

# 11<sup>th</sup> ANNUAL UHD STUDENT RESEARCH CONFERENCE



#### Sponsored by the UHD Scholars Academy

Funded by the
National Institute of General Medical Sciences (1T34GM079088),
National Science Foundation (0728408),
The Brown Foundation, Inc., 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 13, 2012

8:00 - 9:00 am	Registration and Continental Breakfast, Coffee House
9:00 am	Dr. William Flores, President, University of Houston-Downtown Welcoming Remarks, UHD Wilhelmina Cullen Robertson Auditorium
9:10 am	Dr. Akif Uzman, Interim Dean, College of Sciences and Technology, UHD Introduction of Keynote Speaker, Auditorium
9:10 - 9:40 am	Dr. Mesias Pedroza, Post-Doc, Baylor College of Medicine Keynote Speaker, Auditorium
9:40 - 10:40 am	Oral Presentations, Session I, Auditorium
10:50 - 11:50 pm	Oral Presentations, Session II, Auditorium Introductions by <i>Drs. Ken Johnson and Aimee Roundtree, SRC Co-Chairs</i>
11:50 am	Dr. Weining Feng, Associate Professor of Engineering Technology, UHD Introduction of External Community Speaker, Auditorium
11:50 - 12:10 pm	Mr. Terrence Ivers, SIEMENS, CEO Energy Oil & Gas, Compression & Solutions External Community Speaker, Auditorium
12:10 - 1:30 pm	Lunch Break
1:30 - 3:30 pm	Open Poster Sessions, Room A300

#### **Conference Co-Chairs:**

Dr. Kenneth Johnson, Assistant Professor of Geology, UHD Dr. Aimee Roundtree, Associate Professor of English, UHD

# **Conference Planning Committee:**

Dr. David Branham, Assistant Professor of Social Sciences, UHD

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

Dr. Weining Feng, Associate Professor of Engineering Technology, UHD

Mr. Rene Garcia, Program Manager, UHD Scholars Academy

Dr. Marilyn McShane, Professor of Criminal Justice and Director of the Institute for Community Justice, UHD

Dr. Lisa Morano, Chair of Natural Sciences Department, UHD

Dr. Kenneth Oberhoff, Assoc. Dean, UHD College of Sciences & Technology

Dr. Mary Jo Parker, Director, UHD Scholars Academy

Dr. Gene Preuss, Associate Professor of History, UHD

Dr. Ruth Robbins, Professor of Finance, Accounting and CIS, UHD

Dr. Larry Spears, Professor of Chemistry, UHD

Mrs. Mary Sykes, Lecturer of Finance, Accounting and CIS, UHD

Dr. Akif Uzman, Interim Dean, UHD College of Sciences and Technology

Dr. Jeong-Mi Yoon, Associate Professor of Mathematics, UHD

#### **Oral and Poster Presentations:**

David Amos, "Quantum Mechanical Calculations on Novel Actinide Chelating Agents"

UHD Faculty Mentor: **Dr. Maria Benavides**Project Location: University of Houston-Downtown

Edgar Aquino, "Game Theory and the Mexican Drug War"
UHD Faculty Mentors: Drs. Timothy Redl and Edwin Tecarro

Project Location: University of Houston-Downtown

Nameera Baig, Mau Truong, Tori Dumas, "A Simple Process for Preparing Low Viscosity Diacrylate-Functional Epoxy Oligomers"

UHD Faculty Mentor: Dr. Byron Christmas

Project Location: University of Houston-Downtown

**Usiph Bent, Angelina Ardoin, and Stephanie Vera**, "Analyzing the In-Group Bias Across Race and Gender Using Color Facial Images in a Flicker Paradigm"

UHD Faculty Mentors: Drs. Ruth Johnson, Mary Portillo, and Stephanie
Babb

Project Location: University of Houston-Downtown

Maxwell Goedjen, Brian Holtkamp, "OS Applications: Pathfinding and Wireless Remote"

UHD Faculty Mentor: Dr. Ongard Sirisaengtaksin

Project Location: University of Houston-Downtown

John Mueller, "Representations of Masculinity in America Cinema, 1934—2010"

UHD Faculty Mentor: **Dr. Claude Rubinson** 

Project Location: University of Houston-Downtown

Christine Varghese, "Human Trafficking: The Lack of Freedom"

Co-Authors: **Esohe Iyamu-Osagiede** UHD Faculty Mentor: **Dr. Richard Heard** 

Project Location: Houston, TX

Sara Wilder, Julie Nash, Wei Yang Wang, "Population Dynamics of Glassy-Winged Sharpshooters in Texas Vineyards"

UHD Faculty Mentors: Drs. Jeong-Mi Yoon, Volodymyr Hrynkiv, Lisa Morano

Project Location: University of Houston-Downtown

# **External Community Speaker:**

#### **Terrence Ivers**

# SIEMENS, CEO Energy Oil & Gas, Compression & Solutions

Terrance N. Ivers became CEO of the Compression and Solutions Business Unit of the Oil & Gas Division effective August 1, 2011. Since 2007, Ivers was the president of Amec Paragon, an international project management company and service provider to the upstream and midstream (especially pipeline) industries.

Ivers received his mechanical engineering degree from the University of Houston and began his career at KBR, a leading international supplier for the oil and gas industry. At KBR, he held a number of managerial positions in the fields of pipelines and offshore engineering where he gained outstanding experience in the oil and gas business. From 2004 to 2007, Ivers served as Chief Operating Officer for Alliance Wood Group Engineering.

The Siemens Energy Sector is the world's leading supplier of a complete spectrum of products, services and solutions for the generation, transmission and distribution of power and for the extraction, conversion and transport of oil and gas. In fiscal 2010 (ended September 30), the Energy Sector had revenues of approximately EUR25.5



billion and received new orders totaling more than EUR30.1 billion and posted a profit of more than EUR3.6 billion. On September 30, 2010, the Energy Sector had a work force of more than 88,000. Further information is available at: <a href="http://www.siemens.com/energy">http://www.siemens.com/energy</a>.

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

1 - Reihana Abdelmaksond, Kimberlyn Garcia, Wendy Ramirez, "The Detrimental Effects of Garlic Extracts on Herpes Keratitis"

Co-Authors: Milena Lobaina, Isaac Omuhambe
UHD Faculty Mentors: Drs. Tyra Montgomery and Hamida Qavi
Project Location: University of Houston-Downtown

**3 - Amie Albanese and Jose Trejo**, "Mathematical Modeling of BMP4 and FGF Signaling Pathways in Xenopus laevis"

UHD Faculty Mentor: **Dr. Edwin Tecarro**Project Location: University of Houston-Downtown

5 - David Amos, "Quantum Mechanical Calculations on Novel Actinide Chelating Agents"

UHD Faculty Mentor: **Dr. Maria Benavides**Project Location: University of Houston-Downtown

7 - Bria Anderson, Rosario Garcia, Linda Onyirimba, "Sickle Cell Anemia" Co-Authors: Alejandro Mendez, Tracey Thomas, Hugo Tobias, Briana Villarreal, Marlyn Davila

UHD Faculty Mentor: **Mitsue Nakamura**Project Location: University of Houston-Downtown

**9 - Edgar Aquino**, "Game Theory and the Mexican Drug War" UHD Faculty Mentors: **Drs. Timothy Redl and Edwin Tecarro** Project Location: University of Houston-Downtown

11 - Nameera Baig, Mau Truong, Tori Dumas, "A Simple Process for Preparing Low Viscosity Diacrylate-Functional Epoxy Oligomers" UHD Faculty Mentor: Dr. Byron Christmas

Project Location: University of Houston-Downtown

13 - Nabil Bani, "Virtual Lab Instrument Controller"
UHD Faculty Mentor: Dr. Ongard Sirisaengtaksin
Project Location: University of Houston-Downtown

15 - Jesus Barron, Cassandra Flores, Massiel Rubio, "Impact of Soil Geology and Soil Texture on the Nutrient Status of Cabernet Grapevines from the Texas Hill Country"

UHD Faculty Mentors: **Drs. Ken Johnson and Lisa Morano** Project Location: University of Houston-Downtown

17 - Winford Becton, Sujan Devkota, Miguel Tierrafria, "Sensory Analysis of Wine from Vineyards on District Soils in the Texas Hill Country"

UHD Faculty Mentors: **Drs. Ken Johnson and Lisa Morano** Project Location: University of Houston-Downtown

19 - Usiph Bent, Angelina Ardoin, and Stephanie Vera, "Analyzing the In-Group Bias Across Race and Gender Using Color Facial Images in a Flicker Paradigm"

UHD Faculty Mentors: **Drs. Ruth Johnson, Mary Portillo, Stephanie Babb** Project Location: University of Houston-Downtown

21 - Gaganjot Bhatti, Layne Held, Jungsook Larson, "Modeling the Rate of Formation of cAMP in Preformed Signaling Complex of G-Proteins and Adenylyl Cyclase"

UHD Faculty Mentors: **Drs. Rachna Sadana and Steven London** Project Location: University of Houston-Downtown

23 - Rogelio Camacho, Joseph Downing, "Thermal Analysis of Oil-Bearing Shale"

UHD Faculty Mentor: **Dr. Janusz Grebowicz**Project Location: University of Houston-Downtown

25 - Sarah Campos, Rachel Peterson, Letitia Proctor, "I Am Who I Am: How Personality Relates to Parental Confidence"

UHD Faculty Mentor: **Dr. Susan M. Henney**Project Location: University of Houston-Downtown

27 - Jennifer Castro, "Reflections on the Intersection of Career and Lifestyle: The Case of Houston Bartenders"

UHD Faculty Mentor: **Dr. Claude Rubinson**Project Location: University of Houston-Downtown

29 - Adriana Ceballos, Dulce N. Garcia, Rafael Rodriguez, "Business, Technology, and Brazil"

UHD Faculty Mentor: Dr. Ruth Robbins

Project Location: University of Houston-Downtown

31 - Pi-Chung Chang, Abideen Ojelade, Santa Vasquez, "Design and Control of Distillation Process"

UHD Faculty Mentor: **Dr. Vassilios Tzouanas**Project Location: University of Houston-Downtown

**33 - Raymond Cherian**, "Palatability of *Platydesmid subovata* and Apparency as a Function of Group Size"

Co-Author: Debbie Bush

UHD Faculty Mentor: **Dr. Barry Sullender**Project Location: University of Houston-Downtown

**35 - Marlyn Davila**, "Comparisons of Coritcostriacal and Thalamestricatial Projections in a UHD Mouse Model"

Co-Author: **Anne Pariensky (UCLA)** UHD Faculty Mentor: **Dr. Michael Levine** 

Project Location: University of California at Las Angelas

37 - Fatoumata Diallo, "Computational Studies of 1, 2 HOPO Chelating Ligands"

Co-Author: Chelahny Ligands

UHD Faculty Mentor: **Dr. Maria Benavides**Project Location: University of Houston-Downtown

39 - Alyssa Enriquez, Kwun-Man Lee, "Evaluation of SVP Natural Frequency and Effects of Damping"

UHD Faculty Mentors: Drs. Weining Feng and Jorge Tito

Project Location: University of Houston-Downtown

41 - Manuel Fernandez, Claudia Lara, Amanda Martinez, "Human Rights and the Global Community"

Co-Author: Jamie Stubblefield

UHD Faculty Mentor: Dr. Justin Hackett

Project Location: University of Houston-Downtown

43 - Ruslan Gashimov, "Sensors for Environmental Application Based on Their Fluorescence and Electrochemical Functionalities"

UHD Faculty Mentor: Dr. Mian Jiang

Project Location: University of Houston-Downtown

45 - Michael Gibson, Minh Ha, Pedro Hernandez, "Design and Automation

of a Zero Energy House"

UHD Faculty Mentor: **Dr. Vassilios Tzouanas**Project Location: University of Houston-Downtown

47 - Melissa Greenlee, Jessie Uchendu, "Navigation System for 3D Models"

UHD Faculty Mentor: **Dr. Ongard Sirisaengtaksin** Project Location: University of Houston-Downtown

**49 - Daniel Gutierrez, Petra Villegas**, "The Detrimental Effects of Implementation Intentions on Goal Progress"

UHD Faculty Mentor: **Dr. Travis Crone** 

Project Location: University of Houston-Downtown

51 - Mario Hernandez, Isis Pliego, Courtnie Malone, "Analysis of Shoe Support in ABS Material"

UHD Faculty Mentor: **Dr. Jorge A Tito** 

Project Location: University of Houston-Downtown

**53 - Valerie Jordan**, "Oedipus the King: A Critical Analysis of Choral

Accompaniment"

UHD Faculty Mentor: **Dr. Kathleena Roark**Project Location: University of Houston-Downtown

55 - Claire Kennedy, "Psychoanalysis of Nikon Advertisements"

UHD Faculty Mentor: **Dr. Aimee Roundtree**Project Location: University of Houston-Downtown

57 - Purva Khakheria, Melanie Vargas, Nancy T. Wright, "The Engaged Citizen: Working to Ensure Human Rights"

UHD Faculty Mentor: Dr. Justin Hackett

Project Location: University of Houston-Downtown

59 - Najah Khan, Shanna Daniel, Amairani Hernandez, "Unstoppable" Co-Authors: Jibri Pimento, Biliuflo Martinez, Nicholas Ramirez, Taylor Luckett, Sara Wilder

UHD Faculty Mentor: Mitsue Nakamura

Project Location: University of Houston-Downtown

61 - Adolfo Lara, "Exocytosis in Mast Cells: Munc13-4 Analysis"

Co-Author: Alfredo Davalos

UHD Faculty Mentor: Dr. Ruth Heidelberger

Project Location: University of Texas Health Science Center at Houston

63 - Jung Sook Larson, Cory Ali, Cristina Carrillo, "Comparison of Discrete and Continuous Model for Human Ventilation Volume and Blood CO<sub>2</sub> Levels"

Co-Author: Antonio Mendoza

UHD Faculty Mentor: Dr. Jeong-Mi Yoon

Project Location: University of Houston-Downtown

65 - Binh Le, "Female-biased Sex Raties in Platydesmid Millipedes"

Co-Authors: Nigar Safarova, Raymon Cherian, Debbie Bush

UHD Faculty Mentor: Dr. Barry Sullender

Project Location: University of Houston-Downtown

**67 - Doug Litwin**, "Investigation of Laccase Genes in Texas Coastal Prairie Ascomycete Fungi"

Co-Authors: Fernado Andrade, Jesus Barron

UHD Faculty Mentor: **Dr. Phil Lyons** 

Project Location: University of Houston-Downtown

**69 - Lisa Matsell and Alberto Urbina**, "Thermal Expansion and Compressive Strengths of Granite Rocks as Nuclear Waste Depository"

Co-Authors: Rogelio Camacho, Dr. Kryštof Verner, Dr. Jorge Tito-Izquierdo

UHD Faculty Mentor: **Dr. Janusz Grebowicz**Project Location: University of Houston-Downtown

71 - Antonio Mendoza, "Analysis and Classification for Stochastic Models of Population of Biofilm"

UHD Faculty Mentor: **Dr. Youn-Sha Chan**Project Location: University of Houston-Downtown

73 - John Mueller, "Representations of Masculinity in America Cinema, 1934—

UHD Faculty Mentor: Dr. Claude Rubinson

Project Location: University of Houston-Downtown

75 - Vinh Nguyen and Shaneela Omar, "Synthesis and Characteristicion of Novel Pely Pyridinium Salts Study of Their Thermotropic and Light Emitting Properties"

UHD Faculty Mentor: Dr. Robin Jose

Project Location: University of Houston-Downtown

77 - Hakeem Ogunkoya, "Brachycybe Lecontii Research"

Co-Author: Harrison Kraft

UHD Faculty Mentor: **Dr. Barry Sullender**Project Location: University of Houston-Downtown

79 - Stephanie Oliver, Anthena Pasuelo Ramirez, "Mathematical Analysis of Discrete-Time Plant Propagation Models"

Co-Authors: Sara Wilder, Wei Yang Wang, Julie Nash

UHD Faculty Mentor: Dr. Jeong-Mi Yoon

Project Location: University of Houston-Downtown

81 - Shaneela Omar, "Interaction Between Arabidopsis Ca 2+/H+ Exchangers Caxi and Cax3"

UHD Faculty Mentors: Drs. Kendal Hirschi and Deborah Murray

Project Location: Baylor College of Medicine

83 - Owen Pate, Juan Castillo, "Properties of Lightweight Concrete"

UHD Faculty Mentor: Dr. Jorge A Tito

Project Location: University of Houston-Downtown

**85 - Gerardo Rangel, Miguel Reynoso, Thomas Rodriguez**, "Race, Crime and Homelessness: Demographic and Social Psychological Perspectives on the Homeless Population Around the UHD Area"

UHD Faculty Mentor: Dr. Judith Harris

Project Location: University of Houston-Downtown

**87 - Mariel Richter**, "Migmatization of Amphibolites on Pollock Mountain, Blue Mountains Province, Western Idaho"

Co-Authors: Melanie Barnes, Geological Sciences, Texas Tech University UHD Faculty Mentor: Dr. Ken Johnson

Project Location: University of Houston-Downtown; Pollock Mountain, Blue Mountains, Western Idaho

89 - Lassan Samarakoon, "Comparison of Species Diversity In Coastal Prairie Soils"

UHD Faculty Mentor: Dr. Phil Lyons

Project Location: University of Houston-Downtown

91 - Mayra Sanchez and Kimberly Walker, "Mathematical Modeling of Pseudomonas aeruginosa Biofilm Growth"

UHD Faculty Mentors: Drs. Youn-Sha Chan and Poonam Gulati

Project Location: University of Houston-Downtown

93 - Israel Sierra, "Determination of Sulfur-Containing Compounds by Carbon Based Electrodes Incorporated with Oxides"

Co-Authors: Jimmy Ngo (UHD), Jun Le (Rice)

UHD Faculty Mentor: Dr. Mian Jiang

Project Location: University of Houston-Downtown/Rice

95 - Francisca Torres, "Diversity in Deservingness: Feelings of Entitlement in College Students"

UHD Faculty Mentor: Dr. Kristen Anderson

Project Location: University of Houston-Downtown

**97 - Claudia Valeria Turcios, Dayna Joella Spencer**, "Syntheses and Characterization of Novel Optically Active Polymers"

UHD Faculty Mentor: Dr. Robin Jose

Project Location: University of Houston-Downtown

99 - Christine Varghese, "Human Trafficking: The Lack of Freedom"

Co-Author: Esohe Ivamu-Osagiede UHD Faculty Mentor: Dr. Richard Heard

Project Location: Houston, TX

101 - Sara Wilder, Julie Nash, Wei Yang Wang, "Population Dynamics of

Glassy-Winged Sharpshooters in Texas Vineyards'

UHD Faculty Mentors: Drs. Jeong-Mi Yoon, Volodymyr Hrynkiv, Lisa Morano

Project Location: University of Houston-Downtown

## **Poster Presentation Session II** (2:30PM-3:30PM):

2 - Nadia Abousaoui, Rebecca Barbosa, Jacob Odong, "UV-Polymerizable Composites Containing Functionalized Carbon Nanotubes"

UHD Faculty Mentor: Dr. Byron Christmas Project Location: University of Houston-Downtown

4 - Miriam Amah and Fatoumata Diallo, "Thermal Properties of Cu<sub>2</sub>(DPA)<sub>2</sub>(dpe)]X<sub>4</sub> Complexes"

Co-Author: Dr. S. Massoud

UHD Faculty Mentor: Dr. Janusz Grebowicz Project Location: University of Houston-Downtown

**6 - David Amos**, "The Huckel  $\pi$ -energy of Cycles: A Graph Theoretic Approach"

UHD Faculty Mentor: Dr. Ermelinda Delavina Project Location: University of Houston-Downtown

8 - Lilian Antunes, "Genome-Wide Assessment of Short Insertion and Deletion Variation in African-Americans"

UHD Faculty Mentor: Dr. Eric Boerwinkle

Project Location: University of Texas Health Science Center at Houston

10 - Edgar Aquino, Cory Ali, Ilian Rojas, "Analysis of Diatoms and Arcellacean Death Assemblages to Determine Inclusion or Exclusion of Rare event Data in Comparison with Various Missing Data Analyses Techniques"

UHD Faculty Mentor: Drs. Ronald Barnes and Bradley Hoge

Project Location: University of Houston-Downtown

12 - Midar Balimuttajjo, An-Nisa Miller, and Janny Phung, "NSF Sponsored Research Program in Atmospheric Science: Houston Ozone Studies" UHD Faculty Mentors: Drs. Penny Morris-Smith and Donald Musselwhite Project Location: University of Houston-Downtown

14 - Susannah Bannon, "Transitional Objects and Symbolism: a Rhetorical Analysis of a Nobel Acceptance Speech"

UHD Faculty Mentor: Dr. Diana I. Bowen

Project Location: University of Houston-Downtown

16 - Stanislav Barskov, "A Novel Application of Fluorescence Based on Rhodamine B"

Co-Author: Rodney Lubowa

UHD Faculty Mentor: Dr. Mian Jiang

Project Location: University of Houston-Downtown

18 - Gloria Bello, "The Blackboard Learn Interface: A Usability Test"

UHD Faculty Mentor: Dr. Aimee Roundtree Project Location: University of Houston-Downtown

20 - Rachel Bentley, Bethany Cruz, Michaela Glander, "Ethnic Differences-In Social Context and Alcohol-related Consequences'

Co-Author: Kelsey Passero

UHD Faculty Mentor: Dr. Cindy Stewart

Project Location: University of Houston-Downtown

22 - Debbie Bush, "Exploring the Use of Microsatellites Isolated from a Congener to the North American Millipede Brachycybe lecontii"

Co-Authors: Dalia Justo, Harrison Kraft, Nigar Safarova

UHD Faculty Mentor: Dr. Barry Sullender Project Location: University of Houston-Downtown

24 - Rogelio Camacho, Yesenia Salazar, "Thermal Properities of Gypsum"

UHD Faculty Mentor: Dr. Janusz Grebowicz Project Location: University of Houston-Downtown

26 - Estela Castillo, "Why do Women Fail to Regulate their Eating?"

UHD Faculty Mentor: Dr. Christine Bachman Project Location: University of Houston-Downtown 28 - Kaleigh Ceaser, "The Poetry Wizard"

Co-Author: Tomy Le, Denise Montez

UHD Faculty Mentor: Dr. Hong Lin

Project Location: University of Houston-Downtown

30 - Pi-Chung Chang, Tuong Doan, Santa Vasquez, "Design and Economic

Analysis of Distillation Processes"

UHD Faculty Mentor: Dr. Vassilios Tzouanas

Project Location: University of Houston-Downtown

32 - Carolina Chavez, Joseph Johnson Jr., Janeth Pereira, "Viruses with Emphasis on Pandemics and Infection Mechanics"

Co-Authors: Elsy Rivera, Roberto Manzano, Zaida Tinoco, Brian Holtkamp UHD Faculty Mentor: Mitsue Nakamura

Project Location: University of Houston-Downtown

34 - Jamee Cox, "Visual Manipulation: How the Manipulation of Photographs were Used to Shape the image of Barack Obama'

UHD Faculty Mentor: Dr. Aimee Roundtree

Project Location: University of Houston-Downtown

36 - Randy Davila, "Synthesis and characterization of Novel Cataionic Amphiphiles"

Co-Author: Dr. Pradip K. Bhowmik

UHD Faculty Mentor: Dr. Janusz Grebowicz

Project Location: University of Houston-Downtown

38 - James A. Diaz, Crystal Nehs, Sandra Mata, "Evaluation of In-Group Bias Across Gender and Race Using a Flicker Paradigm"

Co-Author: Natalie Salazar

UHD Faculty Mentors: Drs. Ruth Johnson and Mary Portillo

Project Location: University of Houston-Downtown

40 - Daidrill Fearon, Amanda Guillory, Trieu Phung, Siena Phan, "An

Evaluation of Conventional Distillation vs. Vapor Recompression"

UHD Faculty Mentor: Dr. Vassilios Tzouanas

Project Location: University of Houston-Downtown

42 - Darlen Galicia, Fersen Leiva, Maria Preza, "Schizophrenia"

Co-Authors: Jesse Morka, Michey Kehl, Eber Quiroga, Alex Weston

UHD Faculty Mentor: Mitsue Nakamura

Project Location: University of Houston-Downtown

44 - Kul Raj Gaudel, Revna Valdez, "Screening Isoform Specific PDE4B

Inhibitors Using Fluorescence Assay" UHD Faculty Mentor: Dr. Rachna Sadana

Project Location: University of Houston-Downtown

46 - Maxwell Goedjen, Brian Holtkamp, "OS Applications: Pathfinding and

Wireless Remote"

UHD Faculty Mentor: Dr. Ongard Sirisaengtaksin

Project Location: University of Houston-Downtown

48 - Bonnie Guinn and Antonio Moreno, "Tracing Soil Geochemistry from the

Soil to the Xylem Sap to Fruit and Wine"

UHD Faculty Mentors: Drs. Ken Johnson and Lisa Morano

Project Location: University of Houston-Downtown

50 - Kacey Hart, Sydnye McCraw, Annalisa Pablo, "Goals and Motivation:

The Roles of Affect, Optimism, and Challenge Perceptions"

Co-Author: Hee Jin Kang (UHD)

UHD Faculty Mentor: Dr. Melissa Raymundo

Project Location: University of Houston-Downtown

52 - Shahrzad Houshmand, Maisha Margin, Amanda Parrish, "Gender Differences in the Social Context of Drinking and Alchol Consumption

Levels."

Co-Author: Laquinta Milson

UHD Faculty Mentor: Dr. Cindy Stewart

Project Location: University of Houston-Downtown

54 - Janet Kasper, Lynn Hajdik, "Self-Awareness in Supervision"

UHD Faculty Mentor: Dr. Jo Daugherty Bailey Project Location: University of Houston-Downtown

56 - Heather Kfoury, "A Rhetorical Analysis of Corporate Christmas Cards"

UHD Faculty Mentor: Dr. Aimee Roundtree Project Location: University of Houston-Downtown

58 - Muhammad Khan, "The Growing Indo-Pak Schism: 1947-2010"

UHD Faculty Mentor: Dr. John Linantud

Project Location: University of Houston-Downtown

60 - Jon-Paul Komar, "Stolen: Best Management Practices for Identity Theft and Recovery'

Co-Authors: Argelia Alegre, Ashlyn Carr, Mari Corona, Roberto Montoya, Doris Munguia, Vivan Vy

UHD Faculty Mentor: Dr. Linda Bressler

Project Location: University of Houston-Downtown

62 - Carissa Larson, Kelsey Bogaards, Christina Zahratka, "The Embodied Effects of High Heels

UHD Faculty Mentor: Dr. Travis Crone

Project Location: University of Houston-Downtown

64 - Erasmus Lawrian, Trieu Phung, "Design and Control of a Twin Tank

Water Process'

UHD Faculty Mentor: Dr. Vassilios Tzouanas Project Location: University of Houston-Downtown

66 - Aimee Lewis, "Schandenfreude: Downgrading Others to Upgrade the Self in response to Evaluation Threat"

UHD Faculty Mentor: Dr. Travis Crone

Project Location: University of Houston-Downtown

68 - Lisa Matsell, "Garnet Hornblendite Blocks in Serpentinite - Matrix Melange in the Blue Mountains Province, NE Oregon"

Co-Authors: Dr. Joshua J. Schwartz (CSU Northridge) Maniel Richter (UHD), Josephy Wooden (Stanford)

UHD Faculty Mentor: Dr. Ken Johnson

Project Location: University of Houston-Downtown

70 - Elizabeth Mellado, Tiffany Zachreson, "The Influence of Media on Body Dissatisfaction and Eating Attitudes and Behaviors of Minority Women"

UHD Faculty Mentor: Dr. Melissa Raymundo Project Location: University of Houston-Downtown

72 - Mark Mireles, Sudeep Wosti, "A PC-Based Multifunction Instrument"

UHD Faculty Mentor: Dr. Weining Feng Project Location: University of Houston-Downtown

74 - Trinh Nguyen, "The Study of Photophysical Properties of Azure C"

UHD Faculty Mentor: Dr. Mian Jiang

Project Location: University of Houston-Downtown

76 - Elnaz Nouri, "Memories of Past Experienced Infidelity"

UHD Faculty Mentor: Dr. Travis Crone

Project Location: University of Houston-Downtown

78 - Matthew Ojeda, Deepak Pandey, "Gene Expression Studies of Xylella Fastidiosa: Optimization of Growth and Culture Preparation For RNA Isolation"

UHD Faculty Mentor: Dr. Lisa Morano

Project Location: University of Houston-Downtown

80 - Sthephanie Oliver, "A Study on Lower Bounds of the 2-Independence

Number of Bipartite Graphs"

UHD Faculty Mentor: Dr. Ermelinda Delavina Project Location: University of Houston-Downtown 82 - Manuel Palma, Byron Jackson, "A Program for Brain State Analysis using Electroencephalographic Data"

Co-Author: Johnathan Kuskos UHD Faculty Mentor: Dr. Hong Lin

Project Location: University of Houston-Downtown

84 - Richard Peoples, "Employee Loyalty as Portrayed in Corporate

Publications: A Hegemonic Device" UHD Faculty Mentor: Dr. Aimee Roundtree Project Location: University of Houston-Downtown

86 - Abdullah Rasheed, "Android Permissions" UHD Faculty Mentor: Dr. Ali Berrached

Project Location: University of Houston-Downtown

88 - Albert Rintrona, III, "Positively Speaking: Psychological Science's Application to Rhetorical Praxis'

UHD Faculty Mentor: Dr. Derek De La Pena

Project Location: University of Houston-Downtown

Alicia Y. San Miguel, Junely Miranda, Jennifer Lopez, "Memory for What, Where, and When in Everyday Situations'

UHD Faculty Mentors: Drs. Stephanie Babb and Ruth Johnson

Project Location: University of Houston-Downtown

92 - Nely Sanchez, Monica Martinez, "My Child, My Way: The Relationship between Ethnicity and Parenting'

UHD Faculty Mentor: Dr. Susan M. Henney Project Location: University of Houston-Downtown

94 - Israel Sierra, "Thermophysical Property Analysis of Kerogen Extracted from Oil Shale"

Co-Author: Dr. Janusz Grebowicz

UHD Faculty Mentor: Dr. Michael Matson Project Location: University of Houston-Downtown

96 - Tuan Tran, "Powder X-ray Diffraction Analysis of Novel, Liquid Crystalline Catanionic Surfactants"

Co-Authors: Randy Davila, Dr. Robin Jose UHD Faculty Mentor: Dr. Michael Matson Project Location: University of Houston-Downtown

98 - Angie Valencia, "Consumer Perceptions of Household Cleaning Product Label Instructions"

UHD Faculty Mentor: Dr. Aimee Roundtree Project Location: University of Houston-Downtown

100 - Christopher Webb, "From Superman to Guessing Man"

UHD Faculty Mentor: Dr. Aimee Roundtree Project Location: University of Houston-Downtown

### Acknowledgements

It is a great pleasure to recognize the many individuals, organizations, and institutions supporting our UHD students in their research endeavors. These include significant funding of research over the past year from the National Institute of General Medical Sciences (1T34GM079088), National Science Foundation UBM Program (0734294), National Science Foundation S-STEM Program (0728408), The Brown Foundation, Inc., Welch Foundation (BJ-0027), NASA, Shell Oil Co. and University of Houston-Downtown.

Many students conducted their research during summer research programs on and off-campus. Faculty and staff members of these and other academic institutions, as well as personnel at industrial facilities, have generously supported/mentored our UHD students.

In addition, we would like to thank the UHD faculty and staff who have worked tirelessly to support undergraduate research experiences as well as the UHD staff, faculty and administrators who have helped make this conference a success.

Thank you for participating in the 11<sup>th</sup> Annual UHD Student Research Conference!

Please share your impressions of the event by completing a conference evaluation.

# Thanks to the generous supporters of this student conference:

The Brown Foundation, Inc.

National Institute of General Medical Sciences (Award No. 1T34GM079088)

National Science Foundation (Award No. 0728408)

UHD College of Business

UHD College of Humanities and Social Sciences

UHD College of Public Service

UHD College of Sciences & Technology

UHD President's Office

UHD Scholars Academy









# UHD Student Research Conference: Keynote Address



Mesias Pedroza, Ph.D.

Pre-Doctoral Fellow

Baylor College of Medicine

Friday – April 13, 2012 9:10 A.M. Wilhelmina Cullen Robertson Auditorium University of Houston-Downtown

Mesias Pedroza received his Bachelor of Science in Biotechnology from UH-Downtown in 2007 and his Ph.D. in Biochemistry from the University of Texas at Houston Health Science Center in 2011. As an undergraduate, he participated in research at UHD and also at the University of Texas Medical Branch. Dr. Pedroza is currently a Post-Doc at Baylor College of Medicine.

# Presentation Title: "The State of Research in America: The Scientist's Unique Role and What We Wish to Become in this Unsettling World"

#### Abstract

When people in the U.S. are asked in various surveys, whom they respect the most among various professionals, Scientists rank near the top. Not only that, the American people understand how research is linked to their health and well-being. Latest polls revealed how most Americans say it is important for the U.S. to be a global leader in health research, yet a majority think we are losing our competitive edge in Science, Technology, and Innovation. Also, 84% of Americans say it is important for the U.S. to work to improve health globally through research and development. More than 50% say investing in health research is important to job creation and economic recovery. Not only that, but most Americans say the amount we invest in medical and health research - 5 ½ cents of each health dollar - is not enough. However, health research spending in the U.S. increased slightly but is essentially stagnant when compared to measures of inflation. In contrast, countries around the world are continuing to rapidly scale up investments in research and development. Hence, scientific research and technological innovation competence is emerging in new parts of the world with unsettling implications for national economies and employment patterns for scientists and engineers. It may be more important now than ever before for scientists to keep the doors of their laboratories open to political, economic, social, and ideological currents in order to participate and leverage the outcome of attitudes that threaten the future of science in this country. The role of the scientist as an isolated explorer of the uncharted world of tomorrow must be reconciled with his role as a committed, responsible citizen of the unsettled world of the present.

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