

**2011 Richard Tapia  
Celebration of  
Diversity in Computing  
Conference**

**April 3-5, 2011  
San Francisco, California  
<http://tapiaconference.org/2011/>**

# Connections



**10 Years of Celebrating Diversity in Computing**

# 2011 Richard Tapia Celebration of Diversity in Computing Conference

April 3-5, 2011  
San Francisco, California

## “Connections”

The 2011 Richard Tapia Celebration of Diversity in Computing Conference, co-sponsored by the **Association for Computing Machinery** in cooperation with the **Computing Research Association** and the **IEEE Computer Society**, celebrates the technical contributions and career interests of diverse people in diverse computing fields. The theme of this year’s conference is “Connections” and reflects the conference heritage of helping all attendees—and especially students—build vital connections that will serve them well both professionally and personally. Organized by the **Coalition to Diversify Computing**, this conference—the sixth meeting in a biennial conference series that now spans a decade—will highlight innovative research and applications in computing sciences.

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.

Some of the nation’s best-known researchers from industry and academia will give plenary presentations looking at the technical, social and global impacts of computing. Attendees will also have a chance to explore opportunities for both near-term research possibilities as well as long-term career paths from companies and research institutions at the forefront of computing. In the student research poster session, representatives from the next generation of computer scientists will showcase their interests and accomplishments. Other sessions will help both undergraduate and graduate students develop and hone their skills for success. There will also be time set aside for informal conversations and getting to know one another and the beautiful city of San Francisco.

And underlying the three days will be the recurring theme of “Connections,” of creating important links for better understanding ourselves, our colleagues and our society—celebrating both our diversity and our community.

## Featured Speakers

### Monday, April 4

Plenary Speaker  
8:30-9:15 a.m.

**Optimization and Social Networks**  
Illya Hicks, Rice University

Plenary Speaker  
9:15-10a.m.

**Testing to Ensure that Moore's Law Continues**  
Patty Lopez, Intel

Plenary Speaker  
3:15-4 p.m.

**Building a Collective Visual World**  
Blaise Agüera y Arcas, Microsoft

Plenary Speaker  
4-4:45 p.m.

**Robotic Scientific Explorers for Understanding Climate Change**  
Ayanna Howard, Georgia Tech

### Tuesday, April 5

Plenary Speaker  
8:30-9:15 a.m.

**Participatory Sensing: from Ecosystems to Human Systems**  
Deborah Estrin, UCLA

Plenary Speaker  
9:15-10 a.m.

**Reinventing Operating Systems for Manycore Computing**  
John Kubiatowicz, UC Berkeley

Ken Kennedy Distinguished Lecture  
3:30-4:30 p.m.

**The Changing Nature of Research and Innovation in the 21st Century**  
Irving Wladawsky-Berger, IBM (retired)

Banquet Invited Address  
6:30-9:00 p.m.

**Organizing the World's Information**  
Alan Eustace, Senior Vice President of Engineering at Google

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## 2011 Tapia Conference Organization

The 2011 Richard Tapia Celebration of Diversity in Computing Conference would not have been possible without the tremendous dedication and contributions of our sponsor, the Association for Computing Machinery, in cooperation with the Computing Research Association and the IEEE Computer Society, our supporting organizations, and our committee members. The Coalition to Diversify Computing, which organized Tapia 2011, extends a sincere thank you to everyone, including the participants, who made this event possible.

### Sponsoring Organization

#### The Association for Computing Machinery (ACM)

<http://www.acm.org>

Founded in 1947, ACM is a major force in advancing the skills of information technology professionals and students worldwide. Today, over 80,000 members and the public turn to ACM for the industry's leading Portal to Computing Literature, authoritative publications and pioneering conferences, providing leadership for the 21st century.



### Cooperating Organizations

#### The Computing Research Association (CRA)

Carla Romero, [carla@cra.org](mailto:carla@cra.org)  
<http://www.cra.org>

The Computing Research Association (CRA) is an association of more than 200 North American academic departments of computer science, computer engineering, and related fields; laboratories and centers in industry and government, and academia engaging in basic computing research; and affiliated professional societies. CRA's mission is to strengthen research and advanced education in the computing fields, expand opportunities for women and minorities, and improve public and policy-maker understanding of the importance of computing and computing research in our society.



#### The IEEE Computer Society

<http://www.computer.org>

With nearly 100,000 members, the IEEE Computer Society is the world's leading organization of computer professionals. Founded in 1946, the Computer Society is the largest of the 37 societies of the Institute of Electrical and Electronics Engineers (IEEE). The Computer Society's vision is to be the leading provider of technical information and services to the world's computing professionals. The Society is dedicated to advancing the theory, practice and application of computer and information processing technology.



### Organizer

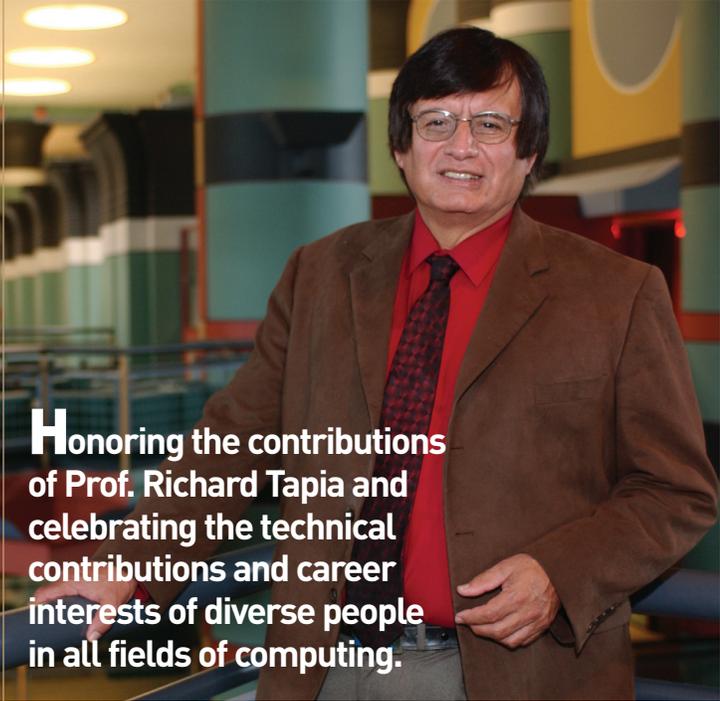
#### The Coalition to Diversify Computing (CDC)

<http://www.cdc-computing.org/>

The Coalition to Diversify Computing is a joint organization of the ACM, IEEE-CS and CRA. The goal of CDC is to address the shortfall of highly trained workforce of scientists and engineers capable of meeting the needs in the broad area of computing. CDC projects target students, faculty and professionals with expressed intent of increasing the number of minorities successfully transitioning into computing-related careers in academia, industry, and national laboratories.

## Richard A. Tapia

University Professor and Maxfield-Oshman  
Professor of Engineering, Rice University



**H**onoring the contributions of Prof. Richard Tapia and celebrating the technical contributions and career interests of diverse people in all fields of computing.

**T**he conference honors the many contributions of Dr. Richard A. Tapia, mathematician and professor in the Department of Computational and Applied Mathematics at Rice University in Houston, Texas. Dr. Tapia is internationally known for his research in computational and mathematical sciences and is a national leader in education and outreach programs. He has authored or co-authored two books and more than 100 mathematical research papers. In addition to his faculty positions, he is also Director of the Center for Excellence and Equity in Education.

Richard Tapia was born in Los Angeles to parents who emigrated from Mexico when they were children, seeking educational opportunities. He was the first in his family to attend college, earning his B.A., M.A., and Ph.D. degrees in mathematics from the University of California, Los Angeles. Due to his efforts, Rice University has received national recognition for its educational outreach programs, and the Rice Computational and Applied Mathematics Department has become a national leader in producing women and underrepresented minority Ph.D.s in the mathematical sciences.

Dr. Tapia's honors include: election to the National Academy of Engineering (1992) for his seminal work in interior point methods; being the first recipient of the A. Nico Habermann Award from the Computing Research Association (1994) for outstanding contributions in aiding members of underrepresented groups within the computing community; the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring from President Bill Clinton (1996); appointment by President Clinton to the National Science Board, the governing body of the National Science Foundation (1996); the Lifetime Mentor Award from the American Association for the Advancement of Science (1997); and the establishment of a lecture series to honor Dr. Tapia and African American mathematician David Blackwell at Cornell University (2000). He received the Hispanic Engineer of the Year Award from Hispanic Engineer Magazine in 1996, and was inducted into the Hispanic Engineer National Achievement Awards Conference Hall of Fame in 1997. Hispanic Engineer & Informational Technology Magazine also selected him as one of the 50 Most Important Hispanics in Technology and Business for 2004. That same year Dr. Tapia was inducted into the Texas Science Hall of Fame.

Dr. Tapia has been 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 (2008); and given the "Professor of the Year" award by the Association of Hispanic School Administrators, Houston Independent School District, Houston, Texas. In 2005, Tapia was elected to the Board of Directors for TAMEST, comprising the Texas members of the National Academy of Engineering, National Academy of Sciences and the Institute of Medicine. In 2009, Tapia received the Hispanic Heritage Award for Math and Science.

## Welcome to the Tapia 2011 Conference

Welcome to beautiful San Francisco and the fifth Richard Tapia Celebration of Diversity in Computing Conference!

To mark the ten-year anniversary of surely the most diverse event in computing, to get a fresh perspective the organizers invited a General Chair who had never attended the conference. I have long admired Richard Tapia—in part because I have closely followed in his footsteps<sup>1</sup>—so I eagerly accepted when he called.

The organizing committee decided to start with a clean slate, making sure that all events were tied to a mission statement for the conference. We also surveyed past attendees to learn their likes and dislikes, and get their opinion on new ideas.<sup>2</sup>

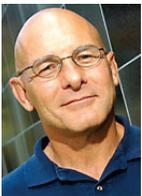
The resulting program features eight great speakers, including the Ken Kennedy lecture, and hits from past conferences: doctoral consortium, resume workshop, grad school workshop, career advice workshop, student poster session, town hall meeting, banquet and dance. We also added Birds-of-a-Feather/panel sessions run by attendees. I am sure we all look forward to seeing all these exciting events.

The theme of this year's Tapia is Connections<sup>3</sup>,—and the new events for Tapia 2011 follow that theme: bonding while seeing the charms of San Francisco, lunch with interesting local people, an opportunity poster session and connection meetup, and even an optional opportunity to connect with local institutions the morning after the conference ends. We'll survey now and later to see what you'd like for future Tapias.

Tapia 2011 wouldn't happen without the industrial and academic supporters and the other volunteers that you see in this program, so all of us should thank them at every opportunity. The organizing committee worked hard for more than a year, and I wish to thank them for their effort and frank feedback.

Special thanks goes to Juan Vargas, my co-conspirator and vice chair, for his moral support and for successfully executing a plan with a lot of people and moving parts.

### Dave Patterson, UC Berkeley Tapia Conference 2011 General Chair



#### Dave Patterson

**David Patterson** is the Pardee Professor of Computer Science at the University of California, Berkeley. He was the first

of his family to graduate from college, and he enjoyed it so much that he didn't stop until getting his Ph.D. from UCLA in 1976.

Patterson's research style is to identify critical questions for the IT industry and gather inter-disciplinary groups of faculty and graduate students to answer them. The answer is typically embodied in demonstration systems, and these

demonstration systems are later mirrored in commercial products. In addition to research impact, these projects train leaders of our field. The best-known projects were Reduced Instruction Set Computers (RISC), Redundant Array of Inexpensive Disks (RAID), and Networks of Workstations (NOW). His current research interests are in the parallel computing revolution using via the Parallel Computing Laboratory (Par Lab) and managing big data via the Algorithms-Machines-People Laboratory (AMPLab).

A measure of the success of his projects is the 30 awards won by Patterson and his teammates, including election to the

National Academy of Engineering, the National Academy of Sciences and being named Fellow of ACM, IEEE, the Computer History Museum, and both AAAS organizations.

In his spare time, he has coauthored five books, including two with Stanford University President John Hennessy, and served as Chair of Computer Science at UC Berkeley, Chair of the Computing Research Association, and President of ACM. He has also been active in the Northern California Chapter of the National Multiple Sclerosis Society, from which he received a Community Service Award.

<sup>1</sup>We both: grew up in Torrance, California, in large families, of which we were the oldest; went to nearby high schools and junior colleges; received BAs in math from UCLA, making us the first of our families to graduate from college; got married and had first child while undergraduates; had a second child while graduate students; worked in nearby industry while graduate students to support our families; gave our first-born sons our first names; got MS and Ph.D. degrees from UCLA; joined universities where we rose up quickly through the ranks and became chairs of our departments; were elected to the National Academy of Engineering; won teaching awards from our universities; won distinguished service awards from our professional societies; and own two cool, old cars that we wish we had when we were in high school.

<sup>2</sup>David Patterson, "Tapia Conference 2011: Reshaped by Feedback," Computer Research News, January 2011.

<sup>3</sup>David Patterson, "Diverse Connections," Communications of the ACM, December 2010.

## Tapia Schedule at a Glance

### Sunday, April 3, 2011

7 a.m.-7 p.m.	<b>Registration Open</b> Grand Ballroom Entryway
7:30 a.m.-5 p.m.	<b>Doctoral Consortium</b> Sponsored by Google and the National Science Foundation Fountain Room and Crystal Room  <b>Doctoral Consortium Leaders:</b> Juan E. Vargas, Microsoft; Anthony Joseph, UC Berkeley Participation by advance acceptance only
5-5:30 p.m.	<b>Welcome and Orientation for All Scholarship Awardees</b> Crown Room <b>Session Leader:</b> Richard Tapia, Rice University; Tapia 2011 Scholarship Chair Jamika D. Burge, i_SW
5:30-6p.m.	<b>Poster Previews</b> Grand Ballroom <b>Session Leader:</b> Tapia 2011 Conference Chair David Patterson, University of California, Berkeley
6-8:30 p.m.	<b>Information Session with Tapia 2011 Contributors and Poster Session of Opportunities and Dinner Reception</b> Grand Ballroom <b>Session Leader:</b> Jose Munoz, NSF
8:30-10 p.m.	<b>Birds-of-a-Feather</b> Fountain Room <b>The Joys and Challenges of Multiracialism</b> Session Leader: Dan Garcia, UC Berkeley
8:30-10 p.m.	<b>Birds-of-a-Feather</b> Crystal Room <b>Data Kindness on the Internet</b> Session Leader: Christian Grant, University of Florida

### Monday, April 4, 2011

7 a.m.-6 p.m.	<b>Registration Open</b> Grand Ballroom Entryway
7:30-8 a.m.	<b>Breakfast</b> Grand Ballroom
8-8:30 a.m.	<b>Opening Session</b> Grand Ballroom  <b>Conference Welcome and Announcements</b> Tapia 2011 Conference Chair David Patterson, UC Berkeley  <b>Welcome from the Coalition to Diversify Computing (CDC)</b> CDC Chair Manuel A. Pérez-Quiñones, Virginia Tech
8:30-9:15 a.m.	<b>Plenary Session I</b> Grand Ballroom <b>Optimization and Social Networks</b> Illya Hicks, Rice University
9:15-10a.m.	<b>Plenary Session II</b> Grand Ballroom <b>Testing to Ensure that Moore's Law Continues</b> Patty Lopez, Intel
10-10:30 a.m.	<b>Break</b>
10-10:30 a.m.	<b>Information Session with Tapia 2011 Contributors</b> Grand Ballroom Lounge
10:30 a.m.-12 p.m.	<b>Technical Interview Workshop</b> Terrace Room  <b>Session Leader:</b> Vivien Jin, Google
10:30 a.m.-12 p.m.	<b>Early Career Professional Development Workshop</b> Gold Room  <b>Session Leader:</b> Gilda Garretton and Tarik Ono, Oracle; Patty Lopez, Intel

**10:30 a.m.-12 p.m.** **Panel Discussion**  
Fountain Room  
**Faking It? Overcoming Imposter Syndrome and Turning the Key to Success**  
**Moderator:** Valerie Taylor, Texas A&M University; Panelists Suzanne J. Matthews and Charles W. Lively, Texas A&M University

**12-3 p.m.** **Lunch (on your own)**  
San Francisco Afternoon Activity

**Break**

**3-3:15 p.m.** **Research Poster Setup (students)**

**3:15-4 p.m.** **Plenary Session III**  
Grand Ballroom  
**Building a Collective Visual World**  
Blaise Agüera y Arcas, Microsoft

**4-4:45 p.m.** **Plenary Session IV**  
Grand Ballroom  
**Robotic Scientific Explorers for Understanding Climate Change**  
Ayanna Howard, Georgia Tech

**4:45-5:15 p.m.** **Research Poster Previews (30 seconds/1 slide per poster)**  
Grand Ballroom  
**Session Leader:** Tapia 2011 Conference Chair David Patterson, UC Berkeley

**5:15-8:15 p.m.** **Student Research Poster Session and Dinner Reception**  
Terrace Room  
**Session Leader:** Tony Drummond, Lawrence Berkeley National Laboratory

**8:30-10 p.m.** **Birds-of-a-Feather**  
Crystal Room  
**Creativity and Culture in Computing Sciences**  
**Session Leader:** Raquell Holmes, University of Connecticut Health Center

**8:30-10 p.m.** **Birds-of-a-Feather**  
Fountain Room  
**Hispanic Ph.D. Community**

**Session Leader:** Jose Morales, UT San Antonio

## Tuesday, April 5, 2011

**7 a.m.-6 p.m.** **Registration Open**  
Grand Ballroom Entryway

**7:30-8 a.m.** **Breakfast**  
Grand Ballroom

**8-8:30 a.m.** **Conference Announcements**  
Grand Ballroom  
Tapia 2011 Conference Chair David Patterson, University of California, Berkeley

**8:30-9:15 a.m.** **Plenary Session V**  
Grand Ballroom  
**Participatory Sensing: from Ecosystems to Human Systems**  
Deborah Estrin, UCLA

**9:15-10 a.m.** **Plenary Session VI**  
Grand Ballroom  
**Reinventing Operating Systems for Manycore Computing**  
John Kubiatowicz, UC Berkeley

**10-10:30 a.m.** **Break**

**10-10:30 a.m.** **Information Session with Tapia 2011 Contributors**  
Grand Ballroom Lounge

**10:30 a.m.-12 p.m.** **Workshop I (10:30 a.m.-11:15 a.m.): Undergraduates Considering Grad School**

**Workshop II (11:15 a.m.-12 p.m.): Graduate Students on Success in Grad School**  
Terrace Room

**Session Leader:** Marcus Huggans, The National GEM Consortium  
**Sponsored by Intel**

**10:30 a.m.-12 p.m.**      **Panel Discussion**  
Gold Room  
**Opportunities in High-Performance Computing at Department of Energy Laboratories**

*Moderator:* Debbie McCoy, Oak Ridge National Laboratory (ORNL); *Panelists:* Rashida Askia, Georgia Public Schools; Rebecca Hartman-Baker, ORNL; Judith Hill, ORNL; Elizabeth Bautista, Lawrence Berkeley National Laboratory, Yashema Mack, University of Tennessee; Tammy Kolda, Sandia National Laboratories; Celeste Matarazzo, Lawrence Livermore National Laboratory

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**10:30 a.m.-12 p.m.**      **Panel Discussion**  
Fountain Room  
Choosing the Administrative Path

*Leaders:* M. Brian Blake, University of Notre Dame; Juan E. Gilbert, Clemson University; Manuel A. Perez-Quinones, Virginia Tech; Andrew B. Williams, Spelman College; and Tracy Camp, Colorado School of Mines

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**12-1:30 p.m.**      **Lunch with Interesting Bay Area People (including Scholarship Sponsors)**  
Grand Ballroom

*Session Organizer:* Ellen Spertus, Mills College

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**1:30-3 p.m.**      **Connection Meetups**  
Grand Ballroom

*Session Leader:* Jose Munoz, NSF

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**1:30-3:30 p.m.**      **Information Session with Tapia 2011 Contributors**  
Grand Ballroom Lounge

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**3-3:30 p.m.**      **Break**

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**3:30-4:30 p.m.**      **Ken Kennedy Distinguished Lecture**  
Grand Ballroom  
**The Changing Nature of Research and Innovation in the 21st Century** Irving Wladawsky-Berger, IBM (retired)

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**4:30-5:30 p.m.**      **Town Hall Meeting: An opportunity to offer feedback for future Tapia Conferences**  
Terrace Room

*Session Leader:* Tapia 2011 Conference Chair David Patterson, UC Berkeley

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**5:30-6 p.m.**      **VIP Reception (By invitation only for conference supporters)**  
Garden Room  
Reception Host: Tapia 2011 Conference Chair David Patterson, UC Berkeley

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**6:30-9 p.m.**      **Tapia 2011 Banquet and Award Ceremony**  
Grand Ballroom

**Banquet Address**  
**Organizing the World's Information**  
Alan Eustace, Senior Vice President of Engineering at Google

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**Presentation of Best Student Poster Award**

**Presentation of Ken Kennedy Distinguished Lecture Honor**

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**Presentation of Tapia Award to William Wulf, AT&T Professor of Computer Science and University Professor, University of Virginia; and former President, National Academy of Engineering**

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*Banquet Organizers:*  
Phoebe Lenear, University of Illinois at Urbana-Champaign; and Josef Sifuentes, Courant Institute, NYU

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**9-11:30 p.m.**      **Dance and Celebration**  
Grand Ballroom

## Tapia Day by Day

### Sunday, April 3, 2011

**7 a.m.-7 p.m.**

**Registration Open**

Grand Ballroom Entryway

**7:30 a.m.-5 p.m.**

**Doctoral Consortium**

**Sponsored by Google**

Fountain Room and Crystal Room

(Note: Participation by advance acceptance only)

**Doctoral Consortium Leaders:** Juan E. Vargas, Microsoft; Anthony Joseph, UC Berkeley

The Doctoral Consortium, sponsored by Google and the National Science Foundation, 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 and computational mathematics, science and engineering.

**5-5:30 p.m.**

**Welcome and Orientation for All Scholarship Awardees**

Crown Room

**Session Leaders:** Richard Tapia, Rice University; Tapia 2011 Scholarship Chair Jamika D. Burge, i\_SW

All Tapia 2011 scholarship recipients are strongly encouraged to attend this session. Richard Tapia will welcome attendees in a setting that provides a beautiful view of the city (Come a bit early to enjoy the view). Scholarship reimbursement procedures and conference participation expectations will be discussed. In addition, questions about submitting reimbursement requests and common mistakes made in the past will be addressed. Prevent reimbursement delays by attending this session.

**5:30-6p.m.**

**Poster Previews**

Grand Ballroom

**Session Leader:** Tapia 2011 Conference Chair David Patterson, University of California, Berkeley

For the first time, the Tapia conference is hosting a special poster reception highlighting potential research partnerships. In this preview session, each organization presenting a poster will have one minute and one slide to showcase what they have to offer.

**6-8:30 p.m.**

**Information Session with Tapia 2011 Contributors**

Poster Session of Opportunities and Dinner Reception  
Grand Ballroom

**Session Leader:** Jose Munoz, National Science Foundation

New to Tapia 2011 is an opening poster reception offering opportunities for students, including displays by organizations contributing to the success of Tapia 2011. Since many research projects today are geographically distributed, as an experiment for Tapia 2011, this session is for researchers and project leaders who are recruiting undergraduate and graduate students to work remotely during the academic calendar year or during the summer. In addition, this session will include universities with recruiting posters for future graduate students and posters from other organizations (companies, research labs, federal agencies, etc.) hoping to find future employees. The exhibit area for Tapia supporters will be open for attendees to talk with representatives of these organizations.

**8:30-10 p.m.**

**Birds-of-a-Feather: The Joys and Challenges of Multiracialism**

Fountain Room

**Session Leader:** Dan Garcia, UC Berkeley

As the Great American Melting Pot continues to simmer, we've seen a slow rise in multiracialism. Outspoken icons such as Tiger Woods and Barack Obama have helped start the conversation and shed much of its stigma. However, with all the obvious benefits of a multiracial background (e.g., being able to pick the best parts of each culture, having a broader perspective, etc.), there are still significant challenges. Multiracial students and faculty may have felt latent racism from multiple sides. Many may feel they don't fully belong to any of their cultural groups. There may even be some not attending this conference for precisely this reason!

There are also subtleties for each of our populations. For example, in the Latino community, sharing the Spanish language and Latino surnames are one form of collective bonding, but genetic traits (e.g., skin color, hair, etc.) are less important. It appears to be the opposite for each of those components in the African-American community, and perhaps it is even more complex within the Native American community.

This is relevant for us because so much effort has been spent on broadening participation for underrepresented groups, but membership is often fuzzy. Where is that line drawn? Are we supporting mixed-race students when we ask for race and ethnicity in our surveys? When benefits (e.g., outreach programs, scholarships, targeted faculty hiring, etc.) are provided to underrepresented students, there may be a tension when students feel they are a member of that group but are perceived by others as not. Do students who are only a fraction underrepresented feel guilt for receiving benefits? Is there ever any “gaming” of the system by students claiming to be part of this group but perhaps aren’t?

While on the topic of “membership,” how does the international component fit in? Are Africans and those from Spain, Portugal, and Latin American countries part of our group? Richard Tapia himself has written that they should not be counted as part of our community (by faculty hiring committees), to stave off the “easy out” panacea of looking abroad to solve the underrepresented faculty crisis.

The purpose of this BoF is to engage anyone wanting to share their personal experiences on this issue, and perhaps bring clarity to some of the questions posed in this abstract. The hope is that a healthy dialogue will begin, in which multiracialism is celebrated and supported.

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**8:30-10 p.m.**

**Birds-of-a-Feather: Data Kindness on the Internet**

Crystal Room

**Session Leader:** Christian Grant, University of Florida

“It is easy to get private information about anybody on the Internet.” The questions raised with this common statement are “What counts as private?” and what exactly does “information” entail?

This Birds-of-a-Feather session will discuss current research about extracting data and data artifacts for both good and evil. We will discuss the line between privacy violations and fair use of personal information.

At the conclusion of this BoF we hope to spark new research ideas and collaborations between attendees.

**Monday, April 4, 2011**

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**7 a.m.-6 p.m.**

**Registration Open**

Grand Ballroom Entryway

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**7:30-8 a.m.**

**Breakfast**

Grand Ballroom

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**8-8:30 a.m.**

**Opening Session**

Grand Ballroom

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**Conference Welcome and Announcements**

Tapia 2011 Conference Chair David Patterson, UC Berkeley

Welcome from the Coalition to Diversify Computing (CDC)

CDC Chair Manuel A. Pérez-Quinones, Virginia Tech

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**8:30-9:15 a.m.**

**Plenary Session I**

Grand Ballroom

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**Optimization and Social Networks**

**Illya Hicks**, Rice University

Network analysis has garnered significant attention in diverse fields as an effective tool for studying complex natural and engineered systems. Novel network models of data arising from internet analytics, systems biology, social networks, computational finance and telecommunications have led to many interesting insights. In this talk, we explore discrete optimization techniques for finding cohesive data within these network-based models. The goal is to detect cohesiveness in spite of missing information (linkages). In this regard, we will explore different aspects of cohesiveness and how they are used for different applications. In particular, we will focus in on one particular structure called a k-plex, first utilized for social network analysis.



**Illya V. Hicks** was born and raised in Waco, Texas. Hicks lettered in football and received a B.S. in mathematics (1995) from Southwest Texas State University (currently Texas State University at San Marcos). Hicks also received an M.A. and Ph.D. in computational and applied mathematics (2000) from Rice University through an AT&T Labs Fellowship. Hicks joined the faculty of the Industrial and Systems Engineering Department at Texas A&M University in 2000 and is currently an associate professor in the Computational and Applied Mathematics Department at Rice University. His research interests are in combinatorial optimization, graph

theory and integer programming. Some applications of interest are in network design, cancer treatment, social networks, and logistics. Hicks is also the recipient of the 2005 Optimization Prize for Young Researchers from the Optimization Society of the Institute for Operations Research and the Management Sciences (INFORMS) and the 2010 Forum Moving Spirit Award from INFORMS for his work with the Minority Issues Forum of INFORMS.

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**9:15-10a.m.**

**Plenary Session II**

Grand Ballroom

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**Testing to Ensure that Moore's Law Continues**

**Patty Lopez**, Intel

As microprocessors scale beyond three billion transistors and incorporate diverse components into a complete system-on-a-chip (SoC), these products push the scaling limits of design complexity and process technology. To maintain the expected scaling of Moore's Law, design teams are challenged to manage the increasing variability of state-of-the-art process technology while maintaining yield, quality and cost. This talk will discuss the increasing importance of "Design for Test" (DFT) methodologies as microprocessors scale to higher and higher levels of complexity.



**Patty Lopez** spent 19 years as an imaging scientist for Hewlett Packard, creating and transferring technology in imaging and color algorithms into scanners, cameras and all-in-one products. She released over 50 imaging products for HP and holds seven imaging patents, and served on the organizing committee for the HP Imaging and Color Symposium for several years. Lopez joined Intel in Fort Collins, Colorado, in August 2008 and now works on microprocessor logic validation for manufacturability. She graduated from New Mexico State University with a B.S. in computer science and earned her M.S. and Ph.D. in computer science while working at NMSU's Computing Research Laboratory. In 2001, Lopez received the HP Technical Leadership Award for her imaging work. She served as the HP Campus Recruiting Manager for NMSU for ten years, building relationships with academia and K-12 schools to obtain grants for equipment and outreach.

In 2003, Lopez was named a Distinguished Alumna for the NMSU College of Arts and Sciences, Sciences Division. She chairs the Governance Committee of the NMSU Foundation, has established the Ross & Lydia Lopez Minority Scholarship, and serves an advisory board member for several STEM departments and programs

at NMSU. She joined the Computing Alliance of Hispanic Serving Institutions (CAHSI) Board and CRA-W Board in 2010, and represents Intel on the Anita Borg Institute Advisory Board. Lopez has served on the organizing committee of the Grace Hopper Conference in 2009, 2010 and 2011. She is a founding member and co-chair of Latinas in Computing and received the HENAAC/Great Minds in STEM Community Service Award in 2010. Lopez is a MentorNet mentor, and is a member of the NCWIT Workforce Alliance. Her current passion is computer science education, building the STEM pipeline for K-16, and creating an inclusive organizational culture in the workplace.

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**10-10:30 a.m.**  
**Break**

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**10-10:30 a.m.**  
**Information Session with Tapia 2011 Contributors**  
Grand Ballroom Lounge

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**10-10:30 a.m.**

**Break**

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**10-10:30 a.m.**

**Information Session with Tapia 2011 Contributors**

Grand Ballroom Lounge

Organizations contributing to the success of Tapia 2011 will have representatives on hand to talk with attendees about research and career opportunities.

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**10:30 a.m.-12 p.m.**

**Technical Interview Workshop**

Terrace Room

**Session Leader:** Vivien Jin, Google

(Attendance limited, priority given to attendees who pre-registered)

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**10:30 a.m.-12 p.m.**

**Early Career Professional Development Workshop**

Gold Room

**Session Leaders:** Gilda Garreton and Tarik Ono, Oracle;

Patty Lopez, Intel

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**10:30 a.m.-12 p.m.**

**Panel Discussion: Faking It? Overcoming Imposter Syndrome and Turning the Key to Success**

Fountain Room

**Moderator:** Valerie Taylor, Texas A&M University; **Panelists** Suzanne J. Matthews and Charles W. Lively, Texas A&M University

Have you ever felt like a fraud? Do you fear that one day you will wake up and everyone will realize that you are not as smart as they think you are? You are not alone! Imposter syndrome is a well-recognized issue among members of under-represented groups, such as women

and minorities. It is especially potent in fields like computer science and engineering, where criticism seems plentiful and praise is hard to come by. People with imposter syndrome fail to properly recognize their accomplishments, often attributing successes to timing, luck, or “faking it,” tricking people into believing that one is smarter or more capable than one (thinks) they really are.

Failing to put these feelings to rest will limit one's potential and growth as successful students, researchers, and faculty members. But, how do you overcome imposter syndrome? In this panel, students will meet three “imposters” who will share their personal struggles with imposter syndrome, and strategies they've used to cope and overcome these feelings. We will discuss the importance of celebrating the little things, overcoming isolation, and how true success lies in realizing that one's potential is limitless.

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**12-3 p.m.**

**Lunch (on your own)**

San Francisco Afternoon Activity Break

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**3-3:15 p.m.**

**Research Poster Setup (students with accepted posters)**

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**3:15-4 p.m.**

**Plenary Session III**

Grand Ballroom

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**Building a Collective Visual World**

**Blaise Agüera y Arcas**, Microsoft

Computer vision, the inverse problem to computer graphics, has now reached a stage of development where it has become accessible for commodity computing—in laptops, and most importantly, on mobile phones. This opens the door to large-scale intentional and collective projects to reconstruct the visual world from crowdsourced imagery. We'll briefly cover the technical underpinnings of this work, and demonstrate how multiresolution representations, Photosynth, Streetside mapping and other emerging technologies are combining to help us realize this vision.



**Blaise Agüera y Arcas** is the architect of Microsoft Live Labs incubation projects, where he has worked in a variety of roles, from individual contributor to strategist. He has a broad background in computer science and applied math. Agüera y Arcas has

been writing software for more than 20 years, with special emphasis on scientific computing, data analysis, machine learning, and graphics. He has a B.A. in physics from Princeton University, where he also attended the Ph.D. program in applied math. His experience includes inde-

pendent research, consulting, and software design in a variety of areas, including computational neuroscience, computational drug design, data compression, and others. He has authored patents on multi-resolution 3D visualization and on techniques for video compression and internet transmission. He also played a leading role in developing streaming and multi-resolution 2D and 3D technologies and contributed to the hardware and software design of a 3D laser scanner.

In 2001, Agüera y Arcas received worldwide press coverage for his discovery, using computational methods, of the printing technology used by Johann Gutenberg, considered the inventor of printing from movable type in the western world. This technology differs markedly from later printing technologies, suggesting a reassessment of Gutenberg's traditional historical role. His work on early printing was the subject of a BBC Open University documentary entitled “What Did Gutenberg Invent?” Agüera y Arcas has also published essays and research papers in theoretical biology, neuroscience, and history. In 2004, he founded a software company to develop ideas in scalable architectures and user interfaces for interacting with large volumes of visual information, potentially over a narrow-bandwidth connection. Microsoft bought Seadragon at the beginning of 2006, and since then Agüera y Arcas has been at Microsoft.

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**4-4:45 p.m.**

**Plenary Session IV**

Grand Ballroom

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**Robotic Scientific Explorers for Understanding Climate Change**

**Ayanna Howard**, Georgia Tech

Recently, it has been discovered that the giant ice sheets covering Greenland and Antarctica have been shrinking at an accelerated rate. While it is believed that these regions hold important information related to global climate change, there is still insufficient data to be able to accurately predict the glacial behavior and the subsequent global ramifications. Satellites have been able to map the ice sheet elevations with increasing accuracy, but data about general weather conditions (i.e., wind speed, barometric pressure, etc.) must be measured at the surface. In order to obtain a denser set of measurements, human expeditions could be sent to these remote and dangerous areas. Alternatively, a group of autonomous robotic rovers could be deployed to these same locations, mitigating the cost, effort and danger of human presence. For this to be a viable solution, though, methodologies must be developed for deployment of this surface-based mobile science network in these arctic environments. Specific technological

achievements that must be achieved include designing a robust Arctic rover platform, methods for navigating arctic terrain, and developing schemes to deploy multiple robotic scientific explorers to specific science sites of interest. In this talk, we discuss an infrastructure that addresses these issues in order to enable successful deployment of these robotic scientific explorers.



**Ayanna Howard** received her B.S. in electrical engineering from Brown University, her M.S.E.E. from the University of Southern California, and her Ph.D. in electrical engineering from the University of Southern California in 1999. Her area of research is centered around the concept of humanized intelligence, the process of embedding human cognitive capability into the control path of autonomous systems. This work, which addresses issues of autonomous control as well as aspects of interaction with humans and the surrounding environment, has resulted in over 60 written works in a number of projects—from autonomous rover navigation for planetary surface exploration to intelligent terrain assessment algorithms for landing on Mars. To date, her unique accomplishments have been documented in over 12 featured articles—including being named as one of the world's top young innovators of 2003 by the prestigious MIT Technology Review journal and in TIME magazine's "Rise of the Machines" article in 2004. From 1993-2005, Howard was at NASA's Jet Propulsion Laboratory at the California Institute of Technology, where she led research efforts on various robotic projects utilizing vision, fuzzy logic and neural network methodologies. Following this, she joined the Systems and Controls Group at Georgia Tech in 2005 and founded the Human-Automation Systems (HumAnS) Laboratory.

**4:45-5:15 p.m.**

**Research Poster Previews (30 seconds/1 slide per poster)**

Grand Ballroom

**Session Leader:** Tapia 2011 Conference Chair David Patterson, UC Berkeley

Students presenting research posters will each have one minute and one slide to introduce their work to other attendees. Learn more about their work at the Student Research Poster Session immediately following.

**5:15-8:15 p.m.**

**Student Research Poster Session and Dinner Reception**

Terrace Room

**Session Leader:** Tony Drummond, Lawrence Berkeley National Laboratory

The Tapia 2011 student research poster session is an opportunity for students to present their latest research results and methodologies to a wide conference audience and to network at the same time. This year, the posters competition is part of the ACM Student Research Competition (SRC). For the Monday night poster session, each author of an accepted poster will be assigned a space to display a printed research poster. These posters will remain up for the duration of the conference. On Monday evening, authors will present their posters in a reception attended by conference attendees and judges. The judges will have the opportunity to view the posters and talk to entrants about their work. The judges will then select the top five posters in the graduate and undergraduate categories as semi-finalists to advance to the third stage.

**8:30-10 p.m.**

**Birds-of-a-Feather: Creativity and Culture in Computing Sciences**

Crystal Room

**Session Leader:** Raquell Holmes, University of Connecticut Health Center

The National Science Foundation Directorate CreativeIT funds educational and research based efforts at the interface of creative arts and computing science. One goal of such research is to develop new computer science artifacts (software, hardware and networking designs) that support creative artists or to have creative arts influence the development of computer research. Can we define creativity within computer research? Does creativity live in individuals or groups? Is creativity in the new technology produced or in the process of its development? What if creativity can be developed and nurtured? Do our learning spaces operate to support creativity?

How we answer these critical questions regarding creativity may affect how we organize our work and research environments and in turn, how we organize our work environments might affect how we experience thought and creativity. This BoF is offered for individuals interested in developing creative approaches to computing research and those engaging in educational or developmental projects shaped by cultural considerations. We invite professionals, students, staff and faculty engaged in education and workforce development to come learn and share their successes and challenges in working at the edges of culture and science.

**8:30-10 p.m.****Birds-of-a-Feather: Hispanic Ph.D. Community**

Fountain Room

**Session Leader:** Jose Morales, University of Texas, San Antonio

The Hispanic PhD mailing list was founded a few months before the Tapia 2009 Conference. At the conference, an informal meeting was called by Dr. Jose Andre Morales to meet up face to face. Today the mailing list contains 140 of members who span faculty, administrators, academia, industry and students. The list members are featured in the CAHSI website. This BoF will report to the community of advances made since the last meeting. The gathering will also discuss other issues facing Hispanics such as the DREAM act and the low representation in academia (according to the Taulbee report). We want to learn from the audience how they would like the group to evolve in the future. We would also like to discuss how institutions can better serve Hispanics in the U.S.

**Tuesday, April 5, 2011****7 a.m.-6 p.m.****Registration Open**

Grand Ballroom Entryway

**7:30-8 a.m.****Breakfast**

Grand Ballroom

**8-8:30 a.m.****Conference Announcements**

Grand Ballroom

Tapia 2011 Conference Chair David Patterson,  
University of California, Berkeley

**8:30-9:15 a.m.****Plenary Session V**

Grand Ballroom

**Participatory Sensing: from Ecosystems to Human Systems****Deborah Estrin, UCLA**

Participatory Sensing systems leveraging mobile phones offer unprecedented observational capacity at the scale of the individual; at the same time they are remarkably scalable and affordable given the wide proliferation of cellular phone infrastructure and consumer devices that

incorporate location services, imagers, accelerometers, easy programmability, and connectivity to web services, social media, and mashups. These systems can be leveraged by individuals and communities to explore a range of issues, from endangered ecosystems to chronic disease management and prevention. I will discuss the social innovations enabled by Participatory Sensing, as well as the technical challenges that these applications raise in sensemaking, open architectures, and data privacy. This talk draws upon pilot projects ongoing at the Center for Embedded Networked Sensing at UCLA.



**Deborah Estrin** is a professor of computer science with a joint appointment in electrical engineering at UCLA, holds the Jon Postel Chair in Computer Networks, and is founding director of the NSF-funded Center for Embedded Networked Sensing. Estrin

received her Ph.D. (1985) in computer science from the Massachusetts Institute of Technology, and her B.S. (1980) from U.C. Berkeley. Since the late 90's, Estrin has focused on embedded networked sensing systems, with emphasis on environmental monitoring applications. This work includes participatory sensing systems, leveraging the location, acoustic, image, and user-contributed data streams increasingly available globally from mobile phones. She has been a co-PI on many NSF- and DARPA-funded projects and has been an active participant in numerous government-sponsored studies. Estrin has chaired several studies on sensors and networks and served on advisory committees for the NSF Computer and Information Science and Engineering and Environmental Research and Education Directorates, and is a member of the Computer Science and Telecommunications Board of The National Research Council.

She has also served as an editor for the ACM/IEEE Transactions on Networks, and as a program committee member for many networking related conferences. She was steering group chair and general co-chair for the first ACM Conference on Embedded Networked Sensor Systems, Sensys 2003, and served as one of the first associate editors for the ACM Transactions on Sensor Networks. Estrin is a fellow of the ACM, AAAS and the IEEE. She was selected as the first ACM-W Athena Lecturer in 2006, was awarded the Anita Borg Institute's Women of Vision Award for Innovation in 2007, inducted into the WITI hall of fame in 2008, and awarded Doctor Honoris Causa from EPFL in 2008. Professor Estrin was elected to the American Academy of Arts and Sciences in 2007 and into the National Academy of Engineering in 2009.

**9:15-10 a.m.****Plenary Session VI**

Grand Ballroom

**Reinventing Operating Systems for Manycore Computing****John Kubiawicz**, UC Berkeley

The brave new world of ubiquitous manycore computing systems leads us to reexamine the design of operating systems in the pursuit of responsiveness, realtime guarantees, power efficiency, security, and correctness. I will argue that a new OS primitive, called a "Cell," should replace processes as the basic unit of isolation, protection, and scheduling. Cells contain guaranteed fractions of system resources, including gang-scheduled groups of processors, as well as guaranteed fractions of system resources such as caches and memory bandwidth. I will describe "two-level scheduling" which separates the assignment of resources to Cells from the user-level scheduling of these resources. Cells are a fundamental component of Tessellation, a research operating system being designed at UC Berkeley.



**John Kubiawicz** is an associate professor of Electrical Engineering and Computer Science (EECS) at the University of California at Berkeley. Prof. Kubiawicz received a dual B.S. in physics and electrical engineering (1987), as well as an M.S. in EECS (1993) and Ph.D. in EECS (1998), all from the Massachusetts Institute of Technology. Kubiawicz was chosen as one of Scientific American's top 50 researchers in 2002, one of U.S. News and World Report's "people to watch for 2004," and is the recipient of an NSF PCASE award (2000). Kubiawicz was also co-founder of the \$3 million DARPA QUIST Quantum Architecture Research Center, which received the DARPATech Most Significant Technical Achievement award in 2002. Kubiawicz's research interests include manycore operating systems, multiprocessor and manycore CPU designs, Internet-scale distributed systems, and quantum computing design tools and architectures.

**10-10:30 a.m.****Break****10-10:30 a.m.****Information Session with Tapia 2011 Contributors**

Grand Ballroom Lounge

Organizations contributing to the success of Tapia 2011 will have representatives on hand to talk with attendees about research and career opportunities.

**10:30 a.m.-12 p.m.****Workshop I (10:30-11:15 a.m.): Undergraduates****Considering Grad School****Workshop II (11:15 a.m.-12 p.m.): Graduate Students on Success in Grad School****Sponsored by Intel**

Terrace Room

**Session Leader:** Marcus Huggans, The National GEM Consortium

**10:30 a.m.-12 p.m.****Panel Discussion: Opportunities in High-Performance Computing at Department of Energy Laboratories**

Gold Room

**Moderator:** Debbie McCoy, Oak Ridge National Laboratory (ORNL); **Panelists:** Rashida Askia, Georgia Public Schools; Rebecca Hartman-Baker, ORNL; Judith Hill, ORNL; Elizabeth Bautista, Lawrence Berkeley National Laboratory, Yashema Mack, University of Tennessee; Tammy Kolda, Sandia National Laboratories; Celeste Matarazzo, Lawrence Livermore National Laboratory

A question and answer session will follow brief presentations from researchers at Lawrence Berkeley, Lawrence Livermore, Oak Ridge and Pacific Northwest national laboratories—all world-class research institutions operated by the U.S. Department of Energy. The panelists will describe their jobs and give attendees a glimpse of the opportunities for students and job seekers. Debbie McCoy will present an overview of the Research Alliance in Math and Science program at Oak Ridge, through which students can intern with the world-class research staff and have access to the nation's leading high-performance computing resources.

**10:30 a.m.-12 p.m.****Panel Discussion: Choosing the Administrative Path**

Fountain Room

**Moderator:** M. Brian Blake, University of Notre Dame; **Panelists:** Juan E. Gilbert, Clemson University; Manuel A. Perez-Quinones, Virginia Tech; Andrew B. Williams, Spelman College; and Tracy Camp, Colorado School of Mines

Many faculty members in computer science and information technology fields are beginning to take administrative roles as department chairs, associate deans, deans, associate provosts, provosts, and presidents. These roles can be part-time or full-time and, depending on the level of

effort, have different connotations on research and teaching. Since the field of computing is relatively young, the nature of these administrative roles specifically within computing departments can be different than in more established fields. Specifically, curriculum development, policy enhancements, and broader participation efforts may play larger roles. Furthermore, computer scientists that perform “more general” university roles may bring a unique “computing” skill set or perspective to these jobs and have a unique impact on academia as a whole. In this panel, we attempt to answer the questions (1) When should you take administrative roles and why? (2) How should you prepare for these roles? (3) Practically, what do you do in these roles and how do you integrate research, teaching and departmental duties? and finally (4) What are the relevant career paths? The panel will consist of department chairs and associate deans (in multiple capacities) from a diverse set of universities.

### 12-1:30 p.m.

#### Lunch with Interesting Bay Area People (including Scholarship Sponsors)

Grand Ballroom

Organizers of Tapia 2011 have invited a number of interesting people from around the San Francisco Bay Area to join conference attendees. Choose a table and be ready to share some interesting perspectives.

**Session Organizer:** Ellen Spertus, Mills College

### 1:30-3 p.m.

#### Connection Meetups

Grand Ballroom

**Session Leader:** Jose Munoz, NSF

After making a number of personal connections during the conference, this is your opportunity to follow up with your new contacts and start building connections for developing your career or following up on new opportunities.

### 1:30-3:30 p.m.

#### Information Session with Tapia 2011 Contributors

Grand Ballroom Lounge

Organizations contributing to the success of Tapia 2011 will have representatives on hand to talk with attendees about research and career opportunities.

### 3-3:30 p.m.

#### Break

### 3:30-4:30 p.m.

#### Ken Kennedy Distinguished Lecture

Grand Ballroom

#### The Changing Nature of Research and Innovation in the 21st Century

Irving Wladawsky-Berger, IBM (retired)

Over the past century, science and technology have been successfully applied to innovation in the industrial sector of the economy, leading to very high productivity and quality, and to the development of highly sophisticated and complex objects like airplanes, skyscrapers and microprocessors. The 21st Century defines a new set of challenges, especially in the complexity of the systems we are now developing in all kinds of industries, including energy, health care, financial services and urban systems. It is critical to once more leverage technology, science and innovation to address these challenges and make major improvements in the productivity and quality of these highly complex systems, including services, organizations and the very way the world works. Continuing advances in digital technologies promise to be as pivotal to the 21st Century as steam power was to the industrial revolution, leading to an information and services driven economy which is changing the focus, design objectives and the methods by which the world innovates to meet global challenges. The presentation will explore the key differences between “classic” industrial sector innovation and innovation in this emerging information and services economy, as well as the growing technical capabilities and business opportunities for organizations that embrace these new modes of innovation.



**Irving Wladawsky-Berger** retired from IBM in 2007 after 37 years with the company and continues to consult for IBM in a number of initiatives including Cloud Computing, Smart Planet and other areas. In March 2008, he joined Citigroup as strategic advisor, helping with innovation and technology initiatives. At IBM Wladawsky-Berger was responsible for identifying emerging technologies and marketplace developments critical to the future of the IT industry, and then organizing activities to capitalize on them. He was responsible for IBM's university relations office and the IBM Academy of Technology. In 1996, he led the effort to formulate IBM's Internet strategy and to develop and bring to market leading-edge Internet technologies. He subsequently led companywide initiatives like Linux, Grid Computing and the On Demand Business initiative.

He is a visiting lecturer at MIT's Sloan School of Management and Engineering Systems Division, senior

fellow at the Levin Institute of the State University of New York, and adjunct professor in the Innovation and Entrepreneurship Group at the Imperial College Business School. He is a member of BP's Technology Advisory Council, the Visiting Committee for the Physical Sciences Division at the University of Chicago and the Board of Visitors for the Institute for Computational Engineering and Sciences at the University of Texas at Austin. Wladawsky-Berger served on and co-chaired the President's Information Technology Advisory Committee from 1997 to 2001, and is a founding member of the Computer Sciences and Telecommunications Board of the National Research Council in 1986. He is a fellow of the American Academy of Arts and Sciences. A native of Cuba, he was named 2001 Hispanic Engineer of the Year. He has an M.S. and Ph. D. in physics from the University of Chicago.

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#### 4:30-5:30 p.m.

##### **Town Hall Meeting: An opportunity to offer feedback for future Tapia Conferences**

Terrace Room

**Session Leader:** Tapia 2011 Conference Chair David Patterson, UC Berkeley

What did you like most about Tapia 2011? What would you like to see at Tapia 2013? Your help is needed with the planning of future events and programs related to increasing diversity in the field of computing. Voice your ideas or suggestions during the Town Hall Meeting, which will provide an open forum for discussions about future Tapia events.

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#### 5:30-6:15 p.m.

##### **VIP Reception (By invitation only for conference supporters)**

Garden Room

Reception Host: Tapia 2011 Conference Chair David Patterson, UC Berkeley

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#### 6:30-9 p.m.

##### **Tapia 2011 Banquet and Award Ceremony**

Grand Ballroom

##### **Banquet Invited Address**

##### **Organizing the World's Information**

**Alan Eustace**, Senior Vice President of Engineering at Google

Fifteen years ago I was convinced that advances in computer storage and memory technology would make it possible to store all the world's information on a single, personal device. Instead, the explosion of data, computation, and access has spawned Google to build increasingly

large data centers, connected by extremely high speed networks, where hundreds or thousands of computers are used in parallel to answer a single user search query. This talk will highlight the fundamental changes in our industry, and the impact these changes have had on Google fulfilling its mission to organize the world's information and make it universally accessible and useful.



**Alan Eustace** is one of Google's senior vice presidents of engineering. He joined Google in the summer of 2002. Prior to Google, Alan spent 15 years at Digital/Compaq/HP's Western Research Laboratory where he worked on a variety of chip design and architecture projects, including the MicroTitan Floating Point unit, BIPS—the fastest microprocessor of its era. Alan also worked with Amitabh Srivastava on ATOM, a binary code instrumentation system that forms the basis for a wide variety of program analysis and computer architecture analysis tools. These tools had a profound influence on the design of the EV5, EV6 and EV7 chip designs. Alan was promoted to director of the Western Research Laboratory in 1999. WRL had active projects in pocket computing, chip multi-processors, power and energy management, internet performance, and frequency and voltage scaling. In addition to directing Google's engineering efforts, Alan is actively involved in a number of Google's community-related activities such as The Second Harvest Food Bank and the Anita Borg Scholarship Fund. Alan is an author of several publications and holds numerous patents. He earned a bachelor's degree, a master's degree and a Ph.D. in computer science from the University of Central Florida.

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#### **Presentation of Best Student Poster Award**

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#### **Presentation of Ken Kennedy Distinguished Lecture Honor**

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#### **Presentation of the 2011 Richard A. Tapia Achievement Award**

The 2011 Richard A. Tapia Achievement Award for Scientific Scholarship, Civic Science and Diversifying Computing will be presented to William Wulf, AT&T Professor of Computer Science and University Professor, University of Virginia; and former President, National Academy of Engineering.

**Banquet Organizers:** Phoebe Lenear, University of Illinois at Urbana-Champaign; and Josef Sifuentes, Courant Institute, NYU

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#### 9-11:30 p.m.

##### **Conversation, Music and Dancing**

Grand Ballroom

## Student Research Posters

### Research Poster Previews

Monday, April 4, 4:45-5:15 p.m.

Grand Ballroom

**Session Leader:** Tapia 2011 Conference Chair David Patterson, UC Berkeley

Students presenting research posters will each have one minute and one slide to introduce their work to other attendees. Learn more about their work at the Student Research Poster Session immediately following.

### Student Research Poster Session/Standup Dinner

Monday, April 4, 5:15-8:15 p.m.

Grand Ballroom

A call for research posters led to more than 175 submissions by students around the country, in Puerto Rico, Brazil and Canada. Students will be on hand to discuss their research and answer questions during the Student Research Poster Session in the Grand Ballroom. Students whose posters were accepted for presentation are:

#### **"An Interactive Web-based Environment to Support Chemistry,"**

*Candice Adams*, Auburn University, Alabama

#### **"Blackout,"**

*Samantha L. Allen*, Hampton University, Virginia

#### **"Percentiles are Non Additive,"**

*Bushra Anjum*, North Carolina State University, North Carolina

#### **"HiBIS: Hierarchical Multi-Label Boosting using Instance-Based Similarity,"**

*Noor Al Ayydie*, Wayne State University, Michigan

#### **"Culturally Situated Design Tools: Animated Support Tools for Mathematics,"**

*Albanie T. Bolton*, Auburn University, Alabama

#### **"Quantifying Upper-Arm Rehabilitation Metrics for Children through Interaction with a Humanoid Robot,"**

*Douglas A. Brooks*, Georgia Tech, Georgia

#### **"SnackBot: Vision and Perception with Video and Audio Captures using GStreamer,"**

*Hasani Burns*, Hampton University, Virginia

#### **"Comparing SVMs and TSVMs for Sentiment Analysis on Organized Crime,"**

*Guillermo Cabrera*, university of Texas at Austin, Texas

#### **"Behaviour of Ritz Values for Nonnormal Matrices,"**

*Russell Carden*, Rice University, Texas

#### **"Accuracy of the Rule Ensemble Method,"**

*Dinorah Carrion Rodriguez*, Universidad Metropolitana, Puerto Rico

#### **"Computing Sparse Solutions to Ill-Conditioned Linear Systems using Random Projections and L1 Minimization,"**

*Jorge Castanon*, Rice University, Texas

#### **"Toward a User-Session-Dependency Model for Automatically Testing Web Applications,"**

*Camille Cobb*, Washington and Lee University, Virginia

#### **"Cyber Threat Analysis for Enterprise Networks via Virtual Honeypots,"**

*Will Davis III*, Florida A&M University, Florida

#### **"A Middleware-Based Approach to Privacy Management in Cloud and Web Data Services,"**

*Mamadou Hassimiou Diallo*, University of California, Irvine, California

#### **"Cryptarithmetics Solved by an Evolutionary Approach,"**

*Yesenia Díaz*, Polytechnic University of Puerto Rico

#### **"Usability of a New Voting Technology in Terms of Anomaly Detection,"**

*Jerone Dunbar*, Clemson University, South Carolina

#### **"Usability Testing for Accessibility in Mobile Devices for Visually Impaired Users,"**

*Lindsey Ellis*, Rochester Institute of Technology, New York

#### **"Conditional Analysis of Traffic in Streaming Video Data,"**

*Omar U. Florez*, Utah State University, Utah

#### **"Redundant Interactions in Protein Rigid Cluster Analysis,"**

*Naomi Fox*, University of Massachusetts, Massachusetts

#### **"DNA Computation Using Combinational Logic Design Methodologies,"**

*Roza Ghamari*, Boston University, Massachusetts

**“Robotic Assembly of Biological Parts from DNA Primitives,”** *Marjan Hadipour*, Boston University, Massachusetts

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**“Techniques for Monitoring and Mapping Data in Peer-to-Peer Networks,”**

*Raymond C. Borges Hink*, Polytechnic University of Puerto Rico, Puerto Rico

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**“Sensors Group,”**

*Gabriel Huertas Marrero*, University of Puerto Rico Mayaguez Campus, Puerto Rico

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**“Wii-mote Infrared Electronic Whiteboard,”**

*Michial Green II*, Contra Costa College, California

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**“A Clock Control Strategy for Peak Power Reduction Using Path Clustering,”**

*Ransford Hyman Jr.*, University of South Florida, Florida

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**“Scalable Parallel Robot Motion Planning,”**

*Sam Ade Jacobs*, Texas A&M University, Texas

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**“Collecting CUDA Performance Events on GPGPUs,”**

*Heike Jagode*, University of Tennessee, Knoxville, Tennessee

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**“Incentives in Participatory Sensing,”**

*Luis Gabriel Jaimes*, University of South Florida, Florida

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**“Using an iRobot Create as the Base for an Autonomous Mobile Robot,”**

*Jessica N. Jones*, Hampton University, Virginia

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**“Creating Smart Turbines,”**

*Erin Keith*, University of Nevada, Reno, Nevada

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**“Automatic User Status Update,”**

*Abayomi King*, University of Toronto, Ontario, Canada

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**“Co-Designed Cache Coherent Architecture,”**

*Jussara Kofuji*, University of Sao Paulo, Sao Paulo, Brazil

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**“Centinela: A Human Activity Recognition System Based on Acceleration and Vital Sign Data,”**

*Oscar David Lara Yejas*, University of South Florida, Florida

**“Opal Google App: Personalized Web Services for Scientific Applications,”**

*Jawon Lee*, University of California, San Diego, California

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**“Power Control for AP-Based Wireless Networks under the SINR Interference Model,”**

*Shuang Li*, The Ohio State University, Ohio

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**“Remote Switching of Cellular Activity using Light through Quantum Dots,”**

*Katherine Lugo Obando*, University of Washington, Washington

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**“Development of Fire Fighting Rescue Robots in**

**occamp- $\pi$ ,”** *Molly Mattis*, Allegheny College, Pennsylvania

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**“Reducing Hurricane Storm Surge Model Error Using the Ensemble Kalman Filter,”**

*Talea Mayo*, University of Texas at Austin, Texas

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**“Design and Prototyping a Communications Protocol for Networked Appliances to Enable Peak Shifting,”**

*Schatzi Miranda*, Universidad del Turabo, Puerto Rico

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**“Courier: Reliable and Efficient Group Communication in Location Aware Mobile Ad-Hoc Networks,”**

*Pramita Mitra*, University of Notre Dame, Indiana

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**“GPU Implementation of Coupled Selection Equations to Solve Combinatorial Assignment Problems,”**

*Peter Molnar*, Clark Atlanta University, Georgia

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**“Young Women in Computing: Programming Impact of Diversity - Eclipse vs. App Inventor in Secondary**

**Outreach,”** *Natasha Nesiba*, New Mexico State University, New Mexico

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**“Adaptive Rough Terrain Navigation on a Legged Robot Platform,”**

*Elena Oleynikova*, Franklin W. Olin College of Engineering, Massachusetts

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**“Pervasive Outlet-level Energy Data Monitoring and Archiving,”**

*Sara R. Avila O’Neill*, Universidad Metropolitana, Puerto Rico

**“Creating a Software that Visualizes Text,”**  
*Rafael Ortiz*, University of Houston–Downtown, Texas

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**“Multiple-Biomarker Tensor Analysis for Tuberculosis Lineage Identification,”**  
*Cagri Ozcaglar*, Rensselaer Polytechnic Institute, New York

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**“Transforming Random I/O to Sequential I/O in Applications Using MPI IO & PVFS,”**  
*Christina Patrick*, Penn State, Pennsylvania

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**“Evolutionary SAT Solver (ESS),”**  
*Oscar Perez Cruz*, Polytechnic University of Puerto Rico, Puerto Rico

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**“Performance Evaluation of Hybrid MPI/OpenMP Implementation of a Lattice Boltzmann Application on Multicore Systems,”**  
*Ashraf Bah Rabiou*, State University of New York at Plattsburgh, New York

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**“GPU Accelerated High-Performance Compressive Sensing,”**  
*Nabor Reyna Jr.*, Rice University, Texas

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**“Implementation of Target Enumeration Techniques Using the DETER Testbed,”**  
*John Rivera*, Youngstown State University, Ohio

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**“Communication Graphs for Wireless Networks,”**  
*Kristin Raudonis*, Villanova University, Pennsylvania

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**“The Good, the Bad and the Unusable in Social Networking Sites: The Perception of the Youth,”**  
*Taima Suid*, Philander Smith College, Arkansas

---

**“D-Tracker: A Robotic Device to Help People with Poor Depth Perception,”**  
*Yahya Suid*, University of Arkansas at Little Rock, Arkansas

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**“Low Complexity Cognitive Radio,”**  
*Hector Tosado*, Universidad de Puerto Rico, Puerto Rico

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**“Pandemic of AH1N1 Influenza Virus and Vaccination Effectiveness,”**  
*Edgardo Vazquez Rodriguez*, Universidad Metropolitana, Puerto Rico

**“I Don't Believe My Eyes! Sketch Recognition for Learning Simple Drawing Techniques,”**  
*Francisco Vides*, Texas A&M University, Texas

---

**“A New Perspective on Modeling Forest Fires,”**  
*Arturo Vargas*, University of California, Irvine, California

---

**“An Energy Efficient Scheme for Providing Privacy in Participatory Sensing Systems,”**  
*Idalides J. Vergara-Laurens*, University of South Florida, Florida

---

**“Comparing Electricity Generation in Incineration and Co-Combustion using Municipal Solid Waste,”**  
*Ana Watson*, Rice University, Texas

## 2011 Tapia Achievement Award



University of Virginia's  
**William Wulf**  
to Receive 2011 Tapia  
Achievement Award

**William Wulf**, the AT&T Professor of Computer Science and University Professor at University of Virginia and former President of the National Academy of Engineering, is the recipient of the 2011 Richard A. Tapia Achievement Award for Scientific Scholarship, Civic Science, and Diversifying Computing.

The Tapia award recognizes an individual with outstanding achievements in scientific scholarship, a strong civic presence within the scientific community, and a dedication to the attainment of true ethnic diversity in computing and related disciplines. The ideal recipient will be devoted to the principle of equity in both theory and practice, and will have demonstrated leadership in applying creative solutions to the difficult social, cultural, technical and political problems of diversifying computing.

"As immediate past president of the National Academy of Engineering and former vice chair of the National Research Council, Bill Wulf has given America outstanding scientific leadership while constantly promoting an awareness of the nation's need for diversity and gender equity within science and engineering. He has followed up by initiating critical steps to achieve these objectives," said Prof. Richard Tapia. "Moreover, he is a distinguished teacher, mentor and developer of computer science curricula. William Wulf is the ideal recipient of an award that is devoted to the principle of equity in both theory and practice, demonstrating leadership in applying creative solutions to the difficult social, cultural, technical and political problems of diversifying computing."

Wulf is a computer scientist notable for his work in programming languages and compilers. He received the first Computer Science Ph.D. ever awarded at the University of Virginia in 1968. He then joined Carnegie-Mellon University as assistant professor of computer science, becoming associate professor in 1973 and professor in 1975. In 1981 he left Carnegie-Mellon and founded Tartan Laboratories and served as chairman and chief executive officer until 1988. From 1988-90 he was assistant director of the National Science Foundation. In 1990 he returned to the University of Virginia as AT&T Professor and University Professor. As a professor, he has directed more than 25 Ph.D. theses.

Wulf is a fellow of the National Academy of Engineering, a fellow of the Association for Computing Machinery (ACM), a fellow of the Institute of Electrical and Electronics Engineers (IEEE), and a member of the American Academy of Arts and Sciences. In 1997 he was elected president of the National Academy of Engineering, which operates under a congressional charter and presidential executive orders that call on it to provide advice to the government on issues of science and engineering. He is the author or co-author of three books, two patents and more than 100 papers.

## 2011 Tapia Conference Supporters

The success of the 2011 Tapia conference is largely due to the financial support from leading members of the technology industry, national research community and academia. Supporting organizations will have representatives on hand during the conference to answer your questions and talk about graduate school opportunities, summer internships, faculty fellowships, post-doctorate internships and employment opportunities, as well as general information about their organizations.

Please be sure to take advantage of the Information Sessions with Tapia 2011 Contributors to be held in the Grand Ballroom Lounge during the following times:

**Sunday, April 3, 6-8:30 pm.**

**Monday, April 4, 10-10:30 a.m.**

**Tuesday, April 5, 10-10:30 a.m.  
and 1:30-3:30 p.m.**

### Platinum supporters

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University Programs Specialist  
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##### Tony Baylis

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### SAP

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### TeraGrid

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### Yahoo!

#### Patti McGuire

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### National Center for Women & Information Technology

[www.ncwit.org](http://www.ncwit.org)



### Texas A&M University

[www.cse.tamu.edu](http://www.cse.tamu.edu)



### University of California, Berkeley

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## 2011 Tapia Conference Organizing Committee

The 2011 Tapia Conference program is a reflection of the dedication and tireless efforts of volunteers from organizations around the country. Without their time and effort, and the support of their institutions, Tapia 2011 would not have been possible.



### David Patterson (General Chair)

**David A. Patterson** was the first in his family to graduate from college and he enjoyed it so much that he didn't stop until he earned a Ph.D. He then joined U.C.

Berkeley in 1977, where he is director of both the RAD Lab and the Par Lab. In the past, he served as chair of Berkeley's CS Division, chair of the CRA, and president of the ACM. His most successful research projects have been Reduced Instruction Set Computers (RISC), Redundant Arrays of Inexpensive Disks (RAID), and Network of Workstations (NOW). This research led to many papers, five books, and about 30 honors, some shared with friends, including election to the National Academy of Engineering, the National Academy of Sciences, and the Silicon Valley Engineering Hall of Fame. He was named Fellow of the Computer History Museum and both AAAS organizations. From the University of California he won the Outstanding Alumnus Award (UCLA Computer Science Department) and the Distinguished Teaching Award (Berkeley). From the ACM, of which he is a fellow, he received the SIGARCH Eckert Mauchly Award, the SIGMOD Test of Time Award, and the Karlstrom Outstanding Educator Award. He is also a fellow at the IEEE, where he received the Johnson Information Storage Award, the Undergraduate Teaching Award, and the Mulligan Education Medal. He also won Distinguished Service Awards from the ACM and the CRA. Finally, he shared the IEEE von Neumann Medal and the NEC C&C Prize with his book co-author John Hennessy, who is president of Stanford University.



### Juan E. Vargas (Deputy Chair, Chair of Doctoral Consortium)

**Juan Vargas** serves as principal research manager for the Microsoft Research's Extreme Computing Group (MSR/XCG) since 2009. He was the university relations

manager at Google from 2007 to 2009. From 1988 to 2007 Juan was a professor of the Computer Science and Engineering Department at the University of South Carolina, where he taught and conducted research on data mining, Bayesian networks, embedded and distributed systems, sensor networks, and biomedical engineering. His research is published in more than 60 articles, several

book chapters, and many conferences. He earned a Ph.D. from Vanderbilt University, a master's degree from CINVESTAV-IPN (that included the basic sciences of the medical program), and a bachelor's degree in electrical engineering from the University of Texas at El Paso (UTEP). Juan received the 2008 Gold Nugget Award from UTEP, given each year to exceptional graduates from the College of Engineering.



### Valerie Taylor (Organizer)

**Valerie Taylor** is the head of the Dwight Look College of Engineering's Department of Computer Science and Engineering at Texas A&M University, and is also the holder of the Royce E. Wisenbaker

Professorship. Prior to joining Texas A&M, Taylor was a member of the faculty in the EECS Department at Northwestern University for 11 years. She has authored or co-authored over 100 papers in the area high performance computing. She is the director of the new Center for Minorities and People with Disabilities in IT (CMD-IT). Taylor has received 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 is a member of CDC and ACM, and senior member of the IEEE Computer Society. Taylor earned her B.S. in electrical and computer engineering and M.S. in computer engineering from Purdue University in 1985 and 1986, respectively, and a Ph.D. in EECS from the University of California, Berkeley, in 1991.



### Cynthia Lanius (Fund Raising Chair, Web Co-Chair)

**Cynthia Lanius** is an independent consultant helping to manage the National Science Foundation-funded Broadening Participation in Computing Alliance called

the Empowering Leadership Alliance ([empoweringleadership.org](http://empoweringleadership.org)).



### Manuel Perez Quiñones (Coalition to Diversify Computing Chair)

**Manuel Perez Quiñones** is associate professor of computer science, and a member of the Center for Human-Computer

Interaction at Virginia Tech. Perez Quiñones holds a D.Sc. in computer science from The George Washington

University. His research interests include human-computer interaction, personal information management, user interface software, digital government, and cultural issues in computing. He is chair of the Coalition to Diversify Computing (2010-2011), member of the editorial board for ACM's Transactions on Computing Education journal, and a founding member of the board of the non-profit Virginia Latino Higher Education Network. At Virginia Tech, he has been chair of the Hispanic/Latino Faculty and Staff Caucus, associate dean and director of the Office for Graduate Recruiting and Diversity Initiatives of the Graduate School, and a Multicultural Fellow.



#### **Tony Drummond (Student Research Posters Chair)**

**Tony Drummond** is a staff scientist in the High Performance Computing Research Department at Lawrence Berkeley National Laboratory. His research interests include linear algebra, scientific computing, atmospheric modeling and development of high performance software tools. He received his Ph.D. from the French Institute National Polytechnique de Toulouse, and did his postdoctoral work in the Atmospheric Sciences department at UCLA. He has other academic degrees from The University of Tulsa, The University of Texas at Austin and Universidad Francisco Marroquín in Guatemala City. In previous Tapia conferences, he has co-chaired and participated as a panelist in the Doctoral Consortium.



#### **José Muñoz (Opportunity Poster Lead)**

**José Muñoz** has over 37 years of experience in Federal service and is a member of the Senior Executive Service. He is currently the National Science Foundation's inaugural chief technology officer (CTO). In that capacity, he is creating/exploring outreach opportunities (for example with industry) for NSF. Prior to his current CTO position, he served as acting director of the National Science Foundation's Office of Cyberinfrastructure, where he was deputy director. Muñoz has collateral duties in OCI in the area of high performance computing. He received his Ph.D. in computer science from the University of Connecticut and is a member of the ACM and the IEEE Computer Society. He has several publications in the area of high performance computing (including a patent). He has served in various capacities in the SC conference series. Muñoz also chaired the federal government's High-End Computing Interagency Working Group (HEC-IWG) and has served on various committees and study groups looking at various aspects of technology and science.



#### **Tony Baylis (Registration Chair)**

**Tony Baylis** is an assistant department manager for the Computing Applications and Research Department in the Computation Directorate at Lawrence Livermore National Laboratory. He is responsible for workforce planning and personnel management for more than 500 employees in the department. He directs the Computation Summer Student Program and will also work with colleagues in the Administration and Human Resources Directorate to improve the laboratory's Summer Student Program (of which Computation is a major participant). A volunteer for various organizations, including ACM/IEEE SC conferences and the Richard Tapia Diversity in Computing conference, He has served as treasurer of ACM SIGGRAPH for the past three years. In addition, he previously worked in the broadcasting industry as an independent consultant and contractor to the major television networks. Baylis earned a bachelor of arts degree in liberal arts and completed an A3 Illinois Technology Leadership Program at the University of Illinois.



#### **Jon Bashor (Public Relations Chair)**

Tapia 2011 marks the third time **Jon Bashor** has served as the conference communications chair. He has also served as communications chair for the SC03 and SC08 conferences, as well as the International Supercomputing Conference in Germany. His main job, though, is the communications and outreach manager for the Computing Sciences organization at Lawrence Berkeley National Laboratory. Decidedly non-technical, Bashor sees his job as making computational and scientific accomplishments understandable to a broad audience, as well as helping students understand the rewards of a career in scientific computing. Bashor earned his BA in political science from California State University, Bakersfield, and his master's in journalism from UC Berkeley.



#### **Hal Marz (Local Arrangements Chair)**

**Hal Marz** is a specialist on the University Programs team and has been with Google since April of 2010. Born in Singapore, he lived both there and the Philippines before moving to the San Francisco Bay Area his junior year in high school. He graduated from Saint Mary's College (Moraga, Calif.) with a B.A. in sociology/anthropology. Marz's love for international travel feeds (pardon the pun) one of his passions - FOOD. Marz believes in giving back to the community and regularly volunteers his time to several non-profits organizations in the San Francisco Bay Area. Marz is managing Google's sponsorship and local arrangements for the 2011 Richard Tapia Conference.



#### **Vivien Jin (Resume Workshop Chair)**

**Vivien Jin** is a university programs specialist who has been with Google for over four years and in two regions. She is managing Google's sponsorship to and involvement in 2011 Richard Tapia Conference.



#### **Jamika D. Burge (Scholarships Chair)**

**Jamika D. Burge** is currently a senior behavioral computer scientist at i\_SW, an information systems company in Arlington, Va. that provides high-end, advanced technical and research services to the U.S. government and other customers. Most recently, she was a postdoc in the College of IST at Penn State (2007-2009), where she worked with John M. Carroll on wireless informatics initiatives for non-profit organizations. Burge completed her Ph.D. in computer science from Virginia Tech, where she was an IBM Ph.D. Research Fellow. She has several publications in books and refereed conferences, and she is a member of ACM (CSE and CHI) and the Coalition to Diversify Computing.



#### **Tiki L. Suarez-Brown (Scholarships Deputy Chair)**

**Tiki Suarez-Brown** is an associate professor within the Information Systems and Operations Management Department, School of Business and Industry at Florida A&M University. Her research interests include management information systems, collaborative environments, and high performance computing. Over the past several years, Suarez-Brown has served on the following ACM/IEEE SC committees: chair of the SC09 Broader Engagement (BE) Program, communities chair of the SC10 Student Cluster Competition, and chair of the SC11 Student Volunteers program.



#### **Anthony Joseph (Doctoral Consortium Deputy Chair)**

**Anthony Joseph** is an associate professor at the Electrical Engineering and Computer Sciences department at UC Berkeley. He has a Ph.D. in computer science from MIT. Joseph's primary research interests are in Internet security, mobile/distributed computing, and wireless communications (networking and telephony). He is part of the RAD Lab and is exploring these areas in current (SecML, DETER, D-Trigger) and former (Tapas, Tapestry, Reap and Sahara) projects.



#### **Phoebe Lenear (Banquet Co-Chair)**

A native of Chicago, Illinois, **Phoebe Lenear** holds the bachelor of science and master of science degrees in general engineering (mathematics and human-computer interaction), and the Ph.D. degree in human resource education (technology education) from the University of Illinois at Urbana-Champaign. Lenear currently serves as the Coordinator of Instructor Services at the University of Illinois Global Campus.



#### **Josef Sifuentes (Banquet Co-Chair)**

Born and raised in the East End of Houston, Texas, **Josef Sifuentes** attended Rice University, where he earned his bachelor's degree in mathematics, computational and applied mathematics, and visual art, as well as a Master of Arts and Ph.D. in computational and applied mathematics. As a graduate student, Sifuentes won a National Science Foundation Graduate Research Fellowship to fund his doctoral work. He is currently a research scientist at the Courant Institute at New York University. He continues to work also as an artist on community projects with his father, who is an artist.



#### **Ceola Curley (Web Master)**

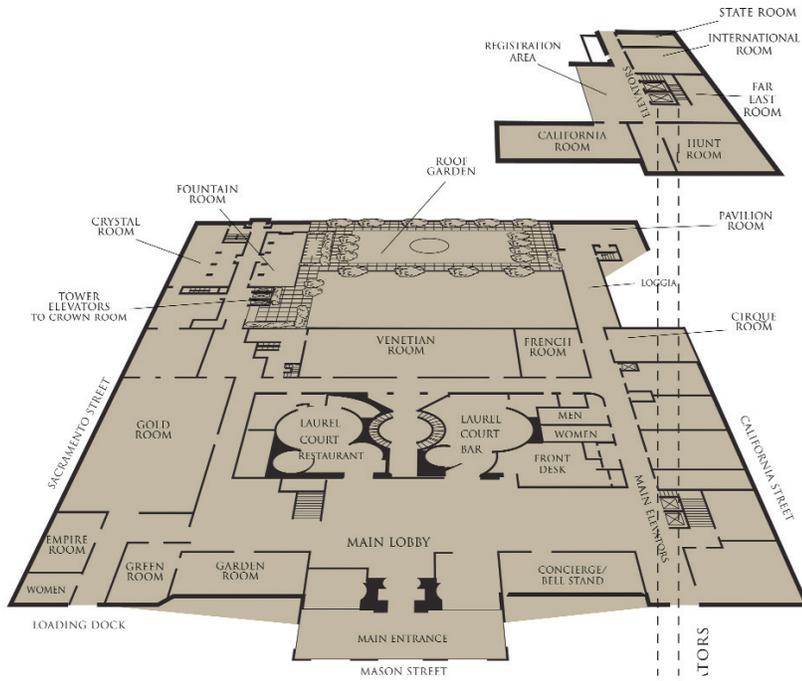
**Ceola Curley** is a technical coordinator at Rice University.

### **Scholarship Application Reviewers**

The Tapia 2011 Organizing Committee would like to thank everyone who reviewed the hundreds of scholarship applications submitted by students from around the country. The reviewers are: Sadaf Alam, Monica Anderson, Tony Baylis, Alan Bivens, Stacy Branham, Eric Brittain, Quincy Brown, Jamika D. Burge, Deborah M. Cooper, E. Vincent Cross, II, Ivan O. De Santiago, Felicia Doswell, Karen Hare, Rebecca Hartman-Baker, Raquell M. Holmes, Mark Jack, Tony Laing, Courtney Lamar, Rubin H. Landau, Cynthia Lanius, Brandeis H. Marshall, Damon McCoy, Debbie McCoy, Idong Mkpong-Ruffin, Marcela Musgrove, Terry Nelson, Sondra Phung, Maria Plummer, Yolanda A. Rankin, Cheryl D. Seals, Nadine Shillingford, Thomas Stafford, Tiki L. Suarez-Brown, Jennifer Teig von Hoffman, Parrinder Terry, Arnold N. Tharrington, Jakita O. Thomas, Lydell D. Tyson, Juan Vargas, Pamela Williams, and Dale-Marie Wilson.

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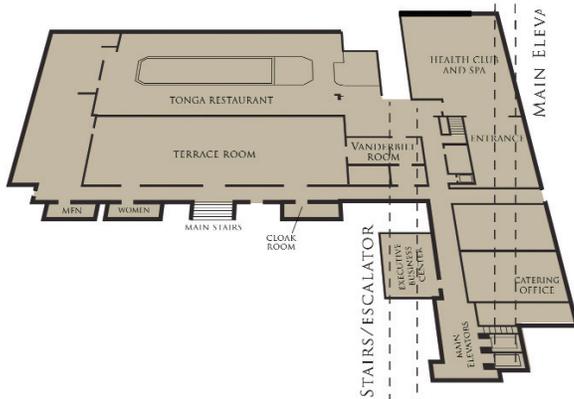
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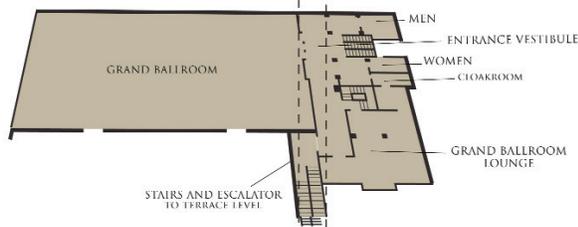
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