

44<sup>th</sup> ACS Junior Technical Meeting  
29<sup>th</sup> Puerto Rico Interdisciplinary Scientific Meeting (PRISM)

## ORAL SESSIONS

- Agricultural Sciences
- Chemistry
- Computer Sciences
- Education
- Electronics
- Engineering
- Environmental Science
- Geosciences
- Life Sciences
- Mathematics
- Physics

# ***Agricultural Science***

**Session:** 01

**Room:** Naturales, C 202

**Moderator:** Concepción Rodríguez, UPR-Bayamón

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Agricultural Sciences 01]</i> <b>Ramos, Laurie T</b> <b>UPR-MAYAGUEZ</b>	<b><i>Effects of On-Field Application of Liquid Urea on Intake and Digestibility of Guinea-Grass Hay</i></b>
11:20AM → 11:40AM	<i>[Agricultural Sciences 02]</i> <b>Santiago, Nydmarie,</b> <b>UPR-MAYAGUEZ;</b>	<b><i>Characterization of Bacillus Spp. From Coffee Plants and Insects: Potential Biocontrol Agents Of The Coffee Berry Borer (Hypothenemus Hampei Ferrari Coleoptera: Scolytidae)</i></b>

# ***Chemistry***

**Session:** 01

**Room:** Naturales, CN 357

**Moderator:** Solange Benítez, UPR-Bayamón

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Chemistry 56]</i> <b>Rodriguez-Calero,</b> <b>Gabriel G., UPR-RIO</b> <b>PIEDRAS</b>	<b><i>DNA Electrochemical Biosensor Support Using Pt Nanoparticles on Carbon Black</i></b>
11:20AM → 11:40AM	<i>[Chemistry 18]</i> <b>Fonseca, José,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Bioelectrochemical Detection of Urea at Platinized Boron-Doped Diamond Electrodes</i></b>
11:40AM → 12:00PM	<i>[Chemistry 65]</i> <b>Vargas-Barbosa, Nella</b> <b>Marie,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Electrochemical Study and Characterization of Methylene Blue Intercalation to Single-stranded DNA attached on Gold surface</i></b>

12:00MD -> 1:30PM

Lunch Break

**Moderator: Solange Benítez, UPR-Bayamón**

1:45PM -> 2:05PM

*[Chemistry 14]*  
**Cruz, Leishla,  
UPR-MAYAGUEZ**

***Development of a Biosensor  
Using Hbl of Lucina Pectinata  
and Characterizing It Using  
Electroanalytical Technique***

2:05PM -> 2:25PM

*[Chemistry 16]*  
**Diaz-Laboy, Michelle M,  
UPR-MAYAGUEZ**

***Removal of Arsenic using Low  
Cost Sorbents***

2:25PM -> 2:45PM

*[Chemistry 66]*  
**Vázquez, Soley,  
UPR-RIO PIEDRAS**

***Towards the First Total  
Synthesis of the 2-methylthio-6-  
nonadecynoic acid***

2:45PM -> 3:05PM

*[Chemistry 57]*  
**Rosso, Diego,  
UPR-MAYAGUEZ**

***Analysis of the Chemical and  
Physical Interactions of  
Polymeric Micro and  
Nanostructures with Phthalates,  
PPCPs, and Amino-Aromatic  
Compounds***

3:05PM -> 3:25PM

*[Chemistry 35]*  
**Ortiz, Karla,  
UPR-MAYAGUEZ**

***Development of Metal/Polymer  
Bionanocomposites as Sensors  
for Biopharmaceutical  
Applications***

**Session: 02**

**Room: Naturales, A 209**

**Moderator: Jorge Colón, UPR – Río Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Chemistry 11]</i> <b>Colón, Carla Stephanie, UPR-CAYEY</b>	<b><i>Bioassay-Guided Fractionation of Methanolic Extract of Costus sp</i></b>
11:20AM -> 11:40AM	<i>[Chemistry 61]</i> <b>Sierra, Ivette, UPR-CAYEY</b>	<b><i>Screening of Advanced Glycation End-Products (Ages) Inhibitory Activity of Plant Extracts from Several Genera</i></b>

11:40AM → 12:00PM      *[Chemistry 03]*  
**Alvarez, Narahi,**  
**UPR-MAYAGUEZ**      ***Inclusion of Ag into TiO<sub>2</sub> by  
Reverse Phase Separation***

12:00MD → 1:30PM

**Lunch Break**

**Moderator: Rolando Oyola, UPR - Humacao**

1:45PM → 2:05PM      *[Chemistry 01]*  
**Almenas, Mariangely,**  
**UPR-RIO PIEDRAS**      ***Mechanism of Moisture-induced  
Solid-phase Aggregation and  
Stabilization of Proteins***

2:05PM → 2:25PM      *[Chemistry 24]*  
**Jiménez Ramos,**  
**Ricardo,**  
**UPR-MAYAGUEZ**      ***Identification and Removal of  
Organochlorines Pesticides in  
Agricultural Soil using  
Polymeric Micro and  
Nanostructures***

2:25PM → 2:45PM      *[Chemistry 60]*  
**Santos, Lysmarie,**  
**UPR-MAYAGUEZ**      ***Air Pollution and Public Health  
in Mayagüez Puerto Rico***

2:45PM → 3:05PM      *[Chemistry 67]*  
**Vega, Jennifer,**  
**UPR-MAYAGUEZ**      ***Case Study On Saline Intrusion  
In Rincon Puerto Rico***

3:05PM – >3:25PM      *[Chemistry 50]*  
**Rodriguez, Angel,**  
**UPR-MAYAGUEZ**      ***Characterization of the Aroma  
of Puerto Rico New Peach  
Cultivars by HS/SPME and  
GC/MS***

**Session: 03**

**Room: Naturales, A 211**

**Moderator: Jorge Zayas, UPR - Humacao**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Chemistry 25]</i> <b>Laboy, Kristie,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Development of NIR Spectroscopy Method for Drug Concentration in a novel Strip Formulation</i></b>
11:20AM → 11:40AM	<i>[Chemistry 53]</i> <b>Rodriguez, Patricia,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Evaluation of Method Precision and Sample Homogeneity in Novel Gel Strip Formulation analyzed by NIR Spectroscopy</i></b>



11:20AM → 11:40AM	<i>[Chemistry 05]</i> <b>Amaro-Ortiz, Alexandra, UPR-RIO PIEDRAS</b>	<b><i>Identification of the Binding Site of Melanocortin Receptors via its Ligands</i></b>
11:40AM → 12:00PM	<i>[Chemistry 33]</i> <b>Olmo-Fontanez, Angelica, UPR-MAYAGUEZ</b>	<b><i>Comparison of The Coulombic Output of Redox Dyes and Ferric Chelates in Biofuel Cells</i></b>

12:00MD -> 1:30PM

**Lunch Break**

**Moderator: Rafael Arce, UPR – Río Piedras**

1:45PM → 2:05PM	<i>[Chemistry 7]</i> <b>Berrios, Grace, UPR-MAYAGUEZ</b>	<b><i>Myoglobin encapsulation in Sol- Gels</i></b>
2:05PM → 2:25PM	<i>[Chemistry 52]</i> <b>Rodriguez, Elienisse, UPR-MAYAGUEZ</b>	<b><i>Crystallization of Sulfhemoglobin</i></b>
2:25PM → 2:45PM	<i>[Chemistry 38]</i> <b>Pabon, Jimmy, UPR-MAYAGUEZ</b>	<b><i>Reaction of Hydrogen Sulfide with the Hemoglobin I from Lucina pectinata</i></b>
2:45PM → 3:05PM	<i>[Chemistry 21]</i> <b>Hernández, Rose M., UPR-MAYAGUEZ</b>	<b><i>Unusual Heme Proteins and their Formation of Sulfhemoglobin</i></b>
3:05PM → 3:25PM	<i>[Chemistry 32]</i> <b>Molini, Christopher, UPR-MAYAGUEZ</b>	<b><i>Reactivity of Hydrogen Sulfide with Hemeproteins</i></b>

**Session: 05**

**Room: Naturales, A 225**

**Moderator: Ingrid Montes, UPR – Río Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Chemistry 42]</i> <b>Pietri, Frances, UPR-MAYAGUEZ</b>	<b><i>Structural Studies of the Complex between Hemoglobin I from Lucina pectinata and Hydrogen Sulfide</i></b>

11:20AM → 11:40AM	<i>[Chemistry 12]</i> <b>Colón, Lauren, UPR-RIO PIEDRAS</b>	<b><i>Atmospheric Aerosols in the Guánica Dry Forest</i></b>
11:40AM → 12:00PM	<i>[Chemistry 46]</i> <b>Rivera, Reynaldo O., UPR-RIO PIEDRAS</b>	<b><i>The Influence of African Dust Particles on the Chemical Composition of Aerosols, Clouds and Rainwater at East Peak, PR</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
	<b>Moderator: Elsie Parés, UPR-Mayaguez</b>	
1:45PM → 2:05PM	<i>[Chemistry 08]</i> <b>Casiano, Rosa, UPR- MAYAGUEZ</b>	<b><i>Synthesis and Characterization of <math>\zeta</math>5-C5H5)2Mo(2-amino-6 mercaptapurine)]Cl2</i></b>
2:05PM → 2:25PM	<i>[Chemistry 09]</i> <b>Chaparro, Francisco, UPR-MAYAGUEZ</b>	<b><i>Microfluidic System to Deliver Aqueous Superoxide</i></b>
2:25PM → 2:45PM	<i>[Chemistry 13]</i> <b>Cotto, Lizbeth, UPR-CAYEY</b>	<b><i>Computational Study of keto/enol Equilibrium and enol a/enol-b Equilibrium of trifluormethy-â- diketones (R1COCH2COR2) with R2= -CF3 using semi-empirical Method AM1</i></b>
2:45PM → 3:05PM	<i>[Chemistry 15]</i> <b>David, Amanda, UPR-RIO PIEDRAS</b>	<b><i>Structural Analysis</i></b>
3:05PM → 3:25PM	<i>[Chemistry 17]</i> <b>Fermaintt, Charles, UPR-HUMACAO</b>	<b><i>Transcriptional Represion by Tup1-Ssn6</i></b>

**Session: 06**

**Room: Naturales, A 226**

**Moderator: Margarita Ortiz, UPR - Humacao**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Chemistry 20]</i> <b>Guzman-Sanchez, Irisbel, UPR-HUMACAO</b>	<b><i>Enantioselective Reduction of Prochiral <math>\alpha</math>-Halogenated Aryl Ketones for Organic Synthesis of Chiral Oxetanes</i></b>
11:20AM → 11:40AM	<i>[Chemistry 31]</i> <b>Melendez, Hector, UPR-HUMACAO</b>	<b><i>Synthesis of Optically Pure <math>\alpha</math>-Methylbenzylamines via the Asymmetric Reduction of Oximes Ether with Spiroborate Ester</i></b>
11:40AM → 12:00PM	<i>[Chemistry 06]</i> <b>Bermudez, Lorianne, UPR-HUMACAO</b>	<b><i>Asymmetric Reduction of thiocromanes and benzofuranes with Borane using the Spiroborate Ester Derived from (S) - Diphenyl Prolinol as Catalyst</i></b>
12:00MD -> 1:30PM		<b>Lunch Break</b>
	<b>Moderator: Rosa Brito, UIA-Metro</b>	
1:45PM → 2:05PM	<i>[Chemistry 30]</i> <b>Massanet, Nicole, UPR-RIO PIEDRAS</b>	<b><i>Modeling the Boron-Nitrogen Bond in Aromatic Compounds</i></b>
2:05PM → 2:25PM	<i>[Chemistry 19]</i> <b>Fuentes, Lydia, UPR-BAYAMON</b>	<b><i>AMN1 Gene's Analysis of a Deficient Cell in Myosin II of Saccharomyces Cerevisiae</i></b>
2:25PM → 2:45PM	<i>[Chemistry 28]</i> <b>Lugo, Nichole, UPR-MAYAGUEZ</b>	<b><i>Calcium Alginate Beads (CAB) of Different Alginic Acid</i></b>
2:45PM → 3:05PM	<i>[Chemistry 29]</i> <b>Martínez, Madeline, UPR-ARECIBO</b>	<b><i>Production of Biofuels: Methane Generation from Manure in a Non-stirred Anaerobic Batch Bioreactor</i></b>

**Session: 07**

**Room: Naturales, A 227**

**Moderator: Agustin Diaz, UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Chemistry 51]</i> <b>Rodriguez, Gabriela, UPR-MAYAGUEZ;</b>	<b><i>Recycling of Expanded Polystyrene to Remove Organic Pollutants from Water</i></b>
11:20AM → 11:40AM	<i>[Chemistry 22]</i> <b>Hidalgo, Migdalia, UPR-MAYAGUEZ</b>	<b><i>Mechanism of Synthesis for Triacetone Peroxide</i></b>
11:40AM → 12:00PM	<i>[Chemistry 02]</i> <b>Alonso, Cristina, TURABO UNIV</b>	<b><i>Richness and Endemicity of Sulfate-Reducing Bacteria in Neotropical Environments</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
<b>Moderator: Rolando Tremont, UPR-Humacao</b>		
1:45PM → 2:05PM	<i>[Chemistry 34]</i> <b>Ortiz, Isamar, UPR-CAYEY</b>	<b><i>Study of The Chemical Composition and Cytotoxic Properties Against Artemia Salina of the Endemic Plant Thouinia Striata</i></b>
2:05PM → 2:25PM	<i>[Chemistry 36]</i> <b>Ortiz, Edwin, UPR-RIO PIEDRAS</b>	<b><i>On-Line Guidelines as a Tool to Improve Learning of General Chemistry Concepts</i></b>
2:25PM → 2:45PM	<i>[Chemistry 37]</i> <b>Ortiz, Natasha, UPR-MAYAGUEZ</b>	<b><i>Carbon Nanotubes</i></b>
2:45PM -> 3:05PM	<i>[Chemistry 39]</i> <b>Padilla, Cristina, UPR-RIO PIEDRAS</b>	<b><i>Modification of Purine Photophysics Caused by the External Heavy Atom Effect and Applications to DNA Processes</i></b>
3:05PM → 3:25PM	<i>[Chemistry 40]</i> <b>Perez, Zulmarie, UPR-RIO PIEDRAS</b>	<b><i>Ring B abeo-sterols as Novel Inhibitors of Mycobacterium Tuberculosis</i></b>

**Session: 08**

**Room: Naturales, A 231**

**Moderator: Ismael Alicea, UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Chemistry 10]</i> <b>Claudio, Karla, UPR-CAYEY</b>	<b><i>Cytotoxic Screening of Tropical Plants using Brine Shrimp Lethality Test</i></b>
11:20AM -> 11:40AM	<i>[Chemistry 47]</i> <b>Rivera, Jaymie, UPR-CAYEY</b>	<b><i>Chemical Analysis and Biological Evaluation of Tropical Plants: Goetzea elegans and Pimenta racemosa</i></b>
11:40AM -> 12:00PM	<i>[Chemistry 48]</i> <b>Rivera, Linoshka, UPR-HUMACAO</b>	<b><i>Detection of 1, 4-Benzoquinone on Gold Surface Modified</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
<b>Moderator: Ana Rita Mayol, UPR-Rio Piedras</b>		
1:45PM -> 2:05PM	<i>[Chemistry 41]</i> <b>Pérez, Riviam, UPR-RIO PIEDRAS</b>	<b><i>Intercalation of Cisplatin in Inorganic Layers Compounds</i></b>
2:05PM -> 2:25PM	<i>[Chemistry 44]</i> <b>Rivera, Adriana, UPR-RIO PIEDRAS</b>	<b><i>Synthesis of the 2 pentacosynoic acid</i></b>
2:25PM -> 2:45PM	<i>[Chemistry 45]</i> <b>Rivera, Keishla, UPR-MAYAGUEZ</b>	<b><i>Optimization of Calix[n]arene Structures</i></b>
2:45PM -> 3:05PM	<i>[Chemistry 49]</i> <b>Robles, Emily, UPR-RIO PIEDRAS</b>	<b><i>Synthesis of Fe<sub>4</sub>O<sub>4</sub>-core dendrimers</i></b>
3:05PM -> 3:25PM	<i>[Chemistry 54]</i> <b>Rodriguez, Edelmiro, UPR-ARECIBO</b>	<b><i>The Inhibition Properties of Brown Algae Padina Gymnospora</i></b>

**Session: 09**

**Room: Naturales, A 233**

**Moderator: Nelson Rivera, UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Chemistry 27]</i> <b>Lopez, Melody, UPR-MAYAGUEZ</b>	<b><i>Cloning of BP1* and Large Scale Expression of hCen2</i></b>
11:20AM -> 11:40AM	<i>[Chemistry 69]</i> <b>Zayas, Rafael, UPR-MAYAGUEZ</b>	<b><i>Lippia dulcis as effective phytoremediator of soils contaminated with TNT</i></b>
11:40AM -> 12:00PM	<i>[Chemistry 58]</i> <b>Santiago, Jorge, UPR-MAYAGUEZ</b>	<b><i>Two-Dimensional Correlation Analysis of Human Centrin II Mutant By Fourier Transform Infrared Spectroscopy Utilizing Thermal Perturbations</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
<b>Moderator: Dionne Hernandez, UPR-Rio Piedras</b>		
1:45PM -> 2:05PM	<i>[Chemistry 55]</i> <b>Rodríguez, Suhail, PCUPR</b>	<b><i>Synthesis of Diamidines Precursors</i></b>
2:05PM -> 2:25PM	<i>[Chemistry 62]</i> <b>Soler, Rafael A, UPR-MAYAGUEZ</b>	<b><i>Raman Detection Enhancement through TiO2 Composite Nanoparticles</i></b>
2:25PM -> 2:45PM	<i>[Chemistry 64]</i> <b>Surillo, Sorivette, UPR-MAYAGUEZ</b>	<b><i>Rubia Tinctorum as Effective Phytoremediator of Soils Contaminated with Cadmium</i></b>

# Computer Science

**Session:** 01

**Room:** Naturales, A 144

**Moderator:** Edusmildo Orozco, UPR – Río Piedras

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Computer Sciences 01]</i> <b>Bermudez, Jeranfer,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Study of r-Orthogonality for Latin Squares</i></b>
11:20AM -> 11:40AM	<i>[Computer Sciences 02]</i> <b>Cardona, Rogelio,</b> <b>UPR-MAYAGUEZ</b>	<b><i>An Introductory Survey on Cloud Computing, its State-of-the-Art and Current Performance Issues</i></b>
11:40AM -> 12:00PM	<i>[Computer Sciences 03]</i> <b>Dávila, Guillermo</b> <b>Manuel,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>A VHDL-FPGA Implementation of Mastrovito Multipliers</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
<b>Moderator: Javier Córdova, UPR - Arecibo</b>		
1:45PM -> 2:05PM	<i>[Computer Science 04]</i> <b>Farrington, Jose J.,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>A Especial Case of Reduced Linear Modular Systems</i></b>
2:05PM -> 2:25PM	<i>[Computer Science 05]</i> <b>Fontanez, Guillermo,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Parameter Estimation for Mathematical Models of Potassium-Chloride Cotransporters</i></b>
2:25PM -> 2:45PM	<i>[Computer Science 06]</i> <b>Lopez, Reynaldo,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Condor as a Solution for Highly Intensive Computational Tasks</i></b>
2:45PM -> 3:05PM	<i>[Computer Science 07]</i> <b>Quiles, Joel,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Optimized Strategies for the Mastermind Game</i></b>

3:05PM → 3:25PM

*[Computer Science 08]*  
Trinidad, Jason,  
UIA-BAYAMON

***Development of a Computer  
Program for the Procrustes  
Analysis***

## ***Education***

**Session:** 01

**Room:** Naturales, C 202

**Moderator:** Denny Fernandez, UPR - Humacao

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
1:45PM → 2:05PM	<i>[Education 01]</i> Agosto, Ibis, UPR-RIO PIEDRAS	<b><i>Development of a genomics project for a Molecular and Cellular Biology Laboratory</i></b>

## ***Electronics***

**Session:** 01

**Room:** Arquitectura, A 101

**Moderator:** Rafael Arce-Nazario, UPR – Río Piedras

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Electronics 01]</i> Soltero, Daniel, UPR-MAYAGUEZ;	<b><i>Electronic Systems for a Semi- autonomous Robot</i></b>

# Engineering

**Session:** 01

**Room:** Arquitectura, A 101

**Moderator:** Rafael Arce-Nazario, UPR – Río Piedras

Time	Speaker and affiliation	Title
11:20AM → 11:40AM	<i>[Engineering 19]</i> Melendez, Adriana, UPR-MAYAGUEZ	<i>Analog Rank Order Filters to Reduce Computational Needs in Processing Hyperspectral Images: Coding and Storing of Rank Order Data</i>
11:40AM → 12:00PM	<i>[Engineering 28]</i> Rivera, Jose, UPR-MAYAGUEZ	<i>Class AB Floating Gate OTA Module for DAC Implementation</i>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
	<b>Moderator: Rafael Arce-Nazario, UPR – Río Piedras</b>	
1:45PM → 2:05PM	<i>[Engineering 01]</i> Alicea, Neysa, UPR-MAYAGUEZ	<i>Characterization of Al-Cu Alloys Reinforced with Dodecaborides</i>
2:05PM → 2:25PM	<i>[Engineering 02]</i> Alvarez, Steven, UPR-MAYAGUEZ	<i>Preparation of Ferrogels Consisting of Magnetic Nanoparticles Embedded in Polymeric Matrices</i>
2:25PM → 2:45PM	<i>[Engineering 17]</i> López, Alejandro, UPR-MAYAGUEZ	<i>Preparation of Magnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles with Covalently Bound Chitosan and Chitosan Oligosaccharide Lactate for Use in Biomedical Applications</i>
2:45PM -> 3:05PM	<i>[Engineering 23]</i> Quiles, Marcelo, UPR-MAYAGUEZ	<i>Digital to Analog Converter Modules with Offset Cancellation Using Floating Gate Transistors</i>

**Session: 02**

**Room: Arquitectura, A 102**

**Moderator: María Rodríguez, UPR - Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Engineering 11]</i> <b>Gambaro, Sahray,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Low Power Consumption Software for Cochlear Implants</i></b>
11:20AM -> 11:40AM	<i>[Engineering 13]</i> <b>Gomez, Suzette,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Implementation of the Abundance Estimation Algorithms Using NVIDIA CUDA</i></b>
11:40AM -> 12:00PM	<i>[Engineering 21]</i> <b>Perez, Misael,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Controlling Firmware for a Micro Gas Chromatograph with Low Power Constraints</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
<b>Moderator: Eduardo Lay, UIA - Bayamón</b>		
1:45PM -> 2:05PM	<i>[Engineering 20]</i> <b>Montes, Gina,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Synthesis And Magnetic Properties Of Bismuth Ferrite, BiFeO3, Nanoparticles</i></b>
2:05PM -> 2:25PM	<i>[Engineering 30]</i> <b>Rodriguez, Cristina,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Effect of Processing Techniques on Thermo Mechanical Behavior of Polyimide Films</i></b>
2:25PM -> 2:45PM	<i>[Engineering 31]</i> <b>Rodriguez, Christie,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Size control Synthesis of ZnO Nanoparticles</i></b>
2:45PM -> 3:05PM	<i>[Engineering 03]</i> <b>Barrado, Pilar,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Effect of AIB2 reinforcements on the High Temperature Thermomechanical Response of Al-Based Composites</i></b>
3:05PM -> 3:25PM	<i>[Engineering 04]</i> <b>Burgos, Jose,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Determination of the Gelation Temperature of Sodium Alginate at Various Concentrations by Creating a Graph of Viscosity as a Function of Temperature</i></b>

**Session: 03**

**Room: Arquitectura, A 103**

**Moderator: Rolando Oyola, UPR - Humacao**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Engineering 07]</i> <b>Espinal, Ana, UIA-BAYAMON</b>	<b><i>PACER Experience at LSU, Knowledge Transfer and Future Projects</i></b>
11:20AM -> 11:40AM	<i>[Engineering 12]</i> <b>García, Sergio, UPR-MAYAGUEZ</b>	<b><i>Automation of a Nanosecond- laser Flash Photolysis System and Stop-flow UV-VIS Absorption Spectroscopy System</i></b>
11:40AM -> 12:00PM	<i>[Engineering 14]</i> <b>Gutierrez, Ian, UIA-BAYAMON</b>	<b><i>Rocket Payload the Size of a Soda Can</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
<b>Moderator: Hien Vo, UIA - Bayamón</b>		
1:45PM -> 2:05PM	<i>[Engineering 05]</i> <b>Calzada, Jaime, UPR-RIO PIEDRAS</b>	<b><i>Wireless Transfer of Electric Power</i></b>
2:05PM -> 2:25PM	<i>[Engineering 06]</i> <b>Cordero, José, UPR-MAYAGUEZ</b>	<b><i>Structural Response of Pre cambered Bridges Under Moving Loads</i></b>
2:25PM -> 2:45PM	<i>[Engineering 08]</i> <b>Espinosa, Javier, UIA-BAYAMON</b>	<b><i>Grid Portal at Interamerican University</i></b>
2:45PM -> 3:05PM	<i>[Engineering 09]</i> <b>Fuentes Martínez, Paul M., UIA-BAYAMON</b>	<b><i>Characterization of Graphene Ribbons from Liquid Exfoliation of Graphite</i></b>
3:05PM -> 3:25PM	<i>[Engineering 10]</i> <b>Fuertes, Francheska, TURABO UNIV</b>	<b><i>Waste Chaser: Geldipping/Gelcap ERG Cut Line Adjustment.</i></b>

**Session: 04**

**Room: Arquitectura, A 104**

**Moderator: Javier Quintana, UIA - Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Engineering 15]</i> <b>Hernández Pérez, Joany R., UPR-MAYAGUEZ</b>	<b><i>Bifunctional Nanostructured Catalytic Materials for the Conversion of Cellulose into Sugar Alcohols</i></b>
11:20AM -> 11:40AM	<i>[Engineering 16]</i> <b>Kaufman, Richard, UPR-MAYAGUEZ</b>	<b><i>Enhancing the VXL Libraries for the Computer Vision Community</i></b>
11:40AM -> 12:00PM	<i>[Engineering 18]</i> <b>Lugo Morales, Yahaira, UPR-MAYAGUEZ</b>	<b><i>Landfills with Coal Combustion Byproducts as an Alternative Daily Cover</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
<b>Moderator: Mauricio Cabrera-Ríos, UPR - Mayaguez</b>		
1:45PM -> 2:05PM	<i>[Engineering 22]</i> <b>Plaza, Nayomi, UPR-MAYAGUEZ</b>	<b><i>Effects of Magnesium Levels in Al-B Composites Subject to Mechanical Wear And Abrasion</i></b>
2:05PM -> 2:25PM	<i>[Engineering 24]</i> <b>Ramirez, Ismarie, TURABO UNIV</b>	<b><i>Computational Experiments: Reliable Location on a Network</i></b>
2:25PM -> 2:45PM	<i>[Engineering 25]</i> <b>Reyes, Andrey, UPR-MAYAGUEZ</b>	<b><i>Analog Rank Order Filters to Reduce Computational Needs in processing Hyperspectral Images: Analog circuit design</i></b>
2:45PM -> 3:05PM	<i>[Engineering 26]</i> <b>Rios, Miguel, UPR-MAYAGUEZ</b>	<b><i>Improving Undergraduate Design Experience: Effective Integration of Software, Hardware and Renewable Energy Projects</i></b>

3:05PM → 3:25PM

*[Engineering 27]*  
**Rivera, Jemilly,  
UIA-BAYAMON**

***Renewable Energy***

**Session: 05**

**Room: Arquitectura, A 105**

**Moderator: Aldo Acevedo, UPR - Mayaguez**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
1:45PM → 2:05PM	<i>[Engineering 29]</i> <b>Rivera, Roberto, UPR-MAYAGUEZ</b>	<b><i>Comparative Tribological Study of Aluminum-Tin Bearing Alloys Containing Silicon or Boron</i></b>
2:05PM → 2:25PM	<i>[Engineering 32]</i> <b>Sandoval, Roger, TURABO UNIV</b>	<b><i>Educating Safety Engineers to Meet Industry-Specific Needs.</i></b>
2:25PM → 2:45PM	<i>[Engineering 33]</i> <b>Santiago, Paulette, UPR-MAYAGUEZ</b>	<b><i>Biodiesel Production Proposal Using Supercritical Methanol and Fryer Grease</i></b>
2:45PM → 3:05PM	<i>[Engineering 34]</i> <b>Santiago-Torres, Juan E., UPR-MAYAGUEZ</b>	<b><i>Protein Crystallization with Neutral Hydrogels Providing Conditions for Counter-Diffusion</i></b>
3:05PM → 3:25PM	<i>[Engineering 35]</i> <b>Soto, Yahaira, UPR-MAYAGUEZ</b>	<b><i>Synthesis and Characterization of Poly(styrene-isobutylene styrene) Nanostructured Ionomers</i></b>

# ***Environmental Sciences***

**Session:** 01

**Room:** Naturales CN 338

**Moderator:** Rafael Canales, UIA-Bayamon

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Environmental Sciences 01]</i> <b>Alicea, Vivianette, UPR-ARECIBO</b>	<b><i>Sorption of Lead From Aqueous Solutions by Nasturtium Officinale</i></b>
11:20AM -> 11:40AM	<i>[Environmental Sciences 02]</i> <b>Almodóvar, Laura, UPR-MAYAGUEZ</b>	<b><i>Heavy Metal Removal in Wastewater Treatment Plants in Mayagüez and Adjuntas</i></b>
11:40AM -> 12:00PM	<i>[Environmental Sciences 05]</i> <b>Aponte, Deylen, UPR-CAYEY</b>	<b><i>Effect of Cold Temperature on Vein Density and Photosynthetic Capacity in Winter and Summer Squash</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
<b>Moderator: Rafael Canales, UIA-Bayamon</b>		
1:45PM -> 2:05PM	<i>[Environmental Sciences 12]</i> <b>Curbelo, Jean Carlos, UPR-RIO PIEDRAS</b>	<b><i>Breeding Systems and Pollinators of Mammillaria Nivosa Species on Mona Island Reserve</i></b>
2:05PM -> 2:25PM	<i>[Environmental Sciences 14]</i> <b>Feliciano, Augusto, UPR-MAYAGUEZ</b>	<b><i>Sorption Study of Toluene onto Crumb Rubber</i></b>
2:25PM -> 2:45PM	<i>[Environmental Sciences 24]</i> <b>Meléndez, Glorimar, UPR-CAYEY</b>	<b><i>Analysis of Precipitation Time-series for the Rio Grande de Arecibo Watershed: Implications for Watershed Management</i></b>

2:45PM -> 3:05PM	<i>[Environmental Sciences 36]</i> <b>Santos-Figueroa, Gilmarie, UPR-RIO PIEDRAS</b>	<b><i>Size-Resolved Chemical Composition of African Dust Particles over the Caribbean: Focusing in the Carbonaceous Fraction.</i></b>
3:05PM -> 3:25PM	<i>[Environmental Sciences 06]</i> <b>Aulet, Bianca, UPR-AGUADILLA</b>	<b><i>Relationship Between Temperature, Salinity, Oxygen Concentrations and Light Attenuation Coefficient in the Caño Madre Vieja, Aguadilla</i></b>

**Session: 02**

**Room: Naturales, CN 339**

**Moderator: Diana Delgado, UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Environmental Sciences 03]</i> <b>Alvarez, Derry, UIA-BAYAMON</b>	<b><i>Development of a Tobacco Plastid Genome Transformation Vector</i></b>
11:20AM -> 11:40AM	<i>[Environmental Sciences 13]</i> <b>De Jesus, Rigoberto, UPR-MAYAGUEZ</b>	<b><i>Analysis of the Chemical and Physical Interactions of Polymeric Micro and Nanostructures with Pharmaceuticals and Personal Care Products</i></b>
11:40AM -> 12:00PM	<i>[Environmental Sciences 33]</i> <b>Román, Laura, UIA-BAYAMON</b>	<b><i>Enhanced Expression of the accD Gene in Tobacco Plastids</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
	<b>Moderator: Elvia Melendez, UPR-Rio Piedras</b>	
1:45PM -> 2:05PM	<i>[Environmental Sciences 09]</i> <b>Bosch, Agnes, TURABO UNIV</b>	<b><i>Diversity and Abundance of Sulfate-Reducing Bacteria in Hypersaline Microbial Mats in Cabo Rojo Puerto Rico</i></b>

2:05PM → 2:25PM	<i>[Environmental Sciences 16]</i> <b>Gomez, Ivonne, TURABO UNIV</b>	<b><i>Genetic Diversity of Arsenate Respiring Bacteria in Nature: a Way to Track Environmental Risk</i></b>
2:25PM → 2:45PM	<i>[Environmental Sciences 21]</i> <b>Latorre, Luis, TURABO UNIV</b>	<b><i>Characterization of Sulfate Reducing Bacteria Across Terrestrial Habitads in Neotropics</i></b>
2:45PM → 3:05PM	<i>[Environmental Sciences 07]</i> <b>Benítez, Isabel, UIA-METROPOLITANO</b>	<b><i>Biological Activity of Pyrethroid Impregnated Paint Upon Daphnia Magna</i></b>

**Session: 03**

**Room: Naturales, CN 340**

**Moderator: Cielo Figuerola, UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Environmental Sciences 27]</i> <b>Perez, Jansel, UIA-BAYAMON</b>	<b><i>Additional Data on Bat Predation by Cats</i></b>
11:20AM → 11:40AM	<i>[Environmental Sciences 34]</i> <b>Sandoval, Jean, UIA-BAYAMON</b>	<b><i>Metabolic rate of Molossus molossus (chiroptera), in Puerto Rico</i></b>
11:40AM → 12:00PM	<i>[Environmental Sciences 35]</i> <b>Santiago, Iliana, TURABO UNIV</b>	<b><i>Distribution of the Crenarchaeota Across Life Zones of the Tropical Rain Forest (El Yunque, Puerto Rico)</i></b>

12:00MD → 1:30PM **Lunch Break**

**Moderator: James Timber, UPR-Rio Piedras**

1:45PM → 2:05PM	<i>[Environmental Sciences 08]</i> <b>Bonet, Joshua, UPR-RIO PIEDRAS</b>	<b><i>Spatial-Temporal Variation of Water Consumption in Puerto Rico</i></b>
2:05PM → 2:25PM	<i>[Environmental Sciences 10]</i> <b>Claudio, Jennifer, PCUPR</b>	<b><i>A New Subspecies of Dryas iulia (Lepidoptera: Rhopalocera: Heliconiidae) in Puerto Rico?</i></b>

2:25PM → 2:45PM	<i>[Environmental Sciences 11]</i> <b>Colon, Johanna, UPR-RIO PIEDRAS</b>	<b><i>Socioeconomic, Land-Use and Land-Cover Change as Drivers of Water Quality Regimen Shifts in the Río Grande de Arecibo Watershed</i></b>
2:45PM → 3:05PM	<i>[Environmental Sciences 15]</i> <b>Garcia, Cesar I., UPR-HUMACAO</b>	<b><i>Energía Renovable desde los vertederos de Puerto Rico</i></b>
3:05PM → 3:25PM	<i>[Environmental Sciences 17]</i> <b>Gonzalez, Xiomara, UPR-RIO PIEDRAS</b>	<b><i>Periphyton Response to Nutrient and Light Limitation in a Tropical Urban River, Puerto Rico</i></b>

**Session: 04**

**Room: Naturales, CN 354**

**Moderator: Maria Ocasio, UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Environmental Sciences 04]</i> <b>Angel, Luisa, UPR-CAYEY</b>	<b><i>Survey Terrestrial Mollusk Diversity at the UPR-Cayey Secondary Forest</i></b>
11:20AM → 11:40AM	<i>[Environmental Sciences 22]</i> <b>Lugo, Roberta, UPR-CAYEY</b>	<b><i>Study Basidiomycota Diversity in a Secondary Forest</i></b>
11:40AM → 12:00PM	<i>[Environmental Sciences 30]</i> <b>Rivera, Antonio Luis, UPR-CAYEY</b>	<b><i>General Tree Inventory of 'Verdes Sombras' Park Located at the UPR-Cayey</i></b>
12:00MD → 1:30PM	<b>Lunch Break</b>	
	<b>Moderator: Rafael Jusino, UPR-Aguadilla</b>	
1:45PM → 2:05PM	<i>[Environmental Sciences 20]</i> <b>Jaime, Xavier, UPR-HUMACAO</b>	<b><i>Seed Rain and Phenology in an Invasive Species Removal Experiment in Mona Island Reserve</i></b>

2:05PM → 2:25PM	<i>[Environmental Sciences 23]</i> <b>Melendez, Melissa, UPR-RIO PIEDRAS</b>	<b><i>Estimates of Calcium Carbonate Dissolution Rates Under Elevated CO2 Conditions in Devil's Hole, Bermuda</i></b>
2:25PM → 2:45PM	<i>[Environmental Sciences 25]</i> <b>Nieves, Janice, UPR-CAYEY</b>	<b><i>Preliminary Study of Fungi Basidiomycota in Las Casas de la Selva Forest Reserve</i></b>
2:45PM → 3:05PM	<i>[Environmental Sciences 26]</i> <b>Otero, Beatriz, UPR-RIO PIEDRAS</b>	<b><i>The Effect of Land-Use History on the Recovery of Amphibians and Birds Communities in Puerto Rico</i></b>
3:05PM → 3:25PM	<i>[Environmental Sciences 38]</i> <b>Vidal, Edmarie, UPR-ARECIBO</b>	<b><i>Comunidad de algas bénticas en el Río Grande de Arecibo en la región Norte Central de Puerto Rico</i></b>

**Session: 05**

**Room: Naturales, CN 355**

**Moderator: Rita Caceres, UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Environmental Sciences 18]</i> <b>Hernandez, Bryan, UIA-METROPOLITANO</b>	<b><i>Study of the Microbial and Physical-Chemical Water Quality at Torguerro Lagoon, Vega Baja, P.R.</i></b>
11:20AM → 11:40AM	<i>[Environmental Sciences 19]</i> <b>Jaiman, Rosa, PCUPR</b>	<b><i>Molecular Characterization of Dryas iulia iulia</i></b>
11:40AM → 12:00PM	<i>[Environmental Sciences 37]</i> <b>Torres, Karylsa, PCUPR</b>	<b><i>Extraction of a Butterfly DNA</i></b>
12:00MD → 1:30PM	<b>Lunch Break</b>	

**Moderator: Lorna Jaramillo, UPR-Rio Piedras**

1:45PM → 2:05PM	<i>[Environmental Sciences 28]</i> <b>Plata, Frances, PCUPR</b>	<b><i>The Relation of the Aerodynamic Metals in a Highly Hit Area by Activities of Emission of 2.5 μm particles</i></b>
2:05PM → 2:25PM	<i>[Environmental Sciences 29]</i> <b>Ramos, Anjuli, UPR-RIO PIEDRAS</b>	<b><i>A Novel Methodology to Determine the Presence of □ -N-Methylamino-L Alanine Neurotoxin in Natural Waters</i></b>
2:25PM → 2:45PM	<i>[Environmental Sciences 31]</i> <b>Rodriguez, Bianca, UPR-RIO PIEDRAS</b>	<b><i>Biodegradability of Dissolved Organic Carbon in the Rio Piedras Watershed, Puerto Rico</i></b>
2:45PM → 3:05PM	<i>[Environmental Sciences 32]</i> <b>Rodríguez-Benítez, Josué, UPR-RIO PIEDRAS</b>	<b><i>Integral Plan for Solid Waste Management in The Town of Rio Piedras, Puerto Rico</i></b>

## ***Geosciences***

**Session: 01**

**Room: Naturales, CN 356**

**Moderator: Javier Figueroa, PR-LSAMP**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
1:45PM → 2:05PM	<i>[Geosciences 01]</i> <b>Alonso, Carla, UPR-MAYAGUEZ</b>	<b><i>SO2 volcanic gas emissions from Soufrière Hills volcano, Montserrat: comparison of mini- UV spectrometer data</i></b>
2:05PM → 2:25PM	<i>[Geosciences 02]</i> <b>Lopez, Christian, UPR-RIO PIEDRAS</b>	<b><i>Atlantic Hurricane Climatology 1975 - 2005</i></b>

2:25PM → 2:45PM	<i>[Geosciences 03]</i> <b>Quintero, Raiza, UPR-MAYAGUEZ</b>	<b><i>Shocked Minerals in Siliciclastic Sediments From the Vredefort Dome: A New Approach Towards Searching for Impact Evidence From the Early Earth</i></b>
2:45PM → 3:05PM	<i>[Geosciences 04]</i> <b>Rodriguez-Delgado, Alejandra, UPR-MAYAGUEZ;</b>	<b><i>A Comprehensive Study on Coastline Process and Sedimentary Dynamics, Sardinera Beach, Mona Island, P.R.</i></b>

## ***Life Sciences***

**Session: 01**

**Room: Naturales, C 202**

**Moderator: Concepción Rodríguez, UPR-Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
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11:40AM → 12:00PM	<i>[Life Sciences 01]</i> <b>Acevedo, Jean Marie, UPR-RIO PIEDRAS</b>	<b><i>Localization of Choline Acetyltransferase (ChAT)-Like Immunoreactivity in Interneurons of the Mouse Spinal Cord.</i></b>
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12:00MD → 1:30PM **Lunch Break**

**Moderator: Denny Fernandez, UPR - Humacao**

2:05PM → 2:25PM	<i>[Life Sciences 02]</i> <b>Alers, Nianest, UPR-AGUADILLA</b>	<b><i>Development of a Restoration Plan for a Coastal Sand Dune System in Puerto Rico</i></b>
2:25PM → 2:45PM	<i>[Life Sciences 05]</i> <b>Arraut, Michael, UPR-RIO PIEDRAS</b>	<b><i>Enterococci as part of the Microbiota in Tropical Recreational Beaches</i></b>

2:45PM -> 3:05PM	<i>[Life Sciences 06]</i> <b>Burgos, Héctor, UPR-AGUADILLA</b>	<b><i>Evaluating Mammary Tumor Phenotype in a Diet-induced Obese Rat Model</i></b>
3:05PM -> 3:25PM	<i>[Life Sciences 48]</i> <b>Ortiz, Patricia, UPR-RIO PIEDRAS</b>	<b><i>Statin Cholesterol Lowering Treatment has No Effect on Transgenic Mice Model with <math>\Delta</math>s268f Mutation that Cause the Slow-Channel Congenital Myasthenic Syndrome</i></b>

**Session: 02**

**Room: Naturales, C 204**

**Moderator: Manuel Delgado, UPR – Río Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Life Sciences 10]</i> <b>Carrasquillo, Onelys, UPR-RIO PIEDRAS</b>	<b><i>Alcohol Promotes Kinetic Alterations on Acetylcholine Receptors in a Model of Slow Channel Congenital Myasthenic Syndrome</i></b>
11:20AM -> 11:40AM	<i>[Life Sciences 24]</i> <b>García, Juan, UPR-MAYAGUEZ</b>	<b><i>Life Inside the Mat: Links Between Lepanthes Orchids and Bryophyte Presence in the Luquillo Experiment Forest, Puerto Rico.</i></b>
11:40AM -> 12:00PM	<i>[Life Sciences 49]</i> <b>Ortiz Diaz, Cristina, UPR-RIO PIEDRAS</b>	<b><i>Alcohol Strengthens the Severity and Progression of the Neuromuscular Degeneration in <math>\Delta</math>s262t Transgenic Mice Expressing the Slow-Channel Congenital Myasthenic Syndrome</i></b>
12:00MD -> 1:30PM		<b>Lunch Break</b>

**Moderator: Carlos Gomez, UPR – Aguadilla**

1:45PM → 2:05PM	<i>[Life Sciences 08]</i> <b>Caraballo, Adelka, UPR-RIO PIEDRAS</b>	<b><i>The Dietary Flavonoid Quercetin Modulates PCB-Induced Endothelial Cell Dysfunction</i></b>
2:05PM → 2:25PM	<i>[Life Sciences 21]</i> <b>Fernandez, Carolina, UPR-CAYEY</b>	<b><i>Fungicidal Effect of Garlic on Pathogenic Fungi</i></b>
2:25PM → 2:45PM	<i>[Life Sciences 23]</i> <b>Garcia, Karla, UPR-RIO PIEDRAS</b>	<b><i>The Role of a Novel Calcium Binding Protein in Tauopathies</i></b>
2:45PM → 3:05PM	<i>[Life Sciences 53]</i> <b>Panell Diaz, Dalimar, UPR-RIO PIEDRAS</b>	<b><i>Characterization of a Coiled Coil Domain of a Novel Protein Associated to Tautopathy</i></b>
3:05PM → 3:25PM	<i>[Life Sciences 03]</i> <b>Alonso, Aura, UPR-RIO PIEDRAS</b>	<b><i>Butterfly Foraging Behavior: Can Butterflies Detect Nectar in Flowering Plants?</i></b>

**Session: 03**

**Room: Naturales, C 206**

**Moderator: Iván Ferrer, UIA, Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Life Sciences 22]</i> <b>Fuentes, Juan G., UPR-RIO PIEDRAS</b>	<b><i>Host Preferences by Two Species of Puerto Rican Mistletoes</i></b>
11:20AM → 11:40AM	<i>[Life Sciences 27]</i> <b>Hernandez, Wilnelly, UPR-MAYAGUEZ</b>	<b><i>Estudio Comparativo de la Región Promotora del Gen Humano NF-IL6 con Células HL- 60 Y U937</i></b>
11:40AM → 12:00PM	<i>[Life Sciences 30]</i> <b>Jirau, Xavier, UPR-MAYAGUEZ</b>	<b><i>Novel Serum Amyloid A-Protein Interactions on Macrophage Cell Lineages</i></b>

12:00MD -> 1:30PM

Lunch Break

**Moderator: Iván Ferrer, UIA, Bayamón**

1:45PM → 2:05PM	<i>[Life Sciences 07]</i> <b>Caicedo, Laura,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Locating and Characterizing Drone Congregation Areas (DCA) of the Apis mellifera in Puerto Rico</i></b>
2:05PM → 2:25PM	<i>[Life Sciences 20]</i> <b>Enriquez, Yesenia,</b> <b>UPR-RIO PIEDRAS;</b>	<b><i>Population Genetics in Honey Bees</i></b>
2:25PM → 2:45PM	<i>[Life Sciences 28]</i> <b>Huertas-Dones, Carlos,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>If I Get Lost, Don't Wait For Me: Orientation and Return Rate of Drones of Apis mellifera L.</i></b>
2:45PM -> 3:05PM	<i>[Life Sciences 56]</i> <b>Quinones, Shakira,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Drones Orientarion</i></b>
3:05PM → 3:25PM	<i>[Life Sciences 57]</i> <b>Ramirez, Daliris,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Methoprene Influences Wing Beat Frequency Increase and Troponin T Expression of Honey Bees with Accelerated Development of Foraging Behavior</i></b>

**Session: 04**

**Room: Naturales, C 208**

**Moderator: Orlando González, UPR, Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Life Sciences 37]</i> <b>Mendez, Ernesto,</b> <b>UPR-AGUADILLA</b>	<b><i>Total Protein Profile of Bacillus in response to Thermal Stress</i></b>
11:20AM → 11:40AM	<i>[Life Sciences 72]</i> <b>Torres, Jonathan,</b> <b>UPR-AGUADILLA</b>	<b><i>Molecular Characterization of Halobacteria in Guánica Salterns: Total Protein Profile</i></b>
11:40AM → 12:00PM	<i>[Life Sciences 04]</i> <b>Ares, Samuel,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Functional Analysis of Cassava <math>\alpha</math>-Cyanoalanine Synthase Gene in Arabidopsis Mutants</i></b>

12:00MD -> 1:30PM

Lunch Break

**Moderator: Ivonne Colon, UPR-Aguadilla**

1:45PM -> 2:05PM

*[Life Sciences 11]*  
**Castro, Christian G.,  
UPR-MAYAGUEZ**

***Generation of Large Insert  
Metagenomic Libraries from  
Tropical Hypersaline Mature  
Microbial Mat from Cabo Rojo  
Salterns in Puerto Rico***

2:05PM -> 2:25PM

*Life Sciences 15]*  
**Cruz, Jean Carlos,  
UPR-MAYAGUEZ**

***Screening for Urease Activity in  
Metagenomic Libraries from the  
Tropical Rain Forest in Puerto  
Rico***

2:25PM -> 2:45PM

*[Life Sciences 17]*  
**Cruz, Jose,  
UPR-MAYAGUEZ**

***Screening Forest Soil  
Metagenomic Libraries for Clones  
that Produce Antibacterially  
Active and Epoxide Hydrolase  
Molecules***

2:45PM -> 3:05PM

*[Life Sciences 45]*  
**Ondina, Pedro,  
UPR-MAYAGUEZ**

***Isolation of Clones with Antibiotic  
Resistance Activity in a  
Metagenomic Library from a  
Tropical Forest in Puerto Rico***

3:05PM -> 3:25PM

*[Life Sciences 67]*  
**Rubio, Eva,  
UPR-MAYAGUEZ**

***Characterization of Marine  
Bacteria Capable of Tolerate  
and/or Degrade Long Chain and  
Aromatic Hydrocarbons***

**Session: 05**

**Room: Naturales, C 209**

**Moderator: Denny Fernandez, UPR - Humacao**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Life Sciences 54]</i> <b>Perez, Victor, UPR-RIO PIEDRAS</b>	<b><i>Proteasome 20s Subunit <math>\alpha</math>3 is Expressed During Intestinal Regenerative Organogenesis in Holothuria Glaberrima</i></b>
11:20AM -> 11:40AM	<i>[Life Sciences 55]</i> <b>Perez-Ortiz, Judit, UPR-RIO PIEDRAS;</b>	<b><i>Gene Expression Profile of Intestinal Regeneration in the Sea Cucumber Holothuria Glaberrima</i></b>

11:40AM → 12:00PM	<i>[Life Sciences 65]</i> <b>Robles, Alejandro,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Chemical Inhibition of Apoptosis During Regeneration</i></b>
12:00MD → 1:30PM	<b>Lunch Break</b>	
	<b>Moderator: Nilka Tomassinni, UPR - Bayamón</b>	
1:45PM → 2:05PM	<i>[Life Sciences 35]</i> <b>Martes, Carlos J.,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Isolation and Characterization of Radiation Resistant GeoMicrobes from High Altitude Soils of Puerto Rico</i></b>
2:05PM → 2:25PM	<i>[Life Sciences 40]</i> <b>Montoyo-Rosario,</b> <b>José G.,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Using Functional Genomics Approaches to Develop a Specific Biomarker for Staphylococcus Aureus and Specificity Test for Cryptococcus Gattii Against Other Yeasts</i></b>
2:25PM → 2:45PM	<i>[Life Sciences 69]</i> <b>Santiago-González,</b> <b>Rosivette,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Generation of Small Size Metagenomic Libraries from Tabonuco Forest, and Tropical Hypersaline Microbial Mats from the Cabo Rojo Salterns.</i></b>
2:45PM → 3:05PM	<i>[Life Sciences 71]</i> <b>Soto, Orlando,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Detection of Antimicrobial-Agent Producing Microbes Via Whole- Cell and Molecular Techniques</i></b>
3:05PM → 3:25PM	<i>[Life Sciences 12]</i> <b>Cintrón, Jennifer,</b> <b>UPR-ARECIBO</b>	<b><i>Comparative Analysis of The Toxic Action of Chloropyrifos, Malathion, Diazinon and Carbaryl in Terms of the Apoptosis Induction in Cell Line 293T</i></b>

**Session: 06**

**Room: Naturales, C 210**

**Moderator: Carmen Asencio, PUCPR**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Life Sciences 26]</i> <b>Hernandez, Diego,</b> <b>UPR-MAYAGUEZ;</b>	<b><i>Development of Molecular Tools to Distinguish Amongst Bioluminescent Bacteria from the Coasts of Puerto Rico</i></b>
11:20AM → 11:40AM	<i>[Life Sciences 38]</i> <b>Millan, Josue,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Isolation and Characterization of Bioprospects from the Phytotelmata of the Pitcher plant Nepenthes sp.</i></b>
11:40AM → 12:00PM	<i>[Life Sciences 58]</i> <b>Ramos, Gladiany,</b> <b>UPR-MAYAGUEZ;</b>	<b><i>Isolation and Characterization of Microbes Resistant to Metals</i></b>
12:00MD -> 1:30PM		<b>Lunch Break</b>
<b>Moderator: Carmen Asencio, PUCPR</b>		
1:45PM → 2:05PM	<i>[Life Sciences 13]</i> <b>Colon, Rodney,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Looking for new habitats for Cryptococcus gattii: First study in Mona Island</i></b>
2:05PM → 2:25PM	<i>[Life Sciences 14]</i> <b>Colon, Linnette,</b> <b>UIA-BAYAMON</b>	<b><i>Molecular Characterization of the Pybcrp and Pymrp Genes in Drug Resistant Lines in Plasmodium Yoelii</i></b>
2:25PM → 2:45PM	<i>[Life Sciences 16]</i> <b>Cruz, Stephanie,</b> <b>UPR-BAYAMON;</b>	<b><i>Features of Fruits Consumed by Primates E. patas and M.mulatta in Sierra Bermeja's Fish and Wildlife Reserve</i></b>
2:45PM -> 3:05PM	<i>[Life Sciences 18]</i> <b>Cruz-Sánchez, Aníbal,</b> <b>UPR-CAYEY</b>	<b><i>Neuropeptide Y (NPY) Expression in Hypothalamic Brain Nuclei in Pubertal Male Rats After Anabolic Steroid Exposure</i></b>

3:05PM → 3:25PM

*[Life Sciences 19]*  
**De la Rosa, Veronica,  
UPR-HUMACAO**

***On the Possible Harmful Effects  
of Cosmic Rays on Airplane  
Travel***

**Session: 07**

**Room: Naturales, C 211**

**Moderator: Ida Pantoja, UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM → 11:20AM	<i>[Life Sciences 51]</i> <b>Otero-Negron, Aurora, UPR-RIO PIEDRAS;</b>	<b><i>NB4 Cells Growth Inhibition Caused by Carnosic Acid is Not Related to Induction of Apoptotic Process</i></b>
11:20AM → 11:40AM	<i>[Life Sciences 59]</i> <b>Rivera, Glorimar, UPR-RIO PIEDRAS</b>	<b><i>Carnosic Acid Induces G1 Cell Cycle Arrest in NB4 Cells, A Promyelocytic Leukemia Cell Line</i></b>
11:40AM → 12:00PM	<i>[Life Sciences 60]</i> <b>Rivera, Izarys, UPR-RIO PIEDRAS</b>	<b><i>Prevention of Benzyl Alcohol Induced Aggregation of <math>\square</math> Chymotrypsinogen Upon Pegylation</i></b>
12:00MD → 1:30PM	<b>Lunch Break</b>	
	<b>Moderator:</b>	<b>Belinda Roman, UPR-Cayey</b>
1:45PM → 2:05PM	<i>[Life Sciences 61]</i> <b>Rivera, Gabriela, UPR-RIO PIEDRAS</b>	<b><i>LPS-Induced Genes in Intestinal Tissue of the Sea Cucumber <i>Holothuria Glaberrima</i></i></b>
2:05PM → 2:25PM	<i>[Life Sciences 62]</i> <b>Rivera, Yamilette, UPR-CAYEY</b>	<b><i>Determining the Role of IRF5 in DNA Damage Induced Apoptosis Signaling</i></b>
2:25PM → 2:45PM	<i>[Life Sciences 63]</i> <b>Rivera, Efraín, PCUPR</b>	<b><i>Cloning of the <math>\square</math>-Galactosidase like gene (<i>bglA</i>) from <i>Sporobolo- myces singularis</i> into <i>Escherichia coli</i> and <i>Pichia pastoris</i></i></b>
2:45PM → 3:05PM	<i>[Life Sciences 64]</i> <b>Rivera, Britzy, PCUPR</b>	<b><i>The Life Cycle of <i>Calisto Nubila</i> <i>Nubila</i></i></b>



2:45PM -> 3:05PM	<i>[Life Sciences 31]</i> <b>Lastra, Lourdes Díaz, UPR-RIO PIEDRAS</b>	<b><i>Pollinator Communities of Guaiacum Sanctum</i></b>
3:05PM -> 3:25PM	<i>[Life Sciences 32]</i> <b>López, Mildred, UPR- RIO PIEDRAS</b>	<b><i>Estimation of Introduction Date and Early Taxonomic Impact of The Pathogenic Fungus, Batrachochytrium Dendrobatidis, Among Puerto Rican Amphibians</i></b>

**Session: 09**

**Room: Naturales, C 236**

**Moderator: Carlos Andrés Rodríguez, UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00AM -> 11:20AM	<i>[Life Sciences 33]</i> <b>López, Darlah, UPR-ARECIBO</b>	<b><i>Possible Estrogenic Effects of the Heavy Metal Cadmium in the H4IIE Cell Line</i></b>
11:20AM -> 11:40AM	<i>[Life Sciences 34]</i> <b>Marino, Jimena, UPR-RIO PIEDRAS</b>	<b><i>Role of Neurotensin During Extinction of Cocaine Seeking Behavior</i></b>
11:40AM -> 12:00PM	<i>[Life Sciences 36]</i> <b>Martinez, Isabelita, UPR-MAYAGUEZ</b>	<b><i>Isolation of important Clinic Yeasts on Water Treatment Plants and Puerto Rican Forests.</i></b>
12:00MD -> 1:30PM	<b>Lunch Break</b>	
	<b>Moderator: Jose A. Molina, UPR-Cayey</b>	
1:45PM -> 2:05PM	<i>[Life Sciences 39]</i> <b>Miró, Gabriela, UPR-BAYAMON</b>	<b><i>Endozoochorous Effects on the Native Columnar Cactus, Pilosocereus Royenii</i></b>
2:05PM -> 2:25PM	<i>[Life Sciences 41]</i> <b>Muñiz, Jesús, UPR-RIO PIEDRAS;</b>	<b><i>Plasmid Analysis of the KPC Producing Klebsiella pneumoniae (Kp) Collected in the Puerto Rico Medical Center Hospitals (PRMCH) During 2003-04</i></b>
2:25PM -> 2:45PM	<i>[Life Sciences 42]</i> <b>Munoz, Jessian, UPR-CAYEY</b>	<b><i>cAMP Expression in Neurochemical Modulation of Anxiety by Neuropeptide-Y in C. elegans</i></b>

2:45PM -> 3:05PM      *[Life Sciences 43]*  
**Nieves, Juan,**  
**UPR-BAYAMON**      ***Distribution of Land Hermit Crabs  
and Gastropod Shell Usage in  
Mainland Puerto Rico and Mona  
Island***

3:05PM -> 3:25PM      *[Life Sciences 44]*  
**Nogueras, Carlos J.,**  
**UPR-RIO PIEDRAS;**      ***Purification and Characterization  
of the 'High Temperature  
Requirement A1' - an Essential  
Protease of Mycobacterium  
Tuberculosis***

**Session:                    10**

**Room: Naturales, C 311**

**Moderator: Ana M. Lugo, UIA-Bayamon**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
1:45PM -> 2:05PM	<i>[Life Sciences 46]</i> <b>Ortiz, Keisha,</b> <b>UIA-ARECIBO</b>	<b><i>Analysis of Caspase -3 Activity  and P53 Levels After Apoptosis  Induction with Staurosporine in  SH-SY5Y Cells</i></b>
2:05PM -> 2:25PM	<i>[Life Sciences 29]</i> <b>Isidro, Raymond,</b> <b>PCUPR;</b>	<b><i>Effect of Previous Inflammation  on the Susceptibility of the Colon  to Subsequent Physical Restraint  Stress-Induced Changes</i></b>
2:25PM -> 2:45PM	<i>[Life Sciences 50]</i> <b>Ortiz-Alvarado, Yarira,</b> <b>UIA-BAYAMON</b>	<b><i>Behavioral Plasticity in Queens of  the Little Fire Ant Wasmannia  Auropunctata</i></b>
2:45PM -> 3:05PM	<i>[Life Sciences 52]</i> <b>Ozuna, Hazel,</b> <b>UMET</b>	<b><i>Alternative mRNA Splicing of  RAD5 on Mouse Tissues</i></b>
3:05PM -> 3:25PM	<i>[Life Sciences 09]</i> <b>Cardona-Correa,</b> <b>Christopher,</b> <b>UPR-AGUADILLA</b>	<b><i>Pool Size of Photoprotective  Pigments in Diploid and  Tetraploid Species of Glycine  During Photosynthesis</i></b>

# Mathematics

Session: 01

Room: Naturales, A 141

Moderator: Pablo Negrón, UPR - Humacao

Time	Speaker and affiliation	Title
1:45PM → 2:05PM	<i>[Mathematics 01]</i> <b>Cruz, Yesenia, UPR- HUMACAO</b>	<b><i>Mathematical Model for Detecting Diabetes</i></b>
2:05PM → 2:25PM	<i>[Mathematics 02]</i> <b>Morales, Myraida, UPR-RIO PIEDRAS</b>	<b><i>The Fermat's Last Theorem Module m</i></b>
2:25PM → 2:45PM	<i>[Mathematics 03]</i> <b>Ojeda, Iván, UPR-RIO PIEDRAS;</b>	<b><i>The Coxeter Graph and the Graph 56B in Foster Census</i></b>
2:45PM → 3:05PM	<i>[Mathematics 04]</i> <b>Torres, Wilfredo, UPR- MAYAGUEZ</b>	<b><i>Sistemas Dinamicos Discretos No Lineales de Punto Fijo</i></b>

# Physics

**Session:** 01

**Room:** Naturales, C 312

**Moderator:** Maxime Guinel, UPR-Rio Piedras

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
1:45PM → 2:05PM	<i>[Physics 01]</i> <b>Calderon, Carlos, UPR-HUMACAO</b>	<b><i>Radiobsevation of the Carina Region</i></b>
2:05PM → 2:25PM	<i>[Physics 02]</i> <b>Castro, Amnerys, UPR-HUMACAO</b>	<b><i>The Near Structure of the Carina Arms</i></b>
2:25PM → 2:45PM	<i>[Physics 03]</i> <b>Centeno, Diana C., UPR-HUMACAO</b>	<b><i>Ultraviolet Spectroscopy of the Supersoft- X ray Binary V Sagittae</i></b>
2:45PM → 3:05PM	<i>[Physics 04]</i> <b>Delannoy, Andrés G., UPR-MAYAGUEZ</b>	<b><i>Weak Magnetic Field Measurement System</i></b>

**Session:** 02

**Room:** Naturales, C 356

**Moderator:** Julian Velev, UPR-Rio Piedras

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
1:45PM → 2:05PM	<i>[Physics 05]</i> <b>Franco, Eframir, UPR-HUMACAO</b>	<b><i>Data on Separation and Position Angle of Binary Star Systems</i></b>
2:05PM → 2:25PM	<i>[Physics 06]</i> <b>Maldonado, Vianca, UPR-HUMACAO</b>	<b><i>Observational Data of Binary Stars</i></b>

2:25PM → 2:45PM

*[Physics 07]*  
**Montalvo, Stephanie,**  
**UPR-RIO PIEDRAS;**

***The Fabrication of Polypropylene (PP) and Polyethylene (PE) Plates Highly Loaded with Long Single Walled Carbon (Swcnts) Produced by a Hybrid Electric Arc Facility***

2:45PM → 3:05PM

*[Physics 08]*  
**Rivera, Leonardo,**  
**UPR-HUMACAO**

***Optical Follow-up Observations of GRB 060218/SN2006aj***

3:05PM → 3:25PM

*[Physics 09]*  
**Torres, Loraine,**  
**UPR-RIO PIEDRAS**

***Structural and Electrochemical Properties of Layered Cathode Material for Lithium Ion Batteries***