

The 5th Annual

Spring STUDENT Symposium



Friday,
May 3, 2024



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May 3, 2024

Welcome to Queensborough Community College's 5th Annual Spring Student Symposium! This event is a showcase of *faculty-mentored undergraduate research and creative works efforts across the disciplines* at the college. The conference provides undergraduate students an opportunity to perform oral presentations encompassing a diverse array of topics including laboratory research, honors projects, creative works projects, performing arts, among many. The symposium is hosted by a dedicated planning committee, the office of Academic Affairs, QCC Research Committee, CETL High Impact Practices and the Office of Grants and Sponsored Programs.

In addition to presenting their own research work, this annual symposium provides an opportunity for our students to form an intricate network with other students and faculty across the disciplines at QCC. It also aims to provide information on the various programs and opportunities on campus that offer funding and support for students and faculty to engage in such projects. This year, we are delighted to share 91 *presentations*, which include 84 projects from students and 7 pedagogy-related projects from our esteemed faculty members. We gratefully acknowledge the efforts of faculty mentors who have prioritized engaging students in research and creative works activities during this time. We also acknowledge the student participants who, despite many obstacles, persevered to present at this event.

The college is proud of the hard work and dedication of our faculty mentors and students participating in the symposium. We are pleased to offer each of you the opportunity to participate in this excellent learning experience. We also hope that your accomplishments will serve as an inspiration to other students seeking out similar opportunities and experiences on the campus.

To every student, congratulations on your achievements!

Sincerely,

Dr. Sarbani Ghoshal & Dr. Roumen Vragov, Co-chairs of the QCC Research Committee

Dr. Regina Sullivan, QCC CRSP Director & Associate Professor, Biological Sciences & Geology Department

Dr. Meghmala Tarafdar, Interim Director, CETL, Associate Professor, English

Dr. Zhou Zhou, Assistant Professor, Chemistry Department

Dr. Paul Sideris, Associate Professor, Chemistry Department

Dr. Andrew Bulawa, Associate Professor, Mathematics & Computer Science

Dr. Patrick Byers, Assistant Professor, English Department

Prof. Rezan Akpinar, Associate Professor, Health, Physical Education & Dance Department

Prof. Jennifer Chabra, Research Compliance Specialist, OAA

Christina Denny, Program Coordinator, QCC CRSP

Queensborough Community College
Spring Student Symposium Schedule
Friday, May 3, 2024

9:00 am	Registration & Breakfast	Science Building Lobby & M-136 Well Area
9:30 am	Welcome Session Dr. Sarbani Ghoshal & Roumen Vragov Dr. Christine Mangino Dr. Phyllis Curtis-Tweed Dr. Ronald Nerio	M-136 Co-Chairpersons, Research Committee, QCC President, QCC Provost & Vice President, Academic Affairs, QCC Research Programs Director, CUNY Office of Research
9:45 am	A talk by Captain StarEagle	U.S. Space Force Intelligence Officer
10:05 am	Piano Recital by Ntando Dlodlu	Student, Music Department, QCC
10:15 am	Group Photo	Science Cafeteria
10:30 am - 12:30 pm		Oral Presentations (M-136, S-111, S-112, M-140, M-142, M-134)
12:30 - 1:15 pm		Lunch (M-136 Well Area)
1:30 - 3:00 pm		Oral Presentations (M-136, S-111, S-112, M-140, M-142, M-134)
3:00 pm		Certificate Distribution

Spring Student Symposium Planning Committee



Sarbani Ghoshal
Biological Sciences &
Geology
RC Co-Chair



Roumen Vragov
Business
RC Co-Chair



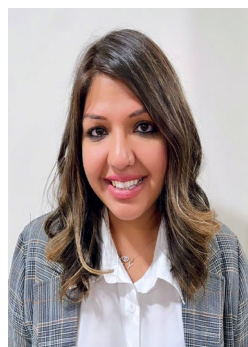
Rezan Apkinar
Health, Physical
Education, and Dance



Andrew Bulawa
Mathematics &
Computer Science



Patrick Byers
Social Sciences



Jennifer Chabra
Research Compliance
Specialist, OAA



Christina Denny
Programming
Coordinator, CRSP



Paul Sideris
Chemistry



Regina Sullivan
QCC CRSP Director



Meg Tarafdar
QCC CETL Director



Zhou Zhou
Chemistry

QCC's Research Committee

Faculty Representatives by Department

Dr. Phyllis Curtis-Tweed, Provost and Vice President of Academic Affairs

Professor Moni Chauhan, Academic Affairs, Research Integrity Officer

Professor Kat Griefen, Art and Design Department

Professor Sarbani Ghoshal, Biological Sciences and Geology Department

Professor Roumen Vragov, Business Department

Professor Paul Sideris, Chemistry Department

Professor Kahlil Garner, Communication, Theatre, & Media Production Department

Professor Guozhen An, Engineering Technology Department

Professor John Yi, English Department

Professor Carolina Chaves-O'Flynn, Foreign Language & Literature Department

Professor Rezan Akpinar, Health, Physical Education and Dance Department

Professor Stephanie Rost, History Department

Ms. Marisa Hollywood, Kupferberg Holocaust Center

Professor Neera Mohess, Library Department

Professor Andrew Bulawa, Mathematics and Computer Science Department

Professor Svjetlana Bukvich-Nichols, Music Department

Professor Randelle Sasa, Nursing Department

Professor Jillian Bellovary, Physics Department

Professor Jacqueline Mulone, Social Sciences Department

Ms. Christine Spicknell, Office of Grants/Sponsored Programs

Professor Anissa Moody, Human Research Protection Program Coordinator

Professor Jennifer Chabra, Research Compliance Specialist

Professor Heather Huggins, Undergraduate Research as a High-Impact Practice Coordinator

Professor Urszula Golebiewska, Undergraduate Research as a High-Impact Practice Coordinator

2024 Research Committee Members



Kat Griefen
ART & DESIGN



Sarbani Ghoshal
BIOLOGICAL SCIENCES
& GEOLOGY



Roumen Vragov
BUSINESS



Paul Sideris
CHEMISTRY



Kahlil Garner
COMMUNICATION,
THEATRE, & MEDIA
PRODUCTION



Guozhen An
ENGINEERING
TECHNOLOGY



John Yi
ENGLISH



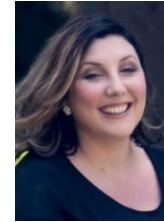
**Carolina Chaves
O'Flynn**
FOREIGN LANGUAGE &
LITERATURE



Rezan Akpinar
HEALTH, PHYSICAL
EDUCATION, &
DANCE



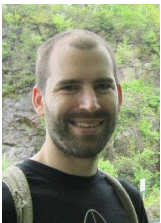
Stephanie Rost
HISTORY



Marisa Hollywood
KUPFERBERG
HOLOCAUST CTR.



Neera Mohess
LIBRARY



Andrew Bulawa
MATH & COMPUTER
SCIENCE



**Svyetlana Bukvich-
Nichols**
MUSIC



Randelle Sasa
NURSING



Jillian Bellovary
PHYSICS



Jacqueline Mulone
SOCIAL SCIENCES



Moni Chauhan
RESEARCH INTEGRITY
OFFICER
OFFICE OF
ACADEMIC AFFAIRS



Christine Spicknell
GRANTS/ SPONSORED
PROGRAMS



Anissa Moody
HUMAN RESEARCH
PROTECTION
PROGRAM



Jennifer Chabra
RESEARCH
COMPLIANCE
SPECIALIST



Urszula Golebiewska
UNDERGRADUATE
RESEARCH, HIP
COORDINATOR



Heather Huggins
COMMUNICATION,
THEATRE, & MEDIA
PRODUCTION/ UR-
HIP

High-Impact Practices at Queensborough



Dr. Meg Tarafdar
Interim Director

Center for Excellence in Teaching and Learning (CETL)

The high-impact practices (HIPs) are teaching strategies that promote deeper learning and greater persistence. The Association of American Colleges and Universities (AAC&U) has identified 11 distinct HIPs and has published extensively on the HIPs and their documented benefits with regard to student retention, academic performance, and students' self-reported deeper learning. The HIPs have been instituted as a key component of *Queensborough Academies Model*. The integration of high impact practices into the curriculum promotes integrative learning and supports the achievement of the General Education Outcomes.

Each of the following HIPs are supported by one or more Faculty Coordinators, all of whom work with the Center for Excellence in Teaching & Learning to oversee the HIPs at Queensborough. The College formally offers six HIPs: Academic Service-Learning (ASL), Common Intellectual Experience/Common Read (CIE), Global and Diversity Learning (GDL), Students Working in Interdisciplinary Groups (SWIG), Undergraduate Research (UR), and Writing Intensive Courses (WI). Please visit the [webpage](#) for more information about HIPs.

Academic Service-Learning (ASL) involves class assignments that take students' work out into the community, encouraging civic engagement and reflective practices that promote learning. Faculty development in design and implementation occurs throughout the semester. ASL Coordinator: Mark Ulrich, Assistant Professor, Business.

The Common Read (CIE) is a common intellectual experience that promotes integrative learning across the curriculum through multi-disciplinary approaches to a common text. Participating faculty members are able to incorporate the text in a way that aligns with their individual interests and disciplines. Students have the opportunity to participate in cross-disciplinary events that encourage increased social and academic engagement while supporting the learning that takes place in the classroom. CIE Coordinator: Barbara Rome, Associate Professor, Nursing.

Global & Diversity Learning (GDL) provides a framework for exploring multiple perspectives on viewing the interdependent world. Students participate in experiences that promote an awareness of global issues, engagement with diverse perspectives, and transformative approaches towards learning. Queensborough's cultural resources provide opportunities for students to interact with the Kupferberg Holocaust Resource Center and Archives, QCC Performing Arts Center, and the Art Gallery. GDL Coordinator: Meg Tarafdar, Associate Professor, English.

Students Working in Interdisciplinary Groups (SWIG): The SWIG project is, in effect, a virtual learning community. A SWIG experience is a Collaborative Assignments or Projects that allows students from two or more courses to create a shared student-centered online space, in which they can share their work with others, offer audience response and constructive feedback. SWIG Faculty Coordinator: Rezan Akpinar, Associate Professor, HPED.

Undergraduate Research as a High-Impact Practice (UR-HIP) emphasizes process and reflection. The [Council for Undergraduate Research](#) defines undergraduate research as: a mentored investigation or creative inquiry conducted by undergraduates that seeks to make a scholarly or artistic contribution to knowledge. UR-HIP faculty participants design an undergraduate research activity and reflection. These activities may be implemented through research in the classroom, one-to-one / small group mentorship, or an internship. UR-HIP Coordinators: Urszula Golebiewska, Professor, Biological Sciences & Geology and Heather Huggins, Associate Professor, Communication, Theatre, & Media Production.

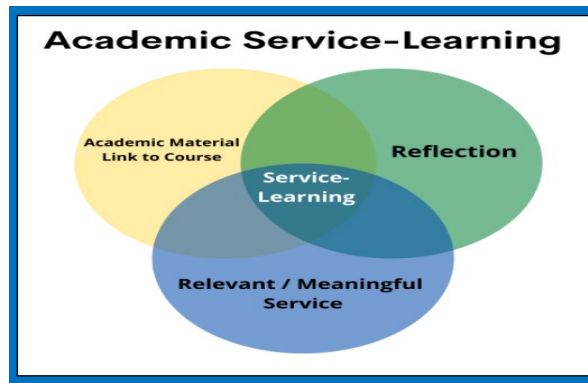
Writing Intensive Courses (WI) courses are designed to improve students' critical thinking, engagement with and mastery of course content, and writing ability through all academic disciplines. Two writing-intensive courses are required to graduate. Specific Writing Intensive Certification training is needed. WI Coordinators: Melissa Dennihy, Associate Professor, English; Monica Rossi-Miller, Lecturer, Foreign Languages and Literature.

Academic Service Learning (ASL)

Faculty Coordinator: Mark M. Ulrich, Business Department

Academic Service-Learning at QCC is:

- A pedagogical practice that aligns course learning objectives with community service
- Mutually beneficial for students and community partners
- An activity that reinforces curricular concepts and supports learning
- An activity that advances the notion of life-long learning and civic engagement
- An activity that engages empathic awareness
- An emerging practice that is rich with publication and presentation possibilities
- Reflective in nature and promotes deep learning



Highlights: Projects from 2023-2024

The Spring Student Celebration Fair
Wednesday, April 17, 2024

Students, faculty, and staff come together to present student-driven projects that address the essential needs of our students while championing social justice, equity, and shared responsibility. This event aims to create a platform for dialogue, awareness, and action, fostering a sense of support and compassion within our college community, and learning from varied perspectives and disciplines. This event is scheduled to feature some ASL projects. Some projects implemented during the 2023-2024 year include:

- Class project regarding immigration advocacy with Make the Road in an English course, Fall 2023
- Students working as business consultants with QPAC as the community partner in an accounting course, Spring 2024

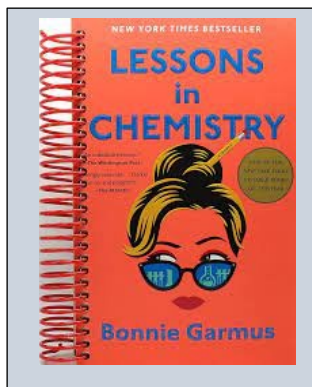
Possible Future Projects:

- Working with classes at NYC public schools
- Collaborating with local businesses and community organizations (including non-profit and arts organizations)
- Supporting programming for on-campus organizations/offices such as the Holocaust Resource Center, Art Gallery, QPAC, CUNY Start, and CLIP
- Creating informational/supplemental materials for QCC classes and offices
- Designing campus-wide service-learning projects that bring together faculty and students from across academic disciplines

To join the ASL training program, or to speak about other potential ASL projects, please contact Mark M. Ulrich

(mulrich@qcc.cuny.edu)

The Common Read (CI-Common Intellectual Experience)



The Common Read is a Common Intellectual Experience (CIE) is one of the High-Impact Teaching Practices that integrates cross-disciplinary events in support of a campus-wide, shared reading of a selected text. Students enrolled in classes across the disciplines read the same text during the spring semester. Students discuss and complete assignments related to the text within their courses during the first part of the semester. The Common Read culminates in an events period during which students are invited to attend events with their peers from other classes across campus, to learn how other disciplines have approached the text. These events provide participating faculty and students additional opportunities to engage socially and academically across the campus, while supporting the learning in each individual class.

The Common Read creates opportunities for students to make interdisciplinary and real-world connections to their learning, as well as to build relationships with their peers and faculty across the campus. During the Fall semester, faculty from all disciplines are invited to attend workshops and discussions for incorporating the Common Read text into the curriculum and to participate in the week of Common Read events during the Spring semester.

The AY 2023-24 Common Read text is *Lessons in Chemistry* by Bonnie Garmus, which tells the story of Elizabeth Zott, a reluctant cooking show star whose unconventional methods inspire women to change the status quo. The book touches on the complex subjects of gender and society.

This year's Common Read Events offered student opportunities to explore connections to the book from many disciplinary approaches, including Nursing, Speech Communication and Theater Arts, Mathematics and Computer Science, Biology, Health, Physical Education, and Dance. Students participated in a variety of events, including film screenings and discussions, conversations.

Examples of the presentations included, nursing students talking about the mental and physical health benefits of pet therapy; a screening of *Hidden Figures* highlighting the struggle for professional recognition black women faced in the 1960's. The post-screening discussion provided students an opportunity to participate in a lively conversation around women in STEM fields. Nursing students also presented on sexual violence that focused on encouraging bystanders to actively get involved in helping to prevent sexual violence. For a complete listing of this year's events, please view this year's Common Read website: <https://www.qcc.cuny.edu/cetl/common-read/Common-Read-2023-24.html>

For additional information about Common Read (CR), please email Faculty Coordinator the AY 2023-24: Professor Barbara Rome (Nursing Department): brome@qcc.cuny.edu

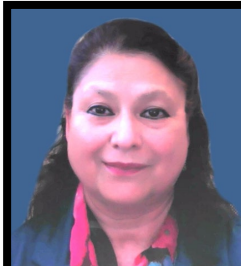
CETL
CENTER FOR EXCELLENCE
IN TEACHING & LEARNING
QUEENSBOROUGH COMMUNITY COLLEGE

Common Read 2023-24

"Lessons in Chemistry" by Bonnie Garmus is a delightful blend of humor, intellect, and a poignant reflection on societal norms, especially surrounding women in the sciences during the 1960's.

The Common Read is a high-impact teaching practice that promotes integrative learning across the curriculum through multi-disciplinary approaches to a common text.

Global & Diversity Learning (GDL)-High Impact Practice

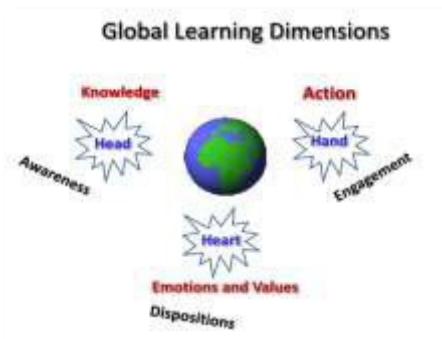


**Program Coordinator:
Dr. Meg Tarafdar**

Associate Professor, English Department Interim
Director, CETL mtarafdar@qcc.cuny.edu

Global & Diversity Learning (GDL) is a high impact practice that provides a framework for exploring multiple perspectives on viewing the interdependent world. The GDL framework integrates an exploration of course content through the following avenues: Intercultural Learning, Global Citizenship, Environmental Sustainability, and Human Rights. Students participate in experiences that promote an awareness of global issues, engagement with diverse perspectives, and transformative approaches towards learning. Queensborough's cultural resources provide opportunities for students to interact with the Kupferberg Holocaust Resource Center and Archives, QPAC, and the QCC Art Gallery.

GDL provides many opportunities for enriching the curriculum, utilizing strategies for student engagement, and fostering a deeper commitment to achieving the College's general education outcomes. In national studies, GDL has been reported to enhance critical thinking skills, preparation to work in a diverse society, achieve greater academic success, and develop leadership abilities. GDL projects encourage the next generation of strategic leaders and thinkers to advance equity, inclusion, and social justice through higher levels of personal and social responsibility. GDL is designed to advance the College's efforts to achieve quality, equity, and student engagement goals by deepening connections between students' assets and their educational experiences in preparation for work, life, and productive citizenship.



GDL faculty participate in training workshops hosted by the Center for Excellence in Teaching and Learning (CETL). Workshops on integrating high impact pedagogical practices and scaffolded reflection are held twice a year (in January and August). Additional meetings and workshops are offered during the year to support faculty in HIPs participation.

The design, implementation, and assessment of GDL at QCC is closely aligned with AAC&U (Association of American Colleges & Universities) goals and national discourses for fostering the knowledge, skills, and dispositions necessary for addressing diverse issues within our local, regional, and global communities.

Recent Highlights:

Tarafdar, Meghmala and Anuradha Srivastava. "Integrating High Impact Practices (HIPs) For Facilitating Transformative Learning Experiences Panel. *2024 CUNY Teaching and Learning Conference*, CUNY Graduate Center, March 22, 2024.

Tarafdar, Meghmala. Presenter & Facilitator, Workshop: "Recognizing Diverse Communication Patterns for Effective Online Pedagogy." *2023 CUNY Professional Development Conference. Bridging the Growing Divide: Working Towards Inclusivity and Collaboration.*" Nov 10, 2023.

Students Working in Interdisciplinary Groups (SWIG)



Faculty Coordinator:

Dr. Rezan Akpinar, L. Ac, LMT DDS
Health, Physical Education, and Dance

SWIG, or Students Working in Interdisciplinary Groups, operates as a virtual learning community aligned with the AAC&U's Collaborative Assignments or Projects initiative. This program empowers students to engage in integrative, collaborative learning across diverse disciplines. Through the utilization of technology, students participate in asynchronous collaboration, gaining exposure to various disciplinary perspectives and transitioning classes from teacher-centered to student-centered environments, thereby fostering active participation in learning and dialogue.

Engagement in interdisciplinary collaboration during education equips students with a wide array of skills and experiences essential for their future careers. These experiences not only enhance career readiness and employability, but also prepare students to navigate the complexities of the contemporary workforce. Research shows numerous benefits such as improvement in problem-solving skills, an expanded knowledge base, exposure to diverse methodologies, opportunities for networking, preparation for a range of interdisciplinary and multidisciplinary careers, heightened creativity, cultural competency, and a comprehensive understanding of complex systems.

DESIGNING A SWIG PROJECT



To join SWIG, contact Dr. Rezan Akpinar:
rakpinar@qcc.cuny.edu

Beyond enriching student experiences, SWIG offers faculty members numerous benefits, including professional development opportunities through mentorship, collaboration with colleagues from various departments, and exploration of innovative teaching methods. Faculty can also leverage SWIG projects as platforms for their research initiatives, investigating interdisciplinary topics and contributing to scholarly discourse. Additionally, SWIG encourages cross-curricular integration, enabling faculty to design interdisciplinary projects that enhance the student learning experience. Through community engagement initiatives, faculty and students can collaborate with external organizations to address real-world challenges, while also expanding their professional networks and earning recognition for their innovative interdisciplinary initiatives.

Recent SWIG projects include students from English and Computer Information Systems collaborating to design a computer application that assists in building argument maps. Additionally, collaboration between the public health and nursing departments organized IPE Grand Rounds Simulation Events, attended by student representatives from various HHS disciplines across different campuses. These events aimed not only to simulate clinical settings but also to foster cooperation and mutual learning among students. Furthermore, the Psychology department students collaborated with Massage Therapy in exploring mental health from different perspectives.

Conference Presentation

Akpinar, Rezan and Parisa Assassi "Unleashing Interdisciplinary Learning with SWIG." Integrating High Impact Practices for Facilitating Transformative Learning Experiences Panel" *2024 CUNY Teaching and Learning Conference*. March 22, 2024.

Undergraduate Research (UR)



Faculty Coordinators:

Urszula Golebiewska
Professor, Biological Sciences & Geology

Heather Huggins, Associate Professor

Undergraduate Research as a High-Impact Practice (UR-HIP) is a pedagogical approach to undergraduate research that emphasizes process and reflection. High-Impact Practices (HIPs) are nationally recognized modes of instruction that promote student engagement and active learning. The positive impact of HIPs participation on student engagement and retention has been widely documented.

The [Council for Undergraduate Research](#) defines undergraduate research as: a mentored investigation or creative inquiry conducted by undergraduates that seeks to make a scholarly or artistic contribution to knowledge. UR-HIP takes many forms at QCC, including traditional student-mentor partnerships, designated research courses, and research in the classroom. Any of these are considered a HIP if they include student reflection activities and are aligned to the college's general education outcomes. New UR-HIP practitioners receive guidance and training at QCC's HIPs Institutes, held twice a year in January and August. UR-HIP practitioners meet periodically to share information about projects, reflection assignments, assessment strategies, and other resources.

Each year, we support the annual Spring Student Symposium and Undergraduate Research and Creative Works Day; the UR-HIP community also highlights faculty UR activities through campus-wide programming including UR-HIP Faculty Showcases and cross-disciplinary dialogues. For information, please see the [UR-HIP Page](#).

HIGHLIGHTS 2023-2024

Welcome New UR-HIP Practitioners

Dr. Carolina Chaves, Dr. Deon Gibson, Dr. Emily Tai, and Dr. Chukwudi Ikwueze

Conference Presentations about UR-HIP

Geismar, Aviva, Heather Huggins, and Jodi Van Der Horn-Gibson. "Disruptive Collaboration: Toward an Anti-Racist Pedagogy." *A Life Worth Living Together: Humanities as Collaboration*. Community College Humanities Association (CCHA) National Conference. 14 Oct, 2023, Austin Community College, Austin, TX.

Golebiewska, Urszula. "SEA-Phages at QCC" Phage Discovery Workshop, 25 June, 2023, HHMI, University of Maryland Baltimore County, Baltimore, MD

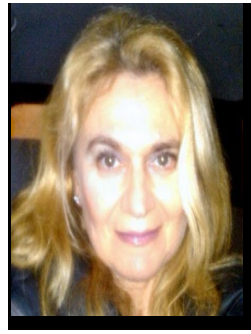
Undergraduate Research and Creative Works Day: December 1, 2023

Our 8th Annual UR Day was held in person. It included 74 presentations mentored by 44 faculty in collaboration with 11 academic departments and the Kupferberg Holocaust Center.

Upcoming – CUNY Celebration of Research: May 24, 2024 at John Jay College

The second CUNY wide undergraduate research celebration will feature STEM poster presentations and creative works. Each campus will be represented by about 10 students.

Writing Intensive Program (WI)



Coordinators:

Dr. Melissa Dennihy, English Department
Professor Monica Rossi-Miller, Foreign
Languages

What Is Writing Intensive Pedagogy and How Can You Use It In Your Courses?: A Brief Introduction

Writing Intensive pedagogy gives students time and space to grow and develop as writers in multiple courses across the disciplines. Writing is a complex skill that develops over years of practice and experience, and Writing Intensive courses provide students with valuable opportunities to continue practicing their writing beyond their introductory-level composition courses at QCC. **All QCC students are required to take two Writing Intensive courses to earn an Associate degree.**

WI courses require students to write regularly as part of their coursework throughout the semester. These courses use writing to engage students' higher-order thinking skills with relation to course content. Students use writing as a tool to learn skills including critical thinking, analysis, interpretation, reflection, problem-solving, and effective use of evidence and sources.

Writing Intensive pedagogy is intended to **supplement and improve, rather than distract or take time away from, your course curriculum and objectives.** The pedagogy is used to help students **further engage with and think more deeply** about the concepts and topics in your course. It also provides instructors, particularly those who usually assess student learning primarily with quizzes or exams, with additional assessment tools to explore and understand student learning in their courses.

Faculty members who have participated in WI training often find that writing-intensive pedagogy has enriched their course content while facilitating new ways of engaging with students and helping them to learn. Several faculty members have presented papers at conferences and/or published articles regarding the value of incorporating WI practices into their classroom. As such, WI training continues to benefit both students and faculty, and contributes to conversations across academic and professional communities.

HIGHLIGHTS 2023-2024

Stern, Carrie. "Writing Prompts for WI Courses." HPED OER Project, 2023. *CUNY Academic Commons*.
<https://sternoer.commons.gc.cuny.edu/>

Open Educational Resources (OERs) at QCC



About Open Educational Resources

The term “Open Educational Resources”, first coined by UNESCO in 2002, was promoted as a way to encourage the, “free exchange of ideas and knowledge”. The US Department of Education’s Office of Education Technology defines OER as teaching learning, and research resources that reside in the public domain or have been released under a license that permits their free use, reuse, modification, and sharing with others. These digitally open licensed resources span various formats, including online courses, modular digital textbooks, as well as more specific resources like images, videos, and assessment items.

OERs are intentionally crafted to be freely accessible and available for use, with the flexibility to be adjusted or tailored to fit specific courses, and easily shared with others. By leveraging OERs, faculty members gain greater autonomy in selecting instructional materials, circumventing limitations often imposed by publisher-controlled content., which can otherwise be restricted by publisher mediated content. Digital OERs can be more easily accessed by students using multiple means, including mobile devices, helping students reduce textbook expenses – a concern underscored by NBC News, which reported a staggering 1,041% increase in textbook costs since 1977.

By participating in the NYS OER Scale Up grant initiative, QCC has become part of a growing community of OER creators at CUNY and beyond. This effort has resulted in CUNY students saving approximately \$9.5 million and allowed for the development of both 2- and 4-year zero textbook cost degrees. At QCC, this grant was used to create a faculty professional development program, including an introduction to OERs Blackboard course and consultations with experts on copyright and accessibility.

Examples of OERs Created by QCC Faculty

Gadura, Nidhi, and Ghoshal, Sarbani – *Biotechnology Lab Manual Course BI-453* (2023). The purpose of this lab manual is to acquaint undergraduate students with hands-on training on key laboratory experiments needed to gain expertise in Biotechnology, Cell and Molecular biology. [Link](#).

Loeffler, Helmut G. - *Introductory Guide to Ancient Greek Civilization* (2022). This guide is meant to provide a succinct review of ancient Greek civilizations, and is intended to be used with a presentation or other supportive material. [Link](#).

Davies, Rondi – *Geology Online Lab Activities An Open Educational Resource for Community College Students and Instructors* (2022). This lab was developed as a single, cohesive laboratory manual intended for two-year, non-major college students from the New York Area. [Link](#).

For more information about CUNY Central’s OER Initiative [visit here](#):

To learn more about OERs at QCC: [OER Libguide](#) and [CETL-OER Webpage](#)

For More Information on OERs at QCC:

Dr. Meg Tarafdar, Interim Director, CETL mtarafdar@qcc.cuny.edu

Erol Akpinar, OER Coordinator eakpinar@qcc.cuny.edu

Leslie Ward, Emerging Technologies and Digital Scholarship Librarian

The Office of Grants/Sponsored Programs at QCC



Development Grants Director: Christine Spicknell
Assistant Director and Grants Writer: Dr. James Harnsberger
Administrative Coordinator: SueAne Solares-Loza
CUNY Office Assistant: Yasmin Jewnandan

Location: Humanities, Room 336
Telephone: (718) 631-6357



The Office of Grants/Sponsored Programs (OGSP) provides grant development services and training and grant management support to faculty and staff to promote the successful acquisition and oversight of research and institutional sponsored awards. The OGSP develops and implements pre- and post-award grant training for new and existing principal investigators/ project directors. Development is provided through workshops, trainings, dissemination of materials, a website, and via one-on-one interactions.

The OGSP supports grant directors in managing awards by providing assistance with human resources, purchasing, contract development, sub-awards, financial forecasting, reporting, monitoring and award close-out. The OGSP coordinates with OAA in promoting research integrity and compliance.

The OGSP is responsible for Sponsored Programs Administration and is accessible to assist faculty, principal investigators or project directors with any sponsored research or administrative program requirements.

The OGSP reports to the President, Provost or their designee; at QCC, the designee is the Dean for Academic Initiatives, Dr. Michael Pullin. The OGSP is available for:

- Reviewing proposals submitted to assure compliance with University policy. The Grants Office also reviews budgets to verify that all appropriate charges are included in the cost calculations.
- In cooperation with The Research Foundation, assisting the PI with the negotiation and acceptance of grant awards;
- Assisting the PI with the administration of research and sponsored programs from inception through close-out;
- In cooperation with the University, assuring compliance with sponsor's policies, e.g., fiscal, property, intellectual property, human and animal subjects;
- In cooperation with the University, assuring compliance with the policies and procedures of the Research Foundation;
- In cooperation with the University and The Research Foundation, maintaining official records concerning sponsored projects including official grant and contract files;
- Assisting faculty and department/school staff in the preparation of proposals and other administrative aspects of sponsored projects as needed; and
- Training of faculty and administrative staff in the policies, procedures and practices of the University, College or School and sponsors.

Some of QCC's Grant Funded Programs Providing Undergraduate Research Experiences:

- Research Experiences for Undergraduates (REU) funded by National Science Foundation, Project Directors: Prof. Todd Holden.
- "Bridges to the Baccalaureate" program funded by National Institutes of Health, Project Director Prof. Patricia Schneider.
- "Collaborative Research: Of Mice and Monsters" funded by National Science Foundation, Project Director Prof. Jillian Bellovary.
- "Developing Data Analysis Skills of Community College Students using Cloud Technologies (DDASCT)" funded by National Science Foundation, Project Directors Prof. Monica Trujillo and Prof. Esmá Yildirim.
- "Tuning in to the echoes of Black Hole Seeds" funded by National Science Foundation, Project Director Prof. Jillian Bellovary.
- "Using Space Technology to Engage and Inspire Students to Explore (SpaceTech EngInE)" funded by National Aeronautics and Space Administration, Project Director Prof. Chantale Damas.
- Science and Technology Entry Program (STEP) funded by New York State Department of Education, Project Director Yicel Nota-Latif.
- Collegiate Science and Technology Entry Program (CSTEP) funded by New York State Department of Education, Project Director Marie Francesca Berrouet.
- Ionic Liquids funded by STREM Chemicals, Project Director Prof. Sharon Lall-Ramnarine.
- College Now & STEM Research Academy funded by the Pinkerton and Simons Foundations, Project Director Mary Anne Meyer.
- BioPREP: Biology Partnership funded by NIH, Project Director Prof. Nidhi Gadura.
- Institutional Partnership to Create Successful Student Transition in Smart Energy and Materials funded by National Science Foundation, Project Director David Sarno.
- Developing Next Generation Radiation Safety Professionals funded by The Department of Energy, NNSA, Project Directors Prof. Sharon Lall-Ramnarine and Prof. Paul Sideris.
- CUNY/OMH Mental Health Scholarship Program, located in the Social Sciences department, Project Director Dr. Jeffrey Jankowski.

Undergraduate Research Programs at QCC

2023-2024 Academic Year

Research Program	Director	Contact
Collegiate Science and Technology Entry Program (CSTEP)	Ms. Marie-Francesca Berrouet	MBerrouet@qcc.cuny.edu
Spring 2024 Student Engagement at the KHC	Laura B. Cohen & Marisa Hollywood	KHC@qcc.cuny.edu
The CUNY Research Scholars Program (CRSP)	Provost Phyllis Curtis-Tweed & Dr. Regina Sullivan	RSullivan@qcc.cuny.edu
The Society for the Advancement of Chicanos/Hispanics and Native Americans in Science	Dr. Maria Mercedes Franco & Dr. Joan Petersen	MFranco@qcc.cuny.edu ; JPetersen@qcc.cuny.edu
NSF Research Experience for Undergraduates (REU)	Dr. Todd Holden	THolden@qcc.cuny.edu
QCC NSF S-STEM Scholars Program in Smart Energy	Dr. David Sarno	DSarno@qcc.cuny.edu
QCC Origins of Black Holes Research Program	Dr. Jillian Bellovary	JBellovary@qcc.cuny.edu
Using Cloud Technologies to Develop the Data Analysis Skills of Community College Students	Dr. Monica Trujillo & Dr. Esmay Yildirim	MTrujillo@qcc.cuny.edu ; EYildirim@qcc.cuny.edu
NIH BioPREP - QCC (Biology Partnership in Research and Education Program)	Dr. Daniel Moloney (Stony Brook University) & Dr. Nidhi Gadura (QCC)	NGadura@qcc.cuny.edu
Financial Machine Learning with Python Research Program	Ms. Anna Lee	AnLee@qcc.cuny.edu
NASA-CCNY Center for Advanced Batteries for Space	Dr. Robert J. Messinger, Dr. Elizabeth Biddinger (CCNY) & Dr. Sharon Lall-Ramnarine (QCC)	SLallRamnarine@qcc.cuny.edu
Developing Next Generation Radiation Safety Professional Program	Dr. Sharon Lall-Ramnarine & Dr. Paul Sideris	SLallRamnarine@qcc.cuny.edu ; PSideris@qcc.cuny.edu ; JChabra@qcc.cuny.edu
CUNY/OMH Mental Health Scholarship Program for Those Committed to Diversifying the Behavioral Health Workforce	Dr Jeffery Jankowski	JJankowski@qcc.cuny.edu

Collegiate Science and Technology Entry Program (CSTEP)



Program Director: Ms. Marie-Francesca Berrouet

Email: MBerrouet@qcc.cuny.edu

Ms. Berrouët came to the U.S. from Haiti in 2002 and started working at QCC that same year. Over the years, she has served College students in various capacities. Ms. Berrouët is also a proud QCC / CUNY alumna and continue to passionately seek, obtain and encourage her students to participate in experiences that enhance their skills, knowledge, and expand their network while keeping them engaged in their community. (Internship, Research, Volunteer). Since 2011, she has been the Project Director of CSTEP. The Collegiate Science and Technology Entry Program (CSTEP) is a New York State grant funded initiative designed to foster academic excellence for historically under-represented or economically disadvantaged full-time college students majoring in the STEM (Science Technology Engineering Math) fields and licensed professions (i.e. Health related careers, Accounting, Law, Psychology, Massage Therapy, Social Work, etc.). CSTEP is a small program, serving 130 students per academic year, however, it has a high retention rate and its students have great things to say about their experience. Ms. Berrouët and her team continue to recruit students and continue to offer guidance and support to all students. They are always happy to assist.

Thank you for your referrals. <https://www.qcc.cuny.edu/cStep/>

Spring 2024 Student Engagement at the KHC

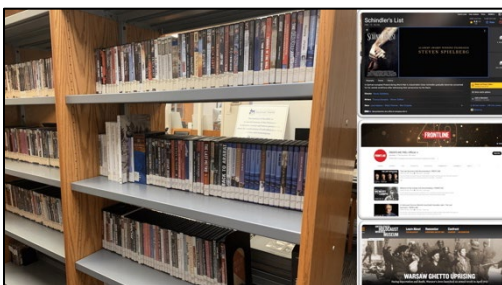


The Harriet and Kenneth Kupferberg Holocaust Center (KHC) was established in 1983 as one of the first research archives devoted to the Holocaust on the East Coast. Our mission is to use the lessons of the Holocaust to educate current and future generations about the ramifications of prejudice, racism, and stereotyping. In doing so, we teach and empower citizens to become agents of positive social change in their lives and in their

communities. Our permanent exhibition tells the story of the Holocaust in Germany, from pre-World War II through to the end of the war. Our latest virtual exhibit, *The Concentration Camps: Inside the Nazi System of Incarceration and Genocide*, surveys the scope and brutality of this system, underscoring the horrific consequences of intolerance, racism, and authoritarianism. These extensive networks of ghettos, transit camps, women's camps, forced labor camps, and extermination camps, to name a few, played a central role in the Holocaust—the annihilation of six million Jews—as well as the mass murder of millions more Poles, Roma and Sinti, homosexuals, people with disabilities, social outcasts, Jehovah's Witnesses, as well as other political and religious opponents. For more information, visit: <http://khc.qcc.cuny.edu/camps/>.

Spring 2024 Intern Projects

Visitor Services & Research: For Spring 2024 the Center continues our newest internship where interns serve as greeters and help students and other visitors navigate the galleries. Interns introduce the exhibits, distribute exhibit catalogs from our archive, and provide general administrative support. The interns also each choose a past exhibit, an artifact on display, or a Holocaust survivor testimony to review and research.



Curatorial/Collections Research: Our Spring interns completed high-level research on our *Nazi Concentration Camps* exhibit and in our archive. Work ranged from historical image/artifact research to a comprehensive reorganization of the KHC library.

The KHC offers paid administrative, curatorial, research, and project-based internships during the fall, spring, and summer semesters. For more information about the Center, please visit our website: <http://khc.qcc.cuny.edu/> or email us at KHC@qcc.cuny.edu.

The CUNY Research Scholars Program (CRSP) 2023-24 Cohort



Program Directors: Provost Phyllis Curtis-Tweed and Dr. Regina Sullivan
phyllis.curtis-tweed@qcc.cuny.edu; rsullivan@qcc.cuny.edu
CRSP Programming Coordinator: Ms. Christina Denny
cdenny@qcc.cuny.edu
Location: Office of Academic Affairs, Room A-507

The CUNY Research Scholars Program provides funding to facilitate laboratory experiences for associate degree students over a one-year period. The goal of the program is to encourage undergraduate participation in authentic research and to increase persistence in STEM and Social Science disciplines. Students receive a \$5,000 stipend and approximately 300 hours of mentoring from faculty members and participate in structured activities on campus, including sessions on laboratory safety, library research, public speaking, and poster preparation. Each year, the program culminates in a symposium where students display and present their work to peers and mentors. *The CUNY Research Scholars Program at QCC currently supports 21 students and 20 faculty mentors.*

Eligibility

Associate degree students with at any stage in their academic career can participate. Students must have at least a 2.7 GPA and commit to being part of the program for one full academic year. Graduating and transfer students who leave the college may take a partial scholarship for work completed, providing that they prepare a poster of the research conducted for presentation by the student or faculty mentor at the CUNY Research Scholars Program symposium at the end of the funding year.

Support

Students receive a \$5000 stipend for approximately 300 hours of research activities. The program also provides compensation for faculty mentors in the amount of \$1000 per student mentee. This amount is for one year of the program. Faculty commit to working with the student for the entire academic year.

Applications

Applications open in August every year and close in mid-September.
For more information, visit: <http://www.qcc.cuny.edu/ur/crsp.html>

The Society for the Advancement of Chicanos/Hispanics and Native Americans in Science



SACNAS QCC Chapter Advisors

Dr. Maria Mercedes Franco, Math and Computer Science, mfranco@qcc.cuny.edu

Dr. Joan Petersen, Biological Sciences and Geology, jpetersen@qcc.cuny.edu

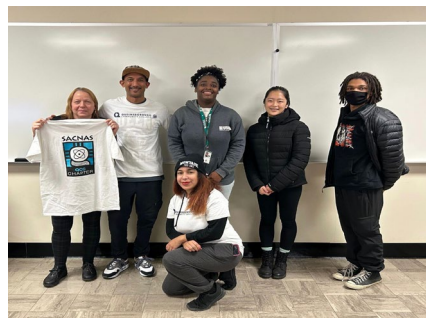


The SACNAS QCC chapter was established in Spring 2016 as the second and only active chapter in the state of NY, and the second chapter established at a community college. QCC SACNAS offers a forum to come together for academic, social, and service activities. The chapter has a strong presence on campus that is dedicated to raising awareness about issues of importance to our diverse community. Any student or faculty member is welcome to join the QCC Chapter.

SACNAS is Multidisciplinary and Multicultural



Chapter members at the 2022 SACNAS National Conference in San Juan, PR



Students attend a Fall 2023 chapter-sponsored Environmental Science Alumni Panel



Chapter members volunteered during Earth Day 2023 at Queens Botanical Garden, Flushing, NY

At SACNAS we are changing the face of science together

SACNAS QCC Chapter Highlights

Travel Scholarships to attend the 2023 and 2022 SACNAS *Diversity in STEM* National Conference:

- James Hardat, Chapter President 2021-2022, was fully funded by SACNAS to attend the 2023 conference. In 2022, Mr. Hardat was fully funded to participate in C.O.L.O.R. (Chapter Officer Leadership October Retreat), a pre-conference student leadership event and to attend the conference.
- Simona Mitec, Chapter Vice President 2021-2022, received a SACNAS Travel Scholarship to attend the conference.
- Dr. Maria Mercedes Franco, Chapter Co-Advisor, received a MMW Travel Scholarship to attend the Modern Math Workshop (pre-conference) and the conference in 2023.
- Dr. Bianca Sosnovski, Chapter Advisor 2021-2022, received a MMW Travel Scholarship to attend the Modern Math Workshop (pre-conference) and the conference in 2022.

Presentations at the 2022 SACNAS *Diversity in STEM* National Conference:

- “Early Undergraduate Research Experiences for Community College Students Promote DEI in STEM,” and all-QCC panel with Dr. Yusuf Danisman, Dr. Maria Mercedes Franco (Chapter Co-advisor 2022-2023), Dr. Simran Kaur, Dr. Alison Mello, and Dr. Joan Petersen (Chapter Co-Advisor 2022-2023)
- “Supportive Research Mentoring in Computational Sciences for 1st and 2nd Year College Students” Panel with Dr. Maria Mercedes Franco and two faculty members from 2 non-CUNY institutions
- “Un Paso Pa’lante: Putting Hispanic/Latinx STEM Doctoral Students on the Path to Teach at Community Colleges” Panel with Dr. Dugwon Seo (Chapter Co-Advisor 2021-2022) and five faculty/researchers from other CUNY and non-CUNY institutions.

Other SACNAS Awards:

- Dr. Maria Mercedes Franco was selected to participate (on a full scholarship from SACNAS) in the 2022 Linton-Poodry SACNAS Leadership Institute.

SACNAS has helped defray the cost of 58 individual trips (27 students/alumni, 31 faculty/ professionals) to the national conference made by members of the QCC community since 2012. The savings to travelers and the college is estimated to be \$49,000. Beyond the conference, SACNAS offers intensive support to its members via web-based services, leadership development, student scholarships, internships, and fellowships.

Achieving **TRUE DIVERSITY** in STEM

SACNAS is an inclusive organization dedicated to achieving **True Diversity**. True diversity means the field (including leadership positions) reflects the demographics of the population. Thus, since its founding 49 years ago, SACNAS has been working to “make sure that those most underrepresented in STEM have the support they need to obtain advanced degrees, careers, and positions of leadership.” Since 2018, new funding allocations have been made to fund travel awards for *all* students regardless of citizenship or residency status, an effort particularly helpful for DREAMers. All other SACNAS programs for students have been unrestricted since their inception. SACNAS also strives to secure unrestricted funding for postdocs and professionals.

NSF Research Experience for Undergraduates (REU)

National Science Foundation supported Research Opportunities in Physics, Bio-physics and Astronomy for Community College Students



Program Director: Dr. Todd Holden

E-mail: THolden@qcc.cuny.edu

Location: Physics Department Telephone:
718-631-6366

Undergraduate participation in physics research at Queensborough Community College has been part of the college's academic program for over 20 years. Sponsors have included NIH RIMS, LSAMP, NASA NSF and PSC-CUNY. The college is offering Research Experiences for Undergraduates this summer supported by the National Science Foundation. Students will have the opportunity to participate in current research projects in physics, bio-physics or astronomy and perform independent research on a wide range of projects that aim to broaden their understanding of science and involve them in the acquisition, analysis and presentation of experimental data.

Research Program Objectives:

- To introduce students to a variety of current issues in science.
- To define and discuss useful methods.
- To provide instruction in experimental design and efficacy.
- To have meaningful faculty-student discussions on the experimental results.
- To assist with the production of a presentation of each student's work at a conference.
- To inform students of opportunities at four-year colleges and summer initiatives.

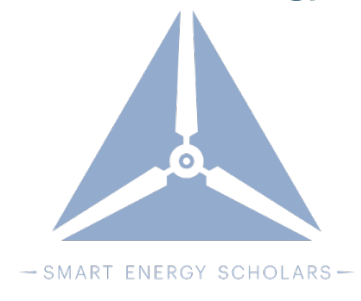
Program Details

The program is a 10 week-long research program that runs from May 28, 2022 to August 2, 2024. This program provides an opportunity to do interesting research in a wide variety of topics with individual mentors. In addition, basic research skills are highlighted including responsible conduct in research, statistics, data handling and presentation skills. Each student will have an opportunity to present their summer research at a symposium at Queensborough and will be encouraged to present and publish their results in other forums.

Benefits

- A \$6000 stipend
- Travel support to and from campus
- An option to continue paid research with your mentor throughout the academic year
- A rich research experience and collaborative environment

QCC NSF S-STEM Smart Energy Scholars Program



Program Director: Dr. David Sarno

E-mail: dsarno@qcc.cuny.edu

Location: Chemistry Department

Telephone: 718-631-6058

<http://www.qcc.cuny.edu/s-stem/index.html>

Awarded in 2017, the National Science Foundation Scholarship in Science, Technology, Engineering, and Mathematics (S-STEM) grant to QCC and its partners at Binghamton University (BU) and Broome Community College (BCC) has supported academically talented students who demonstrate financial need by providing scholarships to complete their associate's degrees in a variety of STEM disciplines. They have gained knowledge and experience in smart energy fields that will enable a future of alternative energy sources and energy efficient technologies. In addition, they have practiced vital "soft skills" such as scientific writing, making presentations, and networking. While at QCC, S-STEM students participated in a weekly online seminar with their peers at BU and BCC. They also received advisement from faculty mentors, and support from their peers and colleagues at the partner institutions. Of the 23 Smart Energy Scholars, ten transferred to BU with continued support from the program. Many Smart Energy Scholars have since completed their bachelor's degree and are now employed or pursuing graduate study. We are enormously proud of them all!

The Smart Energy Scholars program will end in June 2024. We are grateful for the years of support from the Queensborough Office of Grants and Sponsored Programs and Office of Financial Services. We also thank the National Science Foundation for providing two one-year extensions that allowed us to support an additional seven Queensborough students!

Program Features

- Up to \$10,000 per academic year towards cost-of-attendance
- Opportunities for mentored research at QCC
- Mentoring and advising by Smart Energy faculty at BU
- Weekly online seminars and cohort-building events with Smart Energy Scholars from all campuses

Eligibility

- Full-time enrollment at QCC
- US citizenship or permanent residency
- Minimum 3.0 GPA
- Demonstration of financial need based on completed and filed FAFSA
- Working towards an A.S. degree in STEM

Priority given to students who are

- in chemistry, physics, or engineering A.S. programs
- planning transfer to a bachelor's degree program in a STEM field
- on track to graduate from QCC by the end of spring 2022

QCC NSF S-STEM Smart Energy Scholars Program Highlights 2023-24



Smart Energy Scholars (left to right): Isabela Velasquez Gutierrez, Xiaofang Yu, Edison Mera, James Pitarresi (PI-BU), Miaolan Chen Weng, Devani Mahabir, Mariia Ihnatiuk, Ho Martin Yuen, Ahmed Tafsir, Ieesha Ansar

Highlights:

- Many of the Smart Energy Scholars participate in undergraduate research at QCC and are also supported by the CUNY Research Scholars Program.
- Anna Liu will participate in the 2024 NSF-REU program at Binghamton University.
- Ieesha Ansar will participate in the 2024 Department of Energy Community College Internship Program at Brookhaven National Laboratory.
- Mariia Ihnatiuk participated in the 2023 Using Cloud Technologies to Develop Data Analysis Skills Summer Bootcamp (UCTDDAS) and earned an AWS Cloud Practitioner Certificate.
- Ho Martin Yuen participated in the 2022 and 2023 Department of Energy Community College Internship Program at Brookhaven National Laboratory and won a Best Poster award at the 2023 Annual CRSP Symposium.
- Miaolan Chen Weng participated in the 2021 CUNY Summer Undergraduate Research Program.
- Harpreet Singh participated in the 2019 NSF-REU at City College and was a Presentation Winner at the 2020 Annual CRSP Symposium.
- Danial Mokhtari Sharghi participated in the 2019 NSF-REU program at QCC.
- Edison Mera participated in the 2018 NSF-REU program at Binghamton University.
- Isabela Velasquez Gutierrez won a Best Poster award at the 2018 Annual CRSP Symposium and is currently working on her PhD at UW-Madison.
- Xiaofang Yu participated in the summer 2018 NSF-REU program at University of Pennsylvania.

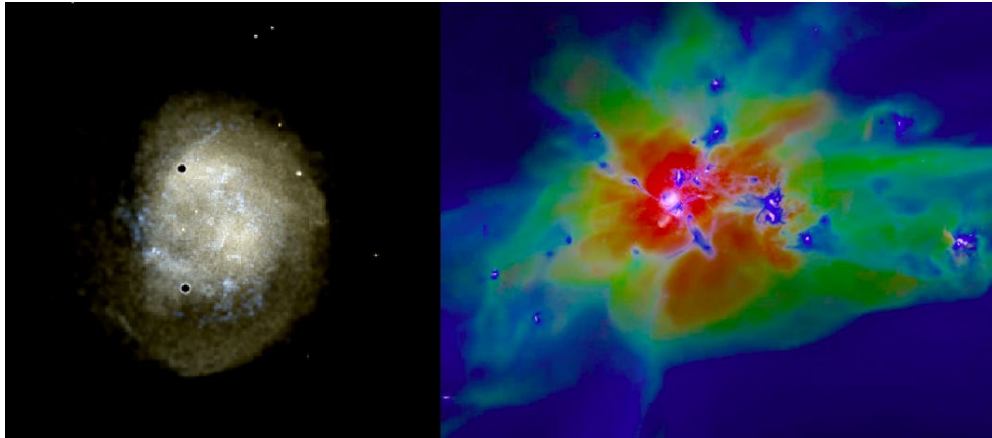
Recent Publications:

- R. Ogbodo, W.V. Karunaratne, M.S. Emerson, G. Acharya, M. Mughal, H.M. Yuen, N. Zmich, S. Nembhard, F. Wang, S.I. Lall-Ramnarine, J.F. Wishart, A.J. Nieuwkoop, C.J. Margulis, “Viscosity and its Structural Origins; a Comparison of Imidazolium-based and Pyrrolidinium-based Ionic Liquids,” *J. Phys. Chem. B*, 2023, 127, 6342–6353.

Recent Presentations:

- H. Tariq, N. Spence, R. Felix, Q. Johnson, B.P. Chauhan, M. Chauhan, S. Ghoshal “Synthesis and Anticancer Properties of Polyrhodanine Copper Nanocomposites”, Metropolitan Association of College and University Biologists conference, University of Bridgeport, Bridgeport, CT (11/2023)
- M. Ihnatiuk, D.M. Sarno “Polyaniline as an adsorbent for the removal of metal cations from aqueous solution”, Middle Atlantic Regional Meeting of the American Chemical Society, CUNY Graduate Center, New York, NY (6/2023)

QCC Origins of Black Holes Research Program



Principal Investigator: Jillian Bellovary

Physics email: jbellovary@qcc.cuny.edu

Location: Physics Department

About the Project

Supermassive black holes are some of the heaviest, densest objects in the universe! They are usually found at the centers of massive galaxies. But, we don't understand how they got there! Professor Jillian Bellovary is trying to answer these questions using computer simulations. She uses a program called ChaNGa, which combines the laws of physics and with the ways we think the universe works, to create groups of simulated galaxies. In these galaxies, baby supermassive black holes form. She studies how these black holes form, grow, merge with each other, and affect their surroundings.

This project will make important predictions for a gravitational wave detector that is being designed and built right now. It's called LISA, the Laser Interferometer Space Antenna. Professor Bellovary hopes that she and her students can predict what LISA will detect, which will help us understand how cosmic structure is built at the very beginning of the universe.

Participation

Students can get paid to participate during the school year and/or during the summer. All students are eligible to apply, but students planning to major in physics will be given preference. Students who participate will learn valuable skills such as scientific knowledge, computer programming, science writing, data visualization, presenting, and problem-solving. For more information see this website:

<https://www.qcc.cuny.edu/physics/nsf-grant.html>

This project is supported by NSF grant AST-2107764.

Using Cloud Technologies to Develop the Data Analysis Skills of Community College Students

Background

Queensborough is a Hispanic Serving Institution with over 10,000 students and a 3-year graduation rate of 28.5%. 50% of students are first generation, 90% graduate without debt. 70% of full-time faculty have earned doctoral degrees or other non-doctoral terminal degrees.

- Project Team meets once a week
- Anonymous surveys used to evaluate all project activities
- Evaluator provides feedback

Business Industry Leadership Team includes industry and academia leaders in data analysis/science fields

16 & 23 students in 1st & 2nd summer boot camps
100% retention for both

Faculty development activities for years one and two of the grant

Student leadership development through SACNAS QCC Chapter and Data Science Club

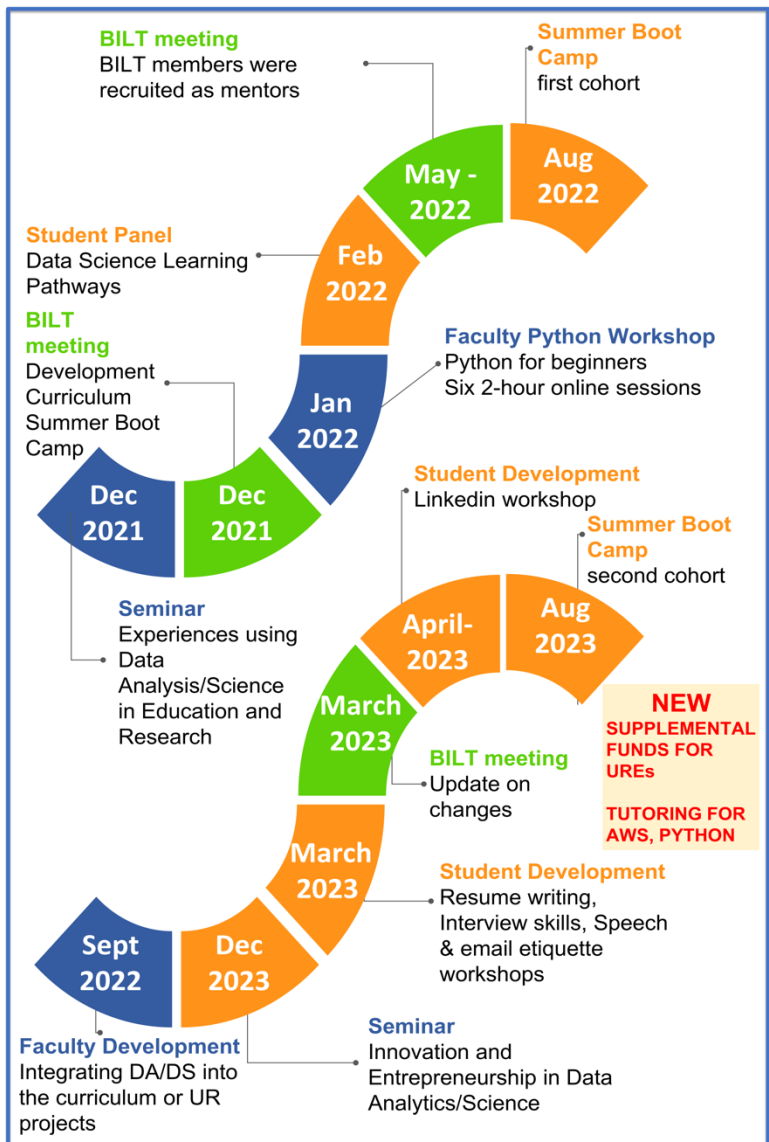
Students appreciate

"the practical exercises and deep-dive into these topics, topics that are not taught or are presented in overview mode in regular classes"

"being introduced into more intense work and getting experiences of what professionals do in the database tech field"

"learning actual applications that I can bring to the workforce and use to build my resume"

"realizing how much python is essential and used in tech fields"



NSF ATE Award No. 2100027

<https://www.qcc.cuny.edu/nsfGrants/nsf-ate.html>

Principal Investigator (PI) Monica Trujillo, mtrujillo@qcc.cuny.edu Co-PI Esma Yildirim, eyildirim@qcc.cuny.edu Senior Personnel Maria Mercedes Franco and Yusuf Danisman

NIH BioPREP - QCC

(Biology Partnership in Research and Education Program)



Principal Investigator: Dr. Daniel Moloney, Stony Brook University QCC

coordinator: Dr. Nidhi Gadura

E-mail: Ngadura@qcc.cuny.edu

Special thanks to QCC faculty Drs. Danzi-Engoron, Novick and Ghoshal

NIH funded program to encouraged underrepresented community college students who wish to further their education and pursue careers in biomedical sciences. Paid, 8-week intensive lab experience in biotechnology labs learning molecular biology techniques and performing mentored research projects. Students work on different projects in small groups and the program pays for them to attend regional and national conferences.

So far, **112 students from QCC** have participated in BioPREP since **1997**.

BioPREP Alumni includes **Carlos Penalzoza**, Chancellor at Leeward Community College, HI, who said that the experience changed his life and the way he views science.

Eligibility

- Full-time student at Queensborough Community College
- U.S. Citizen or permanent resident
- Underrepresented student in biomedical sciences (see application)
- Minimum of 24 credits by the end of the Spring semester
- An introductory biology course is a prerequisite (more biology and/or chemistry is preferred)
- Minimum cumulative 3.0 GPA
- The program requires a full-time commitment Monday through Friday for the full eight- week period.

2022 QCC students who completed BioPREP at Stony Brook University

Jordan Nacimba
Suncheng Gao
Engeddy Meran

Financial Machine Learning with Python Research Program



Mentor: Dr. Yusuf Danisman
ydanisman@qcc.cuny.edu

Email: **Program Coordinator:** Anna Lee
Email: anlee@qcc.cuny.edu

This hybrid program is aimed to cover several important aspects related to Machine Learning in Finance with Python for middle and high school students. A certificate will be given upon completion of each module. This program is supported by QCC STEP.

Content

The Financial Machine Learning with Python program covers the following three modules:

- Module 1: Python
- Module 2: Data Analysis
- Module 3: Machine Learning in Finance

Responsibilities

- Attending on-campus and online sessions.
- Completing lab assignments.
- Completing a research project

Eligibility

QCC STEP is a state-funded program for students in 7th through 12th grade. To meet the criteria of The NYS Education Department, you must be at least one of the following:

- An underrepresented minority - African American, Hispanic, or Native American
- Qualify for free or reduced school lunch based on income.

QCC STEP Application: https://qccuniversity.formstack.com/forms/step_application

NASA-CCNY: Center for Advanced Batteries for Space



Principal Investigators: Dr. Robert J. Messinger & Dr. Elizabeth Biddinger
City College of New York, CUNY
QCC Coordinator: Dr. Sharon Lall-Ramnarine
E-mail: slallramnarine@qcc.cuny.edu

The NASA-CCNY Center for Advanced Batteries for Space is recruiting talented undergraduates for an exciting summer internship.

The NASA-CCNY Center for Advanced Batteries for Space is a joint research and education center between The City College of New York, NASA's Jet Propulsion Lab, & regional universities that offers a collaborative research network in electrochemical energy storage & a multi-faceted student internship program. Our research objectives are to develop novel battery materials, chemistries, & prototypes that operate under the extreme conditions necessary to significantly enhance the scope & ambition of future NASA planetary science missions.

- This 10-week internship will run from June through August each year.
- Learn how to address the needs of batteries to operate in extreme conditions including making novel batteries and utilizing ionic liquid electrolytes.
- Work with a multi-disciplinary team of CCNY chemical engineering faculty, postdoctoral researchers, Ph.D. & undergraduate students, & collaborators.

Eligibility Requirements & Stipend:

- Minimum 3.0 G.P.A.
- Major in Chemical Engineering, Chemistry, Physics or a related discipline.
- Participants will receive a \$6,000 stipend.

****Students from under-represented groups are particularly encouraged to apply****

Interested? Submit your resume & unofficial transcript to SLallramnarine@qcc.cuny.edu by Feb. 14th.

NASA-CCNY Center for Advanced Batteries for Space Program Highlights 2023-2024



Left: 2022 & 2023 Intern, Elijah Bernard. Right: 2024 Intern, Martina Hove

Highlights

- **Elijah Bernard:** Obtained an Associate's in Science degree majoring in Science for Forensics in January 2024, and is now pursuing a Bachelor's degree at John Jay College of Criminal Justice.
- **Martina Hove:** Obtained an Associate's in Science degree in January 2024, and is now pursuing a Bachelor's degree in Chemical Engineering at the City College of New York.
- **Elijah Bernard** was selected as a **Jack Kent Cooke Semifinalist in 2023**.
- **Elijah Bernard** has been selected as a **2024 member of the Coca-Cola All New York Academic Team for the New York Region of Phi Theta Kappa**.

Recent Research Presentations

- **Elijah Bernard**, Michael Keating, Sharon Lall-Ramnarine and Elizabeth Biddinger, Development of Ionic Liquid & Solvate Ionic Liquid Electrolyte for low temperature Li-metal battery, CUNY Research Scholars Program Summer Symposium, La Guardia Community College, CUNY, July 2023. **Best Presentation Award**.
- **Elijah Bernard**, Dr. Sharon Lall-Ramnarine, Dr. Elizabeth Biddinger, Michael J. Keating, "Development of Ionic Liquid & Solvate Ionic Liquid Electrolytes for low temperature Li-metal batteries" to be presented at the 2023 American Chemical Society's Middle Atlantic Regional Meeting, The Graduate Center, CUNY, June 9, 2023.
- **Elijah Bernard**, Dr. Sharon Lall-Ramnarine, Dr. Elizabeth Biddinger, Michael J. Keating, "Development of Ionic Liquid & Solvate Ionic Liquid Electrolytes for low temperature Li-metal batteries" presented at 2023 CUNY-Wide Undergraduate Research Conference, Borough of Manhattan Community College, CUNY, May 31, 2023.
- **Elijah Bernard**, Dr. Sharon Lall-Ramnarine, Dr. Elizabeth Biddinger, Michael J. Keating, "Development of Ionic Liquid & Solvate Ionic Liquid Electrolytes for low temperature Li-metal batteries". Presented at the 70th Annual NY American Chemical Society's Undergraduate Research Symposium, La Guardia Community College. Oral Presentation: May 6, 2023.

Developing Next Generation Radiation Safety Professionals



Principal Investigators: Dr. Sharon Lall-Ramnarine & Dr. Paul Sideris
Program Coordinator: Jennifer Chabra

E-mail: slallramnarine@qcc.cuny.edu psideris@qcc.cuny.edu jchabra@qcc.cuny.edu

The Developing Next Generation Radiation Safety Professional Program (DNGRSP) is a Department of Energy funded Minority Serving Institution Partnership Program between Queensborough and Brookhaven National Laboratory (BNL). The goal of DNGRSP is to train eligible QCC students for Radiation Safety Technician positions through a certificate program that includes hands-on training and external research opportunities at BNL.



DNGRSP Program Highlights 2023 -2024



DNGRSP Scholars 2023-2024 Cohort:

Maha Almaflehi, Sumaiya Husain, Ahmed Tafsir, Ling Lan Chen, Daletsi Reyes, Pedrocia De-Sosoo, Thrisha Mae Lumor



Participated in National Chemistry Week 2023 at New York Hall of Science



Presented at Undergraduate Research & Creative Works Day 2023



All 6 students secured \$6,500 for 10-week summer 2024 internships at Brookhaven National Lab

Participated in one-week Mini-Semester winter program at BNL and accepted for 2024 summer internships

CUNY/OMH Mental Health Scholarship Program for Those Committed to Diversifying the Behavioral Health Workforce

Governor Hochul has given two million dollars to CUNY in an effort to diversify the mental health workforce with greater participation from underrepresented racial and ethnic groups. A diverse workforce results in greater patient/client satisfaction, engagement, and retention in care. At Queensborough, students who are in the PSYC AS program are encouraged to apply. Successful applicants will receive \$1,000 in the form of a research scholarship or a paid internship focused on topics related to mental health.

Requirements

1. Commitment to increasing the diversity of the behavioral health workforce in regard to those who are Hispanic (including Cuban, Mexican, Puerto Rican, Latinx and Spanish origin), African American/Black, American Indian/Alaskan Native, Native Hawaiian/Pacific Islander, Asian (including Indian subcontinent and Philippines origin) or from any other underrepresented group. And, commitment to diversity the workforce in regard to those who are multilingual.
2. Be a US Citizen or Permanent Resident
3. Be a resident of New York State
4. Be in good academic standing (2.5 cumulative grade point average or better)
5. Be enrolled as PSYC AS major
6. Maintain full time status.
7. Be at least a second-year undergraduate student (at least 30 earned credits).

Recent OMH Awardees

- **Sabreen Qaisar** (Faculty Mentor: Dr. J. Mulone)
- **Sean Nagapen** (Faculty Mentor: Dr. J. Mulone)
- **Shantal Edwards** (Faculty Mentor: Dr. A. Moody)

If you have any questions, email Dr. J. Jankowski at jjankowski@qcc.cuny.edu.

Special Highlight: Annual Juried Student Exhibition: JSE 24

The QCC Department of Art and Design and Art Gallery are pleased to present their annual collaboration on the Juried Student Exhibition: *JSE 24*. The exhibition will run from April 10th - May 31st, 2024. This year marks a record number of artists, and a broadened representation of contemporary media works in digital design. Traditional studio practices, drawing, painting, photography, sculpture, and ceramics, remain well represented; testimony to continued focus and excellence in foundational work. As in the past, this year's collection reflects commitment to a cohesive fine arts program and the consistent high standard of achievement reached by our young artists.

ARTISTS

Einstein Ady	Justin Elliott	Daelyn Perez
Meilyn Aleman	Keysi Espinosa	Marcus Pitters
Jahzelle Ashton	Brianna Evans	Madison Ponce
Dylan Avery	Thalia Fernandez	Huan Qin
Beyonce Beras	Natalie Flores Rosales	Enjoli Ramos
Devyani Bhan	Fabianna Fuentes Mosqueda	Yony Reyes
Benjamin Brown	Alicia Gonzales	Joshua Roldan
Charisse Callender	Helen He	Kate Sekowski
Kevin Campbell	Michelle Huh	Hanzi Shao
Laura Camila Puentes	Ajani Hunt	Prusoth Sivaparan
Joshua Canizares	Crystal Ian	Danny Sohl
Daniel Cardenas	Frankie Kelly	Jordan Tessier
Melissa Cardenas	Jaidén Kennedy	Kiyanni Thompson-Martin
Luna Carranza	Yubin Kim	Kimberly Torres
Feifei Chen	Jieun Lee	Jhoselyn Ulloa
Urian Cheon	Jeanette Manmohan	Khalil Vazquez
Jada Clouden	Jaskarn Mann	Sara Villanueva
Jigdrel Dhendrup	Monica Mones	Winni Wang
Willie Demyan	Nick Montanez	Sharon Whinston
Alexandra Denny	Maggie Muñoz	Yan Naing Win (Freddy)
Danielle Diaz	Taina Olivo	Qixing Zhang
Aryella Charles	Sophia Papoutsidis	Jonathan Zhinin
Michelle Escobar Maya	Ryeomi Park	

JSE
24

presented by
The Department of Art
and Design
and
The QCC Art Gallery

April 10th - May 31st

Curated by
A. Coffey &
Nathaniel Sullivan

Program

M-134 Moderators: Dr. Tarafdar (morning), Dr. Vragov & Prof. Akpinar(afternoon)

Presenter	Mentor	Department	Format	HIPS	ID
Guadalupe Mesa Ruiz	Adam Luedtke	Social Sciences	Presentation		SS-6
Rezan Akpinar		Health, Physical Education, and Dance	Presentation	GDL	PE-3
Parisa Assassi		Health, Physical Education, and Dance	Presentation	SWIG	PE-4
Parisa Assassi		Health, Physical Education, and Dance	Presentation	ASL	PE-5
Roumen Vragov Tanya Zhelezcheva		Business	Presentation	SWIG	BU-4
Yusuf Danisman		Mathematics and Computer Science	Other		MA-15
Huixin Wu		Engineering Technology	Other		ET-5

M-136 Moderators: Dr. Nelson & Dr. Sasa (morning), Dr. Koul & Prof. Rossi (afternoon)

Presenter	Mentor	Department	Format	HIPS	ID
Timothy Ho Michelle Velez	Randelle Sasa	Nursing	Presentation	UR	NU-1
Tony Tian Kalyn Lafaurie Victoria Seecharan Vashti Sukhram	Michelle Rossi	Nursing	Panel	UR	NU-2
Dwayne Brown Shanice Stewart Stephen Zhang Taynalee Ramsay Kasey Chung	Christine Pagano	Nursing	Presentation	CIE	NU-3
Eduard Aulov Madeline Sunday Cabuco Danielle Losee Ruth Campbell Guang Jing Lin	Barbara Rome	Nursing	Presentation	CIE	NU-4
DeAndre McGuire	Svjetlana Bukvich	Music	Presentation		MU-1
Ashar Malik	Andrew Nguyen	Biological Sciences and Geology	Presentation	UR	BG-1
Ali Amin	Sarbani Ghoshal	Biological Sciences and Geology	Presentation	UR	BG-2
Jalen Nicolas	Rondi Davies	Biological Sciences and Geology	Presentation		BG-3
Sharon Whinston	Andrew Nguyen	Biological Sciences and Geology	Presentation	UR	BG-4
Nadir Aslam	Regina Sullivan	Biological Sciences and Geology	Presentation		BG-5
Martin Angelo Virata	Sanjay Koul	Biological Sciences and Geology	Presentation	UR	BG-6

Presenter	Mentor	Department	Format	HIPS	ID
Maha Almaflehi Jiamiao Chen	Monica Trujillo	Biological Sciences and Geology	Other	UR	BG-7
Stephanie-Marie Flowers	Regina Sullivan David Sarno	Biological Sciences and Geology	Presentation	UR	BG-8
Fasmin Marikar Minjae Chung	Regina Sullivan Sarbani Ghoshal	Biological Sciences and Geology	Presentation	UR	BG-9
FNU Manisha	Sarbani Ghoshal	Biological Sciences and Geology	Presentation	UR	BG-10
Ali Amin	Regina Sullivan	Biological Sciences and Geology	Presentation		BG-11
Rennita Parbat Jesus Batista	Sarbani Ghoshal	Biological Sciences and Geology	Presentation	UR	BG-12
Jake Jacobo	Mangala Tawde	Biological Sciences and Geology	Presentation		BG-13

M-140 Moderators: Prof. Murolo & Prof. Moran (morning), Prof. Hollywood & Dr. Ikwueze

Presenter	Mentor	Department	Format	HIPS	ID
Yuxi Zhan	Kat Griefen Heather Dunn	Art and Design	Presentation	UR	AD-1
MD Rashedul Islam	Rex Taibu	Physics	Presentation	UR	PH-1
Isai Ortiz	Jillian Bellovary	Physics	Presentation		PH-2
Matthew Fennell	Jillian Bellovary	Physics	Presentation		PH-3
Borana Somen	Marisa Hollywood Laura Cohen	Kupferberg Holocaust Center	Presentation		*KHC-1
Guadalupe Mesa Ruiz	Marisa Hollywood	Kupferberg Holocaust Center	Presentation		*KHC-2
Alexia Wang	Marisa Hollywood	Kupferberg Holocaust Center	Presentation		*KHC-3
Maanvi Chittireddy	Marisa Hollywood	Kupferberg Holocaust Center	Presentation		*KHC-4
Margaux Patterson	Kat Griefen Heather Dunn	Art and Design	Presentation	UR	AD-2
Chiu Fu Chen	Chukwudi Ikwueze	Business	Presentation	WI	BU-1
Samander Rabbimov	Roumen Vragov	Business	Presentation		BU-2
Jade Aranda Paula Ververde Christopher Sanitate	Roumen Vragov	Business	Presentation		BU-3
Katherine Chen	Katherine Griefen Heather Dunn	Art and Design	Presentation	UR	AD-3
Kymari Patterson	Kat Griefen Heather Dunn	Art and Design	Presentation	UR	AD-4

M-142 Moderators: Dr. Bulawa & Prof. Long (morning), Dr. Singhroy & Dr. Stroumbakis (afternoon)

Presenter	Mentor	Department	Format	HIPS	ID
Shelby Brage	Susana Pinheiro	Mathematics and Computer Science	Presentation		MA-1
ShiYang Gou	Venessa Singhroy	Mathematics and Computer Science	Presentation		MA-2
Frank Desueza	Yusuf Danisman	Mathematics and Computer Science	Presentation		MA-3
Ziqi Yin	Howard Sporn	Mathematics and Computer Science	Presentation		MA-4
Shaman Mahmud	Wenjian Liu	Mathematics and Computer Science	Presentation	UR	MA-5
Mohab Hussein	Esmay Yildirim	Mathematics and Computer Science	Presentation	UR	MA-6
Stephanie Koester	Esmay Yildirim	Mathematics and Computer Science	Presentation	UR	MA-7
Zebin Zhang	Kostas Stroumbakis	Mathematics and Computer Science	Presentation	UR	MA-8
Dylan Soto	Yusuf Danisman	Mathematics and Computer Science	Presentation	UR	MA-9
Oscar Enamorado	Dugwon Seo Harold Gamarro (City College)	Engineering Technology	Presentation	UR	ET-1
Lei Han	Yusuf Danisman	Mathematics and Computer Science	Presentation	UR	MA-10
Shackeyb Baguaei	Yusuf Danisman	Mathematics and Computer Science	Presentation		MA-11
Emily Jiang	Yusuf Danisman	Mathematics and Computer Science	Presentation		MA-12
Yenny Chunchi	Venessa Singhroy	Mathematics and Computer Science	Presentation		MA-13
Carlos Corder	Huixin Wu	Engineering Technology	Presentation		ET-2
Hanfeng Zhang	Guozhen An	Engineering Technology	Presentation	UR	ET-3
David Cen Cen	Ousmane Sy Savane Dugwon Seo	Engineering Technology	Presentation	UR	ET-4
Tasnim Jannat	Yusuf Danisman	Mathematics and Computer Science	Presentation		MA-14

S-111 Moderators: Dr. Rost & Prof. Chabra (morning), Dr. Sideris & Dr. Sarno (afternoon)

Presenter	Mentor	Department	Format	HIPS	ID
Aubrie Cogan Nathally Sabater	Rezan Akpinar	Health, Physical Education, and Dance	Presentation	UR	PE-1
Luciana Dominique Cristiano Daniella Gribov	Rezan Akpinar	Health, Physical Education, and Dance	Presentation	CIE	PE-2
Eunji Ahn	Jun Shin	Chemistry	Presentation		CH-1
Martina Hove	Sharon Lall-Ramnarine	Chemistry	Presentation	UR	CH-2
Maha Almaflehi	Sharon Lall-Ramnarine	Chemistry	Presentation	UR	CH-3
Yen Yi Shak	David Sarno	Chemistry	Presentation	UR	CH-4
Daletsi Reyes	Sharon Lall-Ramnarine Paul Sideris	Chemistry	Presentation	UR	CH-5
Chloe Zhang	Zhou Zhou	Chemistry	Presentation	UR	CH-6
Pedrocia De-Sosoo	Sharon Lall-Ramnarine Paul Sideris	Chemistry	Presentation	UR	CH-7
Ahmed Tafsir	Sharon Lall-Ramnarine Paul Sideris	Chemistry	Presentation	UR	CH-8
Thrisha Mae Lumor	Sharon Lall-Ramnarine Paul Sideris	Chemistry	Presentation	UR	CH-9
Ieesha Ansar	Sharon Lall-Ramnarine	Chemistry	Presentation	UR	CH-10
Anna Liu	David Sarno	Chemistry	Presentation	UR	CH-11
Ricardo Madho	Sasan Karimi	Chemistry	Presentation	UR	CH-12
Sumaiya Husain	Sharon Lall-Ramnarine Paul Sideris	Chemistry	Presentation	UR	CH-13
Sila Zainab	Raul Armendariz	Health, Physical Education, and Dance	Presentation		PE-6

S-112 Moderators: Dr. Rothenberg & Dr. Li (morning), Dr. Mulone & Dr. Sanchez (afternoon)

Presenter	Mentor	Department	Format	HIPS	ID
Jeanette Manmohan	Julia Rothenberg	Social Sciences	Presentation	UR	SS-1
Adnan Aronno	Jacqueline Mulone	Social Sciences	Presentation		SS-2

Presenter	Mentor	Department	Format	HIPS	ID
Hajirah Begum	Patrick Byers Azadeh Aalai	Social Sciences	Presentation	UR	SS-3
Alyssa Schwartzberg	Anissa Moody	Social Sciences	Presentation	UR	SS-4
Rita Demaria-Aires	Anissa Moody	Social Sciences	Presentation	UR	SS-5
George Papandreu	Julia Rothenberg	Social Sciences	Presentation	UR	SS-7
Jessica Cruickshank	Qin Li	Social Sciences	Presentation		SS-8
Shantal Edwards	Dr. Jody Resko	Social Sciences	Presentation		SS-9
Victoria Cambi	Qin Li	Social Sciences	Presentation	UR	SS-10
Binsheng Yan	Rommel Robertson	Social Sciences	Presentation	UR	SS-11
Kira L. Wiederholtz Christen Williams	Patrick Byers	Social Sciences	Presentation	UR	SS-12
Micheal Johnston	Anissa Moody	Social Sciences	Presentation	UR	SS-13
Ariana Dominguez	Julia Rothenberg	Social Sciences	Creative Arts	UR	SS-14
Daniella Iskhakov	Rosalinda Macaluso	Social Sciences	Presentation		SS-15
Jaden-Raphael Kaase	Julia Rothenberg	Social Sciences	Presentation	UR	SS-16
Rebecca Esar	Jacqueline Mulone	Social Sciences	Presentation		SS-17
Devi Hulasie Michelle Polanco Syed Rashid Sajid Sajawal	Adrian Bordoni	Social Sciences	Presentation	ASL, CIE	SS-18
Davia Willis	Celia Sporer	Social Sciences	Presentation		SS-19
Shantal Edwards	Jacinth Burnside	Social Sciences	Presentation		SS-20

Abstracts

Art and Design

Location: M-140; HIPS: UR

ID: AD-1

AD-1

A STUDY OF 'THE BEACH OF FLOWERS' BY WENZHI ZHANG AT THE QCC ART GALLERY. Yuxi Zhan, Kat Griefen, and Heather Dunn. Art and Design Department.

For my presentation as part of ARTH 251 Art Curating in the Gallery & Museum Studies program, I will introduce a contemporary porcelain work, The Beach of Flowers, which was on view at the QCC Art Gallery. This work by Wenzhi Zhang was in the artist's exhibition of porcelains from the 'Suture' series. This series was created during the time of the pandemic and combines porcelain with traditional techniques, such as DaQi and Jinsha from a contemporary artistic perspective to address the artist's feelings about the weaknesses of human beings. Through Zhang's work, we can also get a sense of how the artist uses the fragility of porcelain as a contrast to the resilience of human beings when facing a difficult situation. I will present an interpretive label that could accompany this artwork in a museum setting, addressing the techniques used in this piece as well as the background and its significance. Specifically, I will introduce a traditional technique and philosophy for repairing ceramics using gold, 'imperfect restoration,' that is utilized by Zhang in this work.

Location: M-140; HIPS: UR

ID: AD-2

AD-2

SANDE WOMEN'S SOCIETY AND THE SOWEI HELMUT MASK IN THE QCC ART GALLERY COLLECTION. Margaux Patterson, Kat Griefen, and Heather Dunn. Art and Design Department.

For the Spring 2024 term ARTH 251 Art Curating course in the Gallery and Museum Studies program, I am researching a Soweï Helmut Mask in the QCC Art Gallery's permanent collection. This artifact holds significance within Sande Women society as a part of coming of age ceremonies. This particular mask from Sierra Leone is worn on the top of the head and is made out of wood, raffia, and pigment. For this presentation, I will be creating an object label and interpretive text that identifies this work. I will also explain how the artifact is to be cared for in a museum collection.

Location: M-140; HIPS: UR

ID: AD-3

AD-3

STUDY OF A SOWEI HELMET MASK FROM THE QCC ART GALLERY'S COLLECTION. Katherine Chen, Katherine Griefen, and Heather Dunn. Art and Design Department.

For the Spring 2024 term in ARTH 251 Art Curating, a course in the Gallery and Museum Studies program, I am conducting research regarding a Soweï Helmet mask. The mask is in the QCC Art Gallery's permanent collection. I will be creating an object label and interpretive text for this artifact. I will also address how to care for and how to exhibit the object. The Soweï helmet mask is a carved mask used in Sierra Leone by Sande women for a ceremony celebrating a child's transition into womanhood. It is made out of wood, pigment, and raffia.

Location: M-140; HIPS: UR
ID: AD-4
AD-4

STUDY OF A CAMEROONIAN NKPE EMBLEM FROM THE QCC ART GALLERY'S COLLECTION. Kymari Patterson, Kat Griefen, and Heather Dunn. Art and Design Department.

For the Spring 2024 term in ARTH 251 Art Curating, a course in the Gallery and Museum Studies program, I am conducting research regarding a Nkpe Emblem, a large shrine of animal skulls and other household objects from a Cameroonian tribe in Africa. This large piece is part of the QCC Art Gallery's permanent collection. I will be creating an object label and interpretive text addressing the origins of this artifact. I will address the meaning of the emblem to this African tribal culture in relation to other local cultures, and how objects of this kind would have been originally displayed. Made out of wood, basketry, vegetable fibers, skulls and horns, the Nkpe Emblem was created by the Ejagham people from southeast Nigeria and Southwest Cameroon. The emblem symbolizes a tribe's communal feasting for the celebration of the appointment of a new leader.

Biological Sciences and Geology

Location: M-136; HIPS: UR
ID: BG-1
BG-1

THE EFFECT OF TEA ON PRO-INFLAMMATORY CYTOKINE EXPRESSION. Ashar Malik and Andrew Nguyen. Biological Sciences and Geology Department.

Tea, the second most widely consumed beverage in the world after water, is traditionally made either by brewing tea leaves (*Camellia sinensis*) in actively boiling water or leaving them to steep in freshly boiled water. To examine the anti-inflammatory effects of tea, we used boiled tea extracts and tested them in the widely acceptable model whereby macrophage cell line (RAW264.7 cells) were stimulated with lipopolysaccharide (LPS) and lipoteichoic acid (LTA). The expression of pro-inflammatory cytokines such as tumor necrosis factor- α (TNF- α), interleukin (IL-6 and IL-1 β), and inducible form of cyclooxygenase-2 (COX-2) were analyzed using qPCR. The anti-inflammatory effect of tea extract was compared to aspirin as a control. Our preliminary experiments indicated

that pretreating RAW264.7 cells with green tea extract lowered the production of cytokines caused by the LPS and LTA stimulation suggesting that tea extracts have anti-inflammatory effects.

Location: M-136; HIPS: UR

ID: BG-2

BG-2

UNDERSTANDING GENETICALLY MODIFIED FOOD BY POLYMERASE CHAIN REACTION. Ali Amin and Sarbani Ghoshal. Biological Sciences and Geology Department.

Genetically modified (GM) product is the result of altering the DNA of that product by biotechnology and genetic engineering . The purpose of this gene alteration serves multiple purposes like increasing the quality, and quantity of the product, extended shelf-life, enhancing nutritional value, and providing resistance against pests. There is a large controversy surrounding the usage of GM. The aim of this study was to investigate the prevalence of genetic modification in commonly edible fruits and vegetables, especially those labeled as organic. We collected products from local markets and isolated the genomic DNA from those. Thereafter, a Polymerase Chain Reaction (PCR) analysis amplifying three specific gene segments, the chloroplast gene, CaMV 35S promoter, and cry1f was conducted. Detection of a PCR product for the chloroplast gene confirmed the food is a plant product and that the DNA isolation was successful. The presence of a band corresponding to the CaMV promoter indicated the introduction of a transgene, except in cruciferous vegetables. The detection of a cry1f band suggested the presence of an insecticidal transgene. This experiment was limited by the number of primers used, which in turn restricted the scope for identifying products concluded as non-GMO in our experiment. This research is crucial in a consumer-driven society where individuals seek transparency regarding GMO content in their food.

Location: M-136

ID: BG-3

BG-3

TRACE ELEMENTS OF LI ZIRCONS: CLUES TO THE PROVENANCES OF LI SEDIMENTS. Jalen Nicolas and Rondi Davies. Biological Sciences and Geology Department.

Long Island represents the terminus point of the Laurentide ice sheet after its southward expansion during the last glacial maximum, about 24,000-21,000 years ago. Deposition of sediment from continental source rocks left elevated topographical ridges along the length of the island, known as the Harbor Hill and Ronkonkoma moraines (Bennington, 2016; Balco and Shaefer, 2006; Balco et al., 2009). The basement rocks of New York State consist of an assortment of different terranes, derived from the Gondwanan and Laurentian landmasses. Given the different ages and types of rocks within these terranes, it should be possible to correlate sediments from Long Island to their corresponding source rocks and better estimate the direction glaciers moved. Sand-sized zircon grains were collected from four glacial deposits-Caumsett, Hither Hills, Huntington, and Greenport-along an 80-mile west to east transect and analyzed using Laser Ablation ICP-MS. The grains were analyzed for their concentrations of specific trace elements, including uranium,

phosphorus, niobium, and thorium. Proportions of these trace elements in relation to each other reflect the specific kinds of rocks in which these grains were formed (Belousova 2002). The provenance of certain grains remains elusive. Grains from Caumsett, Greenport and Hither Hills do not correspond to the ages of igneous or metamorphic events of nearby terranes. We currently posit that these grains come from the White Mountain batholith in northern New Hampshire, but this new round of trace element analyses serves as another clue in determining the origin of Long Island's sediment.

Location: M-136; HIPS: UR

ID: BG-4

BG-4

THE STAT3 DIFFERENTIALLY REGULATES TLR4-MEDIATED AND TLR2-MEDIATED INFLAMMATORY RESPONSES. Sharon Whinston and Andrew Nguyen. Biological Sciences and Geology Department.

Macrophages are important cells of the innate immunity. They play an important role in the early stage of infection by secreting cytokines to recruit immune cells to the inflammatory site. Macrophages have many pattern recognition receptors known as Toll-like Receptors (TLR's) on their surface allowing them to recognize a number of microorganisms. Activation of the Toll-like receptors on the surface of macrophages leads to the intracellular activation of the NF-kb signaling pathway, a well-known transcriptional factor important for proinflammatory cytokine production. Recent data have shown that the transcription factor, Signal Transducer and Activator of Transcription 3 (STAT3) is associated with the NF-kb downstream of TLR4 signaling. However, the roles of STAT3 and its association with NF-kb signaling pathway downstream of other TLR's is not well defined. Using macrophage cell line RAW264.7, we seek to evaluate proinflammatory cytokine production after stimulation them with lipopolysaccharides (LPS) acting on TLR4 and lipoteichoic acid (LTA) acting on TLR2. Proinflammatory cytokines, including tumor necrosis factor- α (TNF- α), interleukin-6 (IL-6), and cyclooxygenase-2 (COX-2) were measured using real time PCR (qPCR). Our preliminary data showed that macrophages with STAT3 deletion produce fewer proinflammatory cytokines when stimulated with LPS but the effect was not seen when the macrophages were stimulated with LTA. Our data suggest that LPS stimulation of RAW264.7 cell production of proinflammatory cytokines is STAT3-dependent while LTA stimulation of RAW264.7 cells production of proinflammatory cytokines is STAT3-independent.

Location: M-136

ID: BG-5

BG-5

THE EFFECTS OF NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS ON TELOMERASE REVERSE TRANSCRIPTASE. Nadir Aslam and Regina Sullivan. Biological Sciences and Geology Department.

Today, a diagnosis of HIV infection is no longer the death sentence it once was. HIV infection is easily treated by anti-retroviral therapy (ART), which has made it a manageable chronic condition.

The backbone of ART is a class of drugs called nucleoside reverse transcriptase inhibitors (NRTIs), which block viral reverse transcriptase during the viral replication process. While these medications are highly effective, they are not without their side effects, one of which is their possible role in premature aging and age-related disorders in people living with HIV (PLWH). An extensive literature review revealed the mechanisms by which NRTIs cause premature aging. NRTIs appear to interfere with telomerase reverse transcriptase (TERT). Telomerase reverse transcriptase is a subunit of telomerase, a ribonucleoprotein enzyme complex that adds nucleotides to the ends of telomeric regions. Treatments with NRTIs drive telomere shortening in humans. Telomeres are responsible for the stability and protection of chromosomes and keep the ends from binding with one another which can cause accidental DNA recombination. The shortening of telomeres drives cellular senescence and apoptosis which then leads to premature age-related problems such as cardiovascular disease, neurodegenerative disorders, and mitochondrial defects. Alternative drug therapies will be discussed.

Location: M-136; HIPS: UR

ID: BG-6

BG-6

SCREENING DIFFERENT DERIVATIVES OF GSTP1 INHIBITOR FOR IDENTIFICATION OF ANTIPROLIFERATIVE CANCER CELL ACTIVITY. Martin Angelo Virata and Sanjay Koul. Biological Sciences and Geology Department.

The efficacy of drugs used to treat cancer patients necessitates both the active search for novel therapeutic approaches and the cautious selection process of those active molecules based on rigorous testing through several phases on strict criteria. In experimental therapeutics determining the minimum drug Inhibitory concentration response in the cancer cells' sensitivity or resistance as compared to the normal cells is the first such criterion used in vitro. Here in this presentation, we show how different derivatives of GSTP1 original inhibitor were screened to identify the potential candidate using cell proliferation assay against the minimum drug inhibitory concentration that may be accepted as the dose response curve.

Location: M-136; HIPS: UR

ID: BG-7

BG-7

MICROBIAL DIVERSITY OF SELECTED NEW YORK WATERWAYS. Maha Almaflehi, Jiamiao Chen, and Monica Trujillo. Biological Sciences and Geology Department.

Water is a natural reservoir for microbes. NYC waterways are a combination of naturally occurring microbes, and microbes introduced by human activity. Thus, due to human activity, some of these microbes exist in the waterways that would otherwise not be found in the natural environment. Urbanization implies among other things, the existence of wastewater (runoff from the concrete used in city streets, waste from pets and non-native animals and chemicals such as fertilizers) that must be treated before being released. Due to NYC's combined sewer system, untreated wastewater under certain climate conditions is released into the waterways. This poses additional threats to

human and environmental health. Additionally, flooding events are predicted to be more frequent in NYC in the future due to erratic weather caused by climate change. We collected samples from thirteen different waterways in NYC. The samples are being analyzed for microbial diversity using cultured and uncultured methods. Cultured methods included plating samples in different media as the first step to obtain pure cultures and thereafter pure isolates will be identified and characterized using a combination of microscopic, metabolic, and molecular methods. For uncultured methods, total DNA was extracted from the water samples and Identification of microbes will be done using 16S rRNA analysis. The primary goal of this project is to have a preliminary assessment of the microbial diversity of the thirteen waterways. Additionally, we are interested in whether climate change induced wastewater release may have a significant effect on the health of our waterways.

Location: M-136; HIPS: UR

ID: BG-8

BG-8

INVESTIGATION OF HEAVY-METAL TOLERANT BACTERIA IN TREE BED SOIL SURROUNDING A LIC POWER PLANT. ¹Stephanie-Marie Flowers, ¹Regina Sullivan, and ²David Sarno. ¹Biological Sciences and Geology Department, ²Chemistry Department.

Studies have correlated the presence of heavy metals in soil near power plants and the subsequent deleterious effect on plant life. Research investigating the effect of heavy metals on the soil microbiome is lacking. We are investigating how the presence of heavy metals in soil influences the relative amounts of heavy metal tolerant bacteria for example *Pseudomonas Aeruginosa*. Soil samples were collected from tree beds near a power plant in Long Island City. This location was selected because of the high rates of asthma and other respiratory conditions in the surrounding area. The level of heavy metals in the selected soil samples was determined by energy dispersive spectroscopy (EDS). This detector is coupled to the scanning electron microscope (SEM) available in the QCC Chemistry Department, and is capable of measuring Pb, Cd, Cr, As, Cu, Zn, Ni and Fe and other elements heavier than beryllium while also providing high-resolution images. The most prevalent elements detected so far have been O, C, Al, Si, Fe, Ca, K, Na, Mg, P, and S. DNA was extracted from select soil samples. The Loop-mediated isothermal amplification (LAMP) assay using primers specific for *Pseudomonas Aeruginosa* outer-membrane lipoprotein gene was negative for the bacteria in our preliminary data. However optimal conditions for the assay are still being determined. Samples have also been prepared for DNA megabarcoding in collaboration with colleagues at City Tech. We are awaiting this data. When analyzed it should give us the relative amount of microorganisms present in each soil sample.

Location: M-136; HIPS: UR

ID: BG-9

BG-9

INVESTIGATION OF CYTOTOXIC EFFECTS OF THREE ARTIFICIAL SWEETENERS, SACCHARIN, ASPARTAME AND ACESULFAME K, ON HUMAN KIDNEY EMBRYONIC CELLS. Fasmin Marikar, Minjae Chung, Regina Sullivan, and Sarbani Ghoshal. Biological Sciences and Geology Department.

Artificial sweeteners, or sugar substitutes, are chemicals added to some foods and beverages to make them taste sweet without adding calories. These are widely used in the US and other parts of the world. Although these chemicals may provide some positive effects for weight control and blood sugar balance, several studies have provided evidence that Acesulfame potassium (AceK), Aspartame, and Saccharin, three of the most used sweeteners can have toxic effects on certain cell types. Our study was undertaken to investigate the effects of these three sweeteners on Human Embryonic Kidney cells (HEK293 cells). Our hypothesis is to find out the doses of Acesulfame potassium (AceK), Aspartame, and Saccharin which will significantly decrease the viability of HEK 293 in comparison to control treatments. Our experimental plan is to treat the HEK 293 cells with doses varying around the physiological dose of these sweeteners used in diet. Accordingly, we plan to use 200, 150, 100, 50, 25, 12.5mM concentrations of each artificial sweetener for 24, 48, and 72 hours. The MTT assay will be used to determine cytotoxicity. We expect to identify a dose range which causes death of HEK cells for each of these sweeteners. This study has immense public health significance, given that these three high intensity sweeteners are approved by Food and Drug Administration. Future studies will focus on investigating cell signaling pathways related to apoptosis and cytotoxicity.

Location: M-136; HIPS: UR
ID: BG-10
BG-10

INVESTIGATION OF ANTIMICROBIAL AND ANTICANCEROUS PROPERTIES OF A NOVEL POLYRHODANINE COPPER NANOCOMPOSITE. FNU Manisha and Sarbani Ghoshal. Biological Sciences and Geology Department.

INVESTIGATION OF ANTIMICROBIAL AND ANTICANCEROUS PROPERTIES OF A NOVEL POLYRHODANINE COPPER NANOCOMPOSITE. FNU Manisha¹, Nickayla Spence², Qiaxian Johnson³, Bhanu P Chauhan³, Moni Chauhan², Sarbani Ghoshal¹, ¹Department of Biological Sciences & Geology, Queensborough Community College of CUNY, ²Department of Chemistry, Queensborough Community College of CUNY, ³Department of Chemistry, William Patterson University, Wayne, NJ Rhodanine (Rh) monomer is a heterocyclic derivative from thiazolidine containing a 5-membered ring essential to humans' biological systems. Its derivatives are present in drugs used in antibiotics, antiviruses, antidiabetics, and antifungals. Rhodanine and its derivatives can prevent HIV-1 integrase, JSP-1 Phosphates, RNA polymerase, hepatitis C virus NS5B polymerase, and PMT1 mannosyl transferase. We hypothesize that the shape-controlled synthesis of Polyrhodanine will provide exciting opportunities for its use as an anticancer and an antimicrobial agent. We have synthesized Polyrhodanine in a single-step oxidation-reduction reaction. Subsequently, we investigated the antimicrobial properties by a broth dilution method. We also tested the compound in a human lung cancer cell line, namely A549, to measure cell viability by the colorimetric MTT (3-[4,5-dimethylthiazol-2-yl]-2,5 diphenyl tetrazolium bromide) assay. Our data shows that the compound was able to inhibit the growth of E.coli, thereby suggesting its potential as an antimicrobial agent. We also noted the viability of A549 cells decreasing in a dose-dependent manner with treatment concentrations from 0.01µM to 1µM compared to cells in the control DMSO-treated group. Future studies will focus on investigating the effect of the compound

in other cancer cell lines, as well as on a noncancerous cell line, to check the toxicity of the compound.

Location: M-136

ID: BG-11

BG-11

GENDER DIFFERENCES IN THE EFFECTIVENESS OF EPILEPSY MEDICATIONS. **Ali Amin** and Regina Sullivan. Biological Sciences and Geology Department.

Epilepsy affects approximately 65 million people worldwide. Various methods are used to treat epilepsy, including Vagus nerve stimulation (VNS), responsive neurostimulation (RNS), surgery, and medications. While approximately 20 medications control or suppress seizures completely, a thorough understanding of the types of epilepsy and medication used for treatment is crucial for patient progression. Various factors such as age, gender, and heredity play a role in how epileptic patients are affected and, consequently, treated. A review of the literature shows differences in how gender impacts epilepsy management. Levetiracetam is an anti-seizure medicine that has been administered to ~ 147,000 patients of ranging ages, gender, and heredity. Research has highlighted that there was a difference in patient progress of women compared to men respectively. In this presentation I will focus the proposed mechanisms of Levetiracetam and the observed gender differences in outcomes of treatment.

Location: M-136; HIPS: UR

ID: BG-12

BG-12

EXPRESSION AND PURIFICATION OF GREEN FLUORESCENT PROTEIN (GFP). **Rennita Parbat**, Jesus Batista, and Sarbani Ghoshal. Biological Sciences and Geology Department.

Genetic transformation is a process where a cell takes in a foreign piece of DNA and expresses a phenotype. The present research offers an outstanding demonstration of the Central Dogma of Molecular Biology, whereby a plasmid DNA was introduced to bacterial cells to express a particular gene and its corresponding protein thereby demonstrating a distinct phenotype. Green Fluorescent Protein (GFP) is responsible for the luminescence seen in jellyfish. By genetic engineering, a plasmid called pGLO, was created in which the GFP expression was brought under the control of an arabinose operon. In our experiment, E.coli cells were transformed with pGLO and grown on LB (Luria Bertani) plates containing ampicillin and arabinose. Visualization of green fluorescent colonies under UV light indicated successful transformation and expression of GFP. Thereafter, the newly synthesized GFP from the transformed E.coli was purified using Hydrophobic Interaction Chromatography (HIC) from amongst multiple other proteins in the bacteria. Our presentation will discuss in detail the step-by-step methodology of GFP gene expression with addition of arabinose and the purification of GFP using buffers of varying salt concentration. A firsthand observation of gene expression and protein purification resulted in a

deep understanding of the core concept of DNA to RNA to protein to trait, as indicated in the Central Dogma.

Location: M-136

ID: BG-13

BG-13

ANTIMICROBIAL RESISTANCE IN ENVIRONMENTAL MICROBES. Jake Jacobo and Mangala Tawde. Biological Sciences and Geology Department.

Antimicrobial properties of microbes isolated from diverse environments and their resistance towards commonly used antibiotics. Antibiotic resistance in infectious agents is a grave concern in clinical practice since more and more bacterial pathogens are becoming resistant to commonly used antibiotics. One of the major mechanisms of antibiotic resistance is acquisition of resistance genes by pathogens encoding antimicrobial products or alteration of antibiotic targets. Though the acquisition process of resistance genes is not well understood, environmental microbes, including the species producing antimicrobial compounds, are believed to be important sources of resistance transfer amongst species. Antibiotic producing bacteria harbor resistance elements for self-protection that are often grouped with genes coding for antibiotics. Soil and waterbodies could thus serve as an under-recognized reservoir for antimicrobial resistance in clinically important pathogens as well as microbes with potential for producing novel antimicrobial compounds. Hence, an understanding of antibiotic resistance frequencies as well as new mechanisms of resistance in environmental microbes is critical. We collected soil samples from local NY regions such as botanical gardens, superfund sites at Newtown Creek, public parks etc. to explore new soil bacteria. We have successfully isolated some soil Actinomycetes and non-actinomycetes bacteria. We have further characterized these bacteria and have tested their potential for antimicrobial production.

Business

Location: M-140; HIPS: WI

ID: BU-1

BU-1

UTILIZING ECONOMIC THEORIES IN PRACTICE: THE CASE OF PLANET FITNESS. Chiu Fu Chen and Chukwudi Ikwueze. Business Department.

Textbooks teach us that certain theories, methods, and strategies of consideration can significantly enhance business operations and boost revenue. However, the complexity of the real business world often obscures the direct impact of economic theories and may cause the efficacy to not seem apparent to students. The primary objective of this paper is to utilize data from the company Planet Fitness as a real-world example to demonstrate that economic theories are applicable and practical. In 2021, the minimum cost that must be paid to the franchisor and affiliate to begin a Planet Fitness facility was \$64,000, whereas the cost in 2022 was \$54,000. What was the reasoning behind the business to decrease its cost? What outcome had the business experienced due to this business decision? Most importantly, what can we confirm and learn from the case of Planet Fitness?

Location: M-140
ID: BU-2
BU-2

LEVERAGING AI TOOLS FOR SMALL BUSINESS GROWTH: A COMPARATIVE ANALYSIS OF ALTERNATIVES. Samander Rabbimov and Roumen Vragov. Business Department.

This study investigates the potential impact of artificial intelligence (AI) tools on small businesses, aiming to show how AI can elevate their operations and competitiveness in the market. The study conducts a comparative analysis of the emerging platforms DALL·E-2, Otter Ai, & Lumen 5 to discern their efficacy and suitability for small business integration. By synthesizing empirical data gathered from online interviews, this research projects conducts a systematic comparison of the three platforms and thus provides valuable insights into the practical implementation of AI in small business settings. The study discusses recommendations and best practices for maximizing the benefits of AI technology while addressing potential challenges and limitations. The project also offers introductory tutorials for any small business owner that might like to implement any of the three AI technologies mentioned above in one's own business.

Location: M-140
ID: BU-3
BU-3

EXPLORING THE FEATURES OF A NEW GYM THROUGH MARKETING DATA ANALYTICS TOOLS. Jade Aranda, Paula Ververde, Christopher Sanitate, and Roumen Vragov. Business Department.

Creating a business plan for a new gym is a research-intensive process that requires gathering and analysis of business data from multiple sources. In this project we apply several Marketing Data Analytics tools to help us decide on some important characteristics of a new gym. Specifically, we plan to find datasets that contain information about area demographics and competition, extract and visualize relevant variables, and explain how the data can be used to determine some important aspects of our business plan.

Location: M-134; HIPS: SWIG
ID: BU-4
BU-4

DESIGNING & IMPLEMENTING ARGUMENT MAPS IN THE VISUAL BASIC PROGRAMMING ENVIRONMENT BASED ON USER FEEDBACK. ¹Roumen Vragov and ²Tanya Zhelezcheva. ¹Business Department, ²English Department.

During the Spring 2023 Semester we conducted a SWIG project. Students from an English 102 class and a Computer Information Systems 152 class worked together to design a computer application that can help one build an argument map. The classes did not meet on the same days, so

all interaction happened through an asynchronous discussion board. Students from both classes were divided in groups so that each group contained some students from the English class and some students from the Computer Information Systems class. The English students had to explain to the CIS students what an argument map is and also provide a list of features they would like to see implemented in a computer application. The CIS students designed a preliminary version of the application and solicited feedback from the English students. The CIS students were then required to incorporate the feedback they received into a new version of the application. The purpose of this presentation is to discuss the challenges encountered and provide evidence of student engagement.

Chemistry

Location: S-111

ID: CH-1

CH-1

DETERMINATION OF THE REFRACTIVE INDEX OF SODIUM THIOCYANATE BY THE EXTENSION METHOD. EUNJI AHN and JUN SHIN. Chemistry Department.

The extension method, which was developed based on the observation of a good linear relationship between the percent mass of solution (solid solute and liquid solvent mixture) and its refractive index, has been used to determine the refractive index of solid compounds such as fatty acids, organic and ionic compounds. In the system, a plot of refractive index vs percent mass was obtained in low concentration ranges (0 - 60% or less), and the line of the linear plot was extrapolated to 100% mass (i.e. pure solid) where the refractive index of the solid was calculated. The extension method has been further applied to measure the refractive index of sodium thiocyanate (NaSCN) because it showed good solubility in water and some alcohols such as methanol and ethylene glycol. In the investigation, a linear plot was obtained as expected between the % mass of sodium thiocyanate in a solvent and its refractive index, and a first order linear equation was calculated based on the plot. By applying 100 to the % mass variable (100% mass means pure solute, the solid sodium thiocyanate) of the linear equation obtained, the refractive index of sodium thiocyanate was indirectly determined in the solvent. Based on the data measured in methanol solution of sodium thiocyanate, a linear equation (e.g. $y=0.002324x + 1.327490$) was obtained, then a value of 100% was applied to get the refractive index of sodium thiocyanate in methanol, which was 1.560. After two more trials, 1.561(2) was determined as the refractive index of sodium thiocyanate in methanol (Lit. Value: 1.545).

Location: S-111; HIPS: UR

ID: CH-2

CH-2

DESIGNING IONIC LIQUID MIXTURES FOR IMPROVED LI-METAL BATTERY ELECTROLYTES. Martina Hove and Sharon Lall-Ramnarine. Chemistry Department.

The development of Lithium-ion batteries as energy storage devices, for everyday electronics such as cellphones and computers, has proved to be useful in technology-dependent environments.

However, safety concerns related to these batteries, such as their high flammability and limited energy density, restrict their potential for further enhancement. Lithium metal batteries with non-flammable electrolytes are promising replacements for Li-ion batteries with improved energy density. By designing electrolytes that are non-flammable, enhance Solid Electrolyte Interface (SEI) formation and promote uniform Li^+ deposition, these safety concerns can be reduced. Ionic Liquids (ILs), are salts that melt below $100\text{ }^\circ\text{C}$. They exhibit attractive properties like non-flammability and high conductivity for electrolytes in Lithium-metal batteries. These properties can be readily tuned by modifying the anion or cation in the IL, thereby significantly impacting the overall characteristics of the IL electrolyte. This research focuses on developing ionic liquid-based electrolytes by creating ether-ionic liquid: glyme: lithium bis(trifluoromethylsulfonyl)imide mixtures. We report here on the synthesis and characterization of various ether-functionalized pyrrolidinium cations, with symmetric (FSI^- , BETI^-) and asymmetric ($\text{IM}_{1,0}$ and $\text{IM}_{1,4}$) fluorinated anions. Preliminary results for Pyrrolidinium bis(trifluoromethylsulfonyl)imide ILs indicate that ether substituted mixtures produce trends related to the length of the ether chain present in the IL and the composition of the $[\text{O}]/[\text{Li}]$ ratio.

Location: S-111; HIPS: UR
ID: CH-3
CH-3

DEUTERIUM LABELLED IMIDAZOLIUM IONIC LIQUIDS. Maha Almaflehi and Sharon Lall-Ramnarine. Chemistry Department.

Ionic liquids (ILs) are low melting salts with attractive properties as alternative solvents to traditional volatile and hazardous organic solvents. However, to fully exploit the remarkable properties of ionic liquids for practical applications, knowledge of the intra- and inter-ionic interactions that manifest as useful bulk physical properties like viscosity and conductivity, is much needed. Deuterium labeling of specific parts of the IL structure allow the probing of interactions in specific regions using Nuclear Magnetic Resonance (NMR) spectroscopy and other techniques. In this project, a family of deuterium labelled-imidazolium ionic liquids were synthesized. The length of the cation side chains varied from 4 to 8 carbon atoms and selected protons on the imidazolium ring and side chains were replaced by deuterium. The cations were paired with bis(fluorosulfonyl)imide (FSI) and bis(trifluoromethylsulfonyl)imide (NTf_2) anions. The structures of the ILs and percent deuteration were confirmed using H-1, C-13 and F-19 NMR spectroscopy. Preliminary results reveal successful deuteration of the imidazolium ring protons. The outcomes of this study are expected to make important contributions to the understanding of ionic liquid structure.

Location: S-111; HIPS: UR
ID: CH-4
CH-4

ENCAPSULATION AND TRIGGERED RELEASE OF FLUORESC EIN FROM POROUS POLYMER MICROSPHERES. Yen Yi Shak and David Sarno. Chemistry Department.

Porous polymer capsules are of interest for loading, transport, and delivery of a variety of payloads. These include systems for drug delivery and medical imaging, and materials with self-healing and anticorrosion properties. We have developed a simple water-in-oil-in-water (W/O/W) double emulsion method that produces porous microspheres of poly(o-toluidine) (POT). Our goal is to determine if a payload can be encapsulated during sphere formation and subsequently released. Fluorescein (FL) was chosen as a model payload because it is easily detected under UV light. After POT/FL capsules were prepared, surface fluorescein was removed by centrifugation in NH_4OH then water, and samples were kept in dispersion or filtered and dried. No fluorescence was observed under UV light; however, they fluoresced brightly after brief sonication in water or NH_4OH , indicating release of the payload, which was confirmed by UV-Vis spectroscopy. SEM images show these capsules were degraded by sonication. Increasing concentration of FL during sphere formation resulted in qualitatively brighter fluorescence after sonication. Unsonicated samples began to fluoresce over time, suggesting the slow migration of FL from the interior. Our results suggest the immediate release of a payload can be mechanically triggered, whereas it is slowly released when left undisturbed. More broadly, our W/O/W approach shows promise as a simple method for producing functional porous polymer capsules. We plan to test a range of polymer/payload ratios, and also to determine if molecular weight of the payload plays a role in its encapsulation or release.

Location: S-111; HIPS: UR

ID: CH-5

CH-5

USE OF PERMANGANATE TO MODEL THE INTERACTION OF PERTECHNETATE AND MG/AL LAYERED DOUBLE HYDROXIDES IN AQUEOUS SOLUTIONS. Daletsi Reyes, Sharon Lall-Ramnarine, and Paul Sideris. Chemistry Department.

^{99}Tc is a long-lived fission product of ^{235}U or ^{239}Pu that primarily exists in the form of the pertechnetate ion, $^{99}\text{TcO}_4^-$, in aqueous solutions. The removal or immobilization of pertechnetate from the nuclear waste stream or contaminated sites is of great interest. Mg/Al layered double hydroxides (LDHs) are a class of anion-exchange materials that are being investigated for the removal of pertechnetate. In this work, Mg/Al LDHs containing various amounts of Al were synthesized and used in anion exchange experiments involving permanganate (MnO_4^-), a model anion for pertechnetate. The as-synthesized and ion-exchanged LDH samples were investigated using Fourier-transform infrared (FTIR) spectroscopy, scanning electron microscopy (SEM), and energy-dispersive X-ray spectroscopy (EDS). Preliminary results indicate that permanganate was incorporated into all the LDH samples.

Location: S-111; HIPS: UR

ID: CH-6

CH-6

SYNTHESIS OF 1,3,5,7-CYCLOOCTATETRAENE DERIVATIVES AS TRIPLET STATE QUENCHERS TO BE COUPLED WITH CYANINE DYES. Chloe Zhang and Zhou Zhou. Chemistry Department.

Cyanine dyes are one of the most widely studied organic fluorophores as imaging probes in medical and biological science owing to their photophysical properties and structural variety. One of the strategies to improve the brightness and lifespan of the cyanine dyes is to covalently couple triplet state quenchers (TSQs) to the dye molecules. TSQs are small molecules that can shorten the triplet state life time of cyanine dyes. According to the results that were published on Proceedings of the National Academy of Sciences (PNAS) in 2020, the triplet state energy of cyclooctatetraene can be "tuned". By adjusting the substituents attached to the 1,3,5,7-Cyclooctatetraene (COT) ring, the resulting compounds would be more efficient in the triplet state quenching of specific cyanine dye species. In my presentation, I will report my work on expanding the TSQ arsenal by installing another electron withdrawing group onto the COT ring. Given the fact that 4-(carbomethoxy)cubane-1-carboxylic acid is commercially available, a ring-opening reaction produced a COT with two electron withdrawing groups in one step. Since the two sidechain groups have different reactivities, the free acid group was coupled with taurine to further improve its hydrophilicity. The ester group was hydrolyzed back to carboxylic acid first and then activated to an NHS ester group, so the COT derivative could be coupled onto the amino group on the cyanine dyes.

Location: S-111; HIPS: UR
ID: CH-7
CH-7

REMOVAL OF CHROMATE FROM AQUEOUS SOLUTIONS USING MG/AL LAYERED DOUBLE HYDROXIDES. Pedrocia De-Sosoo, Sharon Lall-Ramnarine, and Paul Sideris. Chemistry Department.

Mg/Al layered double hydroxides (LDHs) are composed of sheets of close-packed, edge-sharing magnesium and aluminum hydroxide octahedra stacked along the crystallographic c axis with exchangeable anions in the interlayer regions. In this work, nitrate-containing Mg/Al LDHs with various aluminum content were synthesized and subsequently used in a series of anion exchange experiments involving aqueous solutions of potassium chromate. The amount of chromate removed from the solutions by the LDHs was estimated using UV-Vis spectroscopy. The pristine and chromate-exchanged samples were investigated using Fourier-transform infrared (FTIR) spectroscopy, scanning electron microscopy (SEM), and energy-dispersive X-ray spectroscopy (EDS). Preliminary results suggest the successful intercalation of chromate in all the LDH samples.

Location: S-111; HIPS: UR
ID: CH-8
CH-8

RADIOACTIVITY IN POPULAR CAT LITTER BRANDS. Ahmed Tafsir, Sharon Lall-Ramnarine, and Paul Sideris. Chemistry Department.

A common absorbent in cat litter is a clay called bentonite. Clays and minerals can include radioisotopes that contribute to terrestrial radiation - a source of natural background radiation. In this project, a handheld Geiger counter was used to measure the radiation, in counts per minute, for

several commercially available cat litter products. Elemental analysis was performed on each sample using energy-dispersive X-ray spectroscopy (EDS) to identify signals attributed to bentonite. The net, i.e. background-corrected, counts per minute ranged from 4 to 58 for the samples tested. The sample with the lowest net counts per minute, a plant-based litter - sWheat Scoop, did not contain characteristic peaks associated with bentonite. This project is based upon work supported by the NNSA Minority Serving Institutions Partnership Program under Award No. NA0004162. Any opinions, findings, and conclusions or recommendations expressed in this project are those of the authors and do not necessarily reflect the views of the DOE, NNSA, or the U.S. Government.

Location: S-111; HIPS: UR
ID: CH-9
CH-9

RADIOACTIVITY IN CONSUMER PRODUCTS. Thrisha Mae Lumor, Sharon Lall-Ramnarine, and Paul Sideris. Chemistry Department.

Background radiation is a natural and constant source of ionization radiation emitted from our environment, including a variety of objects commonly found in our homes. In this project, a handheld Geiger counter was used to measure the amount of radiation, in counts per minute, from several commercial products such as: sodium-free salt, fertilizer, bananas, Vaseline glass, wristwatches, a smoke detector, thoriated welding rods, and gas lantern mantles. For select objects, a Teledyne Flir Identifinder 2 was used to identify the radioisotope. The Identifinder confirmed the presence of U-238, Th-232, and Am-241 in the Vaseline glass, lantern mantle, and smoke detector respectively. This project is based upon work supported by the NNSA Minority Serving Institutions Partnership Program under Award No. NA0004162. Any opinions, findings, and conclusions or recommendations expressed in this project are those of the authors and do not necessarily reflect the views of the DOE, NNSA, or the U.S. Government.

Location: S-111; HIPS: UR
ID: CH-10
CH-10

PROBING THE NANOSTRUCTURE OF HYDROXYL - FUNCTIONALIZED IONIC LIQUIDS. Ieesha Ansar and Sharon Lall Ramnarine. Chemistry Department.

Owing to their remarkable tunable properties, ionic liquids have been employed as alternative solvents in a myriad of processes to afford improvements in reaction yields, separations, efficient production and storage of energy, and access to previously inaccessible chemistry. Yet, to realize their full potential there is still much to uncover about the interactions in their nanostructure that give rise to bulk physical properties. Techniques such as X-ray scattering and Molecular Dynamics simulations provide a reasonable picture but still involve some assumptions. In this project, ionic liquids capable of hydrogen-bonding interactions are being synthesized to explore their nanostructure using Solid State Nuclear Magnetic Resonance (NMR) Spectroscopy as a tool. We report here on the synthesis of ionic liquids comprised of imidazolium cations bearing hydroxyl and

alkyl side chains of varied lengths coupled with bis(trifluoromethylsulfonyl)imide and bis(fluorosulfonyl)imide anions. The structures of the ILs were confirmed using H-1, C-13 and F-19 NMR spectroscopy. Preliminary results indicate that solvent-free reactions are advantageous in the synthesis of the ILs bearing hydroxyl terminated side chain.

Location: S-111; HIPS: UR

ID: CH-11

CH-11

POLYANILINE AS AN ADSORBENT FOR THE REMOVAL OF METAL CATIONS FROM AQUEOUS SOLUTION. Anna Liu and David Sarno. Chemistry Department.

Polyaniline (PANI) is a widely used conductive polymer with a variety of applications. This includes remediation of wastewater as the amine groups on the polymer backbone are reported to bind to certain metal cations. High surface area morphologies such as nanofibers can provide more active sites to interact with the ions; however, the PANI particles could pollute the systems in which they are deployed. To avoid such contamination, we confined dispersions of PANI nanofibers to dialysis tubing. Samples of the neutral emeraldine base form of the polymer (PANI-EB) were immersed in aqueous solutions of 0.01 M copper (II) sulfate and gently stirred for increasing periods of time. FTIR spectra of the polymer are broadened or shifted, indicating specific interactions between PANI and the copper ion. Energy dispersive spectroscopy (EDS) data indicates the presence of copper in the adsorbent. The greatest percent by mass of copper was observed when samples were simply filtered and dried in air. Less copper was present after washing with water because CuSO_4 adsorbed onto the polymer surface was washed away. Virtually no copper was observed after washing with 1 M HCl. We hypothesize that by protonating PANI, the resulting positive charge on the polymer repels the metal ions bound to the amine groups. This result suggests a method to reclaim the polymer for reuse. The viability of PANI-EB dispersions as adsorbents for Cu^{2+} and other cations will be determined over a range of concentrations via SEM, EDS, and FTIR.

Location: S-111; HIPS: UR

ID: CH-12

CH-12

NMR STUDY AND SYNTHESIS TOWARDS ATROPISOMERIC BENZAZEPINES. Ricardo Madho and Sasan Karimi. Chemistry Department.

The purpose of this research is to synthesize series of benzazepine (BZP) analogues that have a slow rate of interconversion at room temperature to allow separation of atropisomers. We have successfully made two BZPs, Cyclohexyl and cycloheptyl BZP that have the slowest interconversion of conformational enantiomers compared With the other BZP synthesized to date. Comparison of the proton NMR of the two compounds will be discussed.

Location: S-111; HIPS: UR
ID: CH-13
CH-13

MODELLING THE SEPARATION OF MIXED METAL RADIOISOTOPES ON A DOWEX ION EXCHANGE RESIN. Sumaiya Husain, Sharon Lall-Ramnarine, and Paul Sideris. Chemistry Department.

Radioisotopes are naturally decaying atoms that have a wide range of applications in nuclear medicine for the diagnosis and treatment of medical conditions. Radioisotopes like Actinium-225 are important for targeted alpha therapy in the treatment of malignant tumors. These isotopes can be produced by generators or particle accelerators. However, they almost always need to be separated from other decay products. Being able to separate radioisotopes of interest can be a roadblock for their use. We report here on the chromatographic separations of a mixture of Nickel(II), Iron(III) and Cobalt(II) ions on a Dowex ion exchange resin column. The mobile phase was varied to determine conditions for optimum separation. Ultra-Violet Visible spectroscopy was used to identify and quantify the separation products. Preliminary results indicate that 0.1M to 6M HCl is useful for separating Ni(II) and Iron(III).

Engineering Technology

Location: M-142; HIPS: UR
ID: ET-1
ET-1

LEVERAGING HIGH-RESOLUTION URBAN CANOPY DATASETS IN NEW YORK CITY FOR ENHANCED WEATHER PREDICTION. ¹Oscar Enamorado, ¹Dugwon Seo, and ²Harold Gamarro. ¹Engineering Technology Department, ²City College.

In urban environments like New York City, there is an intrinsic link between the city's atmosphere and its structural composition. Accurately representing the interplay between the atmosphere and its urban surroundings is crucial for understanding pressing issues such as air pollution and energy consumption. Recently, datasets with high-resolution, sub-meter scale have been developed, capturing the three-dimensional complexities of urban form. These datasets hold the potential for a more precise representation of local characteristics, yet their practical implementation in numerical weather prediction models has been restricted due to limited availability and the necessity for specialized processing. In this study, we address these challenges by creating a detailed Urban Canopy Parameter (UCP) dataset tailored for New York City. Our approach utilizes the Primary Land Use Tax Lot Output (PLUTO) database, which provides data on building characteristics at the plot level within NYC. The variables selected for this project mathematically quantify the characteristics of specific areas in New York City. Our objective is to incorporate computational fluid dynamics to quantify and visualize airflow around buildings. This is done by using a parametrized version of the values we obtain and comparing it to our real-world data. This could further help classify areas based on how air circulates in certain locations. Our work could adopt a similar mapping strategy by assigning a range of values for each classification.

Location: M-142
ID: ET-2
ET-2

SMART OXIMETER. Carlos Corder and Huixin Wu. Engineering Technology Department.

This research proposes the development of a smart oximeter designed to address the blood oxygen monitoring needs of individuals, particularly those susceptible to complications. This innovative device leverages Bluetooth technology for seamless smartphone application integration. The application facilitates user control over two distinct operational modes: default and customizable. The default mode employs pre-established thresholds for oxygen saturation based on user-specific characteristics like age, gender, and medical history. Upon detection of oxygen levels falling below these estimated safe ranges, the device triggers an alarm. If left unacknowledged, the system automatically sends a text notification to a designated emergency contact. Further escalation involves sending an alert to emergency services for persistent critical oxygen levels. In contrast, the customizable mode caters to scenarios where a healthcare professional prescribes specific oxygen level requirements. The device monitors user oxygen levels against this doctor-defined threshold. Depending on user configuration within the application, the system activates pre-selected emergency protocols in response to alarming deviations. To ensure optimal accuracy in both modes, the project will involve data acquisition from diverse databases containing information on blood oxygen levels and corresponding individual characteristics. This comprehensive dataset will be utilized for device calibration, enabling personalized monitoring for each user. Subsequent analysis will assess the device's effectiveness in achieving its intended purpose. The potential impact of this smart oximeter is considerable, especially in the context of recent global public health concerns. Considering the heightened vulnerability of elderly individuals and those with cardiovascular conditions, this proactive approach to monitoring oxygen level fluctuations holds promise in preventing critical situations and potentially saving lives.

Location: M-142; HIPS: UR
ID: ET-3
ET-3

PERSONALITY RECOGNITION USING BIG FIVE MODEL. Hanfeng Zhang and Guozhen An. Engineering Technology Department.

Personality, a complex interplay of traits, significantly influences human behavior, cognition, and emotions. Psychologists have developed various assessment methods, with the Myers-Briggs Type Indicator (MBTI) and the Big Five model being prominent examples. MBTI categorizes individuals into 16 types based on preferences in four dimensions: Thinking/Feeling, Intuition/Sensing, Judging/Perceiving, and Extroversion/Introversion. The Big Five model, on the other hand, identifies five core dimensions: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. This research proposes a novel approach for Big Five personality trait recognition utilizing machine learning algorithms and features extracted from text data using the Linguistic Inquiry and Word Count (LIWC) tool. LIWC provides a rich set of features that capture various aspects of language use, potentially reflecting underlying personality traits. We explore the

effectiveness of these LIWC features in conjunction with different machine learning algorithms to accurately classify individuals based on their Big Five personality profiles. This study holds significant implications for various fields. By enabling automated personality assessment from text data, it can contribute to areas like personnel selection, user behavior analysis, and mental health screening.

Location: M-142; HIPS: UR

ID: ET-4

ET-4

MONITORING CHLORINE RESIDUAL AND OTHER QUALITY PARAMETERS OF WATER FROM INTERNAL PLUMBING SYSTEM BY SEASON AND WATER DEMAND. David Cen Cen, Ousmane Sy Savane, and Dugwon Seo. Engineering Technology Department.

The chlorine residual present in the water used for human consumption prevents microorganisms, bacteria, and other pathogens from contaminating the water as the chlorine residual provides an extra layer of protection. The Surface Water Treatment Rule (SWTR), from the USEPA (United States Environmental Protection Agency), requires that a detectable level of chlorine must be present in the water to disinfect it and prevent any possible recontamination that could potentially put at risk the consumer's health by diseases like dysentery or salmonella. The chlorine residual in the distribution water is significantly affected by the bulk water and the distribution system condition. High water temperature, low water consumption-induced stagnation, and aging main distribution system have resulted in a significant loss of chlorine residual in the distribution water (Savane et al, 2019). This research focuses on evaluating the effects of the previously stated parameters on the internal plumbing water chlorine residual for a high occupancy institution, which operates on a seasonal basis as a school, and calculating based on probabilities, by using Bayes' theorem, which parameter contributes the most to the chlorine depletion. Water samples are collected two times per week throughout the seasons from different sampling points with different levels of water consumption within the institution. Water samples are then analyzed for temperature using HQ40D with a temperature probe, and chlorine residual levels using a Colorimeter (HACH DR900), which accurately measures levels of chlorine present in the collected water samples. A detectable level of chlorine, as stated in the Surface Water Treatment Rule, in the water will prevent potential diseases and illnesses caused by the growth of microorganisms as chlorine acts as a disinfectant while also keeping the water safe for human consumption.

Location: M-134

ID: ET-5

ET-5

DIVE INTO JAVASCRIPT. Huixin Wu. Engineering Technology Department.

This Open Educational Resource (OER) is designed to provide comprehensive guidance for mastering full-stack web development with JavaScript. Emphasizing the essential skills required to construct, manage, and administer websites using JavaScript and its frameworks, the material is

organized into five distinct modules: JavaScript Basics: Covering fundamental concepts and syntax of JavaScript programming; JavaScript and DOM Interaction: Exploring interaction with the Document Object Model (DOM) using JavaScript; JavaScript Framework: ReactJS: Delving into the ReactJS framework for building dynamic user interfaces; Client and Server Model using NodeJS: Understanding the client-server architecture using NodeJS for server-side scripting; NoSQL Database using MongoDB: Introducing NoSQL databases, with a focus on MongoDB for data storage. Each module comprises four sessions of learning materials, accompanied by hands-on lab activities. The learning materials are provided in downloadable PDF and Word document formats, supplemented by instructional videos created by the OER author and sourced from reputable YouTube channels. The lab activities are integrated strategically throughout the learning process, reinforcing concepts learned in every two sessions. Each lab activity includes detailed instructions, procedures, and illustrative videos to aid comprehension. Furthermore, each module culminates in a project section, aimed at assessing students' ability to apply acquired knowledge to real-world scenarios. Projects are designed to challenge students to synthesize concepts covered in the module, with clear instructions, grading rubrics, and samples of previous student work provided for reference. This OER offers a comprehensive pathway for learners to master JavaScript-based full-stack web development, combining theoretical understanding with practical application through structured learning materials, engaging lab activities, and hands-on projects.

Health, Physical Education, and Dance

Location: S-111; HIPS: UR

ID: PE-1

PE-1

PUBLIC PERCEPTION OF MASSAGE THERAPY: SURVEY ON MASSAGE THERAPY AWARENESS. Aubrie Cogan, Nathally Sabater, and Rezan Akpinar. Health, Physical Education, and Dance Department.

As students of the Foundation class of Massage Therapy, we dove into a research assignment geared towards gauging awareness of massage therapy within our communities through surveys. Our main goal? To get a deeper understanding of how our community perceives massage therapy. Throughout this assignment on survey-based research, we worked on our research skills, by developing survey, including formulating research questions, designing and executing surveys, and analyzing survey data to extract meaningful insights. This hands-on experience provided us with invaluable practical knowledge that will benefit us in our future practices in the field of massage therapy. We are excited to share our findings with the audience through a PowerPoint presentation. This presentation will highlight the significance of our research in contributing to the advancement of massage therapy awareness and practice.

Location: S-111; HIPS: CIE

ID: PE-2

PE-2

EXPLORING TRAUMA THROUGH TRADITIONAL CHINESE MEDICINE. Luciana Dominique Cristiano, Daniella Gribov, and Rezan Akpinar. Health, Physical Education, and Dance Department.

In the Common Read Project, we read the "Lessons in Chemistry" by Gormus Bonnie, exploring themes of resilience, trauma, and personal growth. We took on the challenge of examining trauma through the lens of Traditional Chinese Medicine (TCM), delving into its effects on the body's holistic well-being. This interdisciplinary approach helped us not only understand the book's characters and narratives better but also see how mental, emotional, and physical health are interconnected. By blending TCM principles into our analysis, we brought diverse perspectives together, sparking deeper conversations about the complexities of human experiences.

Location: M-134; HIPS: GDL
ID: PE-3
PE-3

ROLE OF IMPLICIT BIAS IN HEALTH CARE DISPARITIES. Rezan Akpinar and ²Julia Rothenberg. ¹Health, Physical Education, and Dance Department, ²Social Sciences Department.

The Global Diversity Learning Reflection assignment guided students in understanding health and healthcare disparities, emphasizing the influence of social determinants on healthcare outcomes. By exploring geographic disparities and confronting implicit bias in healthcare, students gained insights into systemic factors shaping access and quality of care. The integration of the Project Implicit test heightened self-awareness and sparked dialogue on biases, leading to critical reflection and discussions on addressing inequalities. Through collaborative engagement, participants deepened their understanding of health disparities and implicit bias, empowering them to advocate for equitable healthcare access and delivery.

Location: M-134; HIPS: SWIG
ID: PE-4
PE-4

BRIDGING BOUNDARIES: INTERDISCIPLINARY GROUP PROJECTS IN PUBLIC HEALTH AND NURSING THROUGH INTERPROFESSIONAL EDUCATION. Parisa Assassi and Rezan Akpinar. Health, Physical Education, and Dance Department.

Title: Bridging Boundaries: Interdisciplinary Group Projects in Public Health and Nursing through Interprofessional Education"Parisa Assassi and Dr. Susan Ricket Presenter: Parisa Assassi, DrPHDepartment of Health Physical Education and DanceWe conducted a collaborative project between the nursing students and public health students. Interprofessional Education (IPE) was implemented through Students Working in Interdisciplinary Groups (SWIG) in public health and nursing courses. The IPE Grand Rounds Simulation Events were held at the QCC Nursing Simulation Lab. Participants included one to two student representatives from various HHS disciplines, such as nursing, public health, nutrition, and physician assistants across different campuses. Both events were thoughtfully live-streamed via Zoom to engage a wider audience of

CUNY HHS students while welcoming unlimited in-person attendance by HHS students and faculty at the QCC. These events were not just about promoting interprofessional collaboration within a simulated clinical setting. They were about fostering cooperation and mutual learning among students, building a robust foundation for future interprofessional collaboration. These experiences enhance students' confidence, enabling them to confidently apply the knowledge they learn through the course content in real-world settings. Also, these activities enhance critical thinking and problem-solving skills, bridging the gap between academic knowledge and real-world challenges. The project's student-centered approach empowered participants to take ownership of their education, promoting active participation, self-direction, and effective communication within healthcare teams and with their peers. In conclusion, these collaborative activities between departments and colleges have proven to be instrumental in facilitating transformative learning experiences for students.

Location: M-134; HIPS: ASL

ID: PE-5

PE-5

ACADEMIC SERVICE LEARNING- TOOL FOR PUBLIC HEALTH EDUCATION. Parisa Assassi. Health, Physical Education, and Dance Department.

Background: Academic Service Learning (ASL) is a powerful pedagogical tool that allows students to develop critical thinking, problem-solving, and personal and interpersonal development. In November 2022, the coordinator of Parson Community After-School Center reached out to our department (HPED) to propose a partnership with Queensborough Community College (QCC). We decided to implement ASL projects in one of our public health courses. Our shared goal was to improve the knowledge and attitudes of middle school students. Methods: We conducted a pilot study and needs assessment to assess the project's feasibility and practicality and the community's needs in spring 2023. In the fall of 2023, we implemented ASL in our course. Students were divided into five groups, and each group developed a health educational module. Students conducted a nutrition education session at the center for 6- 8 grade students. Pre and post-surveys were administered. Students wrote a reflection paper to share their experiences. Results: The ASL project had a profound impact on our students. It enhanced their understanding of the course content and boosted their confidence in applying this knowledge in real-life situations, instilling in them a sense of personal growth and achievement. The experience helped them identify the needs of their communities and become willing volunteers in the future. The ASL enabled them to better understand the role of public health and develop skills to work as a team and be effective communicators.

Location: S-111

ID: PE-6

PE-6

UNVEILING THE INTRICACIES: EXPLORING BLOOD PRESSURE DYNAMICS FOR OPTIMAL CARDIOVASCULAR HEALTH. Sila Zainab and ²Raul Armendariz. ¹Health, Physical Education, and Dance Department, ²Physics Department.

In today's world, where health is a top priority, understanding the dynamics of blood pressure is very important. This project dives deep into the complexities of blood pressure, and focuses on understanding and managing blood pressure for improved cardiovascular health. With an emphasis on practicality and relevance, this project not only explains the importance of regular blood pressure monitoring but also equips individuals with the knowledge and tools necessary for proactive health management. Vernier educational equipment was used to measure and track blood pressure rates; the human physiology equipment allows students to make vital signs measurements and graph the results. This effort is part of a program to develop material for a medical physics course and provide health-science students insight into the physics processes in the human body.

Kupferberg Holocaust Center

Location: M-140

ID: *KHC-1

*KHC-1

KHC EXHIBITION RESEARCH - JEWS IN TUNISIA. Borana Somen, Marisa Hollywood, and Laura Cohen. Kupferberg Holocaust Center.

In this presentation, KHC Administrative Coordinator Borana Somen shares the experiences of Jews in Tunisia prior to, during, and following World War II. Somen discusses the antisemitic legislation introduced to the region and the relationship between antisemitism and racism, specifically asking how the two systems informed and upheld each other. The research produced by this project provides insight into a piece of history that is not often at the center of Holocaust discourse and highlights the interdependency of various forms of hate and prejudice.

Location: M-140

ID: *KHC-2

*KHC-2

KHC EXHIBITION RESEARCH - SPANISH SURVIVORS & VICTIMS OF THE HOLOCAUST. Guadalupe Mesa Ruiz and Marisa Hollywood. Kupferberg Holocaust Center.

In this presentation, KHC Student Intern Guadalupe Mesa Ruiz discusses Spanish survivors of the Holocaust and how some Spaniards ended up in concentration camps. She will discuss how this group helped bringing awareness to Nazi crimes. Ruiz presents research that was inspired by an image displayed in the KHC's original exhibition, "The Concentration Camps: Inside the Nazi System of Incarceration and Genocide." Ruiz will also reflect on being a Visitor Services intern during the Spring 2024 semester.

Location: M-140

ID: *KHC-3

*KHC-3

KHC EXHIBITION RESEARCH - MONETARY SYSTEMS DURING THE HOLOCAUST: CURRENCIES IN CAMPS AND GHETTOS. Alexia Wang and Marisa Hollywood. Kupferberg Holocaust Center.

In this presentation, Alexia Wang, a Curatorial Fellow at KHC, delves into her research on the monetary systems during the Holocaust, specifically examining the currencies utilized in camps and ghettos. Across nearly thirty locations, the Nazi administration and its collaborators wielded these currencies as instruments of exclusion, exploitation, and dehumanization. Through a deliberate approach to examining imagery and facilitating group discussions, the presentation seeks to prompt critical reflection on how these currencies functioned as tools of control within the harsh economic reality of Nazi rule.

Location: M-140

ID: *KHC-4

*KHC-4

KHC EXHIBITION RESEARCH - MEDICAL EXPERIMENTS DURING THE HOLOCAUST. Maanvi Chittireddy and Marisa Hollywood. Kupferberg Holocaust Center.

In this presentation, KHC Student Intern Maanvi Chittireddy examines the roles that Nazi scientists and doctors played in the unethical medical experiments they performed during the Holocaust, and the influence that the Nuremberg Trials had on contemporary medical principles. Chittireddy presents research that provides a better understanding of the KHC's original exhibition, "The Concentration Camps: Inside the Nazi System of Incarceration and Genocide," specifically section "4c: Medical Experiments." Chittireddy will also reflect on being a Visitor Services intern during the Spring 2024 semester.

Mathematics and Computer Science

Location: M-142

ID: MA-1

MA-1

WORTH A SHOT? A MATHEMATICAL MODEL FOR DUAL VACCINATION. Shelby Brage and Susana Pinheiro. Mathematics and Computer Science Department.

The summer of 2023 saw a 21.6% increase in weekly COVID-19 hospitalizations nationwide, yet again stretching hospitals beyond their capacities and sparking natural fears around future outbreaks. Two pathogens circulating simultaneously and spreading so easily through the air is cause for alarm; surges in hospitalizations from SARS-CoV-2 and influenza infections take valuable resources away from critically ill patients who need them. While vaccines are one of the tools available to protect against severe outcomes, staggering gaps still exist in the research around vaccination against SARS-CoV-2 (the virus that causes COVID-19), and its impact as it circulates amongst other seasonal respiratory viruses like influenza. The aim of this work is to understand the interaction between two such diseases for which vaccination is available. To this end, we adapt an SIR model to include two co-circulating pathogens with vaccination. We start by finding the basic

reproduction numbers for the two co-circulating pathogens, using the next generation method, and then use numerical simulations to explore the multiple equilibria of such system and the corresponding stability.

Location: M-142

ID: MA-2

MA-2

UNVEILING INSIGHTS THROUGH DATA ANALYSIS: EXPLORING THE ASSOCIATION BETWEEN ALCOHOL USE AND PHYSICAL VIOLENCE AMONG ADOLESCENTS. ShiYang Gou and Venessa Singhroy. Mathematics and Computer Science Department.

Adolescence, a critical developmental stage, often involves encounters with alcohol due to peer pressure and societal norms. Extensive research indicates a robust association between alcohol use and physical violence among adolescents. Factors contributing to this linkage include impaired judgment, reduced inhibitions, and increased aggression associated with alcohol intoxication. Moreover, environmental influences such as family dynamics and exposure to community violence significantly shape adolescent behavior. The consequences of alcohol-related violence can be severe, leading to injuries, academic difficulties, and involvement with the criminal justice system. Consequently, prevention and intervention efforts are crucial. Effective strategies entail early education on the risks of alcohol use, promotion of positive coping mechanisms, and creation of supportive environments that discourage alcohol consumption and violent behavior. Multifaceted interventions targeting individual and environmental factors are essential to address this complex issue. In this symposium, a literature review of peer-reviewed studies examining the association between alcohol use and physical violence among adolescents will be presented. The review will highlight general variables identified in these studies, laying the groundwork for proposed data analysis using the first wave of the Adolescent Health Study (ADDHEALTH), which includes a representative U.S. sample of adolescents in grades 7 through 12. Ultimately, policymakers, educators, healthcare professionals, and community leaders must collaborate to develop comprehensive approaches prioritizing the well-being of adolescents. By understanding the underlying contributors to alcohol-related violence and implementing evidence-based interventions, stakeholders can work towards creating safer environments for adolescents and fostering their healthy development. Addressing the association between alcohol use and physical violence is imperative for promoting the health, safety, and overall well-being of adolescents.

Location: M-142

ID: MA-3

MA-3

THE EFFECTS OF TECHNICAL INDICATORS ON THE PREDICTION OF STOCK PRICES. Frank Desueza and Yusuf Danisman. Mathematics and Computer Science Department.

Investors use technical indicators to conduct technical analysis, comprehend stock price behavior, and gain insight into potential patterns within stock data. Hence, technical indicators are used to

determine the entry and exit timing for trades. Therefore, technical indicators can also be regarded as features within input data for machine learning models used in predicting future stock prices or directions. In [Alzaman], the author used only four technical indicators: Moving Average, Exponential Moving Average, Moving Average Convergence Divergence, and Relative Strength Index. The literature encompasses numerous technical indicators, such as Percentage Price Oscillator, Stochastic Oscillator, Standard Deviation, On-Balance Volume, and Williams Percentage Change, which can also be used as features in input data. In this project, multiple sets of technical indicators alongside their lagged data will be used as features of the input data, and their impact on the performance of the LSTM models built in [Alzaman] will be observed. [Alzaman], Alzaman C., Forecasting and optimization stock predictions: Varying asset profile, time window, and hyperparameter factors, *Systems and Soft Computing*, 5, 2023.

Location: M-142

ID: MA-4

MA-4

SUMS OF INVERTED TRIANGLES IN HOSOYA'S TRIANGLE. Ziqi Yin and Howard Sporn. Mathematics and Computer Science Department.

Hosoya's Triangle is a triangular numerical array, similar to Pascal's Triangle, that uses Fibonacci numbers in its construction. In this project, we attempted to find a general formula for the sums of elements of inverted equilateral triangles within Hosoya's Triangle. We will present our progress and the proofs of the formulas we obtained.

Location: M-142; HIPS: UR

ID: MA-5

MA-5

PROBABILITY CONCENTRATION BOUNDS AND APPLICATIONS. Shaman Mahmud and Wenjian Liu. Mathematics and Computer Science Department.

The functions of large numbers of random variables tend to behave more predictably than their randomness suggests. It is well known from the laws of large numbers that the average of many independent random variables is asymptotically the expected value, while central limit theorem and large deviations techniques gives the asymptotic rate. Concentration analysis, a topic of intensive research in the last decades in a variety of areas, allows us to estimate how a random variable, under certain conditions, is distributed near its mean with high probability. In this project we are interested in sharper estimates for the deviation probability from the average or typical value. Then we will show how these inequalities are used in various areas of statistics, electrical engineering, information theory, and computer science like algorithms, networks, and machine learning.

Location: M-142; HIPS: UR

ID: MA-6

MA-6

NETWORK-AWARE LOAD BALANCING FOR CLOUD STORAGE SYSTEMS USING TIME SERIES FORECASTING MODELS. Mohab Hussein and Esma Yildirim. Mathematics and Computer Science Department.

Load balancing services are one of the fundamental services offered by cloud providers to minimize the imbalance between multiple servers to improve system throughput or to reduce response time. A load balancing policy tries to route incoming requests from clients to the best server possible to improve the reliability and availability of a service. In the case of cloud storage systems, multiple copies of data can reside in different storage servers and applying the correct policy to select the best replica for a data transfer request is a challenging problem, especially without causing an imbalance in the system and with the constant changes in cloud network traffic conditions. The commonly used algorithms for the load balancing problems are round-robin, weighted round-robin, least connection, weighted least connection and active monitoring algorithms. Weighted schemes are more suitable for heterogeneous or geographically distributed servers with different latencies, however deciding these weights is a challenging problem. In this project, we design a data collection and prediction system based on multi-variate time series data and neural network models. Multiple parallel data transfers were conducted between Amazon Web Services (AWS) S3 cloud storage systems and EC2 compute clients and metric data was collected regarding the storage servers such as data transfer rate and latency using AWS CloudWatch monitoring service. The collected multi-variate time series data was stored in a NoSQL database service AWS DynamoDB. We designed a multi-step neural network model to predict the throughput and latency of future transfers for all storage servers. Our preliminary results show that we can predict data transfer rate and latency with an average mean absolute error of 3 and mean percentage error of 17%. The predicted values will then be used to rank the storage servers (assign them weights) to design a dynamic and efficient load balancing algorithm.

Location: M-142; HIPS: UR
ID: MA-7
MA-7

POSITIVE AND NEGATIVE MOOD DETECTION USING SENTIMENT ANALYSIS ON LITERARY WORK OF MIDDLE GRADE STUDENTS. Stephanie Koester and Esma Yildirim. Mathematics and Computer Science Department.

Sentiment analysis aims to identify text that contains sentiment, identify what the sentiment is and determine the overall polarity (negative or positive) of the text. It has many application areas such as social network analysis, opinion mining, and even detection of psychological illnesses like depression. Studies show that the best type of written text to analyze for detection of positive and negative mood is informal texts. In this project, we do sentiment analysis on a dataset that is scraped from a public web blog written by middle grade students. The dataset includes informal texts like essays, stories, poems, and fairy tales in Turkish. Although sentiment analysis has been done before on literary work written for children, to the best of our knowledge, it has never been done on literary work written by children. Therefore, the results of this research is invaluable for the research community as well as school counselors. In this project, we use a bottom-up machine

learning approach where algorithms learn to recognize sentiment by looking at example texts that have already been classified, while iteratively adjusting parameter values such that the algorithm's output matches the predetermined classification. Our dataset is labeled by a psychology professor to indicate the existence of 5 emotions (anger, fear, disgust, sadness, and joy). We use text representation techniques such as bag-of-words, tf-idf, and word2vector to transform input texts into an acceptable format for neural network models. Our preliminary results show that we can predict the existence of these 5 emotions with an average of 67% accuracy, 70% precision, and 77% recall using a multi-layer perceptron model with bag-of-words representation technique on the Turkish lemma dataset.

Location: M-142; HIPS: UR
ID: MA-8
MA-8

MENTAL HEALTH AND PHYSICAL CONDITION: EXPLORING ADD HEALTH DATA. Zebin Zhang and Kostas Stroumbakis. Mathematics and Computer Science Department.

This project uses publicly available data (N=5104) to explore relations between mental health and physical condition. Data were provided by the National Longitudinal Study of Adolescent, (Add Health), WAVE IV. Through secondary statistical research we look for relationships between young adults (mid 20's to early 30's) reported mental health (e.g. outlook, isolation, depression) and their reported physical condition (e.g. ADHD, ADD, use headache powders, high blood sugar or diabetes). We expect significantly strong associations between reported mental health and reported physical condition.

Location: M-142; HIPS: UR
ID: MA-9
MA-9

HYPERPARAMETER OPTIMIZATION FOR PREDICTING STOCK MARKET BEHAVIOR. Dylan Soto and Yusuf Danisman. Mathematics and Computer Science Department.

According to the Efficient Market and Random Walk hypotheses, stock prices cannot be predicted. Nevertheless, advancements in machine learning theory and rise in computational power have led to numerous studies demonstrating the predictability of stock market behavior. In a recently published paper [Alzaman], LSTM, which is a neural network model capable of handling time series, is used to predict the future values of stock prices and directions. Predictive machine learning algorithms select a function from a specific set of functions to map input values to output values. Hyperparameters are used to expand or limit the size of the function set. This can be crucial to prevent memorization and enhance learning or generalization. In [Alzaman], a genetic algorithm, based on genetics and natural selection, is utilized to determine the optimal hyperparameter values. This project will employ and compare various hyperparameter tuning methods including grid search, Bayesian optimization, and hyperband, against the genetic algorithm. [Alzaman], Alzaman C., Forecasting and optimization stock predictions: Varying asset profile, time window, and hyperparameter factors, Systems and Soft Computing, 5, 2023.

Location: M-142; HIPS: UR
ID: MA-10
MA-10

FORECASTING AND OPTIMIZATION OF S&P 500 COMPONENT STOCKS. Lei Han and Yusuf Danisman. Mathematics and Computer Science Department.

Machine learning has been employed across diverse fields to build predictive models. While predicting stock prices or their directions is challenging due to their nature, numerous studies have demonstrated success in building effective models using machine learning algorithms and tools. In [Alzaman], historical data from the stocks traded in Toronto Stock Exchange (TSE) is used to train machine learning models and predict future values or directions. It is important to assess if the methods employed in this paper can be used to build effective predictive models for stocks traded on various stock exchanges. S&P 500, a stock market index encompassing 503 common stocks issued by the largest 500 companies in the US, serves as the focus in this work. This project involves building predictive machine learning models for S&P 500 stocks and comparing their performance against models built using stocks from the TSE. [Alzaman], Alzaman C., Forecasting and optimization stock predictions: Varying asset profile, time window, and hyperparameter factors, Systems and Soft Computing, 5, 2023. Supported by an NSF-based UCTDAAS grant.

Location: M-142
ID: MA-11
MA-11

COMPARING THE PERFORMANCE OF CLASSICAL MACHINE LEARNING MODELS WITH LSTM IN PREDICTING STOCK PRICES. Shackeyb Baguaei and Yusuf Danisman. Mathematics and Computer Science Department.

Predicting the behavior of the stock market is highly challenging due to the volatility. Therefore, a range of machine learning algorithms and tools have been used to build successful predictive models based on stock data. These algorithms select the best-fitting model from a specific set of functions, for the given input-output data. In [Alzaman], LSTM, a neural network model capable of handling time series, is utilized to predict the future stock price values. In this project, classical machine learning algorithms including linear, tree-based, and ensemble models, will be built, and their performances will be compared with the performance of the LSTM models built in [Alzaman]. [Alzaman], Alzaman C., Forecasting and optimization stock predictions: Varying asset profile, time window, and hyperparameter factors, Systems and Soft Computing, 5, 2023.

Location: M-142
ID: MA-12
MA-12

BUILDING PREDICTIVE MACHINE LEARNING MODELS FROM THE RESULTS OF EXPLORATORY DATA ANALYSIS OF STOCK DATA USING PYTHON. Emily Jiang and Yusuf Danisman. Mathematics and Computer Science Department.

The purpose of this project was to uncover hidden structures, anomalies, and correlations within historical data of various stock prices using Exploratory Data Analysis (EDA). During the data preparation phase, historical stock price data were retrieved via the Yahoo Finance API. Descriptive statistics, imputation, correlations, moving averages, and visualization techniques were employed for analysis. The findings confirmed my hypothesis that there are patterns in the data, at least during certain periods for some stocks. There is a significant impact of economic events on stock prices, including mortgage crises and COVID shutdowns. Additionally, using moving averages with various time windows can assist in predicting the direction of future prices. These findings lead us to believe that EDA can yield valuable insights for investors in selecting stocks that can be predicted. We also discovered that some stocks exhibit high volatility, making them risky investments, while others exhibit trends during specific time periods. Classical machine learning algorithms, including tree-based models, were employed to construct predictive models. This was done using the results of EDA to select features for input.

Location: M-142

ID: MA-13

MA-13

ANALYZING THE IMPACT OF INITIATION AGE ON SMOKING CESSATION: INSIGHTS FROM DATA ANALYSIS. Yenny Chunchi and Venessa Singhroy. Mathematics and Computer Science Department.

In recent years, studies have demonstrated a robust association between the age at which teenagers initiate smoking and the age at which they cease smoking. Individuals who begin smoking at a young age are more likely to continue smoking into adulthood and face challenges in quitting. Adolescents who start smoking early smoke more frequently and heavily than those who start later. This early initiation is linked to long-term health issues such as cancer, heart disease, stroke, lung diseases, and diabetes. Presented will be a literature review of peer-reviewed studies examining the relationship between the initiation and cessation ages of smoking among teenagers. It will highlight general variables identified in these studies, setting the stage for a data analysis using the first wave of the Adolescent Health Study (ADDHEALTH), comprising a representative U.S. sample of adolescents in grades 7 through 12. Notably, the age at which teenagers initiate smoking plays a pivotal role in addiction management. Those who start smoking after 18 are more likely to quit successfully and access support resources such as programs or rehabilitation. Peer pressure and the desire to fit in often drive teenagers to start smoking at ages ranging from 12 to 18, with initiation before 18 correlating strongly with addiction. The Global Youth Tobacco survey, encompassing 99,728 teenagers aged 13-15, provides crucial insights into smoking initiation ages. From the survey responses, initiation ages were categorized and analyzed, revealing trends that further underscore the importance of initiation age in smoking behavior. Understanding these dynamics through data analysis is essential for developing targeted interventions and prevention strategies. By elucidating the link between initiation age and cessation outcomes, stakeholders can design effective programs to reduce smoking prevalence among teenagers and improve long-term health outcomes.

Location: M-142
ID: MA-14
MA-14

BUILDING PREDICTIVE MACHINE LEARNING MODELS WITH HIGHLY CORRELATED STOCKS IN THE S&P 500 USING PYTHON. Tasnim Jannat and Yusuf Danisman. Mathematics and Computer Science Department.

The aim of this study was to find out the existence of highly correlated stock pairs within the S&P 500 index, with potential implications for investment decision-making. In the data preparation phase, historical stock price data was retrieved via the Yahoo Finance API, and the closing prices for each stock were stored in a data frame. Subsequently, Pearson's correlation coefficients were computed for each pair of stocks to quantify the strength of linear relationship. The findings confirmed the hypothesis, revealing pairs with correlation coefficients exceeding 0.98 and falling below -0.96. This observation supports the existence of stock pairs exhibiting high correlation. Visualization via scatterplots and line plots further corroborated these results. The analysis underscores the presence of stock pairs that exhibit similar behavior, despite the multitude of variables influencing stock prices. These findings hold potential implications for investment strategies, offering insights that may inform buy/sell signals. Classical machine learning algorithms, including tree-based models, were employed to construct predictive models. This was done using the correlation information to select features for input

Location: M-134
ID: MA-15
MA-15

PYTHON IN PLAIN TERMS. Yusuf Danisman. Mathematics and Computer Science Department.

OER Book: Python in Plain Terms, <https://datasmp.github.io/cover.html>. Python in Plain Terms is an online OER book designed to teach Python concepts in simple language, accessible to individuals from diverse backgrounds. By the end of this book, readers will be proficient in understanding and writing medium-sized Python code. The book features a dedicated section on using Google Colaboratory for Python coding, although the provided code can be utilized in any major Python editor. Google Colaboratory offers accessibility benefits, requiring no installation and enabling code writing and storage on Google Drive. Additionally, it facilitates code sharing and collaborative work. Each chapter covers a Python topic, accompanied by optional items for readers to skip if deemed too detailed. However, it's essential for readers to write and execute all code themselves, enhancing comprehension. Debugging, output, coding, and exercise questions tailored for different proficiency levels are also included, enriching the learning journey.

Music

Location: M-136
ID: MU-1
MU-1

THE YEAR OF THE DRAGON. DeAndre McGuire and Svjetlana Bukvich. Music Department.

The purpose of the project was to score a soundtrack to a visual in the form of an abstract animation accompanied with electroacoustic sound. Logic Pro audio software was used to execute the project. The student, DeAndre McGuire, edited a standard MIDI file provided by the professor and assigned patches (sounds) to the tracks. The editing of MIDI data employed copying, pitch shifting, cutting, pasting, quantization and velocity attenuation. DeAndre then added original MIDI and audio components to the piece utilizing basic concepts in sound synthesis along with track automation, emulating a sound effects score with orchestra. In addition to plug-in automation, the Master Fader's Pan, Delays, Volume, and Pitch bend were also automated. The project showcases how the application of live plug-in track automation can dictate the dramaturgy of a soundtrack and make it hyper responsive to an abstract visual. Additionally, the project demonstrates an understanding of the architecture of electronic keyboards, and of fundamental concepts related to computer systems, digital audio, MIDI, sound synthesis, sound effects processing, and mixing. This project was created as part of spring 2024 Music Production's MP-102 Digital Music Sequencing course.

Nursing

Location: M-136; HIPS: UR

ID: NU-1

NU-1

INCENTIVE SPIROMETRY REVISITED: DOES IT REDUCE POSTOPERATIVE PULMONARY COMPLICATIONS? A LIMITED LITERATURE REVIEW. Timothy Ho, Michelle Velez, and Randelle Sasa. Nursing Department.

Incentive spirometry (IS) pertains to the practice of deep breathing using a device that measures the volume of inhaled air. IS has long been a mainstay of in-hospital care, especially for its purported utility in preventing postoperative pulmonary complications (PPCs) such as atelectasis, hypoxia, and pneumonia. However, several authors have questioned the utility of IS, citing the lack of high-quality studies that demonstrate its efficacy in reducing PPCs compared to other respiratory care modalities, or no intervention at all. This led the proponents to conduct a limited literature review, with the aim of answering the following question: "Does incentive spirometry reduce postoperative pulmonary complications?" The journal articles reviewed were peer-reviewed studies written in English from 2017 to 2024. Article selection was based on relevance. Eight articles were included in this review. The studies varied in terms of patient population, surgical procedures, type of PPCs observed, and delivery of IS intervention. The evidence in this review is conflicting. Studies that delivered IS as part of a care bundle tended to show evidence of efficacy of IS in reducing PPCs. Most studies reviewed were single-site randomized controlled trials with single- or no blinding, thus indicating a need for higher quality studies.

Location: M-136; HIPS: UR

ID: NU-2

NU-2

CORE TEMPERATURES AS A PRIMARY TOOL FOR THE IDENTIFICATION OF THE SEPTIC PATIENT. Tony Tian, Kalyn Lafaurie, Victoria Seecharan, Vashti Sukhram, and Michelle Rossi. Nursing Department.

The students and faculty member researched core temperature and its necessary standardized use in identifying septic we reviewed that Policies and procedures vary from institution to institution throughout NYC and Long Island hospitals. Thus, leading to no one universal concrete rule to acquire a temperature. The need for standardization of core temperatures is essential. There are several variables that increase the risk of misdiagnosing or failure to implement immediate lifesaving intervention specifically in the setting of sepsis. This is heightened when a health care provider inadequately ascertains a temperature via the Axillary, tympanic, sublingual route. This contributes to negative health outcomes that could hinder fluid resuscitation and sepsis algorithms that are triggered in the setting of the febrile or hypothermic patient. Purpose: The recognition that flaws exist amongst common routes of temperature measurement should be discussed and disseminated to all those who collect vitals routinely. The existence of the following is pertinent to tympanic temperatures alone and presents a great deal of concern in identification of the febrile or hypothermic patient improper positioning, the size and length of the ear canal, lying on the ear beforehand, the presence of earwax, moisture in the ear. When clinical suspicion is present for sepsis a core temperature should be the golden standard for temperature accuracy and the initiation of the sepsis algorithm/bundle. The NIH has obtained data that further substantiates the obligation and urgency of all health care providers to recognize and treat promptly, furthermore stating the following that the core temperature that is of the utmost accuracy remains the rectal temperature, furthermore forehead temperatures are the least accurate. The students will present an 8 minute oral presentation centralized around core features of sepsis and the tremendous value accurate temperatures play in the identification of the septic patient

Location: M-136; HIPS: CIE

ID: NU-3

NU-3

ANIMALS HEALING HUMANS. Dwayne Brown, Shanice Stewart, Stephen Zhang, Taynalee Ramsay, Kasey Chung, and Christine Pagano. Nursing Department.

The Common Read is a high impact learning activity for students in various college disciplines that facilitates the discussion of themes from one text read by all. Queensborough's spring 2024 Common Read book was Lessons in Chemistry by author Bonnie Garmus. Seven nursing students did a literature review on the topic of pet therapy, based on one of the book's main characters, a mixed breed dog named Six Thirty. Students created a PowerPoint presentation explaining the mental health benefits of animal therapy. The presentation also included organizations on Long Island that utilize pet therapy in a variety of settings. The group of students will speak about their experience participating in the Common Read as well as the information they acquired regarding the mental health benefits of pet therapy.

Location: M-136; HIPS: CIE
ID: NU-4
NU-4

ITS ON US. Eduard Aulov, Madeline Sunday Cabuco, Danielle Losee, Ruth Campbell, Guang Jing Lin, and Barbara Rome. Nursing Department.

Sexual violence is a major public health problem that has long lasting devastating effects. April is sexual assault awareness month. The nursing students have put together a sexual assault prevention program that encompasses the core awareness and prevention strategies that address the needs of modern campus communities today. The strategies include: incidence of sexual assault, issues about consent; bystander education to empower bystanders to intervene, and survivor support.

Physics

Location: M-140; HIPS: UR
ID: PH-1
PH-1

EXPLORING PLAY-DOH AS A POTENTIAL BOLUS MATERIAL IN RADIOTHERAPY: ASSESSING GAMMA RADIATION AND ELECTRON BEAM ATTENUATION CHARACTERISTICS. MD Rashedul Islam and Rex Taibu. Physics Department.

This study investigates the efficacy of Play-Doh as a tissue-equivalent bolus material in radiotherapy. It assesses gamma radiation attenuation and electron beam penetration properties of various Play-Doh varieties. Utilizing radiation detectors and radioactive sources, parameters including Linear Attenuation Coefficient, Mass Attenuation Coefficient, and Half-Value Layer will be measured for gamma attenuation, while beta particle range will be calculated for electron beam attenuation. Water will serve as a reference for comparison. Findings are crucial for optimizing cancer treatment strategies, especially in teletherapy settings.

Location: M-140
ID: PH-2
PH-2

THE EFFECT OF SUPER MASSIVE BLACK HOLES ON DWARF GALAXIES. Isai Ortiz and Jillian Bellovary. Physics Department.

Galaxies are systems of gas, stars, dark matter, all bounded by gravity. Dwarf galaxies are like normal sized galaxies, except smaller. Some of them are host to less than a thousand stars. Some dwarf galaxies also have black holes in their center that affect their formation. I am using two versions of Sandra, a cosmological hydrodynamic simulation created using ChaNGa. With pynbody, a python library, I extract important details about dwarf galaxies that host massive black holes. I am measuring the densities of gas, stars, and details of star formation history in two Sandra dwarf galaxy versions. The Sandra simulation versions all but differ in the masses of their respective black holes. Determining each galaxy's difference in gas and star formation properties

could be confidently associated with the mass of their central black holes. Identifying details of star formation within a dwarf galaxy could help explain the effect super massive black holes have depending on their mass. Significant research on the effects super massive black holes have on smaller galaxies are limited. For that reason, we don't have a firm understanding on what is going on in smaller galaxies with super massive black holes. Investigating this void in astrophysics will help us have a better understanding of how galaxies and black holes are related.

Location: M-140

ID: PH-3

PH-3

QUASI-STARS OVER TIME. Matthew Fennell and Jillian Bellovary. Physics Department.

Quasi-stars are star-like formations consisting of a black hole encased in an "envelope" of gas. Formation requires very specific conditions; the gas must be atomic hydrogen and helium, with low metallicity and a low concentration of molecular hydrogen. In my research, I am using Mystique, a ChaNGa simulation that is able to replicate these formation requirements, as well as simulate their existence. I use these simulations to gain an understanding of the life cycle of a quasi-star as they become black holes, and after. I examined each snapshot of Mystique to find black hole merger rates, and how those black holes behave in their halos. Using pynbody, a python library, to interface with snapshots of Mystique, I have been able to find the initial conditions of the quasi-stars, such as how often, when, and where they form. I have found the amount of black hole mergers at each snapshot level, and can identify which black holes have merged. I have graphed the distance of each black hole from the center of its host galaxy within each snapshot, to compare the difference in the evolution of black holes that merge and black holes that do not. This research will give us clues to how the seeds to supermassive blackholes form in the early universe, and how they grow and interact with each other over time.

Social Sciences

Location: S-112; HIPS: UR

ID: SS-1

SS-1

HOW DO NATIONAL INTERESTS PLAY OUT IN BIENNALE CHOICES? WHO CHOOSES WHAT IS SENT TO BIENNALE AND HOW DOES THIS REFLECT NATIONAL INTERESTS AND IMAGE MAKING? Jeanette Manmohan and Julia Rothenberg. Social Sciences Department.

The purpose of this presentation is to explore why a nation would be interested in art or image making and what is the drive or underlying agenda for those interests. My research focuses on the question of who chooses the art to be displayed in an international art exhibition such as the 2024 Venice Biennale with particular attention to the case of Poland, which recently chose to change its submitted or approved artist with the change in hand in their legislation. I will explore questions as to why Poland's new government felt that the art that was first chosen was not the national image

they would like to project. I will touch upon government, gallery, industry and private interests and institutions and various art world actors as well as the gatekeepers who either are involved in the censorship or support of freedom of expression against the background of public opinion.

Location: S-112

ID: SS-2

SS-2

EFFECTS OF EARLY EXPOSURE OF MEDIA VIOLENCE ON CHILD DEVELOPMENT. Adnan Aronno and Jacqueline Mulone. Social Sciences Department.

This study examines how children are influenced by violent media, hypothesizing that children exposed to violent media are more likely to have poor mental health. Children that are exposed to violent media are more likely to exhibit the following characteristics: relational aggression and physical aggression. In my study I will be reviewing the literature on this topic. I will be providing scientific studies that provide evidence for my hypothesis. I will share the studies that find the link between exposure to violent media and aggression.

Location: S-112; HIPS: UR

ID: SS-3

SS-3

COLLEGE STUDENTS AND STRESS. Hajirah Begum, Patrick Byers, and Azadeh Aalai. Social Sciences Department.

Studies have shown that college students tend to have elevated stress levels. What is the reason for this? Is college itself the primary stressor? Or is it only a factor to be considered when measuring college students' stress levels? This study attempts to understand the relationship between these variables. Twentieth-five participants were recruited and surveyed using the "Perceived Stress Scale" and a "Stressor Questionnaire." Using the numbers associated with their time spent in college and their stress levels related to college, it was found that there is a weak negative correlation between time in college and stress. That is, the more time a student spends in college, their stress levels related to college go down. This is insightful information, as it shows that there could potentially be other stressors that could explain college students' stress levels. Alternatively, a larger sample size could have led to different results.

Location: S-112; HIPS: UR

ID: SS-4

SS-4

BATTLING MY INNER-CHILD: THE ROLE OF PARENTIFICATION ON AN ADULT'S SELF-CONCEPT. Alyssa Schwartzberg and Anissa Moody. Social Sciences Department.

Parentification is defined as premature care-giving behaviors directed from a child to a parent. Research on parentification has been mixed, with some studies supporting positive outcomes for

older siblings and others indicating negative outcomes. Some of these discrepancies may be due to inconsistencies in differentiating types of parentification or focusing solely on isolated measures of success, e.g., academic performance and career goals. The current study examines how different types of parentification during childhood (retrospectively reported) impact adult self-concept or how one sees oneself. By synthesizing existing literature, this research aims to provide insights into the multifaceted nature of parentification and its lasting implications for adult psychological well-being and identity formation. Additionally, it discusses clinical implications and suggests directions for future research to deepen our understanding of the role of parentification in shaping individuals' self-concept across the lifespan.

Location: S-112; HIPS: UR
ID: SS-5
SS-5

AUTHORITARIAN PARENTS AND THE OPPRESSION THAT RAISED THEM. Rita Demaria-Aires and Anissa Moody. Social Sciences Department.

This paper investigates how being raised in oppressive systems contributes to the adoption of authoritarian parenting styles. Utilizing a comprehensive review of developmental psychology, sociology, and political science literature, this research synthesizes empirical evidence, theoretical frameworks, and qualitative narratives to discuss the complex relationship between upbringing in oppressive environments and subsequent parenting practices. This study is grounded in Diana Baumrind's pillar theory, which asserts that a parent's responsiveness (warmth, supportiveness) and demandingness (control, expectations) are the "pillars" that shape a child's behaviors and outcomes. This model will be used to explore how experiences of powerlessness, fear, and conformity within oppressive systems may shape individuals' beliefs about authority, control, and discipline in parenting. This study sheds light on the impact of socio/political systems on individual behaviors and can contribute to developing culturally sensitive interventions.

Location: M-134
ID: SS-6
SS-6

WHAT NEXT FOR GUN CONTROL POST-2022? ACHIEVING SAFE GUN LAWS IN THE NEW CONSTITUTIONAL REALITY. Guadalupe Mesa Ruiz and Adam Luedtke. Social Sciences Department.

This project assesses the state of current New York gun control laws in the wake of major court decisions in 2022 and 2023, arguing that there is still leeway to protect public safety by enforcing current gun control law and passing better gun control laws in New York state.

Location: S-112; HIPS: UR
ID: SS-7
SS-7

INDEPENDENT COMICS FROM MARGINS TO MAINSTREAM. George Papandreou and Julia Rothenberg. Social Sciences Department.

I will present my research on the evolution of independent comics from independent production and subcultural consumption in the 1980's to incorporation into the mainstream culture industry. I will focus on the example of Teen-Age Mutant Ninja Turtles. Data for my research will be collected through examining journalistic and scholarly accounts as well as from my own participant-observation in the independent comic scene. I will present my research on the evolution of independent comics from independent production and subcultural consumption in the 1980's to incorporation into the mainstream culture industry. I will focus on the example of Teen-Age Mutant Ninja Turtles. Data for my research will be collected through examining journalistic and scholarly accounts as well as from my own participant-observation in the independent comic scene

Location: S-112

ID: SS-8

SS-8

HOW DOES SLEEP QUANTITY RELATE TO ACADEMIC PERFORMANCE? Jessica Cruickshank and Qin Li. Social Sciences Department.

Studies have shown that the number of hours a person sleeps at night affects their ability to concentrate during class. Additionally, research has indicated that factors such as stress, anxiety, and fatigue can impact one's quantity of sleep. This brings us to the question: Does the quantity of sleep a person gets affect their performance on an exam? Many individuals do not realize the importance of sleep and what effect it causes daily. The study I am going to do aims to explore the relationship between the amount of sleep a student receives and their academic performance. Specifically, I will be focusing on whether students who sleep longer tend to achieve higher grades, or if those who sleep less than 6 hours receive lower exam scores. My method will consist of having students complete a survey the morning before an exam. I expect students sleeping less than 6 hours will likely have a lower grade on their exams while those who get at least 6 hours of sleep will get a higher grade. I also expect that the results from this study will show the importance of sleep quantity and how it affects individuals academically.

Location: S-112

ID: SS-9

SS-9

INVESTIGATING THE RELATIONSHIP BETWEEN AGE, GENDER, SOCIAL MEDIA USE FREQUENCY, AND BODY POSITIVITY REPORTING IN COLLEGE STUDENTS. Shantal Edwards and Dr. Jody Resko. Social Sciences Department.

This study investigated the relationship between factors such as age, gender, social media use frequency, and body positivity reporting in college students. A sample of 55 students from different psychology courses in a community college participated in this study. The research utilized the Body Self-Image Questionnaire Short-Form (BSIQ-SF) to gauge levels of body positivity, aiming

to answer specific hypotheses. Contrary to the predictions, findings revealed that frequent social media usage was linked with higher levels of body positivity contradicting the expected negative impact on body image. Finally, gender and age did not significantly influence body positivity scores. The implications of the findings are discussed.

Location: S-112; HIPS: UR
ID: SS-10
SS-10

WHY HAVE YOUNGER GENERATIONS LOST INTEREST IN THE NEWS MEDIA? Victoria Cambi and Qin Li. Social Sciences Department.

Evidence shows a decline in interest in traditional news media amongst the younger generation (Gen-Z). What is the cause of this? This paper investigates this issue using findings from peer-reviewed journal articles and news sources. These show that Gen-Z is more likely to receive their information on news online through social media platforms or online personalities than watching the news or visiting news websites such as BBC, the New York Times the Wall Street or the Wall Street Journal. Gen-Z is less likely to consume news content delivered by mainstream news companies due to presumed bias in news delivery, division in politics, and lack of authenticity and relatability. It is concluded that Gen-Z would be more interested in consuming content from the news media if they were targeted and engaged through personalized formats tailored to their preferences. News companies could better target Gen-Z by adopting methods such as short-form informational videos, interactive visuals on websites, or using social media personalities to deliver their news on social media platforms.

Location: S-112; HIPS: UR
ID: SS-11
SS-11

INVESTIGATING THE RELATIONSHIP BETWEEN GENDER, AGE, SOCIAL MEDIA, ESL DESIGNATION AND WILLINGNESS TO COMMUNICATE IN COMMUNITY COLLEGE STUDENTS. Binsheng Yan and Rommel Robertson. Social Sciences Department.

Humans need social interaction and making connections daily between others is an obvious need (Cheng & Xu, 2022). This study investigated the potential relationship between factors such as gender, age, social media, ESL designation and willingness to communicate in community college students. Willingness to communicate (WTC) is defined as the probability ones will to communicate when free to do so (Donovan & MacIntyre, 2004). As part of a class project, 52 community college students were asked to complete an online questionnaire that included items from the McCroskey (1992) Willingness to Communicate Scale. This study predicted that female college students will report higher WTC than male students, older college students will report higher WTC than younger students, ESL students will report lower WTC native English speaker and Students who frequently use social media will report higher willingness to communicate compared to students who barely use social media. Although our hypotheses were not supported due to limitations, findings from previous studies found positive correlations between age, gender,

social media, L2 learning, and willingness to communicate. Limitations and improvements for future studies will be discussed.

Location: S-112; HIPS: UR

ID: SS-12

SS-12

U.S. MILITARY ENLISTMENT WITH PRE-EXISTING MEDICAL CONDITIONS. Kira L. Wiederholtz, Christen Williams, and Patrick Byers. Social Sciences Department.

Current US Military Policies indicate that individuals with certain mental or physical health conditions are not qualified to serve in the US Military. Potential Recruits are required to undergo medical examination and background review at a Military Entrance Processing Station prior to Basic Training in order to filter out eligible members. However, despite this policy, evidence suggests that a significant portion of service members still have underlying, pre existing mental health conditions prior to enlistment which go undocumented, allowing them to bypass this policy and attain active duty or reserve duty status. Due to the inherent limitation on generating statistics regarding the rate of members who enlist with previous conditions, this study will be focused on scrutinizing and evaluating available DoD documentation regarding the recruitment process, as well as analyzing current predictive models regarding disability rates among current and former military members alongside those predicting mental health rates in order to highlight this discrepancy. While a bill was proposed in 2023 which could in the future supersede this current policy, the major findings and implications of this study could affect and improve the MEPS screening process as well as treatment and support plans for future vets.

Location: S-112; HIPS: UR

ID: SS-13

SS-13

TIK TOK: THE IMPACT OF SOCIAL MEDIA USE ON MENTAL HEALTH. Micheal Johnston and Anissa Moody. Social Sciences Department.

The impact of social media on our society is an area garnering much interest. Some research has shown social media influences negative responses like anxiety, depression, loneliness, and fear of missing out. However, these responses are indirectly linked by factors such as sites visited, age of the user, reasons for accessing social media, and frequency of use. This study will focus on the impact of a specific factor by investigating the relationship between the frequency of social media usage and mental health outcomes. Using a quantitative research approach, data will be collected from a sample of participants through self-report surveys measuring social media usage patterns and mental health outcomes. It is expected that demographic factors like age, employment status, number of children, and other daily life factors will impact the pattern of use. Given the way social media is embedded into our daily lives, implications for healthy usage, mental health interventions, and prevention strategies will be discussed.

Location: S-112; HIPS: UR
ID: SS-14
SS-14

THE LANGUAGE OF SKATEBOARDING. Ariana Dominguez and Julia Rothenberg. Social Sciences Department.

In a culturally diverse society, it is fascinating to learn how individuals relate to each other despite their different backgrounds. It can be said that one of the most powerful, yet invisible, barriers in society is language. Not being able to understand or communicate with others can create alienation within individuals or communities. This presentation describes the researcher's experiences becoming part of the skateboarding community and their realization that in that community the language barrier ceased to exist. This project attempts to understand how this is the case. Experiences meeting other skaters, visiting different skate parks, and attending big events revealed that the dynamism, creativity and philosophy of skateboarding surpassed any possible barrier.

Location: S-112
ID: SS-15
SS-15

THE INS AND OUTS OF INTELLECTUAL DISABILITY. Daniella Iskhakov and Rosalinda Macaluso. Social Sciences Department.

This project is about intellectual disability, more specifically Down Syndrome with detailed exploration of the disability including the causes and treatments. The findings indicated that stigma puts individuals in a difficult position regarding living their lives. However, individuals with Down Syndrome are extremely kind, friendly, sweet and are actually very easy to raise and parent. There is a term called the down syndrome advantage for that reason.

Location: S-112; HIPS: UR
ID: SS-16
SS-16

THE IMPACT OF BIG TECH ON THE UNDERGROUND RAP SCENE. Jaden-Raphael Kaase and Julia Rothenberg. Social Sciences Department.

Rap music has grown to be one of the largest art movements, arguably in human history, since its inception in the 1970s. Largely birthed out of the socioeconomic disparity in black and brown communities in New York City, it has developed into a global cultural and economic apparatus with many different hands from different backgrounds working and creating in it. In 2024, many parts of this apparatus are being disassembled and rearranged due to the growing presence of large tech corporations in art spaces, as well as an increase of economic pressure in a post-covid world. I would like to examine through the lens of an underground rap scene, how big tech, the presence of a growing wealth disparity, and growing racial tensions in America will affect how and what artists produce, and where they gather and distribute their art throughout the rest of the 2020s.

Location: S-112
ID: SS-17
SS-17

SCREEN TIME USAGE IN CHILDREN. Rebecca Esar and Jacqueline Mulone. Social Sciences Department.

This study focuses on the impact of screen time usage in elementary school children. My hypothesis is that children who have excessive amount of screen time (5 or more hours) are more likely to have physical and socio-emotional problems. The study will review the existing scientific research literature focused on the relationship between screen time use and child-developmental problems to assess the validity of the hypothesis.

Location: S-112; HIPS: ASL, CIE
ID: SS-18
SS-18

ROLES AND RESPONSIBILITY OF POLICE OFFICERS. Devi Hulasie, Michelle Polanco, Syed Rashid, Sajid Sajawal, and Adrian Bordoni. Social Sciences Department.

Personal stories compiled through interviews are a powerful qualitative research method. This project will present the results of interviews in a Writing Intensive course, based on Social Sciences disciplines such as Criminal Justice. A panel of 4 students and their professor from CRIM 201 Policing will share their findings. After identifying a New Yorker that was suitable for an interview, and through the use of presentation media they will discuss the results of questions: (1) What is your New York story? (Family history, first generation New Yorker etc.); (2) What is your understanding of the role of police, school policies, addressing issues of crime, bullying etc. (3) What are some of the pressing issues within their workplace or community? (4) Do they believe schools/police/community are effective in addressing these issues? Students will then utilize the answers to: (a) Determine the interviewees interactions with police and individuals in authority and (b) research and determine policies to address any concerns discussed: safety in schools, and community/police relations.

Location: S-112
ID: SS-19
SS-19

PUNITIVENESS, PUNISHMENT AND POLITICS FROM THE COLLEGE STUDENT PERSPECTIVE. Davia Willis and Celia Sporer. Social Sciences Department.

The current demand for criminal charges against political figures raised questions about the appropriate use of the CJS. This study proposes to begin examining the issue by focusing on current college students' attitudes to punishment and punitiveness in conjunction with political knowledge and commitments. Ninety-five community college students were recruited to participate in a survey. The survey focuses on identifying the role that punitiveness and political attitudes play

in influencing perception of events as either primarily political or justice related. These findings will provide an updated preliminary understanding of the connection between punishment, punitiveness and political commitment among the youngest voters and provide insight into future trends.

Location: S-112

ID: SS-20

SS-20

PUBLIC PERCEPTIONS OF MENTAL HEALTH IN THE CONTEXT OF MASS SHOOTINGS. Shantal Edwards and Jacinth Burnside. Social Sciences Department.

This research delves into the portrayal of mental health in the context of mass shootings, with a particular focus on school shootings within the United States. Employing the stereotype-bias hypothesis as a guiding framework, the study aims to dissect and analyze the depiction of individuals with mental disorders as presented in media coverage. Through an exploration of diverse media platforms including news articles, television reports, and online discourse, the research scrutinizes the language, tone, and framing utilized to represent mental health issues in connection with these tragic events. By uncovering prevalent stereotypes and biases, this study endeavors to elucidate the impact of media narratives on public perception of mental health, offering insights crucial for fostering a more nuanced understanding and discourse surrounding this critical societal issue.