ENGIELLE MAE PAGUICAN | CV

EDUCATIONAL BACKGROUND

Ph.D. in Earth Sciences — Université Blaise Pascal, France, 2012/07

- Thesis with mention très honorable (summa cum laude, first-class honors)

Dissertation: The Structure, morphology and surface texture of debris avalanche deposits: Field and remote sensing mapping and analogue modelling

MSc. Geology — University of the Philippines, 2009/03

- Finalist, Outstanding Thesis

Quantifying the factors that generated the November 2006 lahars of Mayon Volcano, Philippines

BSc. Statistics — University of the Philippines, 2004/10

- Professional Qualifications: Civil Service Professional Examination

On-the-Job Training: Bureau of Agricultural Statistics

EMPLOYMENT HISTORY

Balik Scientist, Assoc Professor — Caraga State University, Philippines, 2020-Present

- Currently, as an Associate Professor, I teach some of the geology courses offered by the department, and prepare syllabi and laboratory and instructor's manuals and field guides for upcoming courses. I also set up and currently serve as the editor-in-chief of an open access journal for engineering and geosciences funded by the university. As Balik Scientist, I provided technical expertise for the establishment of the new BS Geology program, mentoring of thesis students, develop geology, mining and geohazards related proposals with the faculty, and promote collaborations between local and foreign institutions.

Lecturer — University of South Pacific, Fiji, 2018-2019

- Taught in normal classroom and distance learning settings. Supervised undergraduate and graduate research.

Postdoctoral Researcher — Vrije Universiteit Brussel, Belgium, 2015-2017

- Investigated the morphometry of Philippine volcanoes, and the spatial distribution of monogenetic volcanoes in the Philippines. Designed and performed analogue experiments modelling interactions between climate, tectonics, and volcanism.

Postdoctoral Associate — University at Buffalo, USA, 2013-2015

- Studied volcano-tectonic interactions in Hat Creek Graben, California. Described the Canyonlands Slide in Utah. Designed, planned, and performed analogue experiments modelling volcano-tectonic interaction in an extensional tectonic regime.

Asst. Professor/Sr. Researcher — Univ of the Philippines/Geoscience Foundation, 2013

- Prepared and delivered undergraduate and post-graduate lectures. Designed lecture and laboratory material and field guides. Senior Researcher employed by the Geoscience Foundation for a project commissioned by the Mines and Geosciences Bureau on flooding and landslide risk assessments.

Masters Program Teaching — Bandung Institute of Technology, 2013

- Taught postgraduate Volcano Flank Deformation course.

University/Senior Researcher — Geoscience Foundation/Univ of the Philippines, 2012

- During my Ph.D., I was a researcher in the Volcano-Tectonics Laboratory and in the Seismic and Geological Data Processing and Interpretation Laboratory and provided geologic evidence used in settling international disputes over the Philippines' maritime boundaries.

Research Associate I — University of the Philippines, 2009-2012

- My Masters project was on lahars at Mayon volcano. To cover tuition and living costs, I undertook research and consultancy projects on remote sensing, GIS, field mapping for flooding, lahars, landslides and debris avalanches, and geological and risk assessments.

FIELD OF SPECIALIZATION

Earth Science (Volcanology)

AREAS OF RESEARCH INTEREST

GEOMORPHOLOGY:

- volcano landscape evolution ★★
- volcano tectonics ★★
- volcanic fields ★★
- volcano-tectonic-climate interactions ★

EARTH SURFACE PROCESSES:

- debris flows (lahars) ★★★
- debris avalanches (landslides) ★★★
- flooding ★★

RESEARCHER ID

https://orcid.org/0000-0002-6393-6100
Web of Science Research ID: N-1771-2019
Scopus Author ID: 17135614100

PUBLICATION SUMMARY

8 peer-reviewed journal articles
3 book chapters
(5 articles as first author)
Scopus: 196 citations, h-index: 6
Web of Science: 121 citations, h-index: 4
GoogleScholar: 253 citations, h-index: 7
Verified Reviews: 17 in 6 journals

CONTACT

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RESEARCH TOOLS

- Analogue Modelling ★★★
- Numerical Modelling ★★
- Photogrammetry ★★★
- Remote sensing ★★★
- GIS ★★★

TEACHING EXPERIENCE

Caraga State University, Philippines, 2020–2021

Principles of Geology	The course introduces the students to the Earth system. This would include the unifying theory of plate tectonics, Earth materials, rock formation and modification, timing the geologic record, history of the terrestrial planets, history of the continents, life interaction with Earth, volcanoes, earthquakes and exploring the Earth's interior. Quizzes and practical exercises were conducted after every topic to assess students' knowledge. Synchronous online lectures were held and recordings were uploaded. Examinations were also held online. I prepared the *syllabus* and *instructional manual, taught online*. 36 undergraduate students
Structural Geology	Introduced mining and geology students to the description, classification and interpretation of geological structures, starting from strain and stress, and via rheology to brittle deformation. Students were then introduced to the microscale structures and processes that distinguish crystal-plastic from brittle deformation, ductile deformation structures such as folding, boudinage, foliation, and shear zones. Topics based on the principal tectonic regimes (extensional, strike-slip, contractional) including salt tectonics were discussed. These concepts were then used to understand the tectonic character and major geologic features of the Philippines. In the laboratory, students were introduced to practical techniques for structural analysis. The course was structured around two 1.5-hr lecture per week, supplemented by 3 hours of laboratory exercises to give each student a chance to develop their own structural geology problem solving "tool kit", enhance their skills and confidence in solving problems, and at develop their structural geology skills. I prepared the *syllabus* and *instructional* and *laboratory manuals, taught online*. 5 undergraduate students in 2020 and 87 in 2021
Course Development	I prepared the *syllabus* and *laboratory and instructional manuals for online teaching* for the following courses: **Principles of Geology Laboratory, Principles of Geology 2, Geomorphology, Sedimentary and Stratigraphy, Geohazards**.
Field Course Development	I prepared the *syllabus* and *laboratory and instructional manuals, for virtual and field courses* for **Field Geology 1: geology field course for first year students**. With this is the creation of geology field trip protocols including *standard operating procedures, safety policy, hazard identification and risk assessment procedures, preparation of pertinent staff and student forms.*

University of the South Pacific, Fiji, 2018–2019

Field and Laboratory Methods in Environmental Science	A multi-disciplinary postgraduate course including Chemistry, Physics, Biogeography, Geology, Geospatial Science, and Climatology that introduced methods of data collection both in the field and laboratory. Students practiced the methods through short assignments and independent project involving data acquisition, analysis and presentation under the supervision of relevant academic staff. Each student presented their research as part of a mini-conference at the end of the semester. 7 graduate students
Atoll Geoscience	This course was intended for MA or MSc students requiring detailed knowledge about the geology and geomorphology of atoll environments, particularly in the Pacific. I delivered 4 hours of lectures to provide an understanding of the geology and geomorphology of atolls, an understanding of the their origins and development, and particularly the role of late Quaternary sea-level change. I prepared the *syllabus* and *some course materials*. 14 graduate students
Geologic Mapping	A field-based course designed to establish proficiency in the fundamentals of geologic mapping and section logging. The bulk of the course involved applying these skills to the geological mapping of the landscape and how to interpret field observations in terms of geological history. The course involved multi-day mapping trips around Viti Levu Island in Fiji. 32 undergraduate students in 2018 and 27 in 2019
Hot Rocks and Humanity	I delivered 14 hours of lecture that tackles human interaction with hot rocks from the point of view of both volcanic hazards and of resources such as geothermal energy, economic minerals and soils. 34 undergraduate students
Introduction to the Principles of Earth Science (face-to-face and online)	The course was a broad introduction to the principles of Earth Science delivered in normal classroom setting and distance learning. The topics covered by the course include plate tectonics, rocks and minerals, rock types, volcanoes, earthquakes, Earth surface processes, groundwater, river and coastal geosystems. This course includes a multi-day fieldtrip around Viti Levu. For the distance learning (online) setting, the coverage and lectures are the same as those taken by students in the main campus, but are done purely online to cater to those based in the other 11 countries of the University of the South Pacific. Class materials are all posted in the Moodle online learning platform. Lab exercises take into account that students do not have access to rock samples available in the laboratory. 2018: 151 undergraduate students in face-to-face mode and 52 in online mode; 2019: 147 undergraduate students in face-to-face mode and 59 in online mode

University at Buffalo, USA, Summer of 2014 and 2015

Applied field methods in geology	Geologic field trips and mapping from a mobile base in the western United States. Mapping projects included surficial deposits in Colorado and areas of increasingly complex sedimentary structure in Utah. 40 undergraduate students per year

TEACHING EXPERIENCE (CONTINUED)

University of the Philippines, Philippines, 2013

Our Dynamic Earth	A general Geology course for non-science majors with a 1-day fieldtrip to Taal Volcano. 29 undergraduate students
Principles of Geology	An introductory Geology course for science majors with a 1-day fieldtrip to Taal Volcano. 28 undergraduate students
Geomorphology	An undergraduate course that introduced the use of geographical tools, particularly remote sensing and GIS to study geomorphology for Geology students with multi-day fieldwork to Arayat, Mayon and Iriga volcanoes. I prepared the *laboratory* and *field manuals*. 49 undergraduate students
Volcano Deformation	A special topic Geology graduate course with multi-day fieldwork at Arayat, Mayon and Iriga volcanoes. I prepared the *syllabus* and *instructional, laboratory* and *field manuals*. 6 graduate students

Bandung Institute of Technology, Indonesia, 2013

Volcano Deformation	A special topic for Volcano Monitoring Techniques postgraduate course. I prepared the *syllabus* and *instructional materials*. 15 graduate students

STUDENT SUPERVISION

Caraga State University, Philippines, 2021, *on-going*

Undergraduate Thesis — for Geodetic Engineering students

- *Jeziel Ata and Bhurry Villa*: A comparison of machine learning algorithm in the derivation of land surface temperature in Claver, Surigao del Norte
- *Adriel Arlan and Johnserg Sombilon Jr.*: Multi-hazard assessment of evacuation areas during earthquakes in Surigao City using GIS techniques
- *Ronnie Quiño*: Identifying the relation of deep well ground water exploitation to Surigao City's terrain deformation using Sentinel-1 InSAR data
- *Diana Rose Arim and Joyce Ann Morato*: Assessment of Surface Water Quality in Affected Areas in Open-pit Mine in Municipality of Claver
- *Lorevy Noriega and Manuel Burdeos Jr*: 3D Modelling of Riverbank Changes and Erosion in Agusan River using UAV-based Imagery Method

University of the South Pacific, Fiji, 2018–2019

Undergraduate Research Supervision — The objective of the course is to allow students to execute a well-planned research project; students submit a final project report and a presentation. In 2018, I supervised two undergraduate research groups (8 students) and in 2019, four undergraduate research groups (16 students).

- *2019 ES1: 4 students*: lahar hazard assessment in Ambae (Vanuatu)
- *2019 ES2: 4 students*: landscape evolution of the new emerging island of Hunga Tonga Hunga Ha'apai (Tonga)
- *2019 ES3: 4 students*: structural and geological mapping of Suva (Fiji)
- *2019 ES4: 4 students*: atoll geomorphology of Line Islands (Kiritibati) and Lau Group of Islands (Fiji)
- *2018 ES1: 4 students*: spatial distribution and tectonic significance of the monogenetic volcanic cones in Upolu and Savai'i (Samoa) and Taveuni Volcanic Island (Fiji)
- *2018 ES2: 4 students*: spatial distribution of the monogenetic volcanic cones in Taveuni Volcanic Island (Fiji)

Co-Supervision John Niroa	MS (2019), Traditional knowledge and communities, reactions to volcanic eruption, a case study on Tanna Island, Vanuatu

University at Buffalo, USA, Summer of 2014 and 2015

Co-Supervision Leandra Marshall	MA (2015), Geomorphic investigation and qualitative laboratory analog experiments of the formation of Thousand Lakes Volcano, Shasta County, Northern California

DISTINCTIONS

2013	University of the Philippines **International Publication Award** for Bulletin of Volcanology article on *Volcano-tectonic controls and emplacement kinematics of the Iriga debris avalanches (Philippines)*
Jul 2012	**Ph.D. Thesis with mention trés honorable (highest honors)**, Laboratoire Magmas et Volcans, Université Blaise Pascal, Clermont-Ferrand II, France
Dec 2009	**Finalist, 2009 Outstanding Thesis and Dissertation in Advanced Science & Technology**, Department of Science and Technology, Makati City, Philippines
March 2006	**Republic of the Philippines Presidential Citation Award**, UP-Ateneo Search and Rescue Team for the Guinsaugon, Southern Leyte Landslide

RESEARCH GRANTS & FELLOWSHIPS

2021	**DOST–UK NERC call for sustainable mining PPD Grant (Co-Investigator)**: project budget of £21,000 over 5 months, *Developing a sustainable pathway for the Philippine Nickel sector (SusNi)*, Department of Science and Technology–Philippine Council for Industry, Energy and Emerging Technologies Research and Development, Philippines
2020	**Balik Scientist Fellowship** by the Department of Science and Technology (Philippines) and hosted by Caraga State University (US$36,600 over 6 months)
2015	**Belgian Federal Science Policy Office (BELSPO) Non-EU Postdoctoral Fellowship**: allowance of € 43,000 over 18 months, € 1,500 travel expenses, personal liability insurance costs, Social Security, *The origin of volcano flank valleys and their meaning for the morphological evolution of Philippine volcanoes*, Vrije Universiteit Brussel, Belgium
2014	**Nila T. Gnamm Junior Faculty Research Fund**: US$1,000, *Lahar and Pyroclastic Flow Inundation Map for Mayon Volcano, Philippines: essential during its current renewed activity*, University at Buffalo, Buffalo, New York, USA
2012	**French Government Scholar-CNOUS**: ∼€ 3,835, Ph.D. Degree, Université Blaise Pascal
2010-2011	**EIFFEL Excellence Scholarship Laureate 2010-2011 for the Sciences**: € 10,600, Ph.D. Degree, Université Blaise Pascal
2009	**French Government Scholar-EGIDE (Ph.D.)**: ∼€ 3,068, Université Blaise Pascal

AWARDS & TRAVEL GRANTS

2019	Pacific Array Ocean Bottom Seismometer Deployment Cruise *Travel Grant*, International School of Volcanology and Quaternary Geology, International Waters of the South Pacific
2015	Joint AIV-AIQUA Summer School *Inscription Grant*, International School of Volcanology and Quaternary Geology, Lipari Island, Aeolian Islands, southern Italy
2013	Berkner Fellowship Program: inclusive of registration and visa application fees, travel, accommodation, daily expenses during the meeting, Funding for American Geophysical Union (AGU) 2013 Fall Meeting, San Francisco, California, USA
2013	IAVCEI Conference *Funding Support*, Kagoshima, Japan
	PNOC *Scholarship-Funding Support* for IAVCEI Conference, Kagoshima, Japan
2012	International Relations *Mobility Fund*, Université Blaise Pascal, France
	Collége des Ecole Doctorale Université Blaise Pascal *thesis finalization and defense aide*
2011	Collége des Ecole Doctorale Université Blaise Pascal *conference support* to EGU
	Teaching Staff Mobility for INVOGE ATLANTIS' International geological masters in Volcanology and Geotechniques to MTU and SUNY Buffalo (USA) and SFU (Canada)
	L'aide de l'Ecole Doctorale for EGU, Vienna, Austria
2010	*ILP Conference*, Potsdam, Germany
2009	Asia-Oceania Geosciences Society *Funding Support*, Suntec, Singapore
	NORDVULK Summer School on Volcano-Ice Interaction *Funding Support*, Laugarvatn, Iceland
2008	IAVCEI *Funding Support*, Reykjavik Iceland, (Student Oral Presenter)
	CHED Grant, International Conference Oral Presenter
	Reps Grant, International Conference Oral Presenter

MEMBERSHIP OF SCIENTIFIC ORGANISATIONS

- National Research Council of the Philippines
- International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) since 2008
- American Geosciences Union (AGU) since 2010
- New York State Council of Professional Geologists (NYSCPG) from 2014 to 2015
- European Geosciences Union (EGU) since 2010
- Asia-Oceania Geosciences Union (AOGS) 2007 until 2011

FIELD EXPERIENCE

Ocean-bottom seismometer deployment	South Central Pacific, 35°S, 155°W
Volcanoes	Philippines: Macolod Corridor (volcanic field) including Taal, Arayat, Iriga, Mayon, Natib US: Hat Creek Graben (volcanic field), southern Rocky Mountains in Colorado and New Mexico, and California Cascades Japan: volcanoes of Northern Japan
Geologic mapping	Fiji: northeastern and northern Viti Levu Island US: southwestern US (Utah, Colorado) Philippines: Negros, Palawan and Mindanao Indonesia: Batur volcano, Bali
Debris avalanches	Philippines: Mt Iriga, Mt Arayat, Guinsaugon Canada: Mt Meager
Landslide	Philippines: Batangas
Lahars	Philippines: Mt Mayon
Flooding	Philippines: Ilocos Sur, Kamanava, Bicol
Aerial photography	Philippines: Mt. Malabobo Canada: Mt Meager

INVITED TALKS & SEMINARS GIVEN

- Moana, volcano monsters, and climate change: The evolution of volcanic islands and the fate of their people, Caraga State University, 21 December 2020
- Mindanao Geomorphology and Geohazards: and the implications for communities. MaBAHAng Usapan 2.0 Webinar: Towards Science-based Actions for Empowered & Resilient (SAFER), Caraga State University, (4-day) 7–9 December 2020
- Morphological classification and spatial distribution of volcanoes: The cases of Hat Creek Graben region, California, USA, The Philippines, and analogue experiments, Earth Observatory of Singapore, 23 September 2016
- The Grabens, Canyonlands National Park, Utah: Gravity Slide of the Paradox, Earth Observatory of Singapore, 16 April 2015
- Debris Avalanche Hummocks: How they form and what they mean, Helmholtz-Zentrum Potsdam, Deutsches GeoForschungsZentrum (GFZ), Potsdam, Germany, 16 May 2012
- Iriga Volcano (Philippines): 1 Mother, 2 DADs (debris avalanche deposits), Simon Fraser University, British Columbia, Canada, 11 October 2011
- Iriga volcano (Philippines): 1 Mother, 2 DADs (Debris Avalanche Deposits), State University of New York at Buffalo, 16 September 2011
- Extreme rainfall-induced lahars and dike breaching, 30 November 2006, Mayon volcano, Philippines, State University of New York at Buffalo, Buffalo NY, 16 September 2011
- Iriga Volcano (Philippines): 1 Mother, 2 DADs (debris avalanche deposits), Michigan Technological University, Houghton, Michigan, USA, 6 September 2011
- Iriga volcano:1 mother, 2 DADs (debris avalanche deposits), Charles University, Prague, Czech Republic, April 2011
- Iriga volcano: 1 mother, 2 DADs, Laboratoire Magmas et Volcans, Université Blaise Pascal, 3 March 2010

OTHER SKILLS AND EXPERIENCE

- Certified First Aider with AED since May 2018
- Introduction to Lifesaving Swimming
- Certified PADI Open Water Diver
- Trade Sales Assistant, Abbott Laboratories
- On-the-job trainee, Philippine Bureau of Agricultural Statistics
- Tutor for elementary and secondary students

CAREER BREAK

27 January 2017 until 19 August 2018, to relocate and live with my husband in Singapore. While on leave from the academe, I processed all of the analogue laboratory data (photogrammetry, GIS, time lapse video, analyses) from my last project in VUB, Brussels; at least two papers are currently in preparation from that project. I acquired certification for First Aid with AED and had an introduction to Lifesaving Swimming; these are useful in case of emergency during classes in the university, laboratory work or fieldwork.

TRAINING & WORKSHOPS

- Moodle (a learning platform) Workshop, 29-31 January 2019
- Social Media for Disaster Response and Recovery, University at Buffalo, February 2015
- NIH/NSF Grant Writing Workshop, University at Buffalo, November 2014
- Postdoctoral Teacher Training Seminar Workshop, University at Buffalo, March-April 2014
- National Disaster Preparedness Training Center, University of Hawaii, 19 February 2014
- VHub.org Workshop, 2013 IAVCEI General Assembly
- Data Processing, Statistics and Pattern Recognition in Volcanology, IAVCEI Meeting 2008
- 2010 International Training Workshop on Natural Disaster Reduction Slopeland Disaster, National Science and Technology Center for Disaster Reduction, Taiwan, Republic of China, 10-14 May 2010

SERVICE TO THE COMMUNITY

Topical Editor in Volcano Geomorphology	Volcanica, a diamond open-access volcanology journal, covering a wide range of volcano-focussed research, October 2020–present
Editor-in-Chief	Advances in Engineering and Geosciences, a newly organized open-access journal for engineering and geoscience research hosted by Caraga State University, October 2020–present
Volunteer Scientist	Guinsaugon Landslide Search and Rescue Team, February 2006
	A part of the team of scientists who studied Natib volcano and Napot Point, the location of the mothballed Bataan Nuclear Power Plant, 2009
Session Convener	III.4 Wet Volcanoes: aquifers and lakes and their related hazards, IAVCEI Scientific Assembly 2017, Portland, USA, August 2017
	Imaging and Modeling, NIGS Reseach Symposium 2010, Quezon City, Philippines, March 2010
Reviewer	Landslides, *Springer Nature*: June 2015; November 2017; January, April 2018; February, April, May 2019, March 2021
	Climate, Disaster and Development Journal: November 2017; February 2018
	Earth Surface Processes and Landforms, *Wiley*: March, October 2017
	Natural Hazards and Earth System Sciences, *Copernicus Publication*: April, October 2017
	Cold Regions Science and Technology, *Elsevier*: May 2015
	The Geological Society of America Bulletin: May 2015
Judge	IAVCEI Student Presentation Awards, IAVCEI Scientific Assembly 2017, Portland, USA, August 2017
	Outstanding Student Paper Awards, AGU Fall Meeting 2016, San Francisco, USA, December 2016
	Outstanding Student Paper Awards, AGU Joint Assembly 2015, Montreal, Canada, May 2015
	Outstanding Student Paper Awards, AGU Fall Meeting 2015, San Francisco, USA, December 2015
Organizing Commitee	ILP Joint Task Force Meeting, Clermont Ferrand (France), 5-9 October 2009
	The 10th NIGS Research Symposium, NIGS, UP Diliman, Quezon City, Philippines), 4-5 March 2010
	Guinsaugon 2008 - International meeting to analyze the Philippines's most destructive landslide (Tacloban City, Philippines), April 28-May 2, 2008
Registration Commitee	Asia-Oceania Geosciences Society (AOGS) Annual Meeting, (Busan, South Korea), 16-20 June 2008
Philippine Society of Youth Science Clubs National Executive Council Assistance Team	From 2001 to 2007, Facilitator for the National Science Club Month (NSCM), National Children's Science Interactive Workshop, and National Youth Science, Technology and the Environment Summer Camp. PSYSC is a non-stock, non-profit, non-government, and non-sectarian organization that promote the Public Understanding of Science, Technology and Environment.

LIST OF REFEREES

- **Matthieu Kervyn** (Postdoctoral Promoter, Lecturer in Physical Geography)
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  Laboratoire Magmas et Volcans, OPGC, Campus Universitaire des Cezeaux

ENGIELLE MAE PAGUICAN | PUBLICATON LIST

JOURNAL ARTICLES

Paguican EMR, Grosse P, Fabbro GN, Kervyn M. Morphometric classification and spatial distribution of Philippine volcanoes (2021). *Journal of Volcanology and Geothermal Research*, in press. DOI:10.1016/j.jvolgeores.2021.107251

Paguican EMR, Bursik M. (2016). Tectonic geomorphology and volcano-tectonic interaction in the eastern boundary of the Southern Cascades (Hat Creek Graben), California, USA. *Frontiers in Earth Science* 4:76. DOI:10.3389/feart.2016.00076. [3 citations Scopus]

Paguican EMR, van Wyk de Vries B, Lagmay AMF. (2014). Hummocks: how they form and how they evolve in rockslide debris avalanches. *Landslides* 11(1), 67-80. DOI:10.1007/s10346-012-0368-y. [75 citations Scopus]

Paguican EMR, van Wyk de Vries B, Lagmay AMF. (2012). Volcano-tectonic controls and emplacement kinematics of the Iriga debris avalanches (Philippines). *Bulletin of Volcanology* 74(9), 2067-2081. DOI:10.1007/s00445-012-0652-7. [29 citations Scopus]

Lagmay AMF, Rodolfo R, Cabria H, Soria J, Zamora P, Abon C, Lit C, Lapus M, **Paguican EMR**, Bato MG, Tiu G, Obille E, Pellejera NE, Francisco PC, Cordero A, Aviso J. (2012). Geological hazards of southwestern Natib volcano, site of the Bataan Nuclear Power Plant, Philippines. *Geological Society, London, Special Publications* 361, 151–169. DOI:10.1144/SP361.13. [4 citations Scopus]

Paguican EMR, Lagmay AMF, Rodolfo R, Tengonciang AMP, Lapus M, Baliatan EG, Rodolfo K, Obille E. (2009). Extreme rainfall-induced lahars and breaching of dikes at Mayon volcano. *Bulletin of Volcanology* 71(8), 845–857. DOI:10.1007/s00445-009-0268-8. [29 citations Scopus]

Lagmay AMFA, Tengonciang AMP, Rodolfo RS, Soria JLA, Baliatan EG, **Paguican EMR**, Ong JBT, Lapus MR, Fernandez DFD, Quimba ZL, Uichangco CL. (2008). Science guides search and rescue in the aftermath of the massive February 2006 Philippine landslide. *Journal of Disasters* 32(3), 416–433. DOI:10.1111/j.1467-7717.2008.01047.x. [13 citations Scopus]

Lagmay AMFA, Ong JBT, Fernandez DFD, Lapus MR, Rodolfo RS, Tengonciang AMP, Soria JLA, Baliatan EG, Quimba ZL, Uichangco CL, **Paguican EMR**, Remedio ARC, Lorenzo GRH, Valdivia W, Avila FB. (2006). Scientists investigate recent Philippine landslide. *Eos, Transactions American Geophysical Union* 87(12), 123–124. DOI:10.1029/2006EO120001/full. [29 citations Scopus]

BOOK CHAPTERS

Paguican EMR, Roverato M, Yoshida H (2021) Volcanic Debris Avalanche Transport and Emplacement Mechanisms. In Roverato, Matteo, Dufresne, Anja, Procter, Jonathan (Eds.), *Volcanic Debris Avalanches– From Collapse to Hazard*. Springer International Publishing, Paperback ISBN 978-3-030-57410-9, eBook ISBN 978-3-030-57411-6. DOI: 10.1007/978-3-030-57411-6.[8 citations Scopus]

Roverato M, Di Traglia F, Procter J, Dufresne A, **Paguican EMR** (2021) Factors contributing to volcano lateral collapse. In Roverato, Matteo, Dufresne, Anja, Procter, Jonathan (Eds.), *Volcanic Debris Avalanches– From Collapse to Hazard*. Springer International Publishing, Paperback ISBN 978-3-030-57410-9, eBook ISBN 978-3-030-57411-6. DOI:10.1007/978-3-030-57411-6.

Delcamp A, Poppe S, Detienne M, **Paguican EMR** (2018) Chapter 9–Destroying a volcanic edifice–interactions between edifice instabilities and the volcanic plumbing system. In Burchardt, S (Eds.), *Volcanic and Igneous Plumbing Systems–Understanding magma transport, storage and evolution in the Earth's crust* (pp. 231-257). Elsevier, Paperback ISBN 9780128097496, eBook ISBN 9780128097502. DOI:10.1016/B978-0-12-809749-6.00009-1 [5 citations Scopus]

INVITED CONFERENCE ABSTRACTS

Paguican EMR, van Wyk de Vries B, Lagmay AMF. Hummocks: how they form and evolve in debris avalanches (In Proceedings: AGU Fall Meeting 2013, San Francisco, USA), 9-13 December 2013

Paguican EMR, van Wyk de Vries B, Grosse Pablo, Lagmay AMF. The development of structures and morphology in analog debris avalanches: Implications for natural examples (In Proceedings: IAVCEI Scientific Assembly 2013, Kagoshima, Japan), 19-24 July 2013

CONFERENCE ABSTRACTS

Paguican EMR, Grosse P, Fabbro G, Kervyn M. Morphometric classification, evolution, and distribution of volcanic edifices in the Philippines (In Proceedings: European Geosciences Union General Assembly 2021, online), April 2021. DOI:10.5194/egusphere-egu21-9026

Paguican EMR, Kervyn M. Quantitative geomorphic modelling of volcano landscape evolution in response to tectonics and erosion (In Proceedings: IAVCEI Scientific Assembly 2017, Portland, Oregon, USA), 7-25 August 2017

Paguican EMR, Kervyn M, Grosse P. Morphological classification and spatial distribution of Philippine volcanoes (In Proceedings: AGU Fall Meeting 2016, San Francisco, USA), 11-16 December 2016

Paguican EMR, Bursik M. Tectonic Geomorphology and Volcano-Tectonic Interaction in the Eastern Boundary of the Southern Cascades (Hat Creek Graben), California, USA (In Proceedings: AGU Fall Meeting 2015, San Francisco, USA), 14-18 December 2015

Paguican EMR, Bursik M. The Grabens, Canyonlands National Park, Utah: gravity slide of the Paradox (In Proceedings: Belgian Geography Days, Brussels, Belgium), 13-14 November 2015

Paguican EMR, Bursik M. The Grabens, Canyonlands National Park, Utah: gravity slide of the Paradox (In Proceedings: AGU Joint Assembly 2015, Montreal, Canada), 3-7 May 2015

Paguican EMR, Bursik M. The Grabens, Canyonlands National Park, Utah: gravity slide of the Paradox (In Proceedings: UB 22nd Annual GSE Student Research Symposium, Buffalo, New York, USA), 1 April 2015

Paguican EMR, van Wyk de Vries B, Lagmay AMF. Iriga Volcano (Philippines): 1 Mother, 2 DADs (debris avalanche deposits), Crust-Mantle Evolution in Active Arcs, Quezon City, Philippines, 12-13 February 2015

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