Agri-Science Education for the 21st Century: Diversity | Access | Success

November 19-22, 2014

Mayfair Hotel & Spa

3000 Florida Ave. Coconut Grove, FL 33133

This event is hosted by the FIU Agroecology Program in the Department of Earth and Environment and sponsored by: USDA NIFA Hispanics Serving Institutions Grant 2011-38422-30804

Facebook.com/agriscencemiami #Agriscencemiami
It is our immense pleasure to personally welcome each of you to the Conference on Agri-Science Education for the 21st Century: Diversity, Access and Success, being held in Miami, Florida, under the auspices of the USDA National Institute of Food and Agriculture’s (NIFA) Hispanic-Serving Institutions (HSI) Higher Education Grants Program. We at Florida International University’s (FIU) School of Environment, Arts and Society and the Agroecology Program are fortunate to be able to host this year’s gathering of students, staff, faculty and administrators of various HSIs around the country as well as the representatives of USDA and other agencies.

The conference provides a platform for the education leaders, agency professionals and students to share best practices in current teaching, research, and workforce development relating to food and agriculture. We encourage each of you to approach this conference with the goal of exploring and sharing ideas to promote student diversity, access and success in higher education and career placement. We hope students will make new professional connections with fellow students, educators, and USDA agency professionals.

What should you expect over the next three days? First, the various panels and sessions organized for the next two days promise something valuable for everyone in attendance. The keynote speakers of the plenary sessions, and oral presentations by USDA scientists and university faculty, should highlight innovative ways of engaging multi-cultural students in agricultural science education and research. Student posters and oral presentation sessions provide them with an opportunity to showcase the knowledge, and skills they have acquired through high quality research, training and community engagement activities. Additionally, the conference brings a series of specialized panels on innovative instructional methods, graduate education preparation, USDA career preparation and placement, and interactive-informal discussions with USDA professionals. During after hours, students of FIU, Miami Dade College, and St Thomas University have organized special activities for building leadership and networking skills for students. We also hope some of you will explore local area agricultural and natural sites on Saturday.

This conference benefits greatly from the advice and encouragement of Dr. Irma Lawrence, National Program Leader, USDA NIFA HSI Higher Education Program. Our collaborating institutions, St. Thomas University, Miami Dade College, and Inter-American University have extended significant support for the conference. Also, the representatives from the local USDA agencies have come forth in a large number (too many to thank individually) to support the conference with presentations, student competition judging, and informal conversation with student attendees.

In conclusion, we welcome you once again to the conference on Agri-Science Education, the first ever hosted by our University. During the next three days, we hope you all will explore, engage and enjoy.

Best Wishes,

Krishnaswamy Jayachandran, Ph.D.
Mahadev G. Bhat, Ph.D.
Conference Co-Chairs
Agroecology Program, Department of Earth and Environment
Florida International University
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PLENARY TALKS – SPEAKER BIOGRAPHIES

PLENARY SESSION I: USDA & MINORITY SERVING INSTITUTIONS: PARTNERSHIP FOR AGRICULTURE EDUCATION AND RESEARCH
Thursday, November 20 2014

Dr. Michael Heithaus
Interim Dean
College of Arts and Sciences, Florida International University

Dr. Mike Heithaus is the interim dean of the College of Arts & Sciences at Florida International University. A leading scholar in marine ecology specializing in the behavior and ecological roles of large predators - including sharks - Dr. Heithaus has spent 11 years at FIU. Dr. Heithaus earned a B.A. in Biological Sciences at Oberlin College in 1995, where he was Phi Beta Kappa. He received his Ph.D. in Biological Sciences at Simon Fraser University in 2001. Dr. Heithaus completed his post-doctoral studies at the Center for Shark Research of Mote Marine Laboratory and was a research fellow at National Geographic Society’s Remote Imaging Lab where he conducted research around the world and hosted a television series. He has authored over 120 journal articles and book chapters and has co-edited three books on the biology of sharks and their relatives. He has been awarded over $3.6 million for his own research over the past decade and is sought out as a scientific advisor on shark conservation. In addition to his research, Dr. Heithaus has been active in community engagement, authoring several K-12 textbooks, and developing video programs for national K-12 science and math program used by millions of students nationwide. His leadership will help kick off the transformative programs that are needed in the college to meet the changing demands and challenges of 21st century higher education.

Dr. Muquarrab Qureshi
Deputy Director
USDA Institute of Youth, Family, and Community

Dr. Muquarrab Ahmed Qureshi is a Senior Executive at USDA and serves as Deputy Director, Institute of Youth, Family, and Community, in the National Institute of Food and Agriculture (NIFA). He oversees a multi-million dollars portfolio that enables programming in support of family and consumer sciences, 4-H and positive youth development, and education in food, agriculture, natural resources and human sciences. Prior to joining USDA, Dr. Qureshi served as a Professor of Immunology, the Director of Interdisciplinary Graduate Program of Physiology, Director of Graduate Program of Poultry Science, and the Associate Dean of the Graduate School at North Carolina State University (NCSU). During his time at NCSU, Dr. Qureshi received several national outstanding teaching awards. He also authored 115 peer-reviewed scientific publications, and mentored 20 MS and Ph.D. students. Dr. Qureshi was a Fulbright Scholar and has carried out several invited international assignments through the United Nations or the US Government. He is also a Fellow of Poultry Science Association. In 2003 Dr. Qureshi joined USDA Cooperative State, Research, Education, and Extension Service as a National Program Leader. Prior to his current position as the Deputy Director of the Institute of Youth, Family, and Community, Dr. Qureshi served as the Director of the Division of Animal Systems within NIFA Institute of Food Production and Sustainability. Dr. Qureshi has a DVM and M.Sc. degrees from Pakistan and a Ph.D. in Immunogenetics and Immunotoxicology from Cornell University.
PLENARY SESSION II: TOWARDS ACCESS AND SUCCESS IN HIGHER EDUCATION
Friday, November 21 2014

Dr. Jaffus Hardrick
Vice President Division of Human Resources
Vice Provost for Student Access & Success
Florida International University

Dr. Jaffus Hardrick is a visionary and transformational leader with twenty years of higher education experience in human resources, academic affairs, student services, diversity and community relations. In his dual roles Vice President of Human Resources and Vice Provost for Student Access & Success at Florida International University (FIU), he provides strategic and innovative leadership in the areas of policy development, shared governance, strategic direction, donor and community relations. He is also tasked with developing initiatives focused on the successful recruitment, retention, development and graduation of under-represented students from various ethnicities and economically disadvantaged backgrounds – particularly Black and Hispanic males – for the nation’s seventh largest university. His engaging leadership has garnered Dr. Hardrick recognition by The South Florida Business Journal (2010 Excellence in Human Resources Award) and Legacy Magazine (South Florida’s 50 Most powerful and influential black business leaders of 2012). He was a finalist for the ICABA 2013 Outstanding Academic Professional of the year.

Prior to joining FIU, Dr. Hardrick worked at Baylor University as Assistant Vice President of Human Resources and Assistant Provost. Dr. Hardrick earned his doctorate degree from Baylor University, his master’s degree from Prairie View A&M University, and his bachelor’s degree from the University of Louisiana at Lafayette. He is also a graduate of the leadership programs at the American Association of State Colleges and Universities, the Southern Association of College University Business Officers, and Cornell University.

Dr. JoAnn Canales
Founding Dean of Graduate Studies
Texas A&M University-Corpus Christi

JoAnn Canales was officially appointed as Founding Dean of the College of Graduate Studies at Texas A&M University—Corpus Christi by the Texas A&M University System Board of Regents in August, 2013. She holds degrees from the University of Houston, Laredo State University, and The University of Texas at Austin. During her 17 year tenure at A&M-CC, she has served in numerous roles both at the college and university levels. In 2002-2003, she was awarded an American Council of Education Fellowship and interned at Pace University in New York City. In 2005-2006, she received the Texas A&M University-Corpus Christi Excellence in Teaching Award. She has extensive experience in group facilitation/mediation, strategic plan development, program evaluation and collaboration. Her portfolio includes working collaboratively in a variety of settings including school districts, state departments, state/national organizations, the Federal Reserve Bank, and international institutions of higher education in Mexico, Canada, Peru, and Trinidad/Tobago. She currently serves on the Board of Directors for the American Association of Hispanics in Higher Education.

Canales is author/co-author of textbooks and scholarly articles/book chapters related to second language learning, teacher preparation and program efficacy. Her areas of expertise include English-language proficiency assessment, teacher preparation, and issues of access and success in higher education.

She has over 30 years of teaching experience in public schools and three public institutions of higher education in Texas and Colorado.
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<th>Time</th>
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<tr>
<td>9:00 - 12:00 P.M.</td>
<td>PRE-CONFERENCE ROCN &amp; STEAM HSI PD’s MEETING</td>
<td>Kentia III</td>
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<td>Welcome</td>
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<td>Update on FY 2015 Grant Process</td>
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<td>Update on FY 2014 Grants</td>
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<td>Communications-BLOGGING</td>
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<td>Student Internships and Pathway</td>
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<td>FY 2014 Transition Year</td>
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<td>Meta-Evaluation Report</td>
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<td>2015 Conference</td>
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<td>12:00 – 1:30 P.M.</td>
<td>LUNCH</td>
<td>On Your Own</td>
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<td>1:30 - 4:30 P.M.</td>
<td>PRE-CONFERENCE NEW HSI, ROCN &amp; STEAM PD’s MEETING</td>
<td>Kentia III</td>
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<td>Welcome and Introductions</td>
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<td>Update on FY 2015 Grant Process</td>
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<td>Update on FY 2014 Grants</td>
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<td>Meta-Evaluation: Regular and STEAM II</td>
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<td>STEAM - working with BARC</td>
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<td>3:00 - 7:00 P.M.</td>
<td>GENERAL REGISTRATION</td>
<td>Palm Terrace</td>
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<td>4:30 - 5:30 P.M.</td>
<td>STUDENT TRACK: Who’s Who: Building your Network</td>
<td>Havana</td>
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<td>Chairs: Mr. Eric Betancourt and Ms. Imena Valdes, FIU</td>
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<td>Team building activities to improve communication between participants.</td>
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<td>All are Welcome</td>
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<td>5:30 – 6:30 P.M.</td>
<td>GENERAL RECEPTION</td>
<td>Pool Fireplace*</td>
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<td>Refreshments will be provided. Cash bar available.</td>
<td>Rain backup:</td>
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<td>*use elevators in front of Havana room to access pool deck</td>
<td>Havana</td>
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<tr>
<td>6:30 – 8:30 P.M.</td>
<td>DINNER</td>
<td>On Your Own</td>
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Thursday, November 20  Day 2

7:30 A.M.  REGISTRATION  Palm Terrace

7:30 - 8:30 A.M.  BREAKFAST  On Your Own

8:30 – 8:50 A.M.  WELCOME ADDRESS  Crystal Ballroom
Dr. Kenneth Furton, Provost, Florida International University
Dr. Irma Lawrence, National Program Leader, USDA NIFA Institute of Youth, Family and Community

8:50 – 10:00 A.M.  PLENARY SESSION I: USDA & Minority Serving Institutions: Partnership for Agriculture Education and Research  Crystal Ballroom

8:50 – 9:10 A.M.  The Role of Minority-Serving Institutions in Providing Agricultural Education, Research, and Outreach: The FIU Experience  Crystal Ballroom
Dr. Michael Heithaus, Interim Dean, College of Arts and Sciences, Florida International University

9:10 - 10:00 A.M.  KEYNOTE SPEECH – The Need for Promoting Diversity in Agricultural Professions Under a Changing Agriculture  Crystal Ballroom
Dr. Muquarrab A. Qureshi, Deputy Director, USDA- NIFA Institute of Youth, Family and Community

10:00 - 10:15 A.M.  BREAK  Palm Terrace

10:15- 11:45 A.M.  PARALLEL SESSION I: Recent USDA Programs on Agricultural Research, Crop and Resource Protection, and Student Training  Kentia I & II
Chair: Dr. Suzanne Koptur, Florida International University

Enhancing Tropical Ornamentals at the USDA-ARS Subtropical Horticulture Research Station (SHRS)
Dr. Alan Meerow, USDA-ARS-SHRS

USDA-ARS, Local Colleges and Universities: Matching Student’s Abilities to ARS Research Needs
Dr. Stewart Reed, USDA-ARS-SHRS

USDA Student Mentoring Programs
Mr. Pedro Millan, USDA-APHIS-PPQ

The USDA-ARS Invasive Plant Laboratory: Projects and Progress
Dr. Philip W. Tipping, Ph.D., Research Leader, USDA-ARS-SHRS
10:15 - 11:45 A.M.  PARALLEL SESSION II: Oral Presentation Competition for Students  Kentia III  Chair: Dr. Angela Gonzalez, Inter-American University, San German, PR  Mangiferin as a Biomarker for Mango Anthracnose Resistance  Herma Pierre, Florida International University*  The New Mexico Food Atlas: Development of a Food System Data Warehouse and Mapping Service  Andrea Cantarero, University of New Mexico*  Seasonal Estimates of Actual Evapo-transpiration From Arundo donax Using Three-Dimensional Eddy Covariance  Jose R. Escamilla, University of Texas Pan American*  A Decision Support Tool for Sustainable Agriculture: Feeding a Population of 9 Billion and Adapting to a Biofuel Economy  Olivia Moreno, The University of Texas, El Paso*  Thermomechanical Behavior of Biodegradable Chitin-Carbon Nanotubes Composites  Kiara Rivera, University of Puerto Rico at Mayaguez  Agricultural Tour and Agriculture Summer Camp as Educational Initiatives  Fabian Carmona, University of Puerto Rico at Mayaguez  *Graduate Students

11:45- 1:15 P.M.  LUNCH  On Your Own

1:15 - 2:45 P.M.  PARALLEL SESSION III: Innovative Teaching Experiments in Agricultural Sciences  Kentia I & II  Chair: Dr. Douglas Morrish, Texas State University, San Marcos  Interactive Learning Assessment: Simulating Professional Practice  Dr. Elizabeth Jimenez, University of New Mexico  Neil A. Campbell Science Learning Laboratory and the Dynamic Genome Course: Models for Authentic Research Experiences in the Teaching Laboratory  Dr. James Burnette, University of California, Riverside  Broadening Access to Modern STEAM Education in the High Needs Southern San Joaquin Valley  Dr. Luis Cabrales, California State University, Bakersfield  Southwest Agriculture and Food Security Education: Preparing Future Leaders for a Safe and Secure U.S. Food Supply System  Dr. P. Ryan Saucier, Texas State University  Agroecology as Culturally Relevant Pedagogy in South Texas  Dr. Alexis Racelis, University of Texas, Pan American
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<th>Time</th>
<th>Session Description</th>
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<td>1:15 - 2:45 P.M.</td>
<td><strong>PARALLEL SESSION IV: Oral Presentation Competitions for Students</strong>&lt;br&gt;Chair: Dr. Julie Lappin, California State University, San Bernadino</td>
<td>Kentia III</td>
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<td>Genetic Variation and Population Structure of <em>Diaphorina citri</em> (Vector of the Citrus Greening Disease) Using Cytochrome Oxidase I Sequencing&lt;br&gt;Alejandra Fuentes, University of Texas Pan American</td>
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<td>Effects of the <em>Staphylococcus aureus</em> Nitric Oxide Synthase (NOS) on In Vitro Growth Fitness and Metabolism&lt;br&gt;Genevy Lima, Miami Dade College-North</td>
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<td>MRNA Expression of Amino Acid Transporters in <em>Eimeria tenella</em> Infected Broilers&lt;br&gt;Jiomar Santiago-Feliciano, Inter-American University of Puerto Rico</td>
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<td>Analysis of Morphological and Y-Chromosome Diversity in Populations of Wild Papaya from Costa Rica&lt;br&gt;Johnsua Acosta Justiniano, Inter-American University of Puerto Rico San Germán</td>
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<td>One-Step Microwave-Assisted Aqueous Synthesis of Silver-Based Nanoparticles Functionalized by Glutathione&lt;br&gt;Maricely Ramirez, University of Puerto Rico at Mayaguez</td>
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<td>Relationship Between <em>Candidatus Liberibacter asiaticus</em> and Starch Accumulation in <em>Citrus sinensis</em>&lt;br&gt;Rhiannon Pichel, Saint Thomas University</td>
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<td>Diurnal and Nocturnal Pollination of the Rough-Leaf Velvet Seed <em>Guettarda scabra</em> (<em>Rubiaceae</em>)&lt;br&gt;Sean Pena, Florida International University</td>
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<td>2:45-3:15 P.M.</td>
<td><strong>MIAMI LATIN BREAK</strong>&lt;br&gt;Cafesito Time</td>
<td>Palm Terrace</td>
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<td>3:15 – 4:25 pm</td>
<td><strong>STUDENT POSTER SESSION I - Education</strong></td>
<td>Palm Terrace</td>
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<td>3:15 – 4:25 pm</td>
<td><strong>STUDENT POSTER SESSION II - Research</strong></td>
<td>Havana</td>
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4:30 – 5:30 P.M.  **STUDENT – PROFESSIONALS INTERACTIVE ROUND TABLE DISCUSSION**

*Moderator: Dr. Pilar Maul, St. Thomas University, Miami*

USDA Participants:
- **Dr. Alan Meerow, USDA-ARS-SHRS**
- **Dr. Stewart Reed, USDA-ARS-SHRS**
- **Dr. David Kuhn, USDA-ARS-SHRS**
- **Dr. Peter Teal, USDA-ARS-SHRS**
- **Dr. Alexis Racelis, Assistant Professor, UTPA and former scientist-USDA**

6:00-8:00 P.M.  **DINNER**
On your own

8:30 – 9:30 P.M.  **STUDENT TRACK: Leadership in Agriculture for the 21st Century**

*Chairs: Mr. Ramon Salazar, Ms. Jessica Herrera, and Ms. Rosario Vidales, Florida International University*

Exploring non-traditional jobs in agriculture and discussion on leadership characteristics for agriculture leaders.
Friday, November 21

6:30 – 7:30 A.M.  **RUN FOR SUCCESS**
Sunrise 5K Run/Walk, Yoga Stretch and Educational Tour  (weather permitting)

7:30 – 8:30 A.M.  **BREAKFAST**

8:45 - 10:00 A.M.  **PLENARY SESSION II: Towards Access and Success in Higher Education**
*Moderator: Dr. Krish Jayachandran, Florida International University*
*Dr. Jaffus Hardrick, Vice President Division of Human Resources, Vice Provost for Student Access & Success, FIU*
*Dr. JoAnn Canales, Founding Dean of Graduate Studies, Texas A&M University-Corpus Christi*

10:00 - 10:15 A.M.  **BREAK**

10:15 - 11:30 A.M.  **POSTER SESSION III: Graduate Students Poster Competition**

10:15 - 11:30 A.M.  **POSTER SESSION IV: Faculty Posters and Non-Competition Students**

11:30 - 1:00 P.M.  **LUNCH AND AWARDS CEREMONY**
*Moderator: Dr. Mahadev Bhat, Florida International University*
*Presenter: Dr. Irma Lawrence, National Program Leader, USDA NIFA Institute of Youth, Family and Community*

1:00 - 2:30 P.M.  **PARALLEL SESSION V: Innovative Instructional Technology: Challenges and Opportunities**
*Chair: Dr. Loretta Adoghe, Miami Dade College-North, Miami*
*Advances in Online Teaching Tools and their Application*  
Dr. Jennifer Gebelein, Florida International University

*Online Teaching Modules in Agricultural Sciences: As a Supplementary Teaching Material*  
Dr. Loretta Adoghe and Mrs. Khadja Gregory-Faal, Miami Dade College, North

*The Use of Social Media in Agricultural Science Teaching*  
A moderated discussion with the audience on personal experience
PARALLEL SESSION VI: Workshop for Students on USDA Internships and Career Preparation

Mr. Vladimir Diaz, Regional Director for Florida and Puerto Rico, USDA Hispanic-Serving Institutions National Program

2:30 - 2:45 P.M.

BREAK

2:45 – 3:45 P.M.

PLENARY SESSION III: Panel Discussion on Graduate Education Preparation
Moderator: Ms. Stephany Alvarez-Ventura, Florida International University

Panel:
Dr. Martha Desmond, New Mexico State University
Dr. Heidi Taboada, University of Texas at El Paso
Dr. Felix Ramon, University of Puerto Rico at Mayaguez

3:45 – 4:15 P.M.

STUDENT AND ENTRY LEVEL USDA PROFESSIONALS: Panel on USDA Career Success
Chair: Dr. Alexis Racelis, University of Texas-Pan American

Panel:
Mr. Miles Medina, Florida International University
Mr. Fabian Carmona, University of Puerto Rico at Mayaguez
Ms. Vanessa Sanchez, Florida International University/USDA-ARS-SHRS
Mr. Juan Jauregui, New Mexico Highlands University

4:15 – 4:30 P.M.

CONCLUDING REMARKS
Dr. Irma Lawrence, National Program Leader, USDA NIFA Institute of Youth, Family and Community

Saturday, November 22

8:00 – 2:00 P.M.

LOCAL GUIDED TOURS

Kentia I & II

Crystal Ballroom

Crystal Ballroom

Crystal Ballroom

Multiple Locations
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<tr>
<th><strong>Thursday, November 20</strong></th>
<th><strong>Location: Palm Terrace</strong></th>
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<tr>
<td><strong>Student Poster Session I Undergraduate-Education</strong></td>
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<td><em>Only presenting author listed</em></td>
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| **1** Broadening Access to Modern STEAM Education in the High Needs Southern San Joaquin Valley | Fernando Ceja and Marcoantonio Salazar, California State University, Bakersfield |
| **2** The Results of Innovative Bridge Programs in Higher Education: Agri-SURF | Alyssa Lara, Jennifer Rivas, Paul Camarena Pima Community College |
| **3** Environmental Education: From the Classroom to the Outdoors | Grecia Nunez, New Mexico State University |
| **4** Step Up Summer Internship with USDA-ARS Veterinary Animal Research Service | Patricia Pena, Texas A&M University, Kingsville |
| **5** Summer Internship at American Public Health Headquarters, Washington D.C. | Rose Jean-Mary, Miami Dade College-North |
| **7** Summer Internship Experience at Bee Research Laboratory | Leishnaly Santiago, Inter-American University of Puerto Rico |
| **8** Summer Wildlife Research Experience at USDA-APHIS Florida Field Station’s Natural Wildlife Research Center | Gregory Lujano, Texas A&M University, Kingsville |
| **9** The Challenges, Process and Outcomes of Studying Abroad for Minority Students: My Personal Experience in Lyon, France | Jessica Herrera, Florida International University |
| **11** My Experience in Agriculture through the USDA Forest Service and their Perspective | Sandra Jimenez, California State University, San Bernadino |
| **12** Analysis of Undergraduate Experiential Learning: Developing Skills and Knowledge on Agrobiodiversity | Paula Salazar, Florida International University |
| **13** Improved Ecosystem Services in Agricultural Systems Through the Intercropping of Hybrid Poplar and Switchgrass Cultivars | Edy Cicilio, Florida International University |
| **14** 2 Years: Zero to Upcoming Farmer - Experiential Learning | Joshua Munoz, Florida International University |
15 Effects of Humidity and Temperature on Screwworms in Panama: A Summer Internship Experience
Carolina Souza, Texas State University, San Marco

16 Measuring Volumetric Flow in an Urban Storm Water Network: Skillsets Gained from Research Education for Undergraduates (REU)
William Scally, Florida International University

17 Designing and Building an Aquaponics Unit at STU Organic Research Garden
Jose Calera, Saint Thomas University

18 The Effects of Herbicides on *Arundo donax* L. and the Effects of Insecticides on *Amblyomma americanum, Dermacentor albipictus, Stomoxys calcitrans, Haematobia irritans*: A Summer Internship Experience
Margarita Barco, Elizabeth Gomez, Texas State University
Thursday, November 20

Student Poster Session II Undergraduate-Research

19 Survey of *Myllocerus undantus* Consumption of *Litchi chinensis*
   Ivan Castillo, Miami Dade College-North

20 Evaluation of Different Trapping Techniques for Insect Diversity in Urban Trees
   Stefani Ocon and Katharine Jones, University of Texas-Pan American

21 Cat Food Increases Visitation and Contacts Among Stripped Skunks (*Mephitis mephitis*) Visiting Bird Feeders
   Alexa Martinez, Miami Dade College-North

22 Comparison of Three Different Genotypes of Giant Reed (*Arundo donax*) in a Common-Garden Experiment Along a Texas Climate Gradient
   Alma Alaniz and Alexis Racelis, University of Texas-Pan American

23 Possible Role of Invasive Mongoose in Sustaining Cattle Fever Tick Populations in Puerto Rico
   Candice Rodriguez, Texas State University, San Marcos

24 Biological Control of Air Potato (*Dioscorea bulbifera*) Vines in Florida
   Ricky Valido, Miami Dade College-North

25 Effects of Casuarina of *Pinus elliotti* var. Densa
   Mercedes Maduro, Miami Dade College-North

26 Release Potential and Mobility of Sediment Phosphorous in a Periodically Oxygenated Reservoir
   Mariah Redmond, Florida International University

27 Effect of Soil pH Changes in Nitrogen-Fixing Bacteria Present in Crops of *Musa cavendishii* (Banana) and *Musa paradisiaca* (Plantain)
   Beverly Alvarez Torres, Inter-American University of Puerto Rico, San German

28 Effect of Geography and Crop Rotation on *Aspergillus flavus* Soil Populations in Indiana
   Gregorio Carmona, Texas A&M University, Kingsville

29 Synthesis of Biodiesel Using Non-Traditional Organic Catalyst for the Reduction of Free Fatty Acids
   Hector M. Quinones-Rosaly, University of Puerto Rico at Mayaguez

30 Sustainable Wastewater Treatment Through Algal System
   Mercediz Bileen, University of New Mexico

31 Behavioral Responses of Bed Bugs to the Botanical Insecticides Geraniol and Eugenol
   Maria Gonzales-Morales, University of Puerto Rico, Mayaguez

32 Degradation of Organoasernical Growth Promoters
   Luis Garbinski, Florida International University
33 Exploration of Metal Tolerance Mechanisms Present in Non-Accumulator and Hyperaccumulator Plants of the Brassicaceae Family
Madelaine Sano, Thalia Rios, and Selina Urbina, University of Texas-Pan American

34 Anti-Cancer Activity of Ethanol Extracts from the Leaves of Bidens alba
Sheila Hernandez and Nicole Ramsay, Miami Dade College-North

35 Tonsil Persistence of Porcine Reproductive and Respiratory Syndrome (PRRS) Virus
Wilbethsie Vazquez, Inter-American University of Puerto Rico, San German

36 Cerium Oxide Absorption Efficiency of Antimicrobial Drugs in Water Using High Performance Liquid Chromatography
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37 The Prevalence of Trichinella in Alaskan Arctic Foxes
Isamar Toro, Inter-American University of Puerto Rico, San German

38 The Role of LVIS-0490 Transcriptional Regulator in Acetyl-CoA Metabolism
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39 Genetic Diversity Assessment of Theobroma cacao from Southern Mexico
Stephanie Diaz, Miami Dade College-North

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Alvaro Garcia, Texas A&M University, Kingsville

41 Towards the Molecular Characterization of Native Potato Germplasm Screened for Frost Resistance
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43 RNA Extraction and Phenotypic Data Collection of Mangifera indica Cultivars for SNP Discovery and Gene Expression
Judy Stervil and Barbara Hyacinthe, Saint Thomas University

44 The Effect of Solar Radiation on Chlorophyll Content in Leaves of Abelmoschus esculentus
Karen Vergara, Saint Thomas University

45 Molecular Biology and Bioinformatics Training in Zamia at the USDA-ARS-SHRL
Karenyn Herdocia, Saint Thomas University

46 Analysis of the Relative Expression of Oxa 10 in Pseudomonas aerugiona Treated with Gentamicin, Ampicillin Using Reverse Transcriptase Pcr (Rt-Pcr)
Paul Zuniga, Miami Dade College-North

47 The Effects of Control Release Fertilizer Packets on Nutrient Leaching
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Consuelo Donato-Molina, Texas A&M University-Kingsville

51 Low Impact Development
Graciela Rivera, California State University, San Bernadino

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53 Multidisciplinary Training on Obesity, Policy and the Built Environment Increases Knowledge, Community Engagement, and Partnerships
Mercedes Haro Isidro, California State University, Fullerton

54 Lactation Education Competencies
Patricia Rodriguez, California State University, Northridge

55 Comparison of Effects of Low Impact Development (LID) Systems on Water Quality through Data Collection and Analysis of a Site with Multiple LID Systems in Riverside, CA
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56 Interning Abroad: How Changing Places Changes Everything
Christopher Estevez, Florida International University

57 Current and Future Sustainability Assessment of Feedstocks for Biofuel Production Using a Comprehensive Decision Support Tool
Karla Gutierrez, University of Texas at El Paso

58 Comparing Different Irrigation Types
Miriam Morua, California State University, Fullerton

59 Sustainable Farming Practices and Innovative Production
David Vela, Texas State University

60 Comparing Water Use Efficiency for Furrow and Drip Irrigated Watermelon
Corina Fuentes, Texas A&M University-Kingsville

61 Solving a Feedstock Scheduling Problem to Maximize Total Biogas Production Considering a Single Anaerobic Digester
Ana Cram, University of Texas at El Paso

62 Leaf Functional Traits and Structure of West Indian Dry Forest
Ramon Salazar-Ortiz, Florida International University

63 Regulation of Defensive Behavior for Gene Expression and Juvenile Hormone in the Little Fire Ant Wasmannia auropunctata
Carlos Ortiz, Inter-American University of Puerto Rico
64 **Isolation and Characterization of Alkaline-Tolerant Freshwater Microalgae from Lake Okeechobee for Algae-based Biofuel Production**  
Nina De la Rosa, Florida International University

65 **The Highly Complex Biofuel Supply Chain: An Optimization Algorithm to Solve a Biomass to Bio-Refinery Logistic System Considering Multiple Types of Feedstock**  
Ileana Delgado, University of Texas at El Paso

66 **A Decision Support Tool for Sustainable Agriculture: Feeding a Population of 9 Billion And Adapting to a Biofuel Economy**  
Olivia Moreno, University of Texas at El Paso

67 **Effect of Nitrogen Fertilization on Host Plant Quality and on the Developmental Parameters of Asian Citrus Psyllid and its Nymphal Parasitoid Tamarixia radiate.**  
Liliana Cantu, Texas A&M University-Kingsville

68 **Determine Impact of Specific Neuro-Endocrine Hormones on Rooster Sperm Motility Characteristics Using a Computer-Assisted Semen Analysis System**  
Jomarys Velazquez, University of Puerto Rico

69 **Aquaponic Cultivation of Red Amaranth (A. tricolor): Effect of aquafeed on Plant Productivity and Water Quality**  
Miles Medina, Florida International University

70 **Evolutionary Genomics of Dorsal Hindwing Eyespot Number Variation in the Butterfly Bicyclus anynana**  
Angel Rivera-Colon, University of Puerto Rico at Mayaguez

71 **Surface Functionalization of Cotton Cellulose with Benzoyl Chloride and its Applications for the Adsorption of Aromatic Pollutants**  
Julio Padilla, University of Texas at El Paso

S **Exploration of Metal Tolerance Mechanisms Present In Non-Accumulator and Hyperaccumulator Plants Of The Brassicaceae Family**  
Madeleine K. Sano

T **Current and Future Sustainability Assessment of Feedstocks for Biofuel Production Using a Comprehensive Decision Support Tool**  
Karla Gutierrez, University of Texas at El Paso
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Poster Session IV - Faculty & Non-competition

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Dr. Alexis Racelis, University of Texas-Pan American

73 CAMBIO: Adapting to a Changing Student Demographic with Experiential Learning and Research Opportunities Related to Forests, Rangelands, and Watersheds
Dr. Andrew Stubblefield, Humboldt State University

74 Retention, Persistence, and Completion Strategies: A Comparison of USDA-NIFA HSI Grant Students to the General Hispanic Student Population
Dr. Douglas Morrish, Texas State University, San Marcos

75 Center for Education and Training in Agriculture and Related Sciences (Cetars): Outcomes and Impacts During 2011-2014
Dr. Felix Roman, University of Puerto Rico at Mayaguez

76 Using Innovation from Academic Institutions to Break Barriers for Minority Students
Ely Esparza, Pima Community College

77 I-Discover: Collaborative Integration of USDA-Research in the Advanced Teaching Laboratories of Steam to Accelerate Time-Critical Research While Increasing Student Recruitment, Retention, and Professional Competencies
Dr. Juan Noveron, University of Texas at El Paso

78 Developing the Next Generation of Food Safety Leaders
Mary Dawson, University of Houston

79 Solving a Feedstock Scheduling Problem to Maximize Total Biogas Production Considering a Single Anaerobic Digester
Jose Espiritu, University of Texas at El Paso

80 Biotechnology and Nanotechnology Workshops: Inspiring the Next Generation of Scientists at the UPR-Mayagüez Campus
Dr. Lydia Rivera-Vargas, University of Puerto Rico at Mayagüez

81 The Northern New Mexico Climate Change Corps: A Higher Ed and Federal Agency Partnership to Promote Hispanic and Minority Success in Natural Resources Management
Dr. Brooke Zanetell, University of New Mexico, Taos

82 Pathway to Agricultural Education: Recruitment, Preparation, and Careers
Dr. Steven Rocca, California State University, Fresno

83 Agroecology Program at FIU: A STEM Initiative for Under-Represented Students
Dr. Krishnaswamy Jayachandran, Florida International University
Florida-Caribbean Consortium for Agricultural Science Education (FCCAgE) and Hispanic Workforce Development
Dr. Mahadev Bhat, Florida International University

Ecological Restoration in a Changing World
Dr. Kimberlyn Williams, California State University, San Bernardino

Connecting Under-represented Latinos to Integrate Values and Academic Resources (CULTIVAR)
Dr. JoAnn Canales, Texas A&M University, Corpus Christi

Relationship Between Candidatus Liberibacter asiaticus and Starch Accumulation in Citrus sinensis
Dr. Rhiannon Pichel, Saint Thomas University

Vermicomposting Module Construction and Testing Using Cornmeal as a Dietary Supplement for Eisenia fetida
Dr. Carlos Vazquez, Saint Thomas University

Establishing a Baseline for Determining the Effects of Soil Mixture and Planter Type on the Growth of Pinus elliotii Var. densa
Dr. Jose Calera, Saint Thomas University

Modification and Testing of a Summer Solar Food Dehydrator
Dr. Karen Vergara, Saint Thomas University

Improving Student Success in Agriculture-Related Sciences with Academic Support and Career Mentoring
Dr. Sharon Anderson, California State University, Seaside

Watershed management Experiential Learning for USDA Careers
Dr. Julie Lappin, California State University

SEEDS Scholars Program
Dr. Leticia P. López, San Diego Mesa College

Dynamic Genome/USDA Summer Scholars
Dr. James Burnette, Susan Wessle, Mikeal Roore, USDA

RISE: Pathways to Diversity in Food Science Careers
Dr. Lynette Orellana, University of Puerto Rico at Mayaguez

Undergraduate Research at Two Hispanic Serving Institutions, Assessment of An 11 Year Ongoing Research Education Program
Dr. Michael W. Persans
Urban Agriculture Community-Based Research Experience 2.0 (U-ACRE 2.0)
Dr. Sara Johnson, California State University-Fullerton

The Leaders Program: Learning, Enhancing, and Developing Experiential Research Skills
Dr. Kimberly McCuistion, Texas A&M University-Kingsville

Advancing Professional Competency of Graduate Nutrition Students in the Area of Lactation Education
Dr. Merav Efrat, California State University-North Ridge

Education, Experience and Employment: The Three E’s of Developing a Well-Qualified, Diverse Workforce in Natural Resources
Dr. William Quinn, Saint Edward’s University

Opportunities for Higher Education and Research Experience in Renewable Energy and Water Quality to Enable STEM Hispanic Leaders
Dr. Krystel Castillo, University of Texas at San Antonio

The Tree E’s: Education, Experience, and Employment for Underrepresented Students in Natural Resources
Dr. Diana Joan-Cordes, Texas A&M University
LOCAL GUIDED TOURS

Conference guests are invited to register for one of three local guided tours organized by the FIU Agroecology Program. In the event that one of the tours is canceled, we will add another available tour (weather permitting).

1. Everglades airboat ride and wildlife show

The Gator Park airboat tour provides plenty of photo ops to catch wildlife in their natural habitat. Experienced guides offer tips to ensure you spot alligators, soft-shelled turtles, and birds you won't find anywhere else. You'll travel through expansive wetlands and pass by tree covered islands, or hammocks, where raccoons, whitetail deer, and wild boar run wild. Afterwards enjoy Gator Park's famous alligator and wildlife show. Watch experts wrestle alligators using the barehanded technique originally used by Seminole Indians to capture and showcase the great power and agility of the gators. If you're looking for something more than a souvenir from your trip to Miami, you can actually hold a real live baby gator in your hands. For more information visit: www.gatorpark.com
2. Tropical gardens tour
USDA ARS Subtropical Horticulture Research Station

The USDA ARS Subtropical Horticulture Research Station supports the agricultural industries in the southern areas of the United States by providing environmentally sound research on a number of fronts. Some areas of research include the genetics of tropical and subtropical fruit and ornamental crops, the interdiction and control/eradication of exotic plant insect pests, and development of a potting mix from construction debris, biosolids, and organic composts with improved water holding and ion exchange capacities to reduce the quantity and improve the quality of wastewater from nursery irrigation operations. For more information visit: www.ars.usda.gov/main/main.htm

Fairchild Tropical Botanical Garden

Fairchild Tropical Botanic Garden is another one of the world’s most unique botanical gardens. At Fairchild you can visit the arboretum to discover the allspice tree with quilted leaves smelling of the warm spice or walk along the Madagascar Spiny Forest and find yourself in a land of bizarre and beautiful plants. Explore the rainforest and find yourself along a rushing stream with surprising waterfalls and petite cascades. Look up into the canopy of towering trees and see amazing orchids, colorful vines and birds-nest anthuriums growing on the trees, or enter the delightful Wings of the Tropics conservatory and find yourself in a world filled with strikingly colorful butterflies flying to nectar-filled flowers. Wander into the tropical conservatory, Windows to the Tropics, where you’ll discover a pool of brightly colored cichlids from tropical Africa. For more information visit: www.fairchildgarden.org
3. Redlands agricultural tour

Fruit & Spice Park

The Fruit & Spice Park is a unique 37-acre public facility owned and operated by the Miami-Dade County Park and Recreation Department. The Park's tropical climate can be found nowhere else in the continental U.S. and hosts over 500 varieties of fruits, vegetables, spices, herbs, and nuts, and other commercially important plant specimens from around the world. The Park showcases 150 varieties of mango, 75 varieties of bananas, 70 bamboo varieties, and numerous other exotic edibles. Visitors of the Park are invited to try some of the fruits grown there at the tasting counter inside of the Park Store. For more information visit: www.fruitandspicepark.org

Possum Trot Tropical Fruit Nursery

Robert Barnum, owner of Possum Trot Tropical Fruit Nursery, is a well-renowned farmer descended from a long line of agriculturalists and an expert in rare and exotic tropical fruits. Barnum grows a large variety of tropical fruits, spices, and timber as well as medicinal and poison trees and has acquired considerable first-hand knowledge of these plants which he is always more than willing to share.
HSI Conference Tour Alternatives

Should conference guests be uninterested in registering for one of the local guided tours, several other entertainment options exist.

Coconut Grove self-guided walking tour

Just south of downtown and the beaches sits boutique shops, eclectic restaurants and Miami’s original art gallery district. Coconut Grove is best known for its lush green landscape bordered by the shimmering blue waters of Biscayne Bay. From its beginnings in the late 1800’s, this magical place has attracted tycoons, artists, writers, and musicians galore and–truth be told–more than its share of kooks, eccentrics and free spirits. Coconut Grove has attracted adventurers since its beginnings. It’s no surprise Coconut Grove has been a haven of inspirations for such luminaries as Tennessee Williams, Robert Frost and Alexander Graham Bell. Today, the village known to locals simply as “the Grove” is still a brilliant gem on the edge of the City of Miami. Though the sun can be found shining bright off the waters of Biscayne Bay any day, it’s the warm welcome of the Grove community that illuminates your stay. In the midst of a bustling world, the Grove remains a place of secret pleasures awaiting your discovery.

Coconut Grove Organic Farmers Market: 3300 Grand Ave, Miami, FL 33231

Open on Saturdays and presented by Glaser Organic Farms, the Coconut Grove Organic Farmers Market offers a variety of organic fresh fruits, vegetables, grains, seeds and raw vegan foods under its tents. Longstanding relationships with many local organic growers have been nurtured, guaranteeing customers access to all of the tropical fruits and vegetables that the local climate offers, based on seasonal availability. The best available organic fruits, vegetables, and exotic rarities, such as durian and jaboticaba are sourced from around the nation and around the world. The salad bar is an epicurean delight offering wild rice salads, avocado salad, corn salad, olive salad, and fruit medleys, all complemented with our raw vegan dressing made with fresh herbs and organic extra virgin olive oils. The raw food pizzas, featuring handmade pestos, crafted with our own farm-grown ingredients, are an unexpected treat. The raw chocolate frozen tiramisu is heavenly.
About the Agroecology Program

Florida International University's Agroecology Program is a comprehensive program that integrates science-based education, research and outreach in the area of agriculture and natural resources. The program focuses on the interface between agriculture, natural ecosystems and urban development and consists of specialized undergraduate agroecology courses, field trips, summer internships, graduate fellowships, and training workshops for university students and high school teachers.

The program is an innovative, science-based curricular program under the Department of Earth and Environment designed to provide students with an opportunity to focus on issues in agriculture at the farm level, community level, and at the regional landscape level. The program consists of specialized undergraduate agroecology courses, field trips, summer internships, graduate fellowships, and training workshops for high school teachers. Students and participants will be exposed to a stimulating intellectual learning environment, and to agricultural agencies and research institutions, such as the USDA's Agricultural Research Service and other area research and educational organizations.

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