

# 27th Puerto Rico Interdisciplinary Scientific Meeting



42nd ACS Junior Technical Meeting

## PROGRAM 2007



42<sup>nd</sup> ACS Junior Technical Meeting  
27<sup>th</sup> Puerto Rico Interdisciplinary Scientific Meeting (PRISM)

Inter American University of Puerto Rico  
Bayamón Campus  
March 10, 2007

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Puerto Rico – Louis Stokes Alliance for Minority Participation (PR-LSAMP)  
American Chemical Society – Puerto Rico Section  
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Inter American University of Puerto Rico – Bayamón Campus

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**ORGANIZING AND SCIENTIFIC COMMITTEES**

RCSE/PR-LSAMP

Dr. Manuel Gómez  
Dr. Ana C. Piñero  
Ms. Ana M. Feliciano  
Prof. Javier Figueroa  
Ms. Liz Bultrón  
Ms. Patricia Concepcion  
Mr. David Vega  
Ms. Adalis Molina  
Ms. Jenny Rivera

UIPR-Bayamón

Prof. Rafael R. Canales  
Prof. Caroline González  
Prof. Julian Rivera  
Prof. Francisco Marcano  
Ms. Mildred Colón  
Ms. Yamaira Erazo  
Ms. María Quiles  
Dr. Bert Rivera  
Dr. Iván Ferrer

ACS-PR

Dr. Carmen Collazo, President  
Dr. Miguel Castro, President Elect  
Dr. Margarita Ortiz, Secretary  
Dr. Jorge Colón, Treasurer  
Dr. Agnes Dubey, Northwest Chairperson  
Dr. Elba Reyes, Southeast Chairperson

*Special Thanks To:*

RCSE

Mr. Héctor Méndez  
Mr. Edwin Jimenez

AGEP

Dr. Brad Weiner  
Ms. Blanca García

V W R

Carlos Rodriguez  
Jose Cuadro  
Celia J. Venza

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**INVITED SPEAKER**

**Space Weather - Storms from the Sun**

**Ramon E. Lopez**  
**Florida Institute of Technology**

As our technological civilization becomes more dependent of space technology, we become more vulnerable to changes in the space environment in which that technology functions. These environmental changes are known as “space weather.” In this talk I will discuss what drives space weather and how it affects human activities both in space and on the Earth. I will also discuss recent efforts to create predictive models of the geospace environment to be used in forecasting space weather.

Ramon E. Lopez received his B.S. in Physics in 1980 from the University of Illinois, and his M.S. and Ph.D. in Space Physics in 1984 and 1986, respectively, from Rice University. He is currently a Professor in the [Department of Physics and Space Sciences](#) at [Florida Institute of Technology](#). Dr. Lopez is a Fellow of the [American Physical Society](#) and was awarded the 2002 [Nicholson Medal for Humanitarian Service](#). His [current research](#) focuses on magnetospheric storms and substorms, and making detailed quantitative comparisons between the results of global 3-D MHD simulations and observations during actual events. He leads a research group that is working in both space physics and science education.

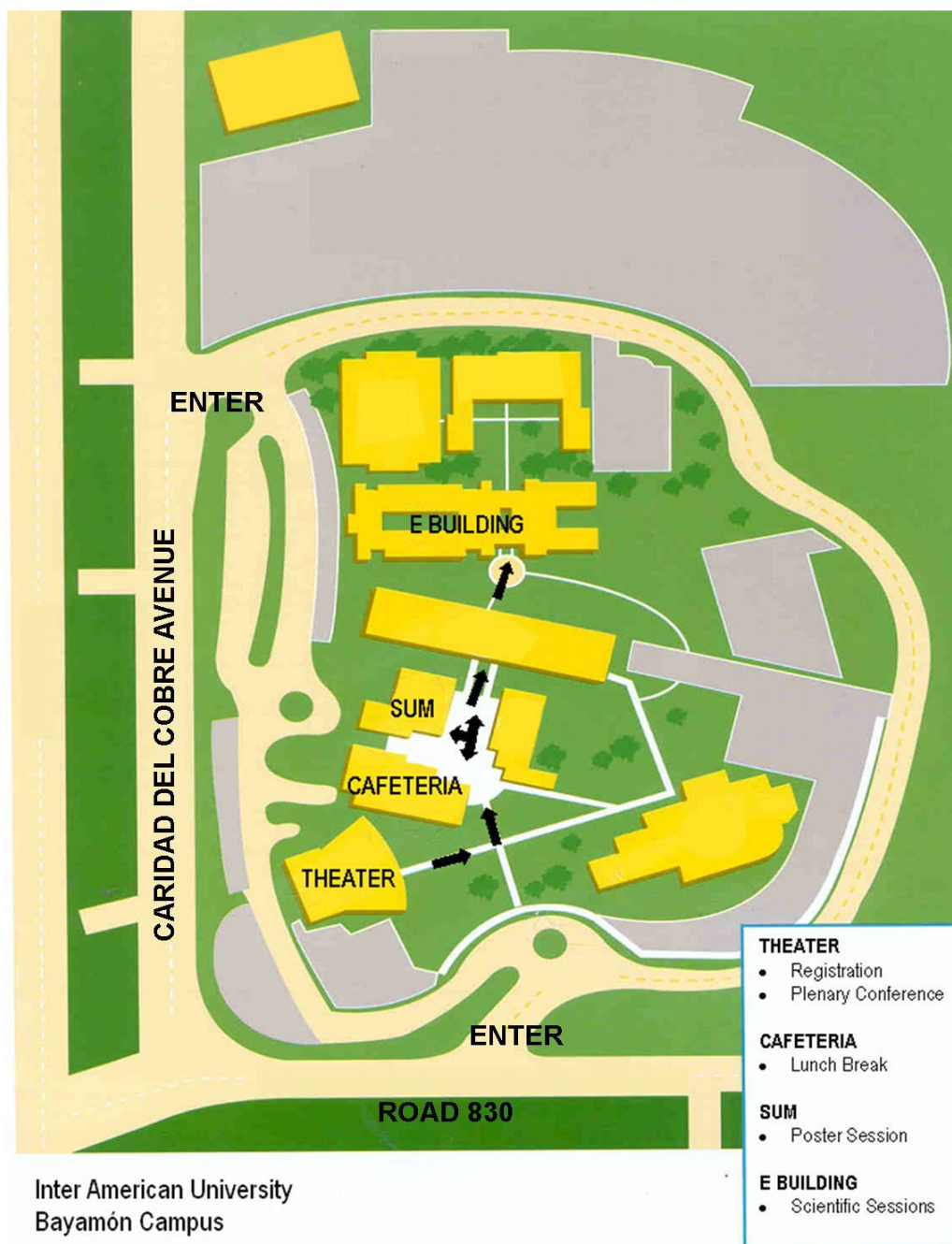
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**PROGRAM**

<b>7:30 a.m. – 10:30 a.m.</b>	Registration / Breakfast (Theater)
<b>9:00 a.m. – 9:30 a.m.</b>	<b>Welcoming Remarks</b> Prof. Juan F. Martínez, Chancellor Inter American University at Bayamón  Dr. Manuel Gómez, Director University of Puerto Rico Resource Center for Science and Engineering  Dr. Luis A. Echegoyen, Director Chemistry Division National Science Foundation  Dr. Carmen Collazo President, ACS Puerto Rico Chapter 2007
<b>9:30 a.m. – 9:45 a.m.</b>	<b>Presentation of Plenary Speaker</b> Dr. Iván Ferrer Rodríguez Department of Natural Sciences Inter American University at Bayamón
<b>9:45 a.m. – 10:45 a.m.</b>	<b>Plenary Conference</b> Dr. Ramón E. López Florida Institute of Technology "Storms from the Sun"
<b>10:45 a.m. – 11:00 a.m.</b>	Coffee Break (E Building)
<b>11:00 a.m. – 3:00 p.m.</b>	Late Registration (E Building)
<b>11:00 a.m. – 12:00 p.m.</b>	Concurrent Scientific Sessions (E Building)
<b>11:30 a.m. – 1:30 p.m.</b>	Lunch – SUM and Cafeteria
<b>1:30 p.m. – 2:00 p.m.</b>	Poster Set-up (SUM)
<b>1:45 p.m. – 3:25 p.m.</b>	Concurrent Scientific Sessions (E Building)
<b>2:00 p.m. – 5:00 p.m.</b>	Poster Session (SUM)
<b>3:25 p.m. – 5:00 p.m.</b>	Reception (SUM)

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MAP I



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**MAP II**

**Building E**



**First Floor**

**Legend**

Bathrooms  
 F - Female  
 M - Male

Abstract Table

Coffee Break Table

Late Registration Table

**Second Floor**

## ORAL SESSIONS

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

# ***Agricultural Science***

**Session:** 01

**Room:** E-240

**Moderator:**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:20 A.M. -> 11:40 A.M.	<i>[Agricultural Sciences 01]</i> <b>Cintron, Natalia, UPR-CAYEY</b>	<b><i>Effect on C. rotundus and E. colona in nodule production</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Agricultural Sciences 02]</i> <b>Sanfiorenzo-Barnhard, Colibrí UPR-RIO PIEDRAS;</b>	<b><i>Bringing together conservation, community and agriculture: Assessing Possibilities for a Novel Agroforestry systems at the Los Angeles community in La Sepultura Biosphere Reserve, Chiapas México</i></b>

# ***Chemistry***

**Session:** 01

**Room:** E-108-B

**Moderator:** Prof. Kariluz Davila-UPR-Rio Piedras

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Chemistry 01]</i> <b>Acevedo, Luz UIA-METROPOLITANO</b>	<b><i>Gold surfaces Modified with 3-mercaptopropionic acid, and 16-Mercaptohexadecanoic acid at different conditions: An electrochemical study</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Chemistr 04]</i> <b>Andujar, Ivonne UPR-RIO PIEDRAS</b>	<b><i>Synthesis of Negatively Charged 8-Aryl-Guanosine Analogues</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Chemistry 02]</i> <b>Acosta, Claribel UPR-RIO PIEDRAS</b>	<b><i>Electrochemical Characterization of Novel Ferrocene Derivatives</i></b>

12:00M.D. -> 1:30 P.M.

**Lunch Break**

**Moderator: Prof. Rosamil Rey-UIPR-Bayamón**

1:45 P.M. -> 2:05 P.M.

*[Chemistry 03]*  
**Alvarez, Gaudi**  
**PUCPR**

***Análisis De Metales En Las Aguas Subterráneas Circundantes Al Vertedero De Desperdicios Sólidos De Guayama, Puerto Rico***

2:05 P.M. -> 2:25 P.M.

*[Chemistry 05]*  
**Avila, Amalia**  
**UPR-RIO PIEDRAS**

***Self-assembled receptors based on 8-Aryl-2'-deoxyguanosine analogues***

2:25 P.M. -> 2:45 P.M.

*[Chemistry 06]*  
**Berberena, Maritere**  
**UPR-RIO PIEDRAS**

***Immobilization of redox enzymes at chemically functionalized boron (f-BDD) nanoparticles for biofuel cell applications***

2:45 P.M. -> 3:05 P.M.

*[Chemistry 07]*  
**Bohec, Tatiana**  
**UPR-MAYAGUEZ**

***Hemoglobin I from *Lucina pectinata* Microinmobilized into Tetramethylorthosilicate Matrix Interacting with Hydrogen Sulfide***

3:05 P.M. -> 3:25 P.M.

*[Chemistry 08]*  
**Caban, Miguel**  
**UPR-RIO PIEDRAS**

***Study of L-Cysteine Self Assembled Monolayer on Palladium Surface***

**Session: 02**

**Room: E-109-A**

**Moderator: Prof. Francisco Echegaray-UPR-Rio Piedras**

**Time**

**Speaker and affiliation**

**Title**

11:00A.M. -> 11:20 P.M.

*[Chemistry 09]*  
**Camacho, Karla**  
**UPR-RIO PIEDRAS**

***Dynamics of metal transport across a liquid membrane mediated by self-assembled ionophores***

11:20A.M. -> 11:40 P.M.

*[Chemistry 10]*  
**Caraballo, Cynthia**  
**UPR-MAYAGUEZ**

***Systematic Study Of Rain Events Throughout Two Different Cities Precipitation Areas In The Island Of Puerto Rico: Acid Rain Episodes***

11:40A.M. -> 12:00 P.M.      *[Chemistry 17]*  
**Collazo, Aura L.**  
**UPR-RIO PIEDRAS**      ***Synthesis and Affinity of G-  
 Quadruplex DNA Ligands based  
 upon Quadruplex forming G-  
 Analogs***

12:00M.D. -> 1:30 P.M.      **Lunch Break**

**Moderator: Dr. Hector Colón-UIPR-Bayamón**

1:45 P.M. -> 2:05 P.M.      *[Chemistry 12]*  
**Cardona, Sonia**  
**UPR-RIO PIEDRAS**      ***Microwave assisted synthesis  
 of 10.3Å Zirconium Phosphate***

2:05 P.M. -> 2:25 P.M.      *[Chemistry 13]*  
**Carrero, Zunamys**  
**UPR-MAYAGUEZ**      ***Development of a Calibration  
 Model for the Determination of  
 Stearic Acid in a  
 Pharmaceutical Formulation  
 using Raman and NIR  
 Spectroscopy***

2:25 P.M. -> 2:45 P.M.      *[Chemistry 14]*  
**Carrión, Pedro**  
**UPR-HUMACAO**      ***Equilibrium binding studies of  
 promazine derivatives with beta-  
 cyclodextrin***

2:45 P.M. -> 3:05 P.M.      *[Chemistry 15]*  
**Chamoun, Ana**  
**UPR-MAYAGUEZ**      ***Enhanced Raman Detection of  
 Nitroexplosives Using Ag, Au  
 and Au-Ag Colloidal  
 Nanoparticle Suspensions***

3:05 P.M. -> 3:25 P.M.      *[Chemistry 16]*  
**Cintron, Hector**  
**UPR-RIO PIEDRAS**      ***Modification of  $\alpha$ -chymotrypsin  
 with poly(ethylene glycol): II.  
 Effects of PEGylation variables  
 on function, thermodynamic  
 and kinetic stability***

**Session: 03**

**Room: E-109-B**

**Moderator: Dra. Elba D. Reyes-UPR-Cayey**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Chemistry 37]</i> <b>Guzmán, Irisbel</b> <b>UPR-HUMACAO</b>	<b><i>Asymmetric Reduction of    Prochiral Ketones with a    Spiroborates Ester Derived from    EthyleneGlycol and Diphenyl    Prolinol</i></b>

11:20A.M. -> 11:40 P.M.	<i>[Chemistry 18]</i> <b>Colón, Olga</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Photochemical Transformations of 1-Nitropyrene Adsorbed on Silica Gel</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Chemistry 19]</i> <b>Cordero-Hernández</b> <b>José Manuel,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Synthesis of Gold Nanoparticle-BSA Protein Bioconjugate</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	
	<b>Moderator: Prof. Arnaldo Carrasquillo-UPR-Mayaguez</b>	
1:45 P.M. -> 2:05 P.M.	<i>[Chemistry 20]</i> <b>Cotto, Sonnieliz</b> <b>UPR-CAYEY</b>	<b><i>Detection of Traces of CIP-100 Detergent on Glass Surfaces</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Chemistry 21]</i> <b>Crespo, Anita</b> <b>UPR-MAYAGUEZ</b>	<b><i>The Correlation Of Total Suspended Particles With Traffic Density At The UPR-Mayagüez Campus</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Chemistry 22]</i> <b>Cruz, Alejandra</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Synthesis of Ferrocenyldienones Derivatives</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Chemistry 23]</i> <b>Cruz-Ramirez de Arellano, Daniel</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Synthesis of 8-arylguanine-N9-acetic acid analogues and characterization of its supramolecular properties</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Chemistry 24]</i> <b>Daniel, Gabriel</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Nanoencapsulation and Characterization of <math>\gamma</math>-Alcohol Dehydrogenase in Zirconium Phosphate Layers</i></b>

**Session: 04**

**Room: E-129-A**

**Moderator: Prof. Rolando Tremont-UPR-Humacao**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Chemistry 25]</i> <b>David, Amanda</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Photophysical and photochemical studies of 1,10-phenanthroline intercalated into a zirconium phosphate framework</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Chemistry 26]</i> <b>Declet, Chasterie</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Characterization of Inorganic Complexes Intercalated Into Zirconium Phosphate Layers For Electrochemical Applications</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Chemistry 27]</i> <b>Delgado, Yamixa</b> <b>UPR-HUMACAO</b>	<b><i>Binding conformations of a dansyl-fluoride inhibitor bound to subtilisin Calsberg active site</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	
	<b>Moderator: Dra. Carmen Collazo-PUCPR-Ponce</b>	
1:45 P.M. -> 2:05 P.M.	<i>[Chemistry 28]</i> <b>Echevarría, Ileabett</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Effect Of Methyl Arachidonyl Fluorophosphonate On The Activity Of Secreted Phospholipases A2 From Elapidae Naja Nigricollis And The Crotalidae Agkistrodon Halys And Piscivorous</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Chemistry 29]</i> <b>Escudero, Javier</b> <b>UPR-RIO PIEDRAS</b>	<b><i>A Greener Approach to Sterification Reactions</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Chemistry 30]</i> <b>Feliciano, Carla</b> <b>UPR-MAYAGUEZ</b>	<b><i>Comparing The Effect Of Bismuth Surface Coverage On The Kinetics Of Hydroquinone And Cathechol At Polycrystalline Platinum Electrodes</i></b>



2:25 P.M. -> 2:45 P.M.	<i>[Chemistry 38]</i> <b>Hernández, Darimar</b> <b>UPR-CAYEY</b>	<b><i>Cleaning Validation 2: Development and Validation of an Ion Chromatographic Method for the Detection of Traces of CIP-100 Detergent</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Chemistry 39]</i> <b>Hernández, Edgardo</b> <b>UPR-RIO PIEDRAS</b>	<b><i>An Epoxide-Based Approach Towards the Preparation of Scytophycin C and Lankamycin Polypropionate Chains</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Chemistry 40]</i> <b>Inostroza, Yaritza</b> <b>UPR-HUMACAO</b>	<b><i>Photosensitized oxidation of hypoxanthine to xanthine and uric acid in the presence of an alkylating quinone</i></b>

**Session: 06**

**Room: E-130-A**

**Moderator: Dr. Carmelo García-UPR-Humacao**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Chemistry 41]</i> <b>Lugo, Leyda</b> <b>PUCPR</b>	<b><i>Electrochemistry and ESR Analysis of Pristine Y3N@C80 and its [6,6] monoadduct derivatives</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Chemistry 51]</i> <b>Ortiz, Marivette</b> <b>PUCPR</b>	<b><i>Determinacion De Metales En El Particulado Del Aire En Guayama, Puerto Rico</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Chemistry 64]</i> <b>Rios, Annette</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Study of Self-Assembled Monolayers of 4- Aminothiophenol Over Gold Electrodes</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	

**Moderator: Dr. Jose Rivera-PUCPR-Ponce**

1:45 P.M. -> 2:05 P.M.	<i>[Chemistry 44]</i> <b>Martínez, Yaritza</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Photophysical studies of 1- Nitropyrene on Absorbed Silica Gel of different pore sizes (60 and 150 ?)</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Chemistry 45]</i> <b>Merced, Francisco</b> <b>UPR-HUMACAO</b>	<b><i>Synthesis of Highly Enantiopure Primary Amines by the Catalytic Reduction of Oxime Ethers using the Novel Spiroborate Ester/ Borane System</i></b>

2:25 P.M. -> 2:45 P.M.	<i>[Chemistry 46]</i> <b>Molina, Anna</b> UPR-RIO PIEDRAS	<b><i>Development of Methodology for the Analysis of Pharmaceutical Compounds in Natural Waters</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Chemistry 47]</i> <b>Morales, Michelle</b> UPR-RIO PIEDRAS	<b><i>Characterization and Comparison of As-Received and Oxidized Single-Wall Carbon Nanotubes</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Chemistry 48]</i> <b>Morales, Keyla F.</b> UPR-RIO PIEDRAS	<b><i>Effect Of The Protecting Group In The Synthesis And Cleavage Of 3,4-Epoxy Alcohols</i></b>

**Session: 07**

**Room: E-130-B**

**Moderator: Dra. Lizette Santos-PUCPR-Ponce**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Chemistry 49]</i> <b>Nieves, Deborah</b> UPR-MAYAGUEZ	<b><i>Chemical Warfare Agents Stimulants (CWAS) Detection on different surfaces using Fiber Optic Coupled Grazing Angle Probe-FTIR</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Chemistry 50]</i> <b>Ojeda, Geovannie</b> UPR-RIO PIEDRAS	<b><i>Application of a MAE- SPME-GC/MS methodology for Identification of Fatty Acid Ethyl Ester in Sebum as Markers of Alcohol Consumption</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Chemistry 42]</i> <b>Martinez, Melissa</b> UPR-MAYAGUEZ	<b><i>BHK-21 cells transfected with full I human transferrin</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	
	<b>Moderator: Prof. Jose Lopez-PUCPR-Ponce</b>	
1:45 P.M. -> 2:05 P.M.	<i>[Chemistry 65]</i> <b>Rivera, Danisha M.</b> UPR-RIO PIEDRAS	<b><i>Studies on the cleavage of TBDPS protected epoxides with organometallic reagents</i></b>

2:05 P.M. -> 2:25 P.M.	<i>[Chemistry 53]</i> <b>Ortiz, Katia</b> <b>UPR-MAYAGUEZ</b>	<b><i>The Isolation, Purification and Characterization of Variant Human Centrin I</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Chemistry 56]</i> <b>Oyola, Delise</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Identification and Characterization of Potential Bioactive Novel Fatty Acids from the Marine Sponge Erylus gofrilleri</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Chemistry 55]</i> <b>Otero, Ariel</b> <b>UPR-CAYEY</b>	<b><i>Anaerobic Oxidation of Alcohols to Aldehydes and Ketones Using Green Chemistry</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Chemistry 54]</i> <b>Ortiz, Carmen</b> <b>UPR-CAYEY</b>	<b><i>The use of Anion Chromatography for the Determination of CIP-300 Detergent Traces</i></b>

**Session: 08**

**Room: E-159**

**Moderator: Prof. Rosa D. Brito-UIPR-Metro**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Chemistry 52]</i> <b>Ortiz, Ana</b> <b>UPR-HUMACAO</b>	<b><i>Effects of Additives on the Photophysical Properties of Antidepressants</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Chemistry 59]</i> <b>Pérez, Marianne</b> <b>UPR-MAYAGUEZ</b>	<b><i>Organic Acids And Volatile Flavor In Kefir During Fermentation By SPME-GC/MS</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Chemistry 58]</i> <b>Peralta, Gloria L.</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Direct Intercalation of Ferrocene and Ferrocene-2(E)-p-3,N,N,dimethylaminebenzenepro pinone into Zirconium Phosphate Layers</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	
<b>Moderator: Prof. Margarita Rodriguez-PUCPR</b>		
1:45 P.M. -> 2:05 P.M.	<i>[Chemistry 60]</i> <b>Pérez, Gabriel</b> <b>UPR-MAYAGUEZ</b>	<b><i>Photodegradation Kinetics of Explosives Catalyzed by TiO<sub>2</sub> Nanoparticles</i></b>

2:05 P.M. -> 2:25 P.M.	<i>[Chemistry 61]</i> <b>Pérez, Riviam</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Intercalation of Methyl Viologen into Zirconium Phosphate Layers for Application in Artificial Photosynthesis</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Chemistry 62]</i> <b>Quintana-Mendez, Ruth</b> <b>UPR-MAYAGUEZ</b>	<b><i>Cyclic Voltammetric Studies of the hydrogen sulfide detection using modified electrodes with Hemoglobin I Film</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Chemistry 63]</i> <b>Reyes, Evin</b> <b>UIA-METROPOLITANO</b>	<b><i>Platinum surfaces Modified with 3-mercaptopropionic acid, and 16-Mercaptohexadecanoic acid at different conditions An electrochemical study</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Chemistry 43]</i> <b>Martínez, Nicole M.</b> <b>UPR-MAYAGUEZ</b>	<b><i>FAP-1: Protein Function, Structure And Dynamics</i></b>

**Session: 09**

**Room: E-160**

**Moderator: Dr. Luis C. Fernandez-UPR-Cayey**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Chemistry 11]</i> <b>Cardona, Gloriell</b> <b>UPR-CAYEY</b>	<b><i>Microwave assisted synthesis of 10.3Å Zirconium Phosphate</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Chemistry 66]</i> <b>Rivera, Maria</b> <b>UPR-MAYAGUEZ</b>	<b><i>Determination of the Detection Limit for Ibuprofen in Pharmaceutical Geometric Blends using Near Infrared Spectroscopy</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Chemistry 67]</i> <b>Rivera, Izarys</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Modification of á-chymotrypsin with poly(ethylene glycol): I. Effects of PEGylation variables on biophysical properties of the enzyme</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>

**Moderator: Prof. Carmen Velazquez-PUCPR-Ponce**

1:45 P.M. -> 2:05 P.M.	<i>[Chemistry 68]</i> <b>Rivera-Negrón, Jose Roberto UPR-MAYAGUEZ</b>	<b><i>Annual Distribution of Total Suspended Particles: Air Quality in Mayagüez City</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Chemistry 69]</i> <b>Rivera-Vélez, Nelson E. UPR-RIO PIEDRAS</b>	<b><i>Disulfide-Modified Single Stranded DNA Self-Assembled Monolayers on Gold: An Electrochemical Study</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Chemistry 70]</i> <b>Rivero, Kennett UPR-RIO PIEDRAS</b>	<b><i>DNA Biosensor Arrays Using Functionalized Polystyrene Films</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Chemistry 71]</i> <b>Rodriguez, Mariangellys UPR-MAYAGUEZ</b>	<b><i>1H-NMR Study of the Interaction of New Cisplatin Derivatives with Glutathione</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Chemistry 72]</i> <b>Rodriguez, Nelmarie UPR-MAYAGUEZ</b>	<b><i>2, 4, 6-Trinitrotoluene on Non Traditional Surfaces: Fiber Optic Coupled Grazing Angle Probe- FTIR Detection</i></b>

**Session: 10**

**Room: E-161**

**Moderator: Dra. Claudia Ospina-UPR-Cayey**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Chemistry 81]</i> <b>Soto, Kristina UPR-MAYAGUEZ</b>	<b><i>Characterization of Biological Agents Using Normal Raman and Surface Enhanced Raman Spectroscopy</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Chemistry 74]</i> <b>Rodríguez Zayas, Juan Antonio UPR-HUMACAO</b>	<b><i>Electrochemical Characterization of Short Lived Intermediates of Dibenzazepine Derivatives and Analogous Compounds</i></b>

11:40A.M. -> 12:00 P.M.	<i>[Chemistry 77]</i> <b>Rosa, Kellymar</b> <b>UPR-RIO PIEDRAS</b>	<b><i>MEM- and SEM- protected 3,4-epoxy alcohols: Versatile precursors for oxirane-based polypropionate synthesis</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	
	<b>Moderator: Prof. Migdalia Sotomayor-UPR-Aguadilla</b>	
1:45 P.M. -> 2:05 P.M.	<i>[Chemistry 76]</i> <b>Rosa, Carlos</b> <b>UIPR-Arecibo</b>	<b><i>Estudio Termo-Cinetico de Reacciones que ocurren en mecanismos relacionados con la destruccion de la capa de Ozono</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Chemistry 75]</i> <b>Roque, Joan</b> <b>UPR-CAYEY</b>	<b><i>Inhibition of Superoxide Radical Anion by Herbal Formulations with Antioxidant Activity</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Chemistry 79]</i> <b>Santiago, Jorge</b> <b>UPR-MAYAGUEZ</b>	<b><i>Isolation and purification of 13C labeled Human Centrin 1</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Chemistry 78]</i> <b>Rosado, Arelys</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Electrochemical DNA Biosensor Arrays Using Functionalized Polystyrene Films</i></b>

**Session: 11**

**Room: E-162**

**Moderator: Prof. Luis A. Arias-UIPR-Metro**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Chemistry 80]</i> <b>Silva, Diana</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Total synthesis of Á6 fatty acids as possible inhibitors of the enzyme FAB I</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Chemistry 73]</i> <b>Rodriguez, Glenda</b> <b>UIA-BAYAMON</b>	<b><i>Identification and partial characterization of an ABCG homologue in drug sensitive and resistant lines of Plasmodium yoelii</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Chemistry 82]</i> <b>Soto – Feliciano,</b> <b>Yadira M.</b> <b>UPR-MAYAGUEZ</b>	<b><i>Synthesis of Silver Nanorods at Different Aspect Ratio for Surface-Enhanced Raman Scattering (SERS) Applications</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	

**Moderator: Prof. Brenda Ramos-UPR-Aguadilla**

1:45 P.M. -> 2:05 P.M.	<i>[Chemistry 83]</i> <b>Torres, Zally</b> UPR-HUMACAO	<b><i>Thermal denaturation of Subtilisin C in acetonitrile and H2O mixtures</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Chemistry 84]</i> <b>Torres, Nidza</b> PUCPR	<b><i>Determination of the Approximate Molecular Weight of Cytochrome P450 Isoenzymes</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Chemistry 85]</i> <b>Valle, Carlos</b> UPR-RIO PIEDRAS	<b><i>The Photochemical and Photophysical Studies of 1-nitropyrene in Models of Atmospheric Particulate Matter</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Chemistry 86]</i> <b>Velez, Denisse</b> UPR-RIO PIEDRAS	<b><i>Encapsulation of micro and nano protein particles in PLGA microspheres</i></b>

## ***Computer Science***

**Session: 01**

**Room: E-242**

**Moderator: Prof. Rafael Nieves-UIPR-Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Computer Sciences 01]</i> <b>Colón Moreno, Raúl D.</b> UPR-HUMACAO	<b><i>Simulating the preparation of SWCNT and benzene ring in water mixture</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Computer Sciences 02]</i> <b>Merced, Myrna</b> UPR-HUMACAO	<b><i>A Model building, Simulation and Data Analysis Script for the Study of DNA-CNT Hybrids</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Computer Sciences 03]</i> <b>Ocasio, Javier</b> UPR-MAYAGUEZ	<b><i>Dynamic Adaptation of Software with TRAP.NET</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	
1:45 P.M. -> 2:05 P.M.	<i>[Computer Sciences 04]</i> <b>Rios, Miguel</b> UPR-MAYAGUEZ	<b><i>A Novel Application for Photovoltaic Modeling</i></b>

# ***Education***

**Session:** 01

**Room:** E-243

**Moderator:** Dra. Teresa Cruz-UIPR-Bayamón

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Education 01]</i> <b>Figueroa, Nereida</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Incorporation of Bioinformatics Tools in the Undergraduate Biology Curriculum</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Education 02]</i> <b>Jiménez, Juan</b> <b>Francisco</b> <b>UPR-MAYAGUEZ</b>	<b><i>Please, No Powerpoint: Teaching Strategies That Work, Those That Do Not And The Case For And Against Slide Presentations In Engineering Education</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Education 03]</i> <b>Padilla, Adriana</b> <b>UPR-RIO PIEDRAS</b>	<b><i>An Innovative Way To Introduce Students To Discuss Ethical Misconduct</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Education 04]</i> <b>Pruna, Linette M.</b> <b>UPR-RIO PIEDRAS</b>	<b><i>An Integrated Inquiry-Guided Approach Laboratory Experience to Teach: Extraction, Recrystallization and Melting Point Determination</i></b>

# ***Electronics***

**Session:** 01

**Room:** E-258

**Moderator:** Prof. Ismael Sanchez-UPR-Bayamón

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:20A.M. -> 11:40 P.M.	<i>[Electronics 01]</i> <b>Carballo, Chistopher</b> <b>UPR-BAYAMON</b>	<b><i>Data Acquisition System using a microcontroller</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Electronics 02]</i> <b>Rivera, Rut</b> <b>UPR-HUMACAO</b>	<b><i>Influence Of Various Gases On Device Characteristics Of Regioregular Poly(3-Hexylthiophene) Field Effect Transistor</i></b>

# ***Engineering***

**Session:** 01

**Room:** E-255

**Moderator:** Prof. Jaime Yeckle-UIPR-Bayamón

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Engineering 01]</i> <b>Arzola, Lucas</b> <b>UPR-MAYAGUEZ</b>	<b><i>Characterization of Cell Growth and Recombinant Protein Production in Fermentation for Implementation of NIR Spectroscopy as a Monitoring Technique</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Engineering 02]</i> <b>Avilés Barreto, Sonia</b> <b>L.,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Rheology and Phase Behavior Characterization of MWCNT Dispersions in a Rigid Rodlike Polymer Matrix</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Engineering 03]</i> <b>Baez, Carlos</b> <b>UPR-MAYAGUEZ</b>	<b><i>Influence of varying cooling rates on the directional solidification of an aluminum-copper-boron composites</i></b>

12:00M.D. -> 1:30 P.M.

**Lunch Break**

**Moderator: Prof. Juan K. Badillo-UIPR-Bayamón**

1:45 P.M. -> 2:05 P.M.

*[Engineering 04]*  
**Collazo, Luis**  
**UPR-MAYAGUEZ**

***Digital Signal Processing in  
Power Quality Analysis***

2:05 P.M. -> 2:25 P.M.

*[Engineering 05]*  
**Colón, David**  
**UPR-MAYAGUEZ**

***Internet-based Diagnostic  
System for Machine Health  
Monitoring***

2:25 P.M. -> 2:45 P.M.

*[Engineering 06]*  
**Colón, Gilberto**  
**UPR-MAYAGUEZ**

***Image Space Reconstruction  
Algorithm on FPGAs: strategies  
for eliminating bottlenecks***

2:45 P.M. -> 3:05 P.M.

*[Engineering 07]*  
**Conklin, Ralph**  
**UPR-MAYAGUEZ**

***User-friendly Student  
Recruitment Web Application***

3:05 P.M. -> 3:25 P.M.

*[Engineering 08]*  
**Duarte, Pablo**  
**UPR-MAYAGUEZ**

***Preparation and Study of Zeolite  
Cancrinite for the Templated  
Synthesis of Nanostructures***

**Session: 02**

**Room: E-256**

**Moderator: Prof. Otoniel Díaz-UIPR-Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Engineering 09]</i> <b>Feliciano, Gloria</b> <b>UPR-MAYAGUEZ</b>	<b><i>Low Dielectric Constant Materials for Nanoimprint Lithography Applications</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Engineering 10]</i> <b>Fuentes, Abigail</b> <b>UPR-MAYAGUEZ</b>	<b><i>Low Power Consumption Software for Cochlear Implants</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Engineering 11]</i> <b>Garcia, Sharlyn</b> <b>UPR-MAYAGUEZ</b>	<b><i>Non-Traditional Exam Seating Arrangements that Minimize Academic Dishonesty</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>

**Moderator: Prof. Amilcar Rincón-UIPR-Bayamón**

1:45 P.M. -> 2:05 P.M.	<i>[Engineering 12]</i> <b>Gomez, Julieta</b> <b>UPR-MAYAGUEZ</b>	<b><i>Time Dependent Compression of Tire Derived Aggregates and its Feasibility as Lightweight Backfill for Retaining Walls</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Engineering 13]</i> <b>Gonzalez, David</b> <b>UPR-MAYAGUEZ</b>	<b><i>Implementation of the Image Space Reconstruction Algorithm using NVIDIA® CUDA™ Technology</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Engineering 14]</i> <b>Hernández, Joany</b> <b>UPR-MAYAGUEZ</b>	<b><i>Characterization of wetting transitions for adsorbed fluids: A parallel tempering Monte Carlo study in the isothermal-isobaric ensemble</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Engineering 15]</i> <b>Hernandez, Efrain</b> <b>UPR-MAYAGUEZ</b>	<b><i>Synthesis of Copper Nanoparticles for Development of Nanofluids with High Thermal Conductivity</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Engineering 16]</i> <b>Ladner, Hillmon</b> <b>UPR-MAYAGUEZ</b>	<b><i>Design and Economic Performance of Photovoltaic Systems</i></b>

**Session: 03**

**Room: E-257**

**Moderator: Prof. Catherine Aguilar-UIPR-Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Engineering 17]</i> <b>Larregui, Josue</b> <b>UPR-ARECIBO</b>	<b><i>Metano Como Fuente Alterna de Energía</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Engineering 18]</i> <b>Lopez, Irvin</b> <b>UPR-MAYAGUEZ</b>	<b><i>Developing Insurance Solutions Software for Natural Hazard Loss Estimation</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Engineering 19]</i> <b>Marín, Melvin</b> <b>UPR-BAYAMON</b>	<b><i>Implementation Of Images Systems At The Geographical Information Systems (Gis) Engineering Laboratory</i></b>

12:00M.D. -> 1:30 P.M.

**Lunch Break**

**Moderator: Dr. Heriberto Berriera-UIPR-Bayamón**

1:45 P.M. -> 2:05 P.M.

*[Engineering 20]*  
**Mercado, Leslie**  
**UPR-MAYAGUEZ**

***Synthesis And Magnetic Properties Of Polyaniline-Based Magnetic Nanocomposites For Emi Applications***

2:05 P.M. -> 2:25 P.M.

*[Engineering 21]*  
**Negron, Karola**  
**UPR-MAYAGUEZ**

***Comparing Linear Models for Rectilinear Quadratic Assignment Problem***

2:25 P.M. -> 2:45 P.M.

*[Engineering 22]*  
**Ortiz, Jose**  
**UPR-MAYAGUEZ**

***Controlling and Data Analysis Firmware for a Micro Gas Chromatograph with Low Power Constraints***

2:45 P.M. -> 3:05 P.M.

*[Engineering 23]*  
**Pacheco, Christian**  
**UIA-BAYAMON**

***Study on energy consumption reduction on typical homes in Puerto Rico***

3:05 P.M. -> 3:25 P.M.

*[Engineering 24]*  
**Ramos, Miguel**  
**UPR-MAYAGUEZ**

***Determination of water content in an optimized concrete mix***

**Session: 04**

**Room: E-258**

**Moderator: Prof. Ismael Sanchez-UPR-Bayamón**

**Time**

**Speaker and affiliation**

**Title**

11:00A.M. -> 11:20 P.M.

*[Engineering 25]*  
**Rivera, Ramon**  
**PUPR**

***High Density Plasma Nitriding on Stainless Steel Alloys At PUPR-MC Plasma Machine***

11:40A.M. -> 12:00 M.D.

*[Engineering 26]*  
**Ruiz, Amaliris**  
**UPR-MAYAGUEZ**

***Evaluation of ZnO Nanoparticles Bioconjugates as Biosensors***

12:00M.D. -> 1:30 P.M.

**Lunch Break**

1:45 P.M. -> 2:05 P.M.

*[Engineering 27]*  
**Teruel, Annette**  
**UPR-MAYAGUEZ**

***Risk Analysis in Project Management using a System Dynamics Approach***

2:25 P.M. -> 2:45 P.M.	<i>[Engineering 28]</i> <b>Vazquez, Jose,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Comparative Analysis Of Processing Routes For The Synthesis Of (Almg)B2 Composites Under Vacuum</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Engineering 29]</i> <b>Vazquez, Barbara,</b> <b>UPR-MAYAGUEZ</b>	<b><i>Institute for the Community Development at UPRM Web Based Interface</i></b>

## ***Environmental Science***

**Session: 01**

**Room: E-229-A**

**Moderator: Prof. Samuel Rodriguez-UPR-Mayagüez**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Environmental Sciences 01]</i> <b>Baez, Luz M</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Diet Composition of feral goats introduced in Mona Island, Puerto Rico.</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Environmental Sciences 26]</i> <b>Santos, Gilmarie</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Size-Resolved Organic Matter In African Dust Particles Over The Caribbean</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Environmental Sciences 03]</i> <b>Butler, Madeline</b> <b>UPR-ARECIBO</b>	<b><i>Estudio del Río Grande de Arecibo</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	
1:45 P.M. -> 2:05 P.M.	<i>[Environmental Sciences 04]</i> <b>Cardona, Sergio</b> <b>UPR-ARECIBO</b>	<b><i>Levels of Heavy Metals Concentration in Aquatic Plants and Surface Water from the Caño Tiburones Wetland</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Environmental Sciences 10]</i> <b>Herrera, Carlos</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Ecology of Aeromonas spp. In Environmental Freshwaters of Northwestern Puerto Rico</i></b>

2:25 P.M. -> 2:45 P.M.	<i>[Environmental Sciences 06]</i> <b>Decoz, Jonathan</b> <b>UPR-ARECIBO</b>	<b><i>Methane Production by Animal Dung Degradation of Production Enriched With Different Substrates</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Environmental Sciences 07]</i> <b>Diaz, Krizia</b> <b>UPR-MAYAGUEZ</b>	<b><i>Searching for Radiation Resistance Geomicrobes in Puerto Rico</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Environmental Sciences 08]</i> <b>Florian, Maria</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Microbiological Quality of Intestinal Waters and Sand in Puerto Rico</i></b>

**Session: 02**

**Room: E-229-B**

**Moderator: Prof. Juan Trias-UIPR-Bayamon**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Environmental Sciences 11]</i> <b>Joseph, Marisol</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Moth diversity of mangrove ecosystems in northern Puerto Rico</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Environmental Sciences 05]</i> <b>Claudio, Karla</b> <b>UPR-CAYEY</b>	<b><i>The Environmental Factors Effects on Fungi Development</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Environmental Sciences 09]</i> <b>Fuentes Martínez, Paul M.</b> <b>UIA-BAYAMON</b>	<b><i>Total and Size-Segregated Concentrations, Dry Deposition Fluxes and Velocities of Trace Metals in the Atmosphere of Puerto Rico</i></b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	
1:45 P.M. -> 2:05 P.M.	<i>[Environmental Sciences 12]</i> <b>Medina, Rubí</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Bacteria and Coliphages as Indicators of Efficiency for Wastewater Treatment of a Constructed Wetland under Tropical Conditions</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Environmental Sciences 13]</i> <b>Miller-Burgos, Meriandrys</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Causes land use change in the Sierra de Las Minas, Guatemala</i></b>

2:25 P.M. -> 2:45 P.M.	[ <i>Environmental Sciences 14</i> ] <b>Montalvo, Sirena</b> <b>UPR-MAYAGUEZ</b>	<b>Characterization of auxotrophic mutants of the marine yeast <i>Debaryomyces hansenii</i></b>
2:45 P.M. -> 3:05 P.M.	[ <i>Environmental Sciences 15</i> ] <b>Morales, Damaris</b> <b>UPR-MAYAGUEZ</b>	<b>Bioremediation of Copper from Chemical Mechanical Planarization (CMP) Wastewater</b>
3:05 P.M. -> 3:25 P.M.	[ <i>Environmental Sciences 16</i> ] <b>Ortiz, Diana</b> <b>UPR-RIO PIEDRAS</b>	<b>African Dust in the Caribbean Trade Winds: Chemical and Physical Properties of Fine Aerosol Particles</b>

**Session: 03**

**Room: E-239**

**Moderator: Prof. Gilda Diaz-UIPR-Bayamon**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	[ <i>Environmental Sciences 17</i> ] <b>Perez, Marianne</b> <b>UIA-BAYAMON</b>	<b>Development Of A Hyper- Accumulator System For Mercury Phytoremediation</b>
11:20A.M. -> 11:40 P.M.	[ <i>Environmental Sciences 18</i> ] <b>Rentas, Yolanda</b> <b>PUCPR</b>	<b>Butterfly Biodiversity in a Protected Area of Cabo Rojo, Puerto Rico</b>
11:40A.M. -> 12:00 P.M.	[ <i>Environmental Sciences 19</i> ] <b>Repollet, Milton</b> <b>UPR-RIO PIEDRAS</b>	<b>The Carbonaceous Fraction of Marine Aerosols in the Caribbean: Clean Marine Air, African Dust, and Anthropogenic Pollution from North America</b>
12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	

1:45 P.M. -> 2:05 P.M.	<i>[Environmental Science 27]</i> <b>Torres, Hellen</b> <b>UPR-MAYAGUEZ</b>	<b>Comparison Between Gc- Ms Ion Trap, Gc-Ms Quadrupole And Gc-Fid Techniques Used In Sorption Studies Of Xylene Onto Crumb Rubber</b>
2:05 P.M. -> 2:25 P.M.	<i>[Environmental Sciences 21]</i> <b>Rodríguez, Julianna</b> <b>UPR-HUMACAO</b>	<b>Analysis Of Vegetation Structure Of The Dry Forests Of Mona Island Using Hemispherical Photographs</b>
2:25 P.M. -> 2:45 P.M.	<i>[Environmental Sciences 22]</i> <b>Rosario, Héctor</b> <b>UPR-RIO PIEDRAS</b>	<b>Initial meteorological and hydrological studies of Perdida cave in Utuado,P.R.</b>
2:45 P.M. -> 3:05 P.M.	<i>[Environmental Sciences 23]</i> <b>Ruiz, Luis,</b> <b>UIA-BAYAMON</b>	<b>Total and Size-Segregated Concentrations, dry deposition fluxes and velocities of Trace metals in the atmosphere of Puerto Rico</b>
3:05 P.M. -> 3:25 P.M.	<i>[Environmental Sciences 24]</i> <b>Sanchez, Francisco J.</b> <b>UPR-MAYAGUEZ</b>	<b>Molecular Comparison of Cyanobacteria Present in the Green Layer of Two Tropical Hypersaline Microbial Mats at the Cabo Rojo Salterns of Puerto Rico</b>

**Session: 04**

**Room: E-240**

**Moderator:**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Environmental Sciences 25]</i> <b>Sanfioenzo, Manuel S.</b> <b>UPR-RIO PIEDRAS</b>	<b>The Puerto Rico Meteorological Network</b>
11:40A.M. -> 12:00 P.M.	<i>[Environmental Sciences 02]</i> <b>Berrios, María de L.</b> <b>UIPR-BARRANQUITAS</b>	<b>Estructura y Función de Proteínas Asociadas a la Fitoremediación</b>

12:00M.D. -> 1:30 P.M.	<b>Lunch Break</b>	
1:45 P.M. -> 2:05 P.M.	<i>[Environmental Sciences 20]</i> <b>Reyes-Rodríguez, Gabriel José UPR-RIO PIEDRAS</b>	<b><i>Organic Carbon and Nitrogen in Cloud and Rainwater at a Mountain Site in Puerto Rico</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Environmental Sciences 28]</i> <b>Torres, Victor UIA-BAYAMON</b>	<b><i>Characterization of the Role of Sodium Transporter HKT1 in Halotolerance of Coastal Plants</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Environmental Sciences 29]</i> <b>Tosado, Emanuel UPR-ARECIBO</b>	<b><i>Detection Of Enterococcus, Total And Fecal Coliforms As Indicators Of Fecal Contamination In A Northern Littoral Zone Of Puerto Rico</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Environmental Sciences 30]</i> <b>Vega, Hagemel UPR-HUMACAO</b>	<b><i>Comparison of stomata density within species from depression forest (bajura) and plateau forest in Mona Island</i></b>

## ***Geosciences***

**Session: 01**

**Room: E-241**

**Moderator: Prof. Johanness H. Schellekens**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
2:05 P.M. -> 2:25 P.M.	<i>[Geosciences 01]</i> <b>Hernandez, Gianna UPR-MAYAGUEZ</b>	<b><i>Characterization and comparison of the clinopyroxene composition of the Maricao belt basalts and the Lapa Lava member of the Robles Formation</i></b>

2:25 P.M. -> 2:45 P.M.	<i>[Geosciences 02]</i> <b>Ortiz, Dayanidí</b> <b>UPR-MAYAGUEZ</b>	<b><i>U-Pb Geochronology Constraints On The Sources Of Detrital Zircon In The Cotui Limestone, Southwest Puerto Rico</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Geosciences 03]</i> <b>Pujols, Edgardo</b> <b>UPR-MAYAGUEZ</b>	<b><i>Petrographic constraints on contact metamorphism associated with the Tibes stock: First reported endoskarn in Puerto Rico</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Geosciences 04]</i> <b>Velez, Jose</b> <b>UPR-MAYAGUEZ</b>	<b><i>Earthquake Ground Motion Modeling in Puerto Rico using Shake Map Software</i></b>

## ***Life Science***

**Session:** 01

**Room:** E-163

**Moderator:** Dra. Ana M. Lugo-UIPR-Bayamón

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Sciences 11]</i> <b>Cotto, Yahdi</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Linkage Disequilibrium Mapping of Wing-Colour Pattern Genes in Heliconius Butterflies</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 02]</i> <b>Arriaga, Daisey</b> <b>UNE</b>	<b><i>Differential modulation of GABA-IR cells in the Nac and VTA after anabolic steroid treatment in pubertal and adult mice</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 63]</i> <b>Rives-Sánchez</b> <b>Marisela, UPR-RIO PIEDRAS</b>	<b><i>Effects of the Process of Evisceration on the Intestinal Tissue of the Sea Cucumber <i>Holothuria glaberrima</i></i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>

**Moderator: Dra. Yolanda Serrano-UIPR-Bayamón**

1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 05]</i> <b>Delgado, Diana</b> <b>UPR-RIO PIEDRAS</b>	<b><i>GIS as a Tool For Monitoring Bee Colonies and Honeybee Production in Puerto Rico</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 15]</i> <b>Donato-Santana, Christian</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Apoptosis during <i>Holothuria glaberrima</i> intestinal regeneration</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 04]</i> <b>Cabrera, Carolyn</b> <b>UPR-HUMACAO</b>	<b><i>Determining the Presence of Hummingbird Flower Mites in <i>Heliconia caribaea</i> in a Humid Tropical Forest in Puerto Rico</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 06]</i> <b>Diaz, Shirley</b> <b>UNE</b>	<b><i>Standarization of GABA-like immunoreactivity in brain regions associated with fear, anxiety and extinction of fear: IL and Amygdala.</i></b>
3:05 P.M. -> 3:25 P.M.	<i>Life Sciences 07]</i> <b>Caceres, Rita</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Metabolism of Benthic Biofilm in Tropical Headwater Streams in Puerto Rico</i></b>

**Session: 02**

**Room: E-181**

**Moderator: Dra. Zulma Rivera-UIPR-Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Sciences 09]</i> <b>Colon, Lewdami</b> <b>UNE</b>	<b><i>GABA immunoreactivity (GABA-IR) in amygdala and infralimbic cortex according to the estrogen status</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 10]</i> <b>Colón-López, Daisy D.</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Identification And Characterization Of Adenosine/ Uridine-Rich Element-Binding Proteins In Human Interleukin-3 mRNA</i></b>

11:40A.M. -> 12:00 P.M.	<b>[Life Sciences 01] Arias, Paola Alexandra UPR-HUMACAO</b>	<b>Genetic Variation of a Herb</b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<b>[Life Sciences 12] Cruz, Aníbal UPR-CAYEY</b>	<b>SMN 1, SMN 2 and NAIP Deletions and Severity Spinal Muscular Atrophy (SMA) in the Puerto Rican Population</b>
2:05 P.M. -> 2:25 P.M.	<b>[Life Sciences 13] Cuello, Kilsy UPR-RIO PIEDRAS</b>	<b>Description of the Neuromuscular Degeneration in Transgenic Mice (aV249F) Expressing the Slow Channel Syndrome</b>
2:25 P.M. -> 2:45 P.M.	<b>[Life Sciences 14] Díaz-Balzac, Carlos A. UPR-RIO PIEDRAS</b>	<b>Unveiling the Mysteries in the Neural Circuits of the Holothurian Tube Feet</b>
2:45 P.M. -> 3:05 P.M.	<b>[Life Sciences 08] Carmona, Jorge UPR-RIO PIEDRAS</b>	<b>Effects of L-NAME on the Carbachol Induced Contraction of the Rat Trachea in the presence of the B2 Adrenoceptor Agonist Salbutamol</b>
3:05 P.M. -> 3:25 P.M.	<b>[Life Sciences 16] Falcon, Wilfredo UPR-HUMACAO</b>	<b>Modeling of the predator-prey interactions between the Puerto Rican Parrot and the Red Tail Hawk</b>

**Session: 03**

**Room: E-182**

**Moderator: Prof. José Pérez-Universidad del Turabo**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<b>[Life Sciences 17] Figueroa, Vilmarie UIA-BAYAMON</b>	<b>Reduced aggressive behavior of fire ants (<i>Solenopsis invicta</i>) in Puerto Rico</b>
11:20A.M. -> 11:40 P.M.	<b>[Life Sciences 18] Figueroa, Bianca UPR-AGUADILLA</b>	<b>Genetic Characterization Of The Genus <i>Artemia</i> (Branchiopoda: <i>Anostraca</i>) In Puerto Rico</b>

11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 19]</i> <b>Giraud, Vilmari,</b> <b>UPR-ARECIBO</b>	<b><i>Tolerance Studies of Rhizobacteria Isolated from Eichhornia crassipes Solms in Metal Exposed Culture Media</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 20]</i> <b>Gomez, Ramon</b> <b>UPR-BAYAMON</b>	<b><i>Molecular Characterization Of Sulfate-Reducing Bacteria In Microbial Mats</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 21 ]</i> <b>Gonzalez, Rosalyn</b> <b>UPR-CAYEY</b>	<b><i>Neurochemical Modulation of Anxiety Related Pathways by Galanin, NPY and Vasopressin in C. elegans</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 22]</i> <b>Gonzalez, Ana Lisa</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Isolation and characterization of the tRNA proline gene of Nephila clavipes</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 23]</i> <b>Gonzalez, Anahi</b> <b>UIA-METROPOLITANO</b>	<b><i>Puerto Rico Antibacterial Properties Found In Inhabited Tropical Medical Flora.</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Life Sciences 24]</i> <b>Gonzalez, Jonathan</b> <b>UPR-MAYAGUEZ</b>	<b><i>Isolation Of Cyanobacteria Specific-Peptide Using Combinatorial Display Techniques</i></b>

**Session: 04**

**Room: E-183**

**Moderator: Dra. María Rubio-UIPR-Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Sciences 25]</i> <b>Gonzalez, Christian</b> <b>UPR-AGUADILLA</b>	<b><i>Differential Response of Vibrio vulnificus Isolates from South Texas Waters to Oxidative Stress</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 26]</i> <b>González, Lymarta</b> <b>UPR-CAYEY</b>	<b><i>Wnt 7a/ Fzd 9 and PPARg co-operate to reverse the transformed phenotype seen in NSCLC</i></b>

11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 27]</i> <b>Hernandez, Josue</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Influences of Environmental Factors on Egg Sack Production: Progeny and Developmental Time of Black Widows Latrodectus Mactans and L. Geometricus in Puerto Rico.</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 28]</i> <b>Herrera, Noramil</b> <b>UPR-HUMACAO</b>	<b><i>Dynamics Of Two Populations Of Donax Denticulatus In The East Of Puerto Rico</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 29]</i> <b>Jiménez, Esther A.,</b> <b>PUCPR</b>	<b><i>Estudio de mariposas en áreas perturbadas y menos perturbadas de Puerto Rico.</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 30]</i> <b>Kourosh, Cyrus</b> <b>UPR-BAYAMON</b>	<b><i>Temporal Distribution of Larvae of the Land Crab, Cardisoma guanhumi</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 31]</i> <b>Lebron, Lilifranceska</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Differences of behavioral development and flight muscle protein changes between Africanized and European honey bees in Puerto Rico</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Life Sciences 32]</i> <b>Lopez, Ana V.</b> <b>PUCPR</b>	<b><i>Activation of Metabotropic Glutamate Receptors is Required for Recall of Fear Extinction Memory.</i></b>

**Session: 05**

**Room: E-184**

**Moderator: Dr. Jaime Puig-UIPR-Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Sciences 33]</i> <b>Martinez, Gines</b> <b>UPR-CAYEY</b>	<b><i>Zooplankton Density in Two Coastal Areas of Southern Puerto Rico</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 34]</i> <b>Martínez, Neysha</b> <b>PUCPR</b>	<b><i>Toxicity Bioassay of Chaya Plant</i></b>

11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 35]</i> <b>Martínez, Marina</b> <b>UPR-HUMACAO</b>	<b><i>Anterograde tracing study and co-localization of NK-1 and Muc3 receptors in the palate of Rana pipiens</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 44]</i> <b>Morales, Daliannys</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Novelty and cocaine intake: possible role of CREB in mediating learning during novel experiences within the Nucleus accumbens of rats</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 37]</i> <b>Matos, Felix</b> <b>UPR-PONCE</b>	<b><i>Glial Glutamate Transporters Are Differentially Expressed In The Hippocampus Following Training On A Morris Water Maze</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 38]</i> <b>Mendez, Alexandra</b> <b>UPR-AGUADILLA</b>	<b><i>The Effect of Salinity on the Swimming Behavior of Artemia franciscana Larvae in The Presence of a Light Cue</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 39]</i> <b>Mendez, Lumen</b> <b>UPR-RIO PIEDRAS</b>	<b><i>LPS Induction Of Phagocytic Activity And Its Effect On Coelomocyte Subpopulations In The Sea Cucumber Holothuria Glaberrima</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Life Sciences 40]</i> <b>Mendoza, Fabia E.</b> <b>UPR-CAYEY</b>	<b><i>Plankton Abundance In Two Coastal Areas In Southern Puerto Rico</i></b>

**Session: 06**

**Room: E-185**

**Moderator: Prof. Yvonne Colón-UPR-Aguadilla**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Sciences 41]</i> <b>Miranda, William</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Object recognition increases baseline levels of the cAMP response element-binding protein (CREB) within the nucleus accumbens core and shell subregions of rats</i></b>

11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 42]</i> <b>Molini, Christopher</b> <b>UPR-MAYAGUEZ</b>	<b><i>An inventory of herbivorous beetles inhabiting the State Forest of Maricao, western Puerto Rico (Coleoptera: Phytophaga)</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 43]</i> <b>Montalvo, Janitza</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Interactions Of Clozapine Effects With The Nicotinic Receptors On Prefrontal Cortex And Working Memory Function</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 36]</i> <b>Martinez, Ivelisse</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Is There Non-Random Mating Between The Test Mutant Cutwing And Wild Drosophila Dumni Dumni?</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 45]</i> <b>Morenu, Eythan</b> <b>UPR-AGUADILLA</b>	<b><i>Reproduction Performance of Four Artemia Populations</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 46]</i> <b>Morgado, Monica</b> <b>UPR-MAYAGUEZ</b>	<b><i>Agonomic Value Of Compost Made From Ceratotherium Simum Manure</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 47]</i> <b>Munoz, Jessian</b> <b>UPR-CAYEY</b>	<b><i>Site-Directed Mutagenesis: Preliminary Studies in Saccharomyces cerevisiae MYO1 C-Terminal</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Life Sciences 48]</i> <b>Noriega, Anamaria R.</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Selection For Antibiotic Resistance Genes By Animal Domestication Practices</i></b>

**Session: 07**

**Room: E-208-B**

**Moderator: Dr. Orlando González-UPR-Bayamón**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Sciences 62]</i> <b>Rivera, Angelica</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Temporal Analysis of Regenerating Muscle in the sea cucumber Holothuria glaberrima</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 50]</i> <b>Oliver, Gabriel</b> <b>UPR-CAYEY</b>	<b><i>Detecting the presence of CCSP2 (Colon Cancer Secreted Protein-2) in a panel of colon tumors with various amount of lymphocytes infiltrate</i></b>

11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 51]</i> <b>Ortiz, Yakelin</b> <b>UPR-ARECIBO</b>	<b><i>Possible Estrogenic Effects Of The Heavy Metal Cadmium In A Cell Culture System</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 52]</i> <b>Ortiz, Vanessa,</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Assessing Ependymin Protein Function During Intestinal Regeneration in H. Glaberrima Through Protein Specific Antibody Injection</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 53]</i> <b>Oyola, Mario</b> <b>UPR-RIO PIEDRAS</b>	<b><i>An Anabolic Steroid Interferes with the Retention Phase of Emotional Memory in Pubertal Male Rats</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 54]</i> <b>Pagan, Melanie</b> <b>UPR-PONCE</b>	<b><i>Identification of Marine Bacteria in the Intertidal zone of Rhizophora mangle and degradation of Nitrocellulose</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 55]</i> <b>Perez, Julian</b> <b>UPR-CAYEY</b>	<b><i>Allelopathic effects of Euphorbia heterophylla L. and Amaranthus dubius Mart. On Phaseolus vulgaris L.</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Life Sciences 56]</i> <b>Perez, Judit</b> <b>UPR-RIO PIEDRAS</b>	<b><i>An Antibody Against Histone Reveals a Nervous System Subdivision of the Echinoderms</i></b>

**Session: 08**

**Room: E-209-A**

**Moderator: Prof. Patricia Burrowes-UPR-Rio Piedras**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Sciences 57]</i> <b>Quiñones, Edili</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Does Wing Beat Frequency Affect Mating Behavior in the Honey Bee Queens (Apis Mellifera L.)?</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 58]</i> <b>Ramirez, Daliris</b> <b>UPR-RIO PIEDRAS</b>	<b><i>How Does A Bee Fly? Changes In Flight Muscle Contractile Proteins</i></b>

11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 59]</i> <b>Ramirez, Ruth</b> <b>UNE</b>	<b><i>Identification of Genes Encoding for Functions Involved in the Type IV Secretion Pathway in Plasmid pNG24</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 64]</i> <b>Robles, Yarelis,</b> <b>UIA-BAYAMON</b>	<b><i>Efecto de Metadona en Células del Sistema Inmunológico Humano</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 61]</i> <b>Rivera, Natalia</b> <b>UPR-RIO PIEDRAS</b>	<b><i>The fragrance composition of a new Scaevola sp. Record in Puerto Rico.</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 49]</i> <b>Ocasio González, Karla</b> <b>M.</b> <b>UPR-MAYAGUEZ</b>	<b><i>Distribution of Haplogroups of Y Chromosome in Puerto Rico</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 03]</i> <b>Beyley, Veronica</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Molecular events underlying brain-region specific tau-induced neurodegeneration</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Life Sciences 60]</i> <b>Rivera, Denisse</b> <b>UPR-PONCE</b>	<b><i>XPD polymorphisms and non-melanoma skin cancer risk in the Puerto Rican population</i></b>

**Session: 09**

**Room: E-209-B**

**Moderator: Prof. Maria L. Acevedo-UPR-Arecibo**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Science 65]</i> <b>Rodriguez Aguiar</b> <b>Glenda L.</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Comparision between a synthetic and an endogenous androgen in anxiety during puberty</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 71]</i> <b>San Miguel, Jose F.</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Nerve Regeneration in the Sea Cucumber <i>Holothuria glaberrima</i></i></b>

11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 67]</i> <b>Rodríguez, Luis,</b> <b>UPR-PONCE</b>	<b><i>Patterns of genetic variation in Caribbean Corallimorpharia</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 68]</i> <b>Rodríguez, Jose M.</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Microinfusions of neurotensin antagonist SR 48692 within the nucleus accumbens core impair spatial learning in rats</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 90]</i> <b>Villafañe, Nicole</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Effect of Antioxidant Treatment on Cell Viability During 25OHC-Induced Apoptosis of CEM Cells</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 70]</i> <b>Rosado, Loreis,</b> <b>UNE</b>	<b><i>Preliminary Ependymin-like immunoreactivity in the sea urchin, Lytechinus variegatus ( Echinodermata: Echinoidea), development</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 66]</i> <b>Rodriguez, Carlos</b> <b>Andres, UPR-RIO</b> <b>PIEDRAS</b>	<b><i>Does size matter? Effect of Body size on the prevalence of a fungal infection among highland coquis (Eleutherodactylus coqui and E. portoricensis)</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Life Sciences 72]</i> <b>Sanfiorenzo-Barnhard,</b> <b>Colibrí</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Utility of qualitative and quantitative micro morphological characteristics for the discrimination of plant species at Mona Island Reserve</i></b>

**Session: 10**

**Room: E-228-A**

**Moderator: Prof. Ruben E. Diaz-UPR-Mayaguez**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Sciences 89]</i> <b>Vera Oliveras, Yandery</b> <b>UIA-METROPOLITANO</b>	<b><i>Aedes Aegypti Repellency Exerted By Bioinsecticide Impregnated Paint</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 74]</i> <b>Santiago, Dianaliz</b> <b>PUCPR</b>	<b><i>Toxicity Bioassay of the Insulin Plant Using Artemia salina</i></b>

11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 75]</i> <b>Santiago, María Elisa</b> <b>UNE</b>	<b><i>Impact Of Estrogen In The Extinction Of Conditioned Fear In Female Rats</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 76]</i> <b>Silén, Pamela</b> <b>UPR-BAYAMON</b>	<b><i>Caveolin-1 Phosphorylation in Human T Cells Activation</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 77]</i> <b>Soto, Elvin</b> <b>UPR-AGUADILLA</b>	<b><i>Identification and Analysis of Adaptive Mutations in Persistently Replicating Flavivirus Replicon RNA</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 78]</i> <b>Soto, Wilfredo</b> <b>UPR-CAYEY</b>	<b><i>Analysis Gene Expression in the Glands of Cannabis sativa</i></b>
2:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 79]</i> <b>Soto-Aybar, Jessica</b> <b>UPR-AGUADILLA</b>	<b><i>Temporal and spatial variability of the biotic and abiotic factors found at “La Salinas Las Pardas” (Guánica, PR)</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Life Sciences 80]</i> <b>Suarez, David</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Visualizing the Crustacean Nervous System in 3-D</i></b>

**Session: 11**

**Room: E-228-B**

**Moderator: Prof. Eugenio Santiago**

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Life Sciences 81]</i> <b>Toro, Miriam</b> <b>UPR-RIO PIEDRAS</b>	<b><i>Germination and Survival Dynamics of Exotic and Ornamental Bromeliads</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Life Sciences 82]</i> <b>Torres, Auremar</b> <b>UPR-ARECIBO</b>	<b><i>Determination of the Minimum Inhibitory Concentration of Lead in Bacteria Isolated from the Rhizosphere of Eichhornia crassipes Solms</i></b>

11:40A.M. -> 12:00 P.M.	<i>[Life Sciences 83]</i> <b>Torres-Castillo, Maria de los Angeles UPR-MAYAGUEZ</b>	<b><i>Microbial isolates with magnetotactic characteristic from Puerto Rico</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Life Sciences 84]</i> <b>Valdivieso, Leonardo UPR-AGUADILLA</b>	<b><i>Identification And Analisis Of Protein Patterns On Halobacterias From Guanica Salterns</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Life Sciences 85]</i> <b>Vargas, Frances UPR-RIO PIEDRAS</b>	<b><i>Flight Muscle Protein Profiles Of Typical And Precocious Honey Bee Foragers</i></b>
2:25 P.M. -> 2:45 P.M.	<i>[Life Sciences 86]</i> <b>Vazquez, Vilmarie UIA-BAYAMON</b>	<b><i>Guarding Behavior Of Gentle Africanized Honey Bees In Puerto Rico</i></b>
3:45 P.M. -> 3:05 P.M.	<i>[Life Sciences 87]</i> <b>Vázquez, Emmanuel UNE</b>	<b><i>HgHbox12-like Immunoreactivity During Early Stages Of Gastrointestinal Tract Regeneration Of The Sea Cucumber, Holothuria Glaberrima</i></b>
3:05 P.M. -> 3:25 P.M.	<i>[Life Sciences 88]</i> <b>Vega, Janiabeth UPR-ARECIBO</b>	<b><i>In Vitro Determination Of The Citotoxicity Of Gluten In The Cell Line 293T Using Neutral Red Assay</i></b>

## **Mathematics**

**Session:** 01

**Room:** E-241

**Moderator:** Prof. Angel L. Cruz-UIPR-Bayamón

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Mathematics 01]</i> <b>Cordova Sanchez, Natalia I. UPR</b>	<b><i>Square free subgraphs of the hypercube and a relaxation polytope</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Mathematics 02]</i> <b>Ojeda, Iván UPR-RIO PIEDRAS</b>	<b><i>Conic Sections on the Hyperbolic Plane</i></b>

11:40A.M. -> 12:00 P.M.	<i>[Mathematics 03]</i> <b>Roman, Angel</b> UPR-CAYEY	<b><i>Harmonic Functions and the Dirichlet Problem with Polynomial or Rational Data on Special Domains in the Plane</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
1:45 P.M. -> 2:05 P.M.	<i>[Mathematics 04]</i> <b>Santos, Edna</b> UPR-RIO PIEDRAS	<b><i>Estudio De Un Semifield</i></b>

## ***Physics***

**Session:** 01

**Room:** E-259

**Moderator:** Prof. Juan C. Cersosimo-UPR-Humacao

<b>Time</b>	<b>Speaker and affiliation</b>	<b>Title</b>
11:00A.M. -> 11:20 P.M.	<i>[Physics 01]</i> <b>Burgos, Juan</b> UPR-RIO PIEDRAS	<b><i>Synthesis and Characterization of layered Li[NixCo1-2xMnx]O2 (0≤x≤0.5) as a Cathode Material for Li-ion Batteries</i></b>
11:20A.M. -> 11:40 P.M.	<i>[Physics 02]</i> <b>Collazo, Idelisse</b> UPR-HUMACAO	<b><i>Evidencia observacional que explica la función logN vs. logD para los cráteres de Marte</i></b>
11:40A.M. -> 12:00 P.M.	<i>[Physics 03]</i> <b>Garcia, Loyda</b> UPR-MAYAGUEZ	<b><i>Temperature Dependence of the Cooper Pair Size in the BCS Theory</i></b>
12:00M.D. -> 1:30 P.M.		<b>Lunch Break</b>
	<b>Moderator:</b> Prof. Abraham Ruiz-UPR-Humacao	
1:45 P.M. -> 2:05 P.M.	<i>[Physics 04]</i> <b>Guzman, Lily</b> UPR-CAYEY	<b><i>Synthesis of Fibers Using the Electrospinning Technique: from Polymers to Multiferroics</i></b>
2:05 P.M. -> 2:25 P.M.	<i>[Physics 05]</i> <b>Perez, Kenneth James</b> UPR-RIO PIEDRAS	<b><i>Fabrication Of Nanocrystalline Silicon Composite Films For Photoluminescence Studies</i></b>

2:25 P.M. -> 2:45 P.M.

*[Physics 06]*  
**Rivera, Adamari**  
**UPR-CAYEY**

***Synthesis of ZnO Fibers by the  
Electrospinning Technique***

2:45 P.M. -> 3:05 P.M.

*[Physics 07]*  
**Rojas, Richard**  
**UPR-HUMACAO**

***Fabrication Of Gas Sensors  
Based On Doped Polyaniline  
Nanofibers***

3:05 P.M. -> 3:25 P.M.

*[Physics 08]*  
**Sotomayor-Delestre,**  
**Coraly**  
**ESCUELA EUGENIO**  
**MARIA DE HOSTOS,**  
**Mayaguez**

***Effect Of Reaction Temperature  
On The Structural And Optical  
Properties Of Zno Nanocrystals***

## **ABSTRACTS FOR POSTER SESSIONS**

(Arranged in alphabetical order by field and presenter's last name)

- Chemistry
- Electronics
- Engineering
- Environmental Sciences
- Geosciences
- Life Science
- Mathematics
- Physics

# Chemistry

[Chemistry-01]

**Acevedo-Acevedo, Debora, UPR-MAYAGUEZ;** Meléndez, Enrique, Chemistry, UPR-Mayaguez; Martínez, Melissa, Biology, UPR-Mayaguez

***BHK-21 cells transfected with full length human transferrin***

[Chemistry-02]

**Arroyo, Lisandra, UPR-RIO PIEDRAS;** Raptis, Raphael; Cabrera, Carlos R., Chemistry Dept, UPR Rio Piedras

***Characterization of CoPd<sub>2</sub>(Me<sub>2</sub>lpz)<sub>4</sub>Cl<sub>4</sub> Molecular Precursors and Development of Nanostructures on HOPG Surface***

[Chemistry-03]

**Aviles, Edward, UPR-RIO PIEDRAS;** Lyda La Torre, Chemistry Department , UPR-Rio Piedras; Carlos Cabrera, Chemistry Department , UPR- Rio Piedras

***Electrophoretic Preparation And Characterization Of Molibdenum Electrode With Diamond Nanoparticles***

[Chemistry-04]

**BALAGUERA, MARCIA, UPR-MAYAGUEZ;** Marcia del Rocio Balaguera Gelves, Oscar Perales Perez; Luis Rivera Montalvo, Thomar Maharah

***Synthesis and Optical Characterization of Cadmium Selenide, Zinc Sulfide and Cadmium Sulfide Chalcogenoides Nanocrystals***

[Chemistry-05]

**Calderon, Eric, UPR-MAYAGUEZ;** Peres Orcar, Ciencias de Ingeniería y Materiales UPRM; Gutierrez Gustavo, Ingenieria Mecanica UPRM

***Synthesis And Characterization Of Mn Zn Ferrites For Magnetocaloric Applications***

[Chemistry-06]

**Casañas, Barbara, UPR-RIO PIEDRAS;** Morales-Garcia, Mara, Montes, Ingrid; Colon, Jorge, Santiago, Mitk'el; Dept. of Chemistry, UPR Rio Piedras

***Characterization Of Inorganic Complexes Intercalated Into Zirconium Phosphate Layers For Electrochemical Applications***

[Chemistry-07]

**Castillo, Betzaida, UPR-RIO PIEDRAS;** Ricardo Sola, Dept of Chemistry, UPR Rio Piedras; Amaris Ferrer, Gabriel Barletta; Dept of Chemistry UPR Humacao, Kai Griebenow, Dept of Chemistry, UPR Rio Piedras

***Engineering of Biocatalysts for Organic Media***

[Chemistry-08]

**Cedeño, Yarilyn, UPR-MAYAGUEZ;** Perales-Pérez, Oscar, Engineering Science & Materials, UPR-Mayaguez; Román, Félix, Chemistry, UPR-Mayaguez; Tomar, Maharaj S., Physics, UPR-Mayaguez

***Optimization Of Magnetic Properties In Cobalt Ferrite Nanocrystals***

[Chemistry-09]

**Contés-de Jesús, Enid, UPR-RIO PIEDRAS;** Rosario-Castro, Belinda, UPR-Rio Piedras; Cabrera, Carlos, UPR-Rio Piedras

***Lithium Intercalation on a SWCNTs Modified Electrode***

[Chemistry-10]

**Díaz, Yisaira, UPR-RIO PIEDRAS;** Arce, Rafael, Universidad de Puerto Rico - Recinto de Rio Piedras; Alegria, Antonio, Universidad de Puerto Rico en Humacao

***DNA binding constants of photosensitizer dyes and of alkylating quinones and nitroarenes with potential use in photodynamic therapy in hypoxic environments***

[Chemistry-11]

**Díaz, Agustín, UPR-RIO PIEDRAS;** Martínez-Rivera, Melissa C., Department of Chemistry, University of Puerto Rico; Medina-Morales, Annette M., Department of Chemistry, University of Puerto Rico; Colón, Jorge L., Department of Chemistry, University of Puerto Rico

***Intercalation of Fullerene (C60) into Inorganic Layered Frameworks***

[Chemistry-12]

**Enríquez, Yanira, UPR-RIO PIEDRAS;** Rivera Rivero, Christia M., Chemistry, University of Puerto Rico; Pedró Rosa, Laura E., Chemistry, University of Puerto Rico; Montes, Ingrid, Chemistry, University of Puerto Rico, Guadalupe, Ana R., Chemistry/,University of Puerto Rico

***Spectrometric Characterization of Novel Ferrocene Derivates***

[Chemistry-13]

**Feliciano, Raquel, UPR-MAYAGUEZ;** Castro Miguel

***Quantum Dots sensing: The effect of NO<sub>2</sub> containing organic on CdS blinking***

[Chemistry-14]

**Ferrer, Edmy, UPR-MAYAGUEZ;** Gonzalez Lidiany, Chemistry; Castro Miguel, Chemistry

***Nanotechnology Undergraduate Education: An Active Learning Approach***

[Chemistry-15]

**Flores, Giselle, UPR-RIO PIEDRAS;** Diaz, Myriam, Chemistry, UPR- Rio Piedras; Rodriguez, Jose A., Chemistry, UPR- Rio Piedras; Griebenow, Kai, Chemistry, UPR- Rio Piedras

***Mechanism of Moisture Induced Solid Phase Aggregation of Pharmaceutical Proteins***

[Chemistry-16]

**García, María del Mar, UPR-RIO PIEDRAS;** Cardona, Rocío del A., Chemistry, UPR- Río Piedras; Montes, Ingrid, Chemistry, UPR-Río Piedras; Guadalupe, Ana R., Chemistry, UPR-Río Piedras

***Electrochemical Characterization of Novel Ferrocene Derivatives***

[Chemistry-17]

**Hernández, Griselle, UPR-RIO PIEDRAS;** Madeline Díaz, Chemistry, University of Puerto Rico Rio Piedras Campus

***Polymer Modified Glassy Carbon Electrode for the Determination of Fe(II) Ions***

[Chemistry-18]

**Leon, Madeline, UPR-MAYAGUEZ;** Marissa Morales, Chemistry/ UPRM; Roberto Irrizarry, Research Triangle Park, Electronic Technologies, North Carolina; Miguel Castro, Chemistry/ UPRM

***The electron conduction in colloidal system:a kinetic study of Ag<sub>2</sub>S semiconductor nanoparticle formation***

[Chemistry-19]

**López, José Luis, UPR-MAYAGUEZ;** Román, Félix, Department of Chemistry, UPRM; Perales-Pérez, Oscar, Department of General Engineering-Materials Science and Engineering, UPRM; Nieto, Sorelis, Department of Chemistry, UPRM

***Evaluation of the adsorption behavior of Tetracycline onto recycled crumb rubber and carbon black in aqueous solutions by liquid chromatography/mass spectrometry (LC/MS/MS)***

[Chemistry-20]

**Mendez, Jessica, UPR-RIO PIEDRAS;** Wasfi Al-Azzam, Biology Dept., UPR-Rio Piedras; Emil A. Pastrana, Brian King; Kai Griebenow, Dept. of Chemistry, UPR Rio Piedras

***Effect Of The Covalent Modification Of Horseradish Peroxidase With Poly(Ethylene Glycol) On The Activity And Stability Upon Encapsulation In Polyester Microspheres***

[Chemistry-21]

**Montalvo, Brenda Liz, UPR-RIO PIEDRAS;** Sosa, Brian; Velez, Denisse, Griebenow, Kai, UPR-Rio Piedras, Chemistry Dept; Needham, David, Duke University, Dept of Mechanical Engineering and Material Science; Center for Biologically Inspired Materials and Material Systems

***Formation of partially dehydrated protein microparticles***

[Chemistry-22]

**Morel, Maria C., UPR-RIO PIEDRAS;** Arce, Rafael, Chemistry Dept, UPR Rio Piedras

***Photophysical and photochemical properties of 1,8-dinitropyrene adsorbed***

[Chemistry-23]

**Rentas, Jaileen, UPR-RIO PIEDRAS;** Rodríguez, Raúl, Chemistry, UPR-RP;  
Rodríguez Reyes, David, Chemistry, UPR-RP; Prieto, José A. \*, Chemistry, UPR-RP

***An Epoxide-Based Approach Towards The Preparation Of Scytophycin C Polypropionate Chain***

[Chemistry-24]

**Rivera, Lizmarie, UPR-RIO PIEDRAS;** Karilys Gonzalez, Adrian Lugo; Dept of  
Chemistry, UPR Rio Piedras, Ricardo Gonzalez; Dept of Radiology, Medical Science  
Campus, UPR, Raphael Raptis, Dept of Chemistry, UPR Rio Piedras

***Development of Iron-Based MRI Contrast Agents***

[Chemistry-25]

**Sanchez, Diana, UPR-MAYAGUEZ; Alamo, Luis, Chemistry;** Calisir, Ferah,  
Chemistry; Roman, Felix, Chemistry, Perales, Oscar, Engeniering

***Removal Of Toxic Metals From Aqueous Solutions Using Waste Tire Crumb Rubber As Sorbent***

[Chemistry-26]

**Santiago, Diana, UPR-RIO PIEDRAS; Cabrera, Carlos R., Dept. of Chemistry, UPR**  
Rio Piedras

***Characterization and Analysis of Pt/C Nano-Catalysts Prepared Using Rotating Disk-Slurry Electrode Technique***

[Chemistry-27]

**Soto, Lydia Liz, UPR-RIO PIEDRAS;** Mayol-Bracero, Olga, Gonzalez, S.; Institute for  
Tropical Ecosystem Studies and Dept of Chemistry, UPR Rio Piedras, Andreae, OW;  
Andreae, TW, Elbert, W, Trebs, I, Dept of Biogeochemistry, Max Planck Institute of  
Chemistry, Mainz, Germany, Artaxo, P, Institute of Physics, Univ of Sao Paulo, Brazil;  
Maenhaut, W, Institute of Nuclear Sciences, Ghent Univ, Belgium; Kirchstetter, T &  
Novakov, T, Lawrence Berkeley National Lab, Berkeley, CA

***Chemical apportionment of size-resolved aerosol particles during the dry-to-wet period in the Brazilian Amazon***

*[Chemistry-28]*

**Suazo, Dámaris, UPR-RIO PIEDRAS**

***Functionalization Of Single-Wall Nanotube For Protein Immobilization For Biofuel Cell Applications***

## ***Electronics***

*[Electronics-01]*

**Gomez, Rodney, PUPR; Farahat, Nader, Electrical, PUPR**

***Analysis of Corrugated Circular Waveguides***

*[Electronics-02]*

**Lugo, Katherine, PUPR; Rivera, Anibal, Electrical Engineering, PUPR**

***Analysis of Metamaterials Structures Using Finite Difference Time Domain (FDTD) Method***

*[Electronics-03]*

**Ortiz, David, UPR-MAYAGUEZ**

***Embedded C Optimization for Low Power Consumption on Microprocessors-Based Systems***

## ***Engineering***

*[Engineering-01]*

**Arce, Rafael, UPR-MAYAGUEZ; Manuel Jimenez, Electrical and Computer Engineering, UPR-Mayagüez; Domingo Rodriguez, Electrical and Computer Engineering, UPR-Mayagüez**

***High-Level Partitioning of Discrete Signal Transforms for Distributed Hardware Architectures***

*[Engineering-02]*

**Bermudez, Erick, UPR-MAYAGUEZ;** Gustavo Gutierrez, Department of Mechanical Engineering; Oscar Perales Perez, Department of Engineering and Material Sciences

***Design and Mechanical Characterization of a Magnetocaloric Pump***

*[Engineering-03]*

**Cardona, Jahaira, UPR-MAYAGUEZ**

*Human Factors of Motorcycle Crashes in Puerto Rico*

*[Engineering-04]*

**Carrión, José, PUPR;** Nader, Farahat, Electrical Engineering, Polytechnic University of Puerto Rico

***Numerical Modeling of Patch Antenna***

*[Engineering-05]*

**Charca, Samuel, UPR-MAYAGUEZ;** Amilcar Quispitupa, Basir Shafiq; Engineering, UPR Mayaguez

***Monitoring of Crack Initiation and Growing by Acoustic Emission in 7075 Aluminum Alloy in Corrosion Environment***

*[Engineering-06]*

**Chaves, Arlex, UPR-MAYAGUEZ;** Rinaldi, Carlos, Dept of Chemical Engineering, UPR Mayaguez

***Experimental and Theoretical Study of Suspensions of Magnetic Nanoparticles in an Annular Gap Subjected to a Rotating Magnetic Field***

*[Engineering-07]*

**Davila, John, UPR-MAYAGUEZ;** Acosta, Felipe, Civil Engineering and Surveying, UPRM; Pando, Miguel, Civil Engineering and Surveying, UPRM

***Mechanical Behavior of Concrete Filled FRP Tubes Under Compression Load***

[Engineering-08]

**Duarte, Julio Martin, UPR-MAYAGUEZ;** Velez-Reyes, Miguel, Electrical and Computer Engineering, UPR Mayaguez; Sapiro, Guillermo, Electrical and Computer Engineering, Univ. of Minnesota

***Multi-Scale Smoothing, Segmentation, and Registration of Hyperspectral Imagery***

[Engineering-09]

**Gerbaudo, Guillermo, UPR-MAYAGUEZ**

***Developing Insurance Solutions Software for Natural Hazard Loss Estimation - Multilevel Input Data***

[Engineering-10]

**Lammoglia, Victor, UPR-MAYAGUEZ;** Acosta, Felipe, Ingenieria Civil, UPRM; Pando, Miguel, Ingenieria Civil, UPRM; Cain, Jason, Materials Science, VirginiaTech, Lesko, Jack, Materials Science, VirginiaTech; Case, Scott, Materials Science, VirginiaTech; ,

***Durability Considerations of Concrete-filled Fiber-Reinforced Polymer (CFFRP) Tubes Subjected to Prolonged Hygrothermal Conditions***

[Engineering-11]

**Masalmah, Yahya M., UPR-MAYAGUEZ**

***Unsupervised Unmixing Of Hyperspectral Images***

[Engineering-12]

**Mondragon, Maria Victoria, UPR-MAYAGUEZ;** Luis A. Godoy, UPR Mayaguez, Engineering

***Computer Simulation of Interfase damage in composites***

[Engineering-13]

**Obregón, Luis Guillermo, UPR-MAYAGUEZ;** Velázquez Figueroa, Carlos, Chemical Engineering, University of Puerto rico Mayaguez Campus

***Measurement And Simulation Of The Concentration Profile Of Binary Mixtures Of Powders When Flowing Between Flat Plates With Rough Surfaces***

*[Engineering-14]*

**Olaya, Lilia, UPR-MAYAGUEZ;** Sandra Pedraza, Department of Mechanical Engineering - University of Puerto Rico; Carlos Baez, Department of Mechanical Engineering - University of Puerto Rico, O. Marcelo Suarez, Department of Sciences of Engineering and Materials - University of Puerto Rico

***Effect Of Directional Heat Flow On The Solidification Characteristics Of Aluminum Boron Copper Composites***

*[Engineering-15]*

**Padilla, Yeira, UPR-MAYAGUEZ;** Moses N. Bogere, University of Puerto Rico-Mayaguez Campus; Kimberly L. Ogden, University of Arizona- Tucson, AZ

***Development of a Filtration and Biotreatment Scheme to Recycle Copper (II) Chemical Mechanical Polishing Wastewater***

*[Engineering-16]*

**Quispitupa, Amilcar, UPR-MAYAGUEZ;** Basir Shafq, General Engineering Dept, UPR Mayaguez

***Effect of Hydrogen and Hold Time on the Fatigue Lifetime of Ultra High Strength Aircraft Structural Steels***

*[Engineering-17]*

**Realpe, Alvaro, UPR-MAYAGUEZ;** Velazquez, Carlos, Dept of Chemical Engineering, UPR Mayaguez

***Agglomeration Modeling Of Small And Large Particles By A Diffusion Theory Approach***

*[Engineering-18]*

**Rodriguez, Valerie, UPR-MAYAGUEZ**

***Graphical Tool for the Analysis of Response Surface on Design of Experiments: A Three Dimensional Approach***

*[Engineering-19]*

**Rodriguez, Radhames, UPR-MAYAGUEZ;** Gutierrez, Gustavo, Mechanical Engineering, UPRM, Mayaguez

***Conductivity Measurement Of Ferrofluid Using Transient Hot Wire Method***

*[Engineering-20]*

**Torrens, Juan, UPR-MAYAGUEZ;** Alamo Loyola, Alberto, Civil Engineering and Surveying, Univ. of Puerto Rico at Mayaguez

***Roadway Design Elements Related to Motorcycle Crashes in Puerto Rico***

*[Engineering-21]*

**Veguilla, Ricardo, UPR-MAYAGUEZ;** Nayda Santiago, Electrical and Computer Engineering, University of Puerto Rico, Mayaguez Campus

***WALSAIP-VTE: A Visualization Tool For Environmental Monitoring And Analysis***

*[Engineering-22]*

**Velasco, Andres Felipe, UPR-MAYAGUEZ;** Hernandez-Rivera, Efrain, Mechanical Engineering Department, University of Puerto Rico at Mayagüez; Perales-Pérez, Oscar Juan, Department of Engineering Science & Materials, University of Puerto Rico at Mayagüez; Tomar, Maharaj S., Physics Department, University of Puerto Rico at Mayagüez

***Synthesis Of Copper Nanoparticles For Synthesis Of Nanofluids With High Thermal Conductivity***

## ***Environmental Sciences***

*[Environmental Sciences-01]*

**Alamo, Luis, UPR-MAYAGUEZ;** Roman, Felix, Chemistry, UPR-Mayaguez; Perales-Perez, Oscar, General Engineering-Materials Science and Engineering, UPR-Mayaguez

***Sorption Of Ethylbenzene, Toluene And Xylene Onto Crumb Rubber From Aqueous Solutions***

*[Environmental Sciences-02]*

**Burgos, Sofia, UPR-RIO PIEDRAS;** Burgos-Caraballo, Sofía, Biology, UPR-RP;  
Caceres, Rita, Biology, UPR-RP; Ramírez, Alonso, Biology, UPR-RP.

***Effects Of Land Use On Benthic Biofilm Metabolism In Tropical Streams In Puerto Rico***

*[Environmental Sciences-03]*

**Cardona, Vanessa, UPR-MAYAGUEZ;** Cruz Esteves Nelly,; Vega Alvarado Lissette,;  
Rios Velazquez Carlos; Biology Dept, University of Puerto Rico-Mayaguez

***First report of Vogesella sp. in Puerto Rico***

*[Environmental Sciences-04]*

**Figuroa, Debora, University of New Hampshire;** Ortiz-Zayas, Jorge R., ITES,  
University of Puerto Rico Rio Piedras Campus; McDowell, William H., Natural  
Resources, University of New Hampshire

***Contributions from Waste Water Treatment Plants to Nutrients, Discharge, and DOC in Streams in the Northeastern Region in Puerto Rico***

*[Environmental Sciences-05]*

**Hernandez, Pablo J, UPR-RIO PIEDRAS;** Perez-Reyez, Omar, Biology Department,  
University of Puerto Rico, Río Piedras Campus; Ramirez, Alonso, Biology Department,  
University of Puerto Rico, Río Piedras Campus

***Diversity and abundance of stream benthic insects among rivers in Puerto Rico.***

*[Environmental Sciences-06]*

**Irrazabal, Maik, UPR-MAYAGUEZ;** Florian, Vivian, University of Puerto Rico at  
Mayagüez; Hernandez, Samuel, University of Puerto Rico at Mayaguez; Briano, Julio,  
University of Puerto Rico at Mayaguez

***Effect of Environmental Parameters on the Chemical Signature of TNT in Soil, Validation of Numerical Simulations***

*[Environmental Sciences-07]*

**Martinez, Yazmin, UPR-RIO PIEDRAS**

***Beach Erosion: Causes and Solutions***

*[Environmental Sciences-08]*

**Melendez, Maria Margarita, UIA-BARRANQUITAS;** Nuñez Figueroa, Damaris, Ciencias y Tecnología, Universidad Interamericana de Puerto Rico, Recinto Barranquitas; Negrón Berrios, Juan A., Ciencias y Tecnología, Universidad Interamericana de Puerto Rico, Recinto de Barranquitas

***Genes y Bioacumulación de Plomo en Bryophyllum pinnatum***

## **Geosciences**

*[Geosciences-01]*

**Cuevas, David, UPR-MAYAGUEZ;** Sherman, Clark E., Dept of Marine Sciences, UPR-Mayaguez; Ramirez, Wilson, Dept of Geology, UPR-Mayaguez; Hubbard, Dennis, Dept of Geology, Oberlin College, Oberlin, Ohio,

***Species distribution, coral growth and sedimentation in a Mid-Holocene coral reef: Cañada Honda, Dominican Republic***

## **Life Sciences**

*[Life Sciences-01]*

**Almeda, Carlos A., UPR-HUMACAO;** Ayala del Rio, Hector L. PhD, Biology Department , UPR Humacao

***Efecto De La Temperatura De Crecimiento En La Estabilidad Del Genoma De Psychrobacter Arcticus 273-4***

*[Life Sciences-02]*

**Araujo, Felix, UPR-RIO PIEDRAS;** Araujo Perez, Felix, University of Puerto Rico; Cotto, Yahdi, University of Puerto Rico; McMillan, W. Owen, University of Puerto Rico

***Linkage Disequilibrium Mapping Of Wing-Colour Pattern Genes In Heliconius Butterflies***

*[Life Sciences-03]*

**Benítez, Rafael J., UPR-RIO PIEDRAS;** Jorge R. Ortiz Zayas, Instituto para Estudios de Ecosistemas Tropicales, Universidad de Puerto Rico-Río Piedras

***The Effects Of Wastewater Effluents On The Metabolism Of Tropical Island Estuaries.***

*[Life Sciences-04]*

**Chad, Lozada, UPR-MAYAGUEZ;** Ballantine, David L., Dept. of Marine Sciences, University of Puerto Rico, Mayagüez

***Molecular establishment of a new *Champia* species (Rhodymeniales, Rhodophyta) from Puerto Rico, Caribbean Sea***

*[Life Sciences-05]*

**Conde, Carlos, UPR-RIO PIEDRAS;** Ortiz-Zayas, Jorge, UPR Rio Piedras, Institute of Tropical Ecosystems Study

***Nitrogen Dynamics in a Tropical Cave Stream***

*[Life Sciences-06]*

**Espinosa, Daisy Y., UPR-RIO PIEDRAS;** Ramirez R., Cuello, KA; Biology Dept., UPR Rio Piedras, Marti, L; Chemistry/Biology Dept, UPR Rio Piedras, Gomez, CM, Neurology Dept; University of Chicago, Lasalde-Dominicci, J A; Chemistry/Biology Dept, UPR Rio Piedras

***Description of the Neuromuscular Degeneration in Transgenic Mice áV249F***

*[Life Sciences-07]*

**Flores, Keila, UPR-MAYAGUEZ;** Rios-Velazquez Carlos

***PHOTOSYNTHETIC PURPLE NON SULFUR BACTERIA FROM WATER RESERVOIRS OF PUERTO RICO***

*[Life Sciences-08]*

**Godoy, Filipa, UPR-RIO PIEDRAS;** Gao, Zhan, DPei, Zhiheng; Dept of Microbiology, New York University School of Medicine, Ley, Ruth; Gordon, Jeffrey, Center for Genome Sciences, Washington University in St. Louis, Pericchi, Luis, Dept of Mathematics, UPR Rio Piedras; Garcia-Amado, Maria, Michaelangeli, Fabian; Venezuelan Institute of Scientific Research IVIC,

***The diverse and complex microbial community inhabiting the foregut of a South American Leaf-Eating Bird: the Hoatzin (*Opisthocomus hoazin*)***

*[Life Sciences-09]*

**González, José, UPR-RIO PIEDRAS;** Colón-López, Daisy D., Biology Department, UPR-Río Piedras; Maurás, Kirla R., Biology Department, UPR-Río Piedras; Estrella, Luis A., Biology Department, UPR-Río Piedras, Martínez, Daviana, Biology Department, UPR-Río Piedras; Lázaro, María I., Biology Department, UPR-Río Piedras; González, Carlos I., Biology Department, UPR-Río Piedras

***Translational Control Of Human Interleukin-3 Mrna By The Adenosine/Uridine Rich Element***

*[Life Sciences-10]*

**Longo, Ana, UPR-RIO PIEDRAS;** Burrowes, Patricia A., Biology, UPR-RP; Joglar, Rafael L., Biology, UPR-RP

***Patterns of chytridiomycosis in Coqui frogs from El Yunque***

*[Life Sciences-11]*

**Loperena, Yaliz, UPR-MAYAGUEZ;** Ruiz-Acevedo Alejandro, UPR-Mayaguez; Rios-Velazquez Carlos, UPR-Mayaguez

***First report of *Cryptococcus neoformans/gattii* in trees in Puerto Rico***

*[Life Sciences-12]*

**Madera, Bismarck, UPR-RIO PIEDRAS;** Bismarck Madera Soto, UPR Rio Piedras,Biologia Ciencias Naturales; Alejandro Ortiz Acevedo, UPR Rio Piedras,Biologia Ciencias Naturales; Juan C .Galloza, UPR Rio Piedras,Biologia Ciencias Naturales, Ruth E. Quintana, UPR Rio Piedras,Biologia Ciencias Naturales; Hernan L. Martinez, University of California, Dominguez Hills/ Chemistry; Jose A. Lasalde-Dominicci, UPR Rio Piedras,Biologia Ciencias Naturales

***Lateral Diffusion Of The Torpedo Californica Acetilcholine Receptor In Oocyte Membrane***

*[Life Sciences-13]*

**Malavé, Josué, UPR-MAYAGUEZ;** Rodriguez, Juan, Industrial Biotechnology, UPR-Mayaguez

***A Bioluminescent Bacterial Survey from Marine Ecosystems of Puerto Rico***

*[Life Sciences-14]*

**Maldonado, Yaritza, UPR-MAYAGUEZ;** Baqar R. Zaidi, Marine Sciences, UPR Mayaguez

***Distribution of Polycyclic Aromatic Hydrocarbon Degrading Bacteria***

*[Life Sciences-15]*

**Medina, Pamela, UPR-RIO PIEDRAS;** Heinz, Heather, Department of Biology, North Carolina State University, Raleigh, NC 27695, USA; Parmelee, John S., Department of Biology, Johnson County Community College, Overland Park, KS 66210, USA., Powell, Robert, Department of Biology, Avila University, Kansas City, MO 64145, USA

***Population Densities and Structural Habitats of Anolis Lizards on St. Eustatius, Netherland Antilles***

*[Life Sciences-16]*

**Monmany, Ana Carolina, UPR-RIO PIEDRAS;** Carla Restrepo, Biology Dept., UPR-Rio Piedras

***Herbivore-Parasitoid Body Sizes In The Landscape***

[Life Sciences-17]

**Raimundi, Koralys, UPR-MAYAGUEZ;** Ballantine, David L. PhD, Department of Marine Sciences, UPR-RUM

***Metapeyssonelia Corallepida Overgrowth Of Millepora Complanata in Shallow Water Coral Reef Habitats In Southwest Puerto Rico***

[Life Sciences-18]

**Rodriguez, Nydia J., UPR-MAYAGUEZ;** Baqar R. Zaidi, Marine Sciences, UPR Mayaguez

***Analysis of Antibiotic Resistance Pattern of Enterococcus spp.***

[Life Sciences-19]

**Ruiz, Francheska, UPR-RIO PIEDRAS;** Ocasio, María, Department of Biology, University of Puerto Rico; Pérez, Raúl, Department of Biology, University of Puerto Rico; Velázquez, Iris M., Department of Biology, University of Puerto Rico

***Time Budgets In Prolonged-Captivity Plain Pigeons (Paloma Sabanera, Patagioenas Inornata Wetmorei)\****

[Life Sciences-20]

**Torres, Hernán, UPR-MAYAGUEZ;** Schizas, Nikolaus, Dept of Marine Sciences, UPR-Mayaguez; Rhyne, Andrew L., Dept of Biology, University of Florida

***Distinct Mitochondrial Lineages In Two Marine Caribbean Species With Different Dispersal Potential***

[Life Sciences-21]

**Vega, Juan, UPR-MAYAGUEZ;** Ríos-Velázquez Carlos, UPR-Mayaguez

***Anoxyphototroph Purple Non-Sulfur Bacteria Isolated from Bromeliad Phytotelmata of Different Forest of Puerto Rico***

# **Mathematics**

*[Mathematics-01]*

**Hernandez, Mariely, UPR-RIO PIEDRAS**

***Exact and Approximate Posterior Moments for a Normal Location Parameter***

*[Mathematics-02]*

**Ñeco, Maria, UPR-RIO PIEDRAS;** Figueroa, Raúl, Mathematics Department, UPR-Río Piedras

***An introduction to  $p$ -adic numbers***

*[Mathematics-03]*

**Pinero, Fernando, UPR-RIO PIEDRAS**

***Coding Theory applied to real problems***

*[Mathematics-04]*

**Torres, Hector, UPR-RIO PIEDRAS;** Figueroa, Raúl, Mathematics, UPR-Río Piedras

***Test de Kummer***

# **Physics**

*[Physics-01]*

**Betancourt, Jesuan, UPR-RIO PIEDRAS;** Fonseca, Luis F, Physics, UPR-Río Piedras;  
Resto, Oscar, Physics, UPR-Río Piedras

***Growth and Optical Properties of Silicon Nanocrystals Grown in Silicon Nitride Films***

*[Physics-02]*

**Biaggi, Azlin, UPR-RIO PIEDRAS;** Fonseca, Luis F., Physics Department, University of Puerto Rico-Rio Piedras; Resto, Oscar, Physics Department, University of Puerto Rico-Rio Piedras

***Tuning the Cathodoluminescence of Porous Silicon Films***

*[Physics-03]*

**Farfan-Mendoza, Willinton, UPR-RIO PIEDRAS;** Mosquera-Vargas, Edgar, Physics, University of Puerto Rico, Rio Piedras Campus; Krishnan, Sridevi, Physics, University of Puerto Rico, Rio Piedras Campus; Vadapoo, Rajasekarakumar, Physics, University of Puerto Rico, Rio Piedras Campus, Marín, Carlos, Physics, University of Puerto Rico, Rio Piedras Campus

***Vapor-Liquid-Solid Synthesis and Characterization of Sb<sub>2</sub>Se<sub>3</sub> Nanowires***

*[Physics-04]*

**Gonzalez, Adolfo, UPR-RIO PIEDRAS;** Weiner, Brad, Chemistry Dept, UPR Rio Piedras; Morell, Gerardo, Physics Dept, UPR Rio Piedras

***Role Of Molybdenum Carbide Interface In The Field Emission Properties Of Nanocomposite Carbon Films***

*[Physics-05]*

**Jauregui, Segundo, UPR-MAYAGUEZ;** Perales-Peres, Oscar, Tomar, Maharaj; Parra, Adrian

***Low Temperature Sol-Gel Synthesis Of Eu-Doped ZnO Nanocrystalline Powders***

*[Physics-06]*

**Lopez, Ivan Joel, UPR-RIO PIEDRAS;** Dolidze, Vladimir, Physics Department, UPR-RP; Aliev, Fouad, Physics Department, UPR-RP

***Influence of Filling of Polymer with Nanoparticles on Relaxation Processes and Glass Transition***

[Physics-07]

**Majumder, Sarmistha, UPR-RIO PIEDRAS;** Aliev, Fouad, Physics Dept, UPR Rio Piedras

***Molecular And Collective Dynamics In Nanoconfined Liquid Crystals***

[Physics-08]

**Nocua, José, UPR-RIO PIEDRAS;** Medina, Olga, Física, Universidad de Puerto Rico, Rio Piedras

***Nanostructured boron nitride films by chemical vapor deposition with catalyst Fe<sub>2</sub>O<sub>3</sub> and NiO***

[Physics-09]

**Ortega, Nora Patricia, UPR-RIO PIEDRAS;** S.B. Majumder, Materials Science Center, Indian Institute of Technology, Kharagpur 721302; P. Bhattacharya, Dept. of Physics, UPR-Rio Piedras; R.S. Katiyar, Dept. of Physics, UPR-Rio Piedras, I. Takeuchi, Small Smart Systems Center, Dept of Materials Science & Engineering; Univerisyt of Maryland, College Park

***Dielectric spectroscopy of pulsed laser deposited type PbZr<sub>0.53</sub>Ti<sub>0.47</sub>O<sub>3</sub>-CoFe<sub>2</sub>O<sub>4</sub> (PZT-CFO) composite thin films***

[Physics-10]

**Parra, Adrian Giovanni, UPR-MAYAGUEZ;** Parra-Palomino Adrian (UPRM), Physics (UPRM); Sotomayor Coraly (UPRM), Physics (UPRM); Perales-Perez O. (UPRM), Department of Engineering Science & Materials (UPRM), Singhal Rahul, Physics (UPRM); Tomar Maharaj, Physics (UPRM); ,

***Effect Of Reaction Temperature On The Structural And Optical Properties Of Zno Nanocrystals***

[Physics-11]

**Rivera, Manuel, UPR-RIO PIEDRAS;** Aliev, Fouad, Dept of Physics, UPR Rio Piedras

***Dielectric Relaxation In Thin Liquid Crystal Layers Formed On Cylindrical Pore Walls***

**[Physics-12]**

**ROZO C., FONSECA L. F., RESTO O., WEISZ S. Z.**

Physics Department, University of Puerto Rico at Rio Piedras, San Juan, PR, USA

***Luminescence Of Rare Earth Doped Si/Al/Sio<sub>2</sub> Co-Sputtered Films***

**[Physics-13]**

**Sola, Francisco, UPR-RIO PIEDRAS;** Resto, Oscar, Physics, UPR-Rio Piedras; Biaggi-Labiosa, Azlin, Physics, UPR-Rio Piedras; Fonseca, Luis, Physics, UPR-Rio Piedras, Sanchez, Germanie, Chemistry, UPR-Rio Piedras; Cabrera, Carlos, Chemistry, UPR-Rio Piedras

***Synthesis of Silica Nanowires, Silica/Carbon and Carbon Nanostructures and Their Applications to DNA Sensing***

**[Physics-14]**

**Uppireddi, Kishore, UPR-RIO PIEDRAS;** Weiner, Brad, Dept of Chemistry, UPR Rio Piedras; Morell, Gerardo, Dept. of Physics, UPR-Rio Piedras

***Optical Properties Of Nanocrystalline Diamond (NDC) Synthesized In DC Plasma Assisted Argon-Rich HFCVD***

**[Physics-15]**

**Vallejo, Pamela, UPR-RIO PIEDRAS;** Posada, Yury, Physics, UPR-Rio Piedras; Fonseca, Luis F, UPR-Rio Piedras; Resto, Oscar, Physics, UPR-Rio Piedras

***Photoluminescent Nanocrystalline Silicon Nanoprobes for cellular imaging***