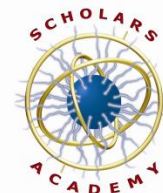


16th ANNUAL UHD STUDENT RESEARCH CONFERENCE

Sponsored by the UHD Scholars Academy

Funded by the

National Science Foundation (0934913),
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The Brown Foundation, Inc., College of Sciences & Technology, and UH-Downtown



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

Friday, April 7, 2017

8:00 – 8:45 am	Registration and Continental Breakfast (UHD Coffee House)
8:45 – 9:15 am	Welcoming Remarks (Cullen Auditorium) – <i>Dr. Mary Jo Parker, Scholars Academy, Executive Director, UHD</i> <i>Dr. Michael Olivas, Interim President, UHD</i> <i>Mr. Ed Hugetz, Provost, UHD</i> <i>Dr. Akif Uzman, Dean, College of Sciences and Technology, UHD</i>
9:15 – 9:30 am	Introduction of SRC Committee Chairs and Members Introduction of other special guests
9:30 – 9:35 am	Introduction of Keynote Speaker – <i>Dr. Jerry E. Johnson Jr., Assistant Vice President, Research & Sponsored Programs</i>
9:35 – 9:50 am	Keynote Speaker – Dr. Elda M. Rueda, UHD Alumna
9:50 – 12:00 pm	Oral Presentations – <i>Emilia Caylor</i> - Inherited Zircon Ages as a “Fingerprint” of Granite Source Regions <i>Jacqueline Rocha</i> - Antibiotic Sensitivity of Bacteria in Single- and Multi-Species Communities <i>Daniel Salazar</i> - The Waste Collector <i>Linus Klingler & Zakariya Mahmud</i> - An Analogue of Indolyl-keto-oxadiazole Exhibits Cytotoxic Effects on Multiple Cancer Cell Lines and Causes Apoptosis via Inhibition of Tubulin Polymerization <i>Jessica Galaviz</i> - Interactive Math Journals for Elementary Students <i>Paula Calderon</i> - True Happiness: A Study of Spiritual Need and Subjective Well-Being <i>Manuel Reyes-Leon</i> - Anticancer Effects of Green Basil Extracts on MCF-7 Breast Cancer Cells <i>Paula Cano</i> - Children of Hunger
12:00 – 12:05 pm	Introduction of External Community Speaker – <i>Dr. Janusz Grebowicz, Associate Professor of Physics, Department of Natural Sciences, UHD</i>
12:05 – 12:20 pm	External Community Speaker – Dr. Wacław Gudowski, Professor in Neutron and Reactor Physics at Kungliga Tekniska Högskolan (KTH) - The Royal Institute of Technology in Stockholm, Sweden
12:20 – 1:30 pm	Complimentary Box Lunch for Presenters (oral/poster) & Faculty Mentors Welcome Center – Travis and Milam rooms
1:30 – 3:00 pm	Open Poster Sessions I & II, (Room A300)
3:30 – 4:30 pm	Post SRC Seminar and Meet & Greet with Dr. Wacław Gudowski (Cullen Auditorium) Refreshments will be served in the Coffee House

Conference Co-Chairs:

Dr. Ruth Johnson, Associate Professor of Psychology, UHD
Dr. Rachna Sadana, Associate Professor of Biology, UHD

Conference Planning Committee:

Dr. Kleio Avrithi, Associate Professor of Computer Science & Engineering, UHD
Dr. Maria Bhattacharjee, Associate Professor of Urban Education, UHD

Dr. Youn-Sha Chan, Associate Professor of Mathematics and Statistics, UHD

Dr. Irene Chen, Professor of Urban Education, UHD
Dr. Poonam Gulati Salhotra, Director of the Center for Community Engagement and Service Learning, UHD

Dr. Judith Harris, Assistant Professor of Criminal Justice, UHD
Dr. Jillian Hill, Assistant Professor of English, UHD
Dr. Mian Jiang, Associate Professor of Chemistry, Natural Sciences Department, UHD

Dr. Kenneth Johnson, Associate Professor of Geology, UHD

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
Phone: 713-222-5344; Fax: 713-222-5356; scholars@uhd.edu; www.uhd.edu/scholars

Dr. Hong Lin, Professor of Computer Science, UHD
Dr. Michelle Moosally, Chair and Associate Professor of English, UHD
Dr. Lisa Morano, Professor of Biology and Microbiology, Natural Sciences Department, UHD
Dr. Whitney Botsford Morgan, Associate Professor of Management, Marketing & Business Administration, UHD
Professor Mitsue Nakamura, Lecturer of Mathematics and SA Peer Mentor Coordinator, UHD
Dr. Chu Nguyen, Chair of Finance, Accounting and Enterprise Information Systems, UHD
Ms. Julie Norton, Executive Director of Strategic Partnerships, Office of the President, UHD
Dr. Mary Jo Parker, Executive Director, UHD Scholars Academy
Dr. Lucille Pointer, Chair of Management, Marketing & Business Administration, UHD
Dr. Gene Preuss, Associate Professor of History, UHD
Dr. Claude Rubinson, Associate Professor of Sociology, UHD
Dr. Akif Uzman, Dean, College of Sciences and Technology, UHD
Dr. Sarah Walker, Associate Professor of Management, Marketing & Business Administration, UHD
Ms. Shonesia Wilson, Program Coordinator, UHD Scholars Academy

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

- 2 - Aaron Torres**, "Using Caffeic Acid & Alizarin Red S as a Green Anti-Corrosion Inhibitor for Steel Alloys"
Co-Authors: **Dr. Jiang Mian**
UHD Faculty Mentor: **Dr. Mian Jiang**
Project Location: University of Houston-Downtown
- 4 - Alexander Benavidez, Sekou Samake**, "Comparison of Plant Endophytic Communities in Heritage and Modern Corn, Zea mays"
UHD Faculty Mentor: **Dr. Lisa D. Morano**
Project Location: University of Houston-Downtown
- 6 - Alisa Turchaninova**, "Investigating a Steady-State Thermistor Problem"
UHD Faculty Mentor: **Dr. Volodymyr Hrynkiv**
Project Location: University of Houston-Downtown
- 8 - Amanuel Wonbera**, "The Anticancer Efficacy of Components from Pearl Garlic against Breast Cancer Cells In vitro"
UHD Faculty Mentor: **Dr. Hamida Qavi**
Project Location: University of Houston-Downtown
- 10 - Andrea Hain, Johanna Moreno**, "Comparison of Morphological Characteristics, Genetics, and Nutritional Data of Multiple Varieties of Plant Species Brassica oleracea"
Co-Authors: **Chau Huynh, Leticia Villalobos, Reyna Valdez, Yarmilla Reyes, Jonathan Garcia**
UHD Faculty Mentor: **Dr. Lisa Morano**
Project Location: University of Houston-Downtown
- 12 - Anna Wheless, Ashlyn Holbert**, "Phylogeography of Geomys personatus Subspecies in Texas"
UHD Faculty Mentor: **Dr. Amy Baird**
Project Location: University of Houston-Downtown
- 14 - Boranai Tychhon**, "Determination of Anticancer Efficacy of Isolated Compounds from Neem Leaf on Breast Cancer Cells in vitro"
Co-Authors: **Dr. Tyra Hessel, Dr. Hamida Qavi**
UHD Faculty Mentors: **Dr. Tyra Hessel, Dr. Hamida Qavi**
Project Location: University of Houston-Downtown
- 16 - Carolina Perez Lopez**, "Isolation of Compounds from Softneck Garlic as Anticancer Agents"
Co-Authors: **Dr. Hamida Qavi**
UHD Faculty Mentor: **Dr. Hamida Qavi**
Project Location: University of Houston-Downtown
- 18 - Charles Livermore, Bobby Flores, Julio Enriquez**, "Shock and Error: Identifying the Least-Deviant Model to Analyze Nonlinear Wave Systems"
UHD Faculty Mentor: **Dr. Katarina Jegdic**
Project Location: University of Houston-Downtown
- 20 - Chika Nworah**, "Theoretical Studies of Silver (I) Complexes with Anticancer and Antibacterial Properties"
UHD Faculty Mentor: **Dr. Maria Benavides**
Project Location: University of Houston-Downtown
- 22 - Christopher Ward**, "Efficiency of Water Transport Remains Constant as Leaves Expand in Helianthus annuus"
Co-Authors: **Aimee Ng**
UHD Faculty Mentor: **Dr. Michael Tobin**
Project Location: University of Houston-Downtown
- 24 - Christy Rehbein**, "Community Assessment: A Blended Quantitative and Qualitative Analysis of Urban Development"
Co-Authors: **Valeria Olmedo, Lashunda Robinson, Evan Semones**
UHD Faculty Mentor: **Mr. Josh Reynolds**
Project Location: University of Houston-Downtown
- 26 - Dorcas Mbaeri**, "UNCF Health Care Navigator Scholars Program Summer 2016"
Faculty Mentor: **Mr. Said Reda**
Project Location: White Plains, New York
- 28 - Felisa Sanchez, Davy Perez**, "Lucy"
Co-Authors: **Raven Robertson, Takese McKenzie, Christopher Yopez, Angelinda Maldonado, Paul Nixon, Esmeralda Gramajo, Fatma Diefalla, Precious Awagu**
UHD Faculty Mentor: **Ms. Mitsue Nakamura**
Project Location: University of Houston-Downtown
- 30 - Gilberto Marmolejo**, "Computational Studies of Zinc(II) Complex with a Cationic Schiff Base Ligand with Anticancer Properties"
UHD Faculty Mentor: **Dr. Maria Benavides**
Project Location: University of Houston-Downtown
- 32 - Huy Anh Mai, Ameen Khan, Desiree Gonzales**, "Inhabiting Foreign Planets"
Co-Authors: **Anthony Vu, Jose Zeyala, Valeria Vasquez, Eva Ruiz, Maritza Espino**
UHD Faculty Mentor: **Ms. Mitsue Nakamura**
Project Location: University of Houston-Downtown
- 34 - Jasmine Huynh**, "As Contemplators of the Divine" and of this "Immense Machine"
UHD Faculty Mentor: **Dr. Andrew Pavelich**
Project Location: University of Houston-Downtown
- 36 - Jessica Cantu**, "The Dark Side of Peer Excellence: Do Exemplary Peers Undermine Motivation?"
UHD Faculty Mentor: **Dr. Kit Cho**
Project Location: University of Houston-Downtown
- 38 - Jessika Powers, Danial Khan**, "More than just Rote Memorization, Testing Facilitates Conceptual Learning"
UHD Faculty Mentor: **Dr. Kit Cho**
Project Location: University of Houston-Downtown
- 40 - Jill Costa, Courtney Coleman**, "Academic Entitlement in Traditional vs. Nontraditional Undergraduates"
UHD Faculty Mentor: **Dr. Stephanie Babb**
Project Location: University of Houston-Downtown
- 42 - Jonathan Garcia, Chau Huynh**, "Assessment of Two Organic Fungicides against Rust Infection in a Community Garden and Molecular Identification of a Potential Rust Pathogen"
Co-Authors: **Christian Malsatzki**
UHD Faculty Mentor: **Dr. Lisa D. Morano**
Project Location: University of Houston-Downtown
- 44 - Justin McLeod, Douglas Syzdek**, "Thermal Expansion Analysis of Green River Shale"
UHD Faculty Mentor: **Dr. Janusz Grębowicz**
Project Location: University of Houston-Downtown
- 46 - Karelys Carreyo**, "Interest Rates in the Business Cycle in the US and Canada"
UHD Faculty Mentor: **Dr. Léonie Karkoviata**
Project Location: University of Houston-Downtown
- 48 - Leydi Serrano, Saher Uddin, Stephanie Barrera, Joseph Hernandez, Pedro Son**, "Assessment of Atmospheric Particulate Matter in the Greater Houston Area"
UHD Faculty Mentors: **Dr. Penny-Morris, Dr. Philip Lyons**
Project Location: University of Houston-Downtown
- 50 - M. Geneva Jahan-Tigh**, "Isolating Aeromonas veronii from Flood Water"
Co-Authors: **Dr. M. Gabriela Bowden**
UHD Faculty Mentor: **Dr. M. Gabriela Bowden**
Project Location: University of Houston-Downtown

- 52 - Mahesh Basyal, Reyna Valdez**, “Determination of Cytotoxic Effects of Synthetic Compounds on Multiple Cancer Cell Lines”
Co-Authors: **Zakariya Mahmud, Jeziel Ilag, Linus Klingler, Nuru Makame**
UHD Faculty Mentor: **Dr. Rachna Sadana**
Project Location: University of Houston-Downtown
- 54 - Margaret Stagg, Mona Shamsulhaq, Jacqueline Paulino, Melinda Strahan, Elma Suskic**, “Supporting a Local Business through Operations Management”
UHD Faculty Mentor: **Dr. Elias Keedy**
Project Location: University of Houston-Downtown
- 56 - Maria Espino, Graham Wilson**, “Mash Tun Batch Process with Bioreactor”
Co-Authors: **Erick Cabrera, Joshua Balandran, Dr. Vassilios Tzouanas, Dr. Lisa Morano**
UHD Faculty Mentor: **Dr. Vassilios Tzouanas**
Project Location: University of Houston-Downtown
- 58 - Maria Neira**, “GeoROV Cone Penetrometer Test”
Co-Authors: **Dr. Alex Barnard, Mr. Mike Fearn**
UHD Faculty Mentor: **Dr. Alex Barnard**
Project Location: UTEC Survey, Inc
- 60 - Melissa Camarillo**, “Spiral Staircase”
Co-Authors: **Omar Alazawi, Edwin Villagoro, Tahj Johnson, Sandy Nwulu, Emmanuel Mendiola, David Wong, Jessica Innis**
UHD Faculty Mentor: **Dr. Arash Rahmatian**
Project Location: University of Houston-Downtown
- 62 - Michelle Martin**, “A Geoscience Bicycle Field Trip Along Buffalo Bayou, Houston, Texas”
Co-Authors: **Dr. Alex Barnard**
UHD Faculty Mentor: **Dr. Alex Barnard**
Project Location: Houston, Buffalo Bayou
- 64 - Nia Griffith**, “The Efficacy of Components from *Crocus sativus* stigmas Against Breast Cancer Cells In Vitro”
UHD Faculty Mentor: **Dr. Hamida Qavi**
Project Location: University of Houston-Downtown
- 66 - Paula Calderon**, “True Happiness: A Study of Spiritual Need and Subjective Well-Being”
UHD Faculty Mentor: **Dr. Nausheen Pasha-Zaidi**
Project Location: University of Houston-Downtown
- 68 - Praneeth Nadimpalli, Darwin Argueta, Emma Schlee**, “Is it Possible to Bring the Dead Back to Life?”
Co-Authors: **Joly Fahim, Carolina Fernandez, Jacob Thorp, Amrutha Nanduri, Abdullah Khrushid**
UHD Faculty Mentor: **Ms. Mitae Nakamura**
Project Location: University of Houston-Downtown
- 70 - Rajni Dhadral**, “Assessing the Genetic Basic of Exploration Behavior in Interspecies lines in *Drosophila* Species”
Co-Authors: **Dr. Yuanyuan Kang, Dr. Roman, Connie Okon, Maria Frusto**
UHD Faculty Mentor: **Dr. Yuanyuan Kang**
Project Location: UHD and UH
- 72 - Ramiro Mendoza**, “Calibration of Piping Code Equations for Earthquake Load”
UHD Faculty Mentor: **Dr. Kleio Avrithi**
Project Location: University of Houston-Downtown
- 74 - Ruby Salinas**, “Comic Book Shows: Gender Roles, Admiration and Differences”
UHD Faculty Mentor: **Dr. Nausheen Pasha-Zaidi**
Project Location: University of Houston-Downtown
- 76 - Shannon Cain**, “Cost Analysis of Concrete Mix Design According to ACI 318 Code”
Co-Authors: **Dr. Arash Rahmatian**
UHD Faculty Mentor: **Dr. Arash Rahmatian**
Project Location: University of Houston-Downtown
- 78 - Takese Mckenzie, Fatma Diefalla**, “Can Humans Access Their Full Brain Capacity?”
Co-Authors: **Angelinda Maldonado, Christopher Yepez, Davy Perez, Esmeralda Gramajo, Felisa Sanchez, Paul Nixon, Raven Robertson**
UHD Faculty Mentor: **Ms. Mitsue Nakamura**
Project Location: University of Houston-Downtown
- 80 - Ta-Kwong Lee**, “Enumerating the Molecular Interactions in Thin Layer Chromatography for Better Results”
UHD Faculty Mentor: **Dr. Robin Jose**
Project Location: University of Houston-Downtown
- 82 - Tristian Arroyo, Lynda Juarez, Charlie Lazo**, “King Kong: Fact or Fiction?”
Co-Authors: **Sahira Palomo, Alan Saavedra, Jacqueline Torralba**
UHD Faculty Mentor: **Ms. Mitsue Nakamura**
Project Location: University of Houston-Downtown
- 84 - William Reyes**, “Using Confidence Intervals to Evaluate Biostratigraphic Ranges in the Chinle Formation”
Co-Authors: **Sage Muttel**
UHD Faculty Mentor: **Dr. Jeffrey Martz**
Project Location: University of Houston-Downtown
- 86 - Yue Jiao**, “Earthquake Analysis of Multi Story Buildings”
UHD Faculty Mentor: **Dr. Youn-Sha Chan**
Project Location: University of Houston-Downtown
- 88 - Yuntian Zhang**, “Real-Time Analysis and Prediction of Stock Price”
Co-Authors: **Esteban Duran, Dr. Hong Lin, Dr. Yuchou Chang**
UHD Faculty Mentor: **Dr. Yuchou Chang**
Project Location: University of Houston-Downtown

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

Elda M. Rueda, PhD

Postdoctoral Associate

Department of Molecular Physiology and Biophysics

Baylor College of Medicine



Presentation Title: “Understanding the instructive role of mitochondria in adult, developing, aging and injured retina: a path that started in undergraduate school where the experience translated into better preparation for a career in science”

Biography: Dr. Elda Rueda obtained a B.S. in Chemistry from the University of Houston-Downtown in 2011. While at UHD, Dr. Rueda was a member the Scholars Academy, served as an undergraduate researcher with Drs. Jerry Johnson and Byron Christmas, received the Outstanding Support as a Natural Science Tutor award, and was awarded the Louis B. Stokes Alliance for Minority Participation scholarship two years in a row. Dr. Rueda received her doctorate degree in Physiological Optics and Vision Science from the University of Houston in 2016 and she is currently a postdoctoral associate pursuing training at Baylor College of Medicine in the Department of Molecular Physiology and Biophysics.

As an undergraduate student, Dr. Rueda was involved in peer-mentor programs at the UHD, and during her graduate training, she was mentored by senior graduate students and mentored and guided undergraduate students on how to develop scientific research questions, use imaging techniques and interpret and analyze the results.

As a Hispanic woman and first generation college student, she is very proud of her academic accomplishments thus far, but she still has many career goals, which include her training as a mentor and educator. Through her undergraduate and graduate studies she realized how valuable and essential it is to develop skills that will allow her to contribute to the development of other students. Her long-term career goal is to become an independent investigator, educator and mentor within a Hispanic serving institution so that she may drive innovative biomedical research while also directly encouraging the intellectual and professional development of the next generation of scientists.

Presentation Abstract: Mitochondrial decline precedes neural degeneration. Moreover, mitochondria are key players of neural regeneration. Having a greater understanding of the altered mitochondrial metabolism in human retinopathies is required if we are to ever achieve efficient cell replacement therapies or develop methods to prevent the initiation of neuronal degeneration and vision loss.

My project started when I was an undergraduate student at UHD where I learned the advantages of using confocal microscopy to understand retinal biochemistry, a project that I expanded on during my graduate studies at UH. This long time commitment translated into better preparation for my present postdoctoral position. My most recent work is involved in understanding the instructive role that mitochondria and metabolism play during retinal development.

Coordination of retinal progenitor cells (RPC) proliferation and differentiation is essential for regulating tissue size and ensuring proper development and ratios of the various retinal cell types essential for normal physiology. During RPC proliferation, there is clear coupling of metabolic/mitochondrial activity and cell cycle progression. However, in mammalian systems, mitochondrial influence over proliferation and differentiation is largely unexplored. We use the mouse retinal model system and *in vivo* confocal imaging to determine the precise cellular requirement for electron transport chain (ETC) activity during neural progenitor cell proliferation. We generated a functional knockout of the ETC by targeting the loss of the mitochondrial transcription factor A (*Tfam*).

Our data indicates that loss of *Tfam* leads to RPC cell cycle exit and eventual apoptosis and represent the first example of a role for *Tfam* in retinal development. We propose that the loss of ETC function directly impacts the RPC cell cycle machinery and current experiments are being performed to determine the specific cellular and molecular requirements for the ETC during RPC proliferation.

External Community Speaker: (12:05PM-12:20PM)

Waclaw Gudowski, PhD

Professor

KTH-Royal Institute of Technology

Stockholm, Sweden



Presentation Title: “Invigorating (Nuclear) Engineering Education with “TEEE – TE³– Technology Empowered Engineering Education”

Biography: Dr. Waclaw Gudowski is a Professor in Neutron and Reactor Physics at Kungliga Tekniska Högskolan (KTH) - The Royal Institute of Technology in Stockholm, Sweden. Dr. Gudowski completed a PhD at the University of Mining and Metallurgy in Krakow (Poland) based on the work done on design of the fast pulsed research reactor IBR-2 in Dubna, Russia and is one of the European pioneers of research in accelerator driven transmutation of nuclear waste, or so called Accelerator Driven Systems - ADS.

From 1996 to 1999, Dr. Gudowski coordinated the first European research project on ADS - Impact of the Accelerator Based Technologies on Nuclear Fission Safety (IABAT) with 10 research institutes from six European countries. This project has grown and branched into eight different ADS-related projects in the 5th FrameWork Programme (FP) of the European Community. In the 6th FP - one of the architectures of the biggest ever European Integrated Project - IP Eurotrans.

Until 2006, Dr. Gudowski served as coordinator of the European project “Impact of Transmutation and Reduction of Waste on Geological Waste Repository – RED-IMPACT” with 23 different partners representing 11 European countries. A very specific feature of this project was that partners of the RED-IMPACT project came from three different communities: research institutes, universities and waste management agencies/companies.

From 2006 to 2011, Dr. Gudowski was on leave from the Royal Institute of Technology for an assignment as a Deputy Executive Director of the International Science and Technology Center (ISTC) in Moscow representing the European Union and being responsible for 50 M\$ research project program in nuclear and renewable technologies. From mid-2011 he served as Program Director of the KTHs Master Program in Nuclear Energy Technology, which he designed and established at KTH in 2006 before his term at the International Science and Technology Center in Moscow. This Master Program is now most dynamically developing E-learning platform – Technology Empowered Engineering Education – TEEE or TE³ for nuclear technology education.

Author of over 100 scientific papers in nuclear technology, nuclear data and solid-state physics, Dr. Gudowski is also a distinguished professor of the Institute of Modern Physics in Lanzhou, China.

Presentation Abstract: Leading technical universities worldwide develop nowadays intensively so called E-learning both for academic and non-academic education. E-learning possibilities and attractive presence in the cyber-space will be soon also an important criterion for applicants and university evaluators.

Royal Institute of Technology – KTH in Stockholm, Sweden develops its own model of E-learning called “Technology Empowered Engineering Education” – TEEE or TE³ in order to invigorate engineering education, in nuclear area in particular. TEEE at KTH is very much in-line with the KTH’s main educational mission: excellent “Campus-based” engineering education supported by technology in order to make education more attractive and more creative, to enhance learning pace and consequently improve a “through-put” for the program students. There are also very specific incentives and benefits of TEEE at KTH:

- Self-improvement of pedagogical quality of the lectures: TEEE platform implies video recording of the lectures which turns out to be the easiest, most effective and self-stimulating means to improve the pedagogical level of the lectures
- Regaining intensity of calculus exercises, home assignments and students off-campus activities managed TEEE tools without extra workloads on teachers - unloading teachers from time consuming and not really rewarding grading/assessment duties
- Better preparation for laboratory exercises and lab projects through preparatory work on lab simulators
- Instant results of examinations and home/test assignments. Extremely important argument for an efficient education. It meets also very well students expectations.

TEEE becomes now also the main platform for “education on demand” and “distance education” for NON-ACADEMIC customers. Finally, a common activities between KTH and UHD will be presented: a Summer Course on the Back-end of the Nuclear Fuel Cycle – A Swedish Model of Geological Disposal for Spent Nuclear Fuel. Having in mind up-side-downs with the Yucca Mountain disposal project and public concerns related to the spent nuclear fuel issues this cooperation is of utmost importance for both partners.

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

- 1 - Amée Stevenson**, “Workout Coupling: Study the Influence on One’s Workout on the Other”
Co-Authors: **Carla Gonzalez**
UHD Faculty Mentor: **Dr. Dvijesh Shastri**
Project Location: University of Houston-Downtown
- 3 - Angela Dominguez, Yadira Gamez**, “Deciding to Seek Therapy: The Effects of Religion and Spirituality Across Ethnic Groups”
UHD Faculty Mentor: **Dr. Erlanger Turner**
Project Location: University of Houston-Downtown
- 5 - Ashvanthi Raveendran, Lucero Priego**, “The Study of Differential Equations For Two-Phase Flow”
Co-Authors: **Dr. Katarina Jegdic**
UHD Faculty Mentor: **Dr. Katarina Jegdic**
Project Location: University of Houston-Downtown
- 7 - Brandon F. Padgett**, “Thermal Analysis of Mudstones”
Co-Authors: **Dr. Janusz Grębowicz, Dr. Kenneth Johnson**
UHD Faculty Mentor: **Dr. Janusz Grębowicz**
Project Location: University of Houston-Downtown
- 9 - Isabel Cornejo**, “Studies of Kin Discrimination Patterns in the Social Bacterium *Myxococcus xanthus*”
Co-Authors: **Pintu Patra², Kimberley Kissoon^{1, 3}, Oleg Igoshin², and Heidi B. Kaplan⁴**
Faculty Mentor: **Dr. Heidi B. Kaplan**
Project Location: UT Health, McGovern Medical School
- 11 - Charles Punnathara**, “Prussian Blue Batteries for Cost Effective Storage”
UHD Faculty Mentor: **Dr. Mian Jiang**
Project Location: University of Houston-Downtown
- 13 - Daniel Salazar**, “The Waste Collector”
Co-Authors: **Joseph Duron, Jose Garcia**
UHD Faculty Mentor: **Dr. Arash Rahmatian**
Project Location: University of Houston-Downtown
- 15 - Douglas Syzdek**, “High Temperature Decomposition of M(III)-Acetylacetonate Organometallics”
Co-Authors: **Evrin Arslan, Roger A. Lalancette**
UHD Faculty Mentor: **Dr. Janusz Grębowicz**
Project Location: University of Houston-Downtown
- 17 - Elissa Guerra, Yvette Coreas**, “Comparing Anti-bacterial Properties of Synthetic Compounds to Known Antibiotics on *Escherichia coli*, *Bacillus subtilis*, *Bacillus cereus*, and, *Staphylococcus aureus*”
Co-Authors: **Dr. Rachna Sadana, Dr. Sanghamitra Saha**
UHD Faculty Mentor: **Dr. Rachna Sadana**
Project Location: University of Houston-Downtown
- 19 - Emilia Caylor**, “Inherited Zircon Ages as a “Fingerprint” of Granite Source Regions”
Co-Authors: **Dr. Kenneth Johnson, Dr. Joshua Schwartz**
UHD Faculty Mentor: **Dr. Kenneth Johnson**
Project Location: Czech Republic
- 21 - Esteban Duran**, “Development of Adaptive Search Algorithms for Swarm Robotics”
UHD Faculty Mentor: **Dr. Yuchou Chang**
Project Location: University of Houston-Downtown
- 23 - Gabrielle Hernandez, Diana Martinez Silva, Jeffrey Rodriguez**, “Validation for the MiMIC (GPRK2-GFP) Line as a Tool to Study the Expression Patterns and Behavioral Outputs of GPRK2 in *Drosophila melanogaster*”
UHD Faculty Mentor: **Dr. Yuan Yuan Kang**
Project Location: University of Houston-Downtown
- 25 - Glaubiane Viana, Jonathan Smith**, “Multistage Automated Desalination Station (MADS)”
UHD Faculty Mentor: **Dr. Weining Feng**
Project Location: University of Houston-Downtown
- 27 - Hassan Rehan**, “Exploring Muslim and Ethnic Identity: A Generational Journey”
UHD Faculty Mentor: **Dr. Pasha Nausheen**
Project Location: University of Houston-Downtown

- 29 - Ignacio Hernandez, Rajni Dhadral**, “The Role of Embedded Tutoring in the Classroom and its Impact on Student Engagement and Performance”
Co-Authors: **Tanu Uppal**
UHD Faculty Mentor: **Ms. Tanu K. Uppal**
Project Location: University of Houston-Downtown
- 31 - Irvin Romero, Boranai Tychon**, “Learning Experience in Ocular Diseases through Shadowing”
Co-Authors: **Phuonghi Tran, Dr. Hamida Qavi**
UHD Faculty Mentor: **Dr. Hamida Qavi**
Project Location: Eye Excellence Clinic
- 33 - Jacqueline Rocha**, “Antibiotic Sensitivity of Bacteria in Single- and Multi-Species Communities”
Co-Authors: **Milimar Murillo, Geneva Jahan-Tigh**
UHD Faculty Mentor: **Dr. Poonam Gulati Salhotra**
Project Location: University of Houston-Downtown
- 35 - Jesse Gilmore, Scott Patterson, Anthony Alizedah**, “Sustainable Development and Engineering Technology”
UHD Faculty Mentor: **Dr. Vassilios Tzouanas**
Project Location: University of Houston-Downtown
- 37 - Jianyi Hou, Omar Moghrabi**, “How Abundant are Genetically Modified Organisms (GMOs) in Your Food? An Investigation into the GMO Debate”
Co-Authors: **Dr. Yuan Yuan Kang**
UHD Faculty Mentor: **Dr. Yuan Yuan Kang**
Project Location: University of Houston-Downtown
- 39 - Johnathan Torres, David Alvarado**, “Thermal Analysis of Green River Oil Shale”
UHD Faculty Mentor: **Dr. Janusz Grębowicz**
Project Location: University of Houston-Downtown
- 41 - Leticia Villalobos, Ashley Hudson**, “Plant Nutrition Evaluation in Two Leafy vegetables, *Beta vulgaris* var. *cicla* and *Lactuca sativa*”
UHD Faculty Mentor: **Dr. Lisa D. Morano**
Project Location: University of Houston-Downtown
- 43 - Linus Klingler, Zakariya Mahmood**, “An Analogue of Indolyl-ketoxadiazole Exhibits Cytotoxic Effects on Multiple Cancer Cell Lines and Causes Apoptosis via Inhibition of Tubulin Polymerization”
Co-Authors: **Reyna Valdez, Zachary Olson, Jessie Smith**
UHD Faculty Mentor: **Dr. Rachna Sadana**
Project Location: University of Houston-Downtown
- 45 - Magge Nunez**, “Analyzing Ethnic Identity and Reading Habits of Latino College Students: Every Sentence Has a Story”
UHD Faculty Mentor: **Dr. Nausheen Pasha**
Project Location: University of Houston-Downtown
- 47 - Manuel Reyes-Leon**, “The Anticancer Effects of Components from Green Basil on MCF-7 Breast Cancer Cells In vitro”
Co-Authors: **Dr. Tyra Hessel, Dr. Hamida Qavi**
UHD Faculty Mentors: **Dr. Tyra Hessel, Dr. Hamida B. Qavi**
Project Location: University of Houston-Downtown
- 49 - Maria Paula Cano**, “Children of Hunger”
UHD Faculty Mentor: **Dr. John Linantud**
Project Location: Houston, Texas / La Guajira, Colombia
- 51 - Maria L. Bitgood**, “Vicarious Trauma and the Court Interpreter: Assessing its Physiological, Psychological, & Emotional Impact”
UHD Faculty Mentor: **Dr. Ashley G. Blackburn**
Project Location: University of Houston-Downtown
- 53 - Melissa Camarillo**, “Floating Driveway”
Co-Authors: **Jorge Carnaza, J. Miguel Barahona, Justin Mathis, Carlos Perez, Juan J. Torres, Andy Valdivia**
UHD Faculty Mentor: **Dr. Arash Rahmatian**
Project Location: University of Houston-Downtown
- 55 - Michael Miller, Ashley Moreno-Gongora, Conrado Cacho**, “Thermal Properties of Green River Shales”
UHD Faculty Mentor: **Dr. Janusz Grębowicz**
Project Location: University of Houston-Downtown
- 57 - Mohsin Lakhani, Jonathan Tan, David Leventon**, “The Income Effect on Gasoline Prices and Grocery Purchases”
Co-Authors: **Yue Jiao, Shifei Pan**
UHD Faculty Mentor: **Dr. Leonie Karkoviata**
Project Location: University of Houston-Downtown

59 - Omar Meraz, Linda DeLosSantos, Michael Ghossein, “Design and Control of a Distillation Process”

UHD Faculty Mentor: **Dr. Vassilios Tzouanas**

Project Location: University of Houston-Downtown

61 - Phuong Ho, Taktom Rashidfarokhi, “Inhibition of the Causative Agent of Dental Caries using a Natural Products”

Co-Authors: **Sandy Gramajo, Geraldine Lerner**

UHD Faculty Mentor: **Dr. Poonam Gulati Salhotra**

Project Location: University of Houston-Downtown

63 - Rosa Medellin, “Isolation and Characterization of Mycobacteriophages”

Co-Authors: **Ahmed F., Anderson R., Bandayrel A., Garcia A., Mendez A., Mendoza F., Morales A., Perez T., Ramos J., Sanchez M., Villaereal D., Vu K., Sadana R and Saha S**

UHD Faculty Mentors: **Dr. Sanghamitra Saha, Dr. Rachna Sadana**

Project Location: University of Houston-Downtown

65 - Raushan Rashid, Anh Duong, “Determination of Anticancer Activity of isolated Solanum Nigrum Linn leaf components using MCF-7 Breast Cancer Cells in vitro”

Co-Authors: **Dr. Tyra Hessel, Dr. Hamida Qavi**

UHD Faculty Mentors: **Dr. Tyra Hessel, Dr. Hamida Qavi**

Project Location: University of Houston-Downtown

67 - Reyna Valdez, Yarmilla Reyes, Dorthy Tran, “Screening for Xylella fastidiosa Across a Collection of Plant Species in the Texas Gulf Coast”

UHD Faculty Mentor: **Dr. Lisa Morano**

Project Location: University of Houston-Downtown

69 - Sage Muttel, William Reyes, Heather Savage, Jonathan Torres, “Lithostratigraphy and Biostratigraphy of the Chinle Formation”

Co-Authors: **Dr. Jeffery Martz**

UHD Faculty Mentor: **Dr. Jeffery Martz**

Project Location: Grand Staircase, Petrified Forest, Lake Powell, Capital Reef

71 - Sulaiman Jamal Asmatullah, “Branched Chain Amino Acids (BCAAs) Affect AtxA Activity in Bacillus anthracis”

Co-Authors: **Dr. Theresa M. Koehler, Naomi Bier, Malik J. Raynor**

UHD Faculty Mentor: **Dr. Theresa M. Koehler**

Project Location: UTHealth McGovern Medical School

73 - Taylor Carter, Ashlyn Holbert, “Molecular Phylogenetic Study of Pocket Gophers (Genus Geomys) in Texas”

Co-Authors: **Dr. Amy B. Baird**

UHD Faculty Mentor: **Dr. Amy B. Baird**

Project Location: University of Houston-Downtown

75 - Taylor Styers, “From Golden to Unimodular Cryptography”

UHD Faculty Mentor: **Dr. Sergiy Koshkin**

Project Location: University of Houston-Downtown

77 - Trung Le, Shayna St. Vallier, Asma Aziz, “Analysis of Microbial Biofilms on Plastic Samples from Galveston Bay”

Co-Authors:

UHD Faculty Mentor: **Dr. Poonam Gulati Salhotra**

Project Location: University of Houston-Downtown

79 - Yareli Carcamo-Bahena, “Anticancer Activity of Components from Fresh Turmeric Roots”

UHD Faculty Mentors: **Dr. Tyra Hessel, Dr. Hamida Qavi**

Project Location: University of Houston-Downtown

81 - Yuleisy Ruiz Vazquez, “Computational Investigation of Platinum Complexes Containing adenine-based ligands”

Co-Authors: **Dr. Maria Benavides**

UHD Faculty Mentor: **Dr. Maria Benavides**

Project Location: University of Houston-Downtown

83 - Zain Lakhani, “Adding Triangles by the Cubic, with a Bit of Einstein”

UHD Faculty Mentor: **Dr. Sergiy Koshkin**

Project Location: University of Houston-Downtown

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

85 - Durga Suryanarayanan, Sabahat Khan, “Visualizing Electricity Generation in the US”

UHD Faculty Mentor: **Dr. Dvijesh Shastri**

Project Location: University of Houston-Downtown

87 - Gustavo Blanco, “From the Battlefield to the Classroom”

UHD Faculty Mentor: **Dr. Colin Dalton**

Project Location: University of Houston-Downtown

89 - Jessica Galaviz, “Interactive Math Journals for Elementary Students”

UHD Faculty Mentor: **Dr. Amelia Hewitt**

Project Location: University of Houston-Downtown

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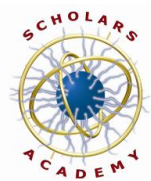
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