Nicolas Le Corvec

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AREA OF SPECIALIZATION

Planetary Volcanology • Tectonics • Magma Propagation • Volcano Deformation • Magma Reservoir Stability

EDUCATION

[02·2013] Ph.D. in Geology

University of Auckland, Auckland, New Zealand

Doctoral thesis: Physical and Structural Controls on Monogenetic Basaltic Volcanism and their implications on the evolution of the Auckland Volcanic Field | `https://goo.gl/XpwRje`

[06·2005] M.Sc. in Geological Sciences

Laboratoire Magmas et Volcans, Université Blaise Pascal, Clermont-Ferrand, France

Master thesis: Socompa Volcano Destabilization (Chile) and Debris Avalanches.

[06·2004] 1st year of Master's Degree in Geological Sciences

Second-Class Honors | ERASMUS program at the Vrije Universiteit, Amsterdam, Netherlands

[06·2003] B.Sc., Earth and Life Sciences

Université de Rennes1, Rennes, France

SUMMARY OF PROFESSIONAL EXPERIENCE

Planetary Volcanology and Tectonics: Knowledge of the literature, advanced principles, and technologies in planetary volcanology and tectonics. Expertise in analogue and numerical modeling, geophysical and geological fieldwork, remote sensing analysis, spatial statistical analysis. Current planets of interest: Earth, Venus, and Mars.

Active scientific research: Independent and collaborative research of planetary volcano-tectonic interactions using finite element modeling, interpretation of eruptive mechanisms and crustal fault systems through the formation of intrusive magmatic systems. Conception and communication of pioneering research in planetary volcanology. Collaboration and consultation across a broad range of disciplines in the physical sciences.

Teaching and mentoring: Managed classroom of students of various cultural backgrounds. Maintained a safe, clean, and healthy learning environment. Able to handle multiple simultaneous projects with complete professionalism and accuracy. Guide students in the development of skills and strategies for dealing with their problems.

Scientific writing and communication: Oral and written presentation of research at scientific meetings, conferences, and technical symposia to individuals and audience of peers. Able to communicate technical instructions, requirements, recommendations and accomplishments, orally and in writing, to scientific peers, subordinates, management and the general public.

Contributions to scientific community and public outreach: Experienced reviewer of technical papers, journal articles, PhD thesis, and research proposals as part of the scientific peer-review process. Enthusiastic participation of educational presentations, exercises, and events for students of all ages, and the general public.

EMPLOYMENT

[04·2018 – present] Guest Researcher

Laboratoire Magmas et Volcans, Clermont-Ferrand, France

[04·2016 – 03·2018] Postdoctoral Fellow

Laboratoire Magmas et Volcans, Clermont-Ferrand, France

Research Project: "Mechanics governing the growth, evolution and eruption of large silicic magma bodies". Primary advisor: Dr. T. Menand. Co-advisors: Dr. V. Cayol and Dr. J.-L. Froger

[04·2013 – 03·2016] Postdoctoral Fellow

USRA - Lunar and Planetary Institute, Houston, TX, USA

Research Project: "Mechanical interactions between intrusive and extrusive volcanic edifice growth, lithospheric flexural response, and magma ascent using Finite Element and Distinct Element Methods". Primary advisor: Dr. P. J. McGovern. Co-advisor: Prof. E. B. Grosfils (Pomona College, CA, USA).

[02·2015] Visiting Researcher

Geology Department, Pomona College, Claremont, CA, USA

Research Project: "Development of 3D models combining flexural and extensional deformation using Finite Element Models" in collaboration with Prof. E. B. Grosfils.

[07·2010 – 12·2010] Visiting Researcher

School of Earth Sciences, University of Bristol, Bristol, UK

Research Project: "Interaction of ascending magma with pre-existing crustal structures: Insights from analogue modeling". Advisor: Dr. T. Menand (Laboratoire Magmas et Volcans, France).

[04·2008 – 01·2009] Assistant Researcher

GFZ German Research Center for Geosciences, Potsdam, Germany

Research Project: "Deformation patterns associated with an eruption at Mount Etna volcano: a combined study of the 2001 episode using geodesy and analogue modeling". Advisor: Dr. T. R. Walter.

[07.2007 – 11.2007] Volunteer

Centro Universitario de estudios e investigaciones de vulcanologia, Universidad de Colima, Colima, Mexico

Research Project: "AVHRR Thermal Monitoring on Central America volcanoes". Primary advisor: Prof. I. Galindo Estrada. Co-advisor: Dr. A. Steffke (University of Hawai'i, Mānoa, USA).

[05·2007 – 06·2007] Volunteer

The Centre of Exchange and Research in Volcanology, Colima, Mexico

Research Project: "Thermal, gas and seismic monitoring of the active volcano Fuego de Colima"**.** Primary advisor: Dr. N. Varley. Co-advisor: Dr. J. Stevenson

[10·2006 – 04·2007] Assistant Researcher

GFZ German Research Center for Geosciences, Potsdam, Germany

Research Project: "Internal deformation of large volcanic island: comparison between gravitational spreading and rift zone intrusion". Advisor: Dr. T. R. Walter.

[03·2006 – 08·2006] Scientific organizer

Vulcania, the European Park of Volcanism, Saint-Ours, France

Preparation and animation of educational workshops and guided tours.

[09·2005 – 11·2005] Adjunct Geophysicist

French Public Works Research Laboratory, Clermont-Ferrand, France

Seismic refraction and borehole micro-seismic analyses.

GRANTS

[10·2018] Horizon 2020 Excellence Science – ERC 2019 Starting | VOLCPLUMB: Reconstructing the mechanical and temporal evolution of volcanic plumbing systems | **PI: Nicolas Le Corvec** | Submitted

FIELDWORK

[09·2009 – 12·2010] Structural analysis of rift zone formation within the Taupo Volcanic Zone (New Zealand) with C. Scholz (PhD candidate at University of Auckland, New Zealand).

[02·2009 – 12·2009] Structural analysis of the basement of the Auckland Volcanic Field (New Zealand) with Dr. Bernhard K. Spörli (University of Auckland, New Zealand).

[06·2007] Structural analysis of the interaction between the regional tectonic and the deformation and eruptive activity of the volcanic complex of Colima (Mexico) with Dr. G. Norini, (UNAM, Mexico).

[05·2007 – 06·2007] Thermal, SO_2 gas and seismic monitoring of the Colima volcano, Dr. N. Varley (Centre of Exchange and Research in Volcanology, Mexico) and Dr. J. Stevenson (University of Edinburg, UK).

[04·2007] Geophysical fieldwork. Installation of two GPS and gravimeter networks with Dr. J. Ruch (GFZ Potsdam) at the Isluga and Lastarria volcanoes (Chile).

[10·2004] Geological fieldwork in the Alps: "Birth and death of an ocean"; and at the Italian volcanoes (Vesuvio, Stromboli, Vulcano) with Prof. Dr. T. Druitt, Prof. Dr. J.-F. Lénat, Prof. Dr. C. Nicollet (Laboratoire Magmas et Volcans, Clermont-Ferrand, France).

[06·2004] Mapping and structural analysis of the Carboneras fault zone in Andalucia, Spain, Dr. J. H. P. de Bresser, Dr. G. Postma (University of Utrecht, The Netherlands).

[06·2003] Mapping and structural analysis in the French Eastern Pyrenees with the University of Rennes1 (France).

[09·2002] Structural, sedimentological and petrological analysis in the French Eastern Pyrenees: "Formation of a mountain range" with the University of Rennes1 (France).

PROFESSIONAL SERVICES

Conferences & Seminars

[2016] Convener of Topical Session "Dynamics to Tectonics: The Geodynamical Fate of Planetary Bodies" at the 47th Lunar and Planetary Science Conference (LPSC), the Woodlands, TX.

[2016] Topic Leader at the 47th Lunar and Planetary Science Conference (LPSC) program committee for the Planetary Dynamics and Tectonics and for the Planetary Volcanism and Igneous Processes sessions.

[04·2014 – 04·2015] Lead coordinator for the Lunar and Planetary Institute (LPI) seminar series.

[2014] Convener of Topical Session "Mechanisms of magma ascent, emplacement and extrusion" at AGU Fall Meeting.

[2013] Co-convener of Topical Session "Mechanisms of magma ascent and emplacement" at AGU Fall Meeting.

[2012] Co-convener of Topical Session "Physics and dynamics of magma ascent, emplacement, eruption and deposition in volcanic systems" at EGU General Assembly.

[2013 - present] Outstanding Student Paper Awards Judge (AGU, EGU, LPSC, IAVCEI).

PhD Thesis Reviewer

[10·2017] Stefano Urbani "Lateral vs vertical propagation of dikes through analogue modeling". Università degli Studi Roma Tre (Rome, Italy). Primary advisor: Prof. Valerio Acocella. Co-advisor: Dr. Eleonora Rivalta (GFZ German Research Center for Geosciences, Potsdam, Germany).

Master Thesis Reviewer

[06·2018] Quentin Dumont "Liens entre glissements de flanc et éruption au Piton de la Fournaise (La Réunion)". Observatoire de Physique du Globe de Clermont-Ferrand, Université Clermont Auvergne. Primary advisor: Dr. Valerie Cayol. Co-advisor: Dr. Jean-Luc Froger.

Scientific Reviewer

Journals: Nature Geoscience, Earth and Planetary Science Letters, Geophysical Research Letters, Journal of Geophysical Research: Solid Earth, Bulletin of Volcanology, Computers & Geosciences, Journal of Volcanology and Geothermal Research, Journal of African Earth Science, Solid Earth.

Grant proposals: National Science Foundation (USA).

Professional Development

[05·2017] "Write Winning Grants" with D. C. Morrison

USRA/LPI, Houston, TX, USA

One-day seminar in proposal writing and resources for scientific grants.

[03·2014] Advanced Structural Mechanics with Dr. N. H. Elabbasi and Dr. S. B. Brown (Veryst Engineering)

Veryst Engineering, Needham, MA, USA

Two-day training course to cover through technical lectures and hands-on COMSOL examples, most of the structural analysis capabilities in COMSOL Multiphysics including large deformations, material models, contact mechanics, and convergence issues| 6-7 March 2014 |

[05·2013] Structural Mechanics with Dr. S. Krishnan

Houston, TX, USA

One-day training course to learn how to perform structural analyses with COMSOL Multiphysics, and the Nonlinear Structural Materials Module. Topics include structural analysis of linear and nonlinear materials, vibrations, and contact mechanics | 9 May 2013 |

[05·2013] COMSOL Multiphysics Intensive Training with Dr. S Krishnan

Houston, TX, USA

Two-day training course to learn how to use the COMSOL Multiphysics and develop a strong foundation for future multi-physics modeling work | 7-8 May 2013 |

Professional Membership

International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI), 2012 - present
American Geophysical Union, 2010 – present
European Geosciences Union, 2009 – present

TEACHING & MENTORING

Teaching

[05·2017] Guest instructor at the tectonic and metamorphic field training for 3rd year undergraduates at Cape de Creus (Spain). Universite Clermont Auvergne (UCA). The goal of the field camp is to introduce students to the tectonic deformation and metamorphic transformation of a sedimentary pile up to granitoid formation in the Variscan basement. Recognition of metamorphic facies, structural measurement and cartography. 35 students.

[09·2015] Guest instructor at the Zuni-Bandera Volcanic Field Camp – Field Training at the McCartys Lava Flow. Field leader: David Kring (USRA - Lunar and Planetary Institute); Instructional leaders: Jacob Bleacher and Brent Garry (NASA Goddard Space Flight Center) and Larry Crumpler (The New Mexico Museum of Natural History & Science) https://www.lpi.usra.edu/exploration/zuniFieldCamp/. The goal of the field camp is to introduce students to basaltic volcanism and physical volcanology and to provide them with an opportunity to assist with a research project in the volcanic field. 20 students.

[09·2009 – 01·2010] Teaching Assistant for undergraduates at the University of Auckland; GEOLOGY 305 Tectonics and Crustal Evolution. Exposure to seminal literature covering various geological, geophysical and modelling tools and methods used for deciphering deformation at divergent and convergent plate margins. Provides a strong foundation in tectonophysics and experience in critical evaluation of the scientific literature. 30 students.

Postgraduate Mentoring

Primary advisor for 1 Master Student

[04·2017 – 06·2017] Clement Hanquez |Master 1st yr | **Project**: "The stability of elliptical magmatic reservoirs within an extensional tectonic environment on Venus: Insights from 3D finite element models".

Co-advisor for 4 Master Students

[04·2016 – 06·2016] Victoria Rallin |Master 1st yr | **Project**: "Mapping fault structures & volcanic lineament in the Gada 'Ale Volcano, Afar, Ethiopia", Co-advised with Prof. Benjamin Van Wyk de Vries, Laboratoire Magmas et Volcans (France).

[04·2016 – 06·2016] Yan Saint-Honoré |Master 1st yr | **Project**: "Doming and Deformation in the Diamond Craters lava field, Oregon". Co-advised with Prof. Benjamin Van Wyk de Vries, Laboratoire Magmas et Volcans (France).

[06·2008 – 10·2008] Katja Mueller | Master 2nd yr | **Project**: "Elongated caldera structures in Iceland investigated through remote sensing and laboratory models - can they be used as strain markers?" Co-advised with Dr. Thomas R. Walter, GFZ German Research Center for Geosciences (Germany).

[03·2007] Celine Dumais | Master 2nd yr | **Project**: "Experimental dike intrusion analyzed with pixel correlation PIV". Co-advised with Dr. Thomas R. Walter, GFZ German Research Center for Geosciences (Germany).

TECHNICAL & IT SKILLS

Analogue and numerical modeling, Digital Image Correlation (DIC) technique, GIS spatial analysis, remote sensing analysis, geological and structural mapping, sequence stratigraphy, stereography, DEM generation (aerial photography), ortho-photography, SO_2 measurements (Flyspec), thermal monitoring (thermal camera, AVHRR satellite imagery), seismic picking.

PROGRAMMING

Matlab (advanced), Python (notions)

DATA PROCESSING

Imaging: ArcGIS, ERDAS IMAGINE, Surfer, DaVis (DIC)

Statistics: Minitab, GIAS, R (notions)

Structural Geology: GeOrient

Thermal data: IRBIS

MODELLING

Finite element: COMSOL Multiphysics

MISCELLANEOUS

Document preparation: Microsoft Office, Endnote

Operating Systems: Mac OS X, Windows

Graphics: GMT, Adobe Illustator & Photoshop

AWARDS

[2018] IACVEI - 7th International Maar Conference - Travel Grant (400 euros)

[2017] Laboratoire Magmas et Volcans – Volcanology team - Travel Grant (1500 euros)

PUBLICATIONS & INVITED SEMINARS

Publications in preparation

15. Roberti G., **N. Le Corvec**, B. van Wyk de Vries, B. Ward, S. Venugopal, G. William-Jones, J. Clague, P. Friele, G. Falorni, G. Baldeon, L. Perotti, M. Giardino, and B. Menounos | Can glacial retreat-related landslides trigger volcanic eruptions? Insights from Mount Meager, British Columbia. Intend to submit to Nature Geoscience.

14. Le Corvec, N., P. J. McGovern and E. B. Grosfils | The effect of elliptical magma reservoirs and flexural deformation on the formation of radial and circumferential dike systems on Venus. Intend to submit to Earth and Planetary Science Letters.

Peer-reviewed publications - GOOGLE SCHOLAR (***h-index :*** **9**) : goo.gl/F1GNAC

13. Zorn, E. U., **N. Le Corvec**, N. R. Varley, J. T. Salzer, T. R. Walter, C. Navarro-Ochoa, D. M. Vargas-Bracamontes, S. T. Thiele, and R. Arámbula Mendoza (2019), Load Stress Controls on Directional Lava Dome Growth at Volcán de Colima, Mexico, Frontiers in Earth Science, *7*(84), doi:10.3389/feart.2019.00084.

12. Le Corvec, N., and P. J. McGovern (2018), The Effect of Ocean Loading on the Growth of Basaltic Ocean Island Volcanoes and Their Magmatic Plumbing System, Frontiers in Earth Science, *6*(119), doi: 10.3389/feart.2018.00119.

11. Le Corvec, N., J. D. Muirhead, and J. D. L. White (2018), Shallow magma diversions during explosive diatreme-forming eruptions, Nature Communications, *9*(1), 1459, doi: 10.1038/s41467-018-03865-x.

10. Mazzarini, F., **N. Le Corvec**, I. Isola, and M. Favalli (2016), Volcanic field elongation, vent distribution, and tectonic evolution of a continental rift: The Main Ethiopian Rift example, Geosphere, *12*(3), 706-720, doi: 10.1130/GES01193.1.

9. Muirhead, J.D., Kattenhorn, S.A., and **N. Le Corvec** (2015), Varying styles of magmatic strain accommodation across the East African Rift: Geochemistry, Geophysics, Geosystems, v. 16, no. 8, p. 2775–2795, doi: 10.1002/2015gc005918.

8. Le Corvec, N., P. J. McGovern, E. B. Grosfils, and G. Galgana (2015), Effects of crustal-scale mechanical layering on magma chamber failure and magma propagation within the Venusian lithosphere, Journal of Geophysical Research: Planets, *120*(7), doi: 10.1002/2015je004814.

7. Le Corvec, N., T. R. Walter, J. Ruch, A. Bonforte, and G. Puglisi (2014), Experimental study of the interplay between magmatic rift intrusion and flank instability with application to the 2001 Mount Etna

eruption, Journal of Geophysical Research: Solid Earth, *119*(7), 2014JB011224, doi: 10.1002/2014jb011224.

6. Germa, A., L. J. Connor, E. Cañon-Tapia, and **N. Le Corvec** (2013), Tectonic and magmatic controls on the location of post-subduction monogenetic volcanoes in Baja California, Mexico, revealed through spatial analysis of eruptive vents, Bulletin of Volcanology, *75*(12), 1-14, doi: 10.1007/s00445-013-0782-6.

5. Le Corvec, N., K. B. Spörli, J. Rowland, and J. Lindsay (2013c), Spatial distribution and alignments of volcanic centers: Clues to the formation of monogenetic volcanic fields, Earth-Science Reviews, *124*(0), 96-114, doi: http://dx.doi.org/10.1016/j.earscirev.2013.05.005.

4. Le Corvec, N., M. S. Bebbington, J. M. Lindsay, and L. E. McGee (2013b), Age, distance, and geochemical evolution within a monogenetic volcanic field: Analyzing patterns in the Auckland Volcanic Field eruption sequence, Geochemistry, Geophysics, Geosystems, *14*(9), 3648-3665, doi: 10.1002/ggge.20223.

3. Le Corvec, N., T. Menand, and J. Lindsay (2013a), Interaction of ascending magma with pre-existing crustal fractures in monogenetic basaltic volcanism: an experimental approach, Journal of Geophysical Research: Solid Earth, *118*(3), 968-984, doi: 10.1002/jgrb.50142.

2. Guilbaud, M.-N., C. Siebe, P. Layer, S. Salinas, R. Castro-Govea, V. H. Garduño-Monroy, and **N. Le Corvec** (2011), Geology, geochronology, and tectonic setting of the Jorullo Volcano region, Michoacán, México, Journal of Volcanology and Geothermal Research, *201*(1-4), 97-112, doi: 10.1016/j.jvolgeores.2010.09.005.

1. Le Corvec, N., and T. R. Walter (2009), Volcano spreading and fault interaction influenced by rift zone intrusions: Insights from analogue experiments analyzed with digital image correlation technique, Journal of Volcanology and Geothermal Research, *183*(3-4), 170-182. doi: 10.1016/j.jvolgeores.2009.02.006.

Scientific Reports

Hayes, J. L., S. W. Tsang, R. H. Fitzgerald, D. M. Blake, N. I. Deligne, A. Doherty, J. L. Hopkins, A. W. Hurst, **N. Le Corvec**, G. S. Leonard, J. M. Lindsay, C. A. Miller, K. Nemeth, E. Smid, J. D. L. White, T. M. Wilson (2018), The DEVORA scenarios: multi-hazard eruption scenarios for the Auckland Volcanic Field. GNS Science. 138 p. (GNS Science report; 2018/29). doi: 10.21420/G20652.

Invited seminars

[04·2019] Space Research Center – Polish Academy of Sciences, Wrocław, Poland | "Planetary basaltic volcanic systems: Insights from modeling" | Host: Dr. hab Daniel Mège

[11·2018] Institute of Earth Sciences Jaume Almera (ICTJA), Barcelona, Spain | "Magma reorientation within the crust: Physical and structural controls" | Host: Dr. Adelina Geyer

[04·2018] GFZ German Research Center for Geosciences, Potsdam, Germany | "Structural controls on magma diversion and reorientation within the lithosphere" | Host: Priv. Doz. Thomas R. Walter

[11·2017] Laboratoire de Planétologie et Géodynamique, Nantes, France | "Volcanic systems on Earth, Mars and Venus: magma reservoir stability, magmas propagation and deformation of volcanic edifices" | Host: Dr. Nicolas Mangold

[11·2017] ISTerre: Institut des Sciences de la Terre, Le Bourget-du-Lac, France | "Structural controls on magma diversion and reorientation within the lithosphere" | Host: Dr. Virginie Pinel

[04·2017] Le Laboratoire Géoazur, Valbonne, France | "Effects of mechanical, rheological and tectonic controls on the formation of giant radial dike systems on Venus: Insights from finite element modeling" | Host: Dr. Mark Wieczorek

[06·2016] Laboratoire Magmas et Volcans, Clermont-Ferrand, France | "Effects of mechanical, rheological and tectonic controls on the formation of giant radial dike systems on Venus: Insights from finite element modeling" | Coordinator: Valentin Gueugneau

[02·2016] USRA – Lunar and Planetary Institute, Houston – TX | "Effects of mechanical, rheological and tectonic controls on the formation of giant radial dike systems on Venus: Insights from finite element modeling" | Coordinator: Dr. Georgiana Y. Kramer

[02·2016] Lamont-Doherty Earth Observatory, Palisades – NY | "Effects of mechanical, rheological and tectonic controls on the formation of giant radial dike systems on Venus: Insights from finite element modeling" | Coordinator: Dr. Patrick J. McGovern

[02·2015] Pomona College – Geology Department, Claremont – CA | "Magma propagation in volcanic systems" | Host: Prof. Eric B. Grosfils

[02·2014] University of South Florida – Department of Geology, Tampa – FL | "Physical and structural controls on monogenetic basaltic volcanism" | Host: Dr. Aurélie Germa

[09·2013] University of Idaho – Geological Sciences, Moscow – ID | "Physical and structural controls on monogenetic basaltic volcanism" | Host: Prof. Simon Kattenhorn

[11·2012] USRA – Lunar and Planetary Institute, Houston – TX | "Physical and structural controls on basaltic volcanism" | Host: Dr. Patrick J. McGovern

Selected abstracts [* invited]

[2019] Zorn, E. U., **N. Le Corvec**, J. T. Salzer, T. R. Walter, S. T. Thiele, N. R. Varley, C. Navarro-Ochoa, R. Arambula, and R. Flores | Load stress controls on directional lava dome growth at Volcán de Colima, Mexico | EGU2019-7346 | [oral]

[2018] Zorn, E. U., **N. Le Corvec**, J. T. Salzer, T. R. Walter, S. T. Thiele, N. R. Varley, C. Navarro-Ochoa, R. Arambula, and R. Flores | Insights into the oblique dome extrusion of Volcan de Colima 2013-2015; loading and unloading stress feedback on magma and fluid ascent and vent positioning | Cities on Volcanoes - Session 10.S01.11 – 162 | [oral]

[2018] Hayes, J., D. Blake, N. Deligne, A. Doherty, R. Fitzgerald, J. Hopkins, T. Hurst, **N. Le Corvec**, G. Leonard, J. Lindsay, C. Miller, K. Nemeth, S. Sherburn, E. Smid, S. Tsang, J. White, T. Wilson | The DEVORA Scenarios: Introducing a suite of multi-hazard eruption scenarios for the Auckland Volcanic Field, New Zealand | Cities on Volcanoes – Session 10.S02.09 – 576 | [poster]

[2018] Le Corvec N., P. J. McGovern and E. B. Grosfils | Giant dike systems on Venus: flexural deformation and elliptical magma reservoirs | Programme National de Planétologie 2018, #36. [poster]

[2018] Le Corvec, N., J. D. Muirhead, and J. D. L. White | Shallow magma diversions during explosive diatreme-forming eruptions | IAVCEI - 7th International Maar Conference – Session 1 | [oral]

[2018] Roberti G., B. van Wyk de Vries, B. Ward, **N. Le Corvec**, G. Williams-Jones, J. Clague, G. Falorni, B. Menounos, P. Friele, L. Perotti, M. Giardino, G. Baldeon, and S. Venugopal | Hazards posed by large mass movements at Mount Meager volcano, Canada | EGU2018-912 | **[highlight poster]**

[2018] Roberti G., **N. Le Corvec**, B. van Wyk de Vries, B. Ward, S. Venugopal, G. William-Jones, J. Clague, P. Friele, G. Falorni, G. Baldeon, L. Perotti, M. Giardino, and B. Menounos | Can glacial retreat-related landslides trigger volcanic eruptions? Insights from Mount Meager, British Columbia |EGU2018-913 | [pico]

***[2017]** Grosfils E. B., P. J. McGovern, **N. Le Corvec**, R. E. Ernst, and G. A. Galgana | The Morphological Characteristics and Mechanical Formation of Giant Radial Dike Swarms on Venus: An Overview Emphasizing Recent Numerical Modeling Insights | AGU 2017, V33I-02 | **[invited oral]**

***[2017] Le Corvec N.**, J. D. Muirhead, and J. D. L. White | Shallow magma diversions during explosive maar-diatreme eruptions in mafic volcanic fields | AGU 2017, V23C-0489 | **[invited poster]**

[2017] Muirhead J. D., A. Van Eaton, **N. Le Corvec**, G. Re, J. D. L. White, and M. Ort | The architecture and development of shallow monogenetic feeder systems: perspectives from extinct volcanic fields | IAVCEI 2017, PE12A-6 | [oral]

[2017] Grosfils E., P. J. McGovern, **N. Le Corvec**, G. A. Galgana, D. Hurwitz, and S. Chestler | Revisiting the mechanics of radial dike swarm formation: Some limitations of past approaches and an overview of new insights derived from recent numerical models | IAVCEI 2017, MT11A-7 | [oral]

[2017] Le Corvec N., T. Menand, V. Cayol, and J.-L. Froger | Incremental growth of magma reservoirs: Insights on the room problem through the use of finite element models. IAVCEI 2017, ME13B-076 | [poster]

[2016] Le Corvec N., P. J. McGovern and E. B. Grosfils | From sill to radial dike systems on Venus: the role of upward flexure environments and elliptical magma reservoirs | Geomod 2016, S3-PS7 | [poster]

[2016] Le Corvec N., P. J. McGovern, E. B. Grosfils, and G. A. Galgana | The Role of Plasticity in the Stability of Elliptical Magma Reservoirs on Venus | 47th LPSC, 2016, abstract #1792 | [oral]

[2015] Le Corvec, N., P. J. McGovern, E. B. Grosfils, R. Goldman, and J. Albright | Effects of an extensional tectonic stress on magmatic reservoir failure and magma propagation within the Venusian lithosphere | AGU Fall Meeting 2015, abstract #P31H-02 | [oral]

[2015] Mazzarini, F., **N. Le Corvec**, I. Isola, and M. Favalli | Volcanic field elongation, vent distribution and tectonic evolution of continental rift: The Main Ethiopian Rift example | EGU General Assembly 2015, GMPV5.5, EGU2015-15136 | [poster]

[2015] Le Corvec, N. and P. J. McGovern | Volcanic Spreading on Mars: Role of a Basal Decollement on Faulting and Magma Propagation | 46th LPSC, 2015, abstract #2891 | [oral]

[2014] Le Corvec, N. and P. J. McGovern | Influence of an ocean on the propagation of magmas within an oceanic basaltic shield volcano | AGU Fall Meeting 2014, abstract #V51B-4743 | [poster]

[2014] Klein, E., **N. Le Corvec**, and G. A. Galgana | Comparison of numerical approaches for modeling gravitationally-induced horizontal deviatoric stresses within a Hawaiian basaltic shield volcano | AGU Fall Meeting 2014, abstract #V11B-4704 | [poster]

[2014] Le Corvec, N., P. J. McGovern, and E. B. Grosfils | Effects of crustal-scale mechanical layering on magmatic reservoir failure and magma propagation within the Venusian lithosphere | 45th LPSC, 2014, abstract #M154-2330 | [oral]

[2013] Le Corvec, N., P. J. McGovern and E. B. Grosfils | Effects of mechanical layering on magmatic reservoir failure and magma propagation within the Venusian lithosphere | AGU Fall Meeting 2013, abstract #V13E-2659 | [poster]

[2012] Germa, A., E. Cañon-Tapia, L. Connor, and **N. Le Corvec** | Statistical analysis of eruptive vent distribution from post-subduction monogenetic fields in Baja California, Mexico | EGU General Assembly 2012, GMPV4.7, EGU2012-562 | [oral]

[2012] Le Corvec, N., J. V. Rowland, and J. M. Lindsay | The Auckland Volcanic Field – a basaltic field showing random behavior? | EGU General Assembly 2012, GMPV4.7, EGU2012-12671 | [poster]

[2012] Le Corvec, N., K B. Spörli, J. V. Rowland, and J. M. Lindsay | Monogenetic volcanic fields: Spatial distribution and volcanic lineaments as indicators for crustal controls? | EGU General Assembly 2012, GMPV4.7, EGU2012-12970 | [poster]

[2011] Le Corvec, N., D. Legrand, J. Rowland, and K. B. Spörli. | Monogenetic volcanic fields: Spatial distribution and volcanic lineaments as indicators for crustal controls? IUGG 2011, abstract #V14-2341 | [poster]

[2010] Le Corvec, N., T. Menand, and J. V. Rowland | Interaction of ascending magma with pre-existing crustal structures: Insights from analogue modelling | AGU Fall Meeting 2010, abstract #V51F-08. [oral]

[2009] Le Corvec, N., J. V. Rowland, J. M. Lindsay, and K. B. Spörli | Structural controls on monogenetic volcanism | Geosciences '09, Symposium 03 | [poster]

[2009] Le Corvec, N., T. R. Walter, G. Puglisi, and A. Bonforte | Deformation patterns associated with an eruption at Mount Etna volcano: a combined study of the 2001 episode using geodesy and analogue modelling | EGU General Assembly 2009, GMPV3, EGU2009-9162 | [poster]

***[2008] Le Corvec, N.** and T. R. Walter | Flank instability and internal deformation on volcanic islands: An experimental study of the coupling between gravitational spreading and rift-zone intrusion | EGU General Assembly 2008, GMPV25, EGU2008-A-07766 | **[invited oral]**

Thesis

[2013] Le Corvec, N. | Physical and Structural Controls on Monogenetic Basaltic Volcanism, and their implications on the evolution of the Auckland Volcanic Field | PhD thesis, pp. 200. Submitted at the University of Auckland, Auckland, New Zealand.

[2005] Le Corvec, N. | Socompa volcano destabilization (Chile) and fragmentation of debris avalanches | Master thesis, pp 50. Submitted at the University of Blaise Pascal, Clermont-Ferrand, France.

Non-refereed publications

[07·2018] Le Corvec, N. | Book Review: Volcanic and Igneous Plumbing Systems | https://focusonvips.wordpress.com/2018/10/18/book-review-volcanic-and-igneous-plumbing-systems/

[08·2015] Muirhead, J.D., Kattenhorn, S. A., **Le Corvec, N.** | Unravelling the complexity of upper crustal dike networks in continental rifts: examples from East Africa | http://www.mantleplumes.org/UpperCrustDikes.html

[07·2014] Le Corvec, N. | Magma emplacement at Large Igneous Province. Invited online article for Large Igneous Provinces Commission | http://www.largeigneousprovinces.org/14jul

MEDIAS & PUBLIC OUTREACH

[11·2018] "Over the Volcano - Warning signs emerge from the shrinking glacier atop B.C.'s Mount Meager" https://newsinteractives.cbc.ca/longform/mount-meager-eruption-risk

[05·2018] CNRS public outreach "En direct des labos". http://www.cnrs.fr/endirectdeslabos/lettre.php?numero=221

[04·2018] Science Media Centre "expert reaction to increased volcanic activity as a result of climate change". http://www.sciencemediacentre.org/expert-reaction-to-increased-volcanic-activity-as-a-result-of-climate-change/

[04·2018] CNRS INSU public outreach "Réorientation d'un filon magmatique lors de la formation d'un maar". http://www.insu.cnrs.fr/node/8895

[01·2018] Invited at the radio show "L'invité H2O" on France Bleu to talk about being volcanologist | January 10th 2018 | https://www.francebleu.fr/emissions/l-invite-h2o/pays-d-auvergne/l-invite-h2o-73

[11·2017 – 01·2018] – Invited at the movie festival "Rencontres Montagnes et Sciences" as a scientific speaker to talk about volcanoes in New Zealand (https://vimeo.com/46716211) and in the Aleutian Islands, USA (https://qrius.si.edu/watch/smithsonians-nature-science-expedition-arctic-volcanoes). http://www.montagnes-sciences.fr/

[2013 – 2016] Sky Fest Space Science Careers at the Lunar and Planetary Institute, Houston, TX, USA | https://www.lpi.usra.edu/education/skyFest/

[2009 – present] Guest lectures and presentations on planetary science topics at classrooms and other events to all ages and levels of education (e.g., International Science Day).

NATIONALITY & LANGUAGES

Nationality: French | Born: France

Languages: French, native | English, fluent | Spanish, conversational | German, notions

EXTRACURRICULAR HOBBIES & INTERESTS

HOBBIES

Traveling (32 Countries) | Music | Contemporary Art | Geopolitics

ATHLETIC INTERESTS

Running (Marathon: 3'54") | Self-Guided Trekking | Sailing (Regatta)