



PREM Annual Meeting

Friday December 8th 2023

Wyndham Palmas Beach & Golf Boutique Resort
Palmas del Mar, Humacao, PR

Poster Presentations

1. "Electrical characterization and ammonia gas response of a p-Si/n poly[benzimidazo-benzophenanthroline] thin film junction diode", Alejandro J. Cruz-Arzon¹, José Pérez¹, Idalia **Ramos**¹, Nicholas J. **Pinto**¹, Nitza Falcón², Rolando **Oyola**², Yue Jiang³, Nikita Gupta³ and A.T. Charlie **Johnson**³. ¹Dept. Physics and Electronics, UPRH; ²Dept. Chemistry, UPRH; ³Dept. Physics and Astronomy, PENN
2. "Ionic liquid gate tunable diodes based on MoSe₂/doped Si hetero-junctions", Keiralys Soto-Ortiz, Alexander Real-Quiñones, Nicholas J. **Pinto**, C. Wen, Y. Suh and A.T. Charlie **Johnson**. ¹Dept. Physics and Electronics, UPRH; ²Dept. Physics and Astronomy, PENN
3. "Silane Modified Fumed Silica for Liquid Marble Fabrication", Lyanivette Alvarado López¹, Luis A Delgado Rodríguez¹, Gustavo A Berríos Alvarado¹, Ezio **Fasoli**², Daeyeon **Lee**³, Vibha **Bansal**¹. ¹Dept. Chemistry, UPRC; ²Dept. Chemistry, UPRH; Dept. Chemical & Biomolecular Eng., PENN
4. "Fabricating transparent microwell plates from cellulose acetate", Nathalia Liu De Restrepo¹, Alexander Y. Ortiz Rivera¹, Idalia **Ramos**², Ivan J. **Dmochowski**³, Daeyeon Lee⁴, Vibha **Bansal**¹. ¹ Dept. Chemistry, UPRC; ²Dept. Physics and Electronics, UPRH; ³Dept. Chemistry, PENN; ⁴ Dept. Chemical & Biomolecular Eng., PENN
5. "Glycerol as plasticizer agent in recycled cellulose acetate microwell plates", Gabriela A. Marrero Hernández¹, Idalia **Ramos**², Ivan **Dmochowski**³, Daeyeon **Lee**⁴, Vibha **Bansal**¹. ¹Dept. Chemistry, UPRC; ²Dept. Physics and Electronics, UPRH; ³Dept. Chemistry, PENN; ⁴Dept. Chemical and Biomolecular Eng., PENN
6. "Size and Interparticle Distance Control in Magnetron Sputtering Deposition of Noble Metals", Wanda Rivera¹, Camila Negrón², and Francisco **Bezares**². ¹UPRC; ²UPRM
7. "Optical Properties of Random Arrays of Magnetron Sputtering Deposition of Ag Nanoparticles on Si Substrates", Joshua Chaparro, Jessiel Vélez, Germán Vázquez, Francisco Bezares. Dept. Physics, UPRM
8. "Development of a paper-based sensor for the detection of aromatic aldehydes and its implementation in the Experimenta con PREM workshop", Auriani Gómez, Yelisbeth Santa, Gabriela Villafañe, Ezio **Fasoli**. Dept. Chemistry, UPRH
9. "Synthesis of Pillararenes and their attachment to cellulose membranes", Grace Sánchez¹, Yelisbeth Santa¹, Jubetzy Crespo², Ezio **Fasoli**¹. ¹Dept. Chemistry, ²Dept. Biology, UPRH
10. "Fluorescence study of a fluorene-Shiff-base derivative for Ga³⁺ sensing", Nicole De Jesús, Nitza V. Falcón-Cruz, Melvin De Jesús, Rolando **Oyola**. Dept. Chemistry, UPRH
11. "Quantitative analysis using model-independent ligand binding density function applied to nanoparticle-ligand equilibrium", Carmen I. Torres-Dávila¹, Kamillie Díaz-Dávila², Nitza V. Falcón-Cruz¹, and Rolando **Oyola**¹. ¹Dept. Chemistry, UPRH; ²Escuela Superior Bellas Artes, Humacao
12. "Analysis and sintering process characterization of carbon spheres prepared using hydrothermal method", Emily T. Morales Arroyo¹, Anamaris Meléndez¹, Idalia **Ramos**¹, César Nieves², ¹Dept. Physics and Electronics, UPRH; Omya Technology Center Cincinnati, Blue Ash, OH

13. "Photoresponse properties of a broadband rGO-nSi photodetector", José L. Pérez Gordillo¹, Anamaris Meléndez¹, Nicholas J. **Pinto**¹, Jorge **Santiago**², Idalia **Ramos**¹. Dept. Physics and Electronics, UPRH; Dept. Electrical and Systems Eng., PENN
14. "Computational identification of the ferrimagnetic structure of H₂SrCoO_{2.5}", Andrea García, Juan **Santana**. Dept. Chemistry, UPRC
15. "Deformed plate wells detection by means of image filters, keystone corrections and the Hough transform", Emmanuel Rosa Delgado, José O. **Sotero Esteva**. Dept. Mathematics, UPRH
16. "Colorimetric assay analysis using Microsoft Power Platform", Frances J. Martínez-Miranda, Emmanuel Rosa Delgado, Génesis Pérez González, José O. **Sotero-Esteva**. Dept. Mathematics, UPRH
17. "Optimized 3D-printed fluidic devices for separation of carbon spheres", Robert A. Rosario González¹, Kimberly M. Hernández Ferrer², José J. **Sotero Esteva**³, ¹Dept. Mathematics, UPRH; ²Ramón Quiñones Medina High School, Yabucoa
18. "Overview of Neural Network architectures for the study of polymers", Michael J. Rivera Lazú¹, Sophia L. Martinez Miranda², José O. **Sotero Esteva**¹. ¹Dept. Mathematics, UPRH; ²Petra Mercado High School, Humacao
19. "The effect of image equalization on colorimetric analysis using Smartphones", Génesis N. Pérez González, Emmanuel Rosa Delgado, José J. **Sotero-Esteva**. Dept. Mathematics, UPRH
20. "All-solid-state thin-film batteries with solid electrolytes for medical applications", Carla Baez-Velázquez¹, Xavier Zayas-Rodríguez², Kyanelisse Flores Morales¹, R. S. Katiyar³, and D. **Barrionuevo**⁴. ¹Dept. Chemistry, UPRC; ²Dept. Natural Sciences, UPRC; ³Dept. Physics and Institute of Functional Nanomaterials, UPR-Río Piedras; ⁴Dept. Mathematics and Physics, UPRC
21. "Utilizing ferroelectric structures for energy storage applications", Edward Hickey-Figueroa¹, Patricia Gierbolini-Santos² and Danilo **Barrionuevo**³. Dept. Chemistry, UPRC; ²Dept. Biology, UPRC; ³Dept. Mathematics-Physics, UPRC
22. "Zinc oxide with silver nanoparticles for gas sensing applications", Yasmarie Colón-Sáez¹, Paola Garcia-Polanco², Wilfredo Otano³, Danilo **Barrionuevo**³. ¹Dept. Chemistry, UPRC; ²Dept. Natural Sciences, UPRC; ³Dept. Mathematics-Physics, UPRC
23. "Multiferroic characteristics of hafnium-doped material for neuromorphic computing applications", Eric Sánchez-Ayala¹, Cynthia Rodríguez-Cruz¹, Maria Rodríguez-Ortiz¹, and Danilo **Barrionuevo**², ¹Dept. Biology, UPRC; ²Dept. Mathematics-Physics, UPRC