



DE LA SALLE UNIVERSITY

GRADUATE PROGRAMS IN

**SCIENCE**



# GRADUATE PROGRAMS IN SCIENCE



The College of Science at De La Salle University offers relevant, diverse, and progressive graduate programs for academics, researchers, and industry professionals.

With CHED Centers of Excellence in Biology, Chemistry, Mathematics, and Physics, and a Center of Development in Statistics, the College is geared towards developing a community of scientists dedicated to advance scientific research for social development.

Respected faculty, comprehensive research activities, and well-equipped laboratories allow students to pursue path-breaking research and build on their experiences for a fulfilling career in the field.

## OVERVIEW

Graduate programs of the DLSU College of Science provide students with the opportunity to deepen their knowledge of both the physical and life sciences, acquire the laboratory and computational skills required for the fast-changing world of science, and develop personally by establishing valuable connections with fellow graduate students, academics, and experts in the field.

## COLLEGE STRENGTHS

- 18 graduate program offerings covering a wide area of the Life Sciences and Physical and Natural Sciences
- 85% of faculty are doctorate holders from Universities around the world.
- Full or partial scholarships covering tuition, miscellaneous fees, and research expenses
- State-of-the-art facilities
- Existing partnerships with industry, government, regional institutions, and international funding agencies
- CHED Centers of Excellence in Biology, Chemistry, Mathematics, and Physics
- CHED Center of Development in Statistics
- Accredited by the ASEAN University Network (AUN)



P. **4**  
GRADUATE PROGRAMS

P. **7**  
LABORATORIES AND RESEARCH FACILITIES

P. **8**  
FACULTY PROFILE

P. **10**  
ADMISSION AND SCHOLARSHIPS





### DOCTOR OF PHILOSOPHY IN BIOLOGY

(37 UNITS)

The program is designed to provide advanced study and research in the biological sciences. Strong emphasis is placed on the development of scientific skills and values which are useful in the conduct of independent field investigation and/or laboratory experimentation. A study program consisting of selected coursework and independent projects is prepared for each student. Opportunities for representation and publication of student research are also provided.

### DOCTOR OF PHILOSOPHY IN CHEMISTRY

(34 UNITS)

The program is designed to provide advanced study research in Chemistry. The PhD degree in Chemistry is earned by those able to demonstrate breadth and depth of knowledge of the facts and theories of Chemistry and the ability to conduct independent chemical research as evidenced by the acceptance of a doctoral dissertation.

### DOCTOR OF PHILOSOPHY IN CHEMISTRY – DOUBLE DEGREE WITH OSAKA UNIVERSITY

(69 UNITS)

The program provides the opportunity to simultaneously obtain two PhD degrees after accomplishing coursework and research in DLSU and Osaka University. Research is meant to be guided by supervisors from the two universities.

### DOCTOR OF PHILOSOPHY IN CHEMISTRY

(STRAIGHT PROGRAM, 69 UNITS)

The straight program is intended for BS Chemistry applicants with high aptitude for chemistry and outstanding research capabilities backed by research experience. Students in the MS program may be accepted subject to meeting certain requirements.

### DOCTOR OF PHILOSOPHY IN MATHEMATICS

(STRAIGHT PROGRAM, 69 UNITS)

*By invitation only, from the ranks of MS students*

### DOCTOR OF PHILOSOPHY IN MATHEMATICS

(REGULAR TRACKING, 42 UNITS)

The program (under straight and regular tracks) is aimed at providing training for the development of research capabilities in mathematics and its possible applications. It intends to develop highly trained mathematicians who can address the needs of the other sciences and industry as well.

### DOCTOR OF PHILOSOPHY IN PHYSICS

(STRAIGHT PROGRAM, 63 UNITS)

### DOCTOR OF PHILOSOPHY IN PHYSICS

(REGULAR PROGRAM, 45 UNITS)

The program provides students with advanced graduate training in Physics, preparing them for scientific careers in academe as well as in industry. The strength of the department lies in solid state physics, materials science, semiconductor physics, theoretical physics, laser remote sensing, optics, computational physics, and instrumentation. The uniqueness of the program lies on inquiry-based courses, which is learner-centered and project-oriented. The straight PhD program attracts students who would like to finish their PhD without taking the masteral program.

### MASTER OF SCIENCE IN BIOLOGY

(37 UNITS)

The program is designed to provide a strong foundation in concepts and principles of the life sciences, to develop appropriate skills and to inculcate in the students a proper attitude toward biological research and investigation. The courses are organized to accommodate the varied interests of students pursuing specialization in the environmental and paramedical fields, among others.

### MASTER OF SCIENCE IN ENVIRONMENTAL SCIENCE AND ECOSYSTEM MANAGEMENT

(37 UNITS)

The program intends to provide professionals with an in-depth technical background in environmental science as well as skills, attitudes, and values in the practice of environmental management. It is a transdisciplinary partnership of the different units of the university coordinated by the Biology Department. The program trains students to prepare environmental risk assessment and environmental impact assessment and collaborate with various institutions for research on environmental issues.

### MASTER OF SCIENCE IN CHEMISTRY

(36 UNITS)

The program is designed to provide students with an extensive grounding in chemical concepts and training in chemical techniques at the graduate level, to update them on recent developments in chemistry, and to encourage independent experimental work.

### MASTER OF SCIENCE IN MATHEMATICS

(36 UNITS)

The program prepares students for research and for teaching senior level mathematics courses at the undergraduate level. The program lays the foundation studies in the doctoral level. It aims to update the skills of mathematicians, enabling them to take on challenging roles in the academe, government service, and industry.

### MASTER OF SCIENCE IN STATISTICS

(37 UNITS)

The program prepares students for research and for advanced level work by providing them the necessary foundation for doctoral studies. It aims to develop future statisticians for the academe, government service, and industry.

### MASTER OF SCIENCE IN PHYSICS

(36 UNITS)

The program is designed to develop competent manpower to fill the demands of industry and academe. It is open to scientists, researchers, and teachers, who, at the end of the program, have acquired a deeper understanding of the fundamental principles and concepts in physics that would enable them to make creditable contributions to the research and development programs of industries involved in solid state, optics, semiconductor, or computational physics.

### MASTER OF SCIENCE IN APPLIED PHYSICS

(36 UNITS)

The program is designed around the idea that physics provides fundamental understanding of relevant problems in society and provides creative and innovative solutions to these. The program is a balance of theoretical and experimental courses aimed at facilitating students' understanding of phenomena, the theoretical models that explain them, the measurements that illuminate them, and, most importantly, the connections among the three.

### NON-THESIS PROGRAMS

The College of Science offers the following non-thesis master's programs that are especially designed for the CHED Faculty Development program. These programs are aimed at helping upgrade the academic competencies and qualifications of secondary and tertiary faculty in the country.

### MASTER IN BIOLOGY

(36 UNITS)

### MASTER IN CHEMISTRY

(36 UNITS)

### MASTER IN MATHEMATICS

(36 UNITS)

### MASTER IN PHYSICS

(36 UNITS)







## RESEARCH LABORATORIES AND FACILITIES

High Performance Computing Laboratory  
iNano Laboratory  
Molecular Science Unit Laboratory  
Central Instrumentation Facility

## OTHER RESOURCES

### CENTER FOR NATURAL SCIENCE AND ENVIRONMENTAL RESEARCH

#### RESEARCH UNITS:

- Applied Research for Community, Health, and Environment Resilience and Sustainability Unit
- Biological Control Research Unit
- Computational Materials Design Research Unit
- Condensed Matter Unit
- Materials Science and Nanotechnology Unit
- Microalgal Systematics and Applied Phycology Research Unit
- Natural Products and Drug Development Unit
- Optics and Instrumentation Research Unit
- Organic Materials and Interfaces Unit
- Technologist for Biodiversity Use and Conservation Unit

### MANILA JOURNAL OF SCIENCE

A peer reviewed and abstracted online journal for science and technology researches published by the College

### Br. Alfred Shields FSC Ocean Research (SHORE) Center

Br. Alfred Shields FSC Marine Station, Brgy. Matuod, Lian, Batangas

### LIBRARY RESOURCES

The availability of wireless ports, The Learning Commons, smart classrooms, and access to international journals and electronic databases in the University facilitate students' exposure to advanced science research. As a member of the ASEAN University Network, the University allows students access to the library databases of top universities in the ASEAN region.

#### DEPARTMENT OF BIOLOGY

Chona Camille Abeledo, PhD (De La Salle University)  
*Systematics and Population Genetics*

Esperanza Maribel Agoo, PhD (De La Salle University)  
*Plant Systematics, Plant Taxonomy and Conservation*

Zeba Alam, PhD (JawaharLal Nehru University, India)

Billy Joel Almarinez, PhD (De La Salle University)  
*Entomology*

Divina Amalin, PhD (University of Florida, USA)  
*Entomology, Integrated Pest Management, Biological Control, Spider Taxonomy, Biodiversity*

Esperanza Cabrera, PhD (University of Santo Tomas)  
*Medical Bacteriology*

Jose Santos Carandang VI, PhD (Wurzburg University, Germany)  
*Environmental Management and Urban Ecology, Plant Stress Physiology*

Thaddeus Carvajal, DEng (Ehime University, Japan)

Mariquit delos Reyes, PhD (University of Maryland, USA)  
*Biotechnology*

Ma. Luisa Enriquez, PhD (University of the Philippines Diliman)  
*Cytogenetics*

Mary Jane Flores, PhD (De La Salle University)  
*Parasitology, Tick Taxonomy and Systematics, Zoonotic Infections*

Jose Isagani Janairo, PhD (Hokkaido University, Japan)  
*Biological Chemistry*

Ma. Carmen Lagman, PhD (University of the Philippines Diliman)  
*Population and Quantitative Genetics of Fish, Molecular Ecology, Bioinformatics*

Wilfredo Roehl Licuanan, PhD (University of Southern California, USA)  
*Coral Reef Ecology, Marine Ecology*

Emelina Mandia, PhD (University of the Philippines Los Baños)  
*Ethno-botany, Plant Systematics and Ecology*

Michael Ples, PhD (University of the East Ramon Magsaysay Medical Center)  
*Anatomy, Otorhinolaryngology, Zoology*

Gliceria Ramos, PhD (University of the Philippines Diliman)  
*Developmental Biology*

Mark Christian Felipe Redillas, PhD (Myongji University, South Korea)  
*Crop Biotechnology*

#### DEPARTMENT OF CHEMISTRY

Laurenzo DV Alba, PhD Double Degree (De La Salle University & Osaka University)  
*Biochemistry*

Glenn Alea, PhD (De La Salle University)  
*Organic Synthesis*

# FACULTY PROFILE

The College's faculty members are experts in wide and diverse areas of Biology, Chemistry, Environmental Science, Mathematics, Statistics, and Physics. Seventy-one percent of faculty members are doctorate holders from universities here and abroad. They include specialists from other academic institutions, government, industry, and the private sector.

Mariafe Calingacion, PhD (Wageningen University, Netherlands)  
*Food chemistry, Pesticide toxicology, Plant metabolomics, Systems biology*

Drexel Camacho, PhD (Tohoku University, Japan)  
*Polymers and Biopolymers, Organometallic Synthesis*

Rafael Espiritu, PhD (Osaka University, Japan)  
*Membrane Biophysics, Programmed Cell Death*

Francisco Franco Jr., PhD (Osaka University, Japan)  
*Molecular Systems Design, Materials Chemistry*

Emmanuel Garcia, PhD (De La Salle University)  
*Food and Bioanalytical Chemistry, Coffee Chemistry*

Joel Garcia, PhD (Wayne State University, USA)  
*Molecular Imaging, Lanthanide & Nanochemistry, Sensor Development*

Lourdes Guidote, PhD (University of Tokyo, Japan)  
*Inorganic Synthesis*

Gerardo Janairo, DSc (Eberhard-Karls-Universitat zu Tubingen, Federal Republic of Germany)  
*Organic Synthesis, Carbohydrate Chemistry*

Jaime Raul Janairo, PhD (De La Salle University)  
*Natural Products Chemistry*

Nancy Lazaro-Llanos, PhD (Ohio University, USA)  
*Biological Membranes, Peptide Chemistry*

Faith Marie Lagua, PhD (De La Salle University)  
*Organic Synthesis, Medicinal Chemistry*

Stephani Joy Macalino, PhD (Ehwa Womans University, South Korea)  
*Biochemistry, Pharmaceutical sciences*

Hilbert Magpantay, PhD (The University of Tokyo)  
*Biotechnology*

Raymond Malabed, PhD (Osaka University, Japan)  
*Membrane Biochemistry and Biophysics, Food Chemistry*

Vincent Antonio Ng, PhD (De La Salle University)  
*Natural Products Chemistry*

Marissa Noel, PhD (Ateneo de Manila University)  
*Food Chemistry, Plant Tissue Culture*

David Peñaloza Jr., PhD (University of Connecticut, USA)  
*Polymer Chemistry, Colloids, and Surface Science*

Eric Punzalan, PhD (University of Connecticut, USA)  
*Organic Chemistry, Environmental Chemistry*

Julita Robles, PhD (De La Salle University)  
*Inorganic Chemistry, X-ray Crystallography*

Rodolfo Sumayao Jr., PhD (University College Dublin, Ireland)  
*Redox Biochemistry and Signalling, Translational Medicine, Biomarker Discovery*

Derrick Ethelbhart Yu, PhD (Hokkaido University, Japan)  
*Materials Science*

#### DEPARTMENT OF MATHEMATICS AND STATISTICS

Karla Alarilla, MS (George Mason University, USA)  
*Actuarial Science*

Ramon Albert, PhD (State University of New York, USA)  
*Reliability (Missing Data Estimation)*

Angelo Alberto, MoS (University of the Philippines Diliman)  
*Statistical Modeling, Survey Operations, Multivariate Analysis, Nonparametric Statistics*

Rechel Arcilla, PhD (University of the Philippines Los Baños)  
*Sampling and Small Area Estimation*

Erold Ryan Bonzo, MS (Western Michigan University, USA)  
*Statistics*

Francis Joseph Campeña, PhD (De La Salle University)  
*Graph Theory, Design Theory*

Rafael Reno Cantuba, PhD (De La Salle University)  
*Associative Algebras, Lie Algebras*

Kristine Joy Carpio, PhD (The Australian National University)  
*Stochastic Processes*

Frumencio Co, MoS (University of the Philippines Diliman)  
*Biostatistics*

Karl Man Collado, MS (University of the Philippines Diliman)  
*Computational Statistics*

Noel Fortun, PhD (De La Salle University)  
*Chemical Reaction Network*

Daryl Granario, PhD (Auburn University, USA)  
*Matrix Theory*

Severino Gervacio, PhD (Ateneo de Manila University)  
*Graph Theory*

Isagani Jos, PhD (De La Salle University)  
*Graph Theory*

Angelyn Lao, PhD (Rostock University, Germany)  
*Mathematical Modeling, Systems Biology*

Yvette Lim, PhD (De La Salle University)  
*Graph Theory, Game Theory*

Vio Jianu Mojica, MS (De La Salle University)  
*Statistics*

Benjamin Joseph Maligalig, MPH (Georgia Southern University, USA)  
*Biostatistics*

Eduardo Mendoza, PhD (Scientist-in-Residence)  
(University of Bonn, Germany)  
*Mathematical, Computational Biology*

John Vincent Morales, PhD (Tohoku University, Japan)  
*Algebraic Combinatorics*

Ederlina Nocon, PhD (De La Salle University)  
*Coding Theory, Game Theory*

Shirlee Ocampo, MS (De La Salle University)  
*Group Theory*

Arlene Pascasio, PhD (University of the Philippines Diliman)  
*Algebraic Combinatorics*

Edmundo Perez, Jr., PhD (University of the Philippines Diliman)  
*Group Theory, Algebra*

Rigor Ponsones, MS (Ateneo de Manila University)  
*Combinatorics*

Jose Tristan Reyes, PhD (University of Nebraska, Lincoln)  
*Functional Analysis*

Maria Angeli Reyes, MoS  
(University of New South Wales Kensington, Australia)  
*Mathematical Statistics, Linear Models*

Marcus Jude San Pedro, MS (University of the Philippines Diliman)  
*Time Series Analysis, Econometrics, Data Science*

Sonia Tan, MS (Ateneo de Manila University)  
*Number Theory*

Regina Tresvalles, MS (University of the Philippines Diliman)  
*Actuarial Science*

#### DEPARTMENT OF PHYSICS

Nelson Arboleda Jr., PhD (Osaka University, Japan)  
*Surface and Interface Physics, Theoretical/Computational Physics*

Delmar Arzabal, MS (University of Santo Tomas)  
*Medical Physics*

Rene Batac, PhD (University of the Philippines Diliman)  
*Complex Systems*

Ermys Bornilla, PhD Candidate (De La Salle University)  
*Theoretical Physics*

Jowi Tsidkenu Cruz, MD (St. Luke's Medical Center College of Medicine)  
*Lifestyle Medicine*

Melanie David, PhD (Osaka University, Japan)  
*Nanoscale Materials Modeling, Theoretical/Computational Physics*

Ma. Cecilia Galvez, PhD (University of the Philippines Diliman)  
*Photonics, LIDAR*

Richard Rudolf Hartmann, PhD (University of Exeter)  
*Condensed Matter Physics*

Rer. Nat. Ronald Macatangay, PhD  
(University of Bremen, Bremen, Germany)  
*Atmospheric Physics*

Maria Carla Manzano, PhD (De La Salle University)  
*Conducting Polymers, Material Science*

Dickerson Moreno, PhD  
(University of Missouri - Columbia, USA)  
*Nuclear Engineering, Medical Physics*

Joaquin Lorenzo Moreno, PhD (Osaka University, Japan)  
*Theoretical/Computational Physics*

Joselito Muldera, PhD (University of the Philippines)  
*Terahertz Spectroscopy, Semiconductor Physics*

Michelle Natividad, PhD (De La Salle University)  
*Computational Physics and Materials Science*

Reggie Pantig, PhD (De La Salle University)  
*Theoretical Physics*

Romeric Pobre, PhD (University of the Philippines Diliman)  
*Instrumentation and Optics, Computational Physics and Photonics*

Christopher Que, PhD (Osaka University, Japan)  
*Terahertz Spectroscopy, Semiconductor Physics*

Reuben Quiroga, PhD (University of the Philippines)  
*Solid State Physics*

Ofelia Rempillo, PhD (University of Calgary, Canada)  
*Atmospheric Science and Stable Isotope Science*

Nesse Grace Resurreccion, MS  
(University of the Philippines Los Baños)  
*Environmental Physics*

Emmanuel Rodulfo, PhD (University of the Philippines Diliman)  
*Theoretical Physics*

Lydia Roleda, PhD  
(De La Salle University & University of the Philippines Diliman)  
*Solid State Physics, Physics Education*

Robert Roleda, PhD  
(University of the Philippines Diliman)  
*Theoretical Physics*

Gil Nonato Santos, PhD (University of the Philippines Diliman)  
*Nanomaterials, Materials Science and Nanotechnology*

Rhenish Simon, PhD (University of the Philippines Diliman)  
*Optics, Materials Science*

Edgar Vallar, PhD (University of the Philippines Diliman)  
*Photonics, LIDAR*

Al Rey Villagracia, PhD (De La Salle University)  
*Computational Physics*

# ADMISSION AND SCHOLARSHIPS

#### Office of Admissions and Scholarships

2/F Henry Sy, Sr. Hall  
E-mail: [graduate.admissions@dlsu.edu.ph](mailto:graduate.admissions@dlsu.edu.ph)  
[scholarships@dlsu.edu.ph](mailto:scholarships@dlsu.edu.ph)  
Website: [www.dlsu.edu.ph/admissions/graduate](http://www.dlsu.edu.ph/admissions/graduate)

#### Department of Science and Technology (DOST) Scholarship Programs

The DOST is offering scholarships through the Accelerated Science and Technology Human Resource Development Program (ASTHRDP).

For more information, contact:

Dr. Glenn V. Alea  
Dean  
College of Science  
Telephone: (632) 524-4611 local 520 / (632) 524-0451  
E-mail: [deancos@dlsu.edu.ph](mailto:deancos@dlsu.edu.ph)

#### Commission on Higher Education (CHED) Scholarships

The Department of Education, through the Commission on Higher Education (CHED), provides scholarships to deserving science faculty members of tertiary schools. For more information, contact:

[www.facebook.com/DLSUCOSRAS/](https://www.facebook.com/DLSUCOSRAS/)  
[www.facebook.com/DLSU-College-of-Science](https://www.facebook.com/DLSU-College-of-Science)



De La Salle University  
Graduate Studies  
Beyond higher learning.®



[www.dlsu.edu.ph](http://www.dlsu.edu.ph)



[www.facebook.com/DLSU.GradStudies](https://www.facebook.com/DLSU.GradStudies)



[@DLSUGradStudies](https://twitter.com/DLSUGradStudies)