there is a major lack of awareness

surrounding these free products, our job is to create more awareness. The purpose of our survey is to document and record information from our target audience (students and staff on CPP campus) in order to better advertise the free menstrual products in order to free a possible burden on those who need it.

### Necessity of Healthier Snack Options for College Students

Team Members: Michael Barba, Isabella Lee, Miranda Munoz, Gabrielle Amador, Denise Arinaga, Isabel Salcedo, Diego Pantoja, and Ariana Batres

Faculty Mentor: Dr. Emily Kiresich

Course Name: NTR 1000

Project Summary: The snack shops within Cal Poly Pomona are very convenient for people on campus as it is easy for people to get a snack and continue their day. However, there's a lack of healthy snack options, which is necessary to have for the health and performance of people on campus.

### Overcrowded Animal Shelters Need Your Help

Team Members: Megan Jimenez, Serenity Wallace, Alexis Rio, and Andy Valdez

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: So many animal shelters today are overcrowded with animals. This leaves animals that have been there for a while having to be euthanized. Our goal of this project is to make it easier for people to adopt animals and to make them more informed on adopting vs shopping for an animal.

#### **Poly Pantry Recipe Development**

Team Members: Giselle Madrigal, Rachelle Cruz, Said Gonzalez, Diego Wences, and Jazmin Sandoval Rodriguez

Faculty Mentor: Dr. Fatheema Subhan

Course Name: NTR 2180S

Project Summary: The Poly Pantry is a great resource that is provided to Cal Poly Pomona students, which gives them access to free food and other necessities. However, the problem is that most CPP students are not aware of the fact that this resource is available to them due to a lack of advertisement. Our goal is to target CPP students, both those who dorm and commuters, who might be struggling with food insecurity and make them aware of the resources that the Poly Pantry provides them with.

# Proposal to Promote Culturally Relevant Foods at Cal Poly Pomona Campus for Poly Pantry

Team Members: Addison Kwon, Alex Corona, Liliana Orosco, Andru Lee, and Vincent Le

Faculty Mentor: Dr. Fatheema Subhan

Course Name: NTR 2180S

Project Summary: Culturally relevant foods are a source of comfort and self-identity for many people. At Cal Poly Pomona, there is a limited amount of culturally relevant foods and the distribution of these foods is not equal across campus and access may be limited to students. This proposal aims to investigate the availability and accessibility of culturally relevant foods on campus, suggest improvements to increase

availability and accessibility and promote knowledge of where and how to access culturally relevant foods in the student body.

#### **Real-Life Horrors of Puppy Mill Factories**

Team Members: Karen Reyes, Josephine Hernandez, Karen Tec, Itzel Barriga, Ayleth Hernandez, and Madison Hickner

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: From inhumane treatment of animals throughout puppy mills to the undetected genetic disorders these future pets may undergo, owners are unaware of the dangers that may come when purchasing pets from unethical sources. Our goal is to educate our communities about possible issues and strengthen awareness/laws against these organizations.

#### **Reducing Food Waste on Campus**

Team Members: Victor Alanis, Rachel Lui, Samantha Nakpawan, Landon Frost, and David Diaz

Faculty Mentor: Dr. Xu Yang

Course Name: FST 1000

Project Summary: There is a lot of food waste of food on campus, specifically end of the day waste of food that is still good to eat. Our idea is to introduce a campus specific app similar to Too Good To Go in which students can buy food that is still good to eat at a discounted price as well as being able to make this purchase with bronco bucks.

#### **Sleep Wellness Initiative**

Team Members: Emma Arrington, Trinity Gong, Andrew Mayer, Luke Njeru, and Takuma Horikoshi

Faculty Mentor: Kenya Luse

Course Name: NTR 1000

Project Summary: This initiative will assess sleep habits, educate students on the importance of sleep, and provide practical strategies for improvement. Expected outcomes include increased awareness, improved sleep quality, and greater engagement in health-promoting behaviors, ultimately supporting academic success and overall well-being

### The Culture and Daily life of Asian Americans

Team Members: Issac Tam, Thitaelia Kirkland, Luis Autunez Juarez, Kealey J.Mohr, and Deven Barrera

Faculty Mentor: Dr. Fatheema Subhan

Course Name: NTR 2180

Project Summary: We will examine the daily life of Asian Americans such as how many people are in their household. We also will discuss the culture in what Asian Americans celebrate.

### The Food Safety Guide: Protecting Your Family, One Meal at a Time

Team Members: Nicole Lam, Luis Mateos, Andy Pham, and Danica Copetillo

Faculty Mentor: Dr. Xu Yang

Course Name: FST 1000

Project Summary: Food is an important daily part of people's lives worldwide. However, many people lack adequate knowledge of food safety, especially in third-world countries. Education on food safety is essential to people's livelihoods. Our research is focused on educating people about the importance of food safety.

### The Risk of Not Getting Your Pets Vaccinated Against Leptospirosis

Team Members: Elizabeth Betancourt

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: Why vaccinating your

pets against Lepto is important.

### Understanding the Intersection of Culture, Food, and Disparities in Latin Americans

Team Members: James Nunez, Saul Vidal, Amber Guardado, Noah Cardenas, and Eric Linares

Faculty Mentor: Dr. Fatheema Begum Subhan

Course Name: NTR 2180

Project Summary: Over the past couple decades western trends have changed food choices, health, and nutrition in Latin Americans communities. Our research highlights the impact of these trends and changes.

Understanding the Intersection of Culture, Food, and Disparities in Latino Communities

Team Members: Evelyn Godinez Gonzalez, Letzy Sanchez and Mario Campos Faculty Mentor: Dr. James Yokoyama

Course Name: HRT 1010

Project Summary: In this paper, our group will dive into the particular lifestyle of Latin American culture. Focusing on the lack of food security and resources Latin Americans face, their traditional dietary practices, and accessibility of their food sources.

### Unlocking Solutions: Enhancing Campus Food Access with Food Lockers

Team Members: Brianna Lyles

Faculty Mentor: Dr.Xu Yang

Course Name: FST 1000

Project Summary: The dining options at Cal Poly Pomona are spread too far apart, lack variety, lack healthy options, and are too pricy for students to rely on as their primary source of meals during the school day. Home-cooking has a lower cost per meal and allows students control over portion size and nutritional content. While many students choose to bring a prepared lunch to school, those who are on campus 8-12 hours a day and can't feasibly leave between classes to get more food have no other choice but to partake in on campus dining or else skip eating, which can negatively impact their focus and ability to succeed in class. Bringing more food to campus is an option but having to carry it in addition to the materials required for class creates a physical burden. Increasing students' ability to access and store food throughout the school day would ease this burden. The

placement of food lockers throughout campus can provide students with a safe and secure place nearby to leave their food. Knowing that they have the ability to store their meals can also reduce the mental burden of worrying about what and where they'll eat during the day. By providing students with reliable access to food, students can focus on their studies without being distracted by hunger or thoughts of meal logistics.

### Using Calming Classical Music to Help Shelter Dogs De-stress

Team Members: Madison Arrula, Noelia Cabrera, Neeloofar Asad Soleimani, Abigail Wong, and Samantha Munoz

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: On average the stress levels of dogs in public animal shelters is unhealthily high. However, calming forms of music have been proven to help not only people but also animals de-stress and lessen anxiety. Our research examines whether or not regularly playing calming music can help reduce signs of stress in shelter dogs.

### Water-Saving Techniques for Food (Hydroponics)

Team Members: Samantha Davila, Keerthana Dadi, and Madison Perry

Faculty Mentor: Dr. Xu Yang

Course Name: FST 1000

Project Summary: Water, as many are aware, plays a crucial role in assisting our agricultural commodities and food supply. However, due to issues concerning drought accompanied by the unnecessary overuse of this demanded resource, it is continuously becoming scarce, slowly emerging as a global crisis in the US. The goal of our group's research was to demonstrate a water-saving method to accommodate crop output. Hydroponics, utilized by farmers, hobbyists, and commercial enterprises, serves as an important tool for efficiency and faster growth rates.

#### Weight Stigma

Team Members: Payton Marchi, Sofia Cullen, Gabriel Flores, Jaeden Medina, and Alan Taboada

Faculty Mentor: Dr. Fatheema Subhan

Course Name: NTR 2180

Project Summary: Weight stigma negatively impacts mental and physical health. Our research explores how weight bias manifests on CPPs campus, focusing on social interactions and resources. By understanding these dynamics, we aim to promote inclusivity and student wellbeing.

#### **Feeding Campus Animals**

Team Members: Jessica Valle, Viviana Valenzuela, Libby Ly, Victor Torres, and Juliana Maldonado

Faculty Mentor: Dr. Joanne Sohn

Course Name: AHS 1104

Project Summary: Our problem we would like to address is how stray animals on campus are being fed human food that affects their diet negatively.

#### Fit, Focused, Flourished

Team Members: Vivian Nguyen, Zinmar Tan, Amrita Humpal, and Zia Arian

Faculty Mentor: Dr. Sangeeta Shrivastava

Course Name: NTR 3450A

Project Summary: Healthier children, healthier nation! Agree? Children are our future. For a healthier future for all, if children adopt healthy habits from an early age, they will flourish. Some of these healthy habits include daily physical exercise, limiting screen time, staying hydrated, and practicing proper hygiene (brushing and flossing). We provided this lifestyle education to K-6 children at the Cal Poly Pomona Discovery Farm.

#### **Nourishing The Future**

Team Members: Sangeeta Shrivastava, Ilea Anaya, Alejandra Dethrasavong, Margot Evans, and Razan Akili

Faculty Mentor: Sangeeta Shrivastava

Course Name: NRT 3450A

Project Summary: Nutrition education and counseling students conducted thorough need assessment to identify nutritional problems among school age children. Created SMART goals and objectives lesson plan, created hand out, and conducted interactive workshop at Discovery Farm Field Trips.

#### The Importance of Water Refill Stations

Team Members: Brady Capen, Marisol Gaitan, Alyssa Jenelle Du, and Violet Sato

Faculty Mentor: Dr. Xu Yang Course Name: FST 1000

Project Summary: The resource of water refill stations may not be fully utilized because some students may not have knowledge of the location and our solution is bringing more awareness to water refill stations and providing information to help students locate and learn about the importance of water refill stations.

### PolyX Projects

### **College of Business Administration**

#### **Affordable and Clean Energy**

Team Members: Ryan Phat, Samantha Rodriguez Velasco, Michael Grundeen, and Lucca Riley

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: We will address the problems and solutions relating to affordable and clean energy in the Los Angeles regions.

#### Affordable and Clean Energy

Team Members: Nolan Hupf, Jalen Shiao, Xitlali Flores, and Amir Eltouwal

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Renewable energy solutions are becoming cheaper, more reliable and more efficient every day. Our current reliance on fossil fuels is unsustainable and harmful to the planet, which is why we have to change the way we produce and consume energy.

#### Affordable Clean Energy in Pomona

Team Members: Rose Viayra, Alexi Bruton, Tir Do, and Keven Velasco

Faculty Mentor: Dr. Marcus Corra

Course Name: BUS 1010

Project Summary: We will discuss ways to make clean energy more affordable in Pomona, the benefits of Sustainable and renewable energy, and the harmful effects of fossil fuels.

# Examining Apple's Sustainability Efforts and Areas for Improvement in Responsible Consumption and Production

Team Members: Lincoln Bautista, Joshua Hung, Sebastian Lozano, Nathan Truong and Colin Zhuang

Faculty Mentor: Cassandra Horner

Course Name: BUS 1010

Project Summary: This poster examines how Apple, one of the leading technological companies, can minimize greenhouse gas emissions throughout its product life cycle from design to disposal. With the increasing demand for technology and the subsequent waste, our research accounts for Apple's current environmental impact, the effectiveness of current sustainable practices, and the potential for improvement. By utilizing data from Apple's environmental progress reports and literature reviews, we have found that Apple has been committed to reducing its emissions. Although they have implemented several practices, challenges remain in maximizing the efficiency of recycling programs and increasing the use of renewable energy and recycled materials.

#### **Barriers to Poverty in LA**

Team Members: Breven Ondieki, Chen Chen, Jenny Mendez, Kevin Chavez Gonzalez, and Om Sivaya

Faculty Mentor: Marcus Corra

Course Name: BUS 1010

Project Summary: Homelessness and poverty has risen consistently in LA over the past decade, keeping California's title as the number one poverty state. While there are seeminingly many resources granted, our research examines the barriers that

#### **Breaking the Cycle of Poverty**

Team Members: Gabriela Pedraza and

Jurgen Tenas

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: This SDG of 'No Poverty' aims to eliminate poverty in all its problematic forms such as barriers of limited opportunities and housing challenges, impacting numerous families and future generations. The problem of poverty came about due to many factors of societal and economical problems, one of the reasons being the effects of climate change while others being the discrimination of the individuals striving against it. Our research examines and dissects this problem, carefully drawing out solutions and remedies.

#### **Bridging The Gap**

Team Members: Lyla Rosales, Giselle Ignacio, April Martinez, Nikita Chaukkar, and Johnathan Brewer

Faculty Mentor: Ashley Ysais

Course Name: BUS 1010

Project Summary: Gender pay gaps continue to be a pressing issue, particularly in the high-tech industry. These pay differences should not be accepted as normal or justified. Our research investigates the variations in pay gaps across employment roles in the high-tech sector and identifies the most successful strategies for effectively eliminating gender

#### Bridging the Gap Between Infrastructure and Sustainability

Team Members: Sean Hallmark, Danyil Skriabyshev, Andrew Katz, Antonio

Cervantes, and Ivan Carmona

Faculty Mentor: Ashley Ysais

Course Name: BUS 1010

Project Summary: As we face a rapidly changing global economic landscape and increasing inequalities, sustainable growth must include industrialization that everyone can access. Investing in sustainable infrastructure, specifically using sustainable materials for constructing roads in California is a goal that we believe can be accomplished.

#### California Gender Equality and Economy

Team Members: Matthew Kwan, Rianna Esparza, Aneesh Punnam, and Alyssa Sandeoval

Faculty Mentor: Dr. Marcus Corra

Course Name: BUS 1010

Project Summary: Our poster will be

primarily on how being certain genders affects their purchases. It will mostly consist of talking about the disadvantages that women have in this economy.

# Causes and Effects of Water Stress in Sub-Saharan Africa and the Solutions to Solve It

Team Members: Zhi Ming Lin, Angeline Rangel, Manny Castro, Luke Chiang, and Princesa Uriza

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Water stress is of urgency in the Sub-Saharan Africa region. These causes are many, ranging from pollution to diseases. Water is critical to humanity and a shortage of potable water has dire consequences. Our research seeks to identify the causes and effects of water stress and then present solutions.

# Choose Green: What Californian Consumers Can Do To Reduce Their Impact On The Environment

Team Members: Angel Flores, Jerry Castaneda, Emiliano Hernandez, Elaine Xiang, and Santiago Hernandez

Faculty Mentor: Casandra Horner

Course Name: BUS 1010

Project Summary: Consumer habits significantly impact our environment. However, personal values and product awareness alter Californians' choices when purchasing products. Our research examines how these and other factors encourage consumers to have sustainable habits.

#### **Climate Action**

Team Members: Nicholas Cortez

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: Climate Action is a threat to humankind and if we don't do something soon as a whole the damage will be soon . unreversible and will result to a lot of mass migrations and instability throughout the world.

#### **Coral Bleaching**

Team Members: Shrihan Dash, Julianna Choe, Mia Paz, Kleber Sanchez, and Elijah Mansell

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Coral bleaching weakens reefs by expelling vital algae, causing them to lose color and energy. This threatens marine biodiversity, as countless species depend on healthy reefs for food, shelter, and breeding. As reefs deteriorate, the entire ecosystem's balance is disrupted, endangering marine life.

#### **Decent Work**

Team Members: Danielle Flores , Zack Feng , Elton Lim, and Carla Shenouda

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: Sustainable Development Goal 8 includes the issue of decent work, which has been a prominent issue throughout societies. Many workers face the challenges of unsafe working conditions and exploitation which are especially faced by the youth and women. This leads to the lack of access to social and economic opportunities, primarily amongst the youth and women.

#### **Discovering Ways to Slow and Reverse** the Effects of Climate Change

Team Members: Enric Balcells Barile, Gardemia Sandoval, and Matthew Tran

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: Climate change has had an effect on everyone's life. It has destroyed homes and has limited resourses for billions. At this rate, climate change will cripple humanity. For that purpose, we have to discover methods of living that are more

#### **Economic Struggles in L.A.**

Team Members: Kayli Ramos, Pamela Alozie, Alexandra G Arias, Carmen V Uriarte-Cordero, and Ivan Diaz

Faculty Mentor: Dr. Marcus Corra

Course Name: BUS 1010

Project Summary: What sustainable strategies can be implemented in Los Angeles to ensure that all workers earn a living wage that meets the rising cost of living, while fostering economic growth and reducing income inequality?

#### **EcoSafe Aquatics Initiative**

Team Members: Lucas Chavez
Faculty Mentor: Ashley Ysais

Course Name: BUS 1010

Project Summary: Aquarium fish are something that many people in the fish community own, ranging from plecos to Oscar cichlids. The issue with most aquarium fish is that after years of care, they can grow up to 1 foot in captivity or become too expensive for the owner to maintain. As a result, some owners have been observed releasing these fish into the wild, which destroys ecosystems. These aquarium fish consume all the resources that native species rely on, disrupting the food chain and causing ecological damage that could have been avoided. Our initiative is to bring awareness to this issue in hopes of preventing it from happening.

### Effectiveness of Short-Form Social Media in Brand Marketing

Team Members: Desmond Noble, Lorena Deluna, Matthew Delgado, Christina Hanna, Matthew Bautista, and Cynthia Layoun

Faculty Mentor: Dr. Maha Ghosn

Course Name: IBM 3302

Project Summary: This study examines the effectiveness of TikTok and other short-form social media platforms in brand marketing. It explores how these platforms drive brand awareness, engagement, and influence consumer purchases, as well as whether they enhance brand loyalty. Surveys will provide insights into consumer interactions and buying behavior.

# Elucidating the Proximate Causes and Solutions for Water Contamination in the Congo Basin

Team Members: Victoria Amanda Pedraza, Andrea Urbina Alva, Sherlyn Diaz, Gil Venkatarao Maruvada, and Victoria Amanda Pedraza

Faculty Mentor: Dr. Jacquelyn Trejo-Torres

Course Name: BUS 1010

Project Summary: Contaminants in the river water of the Congo Basin have proven to create health risks to residents, water scarcity, and hinder economic growth.

There are a number of causes which are pertinent to this problem, including population growth, agriculture, pollution, runoff, and economic exploitation.

Our research examines this problem and explores possible solutions.

#### Examining the Best Way to Make Renewable Energy Affordable and Accessible Across California

Team Members: Adriel Tamraz, Hannah Valdivia, Kai Moriya, Emilio Dik, and Edward Gutierrez

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Renewable energy has been a topic of dissuasions for last century, we are trying to find a way to make renewable energy more affordable and accessible depending on which region of California our constituents reside in.

### Examining the Economic Impacts of Water Pollution in Miami, Florida

Team Members: Anthony Theodorou, Drew Freitas, Kevin Yanez, and Daniela Layos

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Water pollution has been a major problem in Miami, Florida for a long time. This problem has affected the city in numerous ways including a decrease in property value and tourism. It also directly affects its citizens with rising health costs and damage to local businesses.

### **Examining the Intense Decrease of Doctors in Mississippi**

Team Members: Daniela Nah Gonzalez, Angel Padron, Damon Toliver, and Samantha Dia

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: The US medical system has always been a topic of debate, with some believing it is has the strongest medical industry in the world. With some states having a stronger medical system than others. Our research examines the declining decrease of doctors in the Mississippi area, that affects those living there.

#### Examining the Mental Health and wellbeing effects of Social Media on College Students in California

Team Members: Justin Quezada, Lenny Vela, Justin Ornelas, and Hugo Lopez Faculty Mentor: Dr. Marcus Corra

Course Name: BUS 1010

Project Summary: Our research examines how the prolonged use of social media platforms affects the mental health and well-being of college students in California, particularly in relation to anxiety, depression, and self-esteem.

### Examining the Strength and Resilience of U.S. Against Climate Based Disasters

Team Members: William Firetag, Ezequiel Serratos, Lillana Gabriel Rogel, Riley Nix, and Borga Sahbal

Faculty Mentor: Dr. Marcus Corra

Course Name: BUS 1010

Project Summary: Finding out what the U.S does to fight against climate based disasters in order to protect lives.

Exploring Pastry Preferences and Purchasing Behaviors Among University Students: Trends, Influences and the Lasting Effects of the Pandemic on the Bakery Industry.

Team Members: Crystal Sho, Kolby Fang, Mario Angel, Isaiah Baeza, and Jonathan Perez-Castaneda

Faculty Mentor: Dr. Maha Ghosn

Course Name: IBM 3302

Project Summary: Pastries are popular among university students, influenced by seasonal trends, cultural preferences, and pandemic-driven baking habits. This study examines students' favorite types and challenges like affordability and access, offering insights into how changing habits

and external factors shape long-term pastry demand among students today.

### Exploring Sustainable Methods of Industry, Innovation, and Infrastructure

Team Members: Steven Lane, Gabriel Mayer, and Eliseo Aguirre Paulin

Faculty Mentor: Kate Capossela

Course Name: BUS 1010

Project Summary: Around the world, better industrialization, infrastructure, and innovation are pursued. However, existing solutions to these key factors of a sustainable society are unreliable. We will examine these existing solutions and their flaws but also explore other possible solutions that based on our research, could be better for the future.

#### Fast Fashion and it's Environmental Impact

Team Members: Faith Harnanto, Angel Escobar, Jeremy Vasquez, Jocelyn Arroyo, and William Park

Faculty Mentor: Erika Olguin

Course Name: BUS 1010

Project Summary: Fast fashion often gives customer satisfaction with following trends. However, it often overlooks its long-term environmental impact. If these unsustainable trends continue, then the environment will most likely see detrimental consequences. Our research expands on how the method of fast fashion can be altered to better sustain the environment.

#### **Food Waste on a Consumer Scale**

Team Members: Jupiter Yeh, Jenny Tang, Jupiter Yeh, and Alexander Day

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Food waste is a serious issue that has plagued society for many centuries. However, there are things we can do to prevent the scale of the problem. We can take many small steps that make a big difference in the long term. Our research examines how simple small steps can result in drastic positive changes.

#### From Source to Solution

Team Members: Joseph Madrigal, Vishi Bharadwaj, Anthony Madrigal, and Colin Wang

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Access to clean water and sanitation is vital for preventing disease, yet millions in Africa still lack safe water. This poster highlights the importance of water sanitation and explores solutions to improve access, aiming for a healthier, more sustainable future in regions where 40% of the population remains underserved.

#### Gender Equality

Team Members: Ian Montalvo Perez, Sebastian Espinosa, Juliana Hernandez, and Kiara Ramirez Casteñeda

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: Gender Equality has been a topic that has only relatively recently, in terms of the history of humanity, been getting the attention it rightfully deserves. Our research examines the history of the fight for Gender Equality and how we are continuing to fight to achieve gender equality. One's gender should have been a goal that has already been accomplished. Sadly, recently, the issue of gender equality has seemed to be going backwards and losing progress.

#### **Good Health and Well-Being**

Team Members: Mariama Ceesay, Justin Yu, Matthew Do, and Jatniel Ramirez

Faculty Mentor: Dr. Marcus Corra

Course Name: BUS 1010

Project Summary: We talked about the good health and well being of marginalized communities. We talked about disadvantages they faced and why they had less access to healthcare than others. We also spoke on the importance of good heath for all and who has access to it and who does not. Overall our paper discussed the problems with good health and well being nationally and locally.

### How Diet Culture is Shaping Consumer Purchasing Behavior

Team Members: Sevastiani Paraskevaidou, Crystal Reyes, Crystal Lopez, Stephanie Azizeh, and Isaiah Meza

Faculty Mentor: Dr. Maha Ghosn

Course Name: IBM 3302

Project Summary: Diet culture has

drastically

influenced people throughout the years. We want to explore what health factors influence a consumer's purchases by collecting data from a sample by using a developed questionnaire. This includes how they get influenced from social media, from what products are offered in the market, and more.

### How Mental Health Effects Physical Health for Women in College

Team Members: Natasha Dhamsania, Adamaris Aguilar, Delilah Correa, Trishna Monzalvo, and Stephanie Guillen

Faculty Mentor: Casandra Horner

Course Name: BUS 1010

Project Summary: Mental health is very important as it directly correlates with physical health. For example, stress can cause a person to become overly tired throughout the day. Our research question will directly focus at women in college. There are many ways in which we can improve our mental health. Our research has found solutions for everyone to work on.

How the Growing Water Crisis in the U.S. has Affected Spending in the Government and the Overall Population's Physical Health

Team Members: Matthew Luquin, Kasra Tousi, Daniel Gutierrez, Aaron Loza, and Christian Sanchez

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: The growing water crisis in the U.S. has been a problem regarding how the government has been using their

money to fix it, as well as how them fixing it affects the public health and what they're doing right or wrong. Our research will cover how it creates the domino effect presented in the topic.

### Identifying the Correlation Between Poverty and Employment

Team Members: Nathaniel Jones

Faculty Mentor: Casandra Horner

Course Name: BUS 1010

Project Summary: The project explores the rise in poverty and employment levels in Southern California. Poverty continues to be a prevalent problem in Southern California with many groups working for a solution. Historically, practices such as redlining harm the growth of communities and continue to set them into poverty. The program strives to provide a solution through government action to help uplift those in affected communities.

### Impact of AI Generated Content on consumer perceptions

Team Members: Karen Jiang, Christian Elias, Adam Pham, Rafael Godina, Bryan Turcios, and Lyle Williams

Faculty Mentor: Dr. Maha Ghosn

Course Name: IBM 3302

Project Summary: This study aims to understand how an audience responds to Al generated content by examining engagement behaviors, perceptions of credibility, and how this content influences their consumer behaviors.

### Impact of Deforestation on Most Ecosystems

Team Members: Thomas Nguyen-Ta, Juan Pizano, Christian Torres, Alexandria Oyawale and Jake Esparza

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Biodiversity, where there's different types of animals/species, lowers due to the habitats and food sources being destroyed. It can also lead to climate change and global warming, which can make it harder for animals to survive in the environment. Ozone layer may also be damaged due to CO2.

### It takes a Village: Addressing Drug Abuse Prevention at Every Level

Team Members: Jason Cabral, Bryan Tom, Ethan Pabustan, and James Cerussi

Faculty Mentor: Ashley Ysais

Course Name: BUS 1010

Project Summary: In California, families, communities, and educational institutions collaborate to stop substance abuse through counseling and education.

Households promote candid communication and healthful habits, schools offer prevention programs and counseling, and communities serve as support systems. By working together, we can increase awareness and encourage early intervention.

#### Kenya's Dependence to Diversification

Team Members: Joshua Bromley, Hunter Arciniega, Scott Hoy, and Isaac Kim

Faculty Mentor: Ashley Ysais

Course Name: BUS 1010

Project Summary: Kenya's economy faces challenges due to over-reliance on agriculture, high unemployment, and inadequate infrastructure. The UN aims to promote economic diversification through education and job creation. Addressing these issues with investment in vocational programs and safer agricultural practices can enhance living standards, reduce public debt, and foster sustainable growth for all Kenyans.

# Mitigating the Effects of Diabetes in Middle-Aged and Older People in the U.S.

Team Members: Bryan Gomez, Brandon Magana, Alex Cao, and Engin Ersoz

Faculty Mentor: Ericka Olguin

Course Name: BUS 1010

Project Summary: Diabetes has been apart of older people's lives for a long time now. It has been a hassle to deal with and needs to have it's solutions improved. Our research demonstrates the ways that can help mitigate the effects of diabetes in middleaged and older people in the U.S.

#### **No Poverty**

Team Members: Andrew Inital

Faculty Mentor: Kate Capossela

Course Name: BUS 1010

Project Summary: We live in an advanced society yet, we still has issues regarding poverty. Because of poverty, not every

student is getting the necessary education, people with mental and physical issues aren't getting the proper treatment, and not only that, but people are getting the basic necessitates needed for living.

#### Paving the Path to Progress

Team Members: Ethan Navarro, Alfredo Padilla, Diego Chavez, Kylah Fleshman, and Lucas Khan

Faculty Mentor: Ashley Ysais

Course Name: BUS 1010

Project Summary: South Sudan has a significant number of unpaved roads. It's estimated that out of approximately 4,000 to 5,500 kilometers of main roads, only about 50 kilometers are paved. Additionally, there are about 7,500 kilometers of secondary roads that are also unpaved and in various conditions.

It's clear that improving these road conditions will lead to a solution towards solving poverty levels.

#### **Peace and Justice**

Team Members: Sam Fonseca, Yulious Romero, and <u>Hannah Bassett</u>

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: Solving and figuring out how to create peace and justice in our communities.

#### **Poverty to Promise**

Team Members: Roland Bendana, Andrew Armanyous, Isabel Galindo, Valerie Herrera, and Kyle Palacio

Faculty Mentor: Ericka Olguin

Course Name: BUS 1010

Project Summary: Poverty is on the rise because earnings are reducing, unemployment increasing and the cost of living is becoming higher than consumers can afford. UN's goal "no poverty" is facing constraints in networking, jobs, and education. This sustainable development goal can be achieved and communities empowered with skills, training, education and job opportunities especially in green jobs.

### Rethinking Product Lifecycles and Business Models

Team Members: Alexa Juarez-Gonzalez

Faculty Mentor: Ashley Ysais

Course Name: BUS 1010

Project Summary: In California, product obsolescence is a prominent issue. There are currently no laws or regulations monitoring product obsolescence, and its harmful effect on the environment remains unchecked. Our research examines the participation of companies ngaging in product obsolescence, as well as solutions through business models.

#### SDG 6: Zero Hunger

Team Members: Prakriti Arora, Jenny Sandhu, Jose Lopez, Isaac Chan, and Johnatan Felix

Faculty Mentor: Ava Kathryn Capossela

Course Name: BUS 1010

Project Summary: Food insecurity has grown in high relevance affecting millions of people around the world. Therefore, the

SDG 2: Zero hunger aims to diminish the problem and ensure everyone's access to safe and nutritious food. Our research examines food insecurity in college students and aims to provide realistic solutions to combat it.

### Seeds of Change: How We Can Save LA County's Land for Future Generations

Team Members: Ethan Cordova, Corrie Anderson, Abigail Bernhard, Hayden Jenkins, and Antonio Lopez

Faculty Mentor: Ashley Ysais

Course Name: BUS 1010

Project Summary: Los Angeles County is vulnerable to threats such as flooding, wildfires, and mudslides. However, individuals and companies can take small actions to prevent environmental issues. The poster will examine the small steps everyone in Los Angeles County can implement to ensure all land is preserved for years to come.

### **Shattered Dreams: The Reality of Poverty**

Team Members: Owen Mason, Joshua Beesley, Karissa Macandili, Gisele Zambrano, and Abraham Jaimes

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Our poster will include in depth information on how poverty affects health, education, violence, social issues, homelessness, and generational cycles of citizens in the united states.

### Solving Latino Poverty One Step Ata

Team Members: Soheil Sadegh, Bryan Lin, Emely Conteras, Laura M Robles, and Nidhi Nambiar

Faculty Mentor: Dr. Cassandra Horner

Course Name: BUS 1010

Project Summary: Our Showcase proposes methods and stratagies that can greatly help curb latino poverty in California. We propose government tax incentives, government grants, low interest loans and access to government owned land to home development corperations who can create affordable housing for individuals who are experiencing housing instability. We also propose the support of job exchange programs funded by the government to incentivise corperations to hire people from the latino community who have the skills and qualifications to do the job. We also want to incentivise a lower bar of entry for people in the latino community to help curb their rate of poverty and improve financial situations of all families, immigrant or otherwise. Our program aims to increase gdp, reduce unemployment, and greatly reduce poverty in California.

#### Striving to End Hunger

Team Members: Nathalie Oregon, Alexis Urban, Lorenzo Cetina, Ximena Rodriguez Valdivia Jimenez Martinez Magdaleno Alvarez Garcia-Garcia Valderrama

Faculty Mentor: Ashley Ysais

Course Name: BUS 1010

Project Summary: Hunger is an issue the world is continuously facing. Our goal is to find solutions to reduce children's malnutrition and inform people around the nation about these extreme issues.

# Student Residency and Satisfaction at the BRIC: A Comparative Study of Commuters and On-Campus Residents

Team Members: Diego Wolpert, Curtis Seechan, Donovan Hunter, Geovanny Ramirez, and Stephen Drozd

Faculty Mentor: Dr. Maha Ghosn

Course Name: BUS 1010

Project Summary: Our research aims to explore the satisfaction levels of Cal Poly Pomona students with the BRIC, focusing on potential differences between commuter and on-campus students. The study will gather insight on awareness, usage, and perceptions to identify barriers and areas for improvement, elping enhance the student experience.

#### Substance Abuse of Fentanyl on College Campuses and Its Health and Wellness Effects on College Students

Team Members: Zoey Kamikawa, Leah Primicias, Sierra Brown, Sarah Magadan, and Alyssa Danielle Gonzalez

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Consumption of fentanyl has been increasing and causing large issues in the area of substance abuse. This has consequently led to increased numbers of drug related deaths. Our research examines how fentanyl, specifically, impacts college students and their mental health.

#### **Sustainable Cities**

Team Members: Madison Good, Jason

Noble, and Leroy Shelley

Faculty Mentor: Kate Capossela

Course Name: BUS 1010

Project Summary: Talking about how we have become unsustainable and how we can become more sustainable in our cites.

### Sustainable Development Goal 16: Peace and Justice

Team Members: Sabrina Rodriguez, Alex Nunez, Adamari Banda, and Theoden Melgar

Faculty Mentor: Kate Capossela

Course Name: BUS 1010

Project Summary: Our poster will focus on the sustainable development goals presented by the united nation, specifically the 16th goal of peace and justice. We will analyze the goal and dig deeper into it.

#### Sustainable Los Angeles

Team Members: Tyler Mulford, Prestin Krisman, Nicole Martin, Hanna Nieminen Llop, and Cielo Bautista

Faculty Mentor: Dr. Marcus Corra

Course Name: BUS 1010

Project Summary: Our missions to turn Los Angeles into a sustainable and less polluted city.

### The Effects of Human Activity on Life Under Water

Team Members: Aidan Adams, Eric Flores, and Devin Uyemura

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: As human activity persists, so does pollution in our oceans. Due to the excess of carbon dioxide and other toxins, along with the production of plastic, we will continue to notice consequences to aquatic ecosystems. In several ways, these changes affect us and other lifeforms above the water as well.

### The Hunger Paradox: The Hidden Crisis in Our Community

Team Members: Brandon Martinez, Jose Torres, Anissa Schettino, and Daniel Alemnan

Faculty Mentor: Dr. Marcus Corra

Course Name: BUS 1010

Project Summary: The hidden crises in the L.A county that is hunger effects more than 25% of the population in the L.A county. This crisis reveals an on going problem in the L.A county and how much of it has been unseen. We will give our solution to this problem with proper steps and ideas for the crisis in the L.A county.

### The Impact of Forever Chemicals and Existing Prevention Methods

Team Members: Mateo Soriano, Molly Chen, Yajahira Franco, and Alyson Du

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: Forever Chemicals, or man-made chemicals exceptionally difficult to decompose, pose an increasing health and environmental risk. Although these chemicals are proven to be present in various household items, their often trace amounts are debated to be notably impactful. Moreover, the cost of their removal is debated to outweigh their efficiency. Our research examines the impact of Forever Chemicals and existing prevention methods to combat their growing dangers.

# The Impact of Gender Income Disparity on Decent Work Achievement within Latino Communities

Team Members: Brandon Amaya Amador, Giovanni Medina, Freddy Gonzalez, Miguel A. Cano Montalvo and Matthew Anderson

Faculty Mentor: Ericka Olguin

Course Name: BUS 1010

Project Summary: Gender income disparity within the latino communities has been a major issue for years. However, with this being a controversial topic, many shied away from speaking on the topic. Our research examines how the gender income disparity affects the achievement of decent work with the Latino community within business.

### The Impact of Music on Consumer Behavior

Team Members: Patricia Touriel, Brittany Bolanos, Harleen Garcha, Amberly Syavong, Ellie Cho, and Emma Burke Faculty Mentor: Dr. Maha Ghosn

Course Name: IBM 3302

Project Summary: Music has been shown to significantly influence consumer behavior in retail environments. However, there are notable variations in how different individuals respond to music, impacting their shopping behaviors and purchasing decisions. Our research investigates how music affects clothing shopping habits, focusing on factors such as tempo, genre, and volume, and how these elements shape the overall shopping experience and consumer spending patterns in retail settings.

### The Importance to Ensure Access to Water and Sanitation

Team Members: Arlene Guerrero, Mia Rodriguez, Quincy Jeong, Joseph Munio, and Gavin Viray

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: IBM 3302

Project Summary: Highlights of the effects brought upon poor sanitation and contaminated water. Being provided with a health risk through things most needed can bring health risks, diseases that are caused by poor sanitation and contaminated water. Bringing call to action makes encouragement for individuals and communities to engage in efforts to improve sanitation and access to clean water.

### The Reality of Abuse Among College Women in California

Team Members: Ivonne Gonzalez, Jose Chavira, Pedro Amon, Natalie Silva, and Izabella Marque

Faculty Mentor: Ericka A. Olguin

Course Name: BUS 1010

Project Summary: Our research covers fective programs and policies aimed at eliminating physical and psychological abuse against diverse groups of women and girls in California's colleges. Ultimately, this research will contribute to and promote a safer educational environment for all women and girls in California.

#### The Rise of Obesity Due to Junk Food in our Generation

Team Members: Rylan Ho, Richard Chen, Caleb Ballock-Bunt, and Aleksandar Somov

Faculty Mentor: Dr. Marcus Corra

Course Name: BUS 1010

Project Summary: The availability of cheap prices and convenience of fast food(junk food) has lead to an increase of obesity in our generation. Research has shown that the consumption of junk food has plummeted society in being healthy causing children having a higher risk.

### The Road to Clean Water in Zambia: Identifying Barriers and Paving Solutions

Team Members: Luna Rosales, Keira Sakamoto, Jake Lorey, Arlo Urban and Alexander Moreno

Faculty Mentor: Ericka Olguin

Course Name: BUS 1010

Project Summary: Access to clean water is fundamental human right, yet many in Zambia face daily

challenges due to water scarcity and contamination. This projects aims to address these barriers by investing in sustainable water infrastructures. By improving water access, we can enhance public health, boost economic development, and empower communities to thrive.

# The Use of Nuclear Power the United States and How it Compares to Other Sources of Energy

Team Members: Ava Perez, Isabella Romero, Janah Lin, Braeden Flores, and Omar Robles

Faculty Mentor: Dr. Jacquelyn Trejo Torres

Course Name: BUS 1010

Project Summary: We research the use of common sources of energy in the US and the pros and cons of each source. The renewability of each source is taken into consideration. We also explored the advantages and challenges of nuclear energy and why it isn't more widespread in the US. We delve into the public perception of nuclear energy, specifically in the US.

#### Understanding How Regulating Communities can Reduce Impacts Made By Weather on People in California

Team Members: Darren Yoo, Tomas Castano, Itzel Andrade, Dylan Watt, and Roberto Rodriguez

Faculty Mentor: Ericka Olguin

Course Name: BUS 1010

Project Summary: The impacts of extreme weather conditions have been studied to effect different populations. One of the many populations include California which our group focuses on. Our research examines

how communities in California can reduce impacts of extreme weather conditions caused by climate change.

#### **Urban Green Solutions**

Team Members: William Quintana, Jetsapon Bansasine, Ty Yeyna, Peyton Hasson, and Linda Espinosa

Faculty Mentor: Ericka Olguin

Course Name: BUS 1010

Project Summary: As technology constantly evolves, there are new ways to lower carbon emissions without sacrificing the efficiency of a normal city. Our research explores ways cities can limit carbon emissions and improve the lifestyle of the residents.

### Waste Management in Low Income Communities

Team Members: Lucca Hegedus, Heriberto Dominic Ponce Jr, Miguel Angel Coronado, Khang Huynh, and Maddox Gervais

Faculty Mentor: Dr. Casandra Horner

Course Name: BUS 1010

Project Summary: This paper examines the critical nexus between waste management practices and their impacts on the environment and quality of life of people residing in areas of poverty. Most waste management activities in low-income communities contribute to increased deterioration of the environment and present serious health hazards, further perpetuating the cycles of poverty. These include three broad trends: environmental impacts of improper waste disposal, health and well-being of impoverished population

groups, and socio-economic issues that prevent people within those communities from engaging in good waste management practices. We discuss the ways in which waste is affecting the quality of soil, water, and air while simultaneously discussing how resource constraints impede the impoverished population from engaging in sustainable behavior regarding waste. The paper identifies various local interventions and policy measures that can be implemented to address all these issues, focusing on community involvement and sustainable low-cost solutions as part of efforts to foster a cleaner environment and a healthier, more stable lifestyle for the most affected.

#### **World Hunger**

Team Members: David Ceja, Daniel Diaz, Vanessa Cervantes, and Alejandra Ponce

Faculty Mentor: Ericka Olguin

Course Name: BUS 1010

Project Summary: World Hunger has been one of the most destructive struggles since the beginning of time. Consider that big corporations take advantage of low-income communities by inflating their goods or throwing away food because of their capitalistic mindset. Our research gauges how world hunger can be tackled and how much big corporations can be the cause of food waste increasing hunger.

#### **Zero Hunger**

Team Members: Karen Tran, Eli Esquivel, Johnny Nguyen, and Daniel Zhang

Faculty Mentor: Kate Capossela

Course Name: BUS 1010

Project Summary: Zero hunger is a global goal to reduce hunger by 2030. It focuses on agriculture, easier to receive nutrient food, and helping the small farmers. Our goals for this is that we want to reduce food waste and teaching people food's nutrients.

Zero Hunger: Nourishing a better tomorrow

Team Members: Adrian Luna

Faculty Mentor: Dr. Jacquelyn Trejic

Course Name: BUS 1010

Project Summary: I will be talking about "zero hunger" and how people around the world will fix and hopefully figure out about zero hunger around the world.

#### **Economic Growth and Decent Work**

Team Members: Delilah Reed, Johnathan Bullock, Ruben Carrillo, and Ava Van Etten

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: Economic Growth and

Decent Work

Examining the Effect of Sleep on Physical Wellbeing and Academic Performance

Team Members: Thiha Naing, Jair Mejia, Matthew Montijo, Raphy Agudo, and

Adonis Tiscareno

Faculty Mentor: Dr. Maha Ghosn

Course Name: IBM 3302

Project Summary: Sleep is a crucial part of everyone's life as it is a basic need for all

humans. Our group decided to examine the effects and the extent to which those effects take place in college students to better understand the obstacles that the average college student might deal with when it comes to sleep during a time of significant growth in their life.

### Gender Equity in Action: Transforming California's Workforce

Team Members: Giovanny Alvarado

Faculty Mentor: Dr. Casandra Horner

Course Name: BUS 1010

Project Summary: Our research project explores and investigates various strategies to reduce gender inequalities within the California workforce. Our main focus is to identify and analyze policies and practices to address the systemic barriers women and underrepresented groups face with limited career advancement opportunities, wage disparity, and work-life balance. Through our analysis with relevant data from different workplaces, the project examines effective ways to create equal opportunities for all employees. Some key objectives we strive to focus on is providing clear understanding of gender gaps and recommending possible solutions for workforces based in California. This research aims to provide valuable insights to create a more equitable work environment across California.

#### **Good Health and Well-Being**

Team Members: Oscar Klinger, Jayden

Richards, and Aliyah Caldera

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: Good health and

well-being.

#### The Struggles of Hunger in Guatemala

Team Members: Dylan Rey Tan, Miguel Angel, Rogelio Rodriguez, and David Torres

Faculty Mentor: Dr. Casandra Horner

Course Name: BUS 1010

Project Summary: World Hunger has been one of the biggest STGs in our world today. However, third world countries like Guatemala are affected by hunger which becomes leading causes to agriculture productivity, malnutrition, and accessibility. Our research examines the awareness of these struggles in rural communities and how we can combat or minimize some of these issues.

### **Unpacking Streaming Decisions: Factors Influencing Subscriber Behavior**

Team Members: Lauren Nguyen, Arlene Sandoval, Lizeth Mendoza, Juliet Ramirez, and Haily Dondiego

Faculty Mentor: Dr. Maha Ghosn

Course Name: IBM 3302

Project Summary: The study aims to identify the key motivators behind subscription choices, analyze the impact of content offerings, pricing models, and user experience, and compare the effectiveness of different platforms in maintaining customer loyalty.

### Analyzing the Lack of Affordable Energy for Families of Southern California

Team Members: Mustafa Alzubaidi

Faculty Mentor: Ava-Kathryn Capossela

Course Name: BUS 1010

Project Summary: Southern California has been regarded as a high energy usage area because of its' dense population and heavy electricity usage. Our research determines why this is the case, who is the greatest consumer and why is there a lack of affordable and clean energy?

### PolyX Projects

### **College of Engineering**

Advancements in Al-Driven Vehicle Control: Reinforcement Learning, Sensor Integration, and Autonomous Systems

Team Members: Daniel Skeldon, David Hawkins, Joshua Trejo, Blake Perez, David Helander, and Jacob Zeng

Faculty Mentor: Dr. Yitong Zhao

Course Name: EGR 4830

Project Summary: This research delves into autonomous vehicle control and simulation through three key areas: comparing suspension systems in ROS using reinforcement learning, simulating vehicle dynamics in Unity with machine learning and sensor integration, and developing an autonomous cart with TensorFlow and OpenCV. Each aspect advances Al-driven systems for vehicle automation.

# Applying Image Recognition and Machine Learning in Smart Parking Solutions

Team Members: Ryan Ho, Jixiang Chen Ma, Analena Gonzalez, and Justin Ni

Faculty: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Smart parking is a data collection system for available parking spaces to allow the end user to best

choose where to park. This unique application uses cameras and machine learning to monitor multiple parking spots at once, making monitoring a more costeffective process with fewer points of failure.

#### AquaGuard

Team Members: Diego Detres, Gabriel Arellanol, Aden Fregoso-Powers, and Matthew Reyes

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Multiple net filters on the waterway's surface, center, and bottom catch debris and pollution. The debris is pushed by the current into the filter and collected in a separate container. The container's monitoring system detects pollution, which is then picked up and disposed of. The filters are reusable and replaceable.

#### **Automated Underground Parking**

Team Members: Nick Ha, Kaidan Lam, Kiefer Rosario, Isaiah Pineda, and Miguel Madera

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: This poster is our solution to CPP's parking issues, through a

new automated underground parking basement. Besides creating an alternative space while still maintaining the same area for infrastructure, we also implement robotics parking services to fully automate the parking experience to save time for both students and staff. With robots parking and taking advantage of eradicating human error, this solution will maximize parking capacity and prove modernity in simple concepts such as parking.

#### Breathing Clean: Harnessing Wind Energy for a Greener Future

Team Members: Geraldine Falcon, Joshua Arredondo, Thomas Waters, Jacob Castaneda, and Daniel Rodriguez

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Wind turbine energy offers a clean, renewable alternative to fossil fuels, significantly reducing greenhouse gas emissions. By harnessing the natural power of wind, turbines generate electricity without air pollutants, combating climate change and improving air quality. This sustainable solution fosters energy independence while protecting ecosystems for future generations.

#### **Bronco Solar Vision**

Team Members: Lance Comia, Omkar Kurdikar, Rebbecca Leckie, David Rojas, and Eric Sandoval

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Cal Poly Pomona has been known to have energy usage issues in the past. The proposed solution is to use solar energy in order to solve these issues in an efficient, sustainable, and cost-effective way.

#### Campus Wide Automated Personal Transportation Within Cal Poly Pomona

Team Members: Hector Garcia, Joseph Portillo, Anthony Pedroza, and Noah Day

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: At Cal Poly Pomona, students traveling campus often face pathways that may be difficult to traverse on foot, taking a lot of time. As modern transportation technologies rise, students lack access to these options. This solution provides students access to transportation technologies, allowing quick and easy mobility throughout campus.

#### **EcoGlide**

Team Members: Devin Ovalles, Israel Bermudez, Alfredo Ramirez Navarro, and Angel Rosales

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Trying to find an efficient mode of transportation on campus to get from class to class that also includes desired paths is a problem for CPP students. The proposed solution is to use electric scooters on campus that can be accessed with a Bronco ID card. This solution will solve everyone's transportation issues by utilizing drone

technology to gather data on student foot traffic to derive the most optimal route which is then used to make desired paths or shortcuts for students to reach their destination.

### Efficiency of High-Speed Trams to Solve Parking Issues at Cal Poly Pomona

Team Members: Kayla Beatriz Robles, Giselle Martinez, and Haylie Trinh

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Introducing a highspeed tram system can create more parking spaces without the inconvenience of a long walk to the campus. This tram will link parking structures, whether close to campus or far, to key areas such as academic buildings, dormitories, and other popular student areas.

#### Examination of Means to Limit the Effects of Corporate Emissions on Global Climate Change Through Legislative Action

Team Members: Tirth Thakkar, Kyle Creus, and Luna Cortes Palacios

Faculty Mentor: Dr. Elvira Trabanino

Course Name: EGR 1000/1000L
Project Summary: Climate change, driven largely by fossil fuel combustion, remains a global issue, with corporate emissions serving as a significant and consolidated contributor to the climate crisis. We aim to examine the legislative measures that can

be enacted to limit corporate emissions most effectively.

#### **Fossils to Fission**

Team Members: Kevin Mathew, Judson Vo, Tyler Terry, and Armaan Singh

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: To reduce emissions from fossil fuels, coal power plants can be converted into modern and safe nuclear power plants. Converting coal plants reduces the costs of building nuclear, and new nuclear plants are far cleaner to operate compared to coal and other fossil fuels. Hundreds of potential locations exist.

### High-Density Automated Underground Parking For CPP

Team Members: Steven Luna, Aidan Nguyen, Allen Oganesyan, Cyril Russell, and Seyhareach Chim

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: CPP students and staff often struggle to find a convenient and easy way to park and head to their destinations. Developing a high-density parking structure underground beneath the current F lots will improve efficiency and safety, preparing the campus community for the present and future alike.

#### **Horsepower On Campus**

Team Members: Santiago Rosas-Montero, Thomas Vu, Navreet Singh, Adrian Leon, and Juan Santibanez

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Hour-long waits at the Bronco shuttle stop and a 20-minute walk around campus are common occurrences that can affect the success of Cal Poly Pomona students. The implementation of e-scooters and golf carts will make campus transport more efficient and accessible.

### Improving Campus Transportation Services with the Integration of Trams

Team Members: Enrique Montes, Jeffrey Anatian, Sanders Covarrubias, Brian Chen, and Enrique Montes

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Cal Poly Pomona faces issues with transportation services which is affecting students' success whenever they travel within campus, from the parking lot or inconvenient bus stops. Improving the existing system and adding trams can significantly reduce travel time, exhaustion of people, and allow students to get to their classes quicker.

### Improving CPP Traffic and Parking on Campus

Team Members: Ledger Sanchez, Cesar Sanchez, Diego Trujillo, Jesse Aguayo, and Joshua Solis

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Cal Poly Pomona has a transportation and parking issue that can be solved using a better shuttle system through and around campus. Student safety will be ensured by building miniature lanes dedicated for the shuttles and high-speed student transport such as electric scooters, bikes, and skateboards.

#### Innovation Beneath the Surface

Team Members: Brendan Halaby, Joseph Endozo, Luke Hansen, and Jack Najarian

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: The creation of an underground parking structure would help solve the parking crisis on campus. This structure will include specialized exits for each sub-level to the street, thus reducing bottlenecking on the first floor. Furthermore, it includes moving sidewalks to transport people to their cars at a faster rate.

### **Innovative and Safe Transportation on Campus**

Team Members: Rodolfo Amacosta, Nathan Hong, Humberto Flores, and Baruk Franco

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: At Cal Poly Pomona, students traveling campus often face pathways that may be difficult to traverse on foot, taking a lot of time. As modern transportation technologies rise, students lack access to these options. This solution provides students access to transportation technologies, allowing quick and easy mobility throughout campus.

#### **Making the Move**

Team Members: Yaquelin Morales, Bryan Liu, Mateo Ayon, and Daniela Osorio

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: At Cal Poly Pomona, the students have an extremely difficult time finding parking. Remodeling the university's housing options and advertising could decrease the number of commuters, making housing more attractive and reducing the need for parking on campus.

#### Parking Problems and Efficiency: Major-Centric Assigned Parking Solutions

Team Members: Jeremy Cortes, David Ramos, Sebastian Liong, Yeshua Gonzalez, and Raquel Hernandez

Faculty Mentor: Dr. Elvira Trabanino
Course Name: EGR 1000/1000L
Project Summary: Finding parking,
especially here at CPP, can be frustrating
and time-consuming, especially since it
often leads to congestion and pollution. Our
PolyX group has come up with a structured,
tech-driven parking system that utilizes a
permit-based approach, enhancing
efficiency. This solution aims to optimize
parking management and reduce
environmental impact.

#### Poly Park 'n' Ride

Team Members: Anthony Bortfeld, David Kobe, Logan Paulson, Devon Godfrey, and Arsany Todary

Faculty Mentor: Dr. Elvira Trabanino
Course Name: EGR 1000/1000L
Project Summary: Cal Poly Pomona's many
parking lots are notorious for lacking
availability. This issue can be remedied via
an increased presence in public
transportation, off-campus parking, as well
as staggered class times.

#### **PolyWISP**

Team Members: Ethan Ranario, Gad Major, Carson Kennedy, and Ryan Freed

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: When attending a commuter school, students and faculty encounter a plethora of problems concerning parking and overall traffic congestion within parking areas. Utilizing Intelligent Parking Assistance systems and reservations based only on student class schedules in high frequency parking areas, parking can be streamlined and congestion can be soothed.

#### **Powered Bronco Transportation**

Team Members: Abraham Barragan, Hunter Casteel, Mychal Bradfield, and Elijah Shiffman

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: A possible solution to address the lack of micro-mobility at Cal Poly Pomona (CPP) by implementing the growing trend of e-scooters seen on other college campuses. The aim is to establish an e-scooter rental center at CPP to provide students with convenient transportation options.

### Proposal for a Light Rail Transit System to Reduce Parking Demand on Campus

Team Members: Avery Atkinson, Ryan Yoon, Andrew Le, and Clint Phu

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L Project Summary: A problem that many students have at CPP is the lack of parking on campus. A solution to this problem could be the utilization of a light rail servicing local districts within a 30 mile radius.

### Providing the Student Population of Cal Poly Pomona with Free Accessible Transportation Via Rechargeable Electric Scooters

Team Members: Luis Becerra Rivera, Nishad Kumar, Aidan Cruz, and Gerardo Rodriguez

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Research has proven, that with the introduction of electric scooters into a high population density area, there was reduced traffic and a decrease commute time. A possible solution to this problem is the utilization of free electrical scooters to the student population with a cost-effective implementation.

## Reimagining Lanterman: Maximizing Space and Accessibility

Team Members: Anna-Sophia Tarnovsky, Katelyn Villegas, Krishna Manoj, and Thien Nam Anh Vu

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L Project Summary: Parking congestion is a significant issue for Cal Poly Pomona students. With a majority of students being commuters, reliable parking is a necessity. Our research looks into the most efficient ways to open up nearby parking while leaving current parking lots undisturbed.

#### **Renewable Access Transit**

Team Members: Jesus Hernandez, Andy Moreira, Nicholas Walker, David Friedrichsdorf, and Diego Marroquin

Faculty Mentor: Dr. Bryan Lor Course Name: EGR 1000/1000L

Project Summary: Cal Poly Pomona has a lack of sufficient parking space. Creating a system of electric buses to transport students to and from campus so less people drive to school will increase parking space availability.

#### Sidewalk Solutions

Team Members: Keoni Bactad, Ryan Vallejo, Adam Carrera, Braden Botello, and Keoni Bactad

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Traveling within Cal Poly Pomona campus raises concerns for time efficiency and energy management. With a large campus, students may experience difficulties moving from one point to another. Factors such as walkways and traffic are brought into discussion. A potential solution is to implement the use of escalators and automated walkways along with the redesign of existing walkways.

#### Solar Car vs. the World of Fossil Fuels

Team Members: Joshua Chiem, Tomas Gyulai, Abel Sandoval, Zayeem Asghar, and Immer Baez

Faculty Mentor: Dr. Elvira Trabanino
Course Name: EGR 1000/1000L
Project Summary: Traveling within
Cal Poly Pomona campus raises
concerns for time efficiency and
energy management. With a
large campus, students may experience
difficulties moving from one point to
another. Factors such as walkways and
traffic are brought into discussion. A
potential solution is to implement the use of
escalators and automated walkways along
with the redesign of existing walkways.

### Solution to Reducing Fossil Fuel Pollution: Metro Passes Distribution

Team Members: Yamilet Ramirez, Alexander Calderon, Marco Garcia, Adrian Ramirez, and Henry Duong

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Pollution from fossil fuels is a major issue. We propose to offer free bus passes to encourage public transportation, by increasing the number of eco-friendly buses. With the goal of reducing the usage of cars, lower emissions and improve air quality, to promote sustainability to reduce pollution from fossil fuels.

#### The Gondola

Team Members: Mia Dalson, Miguel De Loera, Anthony Baroldi, Mia Barrera, and Mia Dalson

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Cal Poly Pomona is known for its hilly terrain, causing difficulty in getting to class. Implementing Gondolas around campus will allow students to get to class efficiently.

### The Improvements of Solar Energy the Benefits to our Society

Team Members: Adrian Leon, Johanna Lopez, Jin Bamboa, Xochilt Cena, and Joshua Preciado-Avalos

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Us as Engineers can incorporate more solar energy into society and our current infrastructure. However, we can make improvements of renewable energy by including more solar panels on new structures such as adding them to the roof top of homes and many other elements.

### The Underground Garage (TUG)

Team Members: Ringo Abarca, Angel Venegas, Gerard Nevarez, and Kevin Gonzalez

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: This project provides a solution for the lack of parking availability at Cal Poly Pomona because students have complained about the time it takes to find

available parking. The solution proposed is to build an underground parking structure at parking structure 1, and a designated area for electric cars.

#### The Underground Garage (TUG)

Team Members: Ringo Abarca, Angel Venegas, Gerard Nevarez, and Kevin Gonzalez

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: This project provides a solution for the lack of parking availability at Cal Poly Pomona because students have complained about the time it takes to find available parking. The solution proposed is to build an underground parking structure at parking structure 1, and a designated area for electric cars.

### Using Car Counters in Parking Lots to Improve Parking Efficiency

Team Members: Ryan Donner, David Villa, Andrew Espinoza, Daniel Tran, and Garrett Reynaga

Faculty Mentor: Dr. Elvira Trabanino Course Name: EGR 1000/1000L

Project Summary: Parking in Cal Poly Pomona is a prevalent problem on campus. To solve this problem, it is proposed that the school implements parking sensors and a redesign of the roads, so it's more efficient. Parking sensors would make drivers aware where space is available.

### PolyX Projects

### College of Letters, Arts, Social Science

#### **Bronco Access Mentor Program**

Team Members: Aliya Patterson

and Stephanie Flores

Faculty Mentor: Miguel Martinez
Course Name: Bronco Access Mentor

Program

Project Summary: The Bronco Access Mentor (BAM) is a dedicated peer mentoring program designed for students registered with the Disability Resource Center (DRC). Our mission is to foster a supportive environment, leveraging campus resources to enhance the success, engagement, and retention of DRC students. Grounded in our vision, we aim to equip DRC students with essential skills vital for their academic journey. These skills encompass various aspects such as time management, effective studying and notetaking, advisory support, and the cultivation of self-regulation skills.

### Food Security and Health Disparities on Latin Communities

Team Members: Guadalupe Hernandez Morales

Faculty Mentor: Dr. Fatheema Subhan

Course Name: NTR 2180

Project Summary: Latin communities has been the most affected with food security and health disparities. We researched and interviewed fellow peers that are apart of Latin communities, and resulted in many social, racial, and economic factors that involve the increase of health disparities.

Revelations in Waste: How Our Refuse Patterns Showcase Globalized Consumer Trends and Behavior

Team Members: Radhika Epps Faculty Mentor: Annie Davis Course Name: ANT 4300

Project Summary: I'll anayze how present systems of waste disposal can highlight trends in human behavior and consumption by assessing the waste disposal habits of individuals at CPP. I will track the geographic positionality and relationship between commonly used and readily discarded items in order to track them across globalized trade and modern waste routes.

### The Graze: Fusing Journalism and Social Media

Team Members: Caroline Gonzalez and Bryan Doan

Faculty Mentor: Dr. Denisse Vasquez Guevara

Course Name: COM 4465

Project Summary: During our micro internship at CPP, we were tasked with creating a new idea for The Poly Post's social media. Drawing on our personal interests and hobbies, we developed 'The Graze,' a series that highlights local food

spots around campus, which is now a regular feature on The Poly Post's Instagram.

### The Poly Post, Student-Run Independent Newspaper of Cal Poly Pomona

Team Members: Charlize Althea Garcia Faculty Mentor: Dr. Lauren Furey and Dr. Ivana Cvetkovic

Course Name: COM 3351 and COM 445

Project Summary: This program is offered by the Department of Communication and is open to students of all majors. The newspaper publishes every Tuesday of the academic year and provides coverage of Cal Poly Pomona, neighboring communities, and national issues with topics surrounding news, sports, arts and culture, and opinion. Their content consists of written media with articles featured on The Poly Post website and print newspapers as well as visual and audial content featured on their YouTube channel, social media, and podcasts. The Poly Post aims to serve the student and faculty body of Cal Poly Pomona and is guided by the Society of Professional Journalists' code of ethics.

### PolyX Projects

### **College of Science**

### Adapted Physical Activity for People with Emotional Disturbance

Team Members: Andrew Luna, Christine Huynh, Gabriela Loera, and Liang Chen

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Emotional disturbance is a condition exhibiting the follow characteristics over a long period of time to a marked degree that adversely affects a child's educational performance. There are approximately 6 million people or 1 in 10 people have this disability worldwide. It occurs when an inability to learn that can not be explained by intellectual, sensory, or health factor an inability or maintain satisfactory, interpersonal relationships with peers and teachers. Inappropriate type of behavior or feelings under normal circumstances. A general probative move of unhappiness or depression. A tendency to develop physical symptoms or fears with personal or school problems. Physical activity plays a crucial role in physical ctivity plays a crucial role in distracting you from negative thoughts and provides opportunity to try new experiences, and teaches you how to socialize, it can also be a Conduent for frustration. Exercise example for this population is cross fit and or high intensity workouts. This presentation delivers

exercise recommendations, precautions, and a exercise plan to manage behavior.

### Adapted Physical Activity for People with Down Syndrome

Team Members: Michael P. Banta, Celeste Carbajal, Kyle Dohy, and Carlos Figueroa

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: "Down syndrome is a condition in which a person has an extra copy of chromosome 21. Chromosomes are small "packages" of genes in the body's cells, which determine how the body forms and functions" (CDC 2024).1 out every 1,000 babies that are born with down syndrome. There is not an exact amount of how many people in the world have down syndrome. but it's somewhere in the few millions. Distinct physical signs of Down syndrome are usually present at birth and become more apparent as the baby grows. They can include facial features, such as: A flattened face, especially the bridge of the nose. Almond-shaped eyes that slant up. A tongue that tends to stick out of the mouth. Other physical signs can include: A short neck. Small ears, hands, and feet. A single line across the palm of the hand (palmar crease). Small pinky fingers. Poor muscle tone or loose joints. Shorter-than-average height. Some people with Down syndrome

have other medical problems as well. Common health problems include: Congenital heart defects, hearing loss, obstructive sleep apnea (CDC 2024). Physical activity plays a crucial role for motor development of people with down syndrome in terms coordination, balance, physical strength for every day activities and overall health. Individuals with down syndrome can benefit from all the same exercises that people without down syndrome benefit for. However, there are specific exercises that may address specific physical defects in terms of gait and other motor skills. There are an array of physical activities such as chest squeeze, retraction of shoulders and other modes of physical therapy exercises according to specific physical conditions. This poster will go over several modes of accommodated exercises (ranging from group to individual), innovative physical therapy practices within our world today and the importance of physical activity for people with down syndrome.

Adapted Physical Activity for Stroke Survivors: Recommendations, Precautions, and Benefits

Team Members: Crystal Vera

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Adapted physical activity plays a critical role in stroke rehabilitation, offering tailored exercise plans to improve mobility and quality of life. This poster outlines key recommendations, precautions, and contraindications,

supported by peer-reviewed literature, while emphasizing the benefits of customized exercise programs for stroke survivors. Future directions are also discussed.

#### **Adaptive Fitness with Cerebral Palsy**

Team Members: Emily Castro-Rovira, Juancarlos Castro, Kevin Soria, and Carlos Manzo Ascencio

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Cerebral Palsy is a neurological disorder affecting movement, balance, and coordination. Impacting 18 million people globally, or 1 in 345 individuals. Caused by brain development damage, our research shows that physical activity is vital for improving mental health, range of motion, and reducing pain. This presentation focuses on muscle, cardio and flexibility exercises.

#### Alzheimer's Disease

Team Members: Holly Hutt, Sarah Durkin, Athena Banks, and Mario Sosa

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Alzheimer's is a type of dementia that affects memory, thinking and behavior. This presentation discusses some believed causes of Alzheimer's, how to stay healthy and efficient while living with it, and ways to reduce the risk of getting Alzheimer's disease.

### An Analysis on Nuclear Energy as a Potential Alternative Energy Source

Team Members: Kevin Nguyen, Aidan Vasquez, Anirudh Pulicherla, and Bader Alwehaidah

Faculty Name: Dr. Nina Abramzon Course Name: SCI 1010/1010A

Project Summary: Global warming is an ongoing issue and one of the root causes are from fossil fuel power plants. A potential alternative from fossil fuel is nuclear energy, nuclear energy is cleaner because it produces less greenhouse gases. Our research will go into depth about how nuclear energy works and its benefits, the social and political conflict around this form of energy, and nuclear energy technology innovation.

#### **APA for Parkinsons Disease**

Team Members: Annabel Hernandez, Kevin Gonzalez, Toby Matta, Malcolm Bell, and Joveth Carrasco Bernal

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: This presentation introduces Parkinson's disease, a movement disorder caused by the loss of dopamine-producing neurons, leading to motor symptoms. It highlights the importance of physical activity, such as walking and swimming, in managing symptoms, improving balance, and slowing progression, offering exercise examples to support daily function and quality of life.

### Biomass Energy: Sustainable Energy from Organic Materials

Team Members: Kayla Howder

Faculty Name: Dr. Ertan Salik Course Name: SCI 1010/1010A

Project Summary: Biomass energy is a renewable source derived from organic materials. It offers a sustainable alternative to fossil fuels by converting waste into usable energy. This project explores the benefits, challenges, and environmental impact of biomass, highlighting its potential role in reducing carbon emissions and contributing to global energy sustainability.

### Examining Speech Impairment in Physical Activity

Team Members: Alondra Leon Alcazar

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Speech impairment in students wishing to participate in any sort of physical activity can be challenging and fulfilling for those involved. With speech impairment affecting more than 170 million people worldwide ranging from all ages and can be developed anytime from birth to adulthood. We will address some possible questions that may arise as you begin to think of speech impairment in physical activities.

### Examining the Reasons for the Decline of Public Transportation in Commuting

Team Members: Sean Ayuby Faculty Name: Dr. Nina Abramzon Course Name: SCI 1010/1010A

Project Summary: Driving cars has become the main choice for commuting for many, while public transit seems to be at a steady decline. Our research aims to figure out potential reasons for this being the case.

# Examining Visual Physical Activity Interventions in Populations with Dyslexia

Team Members: Lizbeth Valdivia-Jauregui

Faculty Name: Dr. Nina Abramzon

Course Name: KIN 2460

Project Summary: Dyslexia, affecting 15-20% of the population (International Dyslexia Association, 2020), involves difficulties in decoding, spelling, and written expression (Roitsch & Watson, 2019; Snowling et al., 2020). This presentation explores the benefits of visual physical activity interventions, such as multisensory techniques and flash cards, for enhancing reading and cognitive skills (Minshew, 2019; Reynolds & Nicolson, 2007).

#### **Future Energy Sources: Biomass**

Team Members: Sophia Coronel, Daniel Nava, Kayla Howder, Adam Le, Jonathan Villegas, and Gabriel Hernandez

Faculty Name: Dr. Ertan Salik Course Name: SCI 1010/1010A

Project Summary: We are presenting our finding about Biomass as a potential future energy source.

#### **Future Energy Sources: Nuclear Fusion**

Team Members: Kristoffer Fuertez, Maxwell Quan, Kaie Newland-Brown, Adrian Yent, Julian Date, Diego Nava, and Zackary Fowler

Faculty Name: Dr. Ertan Salik Course Name: SCI 1010/1010A

Project Summary: We are presenting our finding about Nuclear Fusion as a potential future energy source.

#### **Future Energy Sources: Solar**

Team Members: Koen Nelson, John Dich, Matthew Fernandes, Adrian Hernandez, Maximilian McKernan-Hernandez, Joel Okolugbo, and Joseph Zarate

Faculty Name: Dr. Ertan Salik Course Name: SCI 1010/1010A

Project Summary: We are presenting our finding about Solar as a potential future energy source.

### **Future Energy Sources: Wind**

Team Members: Najib Kako

Faculty Name: Dr. Ertan Salik Course Name: SCI 1010/1010A

Project Summary: We are presenting our finding about wind as a potential future energy source.

# How to Reduce Unsustainable Fishing which Impacts Aquatic Ecosystems and our Local Communities

Team Members: Anson Couron, Gabriel Cruz, Jaden Villaneda, and Kyle Moreno

Faculty Name: Dr. Nina Abramzon Course Name: SCI 1010/1010A

Project Summary: The health of the ocean and aquatic ecosystems are an extremely detrimental problem for the health of the world. Within coastal cities overfishing is impacting the health of these ecosystems negatively. This needs to be controlled and reduced to maintain the health of the world.

#### **Navigating Physical Activity With Autism**

Team Members: Caitlyn Brianne Vinluan, Emily Hyslop, Dylan Hanvey, and Andres Garcia

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Physical activity plays a crucial role in improving some of the symptoms of autism, a neurological condition that may affect communication, learning and interaction with others. About 5.5 million adults and 1 in 36 children have been identified to have autism in the United States.

#### **Nuclear Fission Energy Generation**

Team Members: Jada Mcduffie, Rebecca Moseley, Cosimo Magallanes, Miles Anderson, Hayden Chan-Hafalla, and Justin Park Faculty Name: Dr. Ertan Salik Course Name: SCI 1010/1010A

Project Summary: As the world progresses through the modern age, a big problem we face is the ability to find sustaining energy, to keep ourselves running. In this presentation, we'll focus on the choice for Nuclear Fission, a type of energy that could be a possibility in the future, depending on multiple economic and societal factors.

### Physical Therapy Methods and Activity For People With Spinal Cord Injuries

Team Members: Jason Reyes, Lesly Barete, Janet Dionicio, Destiny Avila, and Carla Vasquez

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Spinal cord injury is damage to the bundle of nerves and nerve fibers that sends and receives signals from the brain. Globally there are over 15 million people who are living with spinal cord injury (SCI). At the end of 2023, there were approximately 305,000 people in the U.S. who had spinal cord injuries. It occurs when the spinal cord feels a type of weakness, incoordination, tingling or sensory loss in areas on or around the spinal cord. Also, some other symptoms can be extreme neck pain or major pressure on the neck or back, and can lose feelings on the hands, fingers and legs. Physical activity plays a crucial role in the lives of people with spinal cord injuries by allowing them to become more independent of assistive devices such as wheelchairs or hospital beds as well as help reduce the risk of cardiovascular disease, as

they are at a higher susceptibility to poor heart health due to reduced mobility. Additionally, apart from benefits directly correlated to their disability, physical activity as a whole improves quality of life, mental health, and also lowers extreme cortisol levels from stress. Exercise examples for this population include wheelchair based aerobics, such as arm cycling and wheelchair sprinting, aquatic therapy, adapted yoga, and seated pilates. Strength training is also a main component, which include resistance band workouts and weight lifting. These exercises can be customized to suit varying levels of injury and functional abilities, providing both physical and psychological benefits. This presentation delivers an introduction to what spinal cord injuries are, how it affects individuals, as well as how it can be improved and different methods of support for those affected.

#### Traumatic Brain Injury

Team Members: Kamryn Ayala

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: A traumatic brain injury is a form of injury that is caused by a sudden trauma that damages the brain. In the United States in 2021, there were over 69,000 traumatic brain injury related deaths which is 190 deaths per day. A traumatic brain injury, or TBI is most commonly caused by a violent blow, or jolt to the head or body, however this can also be caused by an object entering the brain's tissue seen in the form of a bullet or in some cases, a shattered piece of the skull. The total number of people known to have

TBI worldwide is unknown because numbers are constantly changing, however research has shown that 46% or 1 in 3 iuveniles in correctional facilities have a history of TBI. Ways to prevent a TBI during physical activity are to always wear a helmet when riding a bike or when playing contact sports to wear the proper head equipment to protect your brain. Older individuals receive a TBI sometimes due to falling so keeping up on your physical activity and strength can benefit older individuals by staying fit and reducing the chance of falling which can lead to a TBI. This presentation delivers all the key factors needed to properly spread awareness, not only on TBI's themselves, but also preventative measures that can be taken to help prevent them, and information on how to stay active if a TBI is part of your life.

### Researching the Strength and Efficiency of Geothermal Energy

Team Members: William Portillo, Orlando Chun Vides, Angel Duran, Brendan Pompa, William Reeder, and James Hamilton

Faculty Name: Dr. Ertan Salik Course Name: SCI 1010/1010A

Project Summary: Geothermal energy is a less often discussed yet powerful resource for geological areas that contain hotspots. This energy could be adapted and used more efficiently to take proper advantage of the resources at hand.

#### The Dot Pad by Visual Aid Technologies

Team Members: Ethan Rubio

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Our poster will talk about the dot pad and the positives and negatives that it comes with in helping the visually impaired with writing and learning skills.

### The Effects of a High-Sugar Diet on Coronary Artery Disease in Upland

Team Members: Lisa Yi, Amelia Marie Dice, Eric Cruz, Stephanie Heiying Tang, and Javier Colin Moran

Faculty Name: Dr. Nina Abramzon Course Name: SCI 1010/1010A

Project Summary: Sugar has always been a dominant component of foods in the United States. However, excess sugar consumption can lead to various side effects that increases the risk of high blood pressure, obesity, and Coronary Artery disease. Our research explores the percentages of sugar consumed in daily foods that can lead to Coronary Artery disease and to recognize the need for dietary changes in America.

### The Effects of Wildfires on the Community

Team Members: Parth Patel, Isaac Phillips, Ethan Fama, Jayleene Haro, and Idaly Garcia

Faculty Name: Dr. Nina Abramzon Course Name: SCI 1010/1010A

Project Summary: Wildfires have had a major impact on individuals living in Southern California. Our project focuses

on low income families and how they are impacted related to other groups of people. We plan to use this opportunity to find solutions and spread awareness.

Treating Dysgraphia: A Simple Guide

Team Members: Alexis Woodson, IJordan Hean, Sean Suriyaniel, Jack Sanders, and Xiaoying Liang

Faculty Name: Dr. Mai Jara Course Name: KIN 2460

Project Summary: Dysgraphia is a neurological condition affecting writing ability. It includes challenges with letter formation, spacing, motor coordination, and translating thoughts into writing. Affecting 5-20% of people, it often goes undiagnosed. Physical activity, like clay play or tracing letters, helps improve motor skills and confidence in individuals with dysgraphia.

## **Understanding Deafness: The Global Impact and Benefits of Physical Activity**

Team Members: Dominic Tang, Ashley Nguyen, Isabella Frausto, and Leilani Magallon

Faculty Name: Dr. Mai Jara Course Name: KIN 2460

Project Summary: This poster highlights the global prevalence of deafness, affecting over 430 million people worldwide, and underscores the positive impact of physical activity on social, physical, and mental for those with hearing loss. Key exercise strategies for this population include aerobic, resistance, and group activities with visual cues.

### Understanding Muscular Dystrophy: Types, Symptoms, and Care

Team Members: Adreena Cuevas Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Muscular dystrophy: a genetic disorder causing muscle weakness. There's different types of muscular dystrophy that affect different muscle groups, 1 in 5,000 being affected worldwide. Muscular dystrophy occurs when gene alterations affect structure/function of muscles. Physical activity counteracts muscular dystrophy by increasing strength/muscle mass. (Ex: aerobic exercises)

#### Multiple Sclerosis (MS)

Team Members: Marco Gonzalez Rios, Brandon Castillo, Brandon Sorensen, and

Tiffany Medina

Faculty Name: Dr. Mai Narasaki-Jara

Course Name: KIN 2460

Project Summary: Multiple Sclerosis (MS) is an autoimmune disease affecting the brain and spinal cord. It can cause disability and death, with almost 1 million diagnosed in the U.S. and 2.8 million globally. Physical activity, including aerobic and resistance exercises, is crucial for symptom management, but no cure exists; treatments help manage symptoms.

# PolyX Projects

### College of Education, Integrative Studies

#### **Bronco Access Mentor (BAM)**

Team Members: Stephanie Flores and

Aliya Patterson

Faculty Name: Miguel Martinez

Course Name: Bronco Access Mentor

Program

Project Summary: The Bronco Access Mentor (BAM) is a dedicated peer mentoring program designed for students registered with the Disability Resource Center (DRC). Our mission is to foster a supportive environment, leveraging campus resources to enhance the success, engagement, and retention of DRC students. Grounded in our vision, we aim to equip DRC students with essential skills vital for their academic journey. These skills encompass various aspects such as time management, effective studying and notetaking, advisory support, and the cultivation of self-regulation skills.

### **Acknowledgment**

We want to start by celebrating our outstanding student presenters. Your creativity and innovation in your PolyX projects have been the cornerstone of the PolyX Showcase's success, and we are deeply inspired by your passion and dedication.

A heartfelt thank you goes out to everyone who helped make this event possible. To our faculty, staff, and peer learning assistants, your mentorship and unwavering support have played a crucial role in shaping our students' achievements. To our valued partners, including Office of Academic Innovation, Career Center, First Year Experience, and University Advancement, your generosity and commitment have been instrumental in bringing this showcase to life.

Finally, we extend our gratitude to all attendees for joining us in recognizing the remarkable accomplishments of our students and the transformative impact of the Polytechnic experience. Your presence made the PolyX Showcase truly memorable.

Thank you for being an essential part of this journey!