

The ACM Richard Tapia Celebration of Diversity in Computing Conferences, Presented by CMD-IT

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Abstract—The ACM Richard Tapia Celebration of Diversity in Computing is the premier venue to acknowledge, promote, and celebrate diversity in computing. This paper provides an overview of the history of the conference and some of the outcomes of the conference in terms of benefits to the diverse community in computing. The Tapia conference also provides a venue for presenting the following awards: the CMD-IT University Award for Retention of Minorities and Students with Disabilities in Computer Science and the Richard A. Tapia Achievement Award for Scientific Scholarship, Civic Science and Diversifying Computing. The Tapia Conferences are sponsored by the Association for Computing Machinery and presented by the Center for Minorities and People With Disabilities in Information Technology (CMD-IT).

■ **THE RICHARD TAPIA** Celebration of Diversity in Computing conference is the premier venue to acknowledge, promote, and celebrate diversity in computing. The goal of the Tapia conferences is to bring together undergraduate and graduate students, faculty, researchers, and professionals in computing from all backgrounds and ethnicities to:

- celebrate the diversity that exists in computing;
- connect with others with common backgrounds, ethnicities, disabilities, and gender so as to create communities that extend beyond the conference;
- obtain advice from and make contacts with computing leaders in academia and industry;
- be inspired by great presentations and conversations with leaders with common backgrounds.

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The Richard Tapia Celebration of Diversity in Computing conference was launched in October 2001 in Houston, TX, USA, as a symposium with 164 attendees. The original organizers of the conference were Valerie Taylor, Bryant York, Cynthia Lanius, Ann Redelfs, and Richard Alo. The conference was a project under the Coalition to Diversity Computing, which was a joint organization of the ACM, CRA, and IEEE-CS. The early conferences were cosponsored by ACM and IEEE-CS in cooperation with CRA and were held every two years. In 2014, the conference became an annual conference, with CMD-IT serving as the presenter of the conferences. In 2016, the Coalition to Diversify Computing merged with CMD-IT.

The Tapia conference has grown from 164 attendees in 2001 (the first conference) to 1429 attendees in 2018. The *2018 Tapia conference* was held in Orlando, FL, USA, with the following attendee demographics:

- 50% women;
- 30% Black/African American;
- 20% Hispanic/Latinx;
- 20% White/Caucasian;
- 15% Asian/Southeast Asian;
- 1% native American/native Alaskan/native Hawaiian/Pacific Islander;
- 4% Multiracial;
- 11% persons with disabilities or U.S. military.

In addition, 60% of the conference attendees were students, representing over 250 colleges and universities.

Based upon the *Tapia 2018* conference survey, the following can be concluded.

- 83% of the students agreed or strongly agreed that attending Tapia 2018 increased their dedication to completing their degree in computing.
- 94% of the students agreed or strongly agreed that attending Tapia 2018 provided an opportunity to make new connections.
- 33% of the attendees met *at least 20 new people* at Tapia 2018, an indication of the significant opportunities for networking.

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- 93% of the students agreed or strongly agreed that Tapia 2018 was inspiring with respect to learning about various opportunities in computing.

The survey results are consistent with previous Tapia conferences, whereby for Tapia 2017, 88% of the students agreed or strongly agreed that attending Tapia increased their dedication to completing their degree in computing. The results are consistently above 80% for being inspired to increase dedication to complete the degree in computing. Similarly, over 90% of the students agree or strongly agree that attending the Tapia conferences provide an opportunity to make connections. With respect to finding the conference inspiring, we have consistently found over 90% of the students find the conference a good venue for learning

about various opportunities in computing. As indicated by the Tapia conference surveys, the conference definitely achieves its goals.

RICHARD TAPIA: THE CONFERENCE NAMESAKE

Dr. Tapia is a mathematician and Professor in the Department of Computational and Applied Mathematics at Rice University in Houston, TX, USA. Tapia is a University Professor, the Maxfield-Oshman Professor in engineering, and Director of the Center for Excellence and Equity in Education (see Figure 1).

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, he went on to receive B.A., M.A., and Ph.D. degrees in mathematics from the University of California, Los Angeles, CA, USA. He has authored or coauthored two books and more than 100 mathematical research papers.

Among his many honors, he was the first Hispanic elected to the National Academy of Engineering. In 1996, President Clinton appointed him to the National Science Board. He is a recipient of the National Science Foundation's inaugural Presidential Award for Excellence in Science,



Figure 1. Richard Tapia.

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. He was also the first recipient of the Computing Research Association's A. Nico Habermann Award. In 2011, President Barack Obama presented the National Medal of Science to him 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.

2019 TAPIA CONFERENCE

The 2019 ACM Richard Tapia Celebration of Diversity in Computing Conference, presented by CMD-IT, will take place at the Marriott Marquis San Diego Marina in San Diego, CA, USA, on September 18–21, 2019. The 2019 Tapia Conference theme, Diversity: Building a Stronger Future (see Figure 2) reminds us of the critical role of diversity in computing innovation and the creation of the future of all aspects of STEM. Engaging a diverse workforce will result in solutions that benefit everyone and create a stronger, brighter future.

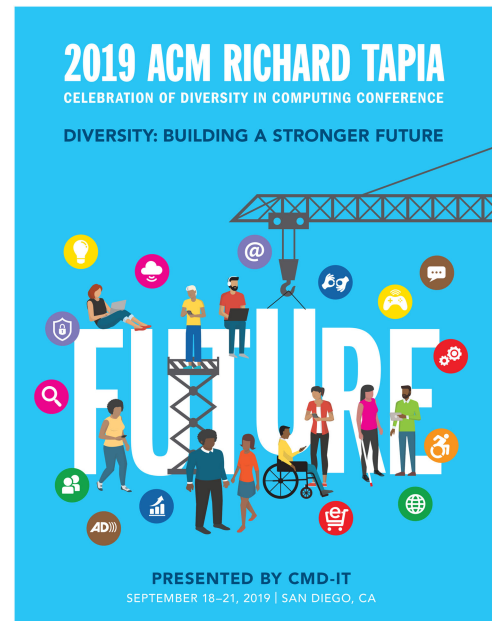


Figure 2. 2019 Tapia Conference.

- A Stronger Future for Innovation: Providing innovative technology that arises from diverse perspectives with key insights to create unique solutions to challenging problems.
- A Stronger Future for Knowledge: Bringing together diverse disciplines—science, engineering, and computing to create new technologies to solve unique problems.
- A Stronger Future for Communities: Creating new technology to enrich and enhance the growth of diverse communities.
- A Stronger Future for Life: Engaging diverse groups in the creation of technology provides the opportunities for everyone to improve the world.

The Tapia Conference program planning is organized in conjunction with committees made up of volunteers spanning industry, academia, and government. In 2019, the committees exceeded over 275 members. In 2019, the Tapia Conference is being led by the General Chair Joel Branch, Director of Platform Development and AI Architect at Lucid, Inc., and Program Chair David Martinez, Associate Head of Cyber Security and Information Sciences Division, MIT—Lincoln Laboratory.

“The Tapia Conference’s goal has always been to celebrate diversity in computing with a world-class technical program anchored in

inclusive representation and discussion. This year is no different, and we're striving even harder to make 'accessibility' a core part of the program and overall conference experience," said Joel Branch, General Chair. "I always hope that conference participants, especially students, identify opportunities for future pursuits based on the presentations at the conference. However, this year I really want them to walk away from the conference having formed diverse communities and collaborations. For reasons ranging from basic safety to societal equity, ongoing innovations, and applications of computing need diverse stakeholders, I hope the conference encourages us to reach across race, gender, and other boundaries and embrace truly diverse collaboration."

"This year's Tapia 2019 program is very comprehensive with technical panels and workshops on important areas, such as artificial intelligence, cyber security, 5G, high performance computing, and others. These tracks will be led by participants from industry, academia, and government. We have also assembled a broad range of topics addressing career and professional development for people of color and people with disabilities, targeted at undergraduates, graduates, postdoctoral, and faculty, as well as working professionals. I believe the participants in Tapia 2019 will also enjoy the large number of topics as part of the Birds of a Feather. I am looking forward to important takeaways, consistent with this year's theme Diversity: Building a Stronger Future," said David Martinez, Program Chair.

The 2019 Tapia Conference features leading technologists and tech entrepreneurs as Plenary Speakers, who act as role models for the attendees. The Plenary Speakers at Tapia 2019 are as follows.

- Stephanie Lampkin, Founder and CEO, Blendoor, is a TEDx speaker and former downhill ski racer, who has graced the cover of The Atlantic, Fortune 40 under 40, MIT Tech Review 35 under 35, and Forbes to name a few. She is the founder and CEO of Blendoor, software that mitigates unconscious bias in hiring.

- Hector Ruiz, Founder and Chairman, Advanced Nanotechnology, Inc., is an accomplished Chief Executive and technology luminary and is driven by the idea that technology and education dramatically improve people's lives. Dr. Ruiz is the Ken Kennedy Distinguished Lecturer.
- Jennifer Mankoff, Richard E. Ladner Professor at the Paul G. Allen School of Computer Science and Engineering, University of Washington. Mankoff's research focuses on assistive technologies for equal access, health and wellness, and takes a multifaceted approach that includes machine learning, 3-D printing, and tool building.

Some of the Tapia 2019 birds of a feather sessions include Hispanics in Computing, Diversity includes Disability, *Black in AI*, *Experiencing of Being Queer in Computing and Academia*, and *Increasing Diversity in Computing: A Call to Action*. A special Birds of a Feather session at Tapia 2019 will be *A Conversation With Richard Tapia*.

Some of the workshops featured at Tapia 2019 include: *Living in a 5G ERA: Smart Cars, Smart Cities and AI*, *Next-Generation Secure Computer Systems: Post-Quantum Cryptosystems*, and *From Implicit Bias to a Stronger Future*.

In addition, the Tapia Conference presents a two-part Faculty Workshop. The first part of the Faculty Workshop focuses on securing research funding from different federal agencies. The second part of the Faculty Workshop features the winner of the CMD-IT University Award for Retention of Minorities and Students With Disabilities in Computer Science to present their successful strategies for increasing retention.

CMD-IT also presents the CMD-IT Student Professional Development Workshop which provides undergraduate and master level students with best practices around resume writing, preparing for the rigors of the technical and behavioral interview process, and how to manage their social media presence. Students are also offered individual and group coaching on their resumes.

The conference kicks off with a Fireside Chat, featuring industry and academic leaders

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discussing the topic of *Misinformation Evolved: The Long Road Ahead*. Some of the panels featured at Tapia 2019 include *Inspiring Diverse Women in Computer Science Research*, *Big Data Leads to Enormous Science: Innovative Research and Beyond at National Labs*, and *Broadening Participation in Computing: Best Practices for Academic Departments*.

The Tapia Doctoral Consortium provides an opportunity for Ph.D. students to discuss and explore their research interests and career objectives with a panel of established researchers in computing. The 2019 Tapia Conference Doctoral Consortium will take place on Wednesday September 18th.

One of the highlights of the conference is the presentation of the CMD-IT University Award for Retention of Minorities and Students with Disabilities in Computer Science. The University Award recognizes U.S. 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. The 2019 University Award is sponsored by Microsoft, Inc. The CMD-IT University Award includes a monetary prize of \$15 000, an award and an invitation to give an invited presentation at the faculty workshop at Tapia 2019. All nominations will remain confidential. Each participating university will receive a detailed report that summarizes the data across all participating institutions. Past award recipients cannot submit a nomination for up to three years beyond the award. The 2018 CMD-IT University Award was presented to the University of North Carolina Charlotte.

The Richard A. Tapia Achievement Award for Scientific Scholarship, Civic Science and Diversifying Computing is awarded annually to an individual who demonstrates significant leadership, commitment, and contributions to diversifying computing. The 2019 winner of the Tapia Award is Dr. Cristina Villalobos, who holds the Myles

and Sylvia Aaronson endowed professorship in the School of Mathematical and Statistical Sciences at the University of Texas Rio Grande Valley and is the Founding Director of the Center of Excellence in STEM Education, which focuses on strengthening STEM academic programs and providing resources for the academic and professional development of faculty and students, and in increasing the numbers of underrepresented students attaining STEM degrees.

To learn more about the Tapia conference go to www.tapiaconference.org.

Jerri Barrett is currently the Director of Social Media for the Center for Minorities and People with Disabilities in IT (CMD-IT), College Station, TX, USA. Prior to CMD-IT, she was the VP of Outreach for the SENS Research Foundation, and the VP of Marketing for the Anita Borg Institute. Before that she spent 20 years in high tech and telecommunications marketing for companies, such as Rochester Telephone, Glenayre Technologies, Nortel Networks, and HighWired. She received the MBA degree from the William E. Simon School of Business Administration, Rochester, NY, USA. Contact her at jerri@cmd-it.org.

Valerie E. Taylor is currently the CEO and President for the Center for Minorities and People with Disabilities in IT (CMD-IT), College Station, TX, USA. She is one of the founders of CMD-IT, a nonprofit organization which launched in 2011. She has authored or coauthored more than 100 papers in the area high- performance computing. She is a recipient of numerous awards for distinguished research and leadership, including the 2001 IEEE Harriet B. Rigas Award for a woman with significant contributions in engineering education, the 2002 Outstanding Young Engineering Alumni from the University of California at Berkeley, the 2002 CRA Nico Habermann Award for increasing the diversity in computing, and the 2005 Tapia Achievement Award for Scientific Scholarship, Civic Science, and Diversifying Computing. She received the Ph.D. degree in EECS from the University of California, Berkeley, Berkeley, CA, USA, in 1991. She is an IEEE Fellow and ACM Fellow. Contact her at taylor@cmd-it.org.