



Republic of the Philippines  
**Department of Education**  
NATIONAL CAPITAL REGION

November 14, 2024

**REGIONAL MEMORANDUM**

No. 1219, s. 2024

**To:** Schools Division Superintendents  
All Others Concerned

**Winners to the 2024 Regional Science and Technology Fair (RSTF)**

1. The Department of Education – National Capital Region (DepEd-NCR) through the Curriculum and Learning Management Division (CLMD) announces the winners of the 2024 Regional Science and Technology Fair (RSTF) held on November 6 – 8, 2024 at Quezon City Science High School, Schools Division Office of Quezon City.
2. This office recognizes the support of Quezon City, led by Mayor Josefina “Joy” Belmonte, and the Schools Division Office of Quezon City under the leadership of Ms. Carleen S. Sedilla, CESO V for graciously hosting the 2024 RSTF. We also express our gratitude to Our Lady of Lourdes Hospital, particularly President Paul Richard Camangian, for their support throughout the event.
3. Special thanks to the NCR Schools Division Superintendents, Assistant Schools Division Superintendents, Curriculum Implementation Division Chiefs, Mathematics and Science Division Education Program Supervisors, NCR Research Advisers Association, advisers, and trainers who played pivotal roles in ensuring the success of the 2024 RSTF.
4. The list of awardees is enclosed herewith for your reference:
  - Enclosure 1: Special Awards
  - Enclosure 2: List of Finalists
  - Enclosure 3: Top 5 Awardees
  - Enclosure 4: Bida Lourdes Top 15 Awardees and Lourdes Choice Awards
  - Enclosure 5: NSTF Qualifiers
5. The **First-Place** winners in the Life Science, Physical Science, Robotics and Intelligent Machines, Mathematics and Computational Sciences and Science Innovation Expo for both individual and team categories will be the NCR’s NSTF Qualifiers.
6. Immediate dissemination of this memorandum is desired.

  
**JOCELYN DR ANDAYA**

Regional Director  
concurrent Officer-in-Charge  
Office of the Assistant Secretary for Operations



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**ENCLOSURE 1: SPECIAL AWARDS**

**A.**

Shoutout	Education Program Supervisor in Science	Education Program Supervisor in Mathematics	Schools Division Superintendent
<b>First</b>	DO 06 - Manila Merie Gerlie V. Capiral	Remyllinda T. Soriano	Dr. Rita Riddle
<b>Second</b>	DO 11 - Pasay Maripaz T. Mendoza	Rogelio S. Junio	Dr. Joel T. Torrecampo
<b>Third</b>	DO 17 - Quezon City Science High School Maria Pilar O. Capalongan	Joel P. Feliciano	Ms. Carleen S. Sedilla
<b>Fourth</b>	DO 12 - Pasig Liza A. Alvarez	Edna D. Camarao	Ms. Sheryll Gayola
<b>Fifth</b>	DO 05 - Mandaluyong Roxane S. Villanueva	Liberty Nobleza	Dr. Romela Cruz

**B.**

Poster Making	Education Program Supervisor in Science	Education Program Supervisor in Mathematics	Schools Division Superintendent
<b>First</b>	DO 11 - Pasay Maripaz T. Mendoza	Rogelio S. Junio	Dr. Joel T. Torrecampo
<b>Second</b>	DO 05 - Mandaluyong Roxane S. Villanueva	Liberty Nobleza	Dr. Romela Cruz
<b>Third</b>	DO 14 - San Juan Bradley Goldie K. Loo	Helen S. Acedo	Dr. Margarito Materum
<b>Fourth</b>	DO 12 - Pasig Liza A. Alvarez	Edna D. Camarao	Ms. Sheryll Gayola
<b>Fifth</b>	DO 10 - Paranaque Corazon A. Javier	Emma R. Cunanan	Dr. Nanette Losaria

**C. Best Display Board**

Life Science Individual	Division	Researcher	Research	School	Research Adviser
	DO02 Las Pinas	Dwyane David A. Sagun	In Silico Analysis of Present Flavonoids and Flavones in Kangkong (Ipomea aquatica) as	Las Piñas National High School	Margian Erica S. Taguas

				Potential AR-positive (Androgen Receptor) Regulator: A Novel Approach for Stage I Colorectal Cancer Therapy		
Life Science Team	DO12 Pasig	Antoinette H. Alibayan; Jenneville Bayaban; Jian Carlo A. Koa	Synergistic Effects of Oregano, Turmeric, And Lemongrass Oil in Aedes Aegypti Larvae Control	Rizal Experimental Station and Pilot School of Cottage Industries	Ben R. Jimenez	
Physical Science Individual	DO17 Quezon City Science High School	Kirsten Rei E. Ancheta	BLAZE: Bayabas Leaves Alleviation Zone—Common Guava Leaf (Psidium guajava) Extract on Starch-Based Patches	Quezon City Science HS	Levine Dave N. Nacino	
Physical Science Team	DO17 Quezon City Science High School	Ma Seceza Elaine R. Escuadra; Syesha Rain C. Rio; Xander P. Tacdol	Irradiated Edible Pectin Film from Calamansi (Citrus x microcarpa) Peels in the Shelf Life Extension of Oriental Mustard (Brassica juncea)	Quezon City Science HS	Earl Francis C. Merilles	
Robotics and Intelligent Machines Individual	DO04 Malabon	Jalayah Brianna A. Pascual	ESP32 For Heat Guard: Heat Index Monitoring System	Malabon City National Science and Mathematics High School	Robert Aldrin G. Bautista	

Robotics and Intelligent Machines Team	DO08 Muntinlupa	Yoshi Sean T. Apuntar; Jowee Austin G. Magturo; Jasel Angela S. Berones	Genduck: Gender Identification Of Itik Pinas- Kayumanggi Eggs Through Eccentricity Analysis Using Raspberry Pi And Opencv Image Processing	Muntinlupa Science High School	Chandler Erickson A. Cachuela
Science Innovation Expo Individual	DO05 Mandaluyong	Samuel Q. Tan	VISION: Vehicle Identification and Surveillance for Improved Road Observation and Enhanced Traffic Safety	City of Mandaluyong Science High School	John Francis S. Cultura
Science Innovation Expo Team	DO16 Valenzuela	Angelina A. Alipio; Jared A. Baltaan; Jerson B. Estrada	Pyroguard: An Arduino-Based Heat, Flame, And Gas-Responsive Fire-Suppression Technology	Malinta National High School - SHS	Chealand T. Dela Cruz
Mathematics and Computational Sciences Individual	DO15 Taguig Pateros	Prince Carl V. Ison	The Growing Lucky Clover : General Formula of the Area of nth Clover Leaf Shape Inscribes in Regular with Polygons.	Taguig Science High School	Kristoffer Paulo L. Ramirez
Mathematics and Computational Sciences Team	DO13 Quezon City	Leanne Kate E. Suaybaguio ; Cassandra B.	Finite Element Analysis (FEA) of LCM: Low Cost	Batasan Hills National High School	Sarah Y. Yimyaem

	Galzote; Meriel P. Bermudez	Material Insulation Based on Fourier's Law of Heat Conduction Using ANSYS		
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**D. Best Presenter**

	<b>Division</b>	<b>Title of Project</b>	<b>Researcher</b>	<b>School</b>	<b>School</b>	<b>Principal</b>
Life Science Individual	Schools Division Office, Quezon City	Examining Diameter-Height Relationships for the Management and Carbon Stock Assessment of Trees in the Public Community Parks and Open Spaces of Quezon City, Philippines	Margalo Amos V. Cerro	Ramon Magsaysay (Cubao) High School	Jeanne Marie Gabrielle C. Tenchavez	Josepina M. Maningas
Life Science Team	Quezon City Science High School	Larvicidal Activity of Aratiles (Muntingia calabura) Crude Leaf Ethanolic Extract Against Fall Armyworms	Emerson A. Lina; Selwyn Benedict S. Bamba; Josh Wayne M. Pobre	Quezon City Science HS	Earl Francis C. Merilles	George Emmanuel F. Martin

			(Spodoptera frugiperda)					
Physical Science Individual	Schools Division Office, Muntinlupa City	Phytochemical Analysis And Optimization Of Talahib Leaf Extract For Transdermal Patch Formulation: Development Of A Potential Wound Healing Agent	Michael John B. Rojo	Muntinlupa National HS	Princess C. La Rosa	Florante C. Marmeto		
Physical Science Team	Quezon City Science High School	Irradiated Edible Pectin Film from Calamansi (Citrus x microcarpa) Peels in the Shelf Life Extension of Oriental Mustard (Brassica juncea)	Ma Seceza Elaine R. Escudera; Syesha Rain C. Rio; Xander P. Tacdol	Quezon City Science HS	Earl Francis C. Merlles	George Emmanuel F. Martin		
Robotics and Intelligent Machines Individual	Schools Division Office, Malabon City	ESP32 For Heat Guard: Heat Index Monitoring System	Jaliyah Brianna A. Pascual	Malabon City National Science and Mathematics High School	Robert Aldrin G. Bautista	Teresita C. Dalmacio		

Robotics and Intelligent Machines Team	Schools Division Office, Caloocan City	POSAIDON: Automated Flood Level Monitoring and Alert System Using Ultralytics YOLOv8 Instance Segmentation	Jerick Gian D. Grageda; Van Aira K. Melgar; James Brian E. Ong	Caloocan National Science and Technology High School	Jackielyn O. Guillermo	Flora T. Teope
Science Innovation Expo Individual	Schools Division Office, Parañaque City	TARAM (Translation Assistant for Reading Access and Mobility) as a Reading Transcription and Accessibility Device	Alyanna B. Belista	Paranaque National High School - Main	Francis V. Carpio	Gerry A. Lumaban
Science Innovation Expo Team	Schools Division Office, Valenzuela City	Pyroguard: An Arduino-Based Heat, Flame, And Gas-Responsive Fire-Suppression Technology	Angelina A. Alpio; Jared A. Baltaan ; Jerson B. Estrada	Malinta National High School - SHS	Chealand T. Dela Cruz	Dr. Cesar C. Villareal
Mathematics and Computational Sciences Individual	Schools Division Office, Valenzuela City	Geometric Investigation of Quasicrystals: Analyzing Diffraction Patterns with	Kyle Anthony J. Roberto	Valenzuela City School of Mathematics and Science	Dioscorro III G. Lumogdang	Jaime S. De Vera Jr.

		de Bruijn's Multigrad Lattices				
Mathematics and Computational Sciences Team	Schools Division Office, Caloocan City	Investigating Circular Rosette Patterns and Its Potential Application to Network Topology	Marion Benj D. Buencamino; Chanelle G. Molina; Reese Chloe S. Santiago	Caloocan City Science High School	Guiller Jobert H. Suarez	Philip A. Villamor



**ENCLOSURE 2: LIST OF FINALISTS  
Life Science Individual**

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
DO01 Caloccan	Christ Ian M. Navarro	Anxiolytic Activity of the Methanolic Extract of Annona Syamosa Leaves on Zebra Fish	Caloccan City Science High School	Suzzeth U. Dizon	Phillip A. Villamor
DO02 Las Pinas	Dwyane David A. Sagun	In Silico Analysis of Present Flavonoids and Flavones in Kangkong (Ipomea aquatica) as Potential AR-positive (Androgen Receptor) Regulator: A Novel Approach for Stage I Colorectal Cancer Therapy	Las Piñas National High School	Margian Erica S. Taguas	Ignacio L. Son, Jr.
DO04 Malabon	Mary Kathleen J. Fulgencio	Investigating the Antimicrobial Capability of Gamma-Irradiated Calamansi Peels (Citrus x microcarpa) against Escherichia coli and Staphylococcus	Malabon National High School	Ma. Kathleen C. Paraguya	Olivia Q. Martin
DO05 Mandaluyong	Lance D. Bartolome	In Vitro Antimicrobial Activity of Green Synthesized Silver Nanoparticles (AgNPs) using Peanut (Arachis hypogaea) Shell Extract against Klebsiella pneumoniae	City of Mandaluyong Science High School	Crizel J. Peligrino	Gigi G. Bullanday
DO06 Manila	Leslie Anne A. Ballesteros	Efficacy of Lecithin-Based Extracts from Lima (Phaseolus lunatus) Beans for Cryopreservation of Bull Semen	Cayetano Arellano High School (JHS)	Perlita B. Lim	Eddieza E. Durens
DO07 Marikina	Janice R. Morales	Evaluating the Effects of Insecticidal Activity on Cacao(Theobroma cacao) Leaves Extract Against Muscidae Insect.	Nangka High School	Armando Ponce	Hadji M. Tejada
DO08 Muntinlupa	Alfonzo Gabriel V. Soliveres	Carcinogenic Risk Assessment Of Sodium Hypochlorite Exposure To Mallard Eggs	Muntinlupa Science HS	Mark Archei O. Javier	Gina U. Urguia
DO09 Navotas	Jireh Rain A. Bautista	Inhibitory Effects of Imitation Perfume on the Growth of Allium cepa Roots	Navotas National Science High School	Katryn G. Tan	Russell P. Samson
DO10 Paranaque	Jasmin Victoria B. Bonifacio	An In-Depth Analysis of Human Salivary α-Amylase Activity on Breaking Down Vegetable Starches to Lower Blood Sugar	Paranaque National High School - Main	Francis V. Carpio	Gerry A. Lumaban

DO11 Pasay	Stephen Blaize L. Gabor	In Vitro Propagation of Red Onion ( <i>Allium cepa</i> ) using Betalain Extract from Red Beetroot ( <i>Beta vulgaris</i> ) Peels with Chitosan Nanoparticles (CNPs) as Growth Medium Additives	Pasay City National Science High School	Ms. Shiella Mae J. Narzoles	Dr. Mark Anthony F. Familiaran
DO12 Pasig	Nathalie Joyce I. Seda	Utilizing Moraya Extract ( <i>Moringa</i> and Papaya Extract) Hard Candy in Relieving Hyperacidity	Pasig City Science High School	Cynthia S. Quiogue	Liza C. Calgoy
DO13 Quezon City	Margalo Amos V. Cerro	Examining Diameter-Height Relationships for the Management and Carbon Stock Assessment of Trees in the Public Community Parks and Open Spaces of Quezon City, Philippines	Ramon Magsaysay (Cubao) High School	Jeanne Marie Gabrielle C. Tenchavez	Josephine M. Maningas
DO15 Taguig Pateros	Ian Emmanuel R. Catedrilla	Phytochemical, Genotoxicity, and Anti-angiogenic Screening of Kamoteng Baging ( <i>Ipomoea batatas</i> L. Poir.) Skin Extract using <i>Allium Cepa</i> Assay and Chorioallantoic Membrane (CAM) Assay	Sen. Renato "Campanero" Cayetano Memorial Science And Technology High School	Gleza Lynn N. Asenas	Arturo A. Tolentino
DO16 Valenzuela	Alysandrea C. De Guzman	In Vitro Differentiation of The Anthelmintic Activity of Malunggay ( <i>Moringa oleifera</i> ) Extract Against Pig Roundworms ( <i>Ascaris suum</i> ) From Existing Anthelmintics	Valenzuela City School of Mathematics and Science	Aireen Lois T. Catuiza	Jaime S. De Vera Jr.
DO17 Quezon City Science High School	Liam C. Libatique	Flavonoid Extract From <i>Lanzones</i> ( <i>Lansium domesticum</i> ) Peel Against <i>Proteus vulgaris</i>	Quezon City Science HS	Levine Dave N. Nacino	George Emanuel F. Martin

Life Science Team

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
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DO01 Caloocan	Tyra Blaire A. De Omampo; Sofia D. Soliongco; and Cristine V. Sombillo	Kargado Pt: Evaluating the Effectiveness of Papain from Papaya (Carica papaya) leaves as an Additive in Probiotic Supplement	Caloocan City Science High School	Jake Fernando G. Kolk	Phillip A. Villamor
DO02 Las Pinas	Chelsea Lyanne N. Sim; Jana Loreal L. Orenday ; Sam Nicole U. Anastacio	Pharmacological Characterization of Santol Peel Methanol Extract-Procure Anti-diabetic Properties for Type 2 Diabetes	Las Piñas City National Science High School	Jannel D. Aristosa	Eleanor V. Honrales
DO04 Malabon	Cxyha Anne A. Chico; Daña Lorraine C. Cruz; Jasmine Jane D. Hio	ALGA K: The Potential of Brown Algae (Hormophyssa cuneiformis) Extract as Potassium-Derived Biofertilizer	Malabon City National Science and Mathematics High School	Marc Ellis D. Caguioa	Teresita C. Dalnacio
DO05 Mandaluyong	Leanne Samantha M. Angeles; Francheska Marie R. Canon; Cassandra Maxene S. Fernandez	Evaluation of the anti-angiogenic and preliminary cytotoxic activity of Cordyceps militaris and Eleusine indica extract tincture as a potential VEGF-targeted angiogenesis inhibitor for tumor angiogenesis	City of Mandaluyong Science High School	Crizel J. Peligrino	Gigi G. Bullanday
DO06 Manila	Joana Marie R. Laurente; Princess Paula A. Gultiano; Sherene B. Gubalane	Exploring Antimicrobial Properties of Ageratina riparia as a Natural Antibiotic Against Pseudomonas aeruginosa	Raja Soliman Science and Technology High School (SHS)	Kent-Zellary A. Enriquez	Roniko C. Natividad-OIC
DO07 Marikina	Janna Marie B. Felipe; Sabrina Q. Ballon; Erica M. Tumaneng	Encapsulation of Calcium Nitrate Fertilizer in Sodium Alginate for Controlled Release and Environmental Preservation	Marikina Science High School	Mark Anthony F. Casimiro	Juanito H. Gayola
DO08 Muntinlupa	Kim O. Codog; Pierre Van Aken A. Dionaldo; Geanne Gaye G. Guinal	Mahogany Leaves In Crystallization Regulation On Calcium Oxalate Crystals	Muntinlupa National HS	Ms. Princess C. La Rosa	Florante C. Marmeto

DO09 Navotas	Francis James Ronidel; Stephanie Filipinas	Arathles (Muntingia calabura) Fruit Inhibits Glucose Uptake and Lipase: In Vitro Analyses against Obesity	Navotas National Science High School	Russell P. Samson	Russell P. Samson
DO10 Paranaque	Paola Katrina L. Caoili; Jillian Clarisse B. Eucare; Samantha I. Gastador	Organic Waste and Wastewater as a Source of Bioelectricity using Microbial Fuel Cell	Paranaque National High School - Main	Francis V. Carpio	Gerry A. Lumaban
DO11 Pasay	Mikaela Junelle M. Mabulac; Hans A. Malicana; Isabella Rhian C. Tabuada	Antihyperlipidemic Potential of Corazon de Maria (Caladium bicolor) Leaves Aqueous Extract on High Cholesterol Diet-Induced Nile Tilapia (Oreochromis niloticus)	Pasay City National Science High School	Mrs. Shannen Dorothy P. Gomez	Dr. Mark Anthony F. Farnilaran
DO12 Pasig	Antoinette H. Albayan; Jenneville Bayaban; Jian Carlo A. Koa	Synergistic Effects of Oregano, Turmeric, And Lemongrass Oil in Aedes Aegypti Larvae Control	Rizal Experimental Station and Pilot School of Cottage Industries	Ben R. Jimenez	Ma Victoria M. Cuervo
DO13 Quezon City	Cedric C. Carraig; Rettann A. De Leon; Lark Santino T. Provide	Effectiveness of Seaweed (Caulerpa lentilifer) and Yeast (Saccharomyces cerevisiae) Solutions as Biostimulant for Iceberg Lettuce (Lactuca sativa)	Ramon Magsaysay (Cubao) High School	Jeanne Marie Gabrielle C. Tenchavez	Josephine M. Maningas
DO14 San Juan	Mark Wilson Evangelista; John Anthony Ochavez; Noel Vicencio	Enhancing Radish (Raphanus sativus) Development with Brown Seaweed Capsules (Ascophyllum nodosum)	San Juan City Science High School	Angela Atisor	Demie Atienza
DO15 Taguig Pateros	Ahmeer Adzmar D. Canda; Rihanna Jasmine K. Pascobillo; Lea Joys R. Rapanan	Identification and Screening of Trichoderma spp. from the rhizospheric soil of Tomato ( Solanum lycopersicum L. ) for Biocontrol Potential Against Phytophthora Colocasiae in Taro ( Colocasia esculenta (L.)Schott) Leaves	Maharlika Integrated School	Ruphelyn J. Lovedioro	Aurora L. Perez

DO16 Valenzuela	Jehannah V. Tangibeni; Prince Matthew B. Hernandez; Julia Hanne R. Pal	The Anticancer Activity of Siling Labuyo (Capsicum Frutescens) Leaves Ethanolic Extract Against HCT-116 Colorectal Cancer	Valenzuela City School of Mathematics and Science	Aireen Lois T. Catriza	Jaime S. De Vera Jr.
DO17 Quezon City Science High School	Emerson A. Lina; Selwyn Benedict S. Bamba; Josh Wayne M. Pobre	Larvicidal Activity of Aratiles (Muntingia calabura) Crude Leaf Ethanolic Extract Against Fall Armyworms (Spodoptera frugiperda)	Quezon City Science HS	Earl Francis C. Merilles	George Emanuel F. Martin

Physical Science Individual

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
DO01 Caloocan	Christian O. Lima	Natural Flocculation of Waste Water using Malunggay (Moringa oleifera) leaves and Watermelon (Citrullus lanatus) rind: It's Effect on the Total Dissolved Solids (TDS) Level and pH Level	MLQ High School	Jose Lorenzo O. Espina	Dr. Angelina B. De Chavez
DO02 Las Pinas	Alison P. Manimtim	Project Edipak: The Therapeutic Potential of Diplazium esculentum (Pako) as a Herbal Soap for Alleviating the Effects of Atopic Dermatitis (Eczema)	Las Piñas National High School - Senior High School	Mary Ann M. Guevarra	Ignacio L. Son, Jr.
DO04 Malabon	Daeni S. Asa	Flammability and Energy Potential of Low-cost Rice Flour And Isopropyl Alcohol Mixture for Sustainable Fuel Applications	Malabon National High School	Ma. Kathleen C. Paraguya	Olivia Q. Martin
DO05 Mandaluyong	Rhianah S. Sult	FILM-A-TRON: Optimizing Material Properties of Green Mussel (Perna viridis) Shell-Derived Chitosan Bio-Based Films via Electron Beam Irradiation	City of Mandaluyong Science High School	Crizel J. Peligrino	Gigi G. Bullanday
DO06 Manila	Liam Raizo M. Lingat	Irradiation-Activated Xanthan Gum-Based Hydrogel Matrix for Advanced Microplastic Sequestration in Simulated Water Systems	Cayetano Arellano High School (JHS)	Virgilio B. Escasinas Jr.	Eddieza E. Durens
DO07 Marikina	Liam A. Buguina	Enhancing Electrocoagulation Process of Sewage Water Through Integrating Seawater	Marikina High School	Rowena Asignado	Maribeth C. Rosario

DO08 Muntinlupa	Michael John B. Rojo	Phytochemical Analysis And Optimization Of Talahib Leaf Extract For Transdermal Patch Formulation: Development Of A Potential Wound Healing Agent	Muntinlupa National HS	Ms. Princess C. La Rosa	Florante C. Marmeto
DO09 Navotas	Kristine Claire Lara	Synergistic Enhancement of Aniline Dye Removal Efficiency using Activated Carbon from Spent Coffee Grounds and Eggshell-based Activated Carbon	Navotas National Science High School	Diwani Cristialino	Russell P. Samson
DO10 Paranaque	Zyrha R. Wines	Guava ( <i>Psidium guajava</i> L.) Leaves as Natural pH Indicators	Paranaque National High School - Main	Kathleen Joy D. Ladines	Gerry A. Lumaban
DO11 Pasay	Filha Ray Penelope J. Bautista	Piña-Gel: Effectiveness of Pineapple ( <i>Ananas comosus</i> (L.) Merr) Peels Extract Crosslinked with Polyvinyl Alcohol in the Fabrication of Hydrogel for Wound Dressings	Pasay City National Science High School	Mrs. Shannen Dorothy P. Gomez	Dr. Mark Anthony F. Familiaran
DO12 Pasing	Airah O. Macaslang	Creating Bioplastic from Garlic ( <i>Allium sativum</i> ) Peels and Singkamas ( <i>Jicama</i> ): A Tensile Strength and Biodegradable Evaluation	Pinagbuhatan High School	Renalyn P. Dorado	Cecilia G. Regala
DO13 Quezon City	Clare Sophia F. Ignacio	A.M.A.Z.E.: Applying Malunggay Seeds ( <i>Moringa oleifera</i> ), Alkaline Ceramic Calcium Beads and Zeolite for Enhanced Filtration	Juan Sumulong HS	Elaïne M. Falcunithin	Elenita S. Ordovez
DO15 Taguig Pateros	Cielo Margareth A. Maralag	CartOL: Characterization of Corrugated Packaging Carton Waste through Acid Hydrolysis as an Alternative for Bioethanol Production	President Diosdado Macapagal High School	Mary Grace F. Bumanlag	Nolito R. Estilles
DO16 Valenzuela	Ashley D. Labayno	"Mbti "Init": Utilizing Egg Shells In Asphalt Coatings as a Sustainable Cooling Strategy for Pavement Temperature Reduction"	Valenzuela City School of Mathematics and Science	Aireen Lois T. Catuiza	Jaime S. De Vera Jr.
DO17 Quezon City Science High School	Kirsten Rei E. Ancheta	BLAZE: Bayabas Leaves Alleviation Zone—Common Guava Leaf ( <i>Psidium guajava</i> ) Extract on Starch-Based Patches	Quezon City Science HS	Levine Dave N. Nacino	George Emmanuel F. Martin

## Physical Science Team

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
DO01 Caloocan	Kyrie Eunice N. Bula; Marc Loren C. Caya; Hannah Candice A. Muñoz	Photocatalytic Removal of Zinc(II) Ions from an Aqueous Zinc Sulfate (ZnSO <sub>4</sub> ) Solution Using Activated Carbon and Oxygen-doped Graphitic Carbon Nitride (O-g-C <sub>3</sub> N <sub>4</sub> /AC)	Caloocan High School	Diana Lou E. Sipalay	Ferazim R. Dannug
DO02 Las Pinas	Rhian Reeze P. Miranda; Briel John D. Abacaro; Nathaniel P. Caceres	Project F.E.A.T: Fire Retardant, Eco-Friendly, and Anti-Termite Properties of Oyster Shell (Pteriomorpha) Powder as an Additive in Water-Based Enamel Paint	Las Piñas National High School - Senior High School	Mary Ann M. Guevarra	Ignacio L. Son, Jr.
DO03 Makati	Feonna C. Mabaggu; Azemie A. Ramos; Aliza V. Gravino	Art of Thermochromic: Moringa Oleifera (Malunggay Leaves). Daucus carota, (Carrots) and Allium cepa (Red Onion) Tunic as Natural Pigment with Thermochromic Powder	Makati High School-Senior High School	Christopher P. Cruz	Corazon N. Caculitan
DO04 Malabon	Klyzhia Clever C. Agang; Elliz Joice S. Delos Santos; Kris Pauline Rose S. Pabustan	Photocatalytic Degradation of Methylene Blue using Carbon Nanodots Synthesized from Bamboo shoots (Bambusa sp.)	Malabon National High School	Ma. Kathleen C. Paraguya	Olivia Q. Martin
DO05 Mandaluyong	Rhayanna Grey S. Jumawid; Leslie Miguel S. Innocentes; Loren Joyce B. Doydora	BIOGEM: Engineering Bioactive Ceramic Material Scaffolds from Corn Starch and Eggshell-Derived Hydroxypapatite for Bone Grafting Implications through Gamma-ray Irradiation	City of Mandaluyong Science High School	Crizel J. Peligrino	Gigi G. Bullanday
DO06 Manila	Leanne Rayne C. Magayones; Juan Miguel S. Santos; Adah C. De Leon	Fabrication of Aqueous Nano-Enabled Zinc Ion Battery Using $\alpha$ -MnO <sub>2</sub> Incorporated with Carbon Nanodots Composite Cathodes (CND)	Manuel G. Araullo High School (JHS)	Maria Cecilia A. Santiago	Mayet R. Dela Cruz
DO07 Marikina	Faye Angelina O. Bautista; Kathryn Marie T.	Analyzing the Corrosiveness of Zinc Rich Epoxy Primer on Galvanized Steel with Rice Husk Derived Nanobiochar	Sta. Elena High School	Rosalina T. Alonzo	Jeffrey C. Trinidad

	Gallardo;Derrick Michail C. Ramos				
DO08 Muntinlupa	James Matthew Lim; Humphrey Bangayan; Ahmed Ali Somosa	Foxtail Palm Fruit As An Activated Carbon Electrode For Microbial Fuel Cell	Muntinlupa National HS	Ms. Princess C. La Rosa	Florante C. Marmeto
DO09 Navotas	Hailey Amber Torres; Stephen Mitch Casaje; Maurish Tabu	Comparative Evaluation of the Drug Release Profiles of Uncoated Paracetamol Tablets and Coated Paracetamol Tablets using Trehalose, HPMCS, and VCO	Navotas National Science High School	Erna Cantonjos	Russell P. Samson
DO10 Paranaque	Kimberly G. Barcelona; Joanna Marie E. Cerrada; Shayne Alexia A. Rac	Comparative Study Between Gumamela (Hibiscus rosa-sinensis L.) Bark Fibers and Cotton (Gossypium herbaceum) Fibers	Paranaque National High School - Main	Kathleen Joy D. Ladines	Gerry A. Lumaban
DO11 Pasay	Hannah Mae dc. Basa; Recca Charlize C. Imperial; Francis Nathan D. Taburnal	A.L.A.S.S.: Astaxanthin Light-absorbing coating from Mud Crab (Scylla serrata) shells against Blue and Ultraviolet (UV) Light on Acrylic Glass	Pasay City National Science High School	Mrs. Shannen Dorothy P. Gomez	Dr. Mark Anthony F. Familiaran
DO12 Pasig	Angela Sunday M. Manalo; Kirsten Faye M. Marteja	Ilaki Repina: Jackfruit (Artocarpus heterophyllus) Peels and Abaca (Musa textilis) Fiber as Sustainable Water Treatment Balls	Buting Senior High School	Jonnalyn G. Erni	Ma. Amparo G. Silvela
DO13 Quezon City	Louise Asis; AJ R. Lim ; Tristan Karl B. Castro	From Toxins to Textiles: Exploring the Potential of Cigarette Butt Litters (CBL) for Fabric Production	Ismael Mathay Sr. High School	John Eric. S. Orallo	Ferdinand A. Fontillo
DO14 San Juan	Charlie Magne Comendador; Taha Azennar; Rayanne Nieva	TCHaR:Total-Control Home Active Response Shield	San Juan City Academic SHS	Peah F. Fegal	Ma. Aileen Callorina



DO15 Taguig Pateros	Jeush Dave M. Cortez; Alyssa Mae Dicon; Ma. Carla Venice P Andog	Sfishie: Development and Assessment of Fish Recognition Application	President Diosdado Macapagal High School	John Ray E. Mendoza	Nolito R. Estilles
DO16 Valenzuela	Tristan John S. Bautista; Sebastian Ray S. Bautista; Alexander Matthew R. Nataño	Utilization Of Hiant Venus (Marcia Hiantina) Shell Reinforcement for Enhancement of Mechanical and Tribological Properties of Polypropylene Composites	Valenzuela City School of Mathematics and Science	Aireen Lois T. Catuiza	Jaime S. De Vera Jr.
DO17 Quezon City Science High School	Ma. Seceza Elaine R. Escudra; Syesha Rain C. Rio; Xander P. Tacdol	Irradiated Edible Pectin Film from Calamansi (Citrus x microcarpa) Peels in the Shelf Life Extension of Oriental Mustard (Brassica juncea)	Quezon City Science HS	Earl Francis C. Merilles	George Emanuel F. Martin

#### Robotics and Intelligent Machines Individual

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
DO01 Caloocan	Marco Alfonso S. Bernardo	SAG: An Automated pH Neutralizing and Monitoring System Using Arduino Mini Pro	Caloocan City Science High School	Aira May L. Rodriguez	Phillip A. Villamor
DO02 Las Pinas	Jude Isaac S. James	RESCUE: Remote Controlled Amphibious Robot to Provide Transport Aid and Disaster Response to Rescuers by Delivering Materials During Typhoons	Las Piñas City National Science High School	Shiela Linn D. Banate	Eleanor V. Honrales
DO03 Makati	Ignacio Emil N. Lucina	Air Indoor Regulation and Sensing for Environmental Needs in Sensitive Environments (AirSense)	Asia Pacific College	Melody A. Salvador	Geelina A. Gestada
DO04 Malabon	Jallyah Brianna A. Pascual	ESP32 For Heat Guard: Heat Index Monitoring System	Malabon City National Science and Mathematics High School	Robert Aldrin G. Bautista	Teresita C. Dalmacio
DO05 Mandaluyong	Leena L. Napoles	ANTL-LYAB: An Arduino and IoT-based Gas and Smoke Detector Robot for the Prevention of Fire in Residential Houses	City of Mandaluyong	Crizel J. Peligrino	Gigi G. Bullanday

				Science High School		
DO06 Manila	Joemar A. Bayabas	Flood Forecasting Using Deep Learning Models and Historical Weather Data in the Philippines	Raja Soliman Science and Technology High School (SHS)	Kent-Zellary A. Enriquez	Roniko C. Natividad-OIC	
DO07 Marikina	Princess Migumi Luzaran	The Development of Automated E- Cane for the Blind with Sensors, Signals, and SMS Using C++	Marikina Science High School	Mark Anthony F. Casimiro	Juanito H. Gayola	
DO08 Muntinlupa	Kashieka Louise R. Aguilar	MARC: Mechanized Aquatic Robot For Cleanup	Muntinlupa Science High School	John Fitzgerald M. San Pedro	Gina U. Urquia	
DO09 Navotas	Mary Nicole Nofes	SURGE: Real-Time Surveillance of Underwater Coral Reefs using an Integrated Network of Raspberry Pi 4 Model B and YOLOV5 for Coral Bleaching Detection	Navotas National Science High School	Katryn G. Tan	Russell P. Samson	
DO11 Pasay	Jasmine L. Laxamana	AQUA-PULSE: Solar-Powered Arduino System for Real-Time Monitoring of Groundwater Aquifer Dynamics Using Temperature and GSM Ultrasonic Sensors	Pasay City West High School	Ms. Liezel G. Clemente	Agapito Teodoro N. . . . . Mannaog	
DO12 Pasig	Angel Ronamae T. Jose	Responsive Emergency Safety Quick-Buttons (Resq) Utilizing Arduino Uno in School Classrooms	Eusebio High School	John Paul B. Aparato	Dr. Gilbert O. Inocencio	
DO13 Quezon City	Marl Lorenzo S. Bagan	Design and Development of Mesh-Based System for Illegal Logging and Forest Fire Detection	Commonwealth High School	Romeo Tan	Edna V. . . . . Bañaaga	
DO15 Taguig Pateros	George Lean C. Tizon	Project S.A.F.E.R.: The Stair Assistance for Everyone's Recovery robot	Sen. Renato "Compañero" Cayetano Memorial Science And Technology High School	Jimnaira U. Abanto	Arturo A. Tolentino	

DO16 Valenzuela	Allen Dominic S. Sacristan	Pansenyas: a Sign Language Recognition Model for FSL Using Mediapipe's Hand	Valenzuela City School of Mathematics and Science	Aireen Lois T. Catuiza	Jaime S. De Vera Jr.
DO17 Quezon City Science High School	Kenzo Miguel P. Tayko	Preemptive Identification of Neointimal Tissue in Imaging for Gleaning Atherosclerotic Plaques through Convolutional Neural Network (PINTIG)	Quezon City Science HS	Earl Francis C. Merilles	George Emanuel F. Martin

**Robotics and Intelligent Machines Team**

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
DO01 Caloocan	Jerick Gian D. Grageda; Van Aira K. Melgar; and James Brian E. Ong	POSAIDON: Automated Flood Level Monitoring and Alert System Using Ultralytics YOLOv8 Instance Segmentation	Caloocan National Science and Technology High School	Jackielyn O. Guillermo	Flora T. Teope
DO02 Las Pinas	Julliana Joyce P. Bugawan; Ajay B. Goyon; Simon Alfred M. Zamoranos	The Potential of SLAYbot (Sensors Logically Alerting You) as a Safety System in Detecting Fires	Las Piñas National High School	Jonalie A. Pajares	Ignacio L. Son, Jr.
DO03 Makati	Chrisha Ivy E. Amba; Dylan M. Banta; Kevin O. Dizon	"EYE-AM", a Sensor-Integrated Robotics Eyewear: Enhancing Human-Machine Interaction and Performance	Makati High School-Senior High School	Mary Ann G. Amor	Corazon N. Caculitan
DO04 Malabon	Lynndon Jayel N. Badanes; Adia Mexim E. Filles; Wilfred Ezekiel S. Suansing	Arduino-Based Remote-controlled Water Filtering and Quality Monitoring Robot on Wastewater from Tullahan River (MonAQUAFIL)	Malabon National High School	Roland Jayson D. Laurencio	Olivia Q. Martin
DO05 Mandaluyong	Raul Ross M. Surnilla; Gabriel Joshe M. Ugaddan;	SALBA: Safety Helmet Integrated with Autonomous Alert System using an Arduino and IoT-based Seismic Sensor	City of Mandaluyong Science High School	Crizel J. Peligrino	Gigi G. Bullanday

	Angelo P. Valderama				
DO06	Manila Jose Quintus Xavier M. Cruz; Kazuya M. Mori; Kristian Gerard C. Esteban	SLINAM: Search-and-Rescue LiDAR Integrated Navigation and Autonomous Mapping Robot	Manila Science High School (SHS)	Jana Marie Q. Alano	Mark Gil V. Tabor
DO07	Marikina Rhoanna Shane R. Malabaguio; Zaymah F. Gallego; Ira E. Mantes	FLEX-ABLE VOCALIZER: Utilizing Audio Communication Through Arduino and Flex Sensor Glove Technology	Marikina Science High School	Mark Anthony F. Casimiro	Juanito H. Gayola
DO08	Muntinlupa Yoshi Sean T. Apuntar; Jowee Austin G. Magturo; Jasel Angela S. Berones	Genduck: Gender Identification Of Itik Pinas- Kayumanggi Eggs Through Eccentricity Analysis Using Raspberry Pi And OpenCV Image Processing	Muntinlupa Science High School	Chandler Erickson A. Cachuela	Gina U. Urquia
DO09	Navotas Alejandro Balaoing; Alyah Eina Pineda; Irvin Riel Sarmiento	RAIL: Real-Time Analysis of IOT Enabled Latency for Zone Efficiency in Train Terminals for Enhanced People Flow Management and Optimization	Navotas National Science High School	Karl Ernie D. Arambulo	Russell P. Samson
DO10	Paranaque Keshia May B. Alabado; Princess Danica E. Villanueva; Nahdine L. Aladen	Hear Oculus (HearO): Utilizing Hearing as a Vision Guide for Visually Impaired	Paranaque National High School - Main	Francis V. Carpio	Gerry A. Lumaban
DO11	Pasay Timothy Aslan A. Camaliga ; Marie Claire P. Domenden; Kate Ashley B. Flores	Project Harabot: Raspberry Pi Based Early Detection and Mitigation System against Harabas (Spodotera frugiperda) on Rice Plant (Oryza sativa L.)	Pasay City National Science High School	Mrs. Shannen Dorothy P. Gomez	Dr. Mark Anthony F. Familiaran
DO12	Pasig Adrian N. Alavata; Naomy Hillary B. Belen; Solomon III T. Maningas;	L.I.G.T.A.S: Developing Lifejackets with Integrated GPS Tracker And SMS System for Flood Search and Rescue in Urban Areas in the Philippines	Eusebio High School	John Paul B. Aparato	Dr. Gilbert O. Innocencio

DO13 Quezon City	Angelo Dave O. Cañada; Jayden Charles B. Gonzaga; Marc Jester E. Pelington	Project BOT-E (Building Our Trash-free Environment): Leveraging AI and IoT for Reward-Based Smart Recyclable Waste Receptacle Focus on Plastic Water Bottles, Plastic Cups, and Aluminum Cans	Batasan Hills National High School	Aquim H. Blanco	Joseph G. Palsoc
DO15 Taguig Pateros	Makavell John L. Pante; Christian S. Mendoza; Kim Allyson V. Soliva	Gabay 2.0: Innovating Long Canes Using Open Source Electronics	Makati Science High School	Melody D. Itallo	Alixander H. Escote, Phd
DO16 Valenzuela	Princess Lorraine A. Pondang; Carl Ransel B. Francisco; Marc Denielle N. Palad	Development of a Reinforcement Learning (RL) Algorithm for Personalized Control Strategy in a Robotic Knee Exoskeleton	Valenzuela City School of Mathematics and Science	Aireen Lois T. Catuiza	Jaime S. De Vera Jr.
DO17 Quezon City Science High School	Sophia Brianne C. Braganza; Juan Crisanto Y. Bermudez; Raine Andrew V. Bondoc	RADYO: Real-Time Alert Device for Detection of Red rot ( <i>Glomerella tucumanensis</i> ) using YOLOv7 in Sugarcane ( <i>Saccharum officinarum</i> )	Quezon City Science HS	Earl Francis C. Merilles	George Emanuel F. Martin

**Science Innovation Expo Individual**

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
DO01 Caloocan	Lougee Nazareen B. Alcantara	Noah's Leash: An Auto-Release Leash for Enhanced Dog Safety during Flood Emergencies	Caloocan City Business High School	Jimmy S. Coco	Dr. Lilia R. Gundran
DO02 Las Pinas	Mikayna Avriel F. Bautista	Project BiopHiSync: An Automated Dispenser Machine for pH Stabilization in a Bioponics System	Las Piñas National High School	Carnille Shane F. Lee	Ignacio L. Son, Jr.
DO03 Makati	Kristian Carl S. Escritor	FISH-TECH: Arduino-Based Feeder Robot with Integrated Monitoring for Sustainable Backyard Aquaculture	Bangkal High School	Judelyn M. Alviro	Lutgardo Cruz

DO04 Malabon	Gabriel B. Garcia	S.A.F.E. System: Smart Alert Forecasting for Environmental Monitoring and School Safety	Panghulo National High School	Jobelle B. tabinas	Julius D. Jaylo
DO05 Mandaluyong	Samuel Q. Tan	VISION: Vehicle Identification and Surveillance for Improved Road Observation and Enhanced Traffic Safety	City of Mandaluyong Science High School	John Francis S. Cultura	Gigi G. Bullanday
DO06 Manila	Angelyne A. Nazareno	MABUHAY BAG: A Water-resistant Go-Bag Equipment with Flootation Capacities and Fire Safety Features for Adults	Manila Science High School (SHS)	Lizette F. Salarzon	Mark Gil V. Tabor
DO07 Marikina	Aeden Caleb Matias	Low-Cost Arduino-Based Pulse Oximeter: Its Development and Evaluation	Parang High School	Armila D. Esparrago	Jeanette J. Coroza
DO08 Muntinlupa	Laurice Amanda Bonalos	Solar-Powered "Arduana" Arduino-Based IoT Decoupled Aquaponics System	Muntinlupa National High School	Ms. Princess C. La Rosa	Florante C. Marmeto
DO09 Navotas	Myaki Clowry D.S Reyes	LIRA: A Comprehensive Study on the Low-frequency Integrated Resonance Amplifier for Fire Suppression Through Acoustic Sound Waves	Navotas National Science High School	Karl Ernieil D. Arambulo	Russell P. Samson
DO10 Paranaque	Alyanna B. Belista	TARAM (Translation Assistant for Reading Access and Mobility) as a Reading Transcription and Accessibility Device	Paranaque National High School - Main	Francis V. Carpio	Gerry A. Lumaban
DO11 Pasay	Gabriel Ernle P. Samulde	HealthBelt: A Seatbelt With Built-in Emergency Alert System Based on Heart Rate for Driving	Pasay City National Science High School	Ms. Aizah C. Agub	Dr. Mark Anthony F. Familiaran
DO12 Pasig	Yaj L. Mariano	Evaluation Of Multi-Purpose Pocket Cap: An Impact Resistant, Penetration Resistant, Heat Resistant And Fire Retardant Head Gear For Disaster Prevention	Rizal High School	Mary Jane A. Dallsay	Richard T. Santos
DO13 Quezon City	Aliana Kyle T. Montforte	Utilizing Green Water Algae (Chlorophyta) and Poultry Manure as Microbial Fuel Cell to Generate Electricity	Quirino High School	Jennifer A. Taguchi	Carolyn C. Simon

DO15 Taguig Pateros	Britney T. Juit	SWS: Smart Waste Segregator: An Innovative Approach to Sort Waste	Kapt. Jose Cardones Integrated School	Jonathan M. Briagas	Romeo O. Olalo, Ed. D
DO16 Valenzuela	Rob Ryan N. Ramos	ASHES: Alternative Solution for Heat Emergency Suppression: Utilization of Crassostrea iridalei as Alternative Fire Extinguisher	Polo National High School	Albert Saguisin	Djoana L. Poja
DO17 Quezon City Science High School	Carlie Hazel H. Gubalane	CASC-Aid: Ceramic and Superabsorbent Polymers Mixed with Geopolymer in PerVIOUS Concrete to Aid in Road Flood Water Management	Quezon City Science HS	Levine Dave N. Nacino	George Emmanuel F. Martin

**Science Innovation Expo Team**

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
DO01 Caloocan	Janella Mairabelle L. Campo; Ann Kathleen C. Mesina; Almer Jacob A. Albarracin	MANEHO (Motorcycle Assistive Driving with Notification for Collision Employing Helmet Optimization): Raspberry Pi 4B-Based Helmet with Object Recognition and SMS Notification for Collision Detection	Caloocan National Science and Technology High School	Jackelyn O. Guillermo	Flora T. Teope
DO02 Las Pinas	Glendyll R. Frias; Jan Aelius R. Sapiago; Adrian Brielle L. Adoremos	TrashTracker: An Improved Design for Trash Cans Utilizing Sensor Technology for Efficient Waste Disposal	Las Pinas City National Science High School	Jannel D. Aristosa	Eleanor V. Honrales
DO03 Makati	Ahalanis Viel L. Sierra; Kirk Stanley N. Tan; Adrian Joshua S. Santos	Development of a Low-Cost Innovative Air Purifier: Leveraging Activated Charcoal for Carbon Footprint Reduction	Maximo Estrella Senior High School	Charry Vida R. Cervantes	Michael R. Lorenzana
DO04 Malabon	Erica Mae C. Chavez; Jasmine Nicole C. Olivar; Yonsie D. Tongco	Pro-Tech-Chair: A Specialized Chair Designed with Technology to Enhance Student's Safety During Seismic Events	Longos National High School	Anna Paula A. Ibasco	Elsie P. Emerenciana

DO05 Mandaluyong	Hanna B. Salvo; Jesson M. Pena; Shaia Gabriel M. Meras	VISMO Band: Patients' Vitals and Status Monitoring Band	City of Mandaluyong Science High School	John Francis S. Cultura	Gigi G. Bullanday
DO06 Manila	Gerson Lloyd B. Valencia; Charles M. Jaurigue; Bong C. Jacobbia	Portable and Automated Resuscitator Pump Bag Integrated with EV3 bricks and motors for Enhanced Respiratory Support	Manuel G. Araullo High School (SHS)	Albert S. Martinez	Mayet R. Dela Cruz
DO07 Marikina	Alfred Kristian Obrero; Tristan Yancy G. Caneta; John Caesar Apolinar	Trash-Bot: Solar-Powered Charging Station Activated by Empty Plastic Bottles	Parang High School	Armila D. Esparrago	Jeanette J. Coroza
DO08 Muntinlupa	Greff Aeon P. Bautista; Edralyne P. Brigola	Photovoltaic Panel Performance Optimization Via Bio-Based Phase Change Material Integration: A Study Of Beef Tallow, Palm Olein, Paraffin Wax, And Iron Wool Composite Evaluated T-History Method	Muntinlupa Science High School	Geraldine Gonzales	Gina U. Urguia
DO09 Navotas	Althea Denisse Almencion; Viana Gillyn Casañas; Kylie Cruz	CLARA: Communication and Language Augmentative Resource Application	Navotas National Science High School	Karl Ermiel D. Arambulo	Russell P. Samson
DO10 Paranaque	Lauren Andie B. Alba; Margie Allison R. Agcaoli; Nichole T. Escauriaga	MediCS-SIM: Smart Bottle Rack for Shelf Life and Intake Monitoring of Cough Syrup	Paranaque National High School - Main	Kathleen Joy D. Ladines	Gerry A. Lumaban
DO11 Pasay	Elijah Micael M. La Torre ; Carl J. Victoria ; Gavin Ross B. Cabautan	AquaSpira: An Aquatic Robot Designed for the Adsorption of Microplastics in Water	Pasay City National Science High School	Ms. Aizah C. Agub	Dr. Mark Anthony F. Familaran
DO12 Pasig	Julliane Isaac A. Gagarin; Daniel J.	Aeroscan: A Portable Real-Time Air Quality Monitoring System	Kapitolyo High School	Arman J. Jersano	Lezaro P. Torres Jr.



	Perlado; Leila S. Reyes				
DO13 Quezon City	Yohan Andrei Keisser N. Umbao; Joangelie S. Nuñez; Janzen Fiel P. Tan	VIS-IWASAN Visible Light Spectrometer:Initial Testing for Water Analysis through Spectroscopy and Nitrate Detection	Ramon Magsaysay (Cubao) High School	Abelardo R. Cruz Jr.	Josephine M. Maningas
DO15 Taguig Pateros	George Angelo C.Tizon; Hannah Faith B Regaspi; Allysa Zoey A Samonte	Project SAFE: Smart-Assist Flex Enhancer	Sen. Renato "Compañero" Cayetano Memorial Science And Technology High School	Jimnaira U. Abanto	Arturo A. Tolentino
DO16 Valenzuela	Angeline A. Alipio; Jared A. Baltaan ; Jerson B. Estrada	Pyroguard: An Arduino-Based Heat, Flame, And Gas-Responsive Fire-Suppression Technology	Malinta National High School - SHS	Chealand T. Dela Cruz	Dr. Cesar C. Villareal
DO17 Quezon City Science High School	Zhanyl Irene L. Fernandez; Joshua Kairrus C. Foronda; Kisha Lee V. Naranjo	BAGARI: Synthesis of Bagasse Cellulose and Rice Husk as an Alternative Biopolymer Source Material in Insulated Food Storage Containers	Quezon City Science HS	Earl Francis C. Merilles	George Emmanuel F. Martin

Mathematics and Computational Sciences Individual

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
DO01 Caloocan	Dustine Kim B. Josep	LUNA: Establishing a General Formula for the Area of a Lune Formed from a Circle Cut by Different Ellipses Utilizing Only the Observable Parameters	Caloocan National Science and Technology High School	Catherine D. Porte	Flora T. Teope
DO02 Las Pinas	Dwayne Lyndon M. Gutierrez	Fractal-Inspired Parachute Design - Investigating the Aerodynamic performance of an implementation of Sierpinski Triangle on Round Parachutes using Computational Simulations	Las Piñas City National Science High School	Gabriel B. Estrella	Eleanor V. Honrales

DO05 Mandaluyong	Zharmina Mae M. La Rosa	FLASH: Framework for Location-Aware Scalable High-Accuracy Mandaluyong-based Delivery Route Planning Utilizing Graph Theory	City of Mandaluyong Science High School	John Francis S. Cultura	Gigi G. Bullanday
DO06 Manila	Justin Kurt E. Tin	Leveraging Kubernetes for High-Performance and Resilient Applications by Orchestrating Scalable Distributed Computing with the Integration of Tylby Operating System	Manila Science High School (SHS)	Richard C. Monserrat	Mark Gil V. Tabor
DO07 Marikina	Cornelio B. Catacutan	CARTSY: An Open-Design Device for Teaching Mathematical Concepts to the Visually Impaired	Marikina Science High School	Romualdo Dayrit	Juanito H. Gayola
DO08 Muntinlupa	Benedict John R. Caperocho	Mathematical Modelling Of The Hypoxia-inducible Factor Pathway Under Varying Oxygen Levels And Its Effect On The Glycolytic Pathway Of Cancer Cells	Muntinlupa Science High School	Mark Archei O. Javier	Gina U. Urquia
DO09 Navotas	Rovee Conrad Loreza	Mathematical Modelling in Calculating Light Emitted from an Artificial Light Source for Analysis of Artificial Light at Night (ALAN)	Navotas National Science High School	Jerome Padillo	Russell P. Samson
DO10 Paranaque	Aron Troy Christian C. Estoconing	Mathematical Function on Frequency of Major Typhoon Landfall in Luzon	Paranaque Science High School	Desiree B. Onio	Maria Rhodora P. Espino
DO11 Pasay	Mina Mae H. Escumbien	Mathematical Models for Sex Prediction of Fall armyworm ( <i>Spodoptera frugiperda</i> )	Pasay City West High School	Ms. Liezel G. Clemente	Agapito Teodoro N. Manaog
DO13 Quezon City	Ma. Fatima Abigail L. Villareal	Mathematical Modeling for Evacuation Plan (NMEP): Analyzing and Optimizing Evacuation Times in San Bartolome High School Pathwalk Using Social Force Model	San Bartolome High School	Lulubelle L. Cruz	Eulogio B. Pebres
DO15 Taguig Pateros	Prince Carl V. Ison	The Growing Lucky Clover : General Formula of the Area of nth Clover Leaf Shape Inscribes in Regular with Polygons.	Taguig Science High School	Kristoffer Paulo L. Ramirez	Donald S. Bruno

DO16 Valenzuela	Kyle Anthony J. Roberto	Geometric Investigation of Quasicrystals: Analyzing Diffraction Patterns with de Bruijn's Multigrind Lattices	Valenzuela City School of Mathematics and Science	Dioscorro III G. Lumnogdang	Jaime S. De Vera Jr.
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Mathematics and Computational Sciences Team

Division	Name of Student/s	Research Title	School	Research Adviser	Principal
DO01 Caloocan	Marion Benj D. Buencardino; Chanelle G. Molina; and Reese Chloe S. Santiago	Investigating Circular Rosette Patterns and Its Potential Application to Network Topology	Caloocan City Science High School	Guiller Jobert H. Suarez	Phillip A. Villamor
DO02 Las Pinas	Adrian C. Castillo; Sofia Nicole V. Glori; Gian Hendrich P. Morata	Project R.O.A.D.: Route Optimization and Diversions along Alabang-Zapote Road Using Graph Theory	Las Piñas National High School	Ernie John F. Dolor	Ignacio L. Son, Jr.
DO05 Mandaluyong	Samuel Gabriel P. Vasquez; Jet R. Inventor; Arianne Mey G. Obungen	Geospatial Analysis and 3D Simulation for Heat Reduction in Mandaluyong City: An Urban Geometry Approach	City of Mandaluyong Science High School	John Francis S. Cultura	Gigi G. Bullanday
DO06 Manila	Yorhic K. Tabirara; Johne Noel L. Dela Cruz; Charlemaigne H. Pineda	Geometric Characterizations of the Method of Moving Points in Ellipses	Manila Science High School (SHS)	Richard C. Monserat	Mark Gil V. Tabor
DO07 Marikina	Allan C. Jayme; Yynz Kyrby R. Lopez; Arjay R. Santos	TULO Elliptical Pathfinding Algorithm: Trail-Searching from User to Location Optimization via Reflecting Rays from Elliptical Foci	Marikina Science High School	Mary Ann Taway	Juanito H. Gayola
DO08 Muntinlupa	Charlene Nicole D. Padre-e; Sabien Caligner; Max Angelo G. Basio	Traffic Light Phasing Optimization At Oversaturated Four-Phased Cross Intersections Enhancing Webster'S Formula With Traffic Equation Using Simulation Of Urban Mobility (Sumo)	Muntinlupa Science High School	Chandler Erickson A. Cachuela	Gina U. Urqvia

DO09	Ryoma Lance Panganiban; Althea Yzabelle Zamora; Sabina Rebugio	Adapting Cone Penetration Test for Mapping and Assessment of Non Seismic Liquefaction in Navotas City	Navotas National Science High School	Chester Anthony Cruz	Russell P. Samson
DO10	Princess Celien A. Gamban John Gimeno	IDentiParsci: "A Serverless Automated QR Code Attendance System with SF2 Integration and SMS- based Parental Notifications"	Paranaque Science High School	Jayson R. Tiempo	Maria Rhodora P. Espino
DO11	Ellyza Marie O. Esteban; Arniel Emanuel G. Gonzaga ; Maywin V. Lubao	L-PRice: Utilizing Linear Programming in Optimizing Rice (Oryza sativa) Profit through Production Cost and Return in Central Luzon	Pasey City National Science High School	Ms. Rextelle Joy V. Villareal	Dr. Mark Anthony F. Familaran
DO12	Arwin Peter C. Castro; Rephael Roi B. Reyes; Chynna B. Dela Cruz	Eeltech: Predicting Enhanced Efficiency in Low- Cost Trans-esterification through Environmentally- Friendly Catalysis Habilitation	Pasig City Science High School	Charito P. Corsiga	Liza C. Caigoy
DO13	Leanne Kate F. Suaybagnio ; Cassandra B. Galzote; Meriel P. Bernudez	Finite Element Analysis (FEA) of LCM: Low Cost Material InsulationBased on Fourier's Law of Heat Conduction Using ANSYS	Batasan Hills National High School	Sarah Y. Yinyaem	Joseph G. Palsoc
DO15	Francis R. Flor; Jarren Permejo; Gwyster Lea Magsael	Fingers Crossed: Strategy Unlocked: Exploring Cognitive Decision- Making and Strategies Thinking Through ModularArithmetic in the Chic Wally Hand Game.	Sen. Renato "Compañero" Cayetano Memorial Science And Technology High School	Hervina G. Limpassan	Arturo A. Tolentino
DO16	Xymon Yuan Zailey G. Blas; Kishian Wei R. Capistrano; Prince Kean Martinez	Polyboard: Application of Polydotz Method in Mathematical Visualization of Integers and Polynomial Division	Polo National High School	Mary Ann G. Cabanting	Djoana L. Poja

**ENCLOSURE 3: TOP 5 AWARDEES**  
**Life Science Individual**

Rank	Category	DO	Researcher	Research Adviser	School
1	Schools Division Office, Quezon City	Examining Diameter-Height Relationships for the Management and Carbon Stock Assessment of Trees in the Public Community Parks and Open Spaces of Quezon City, Philippines	Margalo Amos V. Cerro	Jeanne Marie Gabrielle C. Tenchavez	Ramon Magsaysay (Cubao) High School
2	Schools Division Office, Las Piñas City	In Silico Analysis of Present Flavonoids and Flavones in Kangkong (Ipomea aquatica) as Potential AR-positive (Androgen Receptor) Regulator: A Novel Approach for Stage I Colorectal Cancer Therapy	Dwyane David A. Sagun	Margian Erica S. Taguas	Las Piñas National High School
3	Schools Division Office, Pasay City	In Vitro Propagation of Red Onion (Allium cepa) using Betalain Extract from Red Beetroot (Beta vulgaris) Peels with Chitosan Nanoparticles (CNPs) as Growth Medium Additives	Stephen Blaize L. Gabor	Shiella Mae J. Narzoles	Pasay City National Science High School
4	Schools Division Office, Mandaluyong City	In Vitro Antimicrobial Activity of Green Synthesized Silver Nanoparticles (AgNPs) using Peanut (Arachis hypogaea) Shell Extract against Klebsiella pneumoniae	Lance D. Bartolome	Crizel J. Peligrino	City of Mandaluyong Science High School
5	Schools Division Office, Muntinlupa City	Carcinogenic Risk Assessment Of Sodium Hypochlorite Exposure To Mallard Eggs	Alfonzo Gabriel V. Soliveres	Mark Archei O. Javier	Muntinlupa Science HS

**Life Science Team**

Rank	Category	DO	Researcher	Research Adviser	School
1	Schools Division Office, Navotas City	Aratiles (Muntingia calabura) Fruit Inhibits Glucose Uptake and Lipase: In Vitro Analyses against Obesity	Francis James Ronidei; Stephanie Filipinas	Russell P. Samson	Navotas National Science High School
2	Quezon City Science High School	Larvicidal Activity of Aratiles (Muntingia calabura) Crude Leaf Ethanolic Extract Against Fall Armyworms (Spodoptera frugiperda)	Emerson A. Lina; Selwyn Benedict S. Bamba; Josh Wayne M. Pobre	Earl Francis C. Merilles	Quezon City Science HS
3	Schools Division Office, Mandaluyong City	Evaluation of the anti-angiogenic and preliminary cytotoxic activity of Cordyceps militaris and Eleusine indica extract tincture as a potential VEGF-targeted angiogenesis inhibitor for tumor angiogenesis	Leanne Samantha M. Angeles; Francheska Marie R. Canon; Cassandra Maxene S. Fernandez	Crizel J. Peligrino	City of Mandaluyong Science High School
4	Schools Division Office, Valenzuela City	The Anticancer Activity of Siling Labuyo (Capsicum Frutescens) Leaves Ethanolic Extract Against HCT-116 Colorectal Cancer	Jehannah V. Tangliben; Prince Matthew B. Hernandez; Julia Hanne R. Pal	Aireen Lois T. Catuiza	Valenzuela City School of Mathematics and Science
5	Schools Division Office, Pasay City	Antihyperlipidemic Potential of Corazon de Maria (Caladium bicolor) Leaves Aqueous Extract on High Cholesterol Diet-Induced Nile Tilapia (Oreochromis niloticus)	Mikaela Junelle M. Mabulac; Hans A. Malicana; Isabella Rhian C. Tabuada	Shannen Dorothy P. Gomez	Pasay City National Science High School

**Physical Science Individual**

Rank	Category	DO	Researcher	Research Adviser	School
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1	Schools Division Office, Mandaluyong City	FILM-A-TRON: Optimizing Material Properties of Green Mussel (Perna viridis) Shell-Derived Chitosan Bio-Based Films via Electron Beam Irradiation	Rhianah S. Sult	Crizel J. Peligrino	City of Mandaluyong Science High School
2	Schools Division Office, Muntinlupa City	Phytochemical Analysis And Optimization Of Talahib Leaf Extract For Transdermal Patch Formulation: Development Of A Potential Wound Healing Agent	Michael John B. Rojo	Princess C. La Rosa	Muntinlupa National HS
3	Schools Division Office, Las Piñas City	Project EdiPak: The Therapeutic Potential of Diplazium esculentum (Pako) as a Herbal Soap for Alleviating the Effects of Atopic Dermatitis (Eczema)	Alison P. Manimtim	Mary Ann M. Guevarra	Las Piñas National High School - Senior High School
4	Schools Division Office, Valenzuela City	"Mbti "Init": Utilizing Egg Shells In Asphalt Coatings as a Sustainable Cooling Strategy for Pavement Temperature Reduction"	Ashley D. Labayrno	Aireen Lois T. Catuiza	Valenzuela City School of Mathematics and Science
5	Schools Division Office, Manila	Irradiation-Activated Xanthan Gum-Based Hydrogel Matrix for Advanced Microplastic Sequestration in Simulated Water Systems	Liam Raizo M. Lingat	Virgilio B. Escasinas Jr.	Cayetano Arellano High School (JHS)

Physical Science Team

Rank	Category	DO	Researcher	Research Adviser	School
1	Schools Division Office, Valenzuela City	Utilization Of Hiant Venus (Marcia Hiantina) Shell Reinforcement for Enhancement of Mechanical and Tribological Properties of Polypropylene Composites	Tristan John S. Bautista; Sebastian Ray S. Bautista; Alexander Matthew R. Nataño	Aireen Lois T. Catuiza	Valenzuela City School of Mathematics and Science

2	Quezon City Science High School	Irradiated Edible Pectin Film from Calamansi (Citrus x microcarpa) Peels in the Shelf Life Extension of Oriental Mustard (Brassica juncea)	Ma Seceza Elaine R. Escuadra; Syesha Rain C. Rio; Xander P. Taadol	Earl Francis C. Merilles	Quezon City Science HS
3	Schools Division Office, Mandaluyong City	BIOGEM: Engineering Bioactive Ceramic Material Scaffolds from Corn Starch and Eggshell-Derived Hydroxyapatite for Bone Grafting Implications through Gamma-ray Irradiation	Rhayanna Grey S. Jumawid; Leslie Miguel S. Innocentes; Loren Joyce B. Doydora	Crizel J. Peligrino	City of Mandaluyong Science High School
4	Schools Division Office, Las Piñas City	Project F.E.A.T: Fire Retardant, Eco-Friendly, and Anti-Termite Properties of Oyster Shell (Pteriomorpha) Powder as an Additive in Water-Based Enamel Paint	Rhian Reeze P. Miranda; Briel John D. Abacaro; Nathaniel P. Caceres	Mary Ann M. Quevarra	Las Piñas National High School - Senior High School
5	Schools Division Office, Marikina City	Analyzing the Corrosiveness of Zinc Rich Epoxy Primer on Galvanized Steel with Rice Husk Derived Nanobiochar	Faye Angelina O. Bautista; Kathryn Marie T. Gallardo; Derrick Michail C. Ramos	Rosalina T. Alonzo	Sra. Elena High School

Robotics and Intelligent Machines Individual Category

Rank	Category	DO	Researcher	Research Adviser	School
1	Quezon City Science High School	Preemptive Identification of Neointimal Tissue in Imaging for Gleaning Atherosclerotic Plaques through Convolutional Neural Network (PINTIG)	Kenzo Miguel P. Tayko	Earl Francis C. Merilles	Quezon City Science HS



<b>2</b>	Schools Division Office, Makati City	Air Indoor Regulation and Sensing for Environmental Needs in Sensitive Environments (AirSense)	Ignacio Emil N. Lucina	Melody A. Salvador	Asia Pacific College
<b>3</b>	Schools Division Office, Malabon City	ESP32 For Heat Guard: Heat Index Monitoring System	Jaliyah Brianna A. Pascual	Robert Aldrin G. Bautista	Malabon City National Science and Mathematics High School
<b>4</b>	Schools Division Office, Taguig City and Pateros	Project S.A.F.E.R.: The Stair Assistance for Everyone's Recovery robot	George Lean C. Tizon	Jimnaira U. Abanto	Sen. Renato "Compañero" Cayetano Memorial Science And Technology High School
<b>5</b>	Schools Division Office, Pasay City	AQUA-PULSE: Solar-Powered Arduino System for Real-Time Monitoring of Groundwater Aquifer Dynamics Using Temperature and GSM Ultrasonic Sensors	Jasmine L. Laxamana	Liezel G. Clemente	Pasay City West High School

Robotics and Intelligent Machines Team

Rank	Category	DO	Researcher	Research Adviser	School
<b>1</b>	Schools Division Office, Caloocan City	POSAIDON: Automated Flood Level Monitoring and Alert System Using Ultralytics YOLOv8 Instance Segmentation	Jerick Gian D. Grageda; Van Aira K. Melgar; James Brian E. Ong	Jackielyn O. Guillermo	Caloocan National Science and Technology High School
<b>2</b>	Schools Division Office, Valenzuela City	Development of a Reinforcement Learning (RL) Algorithm for Personalized Control Strategy in a Robotic Knee Exoskeleton	Princess Lorraine A. Pondang; Carl Ransel B. Francisco; Marc Denielle N. Palad	Aireen Lois T. Catuiza	Valenzuela City School of Mathematics and Science

3	Schools Division Office, Manila	SLINAM: Search-and-Rescue LiDAR Integrated Navigation and Autonomous Mapping Robot	Jose Quintus Xavier M. Cruz; Kazuya M. Mori; Kristian Gerard C. Esteban	Jana Marie Q. Alano	Manila Science High School (SHS)
4	Schools Division Office, Parañaque City	Hear Oculus (HearO): Utilizing Hearing as a Vision Guide for Visually Impaired	Kesha May B. Alabado; Princess Danica E. Villanueva; Nahdine L. Aladen	Francis V. Carpio	Paranaque National High School - Main
5	Schools Division Office, Mandaluyong City	SALBA: Safety Helmet Integrated with Autonomous Alert System using an Arduino and IoT-based Seismic Sensor	Raul Ross M. Surmilia; Gabriel Joshe M. Ugaddan; Angelo P. Valderama	Crizel J. Peligrino	City of Mandaluyong Science High School

Science Innovation Expo Individual

Rank	Category	DO	Researcher	Research Adviser	School
1	Schools Division Office, Parañaque City	TARAM (Translation Assistant for Reading Access and Mobility) as a Reading Transcription and Accessibility Device	Alyanna B. Belista	Francis V. Carpio	Paranaque National High School - Main
2	Schools Division Office, Manila	MABUHAY BAG: A Water-resistant Go-Bag Equipment with Floation Capacities and Fire Safety Features for Adults	Angelyne A. Nazareno	Lizette F. Salarzon	Manila Science High School (SHS)
3	Schools Division Office, Pasig City	Evaluation Of Multi-Purpose Pocket Cap: An Impact Resistant, Penetration Resistant, Heat Resistant And Fire Retardant Head Gear For Disaster Prevention	Yaj L. Mariano	Mary Jane A. Dalisay	Rizal High School
4	Schools Division Office, Pasay City	HealthBelt: A Seatbelt With Built-in Emergency Alert System Based on Heart Rate for Driving	Gabriel Ernie P. Samulde	Aizah C. Agub	Pasay City National Science High School

<b>5</b>	Schools Division Office, Caloocan City	Noah's Leash: An Auto-Release Leash for Enhanced Dog Safety during Flood Emergencies	Lougee Nazareen B. Alcantara	Jimmy S. Coco	Caloocan City Business High School
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Science Innovation Expo Team Category

Rank	Category	DO	Researcher	Research Adviser	School
<b>1</b>	Schools Division Office, Valenzuela City	Pyroguard: An Arduino-Based Heat, Flame, And Gas-Responsive Fire-Suppression Technology	Angelina A. Alipio; Jarald A. Baitaan ; Jerson B. Estrada	Chealand T. Dela Cruz	Malinta National High School - SHS
<b>2</b>	Schools Division Office, Muntinlupa City	Photovoltaic Panel Performance Optimization Via Bio-Based Phase Change Material Integration: A Study Of Beef Tallow, Palm Olein, Paraffin Wax, And Iron Wool Composite Evaluated T-History Method	Greff Aeon P. Bautista; Edralyne P. Brigola	Geraldine Gonzales	Muntinlupa Science High School
<b>3</b>	Schools Division Office, Quezon City	VIS-IWASAN Visible Light Spectrometer:Initial Testing for Water Analysis through Spectroscopy and Nitrate Detection	Yohan Andrei Keisser N. Umbao; Joangelie S. Nuñez; Janzen Fiel P. Tan	Abelardo R. Cruz Jr.	Ramon Magsaysay (Cubao) High School
<b>4</b>	Schools Division Office, Navotas City	CLARA: Communication and Language Augmentative Resource Application	Althea Denisse Almencion; Viana Gillyn Caseñas; Kylie Cruz	Karl Erniell D. Arambulo	Navotas National Science High School
<b>5</b>	Schools Division Office, Parañaque City	MediCS-SIM: Smart Bottle Rack for Shelf Life and Intake Monitoring of Cough Syrup	Lauren Andie B. Alba; Margie Allison R. Agcaoli; Nichole T. Escauriaga	Kathleen Joy D. Ladines	Paranaque National High School - Main

Mathematics and Computational Sciences Individual

Rank	Category	DO	Researcher	Research Adviser	School
1	Schools Division Office, Valenzuela City	Geometric Investigation of Quasicrystals: Analyzing Diffraction Patterns with de Bruijn's Multigrid Lattices	Kyle Anthony J. Roberto	Dioscorro III G. Lumogdang	Valenzuela City School of Mathematics and Science
2	Schools Division Office, Muntinlupa City	Mathematical Modelling Of The Hypoxia-inducible Factor Pathway Under Varying Oxygen Levels And Its Effect On The Glycolytic Pathway Of Cancer Cells	Benedict John R. Caperocho	Mark Archei O. Javier	Muntinlupa Science High School
3	Schools Division Office, Caloocan City	LUNA: Establishing a General Formula for the Area of a Lune Formed from a Circle Cut by Different Ellipses Utilizing Only the Observable Parameters	Dustine Kim B. Josep	Catherine D. Porte	Caloocan National Science and Technology High School
4	Schools Division Office, Pasay City	Mathematical Models for Sex Prediction of Fall armyworm (Spodoptera frugiperda)	Mina Mae H. Escumbien	Liezel G. Clemente	Pasay City West High School
5	Schools Division Office, Navotas City	Mathematical Modelling in Calculating Light Emitted from an Artificial Light Source for Analysis of Artificial Light at Night (ALAN)	Rovee Conrad Lorezca	Jerome Padillo	Navotas National Science High School

Mathematics and Computational Sciences Team

Rank	Category	DO	Researcher	Research Adviser	School
1	Schools Division Office, Quezon City	Finite Element Analysis (FEA) of LCM: Low Cost Material Insulation	Leanne Kate E. Suaybagnio ;	Sarah Y. Yimyaem	Batasan Hills National High School

		Based on Fourier's Law of Heat Conduction Using ANSYS	Cassandra B. Galzote; Meriel P. Bermudez		
2	Schools Division Office, Taguig City and Pateros	Fingers Crossed: Strategy Unlocked: Exploring Cognitive Decision-Making and Strategies Thinking Through Modular Arithmetic in the Chic Wally Hand Game.	Francis R. Flor; Jarren Permejo; Gwyster Lea Magsaol	Herwina G. Limpasan	Sen. Renato "Compañero" Cayetano Memorial Science And Technology High School
3	Schools Division Office, Caloocan City	Investigating Circular Rosette Patterns and Its Potential Application to Network Topology	Marion Benj D. Buencamino; Chanelle G. Molina; Reese Chloe S. Santiago	Guiller Jobert H. Suarez	Caloocan City Science High School
4	Schools Division Office, Muntinlupa City	Traffic Light Phasing Optimization At Oversaturated Four-Phased Cross Intersections Enhancing Webster'S Formula With Traffic Equation Using Simulation Of Urban Mobility (Sumo)	Charlene Nicole D. Padre-e; Sabien Caligner; Max Angelo G. Basio	Chandler Erickson A. Cachuela	Muntinlupa Science High School
5	Schools Division Office, Manila	Geometric Characterizations of the Method of Moving Points in Ellipses	Yoric K. Tabirara; John Noel L. Dela Cruz; Charlemaigne H. Pineda	Richard C. Monserrat	Manila Science High School (SHS)

**ENCLOSURE 4: BIDA LOURDES TOP 15 AWARDEES AND LOURDES CHOICE AWARDEES**

**Top 15 Projects (in no particular order) – from RSTF 2023 and Brainiac**

- Caybiga High School – Lego Mindstorm: Solid Waste Segregation Robot
- Don Bosco High School – Paranaque – Hand-Gestured Wheelchair
- Makati High School – Therapl.A: An Innovative Rehabilitation Machine Utilized for Therapy Treatment
- Manila High School – MHS Wall Warrior: A Prototype Waste, Littering and Litter Segregator Machine for a Better and Healthier Community
- Manuel G. Araullo High School – Auxilium: A Medical Assistive Robot
- Marikina High School – AidBot: The next step for healthcare-work efficiency and technology
- Muntinlupa National High School – G.A.M.A.I (Global Assistant for Medical Aid And Intelligent Carr)
- Philippine Science High School – AsthmaAlert
- Quezon City Science High School – S.A.R.H.: A Soft Actuated Robotic Hand for Range of Motion Therapy on the Rehabilitation of Hand Function for Monoparesis Patients
- San Francisco High School – Meditrob: Medical Disinfectant Robot for Sanitary Equipment in Hospital Ward
- San Juan City Science High School – Green Energy Generation Using Handcrafted Solar Cells
- Taguig Science High School – Nursing Assistant Robot at your Service (NARS)
- Taguig Science High School – PathoGuardian: A Cutting-Edge Proposal to Proper Disposal of Medical Waste
- Navotas National Science High School – Mathematical Formulation of Linear Attenuation Coefficient: Exploring Energy-Range Relationships

**Bida Lourdes Choice Award**

**Chosen Project Per Category**

<b>Chosen Project Per Category – Php 10,000 each project</b>					
DO08	Michael John B. Muntinlupa	Phytochemical Analysis And Optimization Of Talahib Leaf Extract For Transdermal Patch Formulation: Development Of A Potential Wound Healing Agent	Muntinlupa National HS	Ms. Princess C. La Rosa	Florante C. Marmeto
DO08	Benedict John R. Muntinlupa	Mathematical Modelling Of The Hypoxia-inducible Factor Pathway Under Varying Oxygen Levels And Its Effect On The Glycolytic Pathway Of Cancer Cells	Muntinlupa Science High School	Mark Archei O. Javier	Gina U. Urquia

DO04 Malabon	Jalayah Brianna A. Pascual	ESP32 For Heat Guard: Heat Index Monitoring System	Malabon City National Science and Mathematics High School	Robert Aldrin G. Bautista	Teresita C. Dalmacio
DO11 Pasay	Gabriel Ernie P. Samulde	HealthBelt: A Seatbelt With Built-in Emergency Alert System Based on Heart Rate for Driving	Pasay City National Science High School	Ms. Aizah C. Agub	Dr. Mark Anthony F. Familaran
DO09 Navotas	Francis James Ronidel; Stephanie Filipinas	Aratiles (Muntingia calabura) Fruit Inhibits Glucose Uptake and Lipase: In Vitro Analyses against Obesity	Navotas National Science High School	Russell P. Samson	Russell P. Samson
<b>Special Recognition – Php 5,000 each project</b>					
DO13 Quezon City	Leanne Kate E. Suaybaguio ; Cassandra B. Galzote; Meriel P. Bernudez	Finite Element Analysis (FEA) of LCM: Low Cost Material Insulation Based on Fourier's Law of Heat Conduction Using ANSYS	Batasan Hills National High School	Sarah Y. Yinyaem	Joseph G. Palisoc
DO16 Valenzuela	Princess Lorraine A. Pondang; Carl Ransel B. Francisco; Marc Denielle N. Palad	Development of a Reinforcement Learning (RL) Algorithm for Personalized Control Strategy in a Robotic Knee Exoskeleton	Valenzuela City School of Mathematics and Science	Aireen Lois T. Catulza	Jaime S. De Vera Jr.
<b>Bida Lourdes Research Award – Php 50,000</b>					
DO17 Quezon City Science High School	Kenzo Miguel P. Tayko	Preemptive Identification of Neointimal Tissue in Imaging for Gleaning Atherosclerotic Plaques through Convolutional Neural Network (PINTIG)	Quezon City Science HS	Earl Francis C. Merilles	George Emanuel F. Martin

**ENCLOSURE 5: NSTP QUALIFIERS**

<b>CATEGORY</b>	<b>Schools Division Office</b>	<b>Researchers</b>	<b>Research Title</b>	<b>School</b>	<b>Research Adviser</b>	<b>Principal</b>
LIFE SCIENCE INDIVIDUAL	SDO Quezon City	Margalo Amos V. Cerro	Examining Diameter-Height Relationships for the Management and Carbon Stock Assessment of Trees in the Public Community Parks and Open Spaces of Quezon City, Philippines	Ramon Magsaysay (Cubao) High School	Jeanne Marie Gabrielle C. Tenchavez	Josephine M. Maningas
LIFE SCIENCE TEAM	SDO Navotas	Francis James Ronidel; Stephanie Filipinas	Arattles (Muntingia calabura) Fruit Inhibits Glucose Uptake and Lipase: In Vitro Analyses against Obesity	Navotas National Science High School	Russell P. Samson	Russell P. Samson
PHYSICAL SCIENCE INDIVIDUAL	SDO Mandaluyong	Rhianah S. Sulit	FILM-A-TRON: Optimizing Material Properties of Green Mussel (Perna viridis)	City of Mandaluyong Science High School	Crizel J. Peligrino	Gigi G. Bullanday



			Shell-Derived Chitosan Bio-Based Films via Electron Beam Irradiation			
PHYSICAL SCIENCE TEAM	SDO Valenzuela	Tristan John S. Bautista; Sebastian Ray S. Bautista; Alexander Matthew R. Nataño	Utilization Of Hiant Venus (Marcia Hiantina) Shell Reinforcement for Enhancement of Mechanical and Tribological Properties of Polypropylene Composites	Valenzuela City School of Mathematics and Science	Aireen Lois T. Catriza	Jaime S. De Vera Jr.
ROBOTICS AND INTELLIGENT MACHINES INDIVIDUAL	Quezon City Science High School	Kenzo Miguel P. Tayko	Preemptive Identification of Neointimal Tissue in Imaging for Gleaning Atherosclerotic Plaques through Convolutional Neural Network (PINTIG)	Quezon City Science HS	Earl Francis C. Merlles	George Emmanuel F. Martin
ROBOTICS AND INTELLIGENT MACHINES TEAM	SDO Caloocan	Jerick Gian D. Grageda; Van Aira K. Melgar; and James Brian E. Ong	POSAIDON: Automated Flood Level Monitoring and Alert System	Caloocan National Science and Technology High School	Jackielyn O. Guillermo	Flora T. Teope

			Using Ultralytics YOLOv8 Instance Segmentation			
SCIENCE INNOVATION EXPO INDIVIDUAL	SDO Paranaque	Alyanna B. Belista	TARAM (Translation Assistant for Reading Access and Mobility) as a Reading Transcription and Accessibility Device	Paranaque National High School - Main	Francis V. Carpio	Gerry A. Lumaban
SCIENCE INNOVATION EXPO TEAM	SDO Valenzuela	Angeline A. Alpino; Jared A. Balitaan ; Jerson B. Estrada	Pyroguard: An Arduino-Based Heat, Flame, And Gas- Responsive Fire- Suppression Technology	Malinta National High School - SHS	Chealand T. Dela Cruz	Dr. Cesar C. Villareal
MATHEMATICS AND COMPUTATIONAL SCIENCES INDIVIDUAL	SDO Valenzuela	Kyle Anthony J. Roberto	Geometric Investigation of Quasicrystals: Analyzing Diffraction Patterns with de Bruijn's Multigrd Lattices	Valenzuela City School of Mathematics and Science	Dioscorro III G. Lunogdang	Jaime S. De Vera Jr.

<p>MATHEMATICS AND COMPUTATIONAL SCIENCES TEAM</p>	<p>SDO Quezon City</p>	<p>Leanne Kate E. Suaybagnio ; Cassandra B. Galzote; Meriel P. Bermudez</p>	<p>Finite Element Analysis (FEA) of LCM: Low Cost Material InsulationBased on Fourier's Law of Heat Conduction Using ANSYS</p>	<p>Batasan Hills National High School</p>	<p>Sarah Y. Yimyaem</p>	<p>Joseph G. Palisoc</p>
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