#### Abstracts and Bios

# Day 1: Feb 26, 2014

#### PA-01 (2:00pm)

PANEL: Girls in Computing MODERATOR: Awilda E. Valle PANELISTS: Casandra Schaening Burgos, Sylmarie Dávila Montero, Aixa de Jesús Espinosa, Trixie De León González

**ABSTRACT**: The panelists are undergraduate students in four computing academic programs in three campuses of the University of Puerto Rico. They will discuss the current status of women students in their programs and the efforts of their departments or special programs to increase the participation of women in computing. They will share their own experiences and expect to encourage other girls to pursue careers in computing.



Awilda E. Valle, University of Puerto Rico at Mayagüez

Awilda E. Valle is the Director of the Students Affairs Office and Professor of Computerized Information System at the College

of Business Administration of the University of Puerto Rico at Mayagüez Campus. Professor Valle received her M.S. in Computer Sciences from Purdue University at Indiana. She has been teaching CoIS courses for three decades with the first ten years at Río Piedras Campus. In 2008, she received the Teaching Excellence at College of Business Administration Award. Awilda has worked as Programming Consultant in the IT Department for Banco Popular of Puerto Rico, Inc. She was the Coordinator of the Process of Evaluations for Accrediting Computer Information Systems Programs of all Campus of the University of Puerto Rico, in accordance to Accreditation Board for Engineering and Technology (ABET) during 2006-2007. Professor Valle has been involved in many initiatives and events related to information systems, such as: Liaison of Microsoft Academic and the College of Business Administration, Coordinator of Distance Learning of the College of Business Administration, establishing the first Certiport Center in the west of Puerto Rico, CompuExpo Fair, and Cyber Security Expo. She is member of ACM and was Advisor of the ACM – BA Student Chapter for several years.



**Casandra Schaening Burgos**, *Include Girls*, Computer Science, University of Puerto Rico at Río Piedras

Cassandra is an undergraduate Computer Science student in the University of Puerto Rico at Río

Piedras, where she has been involved in tutoring and in undergraduate research. Having never abandoned her love of the biological sciences, she intends to begin doctoral studies in computational biology during the coming year.



**Sylmarie Dávila Montero**, *FEMPROF*, Computer Engineering, University of Puerto Rico at Mayagüez

Sylmarie Dávila Montero is natural from Caguas, Puerto Rico. She joined the University of Puerto Rico at Mayagüez

(UPRM) in 2009, where she is currently an undergraduate student with a specialization in Digital Signal Processing and a minor in Applied Mathematics. Sylmarie is part of the Students Counselors in the Electrical and Computer Department, is an active member of the Tau-Beta-Pi (engineering honor society), AiPFE and Femprof. In the summer of 2012, She was part of the Summer Undergraduate Research Experience (SURE) program at Georgia Institute of Technology (Georgia Tech). Over the last year, She has been doing research at the UPRM, working with Dr. Domingo Rodríguez, in the area of signal processing working in the development of a Hearing Aids App on Android Devices. She has had the opportunity to present her research project at conferences as Richard Tapia, ABRCMS and SACNAS where she was awarded the outstanding poster presentation award in the area of Computer Science. Also, she is part of a select group of students that are working on a research project for the Raytheon Corporation. Sylmarie wants to pursue a Ph.D., to becom a professor with a specialization in Bioengineering.



**Aixa de Jesús Espinosa**, *PREM*, Computational Mathematics, University of Puerto Rico at Humacao

Aixa de Jesús Espinosa is a third year student of Computational Mathematics

B.S. at the University of Puerto Rico at Humacao. She graduated in May 2011 from the Ramon Quiñones High School in Yabucoa. Since her first year she has been doing research with Prof. Pablo Negrón in the PREM program. Her first work, *On the Determination of Photoactuation Effects for a Polymer/MWCNT Composite Fibers Based Cantilever*, has been presented in Puerto Rico and United States. Last summer, she was a Visiting Scholar at the Rensselaer Polytechnic Institute in Troy, New York and worked with Dr. Angel García. Her research was *Molecular Dynamics Simulations of the N-terminal of Alpha Synuclein at different pressures*. She plans to continue her studies in Applied Mathematics.



### **Trixie de León González**, Information Systems, University of Puerto Rico at Río Piedras

Trixie de León is a student at the University of Puerto Rico, Río Piedras Campus in her final

semester at the Faculty of Business Administration with a major in Computerized Information Systems. She is the President of the Student Association of Statistics and Computerized Information Systems and she is also an intern for Microsoft Puerto Rico. The internship is focused on gaining experience in Project Management and Consulting.

#### O-01 (4:00PM)

#### Google Your Future

**SPEAKERS**: Yvette Nameth, Test Engineer, Google and Danielle VanDyke, Software Engineer, Google **ABSTRACT**: Learn more about the exciting field of computer science and how you can change the world, one line of code at a time. Join Google engineers Yvette Nameth and Danielle VanDyke for a conversation about how to get from where you are today to where you want to be in your future career and all the opportunities along the way. Get an insider's view into what inspired them to pursue careers in computer science, their personal paths to Google and the advice they have for the next generation of women in computer science.



Danielle Van Dyke, Software Engineer, Google

Danielle VanDyke, called Sparky by other Googlers, is a Software Engineer in Google's Mountain View, California, headquarters. Sparky works on Infrastructure for Google's Display Advertising, using ads that are smart and beautiful to make websites, mobile apps, and products free. In her 7+ years at Google she has also worked on Mobile Monetization, Mobile Display Ads User Privacy, Search Ad Quality, and Test Engineering. She has dual Bachelor degrees in Computer Science and Psychology from Michigan Technological University, a black belt in Tae Kwon Do, two large dogs, and has been studying American Sign Language for several years.



# **Yvette Nameth**, Test Engineer, Google

Yvette Nameth is a Test Engineer in the Google Seattle office working on Google Maps. She specifically works on testing the process and quality

map tile rendering and styling. Since joining Google in 2007, Yvette has also contributed to AdWords, internal testing tools, and Google for Education. Prior to Google, Yvette was a Software Engineer at Amazon and a Computer Science teacher at an all-girls high school. She's a graduate of Dartmouth College with a BA in Computer Science.

#### K-01 (5:00PM)

**KEYNOTE**: Hitting the Road on Mars: From the 2004 Mars Exploration Rovers to MSL: Curiosity **SPEAKER:** Nagin Cox, NASA Jet Propulsion Lab

**ABSTRACT**: Since the beginning of time, people have been entranced by the night sky and by our nearest planetary neighbor- Mars. From the early missions to Viking, Pathfinder and the more recent missions – Mars has been (and is) a challenging destination. The Mars Exploration Rovers landed on Mars in January 2004 and have been successfully exploring ever since. Come hear the story of their legacy and our newest rover on Mars- the Mars Science Laboratory Curiosity Rover. Curiosity landed on Mars spectacularly in August 2012 and is already making astounding discoveries as she explores the Red Planet.



**Nagin Cox**, Curiosity Flight Team (Mars Science Laboratory), NASA Jet Propulsion Laboratory

Nagin graduated from Cornell University with a BS in Operations Research and Industrial Engineering

and a BA in Psychology and was commissioned as an officer in the US Air Force. She worked in F-16 Aircrew Training and received a master's degree in Space Operations Systems Engineering from the Air Force Institute of Technology. As a captain, she served as an Orbital Analyst at NORAD/Space Command in Chevenne Mountain, Colorado Springs. In 1993, joined JPL and has since served as a systems engineer and manager on multiple interplanetary robotic missions including NASA/JPL's Galileo mission to Jupiter, the Mars Exploration Rover Missions and the Kepler telescope mission to search for earth-like planets around other stars. She is currently on the mission operations team for Mars Science Laboratory (MSL)-NASA's Mars Curiosity Rover that landed in August of 2012 and been exploring Mars ever since. Nagin has spoken to audiences around the US, in Europe, and the Middle East on the stories of the people behind the missions.

# Day 2: Feb 27, 2014

### K-02 (9:00AM)

**KEYNOTE**: Inventing Technology for Homes & Families **SPEAKER**: A.J. Brush, Senior Researcher, Microsoft Research

ABSTRACT: Technology in homes fascinates me due to the wide range of devices and services, the needs of different residents, and the constant change as people enter and leave home with devices. At home people use technology by themselves and with other people for a variety of tasks, from coordinating their lives to entertainment. For the past 10 years I have studied and built technology for homes and families. I will present a series of research prototypes we have built and put in homes to enable digital family calendaring, family connectedness, and saving energy. Inspired by the challenges of deploying prototypes into homes, my current project, Lab of Things, is a publicly available platform that makes it easier for researchers to build and deploy prototypes using connected devices in homes. Academics are using Lab of Things for both teaching and research projects, and we are excited to see how the platform can help accelerate innovation in home technology.



# **A.J. Brush**, Senior Researcher, Microsoft Research

A.J. Bernheim Brush is a Senior Researcher at Microsoft Research. A.J.'s research area is Human-

Computer Interaction with a focus on Ubiquitous Computing and Computer Supported Collaboration (CSCW). A.J. is most well known for her research on technologies for families and her expertise conducting field studies of technology. Her current focus is home automation as co-leader of the Lab of Things project. She is a Senior Member of the ACM and was honored to receive a Borg Early Career Award in 2010. Her research has received 2 best paper awards and several best paper nominations. She has 9 patents and more than 18 inventions patent pending. A.J. is co-general chair of UbiComp 2014, and serves on the UbiComp Steering Committee and the CRA-W board. She also serves regularly on Program Committees for many conferences including UbiComp, Pervasive, CHI, and CSCW. information More at http://research.microsoft.com/~ajbrush

## Session 1

#### O-02 (10:20AM)

Celebrating Women in Computing – 200 People at a Time!

**SPEAKER**: Jodi Tims, Association of Computing Machinery-Women in Computing (ACM-W)

**ABSTRACT:** This talk will give both a historical understanding of the ACM-W Celebrations project and a look at its current impact around the world. From its beginnings in the states of Indiana and Ohio in 2004 - 2005 to its international reach in India, Europe, Abu Dhabi and the Caribbean in 2014, the project has impacted thousands of young women as they make their journey in the world of computing. A brief overview of other projects of ACM-W that support women in computing will also be included."



Jodi Tims, ACM–W and Director of GHC Regional Conferences

Dr. Jodi Tims is a Professor of Computer Science at Baldwin

Wallace University in Berea, OH. She is currently serving as Chair of the Department of Mathematics and Computer Science. She began teaching at the university level in 1982 at the University of Pittsburgh at Johnstown as an Instructor of Mathematics. Upon completing her M.S. in Computer Science at the University of Pittsburgh in 1988, Dr. Tims became an Assistant Professor of Computer Science at UPJ. In 1992, she received the Edward A. Vizzini Natural Science Division Award for Excellence in Teaching and in 1994 was tenured and promoted to Associate

Professor. After earning her Ph.D. in Computer Science from the University of Pittsburgh with an emphasis on programming languages and compilation for distributed memory parallel systems, she accepted a position as Associate Professor and Coordinator of Computer Science at Saint Francis University, Loretto, PA. She accepted her current position at Baldwin Wallace in 2002 and was promoted to Full Professor in 2004. In addition to her teaching and administrative responsibilities, she serves on numerous college-wide committees, is a member of the Regional Information Technology Engagement (RITE) Board of Northeast Ohio, and is a member of the ACM-W Executive Council, leading the Celebrations Project. She served as Program Chair for the Ohio Celebration of Women in Computing held in 2009 and 2011 and as General Chair of that event in 2013.

#### O-0 (10:40AM)

Gain Software Development Skills Through Open Source Participation

#### SPEAKER: Rose Robinson, Systers

**ABSTRACT**: This presentation will discuss the importance of getting involved in open source and various open source projects. It hopes to answer the questions:

- How can I be a better programmer?
- How do I gain technical I work experience?
- How can I make my resume more attractive?

Rose will share with the audience her own experience in open source, projects she is involved in and discuss a great global opportunity to earn money, gain experience and collaborate with a global technical community through Google Summer of Code.



#### **Rosario Robinson**, Anita Borg Institute and Systers

Rosario Robinson: Inspired and Engaged. As an industry veteran in software development and implementation, I've worn many

hats and held various roles in startups, large consulting firms in government, non -profit and industry. I am changing the world through contributing to open source projects, continuous technology learning, software/development and tools, and collaborating with great innovative minds. I openly engage in great technical communities, gender, sexual preference and racial equality and encourage young people, especially in underrepresented groups and under-served communities, to enter STEM fields

## O-04 (11:00AM)

- Be Squeaky Increasing Your Visibility & Value as a Technical Woman
- SPEAKER: Ruthe Farmer, National Center for Women and IT

**ABSTRACT:** "The reason people get awards, recognitions, and promotions – is because they ask for them or are nominated by a friend." Learn how to succeed in technical careers by being the squeaky wheel, asking for what you deserve and promoting yourself and other women. This session will teach you how to access opportunities, broaden your network, and stay top of mind with your supervisors using research-based resources from the National Center for Women & IT.



**Ruthe Farmer**, National Center for Women & IT and Aspirations in Computing, Chair CSEdweek

Ruthe Farmer has focused her efforts on increasing girls' participation in technology and engineering since 2001.

She provides strategic planning and direction at NCWIT, fund development, and cultivation of new partnerships. Ruthe is the driving force behind the hugely successful Aspirations in Computing talent development initiative, served as the 2012 Chair of Computer Science Education Week, and was named a Champion of Change for Technology Inclusion by the White House in July 2013.

### Session 2 *O-05 (11:20AM*)

A Research Project in Health Informatics: using visual analytics to improve care for premature infants in

hospitals

SPEAKER: Patricia Ordoñez, University of Puerto Rico at Río Piedras

**ABSTRACT:** Existing visualizations in the Neonatal Intensive Care Unit (NICU) frequently obscure important trends in clinical data to the clinician's eye in tabular displays or stacked univariate plots of variables over time. Scales and alarm limits in clinical displays are based on adult norm data, resulting in confusing or misleading displays in the NICU. In premature infants, norm data differ significantly from adult values, even within infants of differing gestational ages. Interfaces designed to display adult values hinder the perception of clinical changes.

In this presentation, we will introduce the interdisciplinary field of health informatics and the pros and cons of doing research in it. We will present the

design of a multivariate time series visualization that is interactive, animated, and personalized to an individual patient, such that clinicians can quickly and efficiently recognize significant changes in the patient's condition and discuss the potential applications it may enable in the future.



Patricia Ordóñez, University of Puerto Rico, Río Piedras

Patricia Ordóñez is an Assistant Professor in the Department of Computer Science at the University of Puerto Rico Río Piedras. She received

her B. A. in Hispanic and Italian Studies from Johns Hopkins University after being intimidated in her freshman year from pursuing electrical engineering. She returned to graduate school years later to complete her MS and PhD in Computer Science from the University of Maryland Baltimore County (UMBC). Her research centers on using visualization and data mining to improve the state of medicine. She is also developing assistive technologies for programming. She is passionate about diversifying the field of computer science.

## O-06 (11:40AM)

Business Process Reengineering and Technology Change: A Study on the Impact of Change in Five IT Projects

**SPEAKER:** Sandra Fonseca, Universidad Metropolitana de Puerto Rico

ABSTRACT: Information Systems have reached a strategic role in every enterprise or organization, becoming a key tool for competitive advantage. To achieve this goal, it is necessary to have a coordinated and integrated technical and operational infrastructure. The continuous changes in technology, corporate structure and dynamics promote efficiency on business processes; sometimes it has an adverse effect thus adding bureaucracy. Methodologies or project stages must be aligned to avoid omissions or errors. The high rate of ERP and new technology implementation delays and even failures presents the need to evaluate the critical success factors missing on those projects. This multimodal mixed study evaluated the fundamental purposes and root-cause analysis taken in a sample of five (5) IT implementation projects, where some were delayed, experienced multiple changes in scope and even failed.

**Sandra Fonseca Lind**, Universidad Metropolitana and U. of Phoenix

Dr. Sandra Fonseca is Auxiliary Professor of Information Systems, Systems Security & Audit and Project Management at the School of Business Administration of the Metropolitan University of Puerto Rico (UMET), part of Ana G. Méndez Educational System. She's also Faculty at the School of Advanced Studies (SAS) and School of Business at University of Phoenix. She has over 25 years of experience in the IT field industry, 15 of them as Systems Security Manager. She holds a Bachelor Degree on Business Administration in Information Systems from University of Puerto Rico, Rio Piedras Campus; a Master's Degree in Information Systems (MIS) and a Graduate Certificate in Audit Information Systems from EDP College; Doctoral Degree on Management Information Systems (DBA) from Turabo University, part of Ana G. Méndez Educational System. She is the Vice President of Education and Certifications of the Puerto Rico Chapter of the Project Management Institute (PMI).

## O-07 (12:00)

LLMORE: A Framework for Data Mapping and Architecture Analysis

**SPEAKER:** Yajaira González, Massachusetts Institute of Technology (MIT) Lincoln Laboratory

ABSTRACT: MIT Lincoln Laboratory is involved in the development of simulations and systems that involve parallel processing and distributed computing software. The optimal distribution of data and computational tasks is architecture dependent. Tradeoffs between computational performance and power have to be made in order to find the best solution for an application. This talk describes MIT Lincoln Laboratory's Mapping and Optimization Runtime Environment (LLMORE). The LLMORE frameworks consists of several components that together estimate and optimize the performance of critical sections of an application. LLMORE optimizes the data distribution of an application for a given architecture and its simulation component allows for performance comparisons across different platforms. This framework can be used to improve the performance of parallel and distributed applications and as a tool for analyzing different hardware architectures. This talk gives an overview of LLMORE and describes how it has been used in MITLL projects.



Yajaira González, Massachusetts Institute of Technology (MIT) Lincoln Laboratory

Yajaira González is an Associate Staff member in the Embedded and High Performance Computing group at MIT

Lincoln Laboratory. Originally from Lares Puerto Rico, Ms. González graduated from CROEM magnet high school and completed her Bachelor's degree in Computer Engineering at the University of Puerto Rico Mayagüez. She continued with her graduate studies at the University of California, San Diego where she received her Master's degree in Computer Sciences with a concentration on Parallel Computing.

### K-03 (12:30PM)

**Keynote:** The Implementers Dilemma -- lessons learned from global leaders driving the rapid shift from Knowledge Society to Innovation Society through implementation of large scale education transformation programs

**SPEAKER:** Brian González, Global Education Sector, Intel Corp

**ABSTRACT:** The presentation will cover global lessons learned from large-scale national competitiveness initiatives where technology serves as a platform to drive local educational entrepreneurial and economic benefit.



**Brian González**, Global Education Sector, Intel Corp.

Brian González is responsible for Intel's Global Education Sales Programs; he leads a global team that drives programs to accelerate

technology benefits in education with a scope of activities that cover the full spectrum of learning scenarios, including: university student programs, teacher PC programs, K-12 learning technologies, 1:1 personal learning infrastructure and supporting digital educational content. Brian started at Intel in 2000 and has taken on a range of global roles in the company. He began his career at Intel as a Manager of Business Development, based in San Francisco, where he worked closely on global technology adoption strategies with both enterprise and public sector customers. Brian is based at Intel's worldwide corporate headquarters in Santa Clara, California. Previous to his current role, Brian was a member Intel's European management team relocating to the Netherlands in 2003 as Director of Regional Enterprise Business for Belgium,

Netherlands and Luxembourg. In 2007, he relocated to Madrid in the role of general manager for Intel Corporation Iberia, where he was responsible for developing and leading teams implementing the business strategy for Spain and Portugal. Before joining Intel, Brian focused his professional career in the enterprise software market both in field sales management and product marketing roles for a span of over 15 years. Brian is a frequent international speaker on transformational education programs; project management applied to large-scale technology adoption and collaboration as a core competency of high performance teams. Brian completed his high school education at Academia Nuestra Señora De La Providencia in Cupey, Puerto Rico. He went on to receive a degree in Business Administration at Villanova University in 1982 and an MBA in International Business at the American Graduate School of International Management in Glendale (Thunderbird) in 1984.

# Session 3

PA-02 (2:00PM)

**PANEL:** Women in Computing Academic Programs in Puerto Rico

**MODERATOR:** Idalia Ramos

**PANELISTS:** Bárbara Santiago, Ivelisse Rubio, Awilda Valle, Aury Curbelo

**ABSTRACT:** This panel will be address the past and present reality of women in Puerto Rico who decide to pursue an academic career or profession in the field of Computer Sciences. The panelists will present the topic focusing on the different perspectives of women in this area: women as undergraduate student, the woman as a teacher or administrator in an academic program. The emphasis of the panel will be directed to the presentation of data related to women students within different programs. Data related to women teachers or managers within each Department will be presented to complete the exposition.



# Idalia Ramos, University of Puerto Rico at Humacao

Idalia Ramos is a Professor of Physics and Electronics at the University of Puerto Rico at Humacao (UPRH). Her current research efforts focus on the

area of materials for devices, including sensors and actuators. Prof. Ramos is the Director of the NSF PENN-UPR Partnership for Research and Education in Materials, a collaborative program between the University of Pennsylvania and the University of Puerto Rico at Humacaco that promotes the participation of minority and women minority undergraduates in materials research.



# **Bárbara Santiago**, University of Puerto Rico at Humacao

Barbara Santiago-Figueroa is an Associate professor in the Mathematics Department at the University of Puerto Rico, Humacao

Campus. Since 2010 she is chairperson of this department. Barbara obtained a Bachelor's Degree in Chemistry, with a minor in Mathematics from the University of Puerto Rico at Rio Piedras in 1986, a Mathematic Certificate from the Heriott-Watt University, Edinburgh, Scotland, in 1988, and a MSc in Applied Mathematics from the University of Puerto Rico at Rio Piedras in 1991. She worked as an instructor at Interamerican University, Bayamon campus from 1991 to 1996. She has been working at the UPRH since 1996 assuming leadership at the Mathematics Department at all levels. Her interests include assessment (learning, curriculum, evaluation). numerical analysis, statistics, and actuarial sciences.



**Ivelisse Rubio**, University of Puerto Rico at Río Piedras

Professor Rubio is a faculty member of the Computer Science Department of University of Puerto Rico,

Río Piedras and has a PhD in Applied Mathematics from Cornell University. Her research interests are in the area of finite fields and their applications. She has directed undergraduate research projects in computational mathematics of numerous minority students and has been involved in many activities to promote undergraduate research in mathematics. She co-founded and co-directed the REU Summer Institute in Mathematics for Undergraduates (SIMU) (1998-2002) and the REU MSRI-UP (2007-present). In 2006 SIMU received the American Mathematical Society's award to "Programs that make a difference", being this the first time that this award was given by the AMS. For her work related to the mathematics activities at SACNAS conference she and Ricardo Cortez received a 2006 SACNAS Presidential Service Award. In 2010 she received the Dr. Etta Z. Falconer Award for Mentoring and Commitment to Diversity. She is currently a member of the US National Committee for

Mathematics and of the American Mathematical Monthly Editorial Board.



Awilda E. Valle, University of Puerto Rico at Mayagüez

Awilda E. Valle is the Director of the Students Affairs Office and Professor of Computerized Information System at the College

of Business Administration of the University of Puerto Rico at Mayagüez Campus. Professor Valle received her M.S. in Computer Sciences from Purdue University at Indiana. She has been teaching CoIS courses for three decades with the first ten years at Río Piedras Campus. In 2008 she received the Teaching Excellence at College of Business Administration Award. Awilda has worked as Programming Consultant in the IT Department for Banco Popular of Puerto Rico, Inc. She was the Coordinator of the Process of Evaluations for Accrediting Computer Information Systems Programs of all Campus of the University of Puerto Rico, in accordance to Accreditation Board for Engineering and Technology (ABET) during 2006-2007. Professor Valle has been involved in many initiatives and events related to information systems, such as: Liaison of Microsoft Academic and the College of Business Administration, Coordinator of Distance Learning of the College of Business Administration, establishing the first Certiport Center in the west of Puerto Rico, CompuExpo Fair, and Cyber Security Expo. She is member of ACM and was Advisor of the ACM - BA Student Chapter for several years.



Aury Curbelo, Polytechnic University of Puerto Rico

Dr. Aury M. Curbelo is the President of an Independent Consulting Cyber Security Firm and Professor at the University of Puerto Rico Mayaguez Campus. She

specializes in information systems and auditing courses. She has taught courses in the disciplines of business, education, information security, and criminal justice for private and public universities for over 15 years.

# Session 4

**O-08 (3:20PM)** The Do Good Scientist **SPEAKER:** Patricia Ordoñez, University of Puerto Rico at Río Piedras ABSTRACT: Over the last ten years, a number of organizations have dedicated themselves to using informatics and data science for social good. Such organizations have led to the creation of Massive Open Online Courses (MOOCs) and of hack-a-thons to tackle problems as diverse as domestic violence. homelessness. health disparities, and crisis management. Many of these software solutions were licensed as Free and Open Source. A group of dedicated educators have started using Humanitarian Free and Open Source Software (HFOSS) as a tool to attract a more diverse population to the field of computing by incorporating HFOSS into the curriculum. In this talk, I will give examples of HFOSS and of how, as an educator one can incorporate HFOSS into the curriculum. I will also speak about some of the events that the do good organizations have successfully run and their after effects such as Random Hacks of Kindness and the National Day of Civic Hacking. Finally, I will speak about Hack for Health in the Americas, a project to spread this philosophy throughout the Americas starting with a hack-a-thon in Puerto Rico in 2015.



**Patricia Ordóñez**, University of Puerto Rico, Río Piedras

Patricia Ordóñez is an Assistant Professor in the Department of Computer Science at the University of Puerto Rico Río Piedras. She received

her B. A. in Hispanic and Italian Studies from Johns Hopkins University after being intimidated in her freshman year from pursuing electrical engineering. She returned to graduate school years later to complete her MS and PhD in Computer Science from the University of Maryland Baltimore County (UMBC). Her research centers on using visualization and data mining to improve the state of medicine. She is also developing assistive technologies for programming. She is passionate about diversifying the field of computer science.

#### O-09 (3:40PM)

Smart Wireless Power: From Concepts to Applications **SPEAKERS**: Norelys Medina and Mayrim Verdejo,

### Texas Instruments

**ABSTRACT**: With the increasing number portable electronic devices, there has been a higher demand for battery power and hence battery charging solutions. However, the increasing diversity of and use environment of many of these devices can make it impractical or even impossible to use traditional wired

chargers. TI's wireless power solutions offer an efficient alternative way of charging the battery of any device without the need of wires or open connectors, making it ideal for medical and water sealed applications. But how can we make wireless power more efficient, safe and smart? This presentation will give a brief overview of wireless power charging technology and discuss the importance of firmware development that makes TI's wireless power smart.



#### Norelis Medina, Texas Instruments

Norelis Medina is a Systems Engineer for the Wireless and Low Power Chargers (WLPC) group in Texas Instruments where she is responsible for the definition of wireless power

solutions as well as providing support to customers. Norelis started her career in TI in 2004 as an analog design engineer working on the design of power modules for power management IC's for mobile applications. She graduated from the University of Puerto Rico at Mayaguez in 2002 with a BSEE and holds a MSEE degree from Texas Tech University.



#### Mayrim Verdejo, Texas Instruments

Mayrim Verdejo received her Bachelors of Science in Electrical Engineering from the University of Puerto Rico Mayagüez (UPRM) Campus in December 2012. She is currently working as an Applications

Engineer in a semiconductors company, Texas Instruments (TI). She is responsible for providing technical support to the company's sales staff and customers. In addition, she develops product specifications and applications usable by a specific customer and explores the business feasibility of general marketing. Prior to graduate from UPRM, Mayrim had a few internships in government and private industries. She worked as Test Engineer at GE Healthcare in Wisconsin (Spring 2010); as a Signal Processing Engineer at Naval Undersea Warfare Center (NUWC) in Rhode Island (Fall 2010, Summer 2011) and as a Field Applications Engineer at Texas Instruments in Dallas, TX (Summer 2012). In her leisure time, she enjoys traveling and outdoors activities like hiking, kayaking, scuba diving, sky diving, etc.

#### Session 5 PA-03 (4:00PM)

**Panel:** The new generation of Puerto Rican Women in Computing

MODERATOR: Ivelisse Rubio

**PANELISTS:** María Mergal, Jennifer Sánchez-Ramos, Mirgery Medina, Mariheida Córdoba, Jessica Nieves, Mirayma Rodriguez

**ABSTRACT**: This panel brings together recent female graduates from programs in Puerto Rico related to computing to talk about their academic experiences and career paths. The panel is diverse in terms of the degrees obtained and career paths chosen by the panelists. This new generation of women in computing will serve as role model for undergraduate students and will encourage high schools students to choose computing as a career. At the same time, participation and attendance to the panel will help to strengthen the network of female students, faculty and professionals in computing areas.



Ivelisse Rubio, University of Puerto Rico, Rio Piedras

Professor Rubio is a faculty member of the Computer Science Department of University of Puerto Rico,

Río Piedras and has a PhD in Applied Mathematics from Cornell University. Her research interests are in the area of finite fields and their applications. She has research directed undergraduate projects in computational mathematics of numerous minority students and has been involved in many activities to promote undergraduate research in mathematics. She co-founded and co-directed the REU Summer Institute in Mathematics for Undergraduates (SIMU) (1998-2002) and the REU MSRI-UP (2007-present). In 2006 SIMU received the American Mathematical Society's award to "Programs that make a difference", being this the first time that this award was given by the AMS. For her work related to the mathematics activities at SACNAS conference she and Ricardo Cortez received a 2006 SACNAS Presidential Service Award. In 2010 she received the Dr. Etta Z. Falconer Award for Mentoring and Commitment to Diversity. She is currently a member of the US National Committee for Mathematics and of the American Mathematical Monthly Editorial Board.



**María Mergal**, Programa de Asistencia Tecnológica de Puerto Rico

I graduated of a BS in Computer Science from the University of Puerto Rico, Rio Piedras

Campus in 2002. Worked as a student researcher on High Performance Computing Facility (HPCF) where I was an assistant programmer on a project to design and implement a 3D virtual tour of the UPR's Bell Tower on the Rio Piedras Campus. During my last year at the UPR, I participated on a summer research project with the University of Kentucky where I was head programmer of a virtual 3D model of the Networking Labs Building. Ever since I graduated, I've been working for the Puerto Rico Assistive Technology Program (PRATP), UPR where I started as a programmer and now am in charge of the IT Division. PRATP specializes in technology for persons with dissabilities. On 2011, I finished my master's degree on Computer, Information, and Network Security, with a concentration in Network Security, from DePaul University in Chicago, IL.



#### Jennifer Sánchez Ramos, Rock Solid Technologies

Jennifer Sanchez has a Bachelor Degree in Computer Sciences from University of Puerto Rico, Bayamon Campus. After her first

job as a Multimedia Designer in Boston Scientific, she decided to continue a Master in Computer Engineering with a Major in Software Engineering. Once she completed her master's degree she decided to look for a work opportunity. In 2010 she started as a Consultant in Rock Solid Technologies.



# Mirgery Medina, Universal Insurance

Mirgery Medina Cuadrado. Nació en 1986 en Humacao, Puerto Rico. Completó sus estudios secundarios en la Escuela

Superior Ramón Power y Giralt en Las Piedras en 2004, año en el que fue admitida al programa de Ingeniería Química de la Universidad de Puerto Rico en Mayagüez. Allí participó activamente en la Sociedad de Mujeres Ingenieras (SWE) tomando parte en la directiva y ejerciendo como líder del Comité de Caridad. Tras suspender sus estudios en ingeniería retoma sus estudios postsecundarios en la Universidad

de Puerto Rico en Humacao, de donde obtuvo su grado de bachillerato en Matemáticas Computacionales. Durante este término, realizó varios trabajos de investigación basados en simulaciones de nanomateriales utilizando la técnica de dinámica molecular y el desarrollo de ambientes gráficos para este tipo de simulaciones. Actualmente, ejerce como analista actuarial en Universal Insurance Company.



# Mariheida Córdova, Purdue University

Mariheida Córdova completed a BS in Computer Engineering from the University of Puerto Rico, Mayagüez Campus. With the help

of a GEM-Intel scholarship, she completed an MS in Computer Science from Purdue University, and is currently pursuing a Ph.D. in Computer Science also from Purdue University, while working at the Information Technology Department at the university.



### Jessica Nieves, Evertec

Jessica Nieves has worked in the transaction processing industry for over 10 years, and has experience on payments and online banking systems development, strategy, and operations.

As an IT Supervisor at EVERTEC, LLC, she leads a team of developers and architects to guide the growth of many systems that supports banks such as Banco Popular de Puerto Rico, First Bank, Scotiabank, Bancoop, among others. She holds a BS in Computer Engineering from the University of Puerto Rico, Mayaguez Campus, and an MBA degree from the Polytechnic University of Puerto Rico.

#### Mirayma Rodríguez, Infotech

Mirayma V. Rodriguez is a RUM Computer Engineer Alumni with more than four years of experience in the Aerospace Industry and more than three years of experience in the Software Consulting Industry where she works as an Application Designer and Developer Specialist. She joined the Infotech Aerospace Services in June 2009. Nowadays, her responsibilities include: managing and implementing projects from start to end, getting involved in departmental standards and procedures, training and developing new employees.

### K-O4 (6:00PM)

**KEYNOTE:** Overcoming the imposible

SPEAKER: Karen Alkoby, Gallaudet University

ABSTRACT: Dr. Karen Alkoby reflects on her upbringing and her beating the odds with faith in the possibilities in the world without sound. Her inspirational talk includes on how she became interested into the computing field and how she overcame what seem to be insurmountable obstacles. Being in a severely underrepresented group as a deaf woman in computer field did not hamper her to get a Ph.D. degree in Computer Science. She instills the message of hope that will leave you feeling inspired to achieve your potential. Technology has impacted in her community in the past years. However, there are still many applications that are not designed for them. Better understanding and embracing the diversity and pluralism of underrepresented groups in computing is emphasized. There are still plenty of golden opportunities to take advantage of while being an innovator or a designer for amazing technology for deaf people. Without question, these applications will likely enhance universal design ubiquitously, but it requires carefully collaboration and empowerment. Nothing is impossible and together we can make difference in this universe.



#### Karen Alkoby, Gallaudet University

Teaching has always been Dr. Alkoby's passion and tool to share knowledge of her computer fields through communication in her preferred language – American Sign

Language -- to educate and empower students. Her research interest use technology to create and explore visual simulations of ASL. She has been a traditional IT full-time employee including as technical consultant, technical analyst and programmer analyst for over 15 years. After receiving her MS in Information Systems and her Ph.D. in Computer Science from DePaul University, she returned to Gallaudet to follow her passion in teaching in January 2009 and is an Associate Professor in Information Technology.