

# 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., JOCON, 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., JOCON, 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**, "PM<sub>10</sub> 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

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

## REFERENCES

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