

# **ABRIDGED CV**

## **MARIO JUAN A. AURELIO**

*B.Sc. Geology*

*M.Sc. Geodynamics of Oceans and Continents*

*Ph.D. Structural Geology and Tectonics*

*Post Doc1 Deep Offshore Tectonic Studies*

*Post Doc2 Geodynamics by Space Geodesy and Seismotectonics*

### **AWARDS**

- *2006 Professional Geologist of the Year, Professional Regulation Commission*
- *2005 Outstanding Young Scientist, National Academy of Science and Technology*
- *1999 Achievement Award, National Research Council of the Philippines*
- *1992 Special Distinction Award (PhD Dissertation), Centre National de Recherches Scientifiques, France*
- *1985 Leopoldo Faustino Award (Geology Board Exam First Placer)*

### **UN-AFFILIATED ENGAGEMENTS**

- *Adviser, Philippine Delegation to the 21<sup>st</sup> Annual Assembly of the International Seabed Authority, Kingston, Jamaica, July - August 2015*
- *Member, Philippine Delegation to the 20<sup>th</sup> Annual Assembly of the International Seabed Authority, Kingston, Jamaica, July 2014*
- *Philippine Candidate: Commission on the Limits of the Continental Shelf UN-HQ, New York (2012-2017 Term)*
- *Philippine Representative, Commission on the Geological Map of the World - CGMW, under the auspices of UNESCO in Paris, France (2005 - Present)*
- *Philippine Representative, Sub-Commission for Asia, CGMW-UNESCO, Beijing, China (2005-Present)*
- *Co-author, 1:5M International Geological Map of Asia, under CGMW Sub-commission for Asia*
- *Scholar/Fellow, International Atomic Energy Agency (2005 Hungary, 2008 Czech Republic, 2009 S. Korea)*
- *Philippine Representative, International Union of Geological Sciences - IUGS (2004 - Present)*
- *Member, Philippine Extended Continental Shelf Technical Working Group, for the Commission on the Limits of the Continental Shelf (2001-Present)*

### **Brief Career Background**

#### **Education, Training and Teaching**

Dr. Mario Juan A. Aurelio is an Adviser of the Philippine Delegation to the Annual Assembly of the International Seabed Authority. He is a member of the Philippine Extended Continental Shelf Technical Working Group. A Professor at and currently the Director of the National Institute of Geological Sciences, University of the Philippines (UP-NIGS), Dr. Aurelio is an example of a versatile geoscientist, who has already accomplished a distinction in his field early in his career. He obtained a B.Sc. Geology degree from the University of the Philippines in 1985 and garnered 1<sup>st</sup> Place in the Geology Licensure Exam (Leopoldo Faustino Award) given in the same year. Dr. Aurelio went on to obtain an M.Sc. in Geodynamics of Oceans and Continents in 1989 and a Ph.D. in Structural Geology and Tectonics in 1992, both from the *Université Pierre et Marie Curie* in Paris, France. His doctorate dissertation was accorded a grade of *Très Honorable avec*

*Félicitations du Jury*, the highest citation in a French Ph.D. dissertation at that time, paving the way for a Special Distinction Award in the form of a research fellowship grant given by the *Centre National de Recherches Scientifiques*, France's governing institution for scientific research. He was thus awarded a Post Doctorate fellowship on Geodynamics through Space Geodesy and Seismotectonics at the *Université Pierre et Marie Curie* in Paris, France and *Institut für Angewandte Geodäsie*, Frankfurt, Germany (1994-95), and later also undertook Post Doctorate studies in Deep Offshore Tectonic Studies at the *Ecole Normale Supérieure de Paris*, France (2000). He has been a scholar/fellow of the International Atomic Energy Agency (IAEA) in several occasions (Hungary 2005, Czech Republic 2008, S. Korea 2009). Dr. Aurelio has been a Visiting Professor/Scientist at the *Ecole Normale Supérieure de Paris*, France (2000) and *Universiti Brunei Darussalam, Department of Petroleum Geoscience*, Brunei (2010).

### **Awards and Publications**

In the Philippines, Dr. Aurelio was accorded distinguished awards including, at a young age of 34, the 1999 Achievement Award of the National Research Council of the Philippines; the 2005 Outstanding Young Scientist by the National Academy of Science and Technology; and the 2006 Professional Geologist of the Year by the Professional Regulation Commission. In his pursuit of excellence in research and teaching, Dr. Aurelio has written over 175 international and local scientific publications and technical reports and has presented over 150 papers in conferences, seminars and workshops in over 20 countries. He has co-edited and co-written a book entitled: "Geology of the Philippines. 2<sup>nd</sup> Edition" published in 2010, and is a co-author of the International Geological Map of Asia 1:5M (IGMA5000) published in 2013 by the Sub-Commission for Asia of the Commission on Geological Map of the World (CGMW) under the United Nations Educational, Scientific and Cultural Organization (UNESCO).

### **Research in Offshore Areas and Mineral Exploration**

Dr. Aurelio's works cover areas in Southeast Asia (Philippines, Indonesia), Africa (Madagascar, Sierra Leone) and Europe (French Alps). Among his research interests are offshore studies in the South China Sea (West Philippine Sea) and surroundings, Indian Ocean and Mozambique Strait (offshore Madagascar) and Central-Eastern Atlantic (offshore Sierra Leone). He has held a Professorial Chair in Petroleum Energy Research at UP-NIGS (2010-11) where he used marine geophysical data (2-D and 3-D seismics, bathymetry, gravity, magnetics). He collaborates closely with petroleum exploration organizations in carrying out his research in offshore areas. In collaboration with the *Ecole Normale Supérieure de Paris*, France and the *Bundesanstalt für Geowissenschaften und Rohstoffe*, Hannover, Germany, Dr. Aurelio led from 2010 to 2013 the Philippine scientific contingent of a petroleum company-funded international scientific research collaboration for the tectonic and geodynamic synthesis of the South China Sea (West Philippine Sea).

Prior to joining the academe, Dr. Aurelio worked for 20 years as a geologist at the Mines and Geosciences Bureau (MGB), allowing him to gain extensive experience in mineral exploration and development. He continues to actively engage in mineral resource studies through his research in the university. Combining his more than 20-year experience in the mineral industry his aptitude in offshore geophysical research, Dr. Aurelio is bestowed with the perfect mix of knowledge to undertake studies in the exploration and development of mineral resources in offshore areas.

### **Professional Societies and Journal Editorship**

Dr. Aurelio is a member/associate member of international societies including the Association of American Petroleum Geologists (AAPG), Society of Economic Geologists (SEG) and the *Société Géologique de France* (SGF). Dr. Aurelio has served as officer and remains an active member of local professional societies including the Geological Society of the Philippines - GSP (President 2002, Director 1993-2008, 2011-13) and the UP Geology Alumni Association of the Philippines - UPGAA (Vice-President 2003, Director 2002). He serves/has served in several international and local journals variably as Editor-In-Chief, Special Issue Editor or as member of the Editorial Board. He holds the rank of Lieutenant Commander in the Philippine Coast Guard Auxiliary.

### **Participation in UN-Affiliated Commissions/Unions**

Dr. Aurelio is an active participant in several United Nations affiliated commissions and authorities. He is an adviser of the Philippine Delegation attending the annual assemblies of the International Seabed Authority in Kingston, Jamaica. He has attended the ISA assemblies in 2014 and 2015. Dr. Aurelio also participates in the activities of other UN-affiliated organizations, such as the Commission on the Geological Map of the World - CGMW under the United Nations Educational, Scientific and Cultural Organization - UNESCO (Philippine Representative 2005 - Present), the Sub-commission for Asia CGMW-UNESCO

(Philippine Representative 2005 – Present), and the International Union of Geological Sciences – IUGS (Philippine Representative 2004 – Present). He was the Philippine Candidate to the Commission on the Limits of the Continental Shelf (CLCS) for the term 2012-2017.

### **UN Language Proficiency**

Having been educated in France, Dr. Aurelio is fluent in French. He therefore disposes fluency in both English and French, two of the most important languages of the United Nations. He is a member of the Philippine Delegation that successfully presented and defended the Benham Rise submission to the CLCS in New York in 2009 and 2011 respectively. Being a member of the Philippine Extended Continental Shelf Technical Working Group since its inception in 2001, Dr. Aurelio has been a resource person for lectures and seminars on the Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf (STG-CLCS/11). In the Philippines, he is a frequent resource speaker in discussions on issues and concerns relevant to the International Seabed Authority.

### **Employment**

*Professor and Director*

National Institute of Geological Sciences  
College of Science

University of the Philippines

Diliman, Quezon City 1101

PHILIPPINES

Email: [maurelio.nigs@gmail.com](mailto:maurelio.nigs@gmail.com), [maurelio@nigs.upd.edu.ph](mailto:maurelio@nigs.upd.edu.ph)

*Laboratory Function:*

Head, Structural Geology and Tectonics Laboratory

### **Personal Details**

*Civil Status:*

Married with 2 children

*Languages:*

English, French, Filipino – fluent (spoken/written)

Spanish – basic knowledge

### **Education and Training**

- 2009 **International Atomic Energy Agency Fellow**  
*Granting Agency: International Atomic Energy Agency (IAEA), Vienna, Austria*  
*School: International Nuclear Safety School, Korea Institute of Nuclear Safety*  
Field: Safety assessment for radioactive waste disposal facilities
- 2008 **International Atomic Energy Agency Fellow**  
*Granting Agency: International Atomic Energy Agency (IAEA), Vienna, Austria*  
*Training Agency: Czech University of Life Sciences, Prague*  
Field: Solute transport / fluid flow modelling by HYDRUS
- 2005 **International Atomic Energy Agency Fellow**  
*Granting Agency: International Atomic Energy Agency (IAEA), Vienna, Austria*  
*Training Agency: Hungarian Atomic Energy Agency, Hungary*  
Field: Radioactive Waste Management Geotechnologies
- 2000 **Visiting Scientist/Professor** (European Union Fellow)  
*Ecole Normale Supérieure de Paris*  
*Paris, France*  
Program: DOTS-SEA Deep Offshore Tectonic Studies in Southeast Asia
- 1994–1995 **Post-Doctoral Fellowship Grant** (European Union Fellow)  
*Université Pierre et Marie Curie, Paris France and Institut für Angewandte Geodäsie, Frankfurt, Germany*  
Specialization: Geodynamics through Space Geodesy and Seismotectonics
- 1989–1992 **Ph.D.** in Structural Geology and Tectonics  
*Université Pierre et Marie Curie, Paris, France*  
Dissertation: Tectonique du segment central de la faille philippine: étude structurale, cinématique et évolution géodynamique
- 1988–1989 **DEA (M.Sc.)** in Geodynamics of Oceans and Continents

*Université Pierre et Marie Curie, Paris, France*  
*Work Area: French Alpine region*  
Thesis: *La faille philippine: un exemple de décrochement à l'arrière d'une zone de subduction.*

1985 **Philippine Geology Board Exam 1<sup>st</sup> Placer**  
*Professional Regulation Commission, Manila*

1981–1985 **B.Sc. Geology**  
*University of the Philippines, Diliman, Quezon City, Philippines*

## **Teaching**

2015 – Present **Professor**  
(Associate Professor)  
*National Institute of Geological Sciences*  
*University of the Philippines, Diliman, Quezon City*

Oct. – Nov. 2010 **Visiting Academic (Professor)**  
*Petroleum Geoscience Program*  
*Faculty of Science*  
*Universiti Brunei Darussalam*

May-June 2000 **Visiting Scientist/Professor (EU Fellow)**  
*Ecole Normale Supérieure de Paris*  
*Paris, France*

1992 – 2006 **Professorial Lecturer II to III**  
*National Institute of Geological Sciences*  
*University of the Philippines, Diliman, Quezon City*

1999 – 2006 **Professor 2 (Part Time)**  
*School of Graduate Studies and School of Earth and Materials Science and Engineering*  
*Mapua Institute of Technology, Manila*

## **Honors, Prizes & Awards**

<i>Professional Geologist of the Year, 2006</i>	Professional Regulation Commission
<i>Outstanding Young Scientist Award 2005</i>	National Academy of Science and Technology
<i>Achievement Award 1999</i>	National Research Council of the Philippines
<i>Outstanding Laoageño Award 1998</i>	City Government of Laoag, Philippines
<i>Special Distinction Award 1992</i>	Centre National de Recherches Scientifiques, France
<i>Très Honorable 1992</i>	Highest citation in a Ph.D. dissertation:
<i>avec Felicitations du Jury</i>	Universite Pierre et Marie Curie, Paris, France
<i>Leopoldo Faustino Award 1985</i>	Professional Regulations Commistion, Manila
<i>Board Exam Topnotcher</i>	and Geological Society of the Philippines
<i>Best Paper 2009 (One of 3)</i>	Geological Society of the Philippines (GEOCON2009)
<i>Best Paper 1999, 1998, 1994</i>	Geological Society of the Philippines (GEOCON99)
<i>Special Paper 2002</i>	Mines and Geosciences Bureau Technical Seminar
<i>Best Paper in Geology 2000, 1993, 1990</i>	Mines and Geosciences Bureau Technical Seminar

## **Office/Membership in Professional Societies**

<i>Head Judge (2014 Regional IBA Competitions)</i>	Association of American Petroleum Geologists (AAPG)
<i>Judge (2011 Regional IBA Competitions)</i>	Association of American Petroleum Geologists (AAPG)
<i>Member</i>	Association of American Petroleum Geologists (AAPG)
<i>Associate Member (since 1992)</i>	Société Géologique de France (SGF)
<i>Member (since 2007)</i>	Society of Economic Geologists (SEG)
<i>Member (since 2005)</i>	Outstanding Young Scientists, Inc. (NAST)
<i>Ex-Officio Director (2003)</i>	Geological Society of the Philippines (GSP)
<i>Vice-President (2003)</i>	University of the Philippines Geology Alumni Association (UPGAA)

<i>President (2002)</i>	Geological Society of the Philippines (GSP)
<i>Director (2002)</i>	University of the Philippines Geology Alumni Association (UPGAA)
<i>Vice-President (2001)</i>	Geological Society of the Philippines (GSP)
<i>Director (1993-97, 1999-2000, 2007-2008)</i>	Geological Society of the Philippines (GSP)
<i>Member (since 1993) –Awardee (1999)</i>	National Research Council of the Philippines (NRCP)
<i>Founding Member (since 2001)</i>	Philippines-France Professionals Association (PFPA)
<i>Lieutenant Commander (Since 1999)</i>	Philippine Coast Guard Auxiliary (PCGA)
<i>Member (since 1985)</i>	University of the Philippines Alumni Association (UPAA)
<i>Member (since 1985)</i>	University of the Philippines Geology Alumni Association (UPGAA)
<i>Reviewer (since 1998)</i>	Philippine Environmental Impact Assessment System (DENR)
<i>Preparer (since 1998)</i>	Environmental Impact Assessment
<i>Reviewer (2000 - 2007)</i>	Philippine Engineering Geological and Geohazard Assessment System
<i>Preparer (since 2000)</i>	Philippine Engineering Geological and Geohazard Assessment Report

### **Fellowships, Grants & Scholarships**

<i>Research Grant in Active Faults (Mindoro) 2015</i>	University of the Philippines Foundation, Inc.
<i>Research Grant in Geothermal Energy Research 2015</i>	University of the Philippines Foundation, Inc.
<i>Research Grant in Earthquake Studies (Bohol) 2013</i>	University of the Philippines, Diliman
<i>Professorial Chair Grant in Petroleum Energy Research 2010</i>	Pearl Energy Limited ( <i>Singapore</i> )
<i>Professorial Chair Grant in Petroleum Energy Research 2009</i>	Pearl Energy Limited ( <i>Singapore</i> )
<i>Fellowship Award in Nuclear Energy Studies 2009</i> ( <i>Safety Assessment in Radioactive Waste Repositories</i> )	International Atomic Energy Agency, Vienna, Austria ( <i>S. Korea</i> )
<i>Fellowship Award in Nuclear Energy Studies 2008</i> ( <i>Groundwater Modeling for Radioactive Waste Repositories</i> )	International Atomic Energy Agency, Vienna, Austria ( <i>Czech Republic</i> )
<i>Fellowship Award in Nuclear Energy Studies 2005</i> ( <i>Geotechnics for Radioactive Waste Repositories</i> )	International Atomic Energy Agency, Vienna, Austria ( <i>Hungary</i> )
<i>Post Doctorate Fellowship Award in Deep Offshore Tectonics Studies 2000</i>	Ecole Normale Supérieure de Paris, <i>France</i>
<i>Post Doctorate Fellowship Award in Space Geodesy and Seismotectonics 1994</i>	European Union DG XII, Brussels, <i>Belgium</i>
<i>Doctorate Scholarship Award in Structural Geology and Tectonics 1989</i>	Université Pierre et Marie Curie, Université de Paris, <i>France</i>
<i>Master's Scholarship Award in Geodynamics of Continents and Oceans 1988</i>	Université Pierre et Marie Curie, Université de Paris, <i>France</i>

### **Editorial Work**

<i>Associate Editor (2011 – 2013 )</i>	Science Diliman
<i>Editor-in-Chief (1999 – 2003)</i>	Journal of the Geological Society of the Philippines (JGSP)
<i>Guest Editor (1997)</i>	Journal of Southeast Asian Earth Sciences (Pergamon Press - ISI)
<i>Editorial Board (1999 - 2007)</i>	SYLVATROP: Technical Journal of Philippine Ecosystems and Natural Resources
<i>Associate Editor (2001-Present)</i>	L'Association (Newsletter of the Philippines-France Professionals Association)

### **Work/Research Experience in Petroleum, Energy and Mineral Exploration**

<i>Pitkin Petroleum Plc (UK- Philippines) –</i>	Structural geology of service contracts in offshore Palawan
<i>Pearl Energy Ltd. (Singapore) –</i>	Structural geology and tectonics of Ragay Gulf and Bondoc Peninsula, Philippines
<i>Total (France) –</i>	Structural geological and tectonic synthesis of Palawan and east shelf of South China Sea (with ENS Ecole Normale Supérieure de Paris, France and BGR Bundesanstalt für Geowissenschaften und Rohstoffe, Hannover, Germany)
<i>Forum Energy Plc (UK) -</i>	Preliminary evaluation of petroleum prospects in offshore Sierra Leone, W. Africa
<i>Monte Oro Resources and Energy, Inc. (Philippines) –</i>	Preliminary evaluation of offshore petroleum prospects in Madagascar, S. Africa.
<i>Conoco-Exxon-Elf-Total-Unocal (Consortium) –</i>	Deep offshore tectonic studies of Southeast Asia (with ENS Ecole Normale Supérieure de Paris, France)
<i>Alcorn Petroleum and Minerals Corp. (Philippines) –</i>	Structural geological analysis of Linapacan oil field, W. Palawan

- Trans-Asia Oil and Mineral Co. (Philippines)* - Structural geological analysis of Calubian Peninsula and offshore Villaba, Leyte.
- Philippine National Oil Company - Exploration Corporation (Philippines)* - Structural geological study of coal deposits in Boljoon, S. Cebu
- Unocal (Philippine Geothermal Inc.)* - Structural geological and tectonics analysis (with training) of geothermal fields.
- Philippine National Oil Company - Energy Development Corporation (Philippines)* - Structural geological and tectonic analysis (with training) of the Tongonan geothermal field, Ormoc, Leyte.
- Metal Mining Agency of Japan - Japan International Cooperation Agency (MMAJ-JICA)* - Mineral exploration of the islands of Palawan, Samar, Panay.
- Metal Mining Agency of Japan - Japan International Cooperation Agency (MMAJ-JICA)* - Mineral exploration of Northern Sierra Madre, Luzon; Antique Province, Panay Island; Samar Island; Palawan Island.
- Philex Mining Corporation (Philippines)* - Structural studies on the Sto. Tomas II copper-gold ore body and surrounding prospects.
- Philex Mining Corporation (Madagascar)* - Assessment of copper-gold prospects in Madagascar (prospects in Maevatanana, Ambositra, Mananjary)
- Monte Oro Resources and Energy, Inc. (Sierra Leone, W. Africa)* - Assessment of copper-gold prospects in Sierra Leone (prospects in Bo, Kenema and Koidu Provinces)

### **Publications**

Over 175 scientific papers published (books, theses, dissertations, articles) and reports written (list on request)

### **Conference Presentations**

Over 150 papers presented in conferences, seminars, workshops in over 20 countries (list on request)