

KRISTOFER RAGONTON SANO



Age & Sex: 24 Male

kristoferragontonsano2001@yahoo.com

Date of Birth: May 20, 2001

Gen. Santos City, PH

Innovator, inventor, and researcher driven by curiosity of the natural sciences and their practical applications. With a strong interest in **spectroscopy, material science, nuclear energy & robotics**, I acquired relevant skills through trainings, competitions, and academic courses.

Guided by a vision that science, technology, and engineering should shape the humanity for good, I strive to develop solutions through research and make a meaningful impact in society.

MEMBERSHIPS AND POSITIONS HELD

Research Intern | Tamkang University 2025

- Synthesize graphene-like membranes & test with microscopy & spectroscopy techniques
- Determined the permeability of membranes using a membrane mass spectrometer
- Characterized energy materials using FT-IR and Raman spectrometry
- Conducted experiments in the Taiwan National Synchrotron Radiation Research Center

Student Researcher | Mapúa Optical Engineering and Materials Group 2021 - 2025

- Engaged in multidisciplinary research focusing on optics, instrumentation, percolation theory, dispersion modelling, and radiation detection.
- Collaborated with student researchers in the BS Physics program in Mapua
- Presented in national and international research conferences with journal publications

Electricals Lead | Mapúa Cardinal One Shell Eco Marathon Team 2023 - 2024

- Developed and researched for an experimental vehicle with high energy efficiency.
- Designed eco car electrical and safety systems during the 2024 Shell Eco Marathon Asia-Pacific and the Middle East held in Lombok, Indonesia.
- Oversee the planning and execution of the maintenance, repair, and overhaul of mechanical and electrical aspects of an eco-car.

EDUCATION

Bachelor of Science in Physics 2020 - 2025

Radiation Measurement & Dispersion Modelling
Mapúa University

Bachelor of Science in Electrical Engineering 2020 - 2025

Test & Measurement Specialization
Mapúa University

High School Diploma 2014 - 2020

Academic Track | Physics Core, Computer Science and Chemistry Elective
Philippine Science High School (SOCCSKSARGEN)

HONORS AND AWARDS

Best BS Physics Thesis 2025

Baseline Radiation Dose Rate Measurement For The Proposed Tampakan Open Pit Mining Project in Mindanao, Philippines.

Best BS Electrical Engineering Thesis 2025

Design of a Geiger-Müller Survey Meter Using Switching Boost Converter and ESP8266 Microcontroller as Alternative to the Safecast bGeigie Nano.

Engr. Constancio Z. Paranal Jr. Award for Future Professional Success 2025
Graduating students of Mapúa University with academic excellence and leadership qualities
The Jun and Mila Paranal Foundation | Manila, Philippines

Best Poster Presentation Award 2025
Research presentation in *Int'l Conference on Sustainable Environment Technologies*.
Environmental Quality Concern, Control and Conservation | Manila, Philippines

Technical Innovation Award 2024
Innovation & implementation of engine with 274 km/L efficiency
Shell Eco Marathon Asia-Pacific & Middle East | Lombok, Indonesia

PATENTS AND UTILITY MODELS

HORMIGOS, R.B., JOCSON, B.J., SANO, K. R., "[Radiation Monitoring Device](#)," Philippine Patent, No. PH12020050028A1.

DE CLARO, K.J.G., SURIAGA, J.T., SANO, K. R., "[Rocket Device For Hydroscopic Cloud Seeding](#)," Philippine Utility Model, No. PH22019050100U1.

BERNARDO, Y.B., JOCSON, C.J., SANO, K. R., "[Piezoelectric Stair Energy Harvester](#)," Philippine Utility Model, No. PH22018050393Y1.

PUBLICATION

KR Sano, JL F Gabayno. 2025. "[Systematic baseline radiation dose rate measurement using dispersion model for environmental monitoring of open pit mines in the Philippines](#)" *J. Phys.: Conf. Ser.* **3042** (012013).

KR Sano, BJ L Tingzon, RJ P Omanio. 2020. "SmartGeigie: "[Radiation Monitoring System Using Android, Smart Geiger Pro, and Data-logging for Safecast](#)" *Philippine Nuc. Res. and Dev. Conf.*, Philippine Nuclear Research Institute: Quezon City.

PRESENTATIONS

Poster Presentation, "*Water vapor permeability of thermally reduced graphene oxide synthesized in air and vacuum pressures*," Samahang Pisika ng Pilipinas, 2025.

Poster Presentation, "*Baseline radiation dose rate measurement and PM10 dispersion model of an open pit mining project in South Cotabato, Philippines*," Samahang Pisika ng Pilipinas, 2025.

Oral Presentation, "*PM₁₀ dispersion modelling based on physical solar model v3 and digital elevation model from synthetic aperture radar for environment management*," International Conference on Sustainable Environmental Technologies, 2025.

Poster Presentation, "*Development of Geiger-Muller survey meter with switching boost converter and ESP8266 microcontroller for public access of environment radiation data through Safecast database*," International Conference on Sustainable Environmental Technologies, 2025.

Poster Presentation, "*Intrinsic properties of square lattice site percolation revealed using Java, MATLAB, and Python simulations*," 89th General Membership Assembly, National Research Council of the Philippines (Online), 2022.

Case Study, "*OpenCV and Smartphone-Based Foot-traffic Mapping for Assessment of COVID-19 Infection Risk through CS*," Citizen Science with Application to Nuclear, Seismic and Air Quality Monitoring: Applications, International Centre for Theoretical Physics, 2021.

SEMINARS, WORKSHOPS, AND CERTIFICATIONS

Tamkang University New Taipei City, Taiwan International Summer Camp (TKU × iST Materials Analysis and Characterization)	2025
National Synchrotron Radiation Research Center Hsinchu, Taiwan User Safety Training Certification	2025
Philippine Space Agency Quezon City, Philippines Advanced Utilization and Applications of GEMS for Air Quality Monitoring in the Philippines	2024
Civil Service Commission Quezon City, Philippines Career Service Examination – Professional Level Examination Passer	2023
Georgia Institute of Technology Online Course Introduction to Engineering Mechanics	2023
University of Michigan Online Course Applied Plotting, Charting, and Data Representation in Python	2023
Duke University Online Course Inferential Statistics	2022
The Hong Kong University of Science and Technology Online Course Matrix Algebra for Engineers	2022
University of Colorado Boulder Online Course Diode – pn Junction and Metal Semiconductor Contact	2021
University of Manchester Online Course Introduction to Molecular Spectroscopy	2021
The Abdus Salam International Center for Theoretical Physics Trieste, Italy Citizen Science with Application to Nuclear, Seismic and Air Quality Monitoring: Introduction Citizen Science with Application to Nuclear, Seismic and Air Quality Monitoring: Applications	2021
Philippine Nuclear Research Institute Quezon City, Philippines 2018 Course on Basic Nuclear Science and Radiation Protection	2018

REFERENCES

Dr. Jacque Lynn F. Gabayno Professor, <i>Mapúa Optical Engineering and Materials Group</i>	jlfgabayno@mapua.edu.ph (+63) 9260719466
Dr. Cheng-Hao Chuang Professor, <i>Tamkang University</i>	chchuang@mail.tku.edu.tw (+886) 2-26215656 ext 2553
Engr. Jose Luis Villalon Assistant Professor, <i>Mapúa University Cardinal One</i>	jllvillalon@mapua.edu.ph (+63) 9151265571
Engr. Jessie Jaye R. Balbin Assistant Professor, <i>Mapúa University</i>	jjrbalbin@mapua.edu.ph (+63) 9663319349