



# 18<sup>th</sup> ANNUAL UHD STUDENT RESEARCH CONFERENCE PRESENTED BY CITGO



Sponsored by the UHD Scholars Academy

A showcase of academic excellence demonstrated by UHD undergraduates and graduates majoring within the Marilyn Davies College of Business, Colleges of Humanities and Social Science, Public Service, Sciences and Technology, and University College.

Friday, April 12, 2019

8:00 – 8:30 am	Registration and Continental Breakfast (Mural Area and Coffee House)
8:30 – 9:00 am	Welcoming Remarks (Wilhelmina Cullen Robertson Auditorium) – <i>Dr. Mary Jo Parker, Scholars Academy, Executive Director, UHD</i> <i>Dr. Eric Carl Link, Provost, UHD</i> <i>Dr. Ermelinda DeLaVina, Associate Dean, College of Sciences and Technology, UHD</i>
9:00 – 9:15 am	Introduction of SRC Committee Chairs and Members Introduction of other special guests
9:15 – 9:30 am	Student Research Conference Presented by CITGO – <i>Brandon Thompson, Sr. Lubricants Compliance Specialist</i>
9:30 – 9:35 am	Introduction of STEM Keynote Speaker – <i>Dr. Ermelinda DeLaVina, Associate Dean, College of Sciences and Technology, UHD</i>
9:35 – 9:50 am	<b>STEM Keynote Speaker – Dr. Miriam M. Morales, UHD Alumna</b>
9:50 – 12:00 pm	<b>Student Oral Presentations</b>
12:00 – 12:05 pm	Inclusion of the 2nd Liberal Arts Keynote to SRC Remarks <i>Dr. Leigh Van Horn, Interim Dean, College of Public Service</i>
12:05 – 12:10 pm	Introduction of Liberal Arts Keynote Speaker – <i>Dr. Maria Bhattacharjee, Associate Professor, Urban Education, College of Public Service, UHD</i>
12:10 – 12:25 pm	<b>Liberal Arts Keynote Speaker – Dr. Yolanda J. Rios, UHD Alumna</b>
12:25 – 1:30 pm	Lunch (Milam/Travis & Tour Room)
1:30 – 2:15 pm	Open Poster Session I (Room A300)
2:15 – 3:00 pm	Open Poster Session II (Room A300)
3:00pm	Conference checkout; Conference E-post survey; Conference gift (Mural Area)

## Conference Co-Chairs:

Dr. Judith Harris, Assistant Professor of Criminal Justice  
Dr. Mian Jiang, Associate Professor of Chemistry

## Conference Planning Committee:

Dr. Liza Alonzo, Director, Alumni Relations, Advancement & University Relations  
Dr. Maria Bhattacharjee, Associate Professor of Urban Education  
Dr. Youn-Sha Chan, Associate Professor of Mathematics and Statistics  
Dr. Irene Chen, Professor of Urban Education  
Dr. Shahnjaya Connors, Assistant Professor of Health and Behavioral Science  
Dr. Ermelinda DeLaVina, Associate Dean, College of Sciences and Technology  
Dr. Poonam Gulati Salhotra, Director of the Center for Community Engagement and Service Learning  
Dr. Jillian Hill, Associate Professor of English  
Dr. Ruth M. Johnson, Associate Professor of Psychology  
Dr. John Linantud, Associate Professor of Political Science

Dr. Jeffrey W. Martz, Assistant Professor of Geology  
Dr. Michelle Moosally, Associate Professor of English  
Dr. Lisa Morano, Professor of Biology and Microbiology  
Dr. Whitney Botsford Morgan, Associate Professor of Mgmt & Insurance Risk Mgmt  
Professor Mitsue Nakamura, Lecturer of Mathematics and SA Peer Mentor Coordinator  
Dr. Chu Nguyen, Chair of Finance, Accounting and Enterprise Information Systems  
Dr. Mary Jo Parker, Executive Director, UHD Scholars Academy  
Dr. Lucille Pointer, Professor of General Business, Marketing and Supply Chain  
Dr. Gene Preuss, Associate Professor of History  
Dr. Rachna Sadana, Associate Professor of Biology  
Dr. Akif Uzman, Dean, College of Sciences and Technology  
Dr. Sarah Walker, Associate Professor of Mgmt & Insurance Risk Mgmt  
Ms. Shonesia Wilson, Program Coordinator, UHD Scholars Academy

## Oral Presentations:

**Joshua Alegria** - Anticancer Efficacy of Components from Turmeric Root and Black Pepper  
**Tristian Arroyo** - Identification of Genetic Loci Responsible for Explorative Behavior between *D. Simulans*, and *D. Sechellia*  
**Samuel Bernal** - Novel Reactive Macromolecules: Synthesis and Characterization of Phthalocyanine Monomers  
**Tracey Gerl & Pamela Lambert** - Access to Affordable Healthcare: A Comparative Policy Analysis  
**Rachel Gross** - Computational Modeling of Methyl Ammonium Lead Iodide  
**Angelinda Maldonado** - Investigating Soil Microbes for Antimicrobial Properties  
**Takese McKenzie** - A New and Friendly Open-Source Fly Tracker to Study Attention Deficient Hyperactivity Disorders in *Drosophila Melanogaster*  
**Sarah Ramlal** - Synthesis of Phthalocyanine Monomers: The Flexibility Perspective

The **UHD Scholars Academy (SA)** is an academically competitive program in the College of Sciences and Technology (CST) that promotes scholarship and student success for undergraduate students majoring in Science, Technology, Engineering and Mathematics (STEM).

One Main Street, 725-North; Houston TX 77002-1001

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## UHD ALUMNAE KEYNOTE SPEAKERS

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**STEM Keynote Speaker: (9:35AM-9:50AM)**

**Miriam M. Morales, PhD**

**Associate Vice President of Data Science**

**Memorial Hermann Hospital System, Clinical Transformation**

**Presentation Title: “#datascience”**

**Bio-sketch:** Dr Miriam Morales has 18 years of experience in pure mathematics, statistics, health care analytics, data integration, programming, data warehouses, research, clinical trials, outcomes, population health and Epidemiology. Dr. Morales graduated from UHD Scholars Academy with a Bachelor of Science in Applied Mathematics in 2001. She was the first Scholars Academy graduate. Dr. Morales began her career at the Baylor College of Medicine Children’s Nutrition Research Center as an intern, where incidentally she was hired on the spot during a UHD Scholars Academy field trip. She went on to pursue her Masters of

Science in Biostatistics and transitioned to working at the University of Texas Medical School as the Biostatistician for their Neurosciences Department. Dr. Morales worked on numerous research studies, clinical trials, study design and has become an expert in the evaluation of patient outcomes. In 2008, Dr. Morales took over the quality analytics team at the Memorial Hermann Texas Medical Center. There Dr. Morales automated several manual nursing reports, integrated external benchmarking tools, developed statistical and predictive models in vascular medicine, and published findings in neurology and stroke outcomes. Dr. Morales was promoted to the Director of Strategic Analytics in 2014 and ran the analytics teams for the Mischer Neuroscience Institute’s Innovation and Quality Unit and implemented several system wide initiatives in health care benchmarking, physician alignment, and quality improvement. Dr. Morales earned her Doctorate in Epidemiology with emphasis in the Evaluation of Healthcare Systems in April 2018 from the University of Texas Health Science Center School of Public Health. Dr. Morales currently serves as the Associate Vice President of Data Science for Memorial Hermann Healthcare System where she oversees system wide analytic strategies to reduce care variation while improving patient outcomes. Dr. Morales created the Miriam Morales Scholarship Endowment at UHD for students majoring in mathematics, statistics or data analytics and the scholarship is open to both part-time and full-time students at UHD. Dr. Morales currently serves as the President of the UHD Alumni Board and is also a member of the Houston Livestock Rodeo and Show Go Tejano Scholarship Committee.

**Presentation Abstract:** Healthcare systems’ success will depend on how well they are able to translate raw information into knowledge and actionable insights that change practice. Data Scientists are experts at leveraging data systems, machine learning models, predictive and prescriptive analytics, and the visualization of insights. What will differentiate a career in data science is the ability to not only do the hard work of analytics but to also communicate insights to stakeholders. I will describe my undergraduate research experiences at UHD and how they drove my success in graduate school and in my academic and professional careers.



**Liberal Arts Keynote Speaker: (12:10PM-12:25PM)**

**Yolanda J. Rios, EdD**

**Director of Multilingual/Title III/Migrant**

**New Caney ISD**

**Presentation Title: “Breaking Barriers in Barrios: How School Connectedness Impacts Hispanic Student Achievement”**

**Bio-sketch:** Dr. Yolanda Rios was born and raised in Houston, TX. She is a proud UHD Alumni and the first in her family to graduate with a bachelor’s degree. In 2008, she started her career as a bilingual teacher in Aldine ISD. Over the years, she has spent countless hours serving organizations that contribute to Hispanic Leadership and Bilingual Education.

Dr. Yolanda Rios currently serves the New Caney ISD community as the Director of Multilingual by providing services for students and families of English Learners. As a struggling student herself, she became aware of some of issues that

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cause students to drop out of school and the generational consequences caused to their families. Prior to her current role, Dr. Rios has worked as a campus leader with high economically disadvantaged populations and has been a determining factor in helping them excel!

Her recent research contributions are in the areas of Hispanic dropouts, school attendance, and graduation rates. In 2015, she completed her dissertation at Sam Houston State University and has continued to have interest in how school climate affects Hispanic student achievement.

Dr. Rios' continued passion comes from the idea that the world can be a better place if we first believe in our future, our students.

*Presentation Abstract:* The *School Connectedness Theory* presents an idea that if a student feels connected to their school, they are more likely to perform better in state assessments and graduate from high school. For many Hispanic students, the local schoolhouse is where resources and opportunities for success occur, but for others they are faced with obstacles such as language barriers, school discipline, and employment that keep them from building that connectedness. There are many factors impacting Hispanic student dropout rates, during this presentation a personal anecdote will help tie the importance of research to building communities and schools that will excel!

## STUDENT RESEARCH CONFERENCE PRESENTED BY CITGO

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**CITGO Representative: (9:15AM-9:30AM)**

**Mr. Brandon Thompson**

**Sr. Lubricants Compliance Specialist**

**Presentation Title: “My Life and These Sheets of Paper”**

*Bio-sketch:* “Only those who are willing to risk going too far, can possibly find out how far they can go – Eric Thomas.”

Brandon Thompson started his career as a Lab temp for CITGO Petroleum and 14 years later is now the Sr. Lubricants Compliance Specialist for CITGO's Product Technology group. School was not one of Brandon's favorite things to do growing up. In college, things still didn't click but he graduated with a Bachelor's of Science in Chemistry. Brandon still has many hills to climb

and goals to accomplish in his life. When he is not chasing after his dreams, Brandon enjoys spending time with his wife and 2-year-old son.

## Poster Presentation Session I (1:30PM-2:15PM):

- 2 - Maalvika Aggarwal, Jacqueline Jasso**, "Structural and Geometric Design of a Lifting Lug"  
Research Mentor(s): **Dr. Jorge Tito**  
Project Location: University of Houston-Downtown
- 4 - Meheret Tadesse**, "Synthesis and Characterization of New Ball-type Phthalocyanine Monomers from Diphenols"  
Research Mentor(s): **Dr. Eszter Trufan**  
Project Location: University of Houston-Downtown
- 6 - Laura Conde-Puello**, "Novel Exploration of Nickel Related Compounds and Their Application in Sensing"  
Research Mentor(s): **Dr. Mian Jiang**  
Project Location: University of Houston-Downtown
- 8 - Suleiman Anaza**, "OpenCV Based Robot Control System"  
Research Mentor(s): **Prof. Mitsue Nakamura**  
Project Location: University of Houston-Downtown
- 10 - Idris Akinlusi, Darwin Argueta**, "Screening Synthetic Compounds for Antibacterial Activity Against *P. fluorescens* and *B. subtilis*"  
Research Mentor(s): **Dr. Rachna Sadana**  
Project Location: University of Houston-Downtown
- 12 - Tristian Arroyo**, "Zika Virus-Associated Birth Defects and Socioeconomic Analysis of Zika Virus Exposures"  
Research Mentor(s): **Dr. M. Gabriela Bowden**  
Project Location: University of Houston-Downtown
- 14 - Mahendra Basyal**, "Label Diffusion of EEG-Based Brain Activity Data Using Greedy Max-Cut"  
Research Mentor(s): **Dr. Yuchou Chang**  
Project Location: University of Houston-Downtown
- 16 - Christopher Blank**, "Academic Review of Feature Description and Facial Recognition via Histograms of Oriented Gradients"  
Research Mentor(s): **Dr. Yuchou Chang**  
Project Location: University of Houston-Downtown
- 18 - Trinh Bui**, "Optimal Paths and Cycles in Networks"  
Research Mentor(s): **Dr. Timothy Redl**  
Project Location: University of Houston-Downtown
- 20 - Erick Cervantes**, "Environmental Monitoring with IoT"  
Research Mentor(s): **Dr. Weining Feng**  
Project Location: University of Houston-Downtown
- 22 - Dali Caicedo, Patrick M. Krause, Mohammed Mohammed Ali, Loic Steinthal**, "The role of immunosuppression via activation of the PD1/PD-L1 immune checkpoint in triple-negative breast cancer progression."  
Co-Authors: **Dr. Alejandro Contreras**  
Research Mentor(s): **Dr. Adriana Visbal**  
Project Location: University of Houston-Downtown
- 24 - Rosa Del Abra, Takeese McKenzie**, "Identifying the Molecular mechanisms linking High Sugar Diet to the Hyperactivity Phenotype in ADHD"  
Research Mentor(s): **Dr. Connie Kang**  
Project Location: University of Houston-Downtown
- 26 - Ramandeep Dhadral, Mariana Grijalva**, "SLEEK CHOCOLATE – Spring, TX: Expanding a Small Business Using Operations Management"  
Research Mentor(s): **Dr. Elias Keedy**  
Project Location: University of Houston-Downtown
- 28 - Mariangela Gamez**, "An Overview of Adolescents Sexual Abusers"  
Research Mentor(s): **Dr. Nina Barbieri**  
Project Location: University of Houston-Downtown
- 30 - Kelly Garcia, Whitney Orr**, "Effects of Soil Texture on Wheat Germination Rate and Growth Allocation"  
Research Mentor(s): **Dr. Michael Tobin**  
Project Location: University of Houston-Downtown

- 32 - Jose Gonzalez**, "Synthesis and Characterization of a Polymer Derived from a Catanionic Surfactant Via Addition Polymerization"  
Research Mentor(s): **Dr. Robin Jose**  
Project Location: University of Houston-Downtown
- 34 - Meagan Grant**, "Finding an Optimal Assignment of Incoming STEM students to Faculty and Peer Mentors"  
Research Mentor(s): **Dr. Timothy Redl**  
Project Location: University of Houston-Downtown
- 36 - Rachel Gross**, "Computational Modeling of Methyl Ammonium Lead Iodide"  
Research Mentor(s): **Dr. Maria Benavides**  
Project Location: University of Houston-Downtown
- 38 - Yasir Hassan**, "Computer Vision"  
Research Mentor(s): **Dr. Yuchou Chang**  
Project Location: University of Houston-Downtown
- 40 - Ana Garay, Danniela Herrera, Nicolette Vallot**, "Antibiotic Sensitivity of *Escherichia coli* and *Serratia marcescens* as Planktonic Cells and Biofilms"  
Co-Authors: **Jacqueline Rocha**  
Research Mentor(s): **Dr. Poonam Gulati Salhotra**  
Project Location: University of Houston-Downtown
- 42 - Ayzhamal Zhamangaraeva**, "Corner Detection of Structure from Motion Using Optical Flow Algorithm"  
Research Mentor(s): **Dr. Yuchou Chang**  
Project Location: University of Houston-Downtown
- 44 - Tracey Gerl, Pamela Lambert**, "Access to Affordable Healthcare: A Comparative Policy Analysis"  
Research Mentor(s): **Dr. Stephen Wernet**  
Project Location: University of Houston-Downtown
- 46 - Sally Anyanwu, Crislie Domingo, Leslie Lopez, Kinjal Patel, Camille Paguinto**, "Designing an Incubator to Compare the Growth of Edible Mushroom Varieties: Cross-disciplinary Research in Engineering Technology and Biology"  
Research Mentor(s): **Dr. Lisa Morano, Dr. Vassilios Tzouanas**  
Project Location: University of Houston-Downtown
- 48 - Stephanie Delgado, Angelinda Maldonado, Eudes Mvoula**, "Investigating Soil Microbes for Antimicrobial Properties"  
Co-Authors: **Aneeka Khan, Valeria Vasquez, Frank Omoregbee**  
Research Mentor(s): **Dr. Sanghamitra Saha, Dr. Elizabeth Villegas**  
Project Location: University of Houston-Downtown
- 50 - Allison McKee**, "Computational Analysis of Silver (I) NHC Complex"  
Research Mentor(s): **Dr. Maria Benavides**  
Project Location: University of Houston-Downtown
- 52 - Christopher Burks, Michael Melton**, "Petrology of Hawaiiite and Alkali-Olivine Basalt in Big Bend Ranch State Park, West Texas, and their Possible Connection to Continental Rifting"  
Research Mentor(s): **Dr. Kenneth Johnson**  
Project Location: University of Houston-Downtown, Big Bend Ranch State Park
- 54 - Huy Anh Mai, Praneeth Nadimpalli**, "Screening Synthetic Compounds for Their Cytotoxic Effects on Leukemia Cell Lines"  
Research Mentor(s): **Dr. Rachna Sadana**  
Project Location: University of Houston-Downtown
- 56 - Alejandra Carmona, Nhi Le, Nhat Nguyen, Jacqueline Ramos**, "Examining Antibiotic Potential in Synthetic Compounds"  
Research Mentor(s): **Dr. Rachna Sadana**  
Project Location: University of Houston-Downtown
- 58 - Katelyn Payne**, "Construction of *Myxococcus xanthus* Type IV pili- and EPS-deficient strains for motility analyses"  
Research Mentor(s): **Dr. M. Gabriela Bowden**  
Project Location: University of Houston-Downtown
- 60 - Stacey Reyes**, "Exploring Breast Reconstruction in African American Women: Framework and Methods"  
Co-Authors: **Valentina Maza, Chisom Odom, Lorraine Reitzel**

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Research Mentor(s): **Dr. Shahnjayla K. Connors, Dr. Lorraine Reitzel**

Project Location: University of Houston-Downtown, University of Houston

**62 - Andrea Guzman, Pilar Rodriguez**, "Investigating Cytotoxic Effects of Synthetic Compounds and Their Mechanism of Cell Death on Cancer Cell Lines"

Research Mentor(s): **Dr. Rachna Sadana**

Project Location: University of Houston-Downtown

**64 - Aneeka Khan, Frank Omoregbee, Valeria Velazquez**, "Characterizing Soil Isolates Exhibiting Anti-microbial Properties"  
Co-Authors: **Angelinda Maldonado, Stephanie Delgado, Eudes Mvoula**

Research Mentor(s): **Dr. Elizabeth Villegas**

Project Location: University of Houston-Downtown

**66 - James Aaron, Christopher Sookdeo**, "The effect of water and thermal history on phase structure and transitions of honey"

Co-Authors: **Douglas Syzdeka, Slawomir Bakier**

Research Mentor(s): **Dr. Janusz Grebowicz**

Project Location: University of Houston-Downtown

**68 - Bao Hoang, Manh-Tuong Nguyen**, "Eco-concrete"

Co-Authors: **Richard Rodriguez, Julio Almaraz, Janet Sanchez, Pablo Esquivel, Lance Schramm, Patricia Mora**

Research Mentor(s): **Dr. Arash Rahmatian**

Project Location: University of Houston-Downtown

**70 - Jacob Thorp**, "Color Image Watermarking Based on Color Variation Measure"

Research Mentor(s): **Dr. Yuchou Chang**

Project Location: University of Houston-Downtown

**72 - Julio Enriquez, Aaron Torres**, "Ionization Gas Centrifuge System for Venus Exploration"

Research Mentor(s): **Dr. Maria Benavides, Dr. Donald Musselwhite**

Project Location: University of Houston-Downtown

**74 - Victor Varghese**, "Prosthetic Hand Control with Teach and Learn Method"

Research Mentor(s): **Dr. Weining Feng**

Project Location: University of Houston-Downtown

**76 - Maritza Montoya, Leslie Young**, "Open- and Closed-System Evolution of Syenite and Trachyte Magmas in the Leyva Canyon Volcano, Big Bend Ranch State Park, West Texas"

Research Mentor(s): **Dr. Kenneth Johnson**

Project Location: University of Houston-Downtown, Texas Tech University, Big Bend Ranch State Park

**78 - Mariam Dadani**, "Web Hosting for Hurricane Hou"

Co-Authors: **Luis Lanas**

Research Mentor(s): **Dr. Ting Zhang**

Project Location: University of Houston-Downtown

**80 - Brittany Zavala**, "Studies on Eco-Friendly Concrete"

Co-Authors:

Research Mentor(s): **Dr. Arash Rahmatian**

Project Location: University of Houston-Downtown

**82 - Michael Figueroa, Moises Nunez**, "A Smart Sensing System with Machine Learning Algorithms for Structural Damage Analysis"

Research Mentor(s): **Dr. Ting Zhang**

Project Location: University of Houston-Downtown

**84 - Syed Faran Jafri**, "Effective Reinforced Concrete Floor Systems for Flat Slab vs. Beam Slab"

Research Mentor(s): **Dr. Arash Rahmatian**

Project Location: University of Houston-Downtown

**86 - Kimberley Kisson**, "Examining the Role of Exopolysaccharides in *Myxococcus xanthus* Surface Social Motility"

Co-Authors: **M. Gabriela Bowden, Zhaoyang Zhang, Oleg Igoshin**

Research Mentor(s): **Dr. Heidi B. Kaplan**

Project Location: UTHHealth-McGovern Medical School

**88 - Richard Buscaglia**, "Synthesis and Characterization of Phthalocyanine Monomers using Bisphenol Derivatives"

Research Mentor(s): **Dr. Eszter Trufan**

Project Location: University of Houston-Downtown

## Poster Presentation Session II (2:15PM-3:00PM):

**1 - James Adams**, "PANGEA - Growing Food Efficiently Where You Live"

Research Mentor(s): **Dr. Lisa Morano, Dr. Vassilios Tzouanas, Northworks Digital Factory**

Project Location: University of Houston-Downtown

**3 - Joshua Alegria**, "Anticancer Efficacy of Components from Turmeric Root and Black Pepper"

Research Mentor(s): **Dr. Hamida Qavi**

Project Location: University of Houston-Downtown

**5 - Mays Al-Maliki, Laura Conde-Puello, Charlie Lazo, Meheret Tadesse**, "Evaluating protocols for the determination of water hardness"

Co-Authors: **Eudes Mvoula, Frank Omoregbee**

Research Mentor(s): **Dr. Mian Jiang**

Project Location: University of Houston-Downtown

**7 - Suleiman Anaza, Fnu Ayesha, Gaelle Elias, Dennis Rivera, Zachary Tubbs**, "Constructing a System to Help Maintain Sustainance in Long-term Chemical Attacks"

Research Mentor(s): **Prof. Mitsue Nakamura**

Project Location: University of Houston-Downtown

**9 - Jonathan Andrade**, "Effect of Fly Ash and Silica Fume on Time to Corrosion Initiation"

Research Mentor(s): **Dr. Arash Rahmatian**

Project Location: University of Houston-Downtown

**11 - Tristian Arroyo**, "Identification of Genetic Loci Responsible for Explorative Behavior Between *D. Simulans*, and *D. Sechellia*"

Co-Authors: **Kally Ramos**

Research Mentor(s): **Dr. Connie Kang**

Project Location: University of Houston-Downtown

**13 - Madison Arzadon, Adrian Carranza, Mason Matlega, My Nguyen, Ben-Amin York Jr.**, "Are The Events in The Movie, The Martian, Possible?"

Co-Authors: **Nelson Arias**

Research Mentor(s): **Prof. Mitsue Nakamura**

Project Location: University of Houston-Downtown

**15 - Samuel Bernal**, "Novel Reactive Macromolecules: Synthesis and Characterization of Phthalocyanine Monomers"

Research Mentor(s): **Dr. Eszter Trufan**

Project Location: University of Houston-Downtown

**17 - Pedro Brito Rodriguez**, "Stock Structure of Bowhead Whales Inferred from mtDNA"

Research Mentor(s): **Dr. Amy Baird**

Project Location: University of Houston-Downtown

**19 - Paul Nixon**, "A Survey of Numerical Methods for Hyperbolic Conservation Laws"

Research Mentor(s): **Dr. Katarina Jegdic**

Project Location: University of Houston-Downtown

**21 - Ahmad Chaban, Remsha Iqbal, Mohammed Mohammed Ali**, "Corneal and Retinal Diseases from an Undergraduate's Shadowing Experience"

Co-Authors: **Idris Akinlusi**

Research Mentor(s): **Dr. Hamida Qavi**

Project Location: University of Houston-Downtown, Eye Excellence Clinic

**23 - Katherinne Aguilar, Adrian Chavez, Samantha Cornejo, Noelia Jimenez, Rachel Mendez**, "Enhancing the Brain Biologically with Stimulants and Technology"

Co-Authors: **Jeremiah Gantt**

Research Mentor(s): **Prof. Mitsue Nakamura**

Project Location: University of Houston-Downtown

**25 - Takese McKenzie**, "A New and Friendly Open-Source Fly Tracker to Study Attention Deficient Hyperactivity Disorders in *Drosophila Melanogaster*"

Co-Authors: **Santiago Gutierrez, Jose Gonzalez**

Research Mentor(s): **Dr. Connie Kang**

Project Location: University of Houston-Downtown

- 27 - Lysabeth Busby, Erick Cordova, Isaac Ferreyra, Carissa Moran**, "The Efficacy of Teacher Training for Students with Disruptive Behaviors"  
Research Mentor(s): **Dr. Stephanie L. Coleman**  
Project Location: University of Houston-Downtown
- 29 - Mariangela Gamez**, "Misleading Errors in Legal Translation: Documents from Harris County, Fort Bend County and Galveston County"  
Research Mentor(s): **Dr. Rey Romero**  
Project Location: University of Houston-Downtown
- 31 - Melissa Garcia Canastuj**, "Singapore Country Report"  
Research Mentor(s): **Dr. John Linantud**  
Project Location: University of Houston-Downtown
- 33 - Jose Miguel Gonzalez**, "Data Aggregation System for UHD Solarized Micro-Grid"  
Co-Authors: **Dr. Weining Feng**  
Research Mentor(s): **Dr. Weining Feng**  
Project Location: University of Houston-Downtown
- 35 - Nia Griffith**, "An Analysis of Diversity and Resistance of Environmental Bacteria from Three Elementary Schools in Houston, TX."  
Research Mentor(s): **Dr. M. Gabriela Bowden**  
Project Location: University of Houston-Downtown
- 37 - Roel Guerra**, "Developing a Methodology for the Purification of a Zwitterionic Chiral Monomer"  
Research Mentor(s): **Dr. Robin Jose**  
Project Location: University of Houston-Downtown
- 39 - Ignacio Hernandez, Gina Lee, Ivan Rocha**, "Research Experience for Undergraduates on Solid Mechanics"  
Co-Authors: **Ian Frankel**  
Research Mentor(s): **Dr. Youn-Sha Cha**  
Project Location: University of Houston-Downtown
- 41 - Desmond Dawson, Giao Ho, Jennifer Mendoza, Frank Omoregbee, Jermal Sanders, Lacey Singleton**, "What changes can society make to limit their impact on climate change?"  
Co-Authors: **Brook Krenek**  
Research Mentor(s): **Prof. Mitsue Nakamura**  
Project Location: University of Houston-Downtown
- 43 - Isbah Khan**, "Impact of fruit and vegetable consumption on standardized body mass index (zBMI) of Mexican-American adolescents"  
Co-Authors: **Ms. Katherine R. Arlinghaus, Ms. Claudia W. Scott, Dr. Daphne C. Hernandez, Dr. Craig A. Johnston**  
Research Mentor(s): **Dr. Craig Johnston**  
Project Location: University of Houston
- 45 - Jennifer Lara**, "Do Noncognitive Variables Predict Academic Success Among Nontraditional Students?"  
Research Mentor(s): **Dr. Kit Cho**  
Project Location: University of Houston-Downtown
- 47 - Vi Ly, Shawn Olichwier**, "Accurate Prediction of Boundaries of High Resolution Topologically Associated Domains (TADs) In Fruit Flies Using Deep Learning"  
Research Mentor(s): **Dr. Benjamin Soibam**  
Project Location: University of Houston-Downtown
- 49 - Marcell McCorkle**, "Risk, Uncertainty, and Healthcare Coalitions"  
Research Mentor(s): **Dr. Laila Sorurbakhsh**  
Project Location: University of Houston-Downtown
- 51 - Hector Melchor**, "Using Performance-Based Criteria for SCC Coastal Condominium Column Repair"  
Research Mentor(s): **Dr. Arash Rahmatian**  
Project Location: University of Houston-Downtown
- 53 - Ahmed Mohammed Ali**, "Computational Studies of Three N-substituted Molecules of 5-ChloroSalicylamides- Potential Dental Antiplatelet Agents"  
Research Mentor(s): **Dr. Maria Benavides**  
Project Location: University of Houston-Downtown
- 55 - Nhi Le, Julia Nguyen, Nhat Nguyen**, "Chemical Analysis of Plastic Samples pre- and post-Freshwater Exposure"  
Co-Authors: **Shaynah St. Vallier, Trung Le**  
Research Mentor(s): **Dr. Poonam Gulati Salhotra, Dr. Janusz Grebowicz**  
Project Location: University of Houston-Downtown
- 57 - Daniel Avalos, Jessica M. Gonzalez, Matthew Pacheco, Marium Waqar**, "Evaluation of the Atmospheric Particulate Matter in the Greater Houston Area"  
Research Mentor(s): **Dr. Penny Morris-Smith, Dr. Philip Lyons**  
Project Location: University of Houston-Downtown
- 59 - Sarah Ramlal**, "Synthesis of Phthalocyanine Monomers: The Flexibility Perspective"  
Research Mentor(s): **Dr. Eszter Trufan**  
Project Location: University of Houston-Downtown
- 61 - Amanda Rodriguez**, "Sandstone petrology of the Chinle Formation in Grand Staircase-Escalante National Monument, southern Utah: significance for interpreting climatic and tectonic changes during the Late Triassic"  
Co-Authors: **Jose Teran, Sarah Roberts**  
Research Mentor(s): **Dr. Jeffrey W. Martz**  
Project Location: University of Houston-Downtown
- 63 - Jesus Ruiz**, "Theoretical Studies of the Photoluminescence and Forensic Application of Azomethine-Zinc (II) Complexes"  
Research Mentor(s): **Dr. Maria Benavides**  
Project Location: University of Houston-Downtown
- 65 - Mame Sarr, Geraldine Tijerina**, "Contemporary Techniques in Geologic Mapping"  
Research Mentor(s): **Dr. Sarah Heinlein**  
Project Location: University of Houston-Downtown
- 67 - Anicita Hernandez, Sarah Jewel Setliff**, "LGBT Employment Discrimination"  
Research Mentor(s): **Dr. Stephen Wernet**  
Project Location: University of Houston-Downtown
- 69 - Derek Rajan, Fikir Tadesse**, "Portable Analyzer System for Water Quality Monitoring"  
Research Mentor(s): **Dr. Weining Feng**  
Project Location: University of Houston-Downtown
- 71 - Paula Ortiz, Jacqueline Torralba**, "Petroleum/Petrochemical Mid-Stream Study: Corrosion Study of the Pipeline Material Under Various Environmental Condition"  
Research Mentor(s): **Dr. Mian Jiang**  
Project Location: University of Houston-Downtown
- 73 - Sergio Pena Diaz, Victoria Valencia, Sean Glen Wood**, "Solar Powered Aquaponics System: Modeling Real-World Solutions through Engineering Technology"  
Research Mentor(s): **Dr. Vassilios Tzouanas, Dr. Lisa Morano**  
Project Location: University of Houston-Downtown
- 75 - Kevin Vo**, "Computational studies of a new synthetic compound that causes human fibrosarcoma HT-1080 cell apoptosis, 5-(Furan-2-yl)-4-(3,4,5-trimethoxyphenyl)-3H-1,2-dithiol-3-one oxime, and other related compounds"  
Research Mentor(s): **Dr. Maria Benavides**  
Project Location: University of Houston-Downtown
- 77 - Cuong Pham**, "Data Analysis for Estimating Missing Data in Magnetic Resonance Imaging"  
Research Mentor(s): **Dr. Yuchou Chang**  
Project Location: University of Houston-Downtown
- 79 - Julie Flores, Enrique Sanchez, Angela Ybarra, Brittany Zavala**, "Combating a flowable mortar mixture"  
Research Mentor(s): **Dr. Arash Rahmatian**  
Project Location: University of Houston-Downtown
- 81 - Sahira Palomo**, "Acoustic Performance in Concrete using Rockwool"  
Research Mentor(s): **Dr. Arash Rahmatian**  
Project Location: University of Houston-Downtown

## **Poster Presentation Session II – Graduate Level Projects (2:15PM-3:00PM):**

**83 - Juan De La Cruz, Phuong Huynh, Tom Andrew Wilson,** “A service learning project that aimed at solving real-world problems in the Data Mining course of the Master of Science in Data Analytics”

Research Mentor(s): **Dr. Hong Lin**

Project Location: University of Houston-Downtown

**85 - Eileen Alexander, Latrice Brooks, Fabi Figueroa, Milton Guardado, Afshan Malik, Trevon Oliver, Aarika Plunkett, James Thomas,** “Successful Leadership and Workforce Implications in the Nonprofit Sector”

Research Mentor(s): **Dr. Laila Sorurbakhsh**

Project Location: University of Houston-Downtown

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