



Republic of the Philippines
Department of Education
Region V
SCHOOLS DIVISION OF SORSOGON
Sorsogon

November 28, 2023

DIVISION MEMORANDUM
No. 278, s. 2023

**WINNERS IN THE REGIONAL SCIENCE AND TECHNOLOGY FAIR (RSTF)
AND ROBOTICS OLYMPICS 2023**

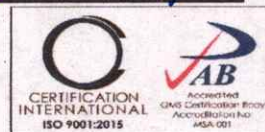
To: Assistant Schools Division Superintendent
SGOD and CID Chiefs
Education Program Supervisors/ Division Coordinators
Public Schools District Supervisors/ OIC-PSDSs
Secondary School Heads
All Others Concerned

1. This Office proudly announces the results of the **Regional Science and Technology Fair (RSTF) and Robotics Olympics 2023**, which was held last November 22-24, 2023 at the Landco Pacific Mall Activity Center and Legazpi City Science High School, Legazpi City.
2. The outstanding performance exhibited by the researchers/ contestants in different events placed **SDO-Sorsogon as the Overall First Runner-Up** in the said competition. The official results/ winners in the different categories are found in the enclosure.
3. Warmest congratulations and appreciation are extended to the winners and their coaches, student-researchers, research advisers, STE and STEM subject group heads/ coordinators, department heads, asst. school principals and school heads, parents and stakeholders for the significant inputs and invaluable support shared that contributed to this remarkable achievement.
4. The first place winners in the research categories shall submit the revised copy of their paper incorporating the suggestions and recommendations of the Regional Scientific Review Committee on December 15, 2023 for the National Scientific Review Committee paper screening.
5. Immediate dissemination of and compliance with this Memorandum is desired.

WILLIAM E. GANDO, CESO V
Schools Division Superintendent



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Enclosure to the Division Memorandum No. _____, s. 2023

**WINNERS IN THE REGIONAL SCIENCE AND TECHNOLOGY FAIR (DSTF)
 AND ROBOTICS OLYMPICS 2023**

November 22--24, 2023/ Landco Pacific Mall Activity Center and Legazpi City Science High School, Legazpi City.

SDO-SORSOGON: OVERALL FIRST RUNNER-UP

Award	Researchers/Winners	School	Event/ Category	Title of Research/ Innovation	Coach/es	School Head
1 st Place	LYNYRD O. DE CASTRO NATHANIEL G. GRAYDA KERR GABRIEL B. GEROLIA	BULAN NHS	Life Science- Team	Cytotoxicity and Free Radical Scavenging Assay of Pomelo (<i>Citrus grandis</i>) Ethanolic Leaves Extract Against Human Acute Myeloid Leukemia Cells	JERIEL G. MARTIREZ	Mr. ALEX A. RODRIGUEZ, P-III
1 st Place	DANICA ASHLEY A. CERVANTES, JOHN CHRISTIAN O. CAHILIG, ANNE CHARLOTTE A. AÑANA	DONSOL NCHS	Robotics & Intelligent Machines- Team	RABAS: Responsive Anti-Theft Body Temperature and Alcohol Sensor into Motorcycle Helmet	RONALD L. LOMERIO, ALAINE BAGASMAD	DR. JOSEPHINE C. EBUENGA, P-III

2 nd Place	CHARISSE LIAM F. FULONG LEO ISAAC C. FULO, LEE BANNA HISITA	BULUSAN HS	Science Innovation Expo- Team	Development of an Innovative Product for Slitting Karagumoy Leaves for Karagumoy Weavers in the Municipality of Bulusan	JEANYLYN S. ANTONIO	Mr. FERMIN G. ESPALLARDO, JR., P-II
2 nd Place	JOHN RUSELL F. FORTE, GABRIELLE ANDREI R. GERSALIA, BRYCE CODY M. BALASTON	BULAN NHS	Robotics Olympics- JHS (Line Follower Robot)	Line Follower Robot	JERIEL G. MARTIREZ RAEJOHN E. ARANGO	Mr. ALEX A. RODRIGUEZ, P-III
3 rd Place	JERICH STEPHANIE E. GABIONZA	BULAN NHS	Life Science- Individual	Corn (<i>Zea mays</i>) Cob Biochar Treatment on Algae Infestation in Aquaculture Ponds	JERAMIE G. DEL VALLE	Mr. ALEX A. RODRIGUEZ, P-III

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REGION V - BICOL

Enclosure 1

Official Results of Regional Science, Technology, Fair, and Robotics Olympics
November 22-24, 2023

Life Science (LS) Research

• **Individual Category**

1st Place: Researcher: School: Coach: Title of Research:	Gabriel V. Ibis Vinzons Pilot High School, Camarines Norte Jason N. Bargo Sarah Kimberly Lamadrid In vitro and in Ovo Evaluation of the Anti-inflammatory, antiproliferative, and Antiangiogenic Properties of Isolated Quercetin from Pataning Dagat (<i>Canavalia rosea</i>) Sw. DC Ethanolic Leaf Extract
2nd Place: Researcher: School: Coach: Title of Research:	Julius B. Cruel Legazpi City Science High School, Legazpi City Cristel Alan I. Nebres Marnie Boncodin In Silico Identification, Characterization and Binding Assessment of Novel Anticancer Peptides from <i>Passiflora edulis</i> (Passion Fruit) against Vascular Endothelial Growth Factor Receptor-2
3rd Place: Researcher: School: Coach: Title of Research:	Jerich Stephanie E. Gabionza Bulan National High School, Sorsogon Province Jeramie G. Del Valle Corn (<i>Zea mays</i>) Cob Biochar Treatment on Algae Infestation in Aquaculture Ponds



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Life Science (LS) Research

• **Team Category**

1st Place: Researchers: School: Coach: Title of Research:	Lynyrd O. De Castro Nathaniel G. Grayda Kerr Gabriel B. Gerolia Bulan National High School, Sorsogon Province Jeriel G. Martirez Cytotoxicity and Fre Radical Scavenging Assay of Pomelo (<i>Citrus grandis</i>) Ethanolic Leaves Extract against Human Acute Myeloid Leukemia Cells
2nd Place: Researchers: School: Coach/es: Title of Research:	Cheska May Eunice R. Pobre Carl Joses D. Carza Laila A. Aldeza Vinzons Pilot HS, Camarines Norte Jason N. Bargo Kimberly Lamadrid In-vitro Evaluation of Antimutagenic and Antioxidant Properties of Ferulic Acid Derived from the Bran of NSIC-Rc222 Rice (<i>Oryza sativa</i>) Variety and its Effect on HCT-116 Colorectal Adenocarcinoma Cells Exposed to Oxidative Stress
3rd Place: Researchers: School: Coach: Title of Research:	Ivan Emmanuel B. Briza Faith Sophia M. Milano Angelica R. Valenzuela San Miguel Rural Development HS, Catanduanes Martin Philip T. Alcantara Effect of Avocado (<i>Persea americana</i>) Bark, Java Plum (<i>Syzygium cumini</i>) Bark with Cardboards and Coconut (<i>Cocos nucifera</i>) Shell with Sawdust on the on the Growth of <i>Pleurotus ostreatus</i>



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Physical Science (PS) Research

• **Individual Category**

1st Place: Researcher: School: Coach: Title of Research:	Ed Syrick B. Bravo Basud National High School, Camarines Norte Isagani F. Musa Angeline M. Ross Prototype Solar-Powered Artificial Intelligence Arduino-Uno Based GSM Equipped Wire Fault Detector and Isolation System
2nd Place: Researcher: School: Coach: Title of Research:	Kym Aursen R. Quiambao Ligao National High School, Ligao City Jose Angelo S. Nate Rommel Carl R. Peralta Bioplastic Films from Rice (<i>Oryza sativa</i>) Bran Starch Reinforced with Chitosan from Golden Apple Snail (<i>Pomacea canaliculata</i>) Shells
3rd Place: Researcher: School: Coach: Title of Research:	Cydel M. Olivares Zeferino Arroyo HS, Iriga City Mary Rose S. Amisola Rosalyn P. Miralpes Pulverized Banana Pseudo-Stem (<i>Musa acuminata</i>) as Potential Ethylene Absorber of Saba (<i>Musa acuminata x balbisiana</i>)



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Physical Science (PS) Research

• **Team Category**

1st Place: Researchers: School: Coach/es: Title of Research:	Jace Adriel T. Yap John Galo B. Pableo Bicol Regional Science High School, Ligao City Aileen Rances Jay Ar Rosin ChitoFlask: Integration of Chitosan-based Flocculation, Multi-layer Mineral Filtration, and Ultraviolet (UV) Light Disinfection for Portable Water Treatment
2nd Place: Researchers: School: Coach/es: Title of Research:	Chum Jofelle Barruga Jarelle A. Macabe Marilyn Arianwen Almario Masbate National Comprehensive HS, Masbate City Anjun A. Manangat Randy Talay Okra (<i>Abelmoschus esculentus</i>) and Gumamela (<i>Hibiscus rosa-sinensis</i>) Mucilage as Green Fire-Retardant Agents
3rd Place: Researchers: School: Coach: Title of Research:	Jhoellie Rose D. Brizo Angel Ann T. Toledana Catanduanes National High School, Catanduanes Hannah Cyrene O. Tablizo Physical and Combustion Characteristics of Briquettes Made from Cacao (<i>Theobroma cacao</i>) Bean Husks and Pili (<i>Canarium ovatum</i>) Shells



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Mathematics and Computational Science (MCS) Research

• **Individual Category**

1st Place: Researcher: School: Coach: Title of Research:	John Jaymark M. Daza Vinzons Pilot High School, Camarines Norte Jason N. Bargo PLUMA: Planning Land Use Optimization through Multi-Objective Software utilizing Machine Learning and Simplex Algorithm
2nd Place: Researcher: School: Coach: Title of Research:	Roger Steven V. Geronimo Ligao National High School, Ligao City Anjanette Olayres PROCLUS: A Study on its Precision and Accuracy in Measuring Objects using Right Triangle Parameters and its Applications in Physics and other Sciences
3rd Place: Researcher: School: Coach: Title of Research:	Samantha Ysabella D. Buban Legazpi City Science High School, Legazpi City Dick Anthony Calleja Application of a Stochastic Mathematical Model in Formulating Coral Reef Resilience Generalized Linear Regression Algorithm A



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Mathematics and Computational Science (MCS) Research

• **Team Category**

1st Place: Researchers:	Angeli A. Balintong Hermione Lois B. Escarcha Rich Roger S. Yanson
School: Coach:	Cataingan National High School, Masbate Province Marnel M. Bullo
Title of Research:	Time Series Analysis and Forecasting of the Production and Consumption of High-Value Fishery Products in Masbate
2nd Place: Researchers:	Ma. Cassandra S. Peninoy Kean Emari M. Señora Karyll Chello M. Prianes
School: Coach:	Ligao National High School, Ligao City Ryan T. Casulang
Title of Research:	Identifying Potential Groundwater Recharge Sites in Ligao City using Geographic Information System (GIS) and Light Detection and Ranging (LiDAR).
3rd Place: Researchers:	Quintin B. Buena Venice Solver Quisha Annika H. Calleja
School: Coach:	Basud National High School, Camarines Norte Mischelle D. Hidalgo
Title of Research:	One-Tap Ambulance Alert Application



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Robotics and Intelligent Machines (RIM) Research

• **Individual Category**

1st Place: Researcher: School: Coach: Title of Research:	Jude Randolph A. Odo Jose Panganiban NHS, Camarines Norte Mark Paul E. Rosel Anti-Collision Roadbot
2nd Place: Researcher: School: Coach/es: Title of Research:	Rei Nathaniel B. Ricamunda Legazpi City Science High School, Legazpi City Fernando S. Brabante Sonny A. Jacob IoT-Based Air Quality Purifier with Abaca Fiber Filters (<i>Musa textilis</i>) and Activated Carbon Filter for an Integrated Monitoring and Control System
3rd Place: Researcher: School: Coach: Title of Research:	Jeiferwin Saeza Z. Sese Masbate National Comprehensive HS, Masbate City Gerard Jan D. Ibanez Josephine C. Medina MEDICMINDER: Medicine Pill Alarm Dispenser Device and Monitoring System



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Robotics and Intelligent Machines (RIM) Research

• **Team Category**

1st Place: Researchers: School: Coach/es: Title of Research:	Ann Charlotte Añana Danica Ashley Cervantes John Christian Cahilig Donsol National Comprehensive HS, Sorsogon Province Ronald L. Lomerio Alaine N. Bagamasbad Rabas: Responsive Anti-Theft, Body Temperature, and Alcohol Sensor into Motorcycle Helmet - a Safety and Security Device
2nd Place: Researchers: School: Coach/es: Title of Research:	Hannah Mae E. Perez Riam A. Gomez Lynard I. Andres Vinzons Pilot High School, Camarines Norte Jason N. Bargo Rodel Jalimao AQUAEX: Ultrasonic Technology for Algal Bloom Control with Comprehensive Water Monitoring System
3rd Place: Researchers: School: Coach: Title of Research:	Annica Paula R. Balbuena Jousef B. Verga Kiam Clark B. Satioquia Polangui General Comprehensive HS, Albay Rachelan Buenaventura and Levy Reynancia Solar-Powered Arduino-Guided Self Planting Robotic Vehicle



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Science Innovation Expo (SIE) Research

• **Individual Category**

1st Place: Innovator:	Jessa Mae P. Villarubi
School: Coach:	Cataingan National High School, Masbate Province Robbie Mae M. Dalimocon Mary Grace E. Molo
Title of Innovation:	The Sensor and CLOUD-based Automatic Agricultural Air Humidification System
2nd Place: Innovator:	Karyll N. Salva
School: Coach/es:	Basud National High School, Camarines Norte Isagani F. Musa Shiela O. Tangalin
Title of Innovation:	Prototype Solar-Powered Arduino-Based Fire Extinguisher with GSM, Air Vent and Surveillance System Electric Power Deactivator
3rd Place: Innovator:	Brandon Byne R Borac
School: Coach:	Ligao National High School, Ligao City Jose Angelo S. Nate Marileah R. Mendina
Title of Innovation:	Investigating the Potential of Calamansi (<i>Citrus microcarpa</i>) Peels and Pili Nut (<i>Canarium ovatum</i>) Husks for Sound-Absorbent Acoustic Panel Production



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Science Innovation Expo (SIE) Research

• **Team Category**

1st Place: Innovators:	James Gabriel A. Regondola Frances Therese N. Rito Jomar E. Abante
School: Coach/es:	Vinzons Pilot High School, Camarines Norte Jason N Bargo Lorenzo Fuentes
Title of Innovation:	LAMIX: Solar-Powered Automated Winemaking System for Local Nipa (<i>Nypa fruticans</i>) Wine Makers
2nd Place: Innovators:	Charisse Liam F. Furing Leo Isaac C. Fulo Lee Banna Hisita
School: Coach:	Bulusan National High School, Sorsogon Province Jeanylyn S. Antonio
Title of Innovation:	Development of an Innovative Product for Slitting Karagumoy Leaves for Karagumoy Weavers in the Municipality of Bulusan
3rd Place: Innovators:	Kade Matthew R. Almonte Francesca Dorothy H. Ramos Kerstan Rhys L. Pasadilla
School: Coach:	Legazpi City Science High School, Legazpi City Fernando S. Brabante Kristel Alan I. Imperial
Title of Innovation:	Extraction and Characterization of Natural Cellulosic Fibers Derived from <i>Musa acuminata</i> Pseudostem and <i>Dracaena trifasciata</i> Leaves for Hybrid Textile Applications



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Robotics Olympics

• **Line Tracing/Line Follower Robot (Junior High School)**

1st Place:	John Carlo D. Espedido Eickel Jae San Pedro Mark Joen Arellano
School: Coach:	Sorsogon National High School, Sorsogon City Charisse L. Bonos
2nd Place:	Bryce Ludy Balaston Gabrielle Andrei Gersalia John Russel Forte
School: Coach:	Bulan National High School, Sorsogon Province Jeriel G. Martinez
3rd Place:	John David Q. Mercado Arnold James R. Reonal Aljosh B. Cipriano
School: Coach:	Ligao National High School, Ligao City Wilmor Jake Morales

• **Maze Solving Robot (Senior High School)**

1st Place:	Kurt Bryan P. Oliquino Ella Marie L. Vilar Karl Benedict S. Olmedillo
School: Coach:	Bicol Regional Science High School, Ligao City Joseph F. Morco
2nd Place:	Juliana Marie Vanesa Recierdo Jeimeezech Gean San Pablo Joaquin Gabriel Bañares
School: Coach:	Tabaco National High School, Tabaco City Odessa B. Brumagin



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3rd Place:	Jell S. Reginaldo John Benedict Martinez Alejalyn Claire B. Bazar
School:	Mother Teresa Colegio de Iriga Inc.
Coach:	John Din F. Nares

Special Awards:

- Best Presenter in Life Science Research
Gabriel V. Ibis- Vinzons Pilot HS, Camarines Norte
- Best Presenter in Physical Science Research
Jace Adriel T. Yap - Bicol Regional Science HS, Ligao City
- Best Presenter in Robotics and Intelligent Machines
Jude Randolph A. Odo, Jose Panganiban NHS, Camarines Norte
- Best Presenter in Mathematics and Computational Science Research
Roger Steven V. Geronimo - Ligao National High School, Ligao City
- Best Presenter in Science Innovation Expo
Karyll N. Salva - Basud National HS, Camarines Norte
- Robot Performance Award
Kurt Bryan P. Oliquino
Ella Marie L. Vilar
Karl Benedict S. Olmedillo
- Stellar Coach Award
Jason N. Bargo of Vinzons Pilot High School (Camarines Norte)

Over-All Champion	Camarines Norte Division
Over-All First Runner-Up:	Sorsogon Province Division
Over-All Second Runner-Up	Ligao City Division
Over-All Third Runner-Up	Ligao City Division
Over-All Fourth Runner-Up	Masbate City
Over-All Fifth Runner-Up	Legazpi City



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