



Republic of the Philippines
Department of Education
CARAGA REGION

DEPARTMENT OF EDUCATION
RECORDS UNIT, REGIONAL OFFICE-CARAGA

RELEASED
APR 7 2025

BY: NMB

TIME: 9:40 AM

REGIONAL MEMORANDUM

No. 0352, s. 2025

To: Schools Division Superintendents
All Others Concerned

2025 REGIONAL ACADEMIC AND SKILLS DEVELOPMENT-REGIONAL SCIENCE
AND TECHNOLOGY FAIR (RSTF) QUALIFIERS

1. The Department of Education-Caraga Regional Office announces the qualifiers for the 2025 Regional Science and Technology Fair (RSTF) based on the pre-screening conducted by the Scientific Research Committee (SRC) per Regional Memorandum No. 288, s. 2025 (2025 Regional Academic and Skills Development-Regional Science and Technology Fair). The list of qualifiers is found in Enclosure 1.
2. Qualifiers are required to bring three (3) softbound hardcopies of their revised manuscript following the checkpoints found in Enclosure 2, and the research poster specified in Regional Memorandum No. 288, s. 2025.
3. Hardcopies of the manuscript must be color coded (refer to the STF Manual), appropriately earmarked, and should not contain any information identifying the researchers' school and Schools Division Office (SDO). Prepared poster, slide deck, and script for the oral presentation during the Science Congress must not also include information about the school and SDO.
4. For queries and information, please contact Mr. Kevin Hope Z. Salvaña, Education Program Supervisor of the Curriculum and Learning Management Division through his email at **kevinhope.salvana@deped.gov.ph**
5. Immediate dissemination of this Memorandum is highly desired.

MARIA INES C. ASUNCION
Director IV
Regional Director

Encl.: As stated

Reference: DepEd Memorandum No. 016, s. 2025

To be indicated in the Perpetual Index
under the following subjects:

CONTESTS RESEARCH OR STUDIES

SCIENCE EDUCATION

CLMD/khzs
03/17/2025



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2025-04-05965

Doc. Ref. Code	RO-ASD-F107	Rev	00
Effectivity	02.01.23	Page	1 of 15



Enclosure 1 of RM No. , s. 2025

2025 RSTF QUALIFIERS

TUKLAS-Life Sciences (Individual Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	Synthesis of Nano-Hydroxyapatite from <i>Sardinella lemuru</i> (Tamban) Fish Bones for Dental Composite Fillings, Brine Shrimp Bioassay, and Antibacterial Activity against <i>Staphylococcus epidermidis</i>	Jhamaela Lien C. Paayas	Angelina C. Auguis
Agusan del Norte	Phytochemical Screening and In vitro Antimicrobial and Antioxidant Activities of Sugar Apple (<i>Annona squamosa</i>) Leaf Ethanolic Extract	Lyra E. Caponpon	Cezar O. Polistico and Jessica C. Abiva
Agusan del Sur	OsteoGel: Pro-Regenerative and Structurally Stable Hydrogel-Based Scaffold Biofabricated from Okra (<i>Abelmoschus esculentus</i>) Mucilage and Guso (<i>Eucheuma cottonii</i>) Polysaccharides for Osteoarthritis Prophylaxis	Vynz Elijah E. Orilla	Wilborne D. Abao and Antoniette B. Geolina
Agusan del Sur	Oyster Mushroom (<i>Pleurotus ostreatus</i>) and Shiitake Mushroom (<i>Lentinula edodes</i>) Fungi as Potential Biodegraders of Low-density Polyethylene (LDPE) Plastics	Jenuelyn Florence O. Libarnes	Liezel I. Cavan
Bayugan City	Anti-Angiogenic Activity of Wood Sorrel (<i>Oxalis corniculata</i>) Leaf-Stem Ethanolic Extract Through Duck (<i>Anas luzonica</i>) Embryo Chorioallantoic Membrane (CAM) Assay	Marchelle Alyannah T. Lorzano	Emmanuel S. Saga and Orvin A. Lobitos
Bislig City	Multi-Disciplinary Strategies for Schistosomiasis Management: Combining Physical Sciences, Computational Models, Robotics, and Innovations to Address Zoonotic and Environmental Factors in Barangay San Isidro, Bislig City	Collen E. Cortez	Shawn Dwight A. Ga
Bislig City	Ethnobotanical Plants of Barangay San Jose, Bislig City, Philippines: Potential for Treating Common Ailments	Maryell Ellah P. Pascual	Shawn Dwight A. Ga
Cabadbaran City	Microplastic Profiling Along the Calibunan Bay Fish Sanctuary: Potential Impact of Plastic Pollution of Marine Biota	Manuel L. Orilla	Suzette M. Arriza
Dinagat Islands	Nature's Filter: Investigating Spirogyra's Potential for Microplastic Removal in Aquatic Environments	Trizelle Jean M. Bolo	Mitchell C. Estrada
Surigao del Norte	LIFE-TRACKER: A Multi-Functional Health Monitoring System for Cancer Pre-screening Using Physiological Indicators	Gleziel Ann S. Pacillos	Gladys Ann P. Orillo
Surigao del Norte	PlanTor: Smart Plant Monitoring and Automated Fertigation for Real-time	Monina J. Deja	Evamae P. Alvarado, Irene

	Nitrogen, Phosphorus, and Potassium Analysis		Alcanara, and Gregorio T. Llano, Jr.
Surigao del Sur	Assessing the Acaricidal Potential of Coconut Sprout's Fatty Acids Against <i>Rhipicephalus sanguineus</i> (Brown Dog Ticks)	Airah Jane C. Mosquera	Merlinda O. Guillano and Joliemar Mancera
Tandag City Entry 1	Anti-Inflammatory Property of Squash (<i>Cucurbita maxima</i> L.) Peels Against COX-2 Enzyme	Nathan P. Andam	Ana Geran V. Millian, Marvin Y. Sumastre, and Mary Cris G. Abao

TUKLAS-Life Sciences (Team Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	Suppression Activity of Mansanitas (<i>Muntingia calabura</i> L.) Leaves Extract Against Alpha-Glucosidase through In Vitro Bioanalytical Evaluations	Leila Jonalyn C. Alonsagay, Princess Clarisse R. Lamigo, and Joey Nicholai B. Ranggas	Lanelyn C. Alonsagay
Agusan del Sur	Synergistic Activity of Angled loofah (<i>Luffa acutangula</i>) Pulp, Fiddlehead Fern (<i>Diplazium esculentum</i>), and Jícama (<i>Pachyrhizus erosus</i>) Tuber Extracts via In Vitro Calcium Oxalate Crystallization Inhibition for Urolithiasis	Lenel Janic M. Pasilan, Angelica Julianne Galaura, and Claudette Faye T. Bardilas	Wilborne Abao and Antoniette B. Geolina
Agusan del Sur	Detection and Characterization of Snail-borne Trematode Parasites and GIS Mapping of Selected Freshwater Snails (<i>Melanoides tuberculata</i> , <i>Pomacea canaliculata</i> , and <i>Lymnaea</i> sp.) Collected in Selected Surrounding Rice Fields of Bayugan City, Agusan del Sur Philippines	Stephen Lee John Sodejana, Elisa Belle Tan, and Emmanuel Aplicador	Venus Jane M. Laher and Rainer P. Sularte
Bayugan City	Comparative Analysis of the Molluscicidal Properties of Biasong (<i>Citrus micrantha</i>) Leaf and Peel Ethanolic Extract against Golden Apple Snail (<i>Pomacea canaliculata</i>)	Samantha Krystina C. Asumbrado, Vinzcent Euf H. Calang, and Faith Hervy C. Galeon	Crystelle Anne Baynosa-Montera and Gerry Aseo Brital
Bayugan City	Phytochemical Analysis, Cytotoxicity, and Antimicrobial Activity of Madre De Agua (<i>Trichanthera gigantea</i>) Ethanolic Leaf Extract	Jan Leoper M. Dajao, Ronald Jr. B. Divino, and Blessie Delle C. Jamen	Crystelle Anne B. Montero and Marvin S. Fernandez
Bislig City	Phytochemical-mediated Cytokine Inhibition in <i>Zea mays</i> Root Tips Using <i>Barringtonia asiatica</i> Inflorescence Extract	Miguel Mike B. Bajade, Eden A. Escalona, and Adrielle Kerry D. Pingol	Nilo D. Mesias and Divine Grace A. Mesias
Bislig City	Correlation Between Vegetation Thickness and the Population Density of <i>Oncomelania quadrasi</i> Snails in San Isidro, Bislig City	Collen E. Cortez, CX R. Acevedo, and Amador III P. Perez	Shawn Dwight A. Ga

Cabadbaran City	Free Radical-Scavenging Activity and Anticancer Potential of Siralis (<i>Flacourtia jangomas</i>) Extract on HCT116 (Colon Colorectal Carcinoma) Cell Line	Mary Jassel Perez Aleguis, Kiara Psychee L. Elumba, and Joed Marco B. Sastrellas	Roy B. Piloton
Cabadbaran City	Phytochemical Profiling and Antibacterial Evaluation of <i>Euphorbia hirta</i> Ethanolic Stem Extract Against <i>Staphylococcus aureus</i> and <i>Escherichia coli</i> : A Comparative Study on Antibiotic Susceptibility	Lujille Keith B. Pia, Jeff Ian L. Pateres, and Angel Ann P. Solana	Carol C. Baldomar and Julie Anne Lyle L. Darasin
Dinagat Islands	Heavy Metal (Ni, Cr, Pb) Bioaccumulation of Manila Clam: Environmental Contamination and Human Risk in Ga-as Lulet, Llamera, Libjo, Dinagat Islands, Philippines	Liana Carrie A. Galinato, Seth Kian D. Sumaylo, and Elaisa B. Labadora	Warren T. Pondoc
Dinagat Islands	Biodegradation Potential of Oyster Mushroom (<i>Pleurotusostreatus</i>) Against Polypropylene-made Plastic Waste	Kem Berly P. Caculba, Marry Joy D. Corro, and Nicole E. Villegas	Vanessa Ann E. Jorquia
Surigao City	In Vitro Evaluation of Anti-Inflammatory and Antioxidant Activities of the Ethnomedicinal "Panamog" (<i>Agelaea sp.</i>) Leaf and Stem Ethanolic Extract	Keith Lauren B. Cortes, Daryne Gwin T. Fuentes, and Kirstein Hailey Morales	Marygen S. Cuadra
Surigao City	Microplastic Presence in Bigeye Scad (<i>Selar crumenophthalmus</i>) in Brgy. Sabang, Surigao	Ariel Ulysses II C. Plaza, Thrishia Mae G. Rivero, and Julienna B. Turnuas	Ian S. Umpil
Surigao del Norte	ElectroGrow: Direct Low-Voltage Soil Electroculture for Pechay (<i>Brassica rapa</i>) Growth with ESP32-Based Monitoring and SMS Notifications	Mikaela Irene S. Calimbo, Nissi Olive P. Lopez, and Mark Adrian C. Magdayo	Val Jorge Stanley L. Basil and Mellirose M. Sedeño
Surigao del Norte	FISH-VERT: Fish Aquaculture and Vertical Microgreen Farming with Smart System	Sheena Ericka May P. Egamao, Denise P. Guerra, and Coleen S. Limot	Faith G. Mendoza and Carissa A. Eugenio-Matela
Surigao del Sur	Insecticidal Potential of Oregano (<i>Origanum vulgare</i>) Extract Against Subterranean Termites (<i>Rhinotermitidae</i>)	Liemarjun G. Drapeza, Dennisa Gen S. Feril, and Joshua B. Seda	Ervin T. General

TUKLAS-Physical Sciences (Individual Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	Eltor: Wireless Electric Current Detection and Its Proportionality to Voltage, Distance of Detection and the Sound level	Maddox G. Ballesteros	James Aurelle S. Bondoc
Agusan del Norte	H2O-SolBox: A Solar-Powered Refrigeration-Based Water Generator	Jig Iralf N. Paler	Corinne Frances B. Bayhon, Kuinnie Ailyn F. Balista, and Richard P. Laviña
Agusan del Sur	Banana (<i>Musa paradisiaca</i>) Pseudostems Nanocellulose-based UV Absorbent Film and Copper-Aluminum Hybrid Heatsink	Presious Whin Love T. Pajaron	Melgen D. Datso and Jedahlyn Rose D. Balad-on

	for Energy Efficiency and Thermal Stability of Polycrystalline Solar Panels		
Agusan del Sur	Pineapple (<i>Ananas comosus</i>) Peel Cup: A Sustainable Option for Plastic Cups Reinforced with Abaca (<i>Musa textilis</i>) Fibers	Jhames D. Ayala	Metchie Mae R. Corpuz-Abenoja
Bayugan City	Bamboo-derived Charcoal from Pyrolyzing <i>Dendrocalamus asper</i> : Alternative to Wood-based Charcoal	Catherine Drexel A. Aratea	Emmanuel S. Saga and Orvin A. Lobitos
Bayugan City	Roselle (<i>Hibiscus sabdariffa</i>) and Gumamela (<i>Hibiscus rosa-sinensis</i>) Powdered Seeds as Natural Coagulants for Water Treatment	Tonirose G. Saratao	Orvin A. Lobitos
Bislig City	Rainkeeper: An Innovative Rainwater Harvesting and Filtration System with Real-time Arduino-based pH Monitoring	Ethan M. Villegas	Elma B. Cordova
Cabadbaran City	Evaluating the Efficacy of Locally Fabricated Modified Regulated Hammer Type Pre-Charged Pneumatic (PCP) Air Rifle for Air Gun Competition and pest control	Axel Jake Estandarte	Randy A. Gambala
Cabadbaran City	S.A.F.E. Vest: Smart IoT-Enabled Automated Flotation and Emergency Response Kit for Aquatic Safety	Lyndon Benedict M. Sa	Roy B. Piloton
Dinagat Islands	Physicochemical Characterization and Antimicrobial Properties of Alkaloid- and Saponin-Rich Coconut Waste-Derived Nanoparticles	Dimson O. Moleta	Leizel C. Virtudazo
Siargao	Automated Floating Waste Bin with Integrated Water Filter to Treat Wastewater	Eumae R. Bato	Jean Claire E. Sentones
Siargao	Development of a Noise-Resistant Device with an Integrated Exhaust Emission Filter in Pump Boat	Hannah Katrina D. Toloy	Jean Claire E. Sentones
Surigao City	The Feasibility of Malunggay (<i>Moringa oleifera</i>) Tree Bark as a Sustainable and Biofunctional Resource for Yarn Production	Leeann Kim A. Ellar	Vhanjoe E. Lerog
Surigao del Norte	Vertical Aquaponics and Purification with Optimized Renewable Irrigation (V.A.P.O.R) for Atmospheric Purification	James Alvin O. Bernadez	Carissa A. Eugenio and Chery Lou A. Alceso
Surigao del Norte	PSYI Bricks: An Eco-friendly Bricks Using Bottom Ash and Rice Husk Ash as Alternative Materials	Jyra Kyle G. Bacunawa	Prescious Laiza V. Tagubase
Surigao del Sur	Assessing the Potential of Garlic (<i>Allium sativum</i>) Clove Skin and Potato (<i>Solanum tuberosum</i>) Starch as an Alternative Bioplastic Bag Through Film Mechanical Properties Testing	Clarence Terdy M. Canama	Jennifer R. Bantilan and Joliemar C. Mancera
Surigao del Sur	Quantifying Seawater Potential: Investigating the Correlation Between Seawater Depth and Varied Voltage Output	Althea Meroje E. Rosil	Rashell Pinky D. Guerta
Tandag City	Green Synthesis, Optimization, and Characterization of Magnetic	JP J. Perez	Ana Geran V. Millan and Marvin

	Semiconductor Spinel Copper Ferrite Nanoparticles Derived from Ripe Cardava (<i>Musa balbisiana</i>) and Pineapple Peels (<i>Ananas comosus</i>) Aqueous Extract		Y. Sumastre
Tandag City	Green Synthesis, Optimization, and Characterization of Nickel Oxide Nanoparticles (NiONPs) Mediated by Ripe Carabao Mango (<i>Mangifera indica</i>) Peel Extract	Mitchell Jay II N. Lozada	Marvin Y. Sumastre and Ana Geran V. Millan

TUKLAS-Physical Sciences (Team Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	HYDROLYTE: A Portable Saltwater Power Generator to Produce Sustainable Energy	Bein Roy Francis A. Cervantes, Vincent Jasper D. Piloton, and Rollynn Grace M. Beronilla	Danilo S. Makiling and Cezar O. Polistico
Agusan del Sur	PyroNova: Revolutionizing Plastic Waste Management into Sustainable Fuel Production using Mobile Shredder and Pyrolizer	Mae S. Empuesto, Gevhen Tricia P. Solario, and Frances Dannie B. Cagampang	Melgen D. Datso and Jedahlyn Rose D. Balad-on
Bayugan City	Mechanical Properties of Coconut Husks, Rice Husks, Corn Husks (Cocorico) Mixture in Producing Paper	Kin Rod Clifford H. Pino, Francis King L. Lucin, and Jessa May T. Sarabia	Crystelle Anne Baynosa Montera
Bayugan City	Sweet Potato (<i>Ipomoea batatas</i>) Peel as Microplastic Adsorbent	Elisea Francisca D. Echin, Princess Jossene P. Goloran, and Gerald S. Heramis	Orvin A. Lobitos
Bislig City	Serenaqua: An Early Detection Device for Flash and River Floods with Integrated Water Quality Monitoring and LoRa Module for Wireless and Offline Transmission	John Andrei R. Pareja, Dennis Albert A. Ogsimer, and Zane Deciemae B. Sacayan	Mel Rose M. Rengel
Bislig City	Utilizing <i>Ananas comosus</i> (Pineapple) Leaf Fiber as Potential Innovative Dental Bio-floss	Archer John V. Antonio, Kreighton Kevin B. Virtudazo, and Jevie Ann A. Escobia	Rhenan O. Bacolod and Cecila A. Superio
Cabadbaran City	Biosynthesis of Silver Nano-Flakes Using Malunggay (<i>Moringa oleifera</i>) Leaf Extract for Mosquito Larvae Control	Teofilo U. Galleto, Francis Gabriel L. Gilo, and Annika Laela P. Nabo	Janneth S. Cornites
Dinagat Islands	GalvaCharge: Induced Galvanic Corrosion of Pure Copper Electrodes Under Varying Low-Voltage Direct Current on the Growth of Pechay (<i>Brassica rapa</i>)	Azi Aika Edradan, Jedelyn Ebol, and Dharel Corpin	Angel M. Dionaldo
Siargao	Semi-Automated Food Waste Composting Machine for the Production of Chicken Feeds	Jhoncons O. Borja, Fidze Laira T. Calunia, and Jessa Mae L. Formilles	Jean Claire E. Sentones
Surigao City	COSNA INSUFIBER: Coconut (Cocos	Cameron Gaile C.	Louredil F. Longos

	<i>nucifera</i>) Coir and Snake Plant (<i>Dracaena trifasciata</i>) Fiber as Renewable Resource for Thermal Insulation	Borja, Christia Mae M. Fernan, and Prince Harrison A. Olayvar	
Surigao del Norte	Forest Integrated Response and Ecosystem (FIRE) Monitoring with Potassium Soap Bio-Extinguishers	Juana Eileen A. Saldo, Karyll Joy G. Boloron, and Ivana Li E. Cadaa	Neil Rose P. Balbada and Maryjane B. Monte
Surigao del Norte	ECO-BLOCKS: Utilizing Recycled Glass, Coconut Coir Fiber, and Rice Husk Ash as Alternative Aggregates for Earthquake, Flood and Fire-resilient Hollow Blocks	Jharid C. Canda, Carmela P. Bayang, and Chloe Jeanne P. Cruz	Marvin S. Canda
Surigao del Sur	Microwave-assisted Synthesis of Activated Carbon from Spent Coffee Grounds of Robusta (<i>Coffea canephora</i>) for Adsorption of Acetic Acid in Aqueous Solutions	David Fredelique A. Bucoy, Zane Mari S. Lasay, and Marvella M. Ongayo	Carolyn R. Caybot-Correo
Tandag City	Banana Pseudo-stem Fiber Embedded in Air Casing Chamber: A Potential Carbon Dioxide Emission Reducer in Diesel Vehicles	Ashley Joem P. Patis, Cheska Sophia E. Giron, and Princess Allyza C. Formaran	Ana Geran Millan, Mary Cris Abao, and Marvin Yu Sumastre

TUKLAS-Robotics and Intelligent Machines (Individual Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	IoT-Based Control and Monitoring of a Smart Residential Sliding Gate	Tobey Matthew D. Sanchez	Danfred G. Picardal
Agusan del Norte	Eco-Count: Solar-Powered Arduino-based Coin Counting and Sorting Machine	Sophia Althea L. Bual	Eva Rose S. Lumocso, Maria Lourdes C. Egos, and Glenn Mark P. Jalop
Agusan del Sur	Theia: A Strap Eye Device with Computer Vision Navigation System and Text-to-Speech Technology for Visual Support	Johannes B. Geolina	Kim E. Masendo, Antoniette B. Geolina, and Iries Jane M. Concha-Calumbay
Bayugan City	Hydrotech-Integrated Solar-Powered IoT Automation for Sustainable and Precision Irrigation Using DHT11 and ESP8266 Wi-Fi module	Russel John G. Paladar	Orvin A. Lobitos
Bislig City	MediCare: An Arduino Integrated Automatic Pill Dispenser with Real Time Clock to Aid Elderlies and for Medication Use	Elizarose Fiona S. Medina	Michael James C. Camino and Mercy T. Luchavez
Bislig City	FloodDeTech: Designing an IoT-based Water Level Monitoring System for Real-time Flood Alerts	Keith Lawrence S. Pellazar	Zaifel T. Pacillos
Cabadbaran City	Dust Buster: Prototype Smartphone-controlled Dust-Suppressing Robot through Arduino Uno Sensor-Initiated Spray System for Potential Mining and Other Unpaved Road Applications	Jobern R. Dabalos	Leo Jerich R. Morrondoz and Jezen M. Villalon
Dinagat Islands	Smart Water-Activated Dispenser with Fire and Smoke Detection, Automated	Austin Paul D. Ellar	Jerson S. Adajar

	Suppression, Electricity Cut-Off System, and SMS Alerts via Telegram API		
Surigao City	Remote Controlled Bomb Disposal Robot for Surigao City Airport Utilizing Arduino	Vince Patrick C. Meneses	Rey F. Miraflor
Surigao City	Project BANGON: Development of an AI-Powered Navigation System for Optimized Waterway Cleaning Operations	Samantha Elaine Jay Ompod Loyola	Ian S. Umpil and Mary Jane P. Go
Surigao del Norte	Collection of Aquatic Substances and Trash (COAST): Combat for Pollution	Alexandria Denise F. Balili	Alberto S. Elcullada Jr. and Vige Y. Alvarado
Surigao del Norte	FireResQBot: An IoT Fire Extinguisher and Multi-Function Searchbot with AI Camera Detection	Johnny B. Acla, Jr.	Daisy Jean B. Digol and Ermie P. Jamil
Surigao del Sur	Attendease: A Nodemcu-based Phone Management System and Smart Attendance Tracker	Ian Carmelo DC. Felix	Rolinda L. Vete
Surigao del Sur	Hydroguard: A Solar-powered Water Level Device System for Flood Monitoring in Bigaan Hinatuan Surigao Del Sur	Eyron James Baldomero	Marloun K. Gasoc and Ronel G. Patonungon

TUKLAS-Robotics and Intelligent Machines (Team Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	OSMoS: Automated IOT-Based Oil Spill Cleaning and Monitoring System	Jazzy Kate A. Aguilar, Adriane Jazzy D. Cabradilla, and Earl Jadrake P. Fervis	Reynan S. Basilio and Dan Fred Picardal
Agusan del Sur	Maia-Scope: A Raspberry Pi 3B-based Microscope Add-on Device for Rapid Pathogen Identification using OpenCV and Trained Machine Learning Models	Kean Psalm B. Escorial, Matt Ivam C. Sto. Domingo, and Roland Edou T. Apresto	Kim E. Masendo, Antoniette B. Geolina, and Iries Jane M. Concha-Calumbay
Agusan del Sur	Project Floodlight: A Multilevel Robot Utilizing Light-Emitting Diode Indicators, Sound Alert, and Float Switch Sensors for Detection and Warning in Flood-Prone Areas	Lyn Rose G. Guitguten and Angelyn O. Villagantol	Metchie Mae R. Corpuz-Abenoja
Bislig City	EmerPonse: An IoT-Integrated Emergency Alert System for Enhanced Safety and Rapid Response During Emergencies	Sweet Candace Joy P. Magada, Lorenz Nicole C. Necio, and Tomjones P. Morales	Michael James C. Camino and Mercy T. Luchavez
Bislig City	ARTHRO: Advanced Rover for Terrain Hazard Response and Observation – A Comprehensive Gas Leak Detection System for Combustible Gases with Built-in Real-time Thermal Sensors at Mining Sites	David Paul B. Eleazar, Prince Brian C. Ramas, and Lorenzo C. Narisma	Ramon D. Luga
Cabadbaran City	WAFFLES: An IoT-Enhanced Water and Foam Firefighting Logistics and Extinguishing System for Fire Suppression	Abbygail C. Talines, Xoxara Marie M. Garillo, and Lee Van T. Villapaz	Niña Ricci E. Catubig
Dinagat Islands	Protecting Lives: Smoke and Gas Detection System with SMS Notification	Brent Marven Kristoff R. Arlan, James Brian S. Montejo, and Gia-	Eva Me R. Ocay

		Jeany A. Sabejon	
Dinagat Islands	Smart Disinfection: Enhancing Toilet Sanitation and Handwashing with Automated UV and Chlorine Processes	Liana Carrie A. Galinato, Josh Russell S. Galo, and Neal Ioan B. Napay	Cegie P. Gilbaliga
Surigao City	Automated Solar-type Seaweed dryer using Environmental Dependent Sensors through Arduino-Based System	Rick Urvine Euzyth B. Amoncio, Marl Ian C. Fabroa, and Joss Nowell D. Miano	Rey F. Miraflor
Surigao del Norte	Development and Implementation of a secure IoT-Based Power Monitoring with real-time alerts and billing	Denise Nicole R. Duran, Nyessa Cyra A. Yaman, and Junno Kopper B. Ocon	Jordan D. Buhion
Surigao del Norte	WearAware: Smart Fall Detection for the Elderly Using a Multi-sensor Approach and Kalman Filter Algorithm with Emergency SMS and Call Alerts	Aira Daplin, Charles D. Loreto, and Jan Van Y. Sido	Aldrin D. Daplin
Surigao del Sur	EcoTrack Bin: Leveraging Computer Vision and Convolutional Neural Networks for Automated Waste Classification and Management	Solomon B. Ramos, John Lawrence R. Buhayan, and Xian Kelly P. Capistrano	Clarissa May M. Pormiento
Surigao del Sur	Project MAGWAREN: Multi-Purpose Aquatic Guardian for Water Rescue and Environmental Navigation	Gleejen F. Eguia Chris Jolan Vertira Joycen B. Yamba	Rey-Ann F. Pegarro
Tandag City	SMART DRIP IRRIGATION SYSTEM (SDIRs): Function Irrigation device with integrated Rain-Water Collection System with Automatic Fertilizing Mechanism	Reve-Ann Kathryn G. Revil, Aleah Jane S. Roco, and Anne Louise S. Benguillo	Christian Je M. Ariate

TUKLAS-Mathematics and Computational Sciences (Individual Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	Prediction and Analysis of Land Use and Land Cover Change through Remote Sensing and GIS: A Focus on the Urban Expansion in Nasipit	Liane C. Siga	Engr. Rachiel O. Galinato and Cezar O. Polistico
Agusan del Norte	Perimeter and Areas by Embodied Agent Reasoning (PANDA BEAR) Simulation Model Computational Techniques for Perimeter and Area Determination: An Innovative Geometric Analysis of Polygons	Cristhyll May G. Bautista	Marvin H. Siega
Agusan del Sur	Mathematical Model of Weather Parameters Dependencies Using Bivariate Copula	Karl Xyre Cabatingan	Jhunrey P. Damian
Agusan del Sur	Utilizing Hybrid Quantitative Methods in Forecasting and Correlating Agusan del Sur Forest Cover Changes and Greenhouse Gas (CO ₂ e) Emissions for the Years 2024 to 2029	Alexi B. Dinampo	Metchie Mae R. Corpuz-Abenoja
Bislig City	Utilizing Geographic Information Systems (GIS) for Surveillance of Schistosomiasis in Bislig City: Environmental Risk	Alzhielyn M. Acibes	Kimberly C. Yurong

	Mapping Based on Population Density, Elevation and Water Drainage		
Cabadbaran City	Investigation on the Amount of Orographic Precipitation Enhancing the Catastrophe caused by Super typhoon Pablo (Bopha) 2012 using Weather Research Forecasting Model (WRF)	Butch S. Cuevas, Jr.	Gelian A. Rasonable
Dinagat Islands	PREDIXPOV: Predicting Household Poverty in Dinagat Municipality Using a Python-Based CatBoost Machine Learning Model with OpenPyXL Search Filter	Charls Cleave D. Rufila	Angel M. Dionaldo
Siargao	Vertex-Centered Circles on Regular n-Gon: Investigating the Overlapping Region of n-Number of Equal Circles with Radius r Between Adjacent Centers	Jahdiel S. Buenafe	Aires Eva M. Coma
Surigao City	Optimizing Flow Rate and Minimizing Queue Length on Signalized Intersections in Surigao City	Lance Andre E. Enerio	Claire Angelie G. Osorio
Surigao del Norte	Helpeers: A Python-Based Emergency Vehicle Routing Optimization System for the Mainit Active Response Team for Emergency (MARTE) and the Bureau of Fire Protection (BFP) using Dijkstra's Algorithm	Mark Louie M. Dojenias	Engr. Val Jorge Stanley L. Basil
Surigao del Norte	Fractal Modeling: Early Landslide Indicator Using GIS Software through Soil Erosion Patterns	Regie Rose A. Sierra	Mona Theresa D. Salino and Marites L. Pandac
Surigao del Sur	Ymanian's Formula: An Alternative Method for Maximizing the Precision of Calculating the Interior Angles of an Oblique Triangle with the Given Side Lengths	Angelo E. Yma	Rico Jan C. Gomez

TUKLAS-Mathematics and Computational Sciences (Team Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	Agent-Based Traffic Inflow Modeling (ATrim) Analysis of the Drivers' Behavior, Traffic Dynamics and System Management for Sustainable Transportation Systems	Nichole Shane Amor, Wynde Grace Lumarda, and Lady Jean Nieves	Marvin H. Siega
Agusan del Sur	Oryzion: Machine Learning-Based Predictive Model for Rice (<i>Oryza sativa</i>) Crop Diseases and Pests Occurrence with Recommended Practices and Medicines Based on Specific Environmental Factors	Friah Mae O. Delgado, Princess Sophia P. Briones, and Joshua B. Geolina	Jhunrey P. Damian and Antoniette B. Geolina
Agusan del Sur	Mathematical Disease Modeling using ARIMA Model of Schistosomiasis Infection among Local Villagers in Under-Sampled Areas of Agusan del Sur, Caraga Region, Mindanao, Philippines	Ainel Jae Beronilla, Cristan Rodrigo Llacano, and Jhune Rave Talidong	Rainer P. Sularte and Cesar F. Navales, Jr.
Bayugan City	From Kilowatts to Trees: Developing A Predictive Equation for Carbon Offsetting Through Time-Series Analysis of Bayugan National Comprehensive High	Ma. Lovealbenia O. Jopia, Francis T. Banaybanay, and Rean Zoe G.	Jay A. Balasabas

	School Electricity Consumption	Teriote	
Bayugan City	Mathematical Modeling for Solid Waste Reduction: A 10-Year Projection Towards Zero Waste at Bayugan National Comprehensive High School	Kyle Wije C. Calo, Yuri Ezekiel B. Dalisay, and Keith Lawrence M. Madula	John Felix M. Zamora
Bislig City	Machine Learning-enhanced CLDPM: Climate-Lagged Dengue Prediction Model for Bislig City Philippines, Integrating Climate Variables and Population Dynamics for Improved Public Health Preparedness	Jeremy Kim S. Hoyohoy, Lyka D. Devera, and Patrick James L. Degamon	Alvin P. Cernal
Bislig City	Comparative Performance Analysis of AI-Driven Machine Learning Models: Random Forest vs. Gradient Boosting Machine for Early Dengue Outbreak Forecasting in Bislig City	John Rico F. Casinginan, Jay L. Batausa, and Riza Jane O. Orillaneda	Joana Marry S. Golosino
Cabadbaran City	The Utilization of the Predictive Performance of Bayesian Methodology for Variable Analysis on Thermal Comfort in CCNHS	Hana Louis M. Jugan, Devine Grace S. Galapate, and Janice A. Maderal	Lovely Maiden Campus
Dinagat Islands	Data-Driven Rice Farming: ARIMA-based Yield Forecasting for Irrigated Rice Field in Dinagat Islands	Alexander M. Muaña, Exyll Mae T. Bugawan, and Shine D. Sorita	Engr. Doreina L. Lawangon and John Kenneth M. Villareal
Dinagat Islands	Development of Time Efficient Waste Collection Routes in Barangay Magsaysay Using the Christofides Algorithm and Capacitated Vehicle Routing Problem	Julius S. Ferrer, Lorena Jane S. Resullar, and Alfrience A. Sulatorio	Angel M. Dionaldo
Siargao	Linear Regression and Machine Learning of Electrical Consumption and Businesses in Dapa, Surigao del Norte	Rodul R. Almaden, Jr., Louise Jake S. Dalago, and Justin Lyle D. Espuerta	Mafel R. Tokong
Surigao City	SCIEM: A Hybrid Machine Learning Model for Water Demand Forecasting and Uncertainty Estimation in Surigao City	Kaori Charisse T. Ciruela, Jianmei E. Fuego, and Chrisia Siamjen A. Paler	Claire Angelie G. Osorio
Surigao del Norte	IrrigISTiON: Python-based Predictive Optimization and Management of Rice Field Irrigation in San Francisco, Surigao del Norte Using Geographic Information Systems (GIS), Linear Programming, and Random Forest Machine Learning	Arvie Jane B. Catelo, Arnelyn A. Diaz, and Gerzel D. Lemoncito	Lisa Lorena B. Pagsanjan and Ma. Virginia D. Estobo
Surigao del Sur	2034 Rice Yield Forecasts for Surigao del Sur: The Predictive Strength of Linear, Quadratic, and Exponential Models	Kurt Ray Abraham S. Llamera, Shelby Chrran A. Azarcon, and Cristy R. Quijada	Mylene O. Patinga and Matt Ranillo S. Pagua
Surigao del Sur	Bayesian Regularized Feedforward Neural Network (BRFNN)-Based Forecasting of Key Agricultural Commodities in Caraga Region and the Philippines: Implications for Food Security	Mary Janelle B. Baluca, Juris Ann G. Pantilo, and Maureign Ghyle C. Vertudazo	Ryan Paul M. Vales and Shiela Mae L. Taotao

STEM Innovation Expo (Individual Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	IRAS: IoT-based Revolutionizing Automation Systems	Leila Jonalyn C. Alonsagay	Dan Fred Picardal and Lanelyn C. Alonsagay
Agusan del Norte	PLASMMA: Plastic Melter Machine with Activated Carbon Filter	James Angelo R. Septimo	Angelika Morano Maria Lourdes C. Egos
Agusan del Sur	Pyro-Safe: an AI-Driven IoT Fire Suppression System using YOLOv10 Algorithm and Servo Mechanisms with Decyl Glucoside Solution for Targeted Fire Extinguisher	Frances Gabrielle R. Plaza	Kim E. Masendo, Johnrey I. Malinao, and Antoniette B. Geolina
Agusan del Sur	Integrated Robotic Sprinkler System (IRSS) for Water, Fertilizer, and Pesticide Automated Application	Vj Elisha C. German	Bernard C. Abuloc
Bayugan City	WAIS (Waste Automotive Ignition Stove): An Eco-efficient Stove with Automated Oil Control Mechanism	Derf Howard A. Paña	Orvin A. Lobitos
Bislig City	Evaluating the Potential of <i>Allium sativum</i> as An Eco-Friendly Molluscicide for <i>Oncomelania quadrasi</i> Control in San Isidro, Bislig City	Jennifer M. Villariza	Novelita D. Celedio
Bislig City	AQUAINTEL: Development of Gravity Drip Irrigation System with Pest Detection Sensor	Bea G. Cordova	Teresita L. Garay
Cabadbaran City	Optimizing the SMART-TRACK IoT Device for Portable Water Quality Monitoring in Fish Cages	Cloe Lavender R. Alipao	Roy B. Piloton
Cabadbaran City	The Electrochemical Potential of Camote (<i>Ipomea batatas</i>) Leaves: Application in a Homemade Battery	Rainne E. Banate	Jane A. Melgazo
Dinagat Islands	SprayBot: Development of an Arduino-based Bluetooth-Controlled Automated Spray Painter for Automated Surface Painting	Austin Paul D. Ellar	Jerson S. Adajar
Dinagat Islands	Solar-Powered Adaptive Clothesline Shed with LDR: Efficient and Weather-Responsive Drying.	Kiara C. Silvano	Warren T. Pondoc
Siargao	Utilization of Bamboo (<i>Bambusa vulgaris</i>) and Carabao Manure as a Precursor for Carbon Activation in Absorbing CO ₂ in the Exhaust Filter	Reniel D. Minguita	Jean Claire Sentones
Siargao	Portable Device: Turning Contaminated Water into Potable Water with Built in Mineral Filters	Johnmark A. Reyes	Jean Claire E. Sentones
Surigao City	Eyes on the Road: Fatigue Detection System for Safer Long-Distance Driving	Xyrus Wiltory O. Antigro	Rey F. Miraflor
Surigao del Norte	Development of an Intelligent Energy Monitoring and Management System: Integrating Real-Time Analytics and Data Persistence for Enhanced Energy Efficiency	Kizha A. Garcia	Jordan D. Buhion
Surigao del Norte	FarmSense: Real-Time Environmental Monitoring and Mitigation	Marisse Jamboy Olvida	Sarah May L. Serna
Surigao del	Smart Stick: An Assistive Technology to	Kimchie Venniery	Dia Angelica T.

Sur	Enhance Mobility	Anib	Ybanez
Surigao del Sur	Production, Sensory Evaluation, Nutritive Value, and General Acceptability of Banana (<i>Musa acuminata</i>) Blossom Crackers	Sean Paul F. Casano	Conie C. Fernandez
Tandag City	SMART PEST CONTROL (SPCtrl): Dual Function LED Traps with Integrated Foliar Fertilizer Production	Reve-Ann Kathryn G. Revil	Marvin Yu Sumastre

STEM Innovation Expo (Team Category)

SDOs	TITLES	RESEARCHERS	COACHES
Agusan del Norte	SafeAlert Pro: Intelligent Sensor-Powered Light with Real-Time Fire & Earthquake Auto-Alert SMS	Mariezon D. Cantre, Ray Adel C. Herrera, and Marjan R. Tacsan	Christy Marie N. Comedoy and Ivan C. Dano
Agusan del Sur	Smart Output for User-Needed Dialogue (SOUNDShift): An IoT-based Eye Gear with Speech-to-Text Application using Micro-OLED Display for Hearing Impaired Individuals	Mac Nenrey G. Gulisao, Simon Angelu B. Apresto, and Marcus Cedrik S. Opiana	Kim E. Masendo, Johnrey I. Malinao, and Antoniette B. Geolina
Bayugan City	Designing and Constructing a Solar-Powered Fish Dehydrator: An Innovative Approach to Sustainable Food Preservation	Althea Marie L. Nuñez, Shakira Irish T. Cerna, and Vincent Lee Gallardo	Crystelle Anne B. Montera, Marvin S. Fernandez, and Kenn Louren G. Montera
Bayugan City	Development of a Semi-Automated Rice Irrigation System Prototype Utilizing Soil Moisture and Water Level Sensors for Early-Stage Rice Cultivation	April Grace M. Cabasa, Ericka Mae G. Eliot, and Neil Patrick C. Sangasina	Crystelle Anne B. Montera
Bislig City	Utilizing Coconut Husk Fiber as Sustainable Bioplastic for Food Packaging	Princess Nichole S. Magdula, Beatrice Felicity T. Metante, and Angelo Gabriel F. Revilleza	Bryan S. Samonte
Bislig City	Flood Localization and Remote Emergency System (FLARES): An Autonomous Flood Alert Device for Sewage Systems and Water Overflow Regulation	Francis Ivan C. Baradillo, Iahne Arwen L. Bautista, and Janzim Dainen B. Igot	Mary Lou A. Abamongga
Butuan City	LigtasLasa: Spoilage-Sensor Integrated Device for Safe and Fresh Food	Shaina Audrey T. Sandoval, Alleneth Kyle S. Pacis, and Angel Dawn T. Villasor	Mary Jane R. Ty
Cabadbaran City	Design and Implementation of a Solar-Powered Smart Grass Cutter With ESP8266 Microcontroller Integration	Ricel Sandy P. Apat, Sharizze Jan C. Gentiles, and Ma. Ysabel Minju C. Kang	Niña Ricci E. Catubig
Cabadbaran City	Rice Field Rat Control Flashing LED Light Device (Exploring Solution for Alternative Rice Field Rat Dispersal Method)	Jimwislie A. Bersabal, Katrina Jean T. Durango, and Hyacinth May C. Mahinay	Hector J. Pasion and Winjoy T. Saldivar
Siargao	AI-Powered Crab Detection System Alert	Eric A. Jovita, Kyra	Jean CLaire E.

	for Response and Harvest Capacity	Nicole G. Imperial, and Necoleigh Kates R. Salvaloza	Sentones and Sundae Carmel S. Basubas
Siargao	Smart Coastal Tool: Tidal and Wave- height Measuring Device with SMS Alerts of Real-Time Information using Orange Pi 3b	Dale Arwin M. Abel, Jan Aubrey D. Trazares, and Delbert T. Untalan, Jr.	Suzette Ann A. Mantilla and Sundae Carmel S. Basubas
Surigao del Norte	Real-Time Landslide Monitoring and Risk Assessment Using an ESP32-Based Network	Chloe C. Patan, Carl Justine C. Rebucas, and Russellyn P. Laranjo	Jordan D. Buhion
Surigao del Norte	SARGAGROW: A Sustainable Hydroponic Fertilizer Made from Seaweed (<i>Sargassum fluitans</i>)	Carl Jayden O. Pagapong, Yumie T. Cereligia, and Jan Jessa L. Galagar	Ira Cecille M. Galido
Surigao del Sur	POLLUTION SHIELD: The Smart Air Purifier Mask	Julian B. Aranas, Lianne Mae T. Obseñares, and Chivas Jose C. Polido	Mylen P. Aruyal and Wilymar U. Patagan
Surigao del Sur	ALPAS: A Solar-powered Weed Cutter with Obstacle Detection and Bluetooth- based Smartphone Control for Sustainable Ground Maintenance	Cristyl Dia B. Bondad, Jhul Jhe Necole A. Davines , and Helton M. Gultiano	Marloun K. Gasoc and Ronel G. Patunongon
Tandag City	Foliar Fertilizer Converting Machine	Abighil C. Abiera, Aubrey A. Buniel, and Jamelah Katrice L. Baldomero	Marvin Y. Sumastre
Tandag City	"PHSPC Device" Portable Hybrid Solar Power Contingency Device	Rouie Emmanuel S. Mendez, Heart Markeila V. Mozar, and Mae T. Songahid	Marvin Y. Sumastre and Junette Chin P. Simastre

Enclosure 2 of RM No. _____, s. 2025

CHECKPOINTS FOR ENHANCED MANUSCRIPTS

Directions: Accomplish these checkpoints and submit a printed sheet to the 2025 RSTF TWG upon registration.

A	TUKLAS PROJECTS	YES	NO
1	Is there a research abstract? (Should be seen in the preliminary pages).		
2	Is the manuscript in IMRAD format? (Other parts aside from the IMRAD maybe added; should be seen after the preliminary pages)		
3	Are the attached ISEF Forms 1, 1A and 1B properly accomplished and duly signed? (Should be seen after the manuscript's appendices)		
4	If risk assessment box in ISEF Form 1 is checked, is there an attached ISEF Form 3 (Risk Assessment Form)?		
5	Are research plan and data logbook present? (Should be seen after the ISEF Forms)		
6	Is the cover page's soft bound and back most paper color coded? (LSI-green, LST-yellow, PSI-blue, PST-orange, RIMI-pink, RIMT-brown, MCSI-red, and MCST-purple)		
7	Are the parts of the manuscript properly earmarked?		
8	Are the in-text citations exactly match with the references in reference list?		
9	Are the references traceable?		
10	Is the project original or with no plagiarized content?		
B	TUKLAS PROJECTS		
1	Is there a research abstract? (Should be seen in the preliminary pages).		
2	Is the manuscript in IMRAD format? (Other parts aside from the IMRAD maybe added; should be seen after the preliminary pages)		
3	Is the cover page's soft bound and back most paper in color grey?		
4	Are the parts of the manuscript properly earmarked?		
5	Are the in-text citations exactly match with the references in reference list?		
6	Are the references traceable?		
7	Is the project original or with no plagiarized content?		

Signed:

Researcher(s)