



PHYSICS DEPARTMENT

De La Salle University
2401 Taft Avenue, 1004 Manila
Telefax: 536-0229

Enumerated below is the list of activities of the Physics Department for the AY 2014-2015

I. Academics and Learning

1. Ms. Gwen Castillon prepared the experiments for Experimental Methods in Physics for the graduate school MS Physics program February 6, 2016.
2. Bro. Joseph Scheiter organized the following Professional Learning Community (PLC) public lectures:
 - a. "Relaxor Ferroelectrics: Experimental Condensed Matter Physics" by Dr. Arif Mumtaz, of Quaid-i-Azam University, Islamabad, Pakistan, at 4:15, Thursday, June 19, 2014 in Y-409
 - b. Charge Your Cell Phone Weekly: "How to Make Electronics Energy Thrifty So You Only Need to Charge a Cell Phone Once a Week!" or "Quantum Tunneling Electronics for Ultra-low Power Scaled CMOS" by Dr. Paul Berger Ohio State University, USA, Thursday, Aug. 7, 2014 4:15 pm, Y-407-9
 - c. "Is Earthquake Prediction Near?: Lithosphere-Ionosphere-Atmosphere Coupling", by Dr. Ernest Macalalad, Taiwan National Central University, Thurs., 9/18,2014 4:30, Rm. Y-408
 - d. "Investing in the Digital Age" by Mr. Jacob Park on October 16, 2014, Y407.
 - e. "Heavy Metal: Slayer: Morphological and Voltametric Characterization of Different Concentrations of Spin Coated Nafion Ru(bpy) Thin Films" by Benjamin Tuason of our physics department on Wednesday, Nov. 5, 2014 at 4:30 in Y-407.
 - f. "Aerial Mapping by Drones & Remote Sensing" by Mr. Michael Buendia of Fil-GeoSolutions, Inc., Thursday, February 26, 2015 at 4:15, in room SJ-504.
 - g. "Holding Your Ideas in Your Hands: Making Things for Education and Research" by Dr. Giovanni Tapang, of UP, Diliman, Versatile Instrumentation System for Science Education and Research Lab on Thursday, March 12, 2015 at 4:15-5:15 in Y-407.
 - h. "Treasure from Waste: Palm Kernel Shell Reinforced Polypropylene Biocomposites", by Dr. Hui Lin Ong, Visiting Professor from Universiti Malaysia, Perlis, Thursday, March 19, 2015 at 4:15, in Y-508.
 - i. "2D Silicon, the Future of Nano-electronics: Anomalous Effect in Hydrogenated Silicene Nanoribbons," by Dr. Rolando Viño Bantaculo, MSU-IIT, Mindanao State U.-Iligan Inst. of Technology, Monday, March 23, 2015 4:15, in Y-507.

- j. "Nuclear Security Threats and Recent Advancements in Nuclear Technology post-Fukushima Event" by Dr. Dickerson Moreno, International Security Fellow at Georgia Tech, July 15, 2015, 11am to 12 noon in Y-507.

II. Research

1. Spearheaded the following conferences:
 - a. THE CENSER, DLSU Physics Department, Philippine Radiation Oncology Society (PROS), and the European Society for Radiotherapy and Oncology (ESTRO) hold a convention on "Advanced Treatment Planning" on May 16 to 19, 2015, Henry Sy 4th floor Multipurpose Hall.
 - b. The Physics Department and the Philippine Association of Physics Instructors (PAPI) conducted a physics workshop with the theme "Innovation through Science and Technology Education", August 15, 2015, Y507-509
2. The following are the physics research presentations:
 - a. 2015 SPP Congress at the University of Northern Philippine Vigan Ilocos Sur, June 3, 2015.
 - The Role of Gold on N Isopropylacrylamide (NIPAM) for Drug Delivery, A DFT Study, D. Bacuyag, AR Villagrcia, N. Arboleda, M. David
 - Atomic Hydrogen Sorption in the Zigzag Edge of H Terminated bilayer Graphene studied by DFT, R. Bolalin, M. Natividad, G. Janairo, H. Kasai, N. Arboleda
 - b. 2014 SPP Congress at University of the Philippines, National Institute of Physics, October 17, 2014.
 - c. Hydrogen Adsorption on Calcium Decorated Single Layer Germanene: An AB Initio Study, K. Rojas, N. Arboleda,
 - d. Surface Analysis of n-type Silicon after Contact Electrification Using Magnetic Force Microscopy, J. Esmeria, R. Pobre
 - e. Development of a Cost Effective and Portable Terahertz Time Domain Spectroscopy Setup in transmission Geometry, A. delos Reyes, SA Vizcara, JD Vasquez, MA Faustino, L Lopez Jr., C. Sadia, MH Balgos, R. Jaculbia, J Muldera, C Que, GN Santos, A Somintac, A Salvador, A Estacio
 - f. Dr. Gil Nonato Santos presented his research work at the "Expert Group Meeting (EGM) on Testing, Standardization and Certification of Nanomaterials and Nanoproducts" & "Stakeholder Workshop on Critical Aspects of Nanotechnology R&D Management," 23 & 24-25 July 2014, Manila, Philippines
 - g. Physics graduate students presented their research in the 4th National DOST-SEI ASTHRDP-NSC Scholars' Conference to be held on 7-8 May 2015 Traders Hotel
 - h. JOINT LIST OF PUBLICATIONS and PEER-REVIEWED JOURNAL PAPERS with Prof. Raouf Naguib:

- Chinnaswamy AK, Balisane H, Nguyen QT, Naguib RNG, Trodd N, Marshall IM, Yaacob N, Santos GN, Vallar EA, Galvez MC, Shaker MH, Wickramasinghe N and Ton TN. Data Quality Issues in the GIS Modelling of Air Pollution and Cardiovascular Mortality in Bangalore. *Int. J. Information Quality*, 2015: (in press).
 - Chinnaswamy AK, Galvez MC, Balisane H, Nguyen QT, Naguib RNG, Trodd N, Marshall IM, Yaacob N, Santos GN, Vallar EA, Shaker MH, Wickramasinghe N and Ton TN. Air Pollution in Bangalore, India: A Six-Year Trend Analysis and Spatial-Temporal Variations using Geostatistical Techniques. *Int. J. Environmental Technology and Management*, 2015: (submitted January 2015).
 - Nguyen QT, Balisane H, Naguib RNG, Santos GN, Vallar EA, Galvez MC, Shaker MH and Ton TN. A GIS-Integrated Wireless Sensors Network Tool for Water Risk Monitoring – Case of Khanh Hoa Water Supply and Sewerage Company, Vietnam. *Proc. IEEE Int. Conf. on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management, Puerto Princesa, Philippines, 2014 (CD-ROM)*.
 - Chinnaswamy A, Naguib RNG, Nguyen QT, Marshall IM, Yaacob N, Santos GN, Vallar EA, Galvez MC, Shaker MH and Ton TN. Air Pollution in Bangalore, India: A Six-Year Trend and Health Implication Analysis. *Proc. IEEE Int. Conf. on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management, Puerto Princesa, Philippines, 2014 (CDROM)*.
 - Chinnaswamy A, Naguib RNG, Nguyen QT, Marshall IM, Yaacob N, Santos GN, Vallar EA, Galvez MC, Shaker MH and Ton TN. Spatio-Temporal Analysis of the Effects of Air Pollution Hazards on Cardiovascular Health Outcomes in Bangalore, India. *Proc. IEEE Int. Conf. on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management, Puerto Princesa, Philippines, 2014 (CD-ROM)*.
 - Chinnaswamy A, Naguib RNG, Nguyen QT, Marshall IM, Yaacob N, Santos GN, Vallar EA, Galvez MC, Shaker MH and Ton TN. Spatial Interpolation of Air Pollutants in Bangalore: 2010-2013. *Proc. IEEE Int. Conf. on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management, Puerto Princesa, Philippines, 2014 (CD-ROM)*.
- i. **JOINT LIST OF PUBLICATIONS and PEER-REVIEWED JOURNAL PAPERS with Prof. Hui Lin Ong:**
- A Nik Nur Azza, Ong Hui Lin, Hazizan Md Akil, Andrei Victor Sandu, Al Rey Villagracia and Gil Nonato C. Santos. Effect of stearic acid on mechanical and morphological properties of polypropylene (PP)/dolomite (DOL) composites, *Materiale Plastice* 2016; 52, Accepted Manuscript. (Impact factor 0.8)

- Karen Doniza, Hui Lin Ong, Al Rey Villagracia, Aristotle Ubando, Melanie David, Nelson Arboleda Jr., Alvin Culaba, Hideaki Kasai. A molecular dynamics study on the permeability of oxygen, carbon dioxide and xenon on dioleoyl-phosphatidylcholine (DOPC) and 1-palmitoyl-2-oleoyl-sn-glycero-3-phosphoethanolamine (POPE) double lipid bilayer. DLSU Research Congress 2015, March 2015, De La Salle University, Manila, Philippines.
 - G.Y. Toh, Ong Hui Lin, H.N. Lim, N.M. Huang, Hazizan Md. Akil and Gil Nonato C. Santos. Studies on mechanical and thermal properties of low density polyethylene/titanium dioxide composites in binary system and ternary system: effect of graphene oxide, Polymer Research Journal 2015; 9: In press.
- j. Dr. Gil Nonato Santos, Jonathan Briones and Ms. Gwen Castillon monitored the heat and nanocoated the library window to prevent degradation of the works of Sionil Jose from UV exposure.
- k. Participated and gave a lectures in the following workshops, conference, and seminars
- DLSU Research Congress 2015 on March 2-4, 2015
 - PCIEERD and UP Enterprise Pitching Event April 25, 2015
 - APEC SlingShot Event on July 6-7, 2015

III. Internationalization/Linkages

1. Accepted the following donations:
 - a. Prof. Raouf Naguib donated a drone technology kit to the Physics Department, Feb. 23, 2015.
 - b. Mr. Cesar Bermundo of Scienstar Inc. donated a GM counter, robotics arm, weather station to the Physics Department, June 9, 2015.
 - c. Mr. Peter Bangayan donated Physics books and a Celestron telescope to the Physics Department, June 14, 2015.
 - d. Mr. Marcio Sena donated fossils, rock, minerals and books from the Smithsonian Institute to the Physics Department, June 18, 2015, and is currently housed at SJ 413.
2. Dr. Elmer Estacio of the NIP had installed and made operational the Femtosecond Laser for Terahertz Measurements
3. The following Visiting Lecturers and Professors were invited and tasked to teach and give public lectures:
 - Dr. Raouf Naguib from BIOCORE Intl was Distinguish Visiting Professor of the Physics Department from November 1 to 30, 2014, and taught Physics Seminar for physics majors and gave a public lecture on Airborne First Person View Vehicles: Conceptual Applications in Air Pollution Measurement and Environment Risk Assessment”

- Dr. Hui Lyn Ong from Universiti of Malaysia Perlis was Visiting Lecturer from Mar. 9 to April 9, 2015 and taught STRUANA and gave a public lecture Polymer Based Biocomposites from Oil Palm Waste”
4. The MOA was signed for the DLSU-OU double degree program in PhD Physics
 5. On-going MOU:
 - Physics Department and National Sun Yat Sen University

IV. Students

1. Mr. Jonathan Briones and Dr. Gil Nonato Santos won the 2015 NRCP Poster Contest
2. PREMED Physics won first place in the UST Medalya PREMED Quiz Contest
3. Announced and spearheaded the Outstanding Thesis Award for Physics Students:
 - Mr. Christian Yu
 - Mr. Brian Soan
 - Ms. Abby Juat
 - Ms. Donnalou Lua
 - Mr. Earl Roposa
 - Ms. Jadie Ponti also was awarded Outstanding Research Award, attended the World Science Conference Israel, and graduated Magna Cum Laude
4. Monitored the activities of the Physics Society (PHYSOC) and tasked Dr. Al Rey Villagracia to be the adviser.
5. Ms. Dinane Calde attended the Joining and Welding Research Institute (JWRI)
6. Prepared OJT requirements and recommendation for physics students

V. Community Engagement

1. Assigned and tasked the following Physics Faculty to teach at DLSU SALIKNETA:
Dr. Emmanuel Rodulfo and Ms. Gwen Castillon – Physics and Math Instructors
2. Assigned and tasked Ms. Carla Manzano, Dr. Chris Que, and Dr. Richard Hartmann to do teacher training for DLSU BAGAC teachers.
3. Mentored students of the QC Science High School for their SIP.
4. Approved the practicum of the PNU Students
5. Assigned and tasked Dr. Emmanuel Rodulfo to be a resource person for ASTIG TV5 Demolition Job science episode and Matang Lawin TV2