VIRTUAL

2020 ACM RICHARD TAPIA

CELEBRATION OF DIVERSITY IN COMPUTING CONFERENCE

INCLUSION DRIVES INNOVATION

SEPTEMBER 16–19, 2020

PRESENTED BY **CMDiT**

Center for Minorities and People with Disabilities in IT

Fostering Innovation Through Inclusion

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2020 ACM RICHARD TAPIA

T he **2020 ACM Richard Tapia Celebration of Diversity in Computing Conference** is sponsored by the Association for Computing Machinery (ACM) and presented by the Center for Minorities and People with Disabilities in Information Technology (CMD-IT).

This year's conference, the fourteenth meeting in the conference series that began in 2001, celebrates the technical contributions and career interests of diverse people in computing fields. Additionally, the conference strives to help all attendees — especially students — build vital connections that will serve them well both professionally and personally. The conference aims to provide an educational and supportive networking environment for underrepresented groups across the broad range of computing and information technology, from science to business to the arts to infrastructure.

The Tapia 2020 conference theme, Inclusion Drives Innovation, reminds us of the critical role that diverse perspectives play in driving innovations in computing and technology. Creating teams, organizations, and societies that are inclusive and respectful of differences lead to greater innovations that benefit the world.

Inclusion Drives Innovation resonates very strongly this year as we face the unique challenge of presenting a Virtual Tapia Conference. We encourage everyone to embrace all the opportunities presented by this unique format.

CENTER FOR MINORITIES AND PEOPLE WITH DISABILITIES IN INFORMATION TECHNOLOGY (CMD-IT)

The Center for Minorities and People with Disabilities in Information Technology (CMD-IT) is a non-profit organization with a vision to contribute to the national need for an effective workforce in computing and IT through synergistic activities related to minorities and people with disabilities. The vision is realized through the mission to ensure that underrepresented groups are fully engaged in computing and information technologies, and to promote innovation that enriches, enhances, and enables these communities, such that more equitable and sustainable contributions are possible by all communities. CMD-IT is the presenter of the ACM Richard Tapia Celebration of Diversity in Computing conference and the organizer of the following programs:

FLIP Alliance

The goal of the NSF-funded FLIP (Diversifying Future Leadership in the Professoriate) Alliance is to address the broadening participation challenge of increasing the diversity of the future leadership in the professoriate in computing at research universities as a way to achieve diversity across the field. The FLIP Alliance brings together the departments responsible for producing the majority of the professoriate with individuals and organizations that understand how to recruit, retain, and develop students from underrepresented groups in order to create a network that can quickly and radically change the demographic diversity of the professoriate across the field of computing.

University Award

The annual CMD-IT University Award for Retention of Minorities and Students with Disabilities in Computer Science recognizes US institutions that have demonstrated a strong commitment to increasing the computer science baccalaureate degree production of minorities and students with disabilities, through effective retention programs.

Academic Careers Workshop

The goal of the annual workshop is to mentor underrepresented assistant and associate-level faculty and senior doctoral students about the academic career ladder. The workshop includes panels of diverse senior faculty talking about the tenure and promotion process, launching a research program, professionalism, and a detailed session on proposal writing. In addition, the workshop includes a discussion about alternative career paths. The workshops are funded by NSF.

Student Professional Development Workshop

The annual workshop provides undergraduate and masters level students majoring in computer science and other computing majors with the unique opportunity to receive coaching and development from Industry professionals about the job application and interview processes. The workshop is held at the Tapia Conference.

WELCOME

You'll notice the obvious difference in this year. For the first time we are gathering online for a virtual conference. This past spring we committed to organizing the best virtual conference possible. We recognized the importance of this gathering to our community and were dedicated to ensuring the tradition of Tapia continued.

At the end of May the US, and world, erupted after the murder of George Floyd. While his murder was a flashpoint, it came on the heels of others who have been murdered including Breonna Taylor and Ahmaud Arbery, and countless others. As we were beginning to sort through the COVID-19 pandemic this confrontation with racism and racial injustice further fueled our desire to deliver on our commitment to you.

When we finalized this year's theme in 2019 we had no idea of what 2020 would bring. One thing we have come to realize is that the importance of the role of inclusion in innovation has become more relevant in ways that we could not have imagined last year. We firmly believe that for computing to realize it's full promise to transform the ways in which we learn, work, and live, it must treat diversity and inclusion with the same reverence as it does risk-taking, perseverance, and creativity as cornerstones of innovation. This should be reflected in leadership, strategies, and policies charging forward.

Each year the number of submissions to the conference has grown, and Tapia 2020 is no different. We hope you find this year's offerings as exciting, educational, inspiring, and diverse, as ever. We received a total of 126 Birds-of-a-Feather (BoFs), Workshop and Panel submissions. With the help of our Technical Program Chairs and committee members, we selected 19 BoFs as well as 61 Workshops and Panels. Our Poster Session will showcase 83 student posters (selected from 90 submissions). For the fourth time, alongside our poster program, Tapia hosts an ACM Student Research Competition (SRC), 33 of the 83 student posters are participating in this ACM SRC. Our distinguished and inspirational lineup of plenary and banquet speakers remind us that it is important to pay attention to the role models amongst us and those that have come before us. Finally, we complement these program activities with a series of professional and development panels, and Doctoral Consortium.

Tapia 2020 is only made possible through the commitment, hard work, and financial support of a diverse set of people and organizations. We recognize that during this year's planning period we all experienced an unprecedented amount of stress and uncertainty. We are deeply grateful to the Tapia 2020 Infrastructure and Technical Program Committees: these task forces that comprise volunteers from academia, research labs, industry, and non-profits form the heart and soul of the conference. We appreciate their flexibility and grace as we worked through the planning stages. We wish to acknowledge all sponsors of Tapia 2020, especially our Platinum and Gold Sponsors for their unwavering support and commitment. In part, their sponsorship supported the attendance of over 602 scholarship recipients and 12 Doctoral Consortium participants.

We close this welcome address with a few sincere wishes. We wish that the Tapia 2020 program exceeds all of your expectations. We wish that your Tapia 2020 experience provokes and stimulates new ideas that positively impact your professional and personal lives. We hope that you strengthen and form new connections with peers, mentors, and protégés, connections that will help you establish a powerful "diverse" network and broaden your approach to viewing and solving computing and societal challenges. Lastly, we wish that each and every one of you realize your dreams and aspirations and help to render a brilliant, inventive, diverse new world of computing. Thanks for Strengthening Diversity and Building a Strong Future!

Quincy Brown
Tapia 2020 General Chair
Director of Engagement and
Research at AnitaB.org

Robert Parke
Tapia 2020 Program Chair
Senior Lecturer of Information
Technology, University of Southern
California

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University of
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FEATURED SPEAKERS

FIRESIDE CHAT SPEAKERS

Jeff Dean
Google Senior Fellow and SVP for Google AI
Google

Navdeep Jaitly
Senior Member, Machine Learning Ventures
D.E. Shaw Group

Beata Shahriari
Executive Director and Distinguished Engineer
JP Morgan Chase & Co.

Ruth Tadesse
Senior Engineer
Qualcomm

Charles Isbell
Senior Associate Dean for Academic Affairs
Georgia Institute of Technology
Moderator

PLENARY KEYNOTE SPEAKER

Nashlie Sephus
Amazon

EARLY CAREER PANEL PANELISTS

Ivan Brugere, PhD
University of Chicago at Illinois

Kyla McMullen
Assistant Professor, University of Florida

Juan Sequeda
Principal Scientists, data.world

Paul Taele
Instructional Assistant Professor, Texas A&M University

Quincy Brown
Moderator, Director of Engagement and Research at AnitaB.org

PLENARY KEYNOTE SPEAKER
KEN KENNEDY DISTINGUISHED LECTURE

Colin Parris
Senior Vice President and Chief Technology Officer, GE Digital

MEET DR. RICHARD TAPIA

RICHARD TAPIA is a mathematician and professor in the Department of Computational and Applied Mathematics at Rice University in Houston, Texas. He is internationally known for his research in the computational and mathematical sciences and is a national leader in education and outreach.

Tapia's current Rice positions are University Professor (only the seventh individual afforded this title in the 110-year history of Rice University), Maxfield-Oshman Professor in Engineering, Director of the Center for Excellence and Equity in Education.

Tapia was born in Los Angeles to parents who separately emigrated from Mexico as young teenagers in search of educational opportunities for themselves and for future generations. The first in his family to attend college, Tapia went on to receive B.A., M.A. and Ph.D. degrees in mathematics from the University of California, Los Angeles. In 1968 he joined the Department of Mathematics at the University of Wisconsin, Madison and spent two years as a visiting assistant professor. In 1970 he moved to Rice University where he was promoted to associate professor in 1972 and full professor in 1976. He chaired the department from 1978-1983. He is currently an adjunct faculty member of both Baylor College of Medicine and the University of Houston. Tapia has authored or co-authored two books and more than 100 mathematical research papers.

Among his many honors, Tapia was the first Hispanic elected to the National Academy of Engineering. In 1996 President Clinton appointed him to the National Science Board, where he served until 2002, and from 2001 to 2004 he chaired the National Academy of Engineering's Board on Higher Education and the Workforce. He has received the National Science Foundation's inaugural Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring; the Lifetime Mentor Award from the American Association for the Advancement of Science; the Distinguished Service to the Profession Award from the Society for Industrial and Applied Mathematics; the Distinguished Public Service Award from the American Mathematical Society; the Distinguished Scientist Award from the Society for the Advancement of Chicanos and Native Americans in Science in addition to seven honorary doctorates . He was also the first recipient of the Computing Research Association's A. Nico Habermann Award for outstanding contribution to aiding members of underrepresented groups within the computing research community; named one of 20 most influential leaders in minority math education by the National Research Council; listed as one of the 100 most influential Hispanics in the U.S. by Hispanic Business magazine; and given the "Professor of the Year" award by the Association of Hispanic School Administrators, Houston Independent School District, Houston, TX. In 2005, Tapia was recently honored with the 2017 American Association for the Advancement of Science's Public Engagement with Science Award for his remarkable career blending world-class scholarship, admirable mentoring and profound contributions to science, technology, engineering and mathematics education and public engagement. In 2014 Tapia was awarded the National Science Board's Vannevar Bush award for his extraordinary leadership, inspiration, and advocacy to increase opportunities for underrepresented minorities in science, distinguished public service leadership in science and engineering, and exceptional contributions to mathematics in the area of computational optimization.

In 2011 President Barack Obama presented the National Medal of Science to Tapia for his pioneering and fundamental contributions in optimization theory and numerical analysis and for his dedication and sustained efforts in fostering diversity and excellence in mathematics and science education. The National Medal of Science is the highest award given to a scientist or engineer by the United States government. While at Rice, Tapia has directed or co-directed more underrepresented minority and women doctoral recipients in science and engineering than anyone in the country, and has led several programs that have brought recognition to the university's commitment to diversity. Tapia recently established the Rice Summer Tapia Camps for high school students and teachers that offer campers an opportunity to work alongside STEM students, interact with renowned scientists, and participate in project based collaborative learning activities. Two professional conferences have been named in Tapia's honor, recognizing his contributions to diversity: Richard Tapia Celebration of Diversity in Computing conference and the Blackwell-Tapia Conference, whose founders described Tapia as a seminal figure who inspired a generation of African-American, Native American and Latino/Latina students to pursue careers in mathematics.

TAPIA ACHIEVEMENT AWARD

RICHARD A. TAPIA ACHIEVEMENT AWARD FOR SCIENTIFIC SCHOLARSHIP, CIVIC SCIENCE AND DIVERSIFYING COMPUTING

The Richard A. Tapia Achievement Award for Scientific Scholarship, Civic Science and Diversifying Computing is given annually to an individual who is a distinguished computational scientist, computer scientist or computer engineer and who is making significant contributions to civic areas such as teaching, mentoring, advising, and building and serving communities. The individual is also one who demonstrates extraordinary leadership in increasing the participation of groups who are underrepresented in the sciences.

The 2020 Richard A Tapia Achievement Award winner is **Dr. Jeanine Cook**, a Principal Member of Technical Staff at Sandia National Laboratories in Albuquerque, New Mexico, in the Scalable Architectures department at the Computer Science Research Institute. She is a leading researcher in the fields of High-Performance Computing, performance characterization and modeling, hardware accelerator technologies, and large-scale system monitoring and data analytics. In addition, she has focused on diversity issues in computer science. She also mentored numerous PhD and Masters Students while a professor.

Jeanine Cook was born in Lansing, Michigan. Her mother's mother was from New Mexico while it was still part of Mexico. Her father's family was of Italian descent. Her family was very tight knit, her father a PhD in Physics and her mother a homemaker. At four they moved to Colorado where her father took Jeanine and her sisters to work with him and introduced them to computers. She spent many Saturdays in the main frame room sitting at a teletype communicating with his colleagues. She followed high school science classes by enrolling in a BS Program in Electrical Engineering from the University of Colorado in Colorado Springs. Her second semester in college she fell asleep while driving and went off an embankment, breaking her back and permanently damaging her spinal cord.

She made the decision to choose life, joy and positivity. She received her degree and followed it with an MS in Computer Science from the University of Colorado, Boulder. She wanted to continue on to her PhD and as she evaluated her options, she found that many campuses in the East were not wheelchair accessible. She decided to pursue her PhD at the New Mexico State University's Computer Research Laboratory.

After graduation she was hired into the Klipsch School of Electrical and Computer Engineering at the New Mexico State University. During her eleven-year tenure she graduated eight PhD Students and twelve masters theses students. She was extremely successful in securing research funding and in 2009 received the Presidential Career Award for Scientists and Engineers from President George Bush and the Frank Bromilow Excellence In Research Award from the College of Engineering, New Mexico State University. She moved to Sandia National Laboratory in New Mexico in 2012 and joined the Scalable Architectures department.

Given her background as a Hispanic woman in a wheelchair, she has been very involved in diversity in Computer Science. She has participated in the Directorate for Computer and Information Science and Engineering (CISE) of the National Science Foundation (NSF) as an External Subcommittee Member, active in the development of the CISE Strategic Plan for Broadening Participation. She was a leader in BPC programs focused on getting people with disabilities introduced to computer science as a potential education and career path. She developed and delivered workshops all over Pennsylvania and Texas, anywhere there were populations of disabled people. These workshops taught participants the basics of programming and also provided information on how to fund college, navigate campuses and pursue their academic careers. She has also been involved in capacity building work with AccessComputing and delivered talks at CAHSI (Computing Alliance of Hispanic-Serving Institutions). Jeanine Cook is a member of the Center for Minorities and People with Disabilities in Informational Technology (CMD-IT) board and has been a keynote speaker at the ACM Richard Tapia Celebration of Diversity in Computing. Jeanine was also the Chair of the 1st Annual Conference on Disability at New Mexico State University in 2012.

Jeanine Cook lives in New Mexico with her husband Jonathan. Her favorite thing to do when not working is to ride her horse in the New Mexico mountains and desert.

Her advice to students and everyone is to not let adversity ruin your life and make you curl up in a ball. Instead make the decision to chose life, joy and positivity.

11:00 AM – 4:30 PM
CMD-IT Student Professional Development Workshop
Pre-registration required

The CMD-IT Student Professional Develop Workshop will provide undergraduate and masters level computer science students with the unique opportunity to receive coaching and development from Industry professionals. Students will learn the best practices for resume writing, preparing for the rigors of the (technical/behavioral) interview process and social media presence. The workshop includes a Resume Clinic where students can get advice from professional industry volunteers on their resumes.

CMD-IT STUDENT PROFESSIONAL DEVELOPMENT WORKSHOP SCHEDULE

11:00 AM – 11:15 AM
Welcome
Location: Bryant York Auditorium

11:15 AM – 12:00 PM
Panel Discussion: Preparing Your Resume for the Virtual Career Fair
Location: Juan Gilbert Room

12:15 PM – 1:15 PM
Resume Clinic
Locations: Juan Gilbert Room, Jon Cuny Room, WIlliam Wolf Room

1:45 PM – 2:30 PM
Panel Discussion: Are You Ready For Your Virtual Interview?
Location: Juan Gilbert Room

2:45 PM – 3:45 PM
Virtual Interview Clinic
Locations: Juan Gilbert Room, Jon Cuny Room, WIlliam Wolf Room

11:00 AM – 11:30 AM
Doctoral Consortium Welcome
Location: Bryant York Auditorium

11:45 AM – 4:30 PM
Doctoral Consortium
By invitation only
The Doctoral Consortium is a workshop that provides an opportunity for doctoral students to discuss and explore their research interests with a panel of established researchers in computing.

2020 DOCTORAL CONSORTIUM RESEARCH TOPICS AND TIMES

11:45 AM – 12:30 PM
A Framework for Identifying and Evaluating Pathways into the Computing Field and Workforce
Mercy O. Jaiyeola, Mississippi State University
Location: Carlo Castillo Chavez Room

Discovering Knowledge Sharing Patterns of Blind People Pursuing STEM Disciplines: Data Science and Computational Linguistics on Large-Scale Email Corpora
JooYoung Seo, The Pennsylvania State University
Location: Peter Freeman Room

Community Detection of Anomalies in Large Scale Network using Deep Learning
Adefolarin Bolaji, Purdue University
Location: Ayanna Howard Room

12:45 PM – 1:30 PM
Towards Scientific Study of Technical Interviews
Mahnaz Behroozi, NC State University
Location: Carlos Castillo Chavez Room

Humans and Bots on Social Media
Lale Madahali, University of Nebraska at Omaha
Location: Peter Freeman Room

Resource Management in Edge Computing Systems
Tayebeh Bahreini, Wayne State University
Location: Ayanna Howard Room

TUESDAY | PROGRAM SCHEDULE

1:30 PM – 2:45 PM
Doctoral Consortium Virtual Networking Lunch
By invitation only
Location: Ayanna Howard Room

2:45 PM – 3:30 PM
Designing Learning Environments to Foster Inquiry as a Situated Practice
Aditya Anupam, Georgia Institute of Technology
Location: Carlos Castillo Chavez

Computational Methods and Algorithms for Real-Time Routing of Emergency Response in Unreliable Settings
Sampson Akwafuo, University of North Texas
Location: Ayanna Howard Room

Integration of Bioinformatics Data Using Deep Learning
Ogenna Esimai, The University of Texas at Arlington
Location: Peter Freeman Room

3:45 PM – 4:30 PM
Detecting Changes in LN-18 glial cell morphology using an SVM: A Supervised Machine Learning Approach to Cell Image Classification
Sarah Mbiki, Clemson University
Location: Peter Freeman Room

The Modeling and Management of Computational Sprinting
Nathaniel Morris, The Ohio State University
Location: Ayanna Howard Room

An Analysis of User Experiences regarding Presence within VR games
John Porter III, Clemson University
Location: Carlos Castillo Chavez Room

3:00 PM – 5:00 PM
FLIP Alliance
(By Invitation Only)
Location: David Patterson Room

4:30 PM – 6:00 PM
Virtual Student Reception Hosted by Dropbox
Invitation Only
Location: Bryant York Auditorium

4:45 PM – 6:00 PM
Doctoral Consortium Networking
By Invitation Only
Location: Ayanna Howard Room

WEDNESDAY | PROGRAM SCHEDULE

10:00 AM – 10:45 AM
STARS Meeting
Invitation Only
Location: Ayanna Howard Room

11:00 AM – 11:15 AM
Conference Welcome
Location: Bryant York Auditorium

11:15 AM – 12:20 PM
Fireside Chat
Location: Bryant York Auditorium

Opening Remarks

The Deep Learning Revolution and Why We Need Your Help
Speaker: **Jeff Dean**

Impact of AI with Leading AI Experts
   Presenters: **Jeff Dean**, Google Senior Fellow and SVP for Google AI, Google; **Navdeep Jaitly**, Senior Member, Machine Learning Ventures, D.E. Shaw Group; **Beata Shahriari**, JP Morgan Chase & Co.; **Ruth Tadesse**, Senior Engineer, Qualcomm; Moderator: **Charles Isbell**, Georgia Institute of Technology

BIOGRAPHIES:
Jeff Dean
Jeff Dean joined Google in 1999 and is currently a Google Senior Fellow and SVP for Google AI and related research efforts. His teams are working on systems for speech recognition, computer vision, language understanding, and various other machine learning tasks. He has co-designed/implemented many generations of Google's crawling, indexing, and query serving systems, and co-designed/implemented major pieces of Google's initial advertising and AdSense for Content systems. He is also a co-designer and co-implementor of Google's distributed computing infrastructure, including the MapReduce, BigTable and Spanner systems, protocol buffers, the open-source TensorFlow system for machine learning, and a variety of internal and external libraries and developer tools.

   Jeff received a Ph.D. in Computer Science from the University of Washington in 1996, working with Craig Chambers on whole-program optimization techniques for object-oriented languages. He received a B.S. in computer science & economics from the University of Minnesota in 1990. He is a member of the National Academy of Engineering, and of the American Academy of Arts and Sciences, a Fellow of the Association for Computing Machinery (ACM), a Fellow of the American Association for the Advancement of Sciences (AAAS), and a winner of the ACM Prize in Computing.

Navdeep Jaitly
Navdeep Jaitly is a senior member of Machine Learning Ventures, a D. E. Shaw group initiative that includes an independent research and development effort aimed at exploring the frontiers of machine learning in finance. Navdeep joined the D. E. Shaw group in January 2020.

Beata Shahriari
Beata joined JPMorgan in 2016; she currently serves as the Head of Artificial Intelligence for Global Technology Infrastructure and is a Distinguished Engineer. Her focus is on ensuring the firm capitalizes on AI capabilities effectively for the business of Technology Infrastructure. She leads highly diverse teams developing AI products with applications in data center optimization, IT operations, and workplace products.
   She additionally serves as a leader in the Diversity and Inclusion council for her broader organization.
   Prior to her career in finance, Beata performed as a classical violinist and carried out research in X-Ray Astrophysics.

Ruth Tadesse
My name is Ruth Tadesse and I am originally from Ethiopia. I came to the US for my undergrad degree in Computer Science at San Diego State university. I am currently a senior engineer at Qualcomm and work as part of Qualcomm's AI Software team. In collaboration with our AI research group, my team develops efficient hardware, algorithmic advancements, and software tools to enable AI on our Snapdragon chips. Outside of work, I am also attending a part-time MBA program at SDSU, anticipating to graduate in May 2021. In my leisure time, I enjoy watching lifestyle channels specially in interior design and fashion as well as love spending quality time with family(big family of 25 cousins) and friends.

Charles Isbell
Charles Isbell is a leader in education efforts both at Georgia Tech's College of Computing, where he is Senior Associate Dean for Academic Affairs, and nationally, where he co-chairs the Computing Research Association's Subcommittee on Education. At Georgia Tech, Dr. Isbell was one of the co-leaders of Threads, a comprehensive pathway-based restructuring of the computing curriculum designed to make computing more inclusive, relevant and exciting for a much broader audience. Dr. Isbell's distinctions in teaching, mentoring, and research include Black Engineer of the Year, 50 Most Important African American Technologists, and invited speaker at the Tapia Conference. Dr. Isbell serves on the Georgia Tech Human Resources Diversity Council Steering Committee, the Advisory Board for the Alliance for the Advancement of African American Researchers in Computing, the Executive Committee of the Coalition to Diversify Computing, and the Governing Board of the Institute for African American e-Culture.

12:30 PM – 5:00 PM
Networking
Location: Valerie Taylor Networking Lounge

Career Fair
Location: Richard Ladner Exhibit Hall

POSTER SESSION

Tapia Student Poster Competition/ACM Student Research Competition (SRC)
Location: Ann Gates Poster Hall
The Tapia technical student poster session provides an opportunity for undergraduate and graduate students to present their latest research results and methodologies to a wide conference audience. Winners of the top posters (1st, 2nd & 3rd place) will be recognized at the conference Award Ceremony. Tapia 2020 is again hosting an ACM Student Research Competition (SRC). The winners of the ACM SRC competition at Tapia will be invited to participate in the ACM Student Research Competition Grand Finale.

UNDERGRADUATE STUDENT POSTERS
Studying AGN Host Galaxies From Hyper-Suprime-Cam Using Convolutional Neural Networks
Nicholas Potteiger (University of Maryland, Baltimore County)

Multiplotlib: a multi-view visualization and analytics library
Milind Agarwal (Johns Hopkins University)

Compressing and Analyzing Large-Scale Networks
Benjamin Cramer (University of North Texas)

Leap For Mankind
Ryan Cunico (Georgia Gwinnett College)

An Efficient Algorithm for Constructing Fault Tolerant Spanners
Caleb Robelle (The University of Maryland Baltimore County)

Designing a DCCs Doctors' Time Manager(DDTM) to Streamline Patients' Care
Bradley Rucker (University of Dayton)

A Conceptual Framework for Team Selection using Semantic Case-based Reasoning
Onyeka Emebo (Montclair State University)

Online Simulation in Robotic Education
MacVincent Agha-Oko (Claflin University)

An IoT-based Framework for Special Education
Ghazal Suhani Yadav (Independent High School)

Revisiting the Constancy of Internet Path Delays
Nhiem Ngo (Colgate University)

GRADUATE STUDENT POSTERS
Accessible Blockly as a Programming Platform for People with Visual Impairment
Aboubaker Mountapmbeme (University of North Texas)

A Comparative Analysis of Machine Learning Techniques for Predicting Student Persistence in Computing Programs
Leila Zahedi (Florida International University)

High-Fidelity Calibration and Characterization of a Hyperspectral Computed Tomography System
Isabel O.Gallegos (Stanford University)

Collaborative Privacy-Preserving Video Analytics at the edge
Hannaneh Barahouei Pasandi (Virginia Commonwealth University)

Twitter Watch: Leveraging Social media to Assess Collective Efficacy of Neighborhoods
Moniba Keymanesh (Ohio State University)

Invertible generative models for inverse problems: mitigating representation error and dataset bias
Oscar Leong (Rice University)

Inclusive and Insightful Data Visualization: An Evaluation of Menstrual Tracking Apps
Michelle Gomez (Fisk University)

PhyMask: Sensing of Physiological Signals During Sleep with All-textile Eyewear
Soha Rostaminia (University of Massachusetts – Amherst)

Power Adaptation for Distributed Detection in Energy Harvesting WSNs with Finite-Capacity Battery
Ghazaleh Ardeshiri (University of Central Florida)

Applying Stress Management Techniques in Augmented Reality: Stress Induction and Reduction in Healthcare Providers During Virtual Triage Simulation
Ileri Akinnola (University of Maryland, Baltimore County)

A Selection Debiasing Approach for Learning-to-rank Systems
Zohreh Ovaisi (University of Illinois at Chicago)

Creating a Seat for the Computer Science Doctorate: How Successful Black Women Navigate Academic Success on Their Own Terms Using Case Studies
Breauna Spencer (University of California, Irvine)

Gait Differences in the Real World and Virtual Reality: The Effect of Prior Virtual Reality Experience
Moloud Nasiri (Clemson University)

Algorithms for the Nearest Assignment Problem
Sara Rouhani (University of Texas at Dallas)

Image Classification in Synthetic Aperture Radar Using Reconstructions From Learned Inverse Scattering
Jacqueline Alvarez (University of California, Merced)

The Bison Hacks The Yard: Developing Sense of Belongingness in Computer Science Community (Imposter Syndrome)
Dalila Scott (Howard University)

An Explainable Neural Network Model for Recommender Systems
Pegah Sagheb Haghighi (University of Louisville)

Idiom Based Sentiment and Intent Analysis of Code-Switched Twitter Conversations
Cesa Salaam (Howard University)

A Non-Trivial Challenge Involving Trees for Automated Provers
NIcodemus Msafiri John Mbwambo (Clemson University)

Automatic counting methods applied to unspecified repetitive physical activities
Thasina Tabashum (University of North Texas)

Validation methods to promote real-world applicability of machine learning in medicine
Riyad Bin Rafiq (University of North Texas)

HomeNet: Layout Generation of Indoor Scenes from Panoramic Images Using Pyramid Pooling
Krisha Samir Mehta (Arizona State University)

Discourse Analysis of Pairwise Twitter Hashtags
Maia M. Powell (University of California, Merced)

Towards an "Innate Learning" Efficient Coding Model using Spontaneous Neural Activity
Sahar Behpour (University of North Texas)

Multi-agent Hierarchical Reinforcement Learning of Strategy and Tactics in Competitive Play
Chengping Yuan (University of North Texas)

Multi-task Learning for Effective Forum Curation in MOOCs
Faeze Brahman (University of California, Santa Cruz)

Using Machine Learning to Improve Material Properties Prediction in Glass Production
Himan Namdari (University North Texas)

Deep Active Learning Toward Crisis-related Tweets Classification
Shiva Ebrahimi (University of North Texas)

Designing Physical Representations of STEM Concepts With College Students With Cognitive Impairments
Ruchita Parmar (Georgia Institute of Technology)

Educational Initiatives to Retain Underrepresented Minority Students in Computing: A Systematic Literature Mapping
Keishla D. Ortiz-Lopez (Texas A&M)

Evaluation of Cross-View Matching to Improve Ground Vehicle Localization with Aerial Perception
Deeksha Dixit (Robotics Algorithms & Autonomous Systems Lab, University of Maryland)

Utilizing Sidechains to Improve Blockchains for Healthcare
Alyssa Donawa (University of Kentucky)

Vegetation Classification Using LiDAR Data
Maryam Ramezanzadehmoghadam (Florida A&M University)

Sensor Diagnostic Based Anomaly Detection in Weather Stations
Irené Tematelewo (Oregon State University)

Inferring user polarization in Twitter data with a simplified Graph Convolutional Network
Neda H. Bidoki (UCF)

Human gait recognition using LSTM
Samaneh Davarzani (Mississippi State University)

Identification, Classification and Modelling of Traditional African Dance Using Deep Learning Techniques
Adebunmi Odefunso (Purdue University)

Prospector: Synthesizing Efficient Accelerators via Statistical Learning
Atefeh Mehrabi (Duke University)

Multi-Image Super Resolution with k-sparse Compressive Sensing and a Traditional Initial Guess
James T Coleman (University of Maryland, Baltimore County)

SociRec: A user-centric, hybrid system for recommending social services to users
Oghenemaro Anuyah (University of Notre Dame)

ACM SRC COMPETITION POSTERS
UNDERGRADUATE STUDENT POSTERS

Employing Machine Learning in the Study of Differential Equations Related to Nuclear Engineering
Marina Zafiris (University of Houston-Downtown)

Intrusion in Wireless Networks Detection Using Machine Learning
Shilpa Bhandari (Youngstown State University)

Crowdsourced Measurements of Internet Traffic Manipulation
Allison N. Turner (Wellesley College)

Changing How We Perceive Local Music}
Vianca Hurtado (Cornell)

OUTSourc'd: Towards Understanding, Evaluating, and Creating LGBTQ Safe Spaces with Technology
Andre Vincent (Howard University)

GRADUATE STUDENT POSTERS

A Hybrid Network Architecture for Rural Remote Patient Monitoring
Esther Max-Onakpoya (University of Kentucky)

Speedup of Bayesian Inference of Species Phylogenies
Yaxuan Wang (Rice University)

Sentiment Analysis on a Multi-Class Binary Sentiment Dataset Using Bi-LSTMs and BERT
Mikel Kengni Ngueajio (Howard University)

EEG Sensor Network Based Feature Extraction for Predicting Brain Disorders
Parneet Kaur Saran (California State University, Fresno)

WaterGuard: Toward Cheap Automated Irrigation Systems Powered by the Cloud and TV White Spaces
Gloire B. Rubambiza (Cornell University)

Intercomparison of Hardware and Software Intrusion Detection Systems for Controller Area Networks
Katrina Rosemond (Howard University)

Stroke Modeling and Synthesis for Intelligent Virtual and Robotic Patients
Maryam Pourebadi (UCSD San Diego)

Elderly Care: From independence to interdependence
Shubhangi Gupta (Georgia Institute of Technology)

Early Prediction of students' grades and appropriate Recommendations
Pujitha Surapareddy (California State University, Fresno)

Style-aware Neural Model with Application in Authorship Attribution
Fereshteh Jafariakinabad (University of Central Florida)

Next-Generation Environmental Information Systems using Immersive Technologies and Artificial Intelligence
Yusuf Sermet (University of Iowa)

SoftAdapt: Techniques for Adaptive Loss Weighting of Neural Networks with Multi-Part Loss Functions
Abbas-Ali Heydari (University of California, Merced)

Spatial Attention GAN for Unsupervised Image-to-Image Translation
Hajar Emami Gohari (Wayne State University)

The Changing Nature of Computational Science Software
Huy Tu (North Carolina State University)

Proof-of-Stake Blockchain Mining Games with Perfect Randomness
Matheus V. Xavier Ferreira (Princeton University)

Breast Cancer Risk Assessment via Temporal Changes in Longitudinal Screening Mammograms
Saba Dadsetan (University of Pittsburgh)

Connecting while Disconnected: Technology use by Long Distance Hikers on the Appalachian Trail
Lindah Kotut (Virginia Tech)

Matrix Factorization for Gene Expression Recovery in scRNA-seq Data
Elnaz Mirzaei Mehrabad (University of Utah)

Formal Modeling and Analysis of Industrial Control System Network Protocols
Abiola Ogundeko (University of Colorado Colorado Springs)

Comparative Analysis of Accessibility Testing Tools and their Limitations in RIAs
Obianuju Okafor (University of North Texas)

Trust in Teamwork: Human Perception of Robot Outcomes in Kinesthetic Teaching
Michael Johnson (Georgia Institute of Technology)

Science Reading Behaviors of Middle School Students
Effat Farhana (North Carolina State University)

Early Detection of Hypotension in ICU Settings Using Supervised Classification Algorithms
Mina Chookhachizadeh Moghadam (University of California, Irvine)

Community Detection of Anomalies in Large Scale Network using Deep Learning
Adefolarin Bolaji (Purdue University)

Secure and Dynamic Service Recommendation in User-centric IoT Applications
Damilola A. Alao (Oakland University)

Analysis of U.S. Permanent Visa Decisions
Mahdi Kouretchian (University of Florida)

Occlusion Management for Everyday AR Interfaces
Shakiba Davari (Virginia Tech)

12:30 PM – 1:15 PM
BIRDS OF A FEATHER

Students Voices: Pandemic, Social Justice, Virtual Learning and Self Care
Location: Peter Freeman Room

The global pandemic and recent calls for social justice anti-racism have impacted the entire computing community in numerous ways. Students, in particular, are balancing shifts between in-person and online learning, internships, networking, and self-care. This BoF (Birds of a Feather) provides time for students to gather and discuss best practices and solutions for navigating the current environment.

Presenters: **Meenakshi Das** (Auburn University); **Ather Sharif** (Paul G. Allen School of Computer Science and Engineering at the University of Washington, Comcast); **Anthony Gordon** (Howard University); **Sofía Meléndez Cartagena** (University of Puerto Rico, Río Piedras)

PANELS AND WORKSHOPS

So You Want to Work at a Startup: Breaking into Tech
Location: Jan Cuny Room

This panel will provide a multi-perspective view to prepare aspiring tech talent (job seekers looking to enter the tech industry workforce) for a career in a tech startup. Featuring insights from professionals working across the tech workforce development sector, we will demystify startup culture and resource attendees with best practices and actionable advice for beginning a successful startup career. The professionals on this panel are directly involved in the business of preparing and placing professionals into the tech sector. In addition, each of them has a commitment to racial equity, diversity, and inclusion. Panel topics will include: - Demystifying startup culture - Gateway opportunities; initial barriers to startup entry - Jobseeker positioning and how to put your best self forward - Technical interviews After quick panelist introductions, we will dive right into our panel topics while providing as much time as possible for audience Q&A.

Speakers: **Tiffany Price** (Kapor Center), **Tiffany Foo** (Kapor Capital), **Aline Lerner** (Interviewing.io), **Ruben Harris** (Career Karma)

Storytelling, Coding, and Identity: Developing Culturally Relevant Computing Courses for Native Students
Location: Juan Gilbert Room

In order to address the longstanding effects of colonization, forced removal and assimilation, and systemic poverty affecting Native American communities in the United States and build new economic pathways, this panel will discuss a project to develop and implement a sequence of 3 project-based, culturally relevant computing courses, including Advanced Placement Computer Science Principle (AP CSP) and Advanced Placement Computer Science A (AP CS A), to prepare Native American students to participate in computing college and career opportunities. The Women of Color in Computing Collaborative (WOCCC), in partnership with the American Indian Science and Engineering Society (AISES), has built upon an existing culturally responsive, project-based CS course currently implemented in two schools of the Navajo Nation (Chinle High School, Greyhills Academy High School, both in Arizona) to develop a full, college preparatory computer science sequence for Native-serving

high schools. Furthermore, in examining the additional barriers that are faced by students of color with marginalized gender and sexual orientation identities, these courses have been developed to engage, motivate, and inspire Native American girls and LGBTQ+/Two-Spirit students to pursue computer science education and careers. Panelists will discuss the ways in which this project centers the leadership, vision, goals for self-determination, and traditional values of its partner Native American tribes and communities as well as their experiences in working with Native students, families, cultural experts, and communities as part of this project.

Speakers: **Frieda McAlear** (Kapor Center), **Kathy DeerInWater** (AISES), **Ruth Blackhawk Cameron** (AISES), **Kai Orton** (Dartmouth College)

Increasing Diversity in Doctoral Programs: Insights from the Trenches
Location: William Wulf Room

This panel will provide an opportunity for representatives from the NSF and Sloan-funded INCLUDES FLIP (Diversifying Future Leadership in the Professoriate in Computing at Research Universities) Alliance. The goal of the FLIP (Diversifying Future Leadership in the Professoriate in Computing at Research Universities) Alliance is to address the broadening participation challenge of increasing the diversity of the future leadership in the professoriate in computing at research universities as a way to achieve diversity across the field. Since the inception of the FLIP Alliance in 2017, significant progress has been made with increasing the diversity of graduate admissions. In particular, the FLIP Alliance has established a strong community of FLIP Faculty and Staff Advocates, such that sharing of data and information is a common occurrence. Further, the FLIP Alliance has documented good practices for recruiting and admissions, with a major focus on being intentional about increasing diversity. Such practices have resulted in increases in the enrollment of students from the target groups in the doctoral programs at the FLIP institutions. The current focus is on retaining students. The panel will include three of the FLIP Faculty Advocates to discuss some key changes that have taken place at their universities in terms of graduate recruiting and admissions with respect to increasing diversity of their doctoral students.

Speakers **Charles Isbell** (Georgia Institute of Technology), **Eva Tardos** (Cornell University), **Ed Lazowska** (University of Washington), **Nancy Amato** (University of Illinois at Urbana Champaign)

The Art of Scientific Lectures and Poster Presentations
Location: Ayanna Howard Room

Public speaking is an art. For many pursuing careers in science and engineering, the art of technical speaking is often overlooked in their training. Often disregarded as ``something you learn by doing'' with many unwritten rules left unspoken to those deemed outsiders. This workshop will fill this training gap by presenting a structured view of, both, poster and oral presentations for scientific work. Topics to cover include storytelling structure and how and when it can be applicable for technical presentations, the design concept of white space and its role in slide and poster design, identifying presentation goals (highlighting differences between several types of talks and poster presentations) and their impacts on structure, highlight common pitfalls when presenting data and results, and construction of attention grabbing introductions and pitches. Content in this workshop is synthesized from various sources such as graduate level technical communication courses, experience creating a graduate student presentation competition, and with support from Dr. Jan Hewitt who for years taught courses on communication skills for graduate students. This workshop builds and improves on a previous workshop given by Dr. Ramirez at New York University and for a NeurIPS 2019 workshop. After completion of the workshop, attendants will have gained valuable knowledge to improve their design and delivery of their future research findings via improved oral and visual communication skills. Ultimately, improving the presentation of your work increases it's visibility and your renown which advances your career.

Speakers: **David Ramirez** (Princeton University), **CJ Barberan** (Rice University)

12:30 PM – 1:45 PM
Navigating the Coding Interview: How to Prepare and Thrive in the Technical Interview Environment
Location: Manuel Perez Quinones Room

Do you wish that technical interviewing didn't have to be a nerve-wracking experience and that you could have a light-lift toolkit to easily problem solve and translate your knowledge in an interview context? Software Engineers and a University Recruiter will teach you how to leverage the STAR methodology to study for and navigate the technical interview environment. The session will include an overview of the technical recruiting process, a real-time enactment of a technical interview, and open Q&A.

Speakers: **Madhura Jayaraman** (Microsoft), **Daisy Isibor** (Microsoft), **Ellen Thorley** (Microsoft)

WEDNESDAY | PROGRAM SCHEDULE

Techniques in Cyber File Forensics
Location: Christina Villalobos Room

This technical workshop will demonstrate techniques in cyber file forensics. Using free open source tools, the speaker will demonstrate how easy it is hide data in image files. Hidden data may consist of plain text data, MS Office documents, or even executable script code. The audience will be able to work with cyber artifacts and use specialized tools to both embed and extract hidden data. Several demonstrations will be given including a final one that will show how to embed text data or images in music files.

   Speaker: **Maria Vicente Bonto-Kane** (University of Texas at San Antonio)

Federated Learning for All: Crowdsourced Machine Learning on its Journey to Privacy & Fairness
Location: David Patterson Room

Personal and device data is growing at a mind-boggling rate, and effectively utilizing such data is of increasing interest to the machine learning (ML) community. Meanwhile, there is greater focus on reducing the centralized storage of potentially sensitive data, maintaining user privacy, and avoiding magnifying biases present in data in trained models. In this workshop, we will discuss Federated Learning (FL), an ML setting where a network of devices collaboratively train a central model on-device without sending their raw user data to a central server. Attendees should come away with an interest to learn more about FL, as well as an understanding of (i) basics of ML and FL, (ii) some of the challenges inherent in this ML setting, and (iii) the intersection of privacy and fairness in FL. Time permitting, we will pivot slightly In the last portion of the session and focus on the speakers journey, Jenny Hamer, and discuss why it is important to pursue fairness while considering representation in the industry. We will host a brief panel and highlight her particular experiences and career path as a professional, and explore how to create an environment that fosters diversity and inclusivity; with Google AI Residency as an example program that aspires to design for inclusivity in AI and research.

   Speakers: **Jenny Hamer** (Google), **Nina Ong** (Google)

1:30 PM – 2:15 PM
TECH TALK

Building Cloud Tools For Distributed Work
Sponsored by Dropbox
   Speaker: **Timothy Young** (Dropbox)

PANELS AND WORKSHOPS

20/20: Visual Storytelling to Examine Bias
Location: Peter Freeman Room

Leveraging an innovative storytelling format called Pecha Kucha, this workshop features five speakers that will each speak for exactly six minutes and forty seconds 20 slides: 20 seconds per slide. Each talk will approach fostering inclusion and combating bias from a unique perspective. The session will begin by taking a glimpse at the types of biases we encounter in our lifetime and what we as individuals can do to address it. To assist with that, the concept of focusing on extreme ownership is introduced in the second talk as a tool to drive inclusion. In our third talk, hindsight will be employed as we discuss policies that can drive workplace inclusion and software quality. Our final two talks will approach bias with reflection and a panoramic understanding: how to free yourself from internal chatter to better confront personal bias and understanding the full picture of individuals. The atmosphere that Pecha Kucha creates results in speakers staying on their toes as slides automatically change quickly and audience members being engaged throughout.

   Speakers: **Natalie Veilleux** (JP Morgan Chase), **Eli Brown** (JP Morgan Chase), **Leila Elorfi** (JP Morgan Chase), **Camilo Hurtado** (JP Morgan Chase), **James Coghlan** (JP Morgan Chase)

It Takes a Village: Creating and Implementing an Autism to Work Program for Students
Location: William Wulf Room

Approximately 2% of college students throughout the US meet DSM-5 criteria for autism. After graduation, most of these students end up at home unemployed, or underemployed in a low-paying career not requiring a college degree. The good news: campus career services and corporate university recruitment programs can work together to correct this trend. Participants will engage in an in-depth discussion covering the research, creation, implementation, and maintenance for an autism-to-work program at the university and corporate level. This will be a dynamic session where participants will develop action plans they can take back to their organizations and implement.

   Speakers: **Danielle Pavliv** (SAS), **Wesley J. Wade** (North Carolina State University)

Increasing Diversity in Computing: Sharing of Good Practices
Location: Juan Gilbert Room

This panel will provide an opportunity for representatives from the NSF-funded Broadening Participation in Computing Alliances and other organizations to share their

good practices about increasing diversity in computing. The NSF BPC Alliances were established to increase the number and diversity of college graduates in the computing and computationally-intensive disciplines. The Alliances are national and regional collaborations of academic institutions, educators, professional societies, community organizations, and industry partners. The panel will begin with an introduction to the following NSF BPC Alliances and other organizations: AccessComputing, CAHSI, CMD-IT, CRA-W, ECEP, IAAMCS, NCWIT, and STARS. Each panelist will be given two minutes to share information about the organization and how the programs have broadened participation in computing. Each organization will be given one round table for interaction with attendees. After the introduction, the audience will be invited to join the particular round table of the organization of interest to get more details about the organization and its programs. After 15 minutes, the audience will be invited to visit a new table. This will be done until the end of the session. Hence, attendees will have an opportunity to learn about different organizations via a world cafe setting.

Speakers: **Valerie Taylor** (CMD-IT), **Richard Ladner** (University of Washington), **Rose Robinson** (CMD-IT), **Ayanna Howard** (Georgia Institute of Technology), **Juan Gilbert** (University of Florida), **Jannie Fernandez** (NCWIT), **Jamie Payton** (Temple University), **Andrea Tirres** (CAHSI), **Carol Fletcher** (TACC)

NSF Funding Opportunities
Location: Carlos Castillo Chavez Room

This session is focused on NSF Funding Opportunities. Fay Cobb Payton, a program director in CISE, will provide an overview of CISE and discuss various funding opportunities at NSF. Come to learn about the programs and gain insights into writing successful NSF proposals.

Presenter: **Fay Cobb Payton** (National Science Foundation)

Increasing Diversity in Doctoral Programs: Insights from the Trenches
Location: William Wulf Room

This panel will provide an opportunity for representatives from the NSF and Sloan-funded INCLUDES FLIP (Diversifying Future Leadership in the Professoriate in Computing at Research Universities) Alliance. The goal of the FLIP (Diversifying Future Leadership in the Professoriate in Computing at Research Universities) Alliance is to address the broadening participation challenge of increasing the diversity of the future leadership in the professoriate in computing at research universities as a way to achieve diversity across the field.

Since the inception of the FLIP Alliance in 2017, significant progress has been made with increasing the diversity of graduate admissions. In particular, the FLIP Alliance has established a strong community of FLIP Faculty and Staff Advocates, such that sharing of data and information is a common occurrence. Further, the FLIP Alliance has documented good practices for recruiting and admissions, with a major focus on being intentional about increasing diversity. Such practices have resulted in increases in the enrollment of students from the target groups in the doctoral programs at the FLIP institutions. The current focus is on retaining students.

The panel will include three of the FLIP Faculty Advocates to discuss some key changes that have taken place at their universities in terms of graduate recruiting and admissions with respect to increasing diversity of their doctoral students.

Speakers: **Eva Tardos** (Cornell University), **Ed Lazowska** (University of Washington), **Nancy Amato** (University of Illinois at Urbana-Champaign

Panel Moderator: **Charles Isbell** (Georgia Institute of Technology)

2:00 PM – 3:15 PM
Next-Generation Secure Computer Systems: Post-Quantum Cryptosystems
Location: Christina Villalobos Room

In this workshop, first, we will present a brief history and evolution of quantum computing and computers. Second, we will introduce a set of highly-optimized, parameterizable hardware modules to serve as post-quantum primitives for faster design space exploration of post-quantum cryptosystems, especially, cryptosystems using Ring-LWE algorithms. This post-quantum primitive set consist of the four frequently-used security components: the public key cryptosystem (PKC), key exchange (KEX), oblivious transfer (OT), and zero-knowledge proof (ZKP). The OT is used in many privacy-preserving applications, e.g., DNA database and machine learning. Similarly, ZKP is used in a number of applications, for example, it has been proposed as a candidate for next generation blockchain algorithms. These primitives will serve as the fundamental building blocks for constructing secure systems in the post-quantum era.

Speaker: **Michel Kinsy** (Boston University)

Design Thinking
Location:David Patterson Room

When designing anything, it is always important to think of the users and how they feel about the design. This participant-driven design thinking workshop will introduce participants to the concept of the UX design thinking process which includes user research, design, and user testing. I will create an app that will solve a problem that I have

come up with beforehand. I will go through the process of user research by choosing a few people to interview in the audience. I will then take these responses into account when creating wireframes. This digital wireframe will show best practices and will go into the user testing portion. I will get participant feedback on my wireframes and walk through what the rest of the design process would look like after that. At the end of the workshop, participants should leave with introductory knowledge of the design thinking process of user research, wireframing, and user testing.

Speaker: **Jennifer Patterson** (University of South Florida)

Taking on the Technical Interview
Location: Manuel Perez Quinones Room

The job search (be it for an internship or a full-time) for a software engineering position usually involves one or more technical interviews. We'd like to provide tips, tricks, strategies and practice to help you present your technical abilities during this often stressful process.

Speakers: **Eric Yurko** (Google), **Antoine Picard** (Google)

2:45 PM – 3:30 PM
May the High Performance Computing Force be With You
Location: Juan Gilbert Room

In the day of scientific computing solving societal problems in health care, bioinformatics, drug design, and rocket science, the core technique that is common among all of these seemingly unrelated domains is discoveries through computational simulations. And the power pack behind these simulations is High Performance Computing (HPC). For every computational domain, there is an increasing need for developing competency in leveraging the HPC resources for graduate and undergraduate research, working in interdisciplinary teams as a CS professional facilitating domain science (biology, physics). The aim of this proposal is to establish a connection between STEM computation and HPC education to prepare students for opportunities in the emerging HPC workforce and research in computational domains. The goals of this workshop are to (1) inform students from a diverse computing background how HPC enables discoveries, (2) provide hands-on exposure to HPC environment, tools, and parallel programming using Codeocean, and (3) inform students of job opportunities in HPC.

Speakers: **Tanzima Z. Islam** (Texas State University), **Hongmei Chi** (Florida A&M University), **Ritu Arora** (University of Texas at San Antonio)

Help!? I Need an Idea For My Dissertation.
Location: Carlo Castillo Chavez Room

There are plenty of workshops that discuss how to get into graduate school and about writing dissertations. Getting into a Ph.D. program is the easy part. The question now becomes, how do you develop ideas for your dissertation? Many students drop out before the dissertation phase because they are not able to confidently turn an idea into a dissertation problem. This proposal seeks to create and foster a conversation between innovative thinkers and students for generating ideas about the phase in-between Dissertation Ideas. For this panel, we are bringing subject matter experts from all phases of academia to share how they created ideas for their dissertation as well as how they help others develop ideas. This panel will include individuals ranging from Ph.D. Candidates to Full Professors.

Speakers: **Jasmine DeHart** (University of Oklahoma), **Keerti Banweer** (University of Oklahoma)

Cracking the Internship Code: A Crash Course on How to Get an Internship in Tech
Location: Ayanna Howard Room

Students are always told to get an internship, but no one really shows them how. In this session, you'll learn how to set yourself up for success throughout the application process, including:
- How to find an internship during any college year
- How to make a plan to apply to and interview with companies
- The secrets to successful interviewing

Speaker: **Alejandro Davila Murra** (Palantir Technologies, Inc)

Mental Health in Computing Students and Professional
Location: Peter Freeman Room

Long hours, pressure to meet deadlines, lacking a sense of belonging, and fear of failure are just some of the stressors that affect Computer Science students and professionals alike, leading to burnout, anxiety, and depression. There is a need for awareness and support around student mental health, including students dealing with stress and anxiety and those with diagnosed mental illnesses. This Birds of a Feather session will start a conversation about mental health within the Tapia community. It will bring together people interested in supporting students and employees with disabilities as well as students and professionals with mental health concerns. Topics discussed will include ways that departments and instructors can support students mental health, ways to have productive conversations about mental health, and resources available. Attendees will be encouraged to share about efforts to create and foster a culture of understanding and support within their communities.

Speakers: **Brianna Blaser** (University of Washington), **Adam Blank** (California Institute of Technology), **Kendra Walther** (University of Southern California), **Nicholas Lytle** (North Carolina State University), **Kayla Brown** (University of Washington)

Creating a Community for Black College Women in Tech
Location: William Wulf Room

Race adds a layer of complexity for students. Though Black women represent a growing cohort in the tech industry, they are less likely than other groups to see themselves in tech-related discussions. Their stories are often limited to diversity-specific panels, with little to no representation elsewhere. We propose to foster a sense of inclusion and belonging for Black women in tech by engaging their perspectives in a way that acknowledges the unique experiences they encounter on a daily basis. Establishing this community can have a breakthrough impact on students, and demonstrates the overall goal of fighting barriers of discrimination for women in tech. To that end, we have created the Black Wings community within Rewriting the Code that is 700+ women and growing.

Speakers: **Susan M. Harnett** (Rewriting the Code), **Jade Barricelli** (Rewriting the Code) **Destiny Nwafor** (Cornell University, Rewriting the Code), **Paula Wambui** (North Carolina A&M State University, Rewriting the Code)

TECH TALK
ThemeBot, A Technology Innovation that is Making Waves Within the Investment Business
Sponsored by JP Morgan Chase
Location: Bryant York Auditorium

Speakers: **Kai Shen** (JP Morgan Chase), **Shilpa Lanka** (JP Morgan Chase)

PANELS AND WORKSHOPS
3:30 PM – 4:45 PM
Easy-Peasy GPU Programming using OpenMP
Location: Christina Villalobos Room

This workshop will introduce participants to the OpenMP programming model one of the most popular and powerful programming models for developing portable HPC applications using hardware accelerators, such as GPUs. The lecture overview will provide an introduction to the GPU hardware, justification for accelerator HPC programming model, and the specifics of OpenMP. In addition to the introductory lecture, attendees will be given access to the Oak Ridge Leadership Computing Facilitys Ascent system for a hands-on tutorial. Ascent is an IBM 16-node POWER9 system,

with 2 POWER9 CPUs and 6 GPUs per node.

Speakers: **Veronica G. Vergara Larrea** (Oak Ridge National Laboratory), **Don Frederick** (Lawrence Livermore National Laboratory)

Power of Resiliency – Design your systems to be inherently resilient for continued business operations
Location: David Patterson Room

It is an interactive workshop with fun activities and exercises where attendees will learn what is Resiliency and how to build resilient systems within the organizations to maintain the same energy levels during challenging and growth times without becoming overwhelmed. They will also learn how to develop a mindset to deal with adversity both personally and professionally to build a strong immune system by exploring daily practices to incorporate which keeps us going even at the critical times; when we need to achieve more and thrive in a world of change and uncertainty. The daily practices include successfully executing the Resiliency planning as part of automation and move faster without breaking things. This starts with simple, small and efficient design of the infrastructure and software. Infrastructure should be robust for high availability and recover from server failures and outages by configuring restore, replication, cluster and snapshot options. For a Software to be resilient, it should function as desired, reliably and consistently producing the same results every single day. Core concepts will be covered in this session with structured activities to keep the attendees engaged, help them envision the future by drawing a picture on past experience and empower them recover from any kind of crisis in an increasingly globalized, demanding and uncertain world.

Speakers: **Madhavi Ambavaram** (JP Morgan Chase), **Sireesha Pagolu** (JP Morgan Chase), **Arpitha Chittivolu** (JP Morgan)

Leveraging Habitat: A Platform for Embodied AI Research
Location: Manuel Perez Quinones Room

Within the computer vision community, there has been a shift from so called internet AI like MNIST, ImageNet, and other static data sets to embodied AI where agents can act and perceive within their environments. Embodied agents are a stepping stone towards deployment of AI agents in the real world, as they require agents to perceive, analyze, and react within 3D environments. Embodied agents present unique challenges, such as coupling perception

with control, that are not present in static data sets. We provide an introduction to Habitat, a platform created by Facebook AI Research that allows for configurable agents and environments for the purpose of accelerating and creating benchmarks for embodied AI research. The primary objective of this workshop is to provide an introduction to Habitat for embodied AI research and encourage adoption of the platform by the research community. Our target audience is the embodied AI research community, which encompasses a number of fields such as computer vision, natural language processing, and robotics. We also target undergraduate and graduate students who aim to become more involved in this area of research.

Speakers: **Michael Piseno** (Georgia Institute of Technology, Facebook), **Ali Bharwani** (Georgia Institute of Technology, Facebook)

3:45 PM – 4:30 PM
BIRDS OF A FEATHER

Diversity includes Disability
Location Peter Freeman Room

There is great diversity among individuals with disabilities, but there are also many common experiences. This Birds of a Feather session will bring together people who have a disability or who are interested in supporting individuals with disabilities. The goal of the session is to learn from each other about strategies for achieving success and ensuring that computing fields are welcoming and accessible to individuals with disabilities. Topics discussed will include: accessibility in computing education, disclosing disability status in interviews, recruiting and retaining employees and interns with disabilities, and including people with disabilities in broadening participation activities. The session will include information about internships, mentoring, and career development opportunities for students with disabilities as well as resources for educators and employers who would like to be more welcoming and accessible to individuals with disabilities.

Speakers: **Richard Ladner** (University of Washington), **Brianna Blaser** (University of Washington)

Working Moms in Tech: the struggle is real! A discussion on how to combat the pressures faced by working mothers at the tech workplace and beyond
Location: Jan Cuny Room

Working Moms in Tech is geared towards working mother in the tech field who are in pursuit of a suitable Work/Life Balance. Being a mother is tough, being a woman in tech is tough; combining these two takes hardship to a whole new

level. Through this session we'll share experiences as working mothers/parents, explore opportunities and approaches to sensitize organizations to the unique challenges faced by working mothers, and solicit recommendations from the audience to support working moms/parents in tech.

Speaker: **Vibha Kathuria** (Palantir Technologies)

Technological Needs of the Black Collective
Location: Juan Gilbert Room

This BOF will focus on the vacancies and need areas in technology and technology research for the advancement of the Black collective. Sub-groups within the Black community have different needs that need to be addressed differently and appropriately for that sub-population. Additionally, these differences in needs affect the type of technology that should be designed and implemented for each sub-group within the Black community. This discussion does not seek to criticize the work that has been done and currently being done to make technology more inclusive for overlooked and marginalized groups, such as the Black community. Rather, this BOF will offer discussion about how technology can be used, when appropriate, to address the varying needs within the Black community.

Speakers: **Diandra Prioleau** (University of Florida), **Brianna Richardson** (University of Florida)

A new class of teaching faculty: No PhD required
Location: William Wulf Room

Demand for computer science faculty is skyrocketing. As a result, many colleges and universities are beginning to hire candidates primarily for their teaching abilities. This brings into question the necessity of a PhD, which is, first and foremost, a degree about research. What does this mean for the faculty without a PhD, and how can we promote and support the important contribution that these faculty will have on students? We will explore how we as a community can legitimize and provide programs that support a teaching-focused computer science pathway. Can our teaching-focused faculty (with and without PhDs) work together to change the dialogue and expectations about preparing the next generation of faculty to be both computer science experts and effective teachers in higher education? We will address ways to help undergraduate and graduate students who are interested in a teaching path decide which route may be best for them.

Speakers: **Kendra Walther** (USC), **Adam Blank** (CalTech)

Spectral Analysis: An LGBTQIA+ Community in Scientific Computing
Location: Carlo Castillo Chavez Room

Spectral Analysis is a Birds of a Feather session for the LGBTQIA+ community. It was held at Tapia 2019 with good attendance and community involvement and resulted in broadening HPC and Tapia participation through expanding attendees' personal and professional networks. The session organizers hope to once again provide an open and accepting environment for members of our community to interact and network, as well as provide an opportunity to share community issues and seek feedback from our peers. It is vitally important that students entering the field see themselves reflected in the professionals representing it at conferences and events. By providing a place for students to meet and speak with career scientists and engineers who are also part of the LGBTQIA+ community, we hope to encourage students to bring their whole selves forward as they enter the workforce and to help find opportunities where they can continue to thrive. This year, in order to build on last year's topics of interest and to provide the most value to the attendees, the organizers plan to focus on identifying LGBTQIA+ affirming employers, discussing best practices and resources. According to the survey conducted by the Williams Institute, LGBTQIA+ employees who spend considerable time and effort hiding their identity in the workplace, experience higher levels of stress and anxiety resulting in health problems and work related complaints. Therefore, working in an LGBTQIA+ affirming company will lead to the improved health, increased job satisfaction, better relationships with colleagues, and greater work commitment for everyone.

Speakers: **Carissa E. Holohan** (Argonne National Laboratory), **Daniel Gens** (Lawrence Berkeley National Laboratory)

5:00 PM – 5:45 PM
Plenary Speaker: Nashlie Sephus
Location: Bryant York Auditorium
Nashlie Sephus, Applied Science Manager, Artificial Intelligence, Amazon; Founder and CEO, The Bean Path

Biases in AI: Why Should I Care?
AI has become so prevalent in today's world that oftentimes, people use these technologies without even knowing. Whether it involves recognizing and responding to one's voice, making recommendations on what type of music or song is preferred, or analyzing objects in images, how do we know these products are not biased or are being fair, especially when it comes down to a matter of privacy or human rights? Dr. Nashlie Sephus (Applied Science Manager at Amazon, CTO of acquired-startup Partpic, and founder of nonprofit The Bean Path) joins us in discussing how to measure and mitigate biases in AI. She is the tech lead of the Fairness in AI initiative at Amazon Web Services.

BIOGRAPHY:
Nashlie H. Sephus
Dr. Nashlie H. Sephus is the Applied Science manager for Amazon's Artificial Intelligence (AI) focusing on fairness and identifying biases in the technologies. She formerly led the Amazon Visual Search team in Atlanta, which launched visual search for replacement parts on the Amazon Shopping app in June 2018. This technology was a result of former startup Partpic (Atlanta) being acquired by Amazon, for which she was the Chief Technology Officer (CTO). Prior to working at Partpic, she received her Ph.D. from the School of Electrical and Computer Engineering at the Georgia Institute of Technology in 2014 and worked for a year with Exponent technical consulting firm in New York City. Her core research areas were digital signal processing, machine learning, and computer engineering. She received her B.S. in Computer Engineering from Mississippi State University (2007).

Dr. Sephus is a native of Jackson, Mississippi and a 2003 graduate of Murrah High School/Power Academic and Performing Arts Complex (APAC). She's had several internships and research experiences worldwide with companies such as IBM, Delphi, University of California at Berkeley, GE Research Center, GE Energy, Miller Transporters, and Kwangwoon University in Seoul, South Korea. Recently, Dr. Sephus became founder and CEO of The Bean Path non-profit organization based in Jackson, MS assisting individuals with technical expertise and guidance. During her leisure time, she enjoys playing tennis, playing the piano, listening to music, bargain hunting, biking, and working on do-it-yourself (DIY) projects at home.

6:00 PM – 8:00 PM
Networking
Location: Valerie Taylor Networking Lounge

Career Fair
Location: Richard Ladner Exhibit Hall

Poster Session
Location: Ann Gates Poster Hall

THURSDAY | PROGRAM SCHEDULE

10:00 AM – 10:45 AM
Stars Meeting
Invitation only
Location: Manuel Perez Quinones Room

11:00 AM – 11:15 AM
Thursday Opening Session

11:15 AM - 12:20 PM
Plenary: Tapia Student Attendees, Now Early Career Professionals
Location: Bryant York Auditorium

It is well recognized that the Tapia Conference provides an environment where attendees, especially students, can be inspired by presentations and conversations with leaders with common backgrounds. The first Tapia Conference was held in 2001, with Tapia 2020 being the 14th occurrence of the conference. The Tapia Conference has brought together thousands of students over the years. The goal of this panel is to hear from some Tapia Conference participants, who attended their first Tapia Conference as students and are now early career professions. You will be inspired by their journeys to their current careers and the impact of the Tapia Conference.

Speakers: **Ivan Brugere** (University of Illinois at Chicago), **Juan Sequeda** (data.world), **Kyla McMullen** (University of Florida), **Paule Teale** (Texas A&M University)
Moderator: **Quincy Brown** (Anitab.org)

BIOGRAPHIES:
Ivan Brugere
Dr. Ivan Brugere received his Ph.D. in Computer Science from the University of Illinois at Chicago, focusing on graph representation learning in data-driven biology and ecology applications. He was recently a research scientist in AI For Good at Salesforce Research. He has been an Electronic Privacy and Security IGERT fellow, a Google Lime Scholar and co-organizer of the Broadening Participation in Data Mining workshop at the KDD conference. His current work focuses on fairness, bias, and interpretability in novel application areas, as well as machine learning on graphs.

Kyla McMullen
Assistant Professor University of Florida
Dr. Kyla McMullen earned her Bachelor of Science in Computer Science from the University of Maryland, Baltimore County (UMBC), where she was also a Meyerhoff Scholar. She earned her Masters and Ph.D. degrees in Computer Science and Engineering from the University of Michigan (2007-2012).

While earning her Ph.D. she was also a faculty member at Wayne State University in Detroit, Michigan. At Wayne State University she taught computer literacy courses to over 2,000 students. Dr. McMullen is the first (and currently the only) woman of color to earn a Ph.D. in Computer Science and Engineering from the University of Michigan. She is currently a tenure-track faculty member in the University of Florida's Computer & Information Sciences & Engineering Department. Dr. McMullen has a personal commitment to encouraging women and minorities to pursue careers in computing and other STEM fields. She is the author of "Beautiful, Black, and Brainy" and "Brilliant is the New Black" which showcase hundreds of exceptional young African Americans who excel in STEM fields and don't fit the typical "scientist" stereotype.

Dr. McMullen's research interests are in the perception, applications, and development of 3D audio technologies. In this line of research, sounds are digitally filtered such that when they are played over headphones, the listener perceives the sound as being emitted from a specific location in their own physical space. Think of it as "surround sound over headphones". She is using this research to create realistic virtual environments, enhance data sonification, augment assistive technologies for persons with visual impairments, and decrease cognitive load in multimodal systems. She has recently earned the National Science Foundation's CAREER Award to further support her research in this area. She is also the PI of an NSF S-STEM award to augment the financial load of graduate school for PhD students.

Dr. McMullen is also senior personnel for NSF's Institute for African-American Mentoring in Computing Sciences (iAAMCS) effort to broaden participation in the field of computing. In this role, she has served as the conference chair for the National Society of Blacks in Computing. The conference gathers Black computing students, faculty, and industry professionals for professional development, career progress, networking, and bonding. In addition, Dr. McMullen co-hosts Modern Figures Podcast, elevating the voices of Black women in computing. This podcast is a collaborative effort iAAMCS and The National Center for Women and Information Technology (NCWIT) to highlight the often neglected stories of Black women in computing.

Juan Sequeda
Juan F. Sequeda is the Principal Scientist at data.world. He joined through the acquisition of Capsenta, a company he founded as a spin-off from his research. He holds a PhD in Computer Science from The University of Texas at Austin.

Juan is the recipient of the NSF Graduate Research Fellowship, received 2nd Place in the 2013 Semantic Web Challenge for his work on ConstituteProject.org, Best Student Research Paper at the 2014 International Semantic Web Conference and the 2015 Best Transfer and Innovation Project awarded by the Institute for Applied Informatics. Juan is on the Editorial Board of the Journal of Web Semantics, member of multiple program committees (ISWC, ESWC, WWW, AAAI, IJCAI). He was the General Chair of AMW2018, PC chair of ISWC 2017 In-Use track, co-creator of COLD workshop (7 years co-located at ISWC). He has served as a bridge between academia and industry as the current chair of the Property Graph Schema Working Group, member of the Graph Query Languages task force of the Linked Data Benchmark Council (LDBC) and past invited expert member and standards editor at the World Wide Web Consortium (W3C).

Wearing his scientific hat, Juan's goal is to reliably create knowledge from inscrutable data. His research interests are at the intersection of Logic and Data for (ontology-based) data integration and semantic/graph data management, and what is now called Knowledge Graphs.

Wearing his business hat, Juan is a product manager, does business development and strategy, technical sales and works with customers to understand their problems to translate back to R&D.

Paul Taele

Paul Taele is a Visiting Assistant Professor at Texas A&M University (TAMU)'s Department of Computer Science and Engineering, and the Assistant Lab Director of the Sketch Recognition Lab at TAMU.

Paul's current research interests are in intelligent user interfaces (IUI), including activity recognition-driven interfaces such as sketch, motion, and navigation. His recent primary focus has been on developing and deploying pen-driven intelligent tutoring systems for improving remote classroom instruction and homework study through instructor-emulated assessment and interactive visual feedback. His research efforts have been published at highly-visible computing conferences and journals such as IAAI, CHI, MobileHCI, TiiS, and IJHCS.

Prior to his current position, Paul received a dual Bachelors of Science in Computer Sciences and in Mathematics at the University of Texas at Austin, and a Master of Science and a Doctoral degree in Computer Science at Texas A&M University. Additionally, Paul studied at National Chengchi University in Taipei for two years, Taiwan under a full Chinese Mandarin language scholarship, and has received two National Science Foundation summer fellowships to conduct research abroad at National Taiwan University's Human-Computer Interaction Lab and Singapore Management University's Human-Computer Interaction Group, respectively.

Originally from Los Angeles, California, Paul's air force military family moved to San Antonio, Texas prior to his university and graduate school studies. Paul is a Native Pacific Islander of Samoan heritage, and whose parents originally hail from American Samoa.

12:30 PM – 5:00 PM
Networking
Location: Valerie Taylor Networking Lounge

Career Fair
Location: Richard Ladner Exhibit Hall

Poster Session
Location: Ann Gates Poster Hall

12:30 PM – 1:15 PM
PANELS AND WORKSHOPS

Collaborative Projects and Narratives on Broadening Participation in Computing
Location: William Wulf Room

Broadening participation in computing includes serious efforts to infiltrate current school structures and promote equity and access, especially in underserved communities. Teacher preparation, particularly for those that are new to computing, must include a sustainable methodology such that capacity building can occur over an appropriate period of time. The selection of curricula is critical. Curriculum often drives pedagogical decisions which frequently determines various levels of inclusivity and learning environments in the classroom. For more than a decade, research in computer science education has lifted diverse voices and perspectives from various national organizations. The featured panelist represent efforts from various projects and bring to the forefront varying implementation methods focused on equity in computer science education. They present evidence-based narratives that can transform K-12 policies and initiatives.

Speakers: **Lien Diaz** (Constellations Center for Equity in Computing, Georgia Institute of Technology), **Jeff Forbes** (National Science Foundation, Division of Computer and Network Systems), **Carol Fletcher** (University of Texas at Austin, Texas Advanced Computing Center), **Miranda Parker** (Georgia Institute of Technology)

Secure Your Bag(s) and Degree(s): Graduate School Edition
Location: Ayanna Howard Room

The tips, tricks, and tools to secure your graduate degree and get paid for it. Learn about the GEM Fellowship, what it entails and hear from current graduate students on both the MS and PhD route, who have had their graduate education FULLY funded and secured internships at some of the top tech companies along the way including Intel, NerdWallet, Facebook, Amazon, Hulu and more.

Speakers: **Karol Pierre** (Johns Hopkins University), **Setor Zilevu** (Virginia Tech)

On Mixing Creativity and Teamwork into a CS course with a Sprinkle of Entrepreneurial Spirit
Location: Juan Gilbert Room

A career in the tech industry asks for creative problem-solvers who do not just have sound technical skills but are also capable of teamwork and can communicate effectively. How might we help students develop their talents and skills in these directions in a learning experience in an academic setting? We propose a specific course format for an undergraduate course Entrepreneurship in Computer Science course that is regularly taught at William and Mary as a concrete example. The course challenges students to develop an innovative solution addressing a demonstrated real need by combining design thinking, customer research, and agile software development with Steve Blanks Lean Launchpad approach. The pedagogical format of the course is a project-based tournament to start with a wealth of initial ideas for innovative projects fitting a given overarching theme. All ideas are then carefully evaluated with user tests in various forms. We apply techniques that are best practice in design thinking as well as prototyping for technical feasibility in an agile software development process. Guidance from Steve Blank's Lean Launchpad approach gives this class its entrepreneurial twist. After each round, student teams merge to further the more promising projects such that all students finish in a winning team. In this workshop, participants actively explore the feedback-driven process that is essential to this course to identify a real need and find creative solutions to address it.

Speakers: **Peter Kemper** (College of William and Mary)

12:30 PM – 1:15 PM
BIRDS OF A FEATHER
The Importance of Having a Voice: Black Women's Perspectives
Location: Bryant York Auditorium

Having a voice, or being able to express your true self and experiences, is important for any successful career. The voice is important as it provides additional perspectives critical for innovations. The voice, however, requires strength and confidence in one's perspective. This is very important for Black Women in computing, where the numbers are very small. This session will feature a dialogue between two well known and well respected Black Women in Computing, Dr. Jamika Burge and Dr. Nicki Washington, talking about their paths to having a strong voice in computing. After the initial dialogue, the session will include questions from the audience.

Speakers: **Valerie Taylor** (CMD-IT), **Jamika Burge** (CapitalOne), **Nicki Washington** (Duke University)

On Being the First or the Only: Overcoming Isolation and Sharing Techniques to Cope and Thrive in Any Environment
Location: Peter Freeman Room

Are you the first __ to go to college, graduate school? Are you the first __ to study STEM? Are you the first __ to study computer science? Are the first __ to get a college degree, Masters or a PhD? Are you the first __ to be hired? Are the first __ to lead an initiative, program, or committee? Are you the first __ at the Table? If you are the first in your family, friends, department, company or organization, this is the Birds of a Feather session for you. We will be sharing personal experiences, lessons learned, and strategies for how to thrive in your environment.

Speakers: **Jerri Barrett** {CMD-IT}, **Patricia Ordonez** (University of Puerto Rico – Rio Piedras), **Christan Grant** (University of Oklahoma)

12:30 PM – 1:45 PM
Building Diverse Design Communities
Location: Manuel Perez Quinones Room

Join Roxanna Aliaga, Head of UX Writing at Dropbox for a talk and hands-on workshop on building diverse design communities. Through a series of conversations, we will co-identify current questions and challenges related to building inclusive communities. Generating new ideas together and making stronger connections with each other, we'll leave

with a set of actions we can all take toward fostering more inclusive and diverse design communities. This workshop will create a space for people to meet, connect, share resources and have conversations that matter to them.

Speaker: **Roxanna Aliaga** (Dropbox)

Cybersecurity 101 for Critical Infrastructures: A Hands-on Approach
Location: Christina Villalobos Room

Critical infrastructures, the systems that enable electricity to be generated and distributed for example, or those that ensure our water is purified using the correct mixture of chemicals, or the many systems that afford us automation on platforms like our Navy ships, have been a backbone of our society for many years now. Today though, their cybersecurity posture is more important than ever before. There have been multiple cases in recent years of how cybersecurity vulnerabilities in these types of systems have caused major physical damage (Ukraine 2015 power grid cyber attack). The problem is that traditional cybersecurity doesn't quite apply to these critical infrastructure systems. They were never intended to be secured, as they were not designed to be connected to the open internet. As such, traditional cyber security approaches can often times harm such systems. Through hands-on exercises and realistic demonstration equipment (small motors, actuators, and other mechanical components) the workshop organizers will provide a comprehensive understanding of how to baseline and secure these systems. In addition, the workshop will expose participants to cybersecurity 101 topics as well as emphasize the importance of multidisciplinary efforts like cybersecurity and energy systems. This topic is of great importance to the US Navy, and the workshop organizers have developed a hands-on curriculum to help students appreciate critical infrastructures and develop skills necessary to secure them. Lastly, the organizer is a Tapia alumnus, who, along with his team, believe in making cybersecurity no only relevant, but fun!

Speakers: **Jose Romero-Mariona** (Naval Information Warfare Center (NIWC) Pacific, US Navy), **Francisco Tacliad** (Naval Information Warfare Center (NIWC) Pacific, US Navy), **Anthony Shaw** (Naval Information Warfare Center (NIWC) Pacific, US Navy), **Angelica Sippel** (Naval Information Warfare Center (NIWC) Pacific, US Navy)

HPC Infrastructure Security: Ensuring Storage and Network Safety, Integrity, Efficiency, and Performance
Location: David Patterson Room

A High Performance Computing (HPC) environment comes with its own set of challenges, especially when it comes to infrastructure and information security. Environments must be inclusive of many different types of users and scientific computing requirements, including: user interaction on internet facing networks versus user interaction on dark sites, moving and storing large data sets, data sharing and permissions, and security separation and access requirements. In this workshop we will explore why information security matters, delve into how HPC is both similar to and different from common IT environments, and discuss how best practices, including building blocks and tools, and best practice system hardening are the foundation to overcoming these challenges at scale.

Speakers: **Jesse Martinez** (Los Alamos National Laboratory), **Brett Hollander** (Los Alamos National Laboratory), **Carolyn Connor** (Los Alamos National Laboratory), **Kierstyn Paschke** (Los Alamos National Laboratory)

Teaching Assistant Training Programs as a Vital Component of Broadening Participation
Location: Jan Cuny Room

At James Madison University (JMU), Teaching Assistants(TAs) help fill the gaps as students build and maintain their support network between (1) support from family members and friends, (2) support from instructors, and (3) Institutional support (dean of students office, generic learning centers/strategies support, disability support, diversity center, university advisors). Anecdotal evidence indicates the help provided by TAs on both course content and as a support network have a significant positive impact on under-represented students. In our efforts under the National Center For Women in Technology (NCWIT) Extension Services project, we expanded our teaching assistant program to include training as is considered best practice in the literature [1, 2, 3, 4, 5, 8]. This training takes place in a four-hour pre-semester training and weekly hour-long meetings through-out the semester. In addition to sharing specific examples of our implementation, how it prioritizes diversity and inclusion, and compares to other programs, we will have focused small-group discussions about opportunities and challenges in implementing such a program. We intend to encourage discussion and enable participants to leave with knowledge of

critical components and questions for their own program. We will invite participants to (1) share their plans for the next steps for their TA programs to further foster diversity and inclusion and (2) remain in contact with the organizers and other participants to have a support network in making changes at their institutions.

Speakers: **Dee A. B. Weikle** (James Madison University), **Michael C. Stewart** (James Madison University), **Sharon J. Simmons** (James Madison University)

TECH TALK

The Future of Design Powered by Artificial Intelligence
Sponsored by Autodesk
Location: Bryant York Auditorium
Speaker: **Yizel Vizcarra** (Autodesk)

BIRDS OF A FEATHER

Partnership in practice, building online experiences as a community
Location: Peter Freeman Room

This session is designed for anyone who wants to explore what it takes to build virtual experiences, as well as teachers, project directors, and conference chairs who want to share their experiences building virtual gatherings that are dynamic and engaging. With a global pandemic, classrooms, conferences, and organizations have all been rushed to an online format, creating a new reality for learning communities and spaces. When RESPECT 2020 had less than 72 hours to transform an in-person multi-track conference for 150 people into an all-online event, the organizers simultaneously had to navigate the risks and reality of going fully virtual. We have a unique opportunity to reflect on how moving online impacts individuals, organizations, and spaces. Who is included? Who gets left out? As the demand to move online increases, we must ensure that virtual spaces value diversity, equity, and inclusion, and are built within a social justice frame.

Speakers: **Sarah Dunton** (ECEP Alliance, MGHPCC), **Kirsten Peterson** (Education Development Center, Inc. (EDC)), **Siobahn Grady** (North Carolina Central University), **Christina Gardner-McCune** (University of Florida), **Jamie Payton** (Temple University), **Tiffany Barnes** (North Carolina State University)

Non-Traditional Career Trajectories
Location: Carlo Castillo Chavez Room

This Birds-of-a-Feather session highlights the expectations in diversity and inclusion the panel has faced in their respective fields as well as the challenges, skills, individual

experiences encountered as minorities in STEM. By the end of this session, students will reflect on meaningful conversations about social issues and their professional skills, ideate on their goals and contributions during and after college as underrepresented groups in computing, and engage with each other to create community and potential collaborations in innovation, education, and promotion of diversity.

Speakers: **Jeremiah Azurin** (US Department of State, Harvard University), **Christine Chai** (Microsoft), **Christian Dimandja** (The Boeing Company)

Find Your Inner Tech Talk Topic in 60 Minutes
Location: William Wulf Room

Increase your visibility in a tech community by giving a tech talk! You might want to educate, attract talent to your organization, or give back to the tech community. Join me in this exploratory workshop and discover what could make a great tech talk for you. Leave the room with a title for your tech talk, an abstract and bags of inspiration!

Speaker: **Katerina Domenikou** (Bloomberg)

2:00 PM – 3:15 PM
PANELS AND WORKSHOPS

Moving from career anxiety to career exploration!
Location: Jan Cuny Room

What do you want to be when you grow up? This question may seem simple when posed to a child but takes on a new meaning when asked of a college student or working professional. Often it seems there is an unspoken rule that we must have it all figured out - we need an entry career plan, a five-year plan, and even a plan for what we will do during retirement! The need to have ˜the answer" to our careers implies there IS an answer, when in fact our careers (and lives) are unique, evolving, and impossible to define. There is no one perfect career, pathway to fulfillment, or map to achieve happiness. The concept that you must find your career and climb the ladder to achieve success is outdated; instead, we must recognize that opportunities come from growing our interests into skill sets, taking chances to ask questions and explore possibilities, and being open-minded about what the future brings. This session will reframe career uncertainty and anxiety into healthy career exploration and an open-minded approach. Participants will learn how to use the design-your-life framework (pioneered by Stanford faculty, Bill Burnett and Dave Evans) to build their future (rather than solving their future). Through this design thinking approach, we will practice developing career goals and working through the

career search process - with less stress and more confidence! Together, we will learn how to create Planned Happenstance, transforming unplanned events into opportunities for learning and career growth.

Speaker: **Rebecca Andersen** (University of California, Berkeley)

BRISC-V: A RISC-V Open-Source Architecture Design Space Exploration Toolbox
Location: Christina Villalobos Room

With the introduction of the RISC-V instruction set architecture (ISA) and its rapidly growing ecosystem and community, there may be a unique opportunity to broaden participation in computer architecture design to groups who have been traditionally severely underrepresented. The RISC-V being an open, royalty-free, ISA with many extension specifications, it offers a high degree of customization and represents an attractive option for many applications, ranging from machine learning accelerators to secure computer systems design. In this workshop, we will present the BRISC-V toobox - the Boston University RISC-V based architecture design exploration suite for education and research. BRISC-V is comprised of different processor architectures, a graphical user-interface (GUI) tool to automate fast complete system generations, and a RISC-V assembly simulator. During the session, we will (1) introduce the BRISC-V tool, (2) show its functionalities, and (3) run hands-on design exploration examples with the attendees.

Speaker: **Michel Kinsy** (Boston University)

Getting Started with Big Data Analytics in the Cloud
Location: Manuel Perez Quinones Room

Big data analytics and cloud computing have both been hot topic areas lately. However, exposure to these topics may be limited in both educational and professional settings. In colleges and universities, many students are not exposed to these topics until the graduate level, if ever. Similarly, many early and mid-career employees working outside of big data or cloud computing may find it hard to find comprehensive surveys of the topic space without formalized project participation. Due in large part to the aforementioned "hot" nature of the field, buzz words, jargon, and in speak is prolific and contributes to access barriers. The session aims to bridge this gap for all attendees interested in big data, first by defining key terminology and providing an overview of the fundamentals of the topic space, second by surveying accessible big data analytics tools on the cloud, and third by demonstrating through simple live demos how these tools can be used to solve real-world, common problems across industry, academia, and government-- and how they can

enable anyone to become a problem-solver backed by big data analytics!

Speakers: **Courtney Thurston** (Microsoft), **Nupur Shukla** (Microsoft), **Niharika Dutta** (Microsoft), **Sricheta Ruj** (Microsoft), **Misha Desai** (Microsoft)

Hands-on Unsupervised Deep Learning for Beginners
Location: David Patterson Room

There is too much stuff out there in the web and it has become very difficult to navigate through the all the papers, the code, to find reliable introductory content for those who want to join us in the field of deep learning. While there are many introductory books on machine learning, most have become inadequate in addressing the needs of those who specifically want to work on deep learning and have the minimum necessary mathematical, algorithmic, background and programming skills. This hands-on workshop is for absolute beginners in deep learning, who are looking for a strong foundation of the basic concepts required to build deep learning models from scratch. The workshop assumes little exposure to neural networks and deep learning, and starts reviewing the machine learning fundamentals needed for deep learning. Then it goes on to introduce some of the popular unsupervised neural network architectures such as AEs and VAEs. At the end of each module, the audience will have a chance to test their understanding of the concepts and measure their own progress. By the end of the workshop the audience will have a basic understanding of unsupervised deep learning concepts and will be able to distinguish which algorithms are appropriate for different tasks with different tools.

Speaker: **Pablo Rivas** (Marist College, Baylor University)

2:45 PM -3:30 PM

TECH TALK

SkillTree - Gamification Made Easy
Sponsored by: National Security Agency
Location: Bryant York Auditorium

One of the biggest obstacles to widespread adoption of an application is user familiarity. If users don't know how to take advantage of all the features of your application, they might stop using it entirely! But what if the users could simply and easily train themselves? In this talk, Terrence will introduce SkillTree, an open source solution for gamifying user training. A product of a larger government initiative to move toward open source coding practices, SkillTree creates a rewards system that awards users skill points for executing defined actions in your application. It can be easily integrated

into an existing application and quickly configured by the development team. In early deployments, SkillTree has dramatically increased user engagement and utilization of application features and generated significant cost savings over traditional training methods.
Presenter: Terrence Pugh (National Security Agency)

PANELS AND WORKSHOPS

Executing a Commitment to Disability Inclusion and Accessibility for Employees and Customers
Location: Juan Gilbert Room

JPMorgan Chase & Co. has been recognized as a leading company in disability inclusion and accessibility for both employees and customers. Nothing is more vital to the long-term growth of JPMorgan Chase than our ability to attract and retain the best people. We want them to thrive here - to bring a range of approaches and perspectives, and their whole selves to work - including people with disabilities. JPMC values inclusion and accessibility for our customers and our employees. Attendees will hear from key stakeholders across the firm how they work together to create an environment where we can recruit talent with disabilities, address reasonable accommodation requests, leverage innovative approaches to foster inclusion for employees and customers with disabilities and ensure that our products and services are designed to be accessible for all.

Speakers: **Michael McCabe** (JP Morgan Chase & Co), **Elizabeth Daly-Torres** (JP Morgan Chase & Co), **Dina Grilo** (JP Morgan Chase & Co), **Lynda MacDougall** (JP Morgan Chase & Co), **Seth Miltimore** (JP Morgan Chase & Co)

Student Organizations: Promoting Diversity in Computing through K-12 Outreach to Latinx and other Underrepresented Communities
Location: Carlo Castillo Chavez Room

In order to create a truly diverse and inclusive community, we must expose K-12 students to careers in computing. While public schools across the country are incorporating computing education into their curricula, we believe that student organizations can also play an important part by serving as mentors and role models. In this session, we will share our experiences as underrepresented students in computing and members of the Latinx Organization for Growth in Computing and Academics (LOGiCA) at the University of Illinois at Chicago (UIC). We will then have an open conversation with attendees on how student organizations can promote diversity in computing through outreach to Latinx and other underrepresented communities. We hope that through participation in this session, we can grow a national network of student leaders who share our goal of creating a more diverse and inclusive community for Latinx and other underrepresented individuals in computing.

Speakers: **Cecilia Avila** (University of Illinois at Chicago), **Boris J. Pisabaj** (University of Illinois at Chicago), **Adrian Zavala** (University of Illinois at Chicago), **Gonzalo A. Bello** (University of Illinois at Chicago)

Building an Inclusive Computing Community: One Decision at a Time
Location: William Wulf Room

This panel is composed of Black and Brown Computing and BPC researchers who served on the RESPECT 2020 Organizing committee. Through the lens of the RESPECT 2020 conference and our experiences in academia, we will discuss what it means to be intentional about diversity and inclusion in conference organizing. This panel highlights key decisions and priorities considered when selecting the conference committee, growing the community of authors and reviewers, planning conference participation, and leveraging the resources of a community to move a multi-track conference online. Key takeaways for attendees include the role of intentionality, professional networks/communities, mentorship, leadership, trust, and communication. This panel will conclude with audience Q&A and a discussion about the needs of supporting the growth of diverse and inclusive leadership and participation in computing conferences with a commitment to the RESPECT organization's goal of promoting inclusion, equity, and diversity in computing.

Speakers: **Alicia Nicki Washington** (Duke University), **Gloria Washington** (Howard University), **Edward Dillon** (Morgan State University), **Siobahn Day Grady** (North Carolina Central University), **Aleata Hubbard Cheuoua** (WestEd), **Yerika Jimenez** (University of Florida), **Christina Gardner-McCune** (University of Florida)

Disability Disclosure in Education and Employment
Location: Peter Freeman Room

Students with disabilities often have questions about if, when, and how they should share information about their disability in the context of education and employment. It is important to be strategic and intentional about these conversations, customizing their approach based on their personal preferences and changing their approach in different settings. Panelists will describe their experiences disclosing disability in both education and employment settings and offer advice to others who are navigating these conversations. Participants can learn about strategies for disability disclosure and ways to best support individuals with disabilities in education and employment.

Speakers: **Brianna Blaser** (University of Washington), **Jeanine Cook** (Sandia National Laboratory), **Lauren Gaber** (Ford Motor Company), **Anna Kirkpatrick** (Georgia Institute of Technology), **Adrian Trejo Nunez** (University of Texas at Austin)

ReFraming & ReImagining the Experiences of Doctoral Women of Color in Computing
Location: Ayanna Howard Room

This workshop highlights the best practices that emerged as part The Niela Project, an ongoing NSF-funded research initiative (Award Number: EEC 1648332) that has provided an in-depth understanding of the experiences of women of color in computing, a group that is often overlooked. The workshop will focus on increasing awareness and understanding of best practices women of color adapt to thrive in computing. This workshop is designed to be interactive and informative of pressing issues impacting the experiences women of color in computing. The session will begin with presenting enrollment and retention data about women of color in computing. Then participants will join a small group to review and discuss a case study or critical incident from a thriving doctoral woman of color in computing. These case studies and critical incidents will serve as a catalyst for engagement and aims to increase participants understanding of the experiences of women of color. Following the case studies and critical incidents, the presenters will lead a discussion that focuses on best practices that emerged from The Niela Project. At the end of the workshop, students will learn successful strategies women of color use to navigate graduate programs; and faculty and administrators will gain research knowledge and knowledge about the experiences of women of color to design better practices and policies that aim at effectively broadening the participation of underrepresented groups in computing disciplines in graduate programs.

Speakers: **Sharnnia Artis Artis** (University of Californai Irvine), **Marjorie Shavers** (Heidelberg University), **Stacie LeSure** (Engineers for Equity LLC)

3:30 – 4:45 PM

PANELS AND WORKSHOPS

Dark Patterns Through the Lens of Accessibility
Location: Christina Villalobos Room

Dark Patterns harm all users. Even more harmful, manipulative dark patterns designed to trick users undermine accessibility efforts and have an inordinate negative impact on people with disabilities. Approximately 15 percent of the world's population have a disability, according to the World Health Organization, which means that more than one billion people could face daily challenges when using digital devices. When a company decides to make their digital products accessible, tolerance of Dark Patterns can completely undermine their credibility and real world accessibility. Joe Devon, co-founder of Global Accessibility Awareness Day and an expert on accessibility, will walk you through how dark patterns diminish the web experience for people with disabilities and discuss ways to change this at your organization. He will also touch on the financial burden of not designing inclusively, and ways to plan and structure your design with accessibility in mind.

Speaker: **Joe Devon** (Diamond)

Data Archaeology: Fusing, Triaging, Analyzing to Create an Information Symphony
Location: David Patterson Room

The process elements of the cyber analysis life cycle are critical to maintaining state-of-the-art tools, capabilities, workflows, and processes. These elements include data generation technologies, analytic tools development, data enrichment, research and information fusion, production of actionable, timely, and accurate cyber information, feedback mechanisms for further innovation, and intelligence reporting. This interactive workshop will provide participants the opportunity to experience a snippet of what it is like to be a cyber security analyst tasked with identifying threats to your organization and providing actionable situational awareness to decision makers to enhance protection against and respond to cybersecurity threats. Participants will experience the data analysis, information fusion and production of actionable cyber information elements by navigating provided data and information to identify relevant threats.

Speakers: **Stacey Hartley-McBride** (Pacific Northwest National Laboratory), **Bojana Ginovska** (Pacific Northwest National Laboratory), **Sumit Purohit** (Pacific Northwest National Laboratory), **Tony Baylis** (Lawrence Livermore National Laboratory), **Amanda Joyce** (Argonne National Laboratory), **Soledad Antelada Toledano** (Lawrence Berkeley National Laboratory)

Transitioning into Product Management as an Engineer
Location: Manuel Perez Quinones Room

Product Management is a fairly new discipline but is growing rapidly in both tech and non-tech industries. Students hear a lot about the fascinating things PMs do but there are very few opportunities and resources to understand what this job really looks like. After all, there's no "product

management" college degree. Join Anaid, a former engineer and current Dropbox product manager, in a discussion about what Product Management is, how a transition from a technical background looks like, and what to expect once you become a PM. Anaid will equip you with the toolset needed to excel in this role and how to build meaningful and impactful products to bring delight to the world.

Speaker: **Anaid Chacon** (Dropbox)

3:45 PM – 4:30 PM
BIRDS OF A FEATHER

DNP: Mental Health Management
Location: Ayanna Howard Room

What do you have in common with LeBron James and Steph Curry? You need a day off just like they do. Learn the NBA strategy of "load management" to care for your long-term mental and physical health. We will discuss strategies of how, why, and when should you should take days off to maintain your wellbeing.

Speakers: **William Hill** (New Relic), **Gabrielle Jones** (Rogers Behavioral Health)

Building inclusive communities at liberal arts colleges
Location: Jan Cuny Room

Liberal arts colleges are primarily undergraduate institutions which offer small class sizes, value strong advising and mentoring relationships between students and faculty, have broad general education requirements, and emphasize general skills such as critical thinking. Building inclusive communities for underrepresented populations at liberal arts colleges presents unique opportunities and challenges. In this Birds of a Feather session we seek to bring together faculty, staff, students, and alumni who are interested in improving the environment for underrepresented students at liberal arts colleges. We hope to spark discussion of best and worst practices, to leave with new ideas and plans, and to form intercollegiate communities.

Speakers: **Tzu-Yi Chen** (Pomona College), **Jason Grant** (Middlebury College), **Khadija Jallow** (Pomona College)

Charting your informatics career plan: Pathways toward careers in biomedical informatics
Location: Juan Gilbert Room

Biomedical informatics presents many new opportunities and career directions. We will delve deeply into informatics career pathways. There is an explosion of activity in using artificial intelligence (AI)/machine learning to improve health,

detect disease progression, optimize delivery of healthcare services, and promote scientific discovery, with implications for personalized medicine and public health. However, there are also serious considerations regarding ethical implications of AI/machine learning technology for minority health, and significant issues in health information technology design due to lack of inclusive perspectives. After a brief overview of opportunities and roles, we will open the session to freewheeling discussion of how to get from here to there with examples and resources. Students will work in small groups to complete a guide sheet identifying their skills and career goals. Organizers will provide feedback, insights, and resources tailored to their individual career plan. Though aimed at students we welcome all interested conference attendees.

Speakers: **Yalini Senathirajah** (University of Pittsburgh School of Medicine), **Kim M. Unertl** (Vanderbilt University Medical Center), **Tiffani J. Bright** (IBM)

Re-Imagining the Tech Space through Compassion and Rising Strong Methodologies
Location: William Wulf Room

In the midst of moving as quickly as our browsers take to load, there is power in pausing and reflecting on the current processes, forms of communication (or lack thereof), and other mechanisms that have become normalized and continue to impact our selves, teams, organizations, and companies. In the same light, these findings can provide students and faculty alike an alternative way to approach course structures, policies, and guidelines. Taking from the process that Brene Brown proposes in her book Rising Strong, as well as key learnings Mariela has developed, this session will provide methodologies on how to transform the ways in which we approach and navigate through the many systems we are embedded in. By re-imaging what the tech space looks like as of now, both in classrooms and in corporate buildings, we will have the opportunity to learn about new forms of thought as a community.

Speaker: **Mariela Hernandez** (UC Berkeley)

Strategies to Thrive in a Male Dominated Workplace
Location: Carlo Castillo Chavez Room

You rarely see another soul in the ladies' room, or you've been mistaken for someone's assistant. Does it sound familiar? For many young, successful women, "making it" professionally means learning to master male-dominated workplaces where the boys' club still somehow permeates. Get answers to your most pressing career questions, and gain insight on how to navigate your workplace for advancement

and overall career success effectively. Let's come together and discuss current trends, roadblocks, and strategies on how to avoid hitting any ceiling, and thrive in a male-dominated workplace.

   Speaker: **Elaine Montilla** (The Graduate Center, CUNY; 5xminority)

Hispanics in Computing Community
Location: Peter Freeman Room

The Hispanics in Computing community was founded a few months before the Tapia 2009 Conference. Since then, the group has been meeting at this annual conference. The impact of this gathering in our community has been tremendous. Several members of the community that attended our BoF as young graduate students are now in tenure track positions or employed in research organizations. As the undergraduate population attending Tapia grows, it is important that we serve as mentors for the new students starting their careers in computing. The goal for this year's gathering is to explore how to do virtual mentoring to help increase ties within the community. Bringing us together allows us to continue nurturing and sponsoring younger Hispanics to succeed in computing.

   Speakers: **Brianna B. Posadas** (University of Florida), **Juan Sequeda** (data.world)

6:00 PM – 8:00 PM
Networking
Location: Valerie Taylor Networking Lounge

Career Fair
Location: Richard Ladner Exhibit Hall

Poster Session
Location: Ann Gates Poster Hall

FRIDAY | PROGRAM SCHEDULE

11:00 AM -12:20 PM
Opening Remarks

Plenary Speaker
Ken Kennedy Distinguished Lecture
Location: Bryant York Auditorium
Colin Parris, Senior Vice President and Chief Technology Officer, GE Digital

How Digital Technology Will Shape the Future of Business

In this age of industrial intelligence, we are merging physical and digital together in ways you previously thought unimaginable. In this physical/digital marriage, we are making planes smarter so that they can tell us what's wrong with them. Wind turbines are getting smarter: communicating with one another and improving performance based on observations they can then tell to a field engineer. We're making smarter buildings that can reduce power consumption, and can protect themselves from a security perspective. Dr. Parris will talk about big technology ideas like Digital Twin, Humble AI, and Digital Ghost, and how these game changers can accelerate business success and create opportunities for people with big ideas and big perspectives to address the divisions and issues facing the planet.

BIOGRAPHY:
Colin Parris
Dr. Colin Parris is the Senior Vice President and Chief Technology Officer at GE Digital in Foxborough, MA and an Officer of General Electric. In this role he has two responsibilities. He is responsible for leading GE Digital's strategic vision, for developing new technologies to enhance GE Digital's current products and services and for creating technologies needed for new innovative customer solutions. He is also responsible for developing new transformational approaches that deliver value to the other GE Businesses by integrating LEAN and digital transformation to deliver operational and services improvements in the GE Gas Power, Aviation and Renewables businesses. In his prior role Dr. Parris was a Corporate Officer and Vice President of GE's Software and Analytics Research at the GE Research Center in Niskayuna, New York. In that role he lead the creation, development and application of industrial analytics, artificial intelligence, machine learning and software systems research broadly across the General Electric Company. A central part of this portfolio was GE's industry-leading Digital Twin Initiative which he led for the Company. Digital Twin is a leading-edge engineering modeling and data analytics capability that allows the modeling and control of industrial assets to increase their availability and performance and to

optimize their economic value. Dr. Parris is a member of the Board of Directors of APTIV (formerly Delphi Electronics).

Dr. Parris previously worked at IBM from 1994 to 2014. For 16 years, he was an IBM executive in roles that spanned P&L management, software development, technology management, and research. He was the Vice President and General Manager of IBM Power Systems where he was responsible for the $5B+ P&L UNIX System and Software Business, the Vice President, Software Development of IBM's largest system software development lab (6,000+ developers worldwide), Vice President of Corporate Technology and Vice President, Systems Research at the IBM T J Watson Research Division. He had been a member of the IBM Integration and Values Team (top 300 executives worldwide) for 10 years until 2014 and was a member of the IBM Performance Team (top 60 executives worldwide) in his role as General Manager of IBM Power Systems. Dr. Parris held other executive roles in several IBM organizations in the Software, Systems and Corporate divisions. Dr. Parris received a Doctor of Philosophy in Electrical Engineering at the University of California, Berkeley (Ph.D.E.E.), a Masters of the Science of Management (M.S.M.) from Stanford University (as a Sloan Fellow), a Master of Science in Electrical Engineering and Computer Science at the University of California, Berkeley (M.S.E.E.C.S.), and a Bachelor of Science in Electrical Engineering at Howard University (B.S.E.E.). He has also received various technical and community honors and awards and has also published many technical papers and patents.

12:30 PM – 4:00 PM
Networking Lounge
Location: Valerie Taylor Networking Lounge

Career Fair
Location: Richard Ladner Exhibit Hall

12:30 PM -1:15 PM
TECH TALK
Lessons Learned from the Cloud: A Professional and Technical Journey
Sponsored by CapitalOne
Location: Bryant York Auditorium
Speaker: **Mikela Wright** (CapitalOne)

PANELS AND WORKSHOPS
Inclusive Hiring Practices for People with Disabilities
Location: Juan Gilbert Room

Most tech companies diversity initiatives primarily focus on race and gender, but some companies are addressing disability as an aspect of diversity as well. Over the past few years, some tech companies have developed initiatives

designed to recruit and retain employees with disabilities. Some of these initiatives specifically address hiring employees with autism; other initiatives address hiring people with disabilities more broadly. Panelists will describe inclusive hiring practices in their company, providing useful information for individuals with disabilities who are on the job market and offer advice to other employers who want to diversity their workforce by recruiting and retaining employees with disabilities.

Speakers: **Brianna Blaser** (University of Washington), **Neil Barnett** (Microsoft), **Catherine Nichols** (Salesforce), **Lorne Needle** (Google)

Developing a Plan for Broadening Participation in Computing
Location: William Wulf Room

Broadening participation in computing requires sustained large-scale intervention. To this end, the National Science Foundation (NSF) Computer and Information Science and Engineering (CISE) directorate started an initiative requiring PIs submitting proposals to selected programs to have an approved broadening participation in computing (BPC) plan at the time of award. This initiative has the potential to act as a catalyst in furthering the community's broadening participation goals by increasing the number and reach of broadening participation activities. However, it is important to ensure that these BPC plans are well-developed and rely on evidence based best practices. The primary goal of this panel is to provide a clear understanding of BPC plans, and to unpack different components of these plans to support faculty and departments while they develop and refine their BPC plans. The panelists will clarify expectations regarding BPC plans and discuss best practices for developing a successful BPC plan. They will share advice for attendees interested in implementing more effective BPC efforts in their context. While the impetus for these BPC plans is the CISE directorate's requirement, systematic planning for broadening participation is critical for taking effective action towards increasing diversity in computing. Hence, the intended audience for this panel is faculty and professionals interested in taking action toward broadening participation in computing higher education, in general, and developing individual/departmental BPC plans, in particular.

Speakers: **Burcin Tamer** (Computer Research Association), **Nancy Amato** (University of Illinois at Urbana-Champaign), **Wendy DuBow** (NCWIT), **Allyson Kennedy** (National Science Foundation), **Colleen Lewis** (University of Illinois at Urbana-Champaign), **Ronald Metoyer** (University of Notre Dame)

Writing Your Personal Statement/Statement of Purpose
Location: Ayanna Howard Room

Personal statements/statements of purpose are an opportunity to stand out from the applicant pool, address any concerns on your academic record (transcripts or graduate admissions exam scores), and detail how you have prepared for graduate studies. This workshop will provide best practices to writing your personal statement/statement of purpose for graduate applications, summer research opportunities, and or funding applications. The workshop is appropriate for students applying to any discipline but will focus on those in Science, Technology, Engineering and Mathematics, and will provide writing strategies, example format, key language, and pitfalls to avoid.

Speakers: **Shanise Kent** (University at Albany, State University of New York), **Soha Acosta** (University at Albany, State University of New York)

Everything I Need To Know About Diversity and Inclusion I Learned From Listening to Salsa
Location: Peter Freeman Room

Understanding Diversity and Inclusion requires mastering a language of words, concepts and themes that often are new for computer scientists. In the effort of presenting some of the ideas in a way that is more approachable, this workshop seeks to introduce these concepts through salsa music. Some of the themes discussed will include: equity, inclusion, injustice, discrimination, racism, freedom, unity, class systems, and identity. We will use music from: Tommy Olivencia, Eddie Palmieri, Luigi Texidor, Orchestra Harlow, Pete El Conde Rodriguez, Lalo Rodriguez, Hector Lavoe, Ismael Miranda, Ruben Blades, Roberto Roena, Cheo Feliciano, Ismael Rivera, and Marvin Santiago. For each of the themes, we will listen to a clip of a song (or two), displaying the lyrics in Spanish and English so the audience will understand the message. The audio will be followed with a group discussion of what each of these themes mean for diversity and inclusion. Salsa music is considered a dancing genre. But some songs also convey deep social messages. For Latinx attending the workshop, we hope they will connect principles of diversity and inclusion to the music they heard growing up. For other members of the Tapia community, we hope they will experience a taste of the Latinx culture. We hope that all participants will leave the session with a better appreciation of Latin American culture, a deeper understanding of diversity and inclusion, and a

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renewed sense of unity through music. Dancing is not required during the session.

   Speaker: **Manuel A. Perez Quinones** (University of North Carolina at Charlotte)

PANELS AND WORKSHOPS

12:30 PM – 1:45 PM
Build your Career and Community through Authentic Personal Branding
Location: Jan Cuny Room

Throw out your elevator pitch and carefully constructed brand. Instead of a fixed, artificial image, personal branding today is dynamic and flexible. Being authentic and yes, vulnerable can help us build community, careers, and belonging in tech. This session will use design thinking to reframe branding as a way to connect with others, foster inclusivity and positive impact towards a joyful life. Leave with a prototype of your personal brand, based on the Community Cultural Wealth framework, grounded in your personal skills, strengths, values, and interests. Finally, learn strategies for putting your personal brand to work in exploring and building your career.

   Speaker: **Rebecca Andersen** (University of California, Berkeley)

Building a Minimum Viable Product (MVP) on Google App Scripts
Location: Christina Villalobos Room

Building technical infrastructure from nothing can be a daunting task, especially when you have limited time with which to prove out product-market fit. This interactive workshop covers how to build a true Minimum Viable Product, or MVP. After a case study on how Byteboard, a technical interviewing product, developed an MVP in less than 3 months using Google Apps Script (a scripting platform for light-weight application development in G Suite), participants will practice distilling an MVP, learn the basics of Apps Scripting, and build a prototype of their own.

   Speakers: **Nicole Hardson-Hurley** (Byteboard@Google), **Rachel Bloch Mellon** (Byteboard@Google), **Lia Klein** (Byteboard@Google), **Marcos Ginestra** (Byteboard@Google)

Design for Failure
Location: Peter Freeman Room

In software world, it is important to not just build and deliver functionality but to build resilient and stable systems. We will explore the pillars of software development stability, resiliency and availability. As failure is inevitable, how do we design systems avoiding anti patterns for stability and resiliency and test for failure which is inevitable.

   Speaker: **Navneet Kang** (JP Morgan Chase)

Blockchain in Banking and Finance
Location: David Patterson Room

This interactive style presentation will discuss Blockchain technology in general covering topics ranging from general description, math and science behind the technology, industry applications and use cases, design and engineering principles in blockchain implementation in industry, and finally some of the challenges around implementation and adoption of Blockchain in industries.

   Speaker: **Sudhir Upadhyay** (JP Morgan Chase)

1:30 PM - 2:15 PM
TECH TALK
The Use of Artificial Intelligence in Defending Against Email Attacks
Location: Bryant York Auditorium

With increased impact and frequency of malware in Cyberspace, modernization and adaptation of the techniques to collect, analyze, and mitigate malicious activity is necessary. Advancement in the development of Artificial Intelligence (AI) automated mitigation and detection techniques derived from analysis to defend U.S. Government Agencies' email networks is critical for long-term sustainability.

   As adversaries have advanced their tools to orchestrate attacks, as much as 25% of phishing emails bypass traditional secure email gateways. For that reason, the U.S. Government needs to advance the development of AI. AI has the capability to go beyond traditional signature detection and dynamically self-learn malicious email patterns and communication habits. Thus, AI would be able to automatically detect any anomalies based on both email content and metadata leading to improved trust and authentication of email communication while simultaneously evolving and adapting to new threats and attacks.

   This presentation will explore the important role of AI in support of U.S. Government missions to protect and defend its email networks.

   Presenter: **Lam Bui** (National Security Agency)

PANELS AND WORKSHOPS
Effective Student Retention Strategies
Location: Carlos Castillo Chavez Room

This faculty workshop will focus on effective strategies for student retention of underrepresented students, as it is recognized that good retention is important to improve student graduation rates. The presentation will be followed by engaging discussions about recruiting, yield, retention and graduation of underrepresented students in undergraduate Computer Science programs. The session provides an

opportunity for participants to share effective retention practices.

Moderator: **Manuel Perez Castillo** (University of North Caroline), **Gloria Washington** (Howard University), **Lesand Burge** (Howard University)

Strategic Planning for Diversifying Your Student Body in Postsecondary Computing Programs
Location: Ayanna Howard Room

This workshop is designed for Computer Science administrators and faculty who wish to diversify the student body in their undergraduate and graduate programs. The National Center for Women and Information Technology (NCWIT) Extension Services Program (ES) works with postsecondary departments of computing to facilitate their implementation of strategic, systemic diversity-based change efforts based on their own institutional contexts. In this workshop, NCWIT ES staff will present the Undergraduate and Graduate Systemic Change Models, which comprehensively illustrate the systemic components of a computing department where change efforts can be focused. Furthermore, NCWIT ES staff will utilize evidence-based resources to lead attendees through hands-on activities to determine which areas of the systemic change models should be areas of focus, as well as how to go about strategic, systemic planning of change efforts. By implementing diversity-based change efforts in a strategic, systemic manner, administrators and faculty will be able to increase the numbers and percentages of underrepresented students in their programs on a sustainable basis.

Speakers: **Jamie L. Huber Ward** (NCWIT, University of Colorado at Boulder), **Christopher L. Hovey** (University of Colorado at Boulder, NCWIT), **Sherri L. Sanders** (University of Colorado at Boulder, NCWIT)

Seeking Professional Success, Cultural Identity, and Happiness as an International Student
Location: Juan Gilbert Room

From networking and mentorship to balancing cultural identity, international students constantly face challenges beyond academics. Under stringent, unforgiving visa policies, they face unending dilemmas like sacrificing life passion for lucrative jobs. Navigating life within a new sociocultural setting involves academic, social, and professional challenges very closely intertwined with each other. In their quest to be successful in the United States, international students deal with many immediate challenges like not being eligible for opportunities, having very different cultural and social

expectations than the norm, and coping with the constant pressure of maintaining immigration status. Furthermore, there are much deeper and complex issues: navigating cultural differences in schools and workplaces, defying stereotypes to pursue a road less taken by international students, daring to pursue their passion over what seems professionally practical, dealing with the impostor syndrome exacerbated by being an outsider, and managing the emotional response to rejections that are not necessarily due to lack of ability. This panel will highlight a variety of experiences and perspectives of panelists in tech from drastically different backgrounds who have dealt with these issues in their life. Additionally, it aims to inspire the audience to overcome challenges creatively, see positive opportunities in adversity, and empower themselves to lead a successful and fulfilling academic, social, and professional life despite restrictions on professional opportunities and cultural expression. Hear how panelists from around the world emerge stronger from these struggles and become pioneers in their communities.

Speakers: **Fatima Rafiqui** (Indiana University), **Ashwag Alasmari** (University of Maryland, Baltimore County), **Athena Xiao (**Microsoft), **Komal Dewan** (Microsoft, Carnegie Mellon University), **Devyani Donde** (University of Toledo)

Empowering Faculty to Develop Future-Ready Workforce Pipelines in Emerging Technologies
Location: William Wulf Room

Tech industry, especially, some areas within tech fields, such as Emerging Technology (EmTech), like cybersecurity, data science, mobile development, machine learning, AI, and cloud computing, are expected to experience immense increases in job opportunities in coming years. While a variety of solutions are necessary to address the growing workforce needs in the EmTech industry, one of the largest untapped talent pools is women and underrepresented students. Clearly, HBCU and MSI hold great potential to broaden participation in EmTech because of their more diverse student populations, access to a large number of underrepresented students, and closer faculty-to-student interaction. However, faculties at these institutions, who are at the forefront of developing required skills in students are often overlooked. Faculties at these institutions need help designing and implementing effective and evidence-based instruction materials to develop skills that are in high-demand in the EmTech industry. The goal of this panel is to offer a discussion platform that can provide insight into the development and implementation of faculty professional development programs in EmTech in traditional institutions as well as within the context of HBCU and MSI.

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Speakers: **Farzana Rahman** (Syracuse University), E**lodie Billionniere** (Miami Dade University), **Ann Gates** (University of Texas), **Felesia Stukes** (Johnson C. Smith University)

PANELS AND WORKSHOPS

2:00 PM – 3:15 PM
Leading Without Authority: Techniques Towards Becoming an Effective Leader
Location: Jan Cuny Room

Leadership is a skill valued by many organizations and is not limited to only managerial roles. A job title may give one authority over ones subordinates. However, that title does not automatically make that person an effective leader. In this workshop, we will discuss challenges junior technical contributors experience and provide techniques for overcoming these challenges by teaching them to lead from where they are. As team members, these contributors can practice leading without authority to optimize the impact they have in their roles. We will examine various difficult situations and potential ways to respond using these concepts from different perspectives.

Speakers: **Bich Vu** (MIT Lincoln Laboratory), **Yari Golden-Castaño** (MIT Lincoln Laboratory)

Fueling Your Career With Coffee Chats
Location: Christina Villalobos Room

Coffee chats, sometimes called informational interviews, are one-on-one meetings providing a great way to get to know someone and learn about what they do. They can be especially valuable to members of underrepresented groups, students, and early-career professionals to discover new resources and make long-term connections. They can connect with people who face similar challenges or alienation, or receive support from mentors and allies who can provide personalized advice. The idea of asking someone for a coffee chat can be daunting for someone who's never done it before — even knowing who to ask can be challenging. This workshop will break down coffee chats into four steps: deciding who to ask, asking for a coffee chat, preparing for the chat, and following up afterwards. We'll give tools and tips for participants to confidently undertake each step, and include several exercises for them to practice those tools. Participants will learn to have meaningful conversations, practice with a partner, and walk away with a game plan to get started!

Speakers: **Sherry Yuan** (Yelp), **Daphne Liu** (University of British Columbia)

Ethical Engineering: Tabletop Exercise
Location: David Patterson Room

Any responsible engineering project must include a discussion of the ethical consequences of building and deploying a potentially world-changing capability - but are engineers adequately equipped to have these conversations and make these decisions? As Palantir employees with responsibilities in the privacy, civil liberties, and ethics space, we have seen first-hand that academics, advocates, and industry technologists struggle to engage each other on these issues in a constructive way. Too often, critical discussions about the effects of technology are reduced to dueling press statements and/or vitriolic exchanges on social media. This workshop uses a hypothetical scenario based on our real-world experience to challenge participants to see an ethical dilemma from different perspectives and collaborate to make a difficult organizational decision. We hope to leave participants with a greater appreciation for the complexity of the issues that will confront them in the course of their careers as well as better equipping them to be more effective advocates for the ethical application of technology as they join the workforce.

Speakers: **John Grant** (Palantir), **Molly Cinnamon** (Palantir), **Fee Christoph** (Palantir)

Artificial Intelligence Research is for Everyone!
Location: Manuel Perez Quinones Room

This technical workshop will introduce undergraduate students to many of the activities graduate students do and to what is expected from a researcher. The objective is to expose students to what research is and to show that research is doable, can be fun, and opens up many rewarding career opportunities. Unfortunately, too few students from underrepresented groups consider research as a career path, and, as a result, their numbers in graduate programs are much lower then their already low numbers in undergraduate programs. The explosive growth of Artificial Intelligence (AI) creates an unprecedented opportunity to broaden and diversify the population of researchers. Research in AI is exciting and has the potential to change the world. The workshop will include a mix of short lecture-style information sharing with audience participation and small groups hands-on activities. We will talk briefly about what research is and what differentiates a research project from other academic activities. We will do short guided hands-on activities in small groups to read and discuss a research paper, and we will introduce exciting AI applications. Each participant will receive a workbook with the material we will cover and

guidance for the small group activities. The workbook will also include information on research, such as guidelines for writing a literature review and research opportunities, plus information on how to prepare for graduate school, such as what courses would be useful, how to obtain letters of recommendation, how to find research opportunities, and how to apply to graduate school.

Speakers: **Maria Gini** (University of Minnesota), **Monica Anderson** (University of Alabama), **Rogelio Cardona-Rivera** (University of Utah), **Nate Derbinsky** (Northeastern University), **Shana Watters** (University of Minnesota)

2:30 PM – 3:15 PM
Best practices for validating machine learning in medicine
Location: Ayanna Howard Room

Many students build classifiers and perform regressions in data-driven courses including machine learning, data science, and applied statistics. However, even for more advanced students there are particular mistakes made when applying those predictive modeling skills in health care settings in which data can be scarce and uncertain with significant consequences for errors. In this panel, we explore those issues with a range of perspectives, seeking practical advice for computer scientists along with illustrative cautionary tales. Despite all that artificial intelligence has accomplished there is a considerable degree of skepticism among clinicians about the real-world applicability of AI in medical contexts. We address a variety of techniques that can remedy this by using proper validation strategies - some clinically oriented during data collection and a few computational approaches. This is particularly important as many complex models may be less interpretable in how they function (for example, ensemble methods or deep learning), but can be useful to sift through large data sets as recommendation systems for clinical decision making. With healthcare providers exposed to more properly trained and validated models machine learning strategies will be easier to adopt and guide clinical decisions in practice.

Speakers: **Riyad Bin Rafiq** (University of North Texas), **Mark V. Albert** (University of North Texas), **Megan O'Brien** (Shirley Ryan Ability Lab), **Sarah Moudy** (University of North Texas Health Science Center)

An Intersectional Approach to Improving Hiring Outcomes
Location: Juan Gilbert Room

This session is for industry engineers with an appetite for aiding their employers in adopting more inclusive and fair hiring practices. Attendees doesn't need to be directly involved in hiring at their companies (yet!), and we will provide tools and frameworks for attendees to propose changes in their organizations through a data driven and science-backed approach. We will present research on how tech hiring processes can fail women, people of color, people with disabilities, and the lgbtq+ community — and empower audience members with concrete solutions in order to improve hiring outcomes for their companies and teams.

Speakers: **Nicole Hardson-Hurley** (Byteboard @ Google), **Rachel Bloch Mellon** (Byteboard @ Google)

Security Graphical Passwords
Location: Peter Freeman Room

Passwords provide security mechanism for authentication and protection services against unwanted access to resources. The most common and convenient authentication method in use is the alphanumeric password. However, its inherent defect led to the development of graphical password as an alternative. Graphical password which uses images as passwords, rather than alphanumeric characters is motivated particularly by the fact that it is generally easier for users to remember and recall images than words. In this presentation, a study of various schemes of graphical user authentication is presented and also several challenges in graphical authentication are discussed.

Speaker: **Navneet Kang** (JP Morgan Chase)

Preparing for the People: Tips for Creating Inclusive User Studies
Location: William Wulf Room

User studies are a key component in product development and understanding human behavior. Researchers use these experiments to capture user feedback, struggles, and understand user needs. In many situations, the user is defined as anyone who would use the product being reviewed or have an experience that is being investigated. However, sometimes user studies are not prepared for the different types of users and even fail to recruit users from different groups. This panel will focus on how researchers can develop more inclusive user studies and create a more inclusive environment for their participants. Panelists will discuss user study basics, ethics and navigating the IRB, participant exclusion, and choice survey questions and locations to best accommodate participants.

Speakers: **Imani N. Sherman** (University of Florida), **France Jackson** (Intel), **Andrea E. Johnson** (Spelman College), **Brianna B. Posadas** (Media Democracy Fund), **Armisha L. Roberts** (University of Florida), **Simone A. Smarr** (University of Florida)

2:30 PM – 3:15 PM

Five Year Journey of the CMD-IT University Award for Retention of Minorities and Students with Disabilities in Computer Science

Location: Carlos Castillo Chavez Room

The CMD-IT University Award was created to recognize US institutions that have demonstrated a strong commitment to increasing the computer science baccalaureate degree production of minorities and students with disabilities, through effective retention programs. Over its four year history, different institutions have been recognized each with different set of programs, highlighting the diversity of efforts needed to increase participation in computing. In this panel, representatives of the previous winners of the CMD-IT University will present a brief overview of their programs, and update on what they have accomplished since the award, and join in the discussion of what is needed to increase the diversity of recipients of baccalaureate in computer science.

CMD-IT University Award Winner 2019

The University of Texas at El Paso (UTEP) is the largest Mexican-American-majority R1 top tier doctoral university with Very High Research activity (Carnegie Classification). UTEP has an 80% Mexican-American student population and an enrollment of over 25,000 students. Thirty-two percent are from families with an annual household income of $20,000 or less; and 50 percent are from families in the lowest income quartile (combined annual household income of less than $38,000), which has led to UTEP's ranking on the list of top 10 best U.S. colleges and universities for student upward mobility. In addition, it is the top institution in the continental U.S. for producing Hispanic bachelor's graduates who continue to earn doctorates. The ABET-accredited B.S. in Computer Science program resides in the College of Engineering and is designated as a National Security Agency (NSA) Center of Academic Excellence (CAE) in Cyber Operations and Cyber Defense (one of 21 in the U.S. with both designation). UTEP's CS Department highlighted the following programs as directly impacting retention: the Affinity Research Group Model (ARG), a set of practices built on a cooperative team framework imbued with cooperative-learning principles and shown to increase student achievement and self-esteem; Peer-Led Team Learning (PLTL), a model of instruction for introductory STEM courses that is based on a peer-led sessions as an integral part of the course; problem-solving courses, a competency-based approach that was developed with deep involvement with Google. The department is funded through the Revolutionizing Engineering and Computer Science Education (RED) program to focus on establishing a climate focused on equity and inclusion and student professional development. UTEP also serves as the backbone for the Computing Alliance of Hispanic-Serving Institution (CAHSI) which, with funding from the NSF Broadening Participation in Computing and the INCLUDES programs, works strategically to accelerate the recruitment, retention, and advancement of Hispanics in computing.

CMD-IT University Award Winner 2018

The College of Computing and Informatics (CCI) at UNC Charlotte is dedicated to educating and promoting a more diverse student body and workforce in the field of computing. In addition to advising, tutoring, and business partners, mentoring is an integral part of student success. Research shows that those who are mentored achieve a stronger sense of belonging to the university, greater career advancement, larger professional networks, and confidence than those who are not mentored. CCI Mentoring has various initiatives for students to engage in mentorship and professional development.

CMD-IT University Award Winner 2017

Georgia Tech's College of Computing is a top 10 program in computing education and research. We are a growing, global computing community nearly 50 years in the making. Our goal is nothing less than to change the world - for the better - through computing. Distinguished faculty and a tightly-knit sense of community differentiates GT Computing from other computer science programs. Within the Schools of Computer Science, Interactive Computing, and Computational Science & Engineering, renowned computing experts train the technology leaders and innovators of tomorrow.

Receiving the CMD-IT award in 2017 allowed the College to provide

- scholarships for underrepresented high school students to participate in summer camps where they gained valuable skills and exposure to computing;
- scholarships for more computing students to participate in the Challenge Program, a bridge program designed to prepare incoming first-year students for a successful college career, run through the Office of Minority Education and Development;
- professional development workshops for undergraduate students that provided students with the tangible skills needed to better prepare them for internship and research opportunities.

Presenters: **Manuel Pérez-Quiñones** (University of North Carolina Charlotte); **Ann Gates** (University of Texas, El Paso) **Der Vang** (College of Computing and Informatics, University of North Carolina at Charlotte); J**ennifer Whitlow** (Georgia Institute of Technology)

3:30 PM – 4:15 PM
Award Ceremony
Location: Bryant York Auditorium
Poster Competition, SRC Poster Competition, Doctoral Consortium and Richard Tapia Award Winner

4:15 PM – 4:30 PM
Richard Tapia Closing Remarks
Location: Bryant York Auditorium

4:30 PM – 5:30 PM
Virtual Tapia Celebration
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Location: Bryant York Auditorium

5:30 PM – 7:30 PM
Networking
Location: Valerie Taylor Networking Lounge

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The 2020 ACM Richard Tapia Celebration of Diversity in Computing Conference is possible because of the tremendous dedication and contributions of many organizations and volunteers from the computing community. We very much appreciate the significant support, time, and excellent input. We extend a sincere thank you to everyone, including our attendees, for making this conference possible.

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www.cmd-it.org

The Center for Minorities and People with Disabilities in Information Technology (CMD-IT) is a non-profit organization with a vision to contribute to the national need for an effective workforce in computing and IT through synergistic activities related to minorities and people with disabilities. The vision is realized through the mission to ensure that underrepresented groups are fully engaged in computing and information technologies, and to promote innovation that enriches, enhances, and enables these communities, such that more equitable and sustainable contributions are possible by all communities. CMD-IT's projects are focused on professional development, community enrichment, and curriculum development.

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