

**LIST OF ABSTRACTS FOR SCIENTIFIC POSTERS PRESENTATION**

**41st Annual Scientific Meeting; 10-11 July 2019**

**THEME: "Caring for Our Nations Carrying Capacity"**

**Engineering Sciences Division**

NO.	AUTHOR/S	MAJOR AUTHOR	PRESENTING AUTHOR	AFFILIATION	TITLE OF PAPER
EST-001	Chasin Cabriga, Airic Carillo, Kerstein Clarete, Samuel Estrada, Janssen Peñaflor, Joyce Zhang, Jhulimar Castro	Jhulimar C. Castro	Jhulimar C. Castro	Department of Chemical Engineering and Research Center for Natural and Applied Sciences, University of Santo Tomas, España, Manila, Philippines	Agricultural Waste from Rice Industry – Straw and Husk – as a Potential Adsorbent for Carbon Capture
EST-002	, Arnold G. Apdohan, Roger C. Montepio, Michelle V. Japitana	Arnold G. Apdohan	Arnold G. Apdohan	Caraga State University, Ampayon, Butuan City	GIS-Based Drought Vulnerability Assessment of Rice Farm Areas in Butuan City, Agusan del Norte, Philippines
EST-003	Marjorie S. De Luna, Allan N. Soriano, Ian A. Navarrete, and Adonis P. Adornado	Marjorie S. De Luna	Allan N. Soriano	Chemistry Examining Division, Bureau of Patents, Intellectual Property Office of the Philippines, 28 Upper McKinley Rd., Taguig City, 1634  School of Chemical, Biological, and Materials Engineering and Sciences, Mapúa University, 658 Muralla St, Intramuros, Manila, 1002  Department of Environmental Sciences, Ateneo de Manila University, Katipunan Ave., Loyola Heights, Quezon City 1108	Influence of Nutrient Supplement in the Single Heavy Metal (Pb <sup>2+</sup> , Cd <sup>2+</sup> , Cr <sup>3+</sup> ) Uptake and Mineral Nutrients Absorption by Water Kangkong ( <i>Ipomea aquatica</i> Forsk.)

NO.	AUTHOR/S	MAJOR AUTHOR	PRESENTING AUTHOR	AFFILIATION	TITLE OF PAPER
EST-004	Melanie G. Binauhan, Allan N. Soriano, Lemmuel L. Tayo, and Adonis P. Adornado	Melanie G. Binauhan	Adonis P. Adornado	Chemical Technology Examining Division, Bureau of Patents, Intellectual Property Office of the Philippines, 28 Upper McKinley Rd., Taguig City, 1634  School of Chemical, Biological, and Materials Engineering and Sciences, Mapúa University, 658 Muralla St, Intramuros, Manila, 1002	Kinetics and Equilibrium Modeling of Single and Binary Adsorption of Aluminum (III) and Copper (II) onto Calamansi (Citrofortunella microcarpa) Fruit Peels
EST-005	Ralph Vernoulli Ramos, Leandro de Castro, Gino Apollo Guerrero, Ronniel Manalo	Ralph Vernoulli A. Ramos	Ronniel D. Manalo	Department of Chemical Engineering, College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños; Department of Forest Products and Paper Science, College of Forestry and Natural Resources, University of the Philippines Los Baños	Utilization of Termite Fecal Pellets as Filler in Phenol-Formaldehyde Resins for Plywood Application
EST-006	Alloyssius E.G. B. Gorospe, Mary Donnabelle L. Balela	Alloyssius E.G. B. Gorospe	Alloyssius E.G. B. Gorospe	Sustainable Electronic Materials Group, Department of Mining, Metallurgical, and Materials Engineering, University of the Philippines, Diliman, Quezon City	Carbon-supported nickel-based catalysts for hydrogen evolution reaction

NO.	AUTHOR/S	MAJOR AUTHOR	PRESENTING AUTHOR	AFFILIATION	TITLE OF PAPER
EST-007	Gillian Kathryn B. Yap, Jonathan N. Patricio, and Susan D. Arco	Susan D. Arco	Gillian Kathryn B. Yap	Synthetic Organic Chemistry Laboratory, Institute of Chemistry, University of the Philippines Diliman, Quezon City 1101 Natural Sciences Research Institute (NSRI), University of the Philippines Diliman, Quezon City 1101	Capacitive Characteristics of 1-Alkyl-3-Methylimidazolium Adipate Ionic Liquids as Electrolytes for Carbon-based Supercapacitors
EST-008	Jonathan N. Patricio, Gillian Kathryn B. Yap, Katherine L. Pernia, and Susan D. Arco	Jonathan N. Patricio	Jonathan N. Patricio	Natural Sciences Research Institute (NSRI), University of the Philippines Diliman, Quezon City 1101, Synthetic Organic Chemistry Laboratory, Institute of Chemistry, University of the Philippines Diliman, Quezon City 1101	Fabrication of Supercapacitors Using Novel Carboxylate-Functionalized Methylimidazolium-based Binary Ionic Liquids
EST-009	Katherine L. Pernia, Jonathan N. Patricio, and Susan D. Arco	Susan D. Arco	Katherine L. Pernia	Synthetic Organic Chemistry Laboratory, Institute of Chemistry, University of the Philippines Diliman, Quezon City 1101 Natural Sciences Research Institute (NSRI), University of the Philippines Diliman, Quezon City 1101	Investigating the Ionic Conductivity and Electrochemical Window of 1-Alkyl-3-Methylimidazolium Halides [RMIM]X Ionic Liquids

NO.	AUTHOR/S	MAJOR AUTHOR	PRESENTING AUTHOR	AFFILIATION	TITLE OF PAPER
EST-010	Jeff Darren G. Valdez, Angel T. Bautista VII, Preciosa Corazon B. Pabroa, Joseph Michael D. Racho, Gloria D. Jimenez, Flora Santos	Jeff Darren G. Valdez	Jeff Darren G. Valdez	Philippine Nuclear Research Institute- Department of Science and Technology: Commonwealth Avenue, Diliman, Quezon City	Source Estimation and Correlation Analysis of Thermal-Optical Transmittance Elemental Carbon (EC) and Reflectometer Black Carbon(BC) from an Urban and a Rural Site in the Philippines
EST-011	NATHANIEL ALIBUYOG, RODEL T. UTRERA, SUSAN ALBANO	NATHANIEL R. ALIBUYOG	NATHANIEL R. ALIBUYOG	Mariano Marcos State University, City of Batac, 2906 Ilocos Norte	Groundwater Vulnerability Assessment of the Davao River Basin Using GIS-based DRASTIC Method
EST-012	Wagner John L. Reposilo, Ramir C. Quijada, Jr., Rodelo A. Luspo, Rachel M. Chong, Jeziel C. Suniel	Wagner John L. Reposilo	Rachel M. Chong	Electronics Engineering Department, Cebu Institute of Technology University, N. Bacalso Ave., Cebu City, Cebu	Face Recognition System using Local Ternary Patterns for Blind Assistance
EST-013	Hans Jordan N. Quita, Ryan Christian V. Esguerra, John Carlo Y. Tiongco, Michael Joseph O. Otom, Emmanuel Guevarra	Emmanuel Guevara	Ryan Christian V. Esguerra	Faculty of Engineering, University of Santo Tomas, Espana, Manila	Classification of Philippine Indigenous Music according to Geographical Location using Convolutional Neural Network

NO.	AUTHOR/S	MAJOR AUTHOR	PRESENTING AUTHOR	AFFILIATION	TITLE OF PAPER
EST-014	Andrew Doño, Charles John U. Ulit	Andrew C. Doño	Andrew C. Doño	Department of Materials Science and Engineering, College of Engineering, Mariano Marcos State University, City of Batac, 2906 Ilocos Norte	Synthesis and Characterization of Ceramic Lightweight Aggregate Utilizing Ilocos Norte Clay and Corn Cob Char
EST-015	Rose Anne E. Acedera, Mary Donnabelle L. Balela	Rose Anne E. Acedera	Rose Anne E. Acedera	Sustainable Electronic Materials Group, Department of Mining, Metallurgical, and Materials Engineering, University of the Philippines Diliman	Solution Combustion Synthesized-Porous Co <sub>3</sub> O <sub>4</sub> -based Nanoparticles as Oxygen Evolution Reaction Catalysts in Alkaline Medium
EST-016	Nevelyn T. delos Santos, Emie Salamangkit-Mirasol	Emie Salamangkit-Mirasol	Nevelyn T. delos Santos	Mariano Marcos State University, City of Batac, Ilocos Norte	Development of Leadless Glaze Utilizing Indigenous Raw Materials for Locally Made Ceramic Decorative Wares
EST-017	Emie Salamangkit-Mirasol, Jorella Francia Dulig	Emie Salamangkit-Mirasol	Emie Salamangkit-Mirasol	Mariano Marcos State University, City of Batac, Ilocos Norte	Development of Terra Sigillata Slip Utilizing Ilocos Clay and Locally Prepared Sodium Silicate as Thin Coating for Ceramic Cooking Wares
EST-018	Girlie P. dela Cruz, Emie Salamangkit-Mirasol, Mauro Jay Pambid, April Mae Patac	Girlie P. dela Cruz	Emie Salamangkit-Mirasol	Mariano Marcos State University, City of Batac, Ilocos Norte	Preparation and Evaluation of Sodium Silicate Solution from Rice Hull Char and Sodium Hydroxide for Ceramic Slurries Application
EST-019	Anessa M. Dela Cruz, Samuel S. Franco, Grace U. Urmeneta, Dionesio C. Pondoc and Andrew C. Dono	Anessa M. Dela Cruz	Samuel S. Franco	Mariano Marcos State University, City of Batac, 2906, Ilocos Norte	Synthesis and Characterization of Forsterite Using Ilocos Norte Soapstone and Magnesium Carbonate

NO.	AUTHOR/S	MAJOR AUTHOR	PRESENTING AUTHOR	AFFILIATION	TITLE OF PAPER
EST-020	Yasmin D.G. Edañol <sup>1</sup> , Roland Barbosa <sup>2</sup> , Salvador C. Buenviaje Jr. <sup>3</sup> , Leon M. Payawan Jr. <sup>4</sup>	Yasmin D.G. Edañol	Yasmin D.G. Edañol	1 Natural Sciences Research Institute, University of the Philippines, Diliman, Quezon City, 1101, Philippines 2 Department of Chemistry and Biochemistry, Lamar University, 4400 MLK Blvd, Beaumont, TX 77710, USA 3 Materials Science and Engineering Program, College of Science, University of the Philippines, Diliman, Quezon City, 1101, Philippines 4 Institute of Chemistry, College of Science, University of the Philippines, Diliman, Quezon City, 1101, Philippines	Synthesis of Copper-Manganese Spinel Nanoparticles via Oxalate Precipitation for Methanol Steam Reforming
EST-021	Salvador C. Buenviaje, Jr., Yasmin D.G. Edañol, and Leon M. Payawan, Jr.	Salvador C. Buenviaje, Jr.	Salvador C. Buenviaje, Jr.	Materials Science and Engineering Program - Computational Science Research Center, National Science Complex, University of the Philippines, Diliman, Quezon City	Hydrothermal Synthesis of Zeolite Crystals Incorporated by Nitrogen-doped TiO <sub>2</sub> Nanoparticles for the Photocatalytic Degradation of Tartrazine
EST-022	Rodrigo V. Dejeto, Jennyrose C. Clemente, Christian Mark S. Galut	Rodrigo V. Dejeto	Rodrigo V. Dejeto	Division of Natural Sciences and Mathematics, University of the Philippines Visayas Tacloban College, Tacloban City, 6500 Philippines	Physical characterization of low fired porous ceramic whiteware utilizing bone ash, quartz and clay for artware products

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EST-023	Jan-Ervin C. Guerrero, Christy S. Daniel, Elyson Keith Encarnacion	Jan-Ervin C. Guerrero	Jan-Ervin C. Guerrero	Department of Science and Technology, Bicutan Taguig City	Short-term and Long-term Stability Studies of Copper and Iron in Drinking Water – Reference Material
EST-024	David Joram Mendoza, Joemari Noe, Ma. Kimberly Suministrado, Ida Allen Lopez, Maria Teresa Perez, Lilia Fernando, Lorele Trinidad, Ma. Theresa Jonna Atienza, Evangelyn Alocilja, Francisco B. Elegado	Francisco / B. / Elegado	Jomari R. Noe	1National Institute of Molecular Biology and Biotechnology (BIOTECH), 2Nanobiosensor Laboratory, Dept. of Biosystems and Bioengineering, Michigan State University, East Lansing, MI, USA	Selectivity, Sensitivity and Stability Testing of DNA-Nanobiosensor Prototypes for E. coli, E. coli O157:H7 and Salmonella enterica Detection
EST-025	Luigi Dahonog, Mary Donnabelle Balela	Luigi A. Dahonog	Luigi A. Dahonog	Sustainable Electronic Materials Group, Department of Mining, Metallurgical and Materials Engineering, University of the Philippines Diliman, Quezon City, Philippines 1101	Carbon Fiber-supported Ni <sub>3</sub> (NO <sub>3</sub> ) <sub>2</sub> (OH) <sub>4</sub> flower-like structures for Supercapacitor Applications
EST-026	Michael Angelo Zafra, Jon Nyner Gavan, Emil David Villena	Michael Angelo Zafra	Michael Angelo Zafra	University of the Philippines - Diliman, Quezon City	Colorimetric detection of copper (II) ions in water using humic acid-functionalized silver nanoparticles

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EST-027	Bethel Faith Y. Rezaga, Mary Donnabelle L. Balela	Bethel Faith Y. Rezaga	Bethel Faith Y. Rezaga	Sustainable Electronic Materials Group, Department of Mining, Metallurgical, and Materials Engineering, University of the Philippines Diliman, Quezon City	Fusing of silver nanoparticles at room temperature using halide solutions for conductive inks
EST-028	Christian Laurence E. Aquino, Bethel Faith Y. Rezaga, Rinlee Butch Cervera, Mary Donnabelle L. Balela	Christian Laurence E. Aquino	Christian Laurence E. Aquino	Department of Mining, Metallurgical, and Materials Engineering, University of the Philippines Diliman, Quezon City	Photocatalytic Property of Cu-Doped Hematite ( $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> ) Hierarchical Nanostructures
EST-029	Charles Lois I. Flores, Mary Donnabelle L. Balela	Charles Lois I. Flores	Charles Lois I. Flores	Sustainable Electronic Materials Group, Department of Mining, Metallurgical, and Materials Engineering, University of the Philippines, Diliman, Quezon City, Philippines 1101	Efficient Electrocatalytic Oxygen Evolution of NiCo <sub>2</sub> O <sub>4</sub> Nanourchins in Alkaline Medium
EST-030	Edgar Clyde R. Lopez, Joey D. Ocon, Jem Valerie D. Perez	Edgar Clyde R. Lopez	Edgar Clyde R. Lopez	University of the Philippines Department of Chemical Engineering	Silver-doped Titanium Dioxide Nanotubes for Photoelectrocatalytic Degradation of Acid Orange 52



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EST-031	Eunice M. Renovalles, Erwin P. Quillooy, Evelyn F. Delfin, Ana Mikaela B. Maravilla, Arvin S. Carpentero	Erwin P. Quillooy	Eunice M. Renovalles	1Agribiosystems Machinery and Power Engineering Division, Institute of Agricultural and Biosystems Engineering, College of Engineering and Agro-Industrial Technology, University of the Philippines Los Baños (UPLB), College, Laguna; 2Plant Physiology Laboratory, Institute of Plant Breeding, University of the Philippines Los Baños (UPLB), College, Laguna	Application of Low-Cost Modified Camera For NDVI Mapping of Sugarcane Field in Tranca, Bay, Laguna
EST-032	Jethro Daniel A. Pascasio, Joey D. Ocon	Jethro Daniel A. Pascasio	Jethro Daniel A. Pascasio	Laboratory of Electrochemical Engineering, Department of Chemical Engineering, University of the Philippines Diliman, Philippines, 1101 Energy Engineering Program, National Graduate School of Engineering, University of the Philippines Diliman, Philippines, 1101	High Renewable Energy (Solar and Wind) Penetration Hybrid Energy Systems for Deep Decarbonization in Off-grid Areas
EST-033	Carlos Pascual	Carlos Pascual	Carlos Pascual	Marcos Avenue College of Engineering-Dept. of ABE	Sustainable Smart Grid Renewable Energy Technologies in the Philippines: Case Study on Geospatial Assessment and Partnerships

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EST-034	Geramheen Dela Vega, Yasmin Yvon Suyat, Susan Arco, Mary Donnabelle Balela	Mary Donnabelle Balela	Mary Donnabelle Balela	Sustainable Electronic Materials, Department of Mining, Metallurgical and Materials Engineering, University of the Philippines, 1101 Diliman, Quezon City	Detection of Malathion Using Molecularly-Imprinted Polymer on Quartz Crystal Microbalance
EST-035	Mark Angelo Y. Naag1, Kuri Leigh D. Abrugena1, Raiza F. De Leon1, Cristina Amor M. Rosales, PhD1	Mark Angelo Y. Naag1	Cristina Amor M. Rosales, PhD	1Civil & Sanitary Engineering Department, Batangas State University RGR Building, Batangas State University Main Campus II, Golden Country Homes, Alangilan, Batangas City	Discarded Rubber Tires as an Alternative for Sand in a Soundproofing Mixture
EST-036	Rizamae A. Cañares, Edricson N. Ongkho, Abigail P. Serva, Lola Domnina B. Pestaño	Lola Domnina B. Pestaño	Abigail P. Serva	Research Center for the Natural and Applied Sciences (UST-RCNAS)	Removal of Acid Black Dye in Aqueous Solution by the use of Natural and Modified Perlite and the Design of an Agitation Tank for the Adsorption Process
EST-037	Edgar Clyde R. Lopez, Vince Aron F. Cleofe, Rio Ysabel A. Cañal, Kristoffer Francis P. Boado, and Jem Valerie D. Perez	Edgar Clyde R. Lopez	Vince Aron F. Cleofe	Nanotechnology Research Laboratory, Department of Chemical Engineering, University of the Philippines Diliman	Photoelectrocatalytic Degradation of Acid Orange 52 using Copper-doped Titanium Dioxide Nanotubes under UV light

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<b>EST-038</b>	RICHARD D. TAMBALO, Donn Paul P. Armijo, Jason E. Yanela, Alyanna Mariah dIR Arias, Fidel Rey P. Nayve Jr., John Leonard E. Eseo, Jan Tristan M. Acenas, Luisito G. Ison and Catalino G. Alfafara	RICHARD D. TAMBALO	RICHARD D. TAMBALO	National Institute of Molecular Biology and Biotechnology (BIOTECH), University of the Philippines Los Baños, College, Laguna, Philippines 4031 and Department of Chemical Engineering, College of Engineering, University of the Philippines Los Baños, College, Laguna, Philippines 4031	Locally Available Agricultural Wastes as Source of Xylose Sugars for Xylitol Fermentation in the Philippines
<b>EST-039</b>	Ronald Daryll E. Gatchalian, Alvie A. Astronomo, Ph.D.	Ronald Daryll E. Gatchalian	Ronald Daryll E. Gatchalian	Nuclear Reactor Operations Section, DOST - Philippine Nuclear Research Institute, Commonwealth Ave., Diliman, Quezon City	Criticality Safety Assessment of Philippine Research Reactor-1 Fresh Fuel Storage Vault