

Curriculum Vitae

Loïc Vanderkluisen

Professional address Dept. of Biodiversity, Earth & Environmental Science
PISB 123, 3245 Chestnut St
Drexel University
Philadelphia, PA 19104
USA

Phone: +1 (215) 571 4673

E-mail: loyc@drexel.edu

Education

2008 Ph.D., Geology & Geophysics, University of Hawai'i at Mānoa, U.S.A.

2002 MSc degree (equivalent), Earth Sciences, University of Lausanne, Switzerland

2001 Diploma degree (BSc equivalent), Geology, University of Lausanne, Switzerland

Professional positions

2020-present Associate Professor, Department of Biodiversity, Earth and Environmental Science, Drexel University, Philadelphia, U.S.A.

2014-2020 Assistant Professor, Department of Biodiversity, Earth and Environmental Science, Drexel University, Philadelphia, U.S.A.

2013-2014 Assistant Research Scientist, School of Earth and Space Exploration, Arizona State University, U.S.A.

2011-2013 Exploration Postdoctoral Fellow, School of Earth and Space Exploration, Arizona State University, U.S.A.

2008-2010 Post-doctoral research fellow, Hawai'i Institute of Geophysics and Planetology, SOEST, University of Hawai'i at Mānoa, U.S.A.

2004-2008 Graduate Research Assistant to Prof. John Mahoney, Geology & Geophysics Department, SOEST, University of Hawai'i at Mānoa, U.S.A.

2000-03 Research assistant to Profs. Jean Hernandez and Johannes Hunziker, Institute of Mineralogy and Geochemistry, University of Lausanne, Switzerland

Teaching experience

Drexel University Physical Geology (GEO 101) – 24 to 72 students
Mineralogy (GEO 215) – 10-20 students
Volcanology (GEO 350/550) – 30-40 students
Igneous and Metamorphic Petrology (GEO 401) – 9-12 students
Plate Tectonics (GEO 444/644) – 10 students
Special Topics: Remote Sensing (GEO T480-T680) – 15 students
Undergraduate Directed Research (GEO 497) – 6 students total
Independent Studies in Geophysics (GEO 499) – 2 students

Arizona State U. Introduction to Geology II (Historical Geology, GLG 102/104), 60 students. Instructor
Dangerous Worlds Labs (online course, GLG 111) – ~200 students. Course coordinator

Univ. of Hawai'i Mineralogy GG301, Teaching Assistant

Publications

- In prep** Carr, B.B., Lev, E., **Vanderkluyesen, L.**, Moyer, D.K., Marliyani, G.I. & Clarke, A.B. Assessing lava dome stability with UAS-derived 4D structure and slope stability models: Application to Sinabung Volcano (Indonesia)
- In prep** Tholt, A., Renne, P.R., Pande, K., Self, S., Sprain, C.J. & **Vanderkluyesen, L.** Spatial-Temporal Trends in Deccan Volcanism
- In review** Self, S., Mittal, T., Dole, G., & **Vanderkluyesen, L.** Towards understanding Deccan volcanism. *Annual Review of Earth and Planetary Sciences*. Preprint doi: [10.1002/essoar.10506756.2](https://doi.org/10.1002/essoar.10506756.2)
- 2021** Hernandez Nava, A., Black, B.A., Gibson, S.A., Bodnar, R.J., Renne, P.R. & **Vanderkluyesen, L.** Reconciling early Deccan Traps CO₂ outgassing and pre-KPB global climate. *PNAS* 118(14), e2007797118, doi [10.1073/pnas.2007797118](https://doi.org/10.1073/pnas.2007797118)
- 2020** Fendley, I.M., Sprain, C.J., Renne, P.R., Arenillas, I., Arz, J.A., Gilabert, V., Self, S., **Vanderkluyesen, L.**, Pande, K., Smit, J. & Mittal, T. No Cretaceous-Paleogene Boundary in Exposed Rajahmundry Traps: A Refined Chronology of the Longest Deccan Lava Flows from ⁴⁰Ar/³⁹Ar Dates, Magnetostratigraphy, and Biostratigraphy. *Geochemistry, Geophysics, Geosystems* 21(9), e2020GC009149, doi [10.1029/2020GC009149](https://doi.org/10.1029/2020GC009149)
- 2020** Fendley, I.M., Sprain, C.J., Renne, P.R., Arenillas, I., Arz, J.A., Gilabert, V., Self, S., **Vanderkluyesen, L.**, Pande, K., Smit, J. & Mittal, T. No Cretaceous-Paleogene Boundary in Exposed Rajahmundry Traps: A Refined Chronology of the Longest Deccan Lava Flows from ⁴⁰Ar/³⁹Ar Dates, Magnetostratigraphy, and Biostratigraphy. *Geochemistry, Geophysics, Geosystems* 21(9), e2020GC009149, doi [10.1029/2020GC009149](https://doi.org/10.1029/2020GC009149)
- 2019** Carr, B.B., Clarke, A.B., Arrowsmith, J.R., **Vanderkluyesen, L.** & Dhanu, B.E. The emplacement of the active lava flow at Sinabung Volcano, Sumatra, Indonesia, documented by structure-from-motion photogrammetry. *Journal of Volcanology and Geothermal Research* 382, 164–172, doi: [10.1016/j.volgeores.2018.02.004](https://doi.org/10.1016/j.volgeores.2018.02.004)
- 2019** Carr, B.B., Clarke, A.B., **Vanderkluyesen, L.** & Arrowsmith, J.R. Mechanisms of lava flow emplacement during the effusive eruption of Sinabung Volcano (Sumatra, Indonesia). *Journal of Volcanology and Geothermal Research* 382, 137–148, doi: [10.1016/j.volgeores.2018.03.002](https://doi.org/10.1016/j.volgeores.2018.03.002)
- 2019** Sprain, C.J., Renne, P.R., **Vanderkluyesen, L.**, Pande, K., Self, S. & Mittal, T. The eruptive tempo of Deccan volcanism in relation to the Cretaceous-Paleogene boundary. *Science* 363, 866–870, doi: [10.1126/science.aav1446](https://doi.org/10.1126/science.aav1446)
- 2019** Sheth, H., **Vanderkluyesen, L.**, Demonterova, E.I., Ivanov, A.V. & Savatenkov, V. ⁴⁰Ar/³⁹Ar geochronology and geochemistry of the Nandurbar-Dhule dyke swarm: Dyke-sill-flow correlations and stratigraphic development across the Deccan flood basalt province. *Geological Journal* 54(1), 157–176, doi: [10.1002/gj.3167](https://doi.org/10.1002/gj.3167)
- 2017** Rader, E.L., **Vanderkluyesen, L.** & Clarke, A.B. The role of pulsating effusion rates on inflation in sustained lava flow fields. *Earth and Planetary Science Letters* 477, 73–83, doi: [10.1016/j.epsl.2017.08.016](https://doi.org/10.1016/j.epsl.2017.08.016)
- 2017** Bryan, S., Clarke, A.B., **Vanderkluyesen, L.**, Groppi, C., Paine, S., Bliss, D.W., Aberle, J. & Mauskopf, P. Measuring Water Vapor and Ash in Volcanic Eruptions with a Millimeter-Wave Radar/Imager. *IEEE Transaction on Geoscience and Remote Sensing* 55(6), doi: [10.1109/TGRS.2017.2663381](https://doi.org/10.1109/TGRS.2017.2663381)
- 2016** Carr, B., Clarke, A.B. & **Vanderkluyesen, L.** The 2006 lava dome eruption of Merapi Volcano (Indonesia): detailed analysis using MODIS TIR. *Journal of Volcanology and Geothermal Research* 311, 60–71, doi: [10.1016/j.volgeores.2015.12.004](https://doi.org/10.1016/j.volgeores.2015.12.004)
- 2015** Renne, P.R., Sprain, C.J., Richards, M.A., Self, S., **Vanderkluyesen, L.** & Pande, K. State shift in Deccan volcanism at the Cretaceous-Paleogene boundary, possibly induced by impact. *Science* 350, 76-78, doi: [10.1126/science.aac7549](https://doi.org/10.1126/science.aac7549)

- 2015 Richards, M.A., Alvarez, W., Self, S., Karlstrom, L., Renne, P.R., Manga, M., Sprain, C.J., Smit, J., **Vanderkluyesen, L.** & Gibson, S.A. Triggering of the largest Deccan Eruptions by the Chicxulub impact. *Geological Society of American Bulletin*. doi: [10.1130/B31167.1](https://doi.org/10.1130/B31167.1)
- 2014 **Vanderkluyesen, L.**, Burton, M.R., Clarke, A.B., Hartnett, H.E. & Smekens, J.-F. Composition and flux of explosive gas release at LUSI mud volcano (East Java, Indonesia). *Geochemistry, Geophysics, Geosystems* 15, 2932-2946, doi: [10.1002/2014GC005275](https://doi.org/10.1002/2014GC005275)
- 2014 **Vanderkluyesen, L.**, Mahoney, J.J., Koppers, A.A.P., Beier, C., Gee, J., Regelous, M. & Lonsdale, P.F. Louisville Seamount Chain: Petrogenetic processes, and geochemical evolution of the mantle source. *Geochemistry, Geophysics, Geosystems* 15, 2380-2400, doi: [10.1002/2014GC005288](https://doi.org/10.1002/2014GC005288)
- 2014 Peng, Z.X., Mahoney, J.J., **Vanderkluyesen, L.** & Hooper, P.R. Sr, Nd and Pb isotopic and chemical compositions of central Deccan Traps lavas and relation to southwestern Deccan stratigraphy. *Journal of Asian Earth Sciences* 84, 83–94, doi: [10.1016/j.jseaes.2013.10.025](https://doi.org/10.1016/j.jseaes.2013.10.025)
- 2012 **Vanderkluyesen, L.**, Harris, A.J.L., Kelfoun, K. Bonadonna, C., & Ripepe, M. Bombs behaving badly: Unexpected trajectories of volcanic projectiles. *Bulletin of Volcanology* 74(8), 1849–1858, doi: [10.1007/s00445-012-0635-8](https://doi.org/10.1007/s00445-012-0635-8)
- 2011 Beier, C., **Vanderkluyesen, L.**, Regelous, M., Mahoney, J.J. & Garbe-Schönberg, D. Lithospheric control on geochemical composition along the Louisville Seamount Chain. *Geochemistry, Geophysics, Geosystems* 12, Q0AM01, doi: [10.1029/2011GC003690](https://doi.org/10.1029/2011GC003690)
- 2011 **Vanderkluyesen, L.**, Mahoney, J.J., Hooper, P.R., Sheth, H.C. & Ray, R. The feeder system of the Deccan Traps (India): insights from dike geochemistry. *Journal of Petrology* 52 (2), 315-343, doi: [10.1093/petrology/egq082](https://doi.org/10.1093/petrology/egq082)
- 2009 Sheth, H.C., Ray, J.S., Ray, R., **Vanderkluyesen, L.**, Mahoney, J.J., Kumar, A., Shukla, A.D., Das, P., Adhikari, S. & Jana, B. Geology and geochemistry of Pachmarhi dykes and sills, Satpura Gondwana Basin, central India: problems of dyke-sill-flow correlations in the Deccan Traps. *Contributions to Mineralogy and Petrology* 158, 357-380, doi: [10.1007/s00410-009-0387-4](https://doi.org/10.1007/s00410-009-0387-4)
- 2008 Ray, R., Shukla, A.D., Sheth, H.C., Ray J.S., Duraiswami, R.A., **Vanderkluyesen, L.**, Rautela, C.S. & Mallik, J. Highly heterogeneous Precambrian basement under the central Deccan Traps, India: direct evidence from xenoliths in dykes. *Gondwana Research* 13, 375-385, doi: [10.1016/j.gr.2007.10.005](https://doi.org/10.1016/j.gr.2007.10.005)
- 2005 Volentik, A.C.M., Principe, C., **Vanderkluyesen, L.** & Hunziker, J.C. Geological Map of Nisyros Volcano (Greece). In: J. C. Hunziker & L. Marini (eds.) *The Geology, Geochemistry and Evolution of Nisyros Volcano (Greece). Implications for the Volcanic Hazards*. Mémoires de Géologie (Lausanne) 44, 7-25.
- 2005 Volentik, A.C.M., **Vanderkluyesen, L.**, Principe, C. & Hunziker, J.C. Stratigraphy of Nisyros Volcano (Greece). In: J. C. Hunziker & L. Marini (eds.) *The Geology, Geochemistry and Evolution of Nisyros Volcano (Greece). Implications for the Volcanic Hazards*. Mémoires de Géologie (Lausanne) 44, 26-66.
- 2005 Volentik, A.C.M., **Vanderkluyesen, L.**, Principe, C. & Hunziker, J.C. The role of tectonic and volcano-tectonic activity at Nisyros Volcano (Greece). In: J. C. Hunziker & L. Marini (eds.) *The Geology, Geochemistry and Evolution of Nisyros Volcano (Greece). Implications for the Volcanic Hazards*. Mémoires de Géologie (Lausanne) 44, 67-78.
- 2005 **Vanderkluyesen, L.**, Volentik, A.C.M., Hernandez, J., Hunziker, J.C., Bussy, F. & Principe, C. The petrology and geochemistry of lavas and tephros of Nisyros Volcano (Greece). In: J. C. Hunziker & L. Marini (eds.) *The Geology, Geochemistry and Evolution of Nisyros Volcano (Greece). Implications for the Volcanic Hazards*. Mémoires de Géologie (Lausanne) 44, 79-99.
- 2005 **Vanderkluyesen, L.**, Volentik, A.C.M., Principe, C., Hunziker, J.C. & Hernandez, J. Nisyros' volcanic evolution: the growth of a strato-volcano. In: J. C. Hunziker & L. Marini

(eds.) *The Geology, Geochemistry and Evolution of Nisyros Volcano (Greece). Implications for the Volcanic Hazards*. Mémoires de Géologie (Lausanne) 44, 100-106

2005

Vanderkluyzen, L. & Gex, P. A geophysical investigation of Nisyros' hydrothermal field using the self- potential and very low frequencies-tilt methods. In: J. C. Hunziker & L. Marini (eds.) *The Geology, Geochemistry and Evolution of Nisyros Volcano (Greece). Implications for the Volcanic Hazards*. Mémoires de Géologie (Lausanne) 44, 107-114.

2005

Principe, C., Volentik, A.C.M., **Vanderkluyzen, L.**, Hunziker, J.C. & Marini, L. Preliminary implications for volcanic hazard at Nisyros (Greece), based on past volcanic activity. In: J. C. Hunziker & L. Marini (eds.) *The Geology, Geochemistry and Evolution of Nisyros Volcano (Greece). Implications for the Volcanic Hazards*. Mémoires de Géologie (Lausanne) 44, 179-184.

2002

Volentik, A., **Vanderkluyzen, L.** & Principe, C. Stratigraphy of the Caldera Walls of Nisyros Volcano, Greece. *Ecolgae Geologicae Helvetiae* 95, 223-235, doi: 10.5169/seals-168956.

Funding

Large grants

2016-2021
(\$191,476)
(Tot: \$1.8 M)

Richards, M.A., Renne, P.R., Alvarez, W., Manga, M., Self, S. **Vanderkluyesen, L.**, Black, B.A. & Romanowicz, B.A. Collaborative Research: Flood volcanism and environmental impacts — A multidisciplinary investigation of the Deccan Traps and events at the Cretaceous-Paleogene boundary. NSF-IES 1615003

2013-2017
(\$250,290)

Vanderkluyesen, L. & Clarke, A. B. Building the Deccan Traps: what can we learn from lava flow morphology in large igneous provinces? NSF-EAR (P&G) 1250440 and 1518816

In prep

Vanderkluyesen, L. In situ characterization of airborne volcanic particles via drone-based measurements. NSF-EAR (P&G).

Fellowships & small awards

2017
(\$8,000)

Vanderkluyesen, L. Antelo Devereaux Research Award for Young Faculty, Drexel University College of Arts and Sciences in support of research on Indonesian volcanoes

2016
(\$6,000)

Vanderkluyesen, L. Franklin Travel Grant in support of field work at Yellowstone National Park. American Philosophical Society.

2011-2013

SESE Exploration Postdoctoral Fellowship, Arizona State University

Service, education, outreach

University and department service

College of Arts and Sciences Faculty Council (2020-present)

Geoscience Program Director (Drexel, 2015-present)

Search committee member: Invertebrate Paleontologist tenure-track (Drexel, 2017), BEES department head internal search (Drexel, 2016), Biogeochemist senior scientist (Drexel, 2016), Geophysics tenure-track (Drexel, 2016), Microprobe Specialist (Hawai'i, 2008, student rep.)

Member: Dept. Undergraduate Studies committee (2014-2020), Dept. Graduate Studies Committee (2020-), Joint BEES-Bio Infrastructure Committee (2021-), Program Alignment and Review committee (2017), Program Level Outcome assessment group

Academic and professional service

Reviewer: NSF, NASA (panel), Science, Nature Communications, J. Petrology, EPSL, Bull. Volcanol., Geochim. Cosmochim. Acta, Geophys. Res. Lett., Contrib. Min. Petrol., Min. and Petrol., G-cubed, Geosc. Canada, Remote Sens., Lithos, Geol. Mag., Geosciences, Geological J., J. Asian Earth Sci., etc.

Geological Society of America MGVP section Early Geological Career Award selection committee (member, 2021-present)

Guest editor, J. Asian Earth Sci., "Flood Basalts of Asia" Special Issue (2014)

Session convener: AOGS (2012), Fall AGU (2012, 2015), IAVCEI (2013, 2017), Cities on Volcanoes 8 (2014), GSA NE sectional (2017)

Outstanding Student Paper Award judge and session liaison, AGU (Fall 2012-2019)

Institution representative, UCAR

Member of IAVCEI, AGU, GSA, AAAS, and the Geochemical Society

Education and outreach

Research Associate, Academy of Natural Sciences of Philadelphia (2014-)
Faculty Associate, Osher Lifelong Learning Institute at Arizona State University (2013)
Public outreach talks: Science on Tap Philly (2015), Pint of Science Philly (2015)

Instrumental & laboratory experience

Geochemistry:

X-Ray fluorescence, X-Ray diffraction, Sr-Nd-Pb clean room procedures, TIMS, ICP-MS (laser ablation and aqueous form), gas extraction, etc.

Volcano Remote Sensing and Monitoring:

Ground- and space-based UV and IR remote sensing tools, imagery and data treatment (FLIR, DOAS, Flyspec, Open path FTIR, ASTER, MODIS, LANDSAT TM/ETM+, Hyperion, etc.). Volcano monitoring and geophysical instruments, including visual and thermal imaging devices, gas remote sensing tools (UV, OP-FTIR), deformation, and EM/self-potential

Software and programming:

3D image treatment, geospatial and remote sensing (ENVI), Structure-from-Motion, Matlab and IDL programming, and laser-based fluid dynamic laboratory techniques (PIV, PLIF).

Professional development, workshops

Advancing Integrative Volcanology with Community Experiments (CoVE), Albuquerque NM, Nov. 2018
SERC workshop for early career faculty, College Park (MD), July 2016
STEPPE workshop on Cretaceous-Paleogene Life Transitions, Seattle (WA), July 2015
Drilling active tectonics and magmatism workshop, Park City (UT), May 2013
Science workshop for the HypSIIRI instrument, NASA, Washington D.C., October 2012
GeoPRISMS East African Rift Science Implementation workshop, Morristown (NJ), October 2012
Ground-based and remote sensing of volcanic unrest workshop, Melbourne (Aus.), July 2011
Physics of fluid oscillations in volcanic systems II, Kona (HI), February 2010
Advances in studies of volcanic plumes and pyroclastic density currents, Clermont-Ferrand, October 2009
Recent developments in explosive volcanism short course, Reykjavik (Iceland), August 2008
Large igneous province IODP workshop, Coleraine (Northern Ireland), July 2007

Honors

Invited talks: UC-Berkeley (2013); Western Michigan (2013); SUNY-Buffalo (2014); Bates College (2014); SDSM&T (2014); Drexel University (2014); UNLV (2014); Temple (2015); Wesleyan (2015), U. Pennsylvania (2015), LDEO (2016), West Chester (2016), Princeton (2016), Carnegie I.S./DTM (2016), Lehigh (2016), Dickinson (2017), Rowan U. (2020), Pittsburgh U. (2020)
Invited speaker & panelist, *Indonesia's Mud Volcano: 40 Years & Beyond*, May 2011, Surabaya, Indonesia

Theses and dissertation

- 2008** Vanderkluyzen, L. 2008. Geochemical and isotopic studies of Deccan Traps dikes (India) and Louisville seamounts (South Pacific): aspects of the youth and maturity of hotspots. Ph.D. Dissertation, University of Hawai'i, 246 pp.
- 2002** Vanderkluyzen, L. & Volentik, A. 2002. Volcanological and Petrological Evolution of the Volcanic Island of Nisyros, Greece. Master's Thesis, University of Lausanne (In English; unpublished).

- 2001** Vanderkluyzen, L. & Volentik, A. 2001. Etude géophysique et hydrothermalisme du complexe volcanique de Nisyros, Grèce. (Geophysical and Hydrothermal Study of the Nisyros Volcanic Complex, Greece) Diploma Thesis, University of Lausanne (In French; unpublished).

Communications

Invited talks

- 2020** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Geology & Environmental Science colloquium, February 27, University of Pittsburgh, Pittsburgh (PA).
- 2020** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. School of Earth & Environment colloquium, January 30, Rowan University, Glassboro (NJ).
- 2017** **Vanderkluyzen, L.** The floor is lava: lava flow emplacement in the Deccan large igneous province (India). Department of Earth Sciences seminar, September 9, Dickinson College, Carlisle (PA).
- 2016** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Earth & Environmental Sciences colloquium, December 2, Lehigh University, Bethlehem (PA).
- 2016** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Terrestrial Magnetism colloquium, November 3, Carnegie Institution for Science, Washington (DC).
- 2016** **Vanderkluyzen, L.** The floor is lava: lava flow emplacement in the Deccan large igneous province (India). Dept. of Geosciences colloquium, October 14, Princeton University, Princeton (NJ).
- 2016** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Earth & Space Science colloquium, October 12, West Chester University, West Chester (PA).
- 2016** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Earth & Environmental Science colloquium, February 1, Lamont-Doherty Earth Observatory, Palisades (NY).
- 2015** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Earth & Environmental Science colloquium, October 30, University of Pennsylvania, Philadelphia (PA).
- 2015** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Earth & Environmental Sciences colloquium, September 17, Wesleyan University, Middletown (CT).
- 2015** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Earth & Environmental Sciences seminar, March 13, Temple University, Philadelphia (PA).
- 2014** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Geoscience seminar, March 10, University of Nevada, Las Vegas (NV).
- 2014** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Geology and Geological Engineering seminar, March 4, South Dakota School of Mines and Technology, Rapid City (SD).
- 2014** **Vanderkluyzen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Dept. of Geology research lecture, February 10, Bates College, Lewiston (ME).

- 2014** **Vanderkluyesen, L.** Dynamics of erupting volcanoes and hydrothermal systems inferred from geochemical and geophysical monitoring. Dept. of Geology seminar, February 3, SUNY-Buffalo, Buffalo (NY).
- 2013** **Vanderkluyesen, L.** It's a Trap! Origin, emplacement and impact of the Deccan large igneous province. Earth and Planetary Science Dept. seminar series, October 17, University of California – Berkeley, Berkeley (CA).
- 2013** **Vanderkluyesen, L.** Louisville Seamount Chain: Petrogenetic processes, and geochemical evolution of the mantle source. Dept. of Geosciences seminar, February 1, Western Michigan University, Kalamazoo (MI).

Conference presentations

- 2022** Tholt, A. et al. ⁴⁰Ar/³⁹Ar dating of the Malwa Plateau subprovince, Deccan Traps, India. *European Geoscience Union 2022 General Assembly, Vienna, Austria*
- 2020** Renne, P.R., Tholt, A., Pande, K., Sprain, C., **Vanderkluyesen, L.**, Self, S., Fendley, I. & Marzoli, A. Spatial-Temporal Evolution of the Deccan Traps Volcanic System. *Goldschmidt Virtual Conference, 21-26 June 2020*, doi [10.46427/gold2020.2193](https://doi.org/10.46427/gold2020.2193)
- 2019** Moyer, D.K., **Vanderkluyesen, L.**, Carr, B.B., Harijoko, A., Wibowo, H. & Handini, E. (poster) In situ particle sampling and size analysis via unmanned aerial systems in volcanic clouds: examples from Sinabung and Merapi volcanoes, Indonesia. *AGU Fall Meet. Abstr. V23G-0285*.
- 2019** Renne, P.R., Pande, K., Tholt, A., Marzoli, A., Sprain, C.J., **Vanderkluyesen, L.**, Self, S. & Kale, V. (oral presentation) ⁴⁰Ar/³⁹Ar dating of Giant Plagioclase Basalts of the Deccan Traps. *AGU Fall Meet. Abstr. V24A-03*.
- 2019** Tholt, A., Renne, P.R., Pande, K., Self, S., Sprain, C.J. & **Vanderkluyesen, L.** (poster) Spatial-Temporal Trends in Deccan Volcanism. *AGU Fall Meet. Abstr. V31C-0110*.
- 2019** Carr, B.B., Lev, E., Vanderkluyesen, L., Moyer, D.K., Marliyani, G.I. & Clarke, A.B. (poster) The stability and collapse of lava domes: insight from UAS-derived 4D structure and slope stability models. *AGU Fall Meet. Abstr. V31H-0115*.
- 2019** **Vanderkluyesen, L.**, Carey, E.N., Barber, N., Jay, A.E., Self, S., Mittal, T. & Renne, P.R. (poster) Validity of the Deccan Chemostratigraphy and Extent of Deccan Formations Beyond the Western Ghats (India). *AGU Fall Meet. Abstr. V31C-0114*
- 2019** Hernandez Nava, A., Black, B.A., Gibson, S.A., Bodnar, R.J., Renne, P.R. & Vanderkluyesen, L. (poster) Narrowing the Gap Between Early Deccan Traps CO₂ Outgassing and pre-KPB Global Climate. *AGU Fall Meet. Abstr. V31C-0118*
- 2019** **Vanderkluyesen, L.**, Barber, N., Jay, A.E. & Carey, E.N. (oral presentation) Pre- and Post-Erosional Volumes of Lava Packages in the Deccan Traps and Implications for Environmental Impacts. *IUGG 27th General Assembly, Montreal, Canada, V20p-424*.
- 2019** Self, S., Mittal, T., Fendley, I., Sprain, C.J., Renne, P.R., Richards, M.A., **Vanderkluyesen, L.**, Pande, K., lack, B. & Tholt, A. (oral presentation) Eruptive Tempo and Climate Consequences of the Deccan Traps. *IUGG 27th General Assembly, Montreal, Canada, V20p-424*.
- 2019** Moyer, D.K., **Vanderkluyesen, L.**, Harijoko, A., Wibowo, H. & Handini, E. (poster) Determining the size distribution of airborne volcanic particles: applications of sUAS-based measurements in eruption clouds from Sinabung volcano, Sumatra, Indonesia. *IUGG 27th General Assembly, Montreal, Canada, V20p-424*.
- 2018** Hernandez Nava, A., Black, B.A., Gibson, S.A., Bodnar, R.J., Renne, P.R. & **Vanderkluyesen, L.** (poster) Early Deccan Traps CO₂ Budget & Degassing History Constrained from Melt Inclusions. *AGU Fall Meet. Abstr. V43I-0248*.
- 2018** Smekens, J.-F., Sealing, C.R., Carey, E.N., **Vanderkluyesen, L.**, Carr, B.B., Marliyani, G., Harijoko, A. & Edwards, C.S. (poster) Contrasting degassing behaviors before a shift in eruptive style at Sinabung volcano, Indonesia. *AGU Fall Meet. Abstr. V23K-0188*.
- 2018** **Vanderkluyesen, L.**, Barber, N., Jay, A.E. & Carey, E.N. (poster) Pre- and Post-Erosional Estimates of Deccan Lava Volumes. *AGU Fall Meet. Abstr. T51D-0185*.

- 2018 Moyer, D.K., **Vanderkluyesen, L.**, Harijoko, A., Wibowo, H. & Handini, E. (poster) Application of in situ ash measurements via unmanned aerial systems at Sinabung volcano, Indonesia. *AGU Fall Meet. Abstr. V23D-0109.*
- 2018 Sprain, C.J., Renne, P.R., Clemens, W.A., Wilson, G.P., Smith, S.M., Lofgren, D.L., Self, S., **Vanderkluyesen, L.**, Pande, K. & Mittal, T. (invited oral presentation) Timescale of Events Around the Cretaceous-Paleogene Boundary: Links Between the Chicxulub Impact, Deccan Volcanism, and the Cretaceous-Paleogene Boundary. *AGU Fall Meet. Abstr. PP54B-01.*
- 2018 Yerck, W., Gallagher, P., Sample-Lord, K., Getty, P.S., **Vanderkluyesen, L.** & Swan, R.H. (poster) An Industry-Academic Collaboration to Develop a Geology Field Trip to Improve Students' Learning Experience. *AGU Fall Meet. Abstr. ED43G-1294.*
- 2018 Moyer, D.K., **Vanderkluyesen, L.**, Harijoko, A., Wibowo, H. & Handini, E. (poster) Application of in situ ash measurements via unmanned aerial systems at Sinabung volcano, Indonesia. *Cities on Volcanoes 10, Naples, Italy, 2-7 Sept. 2018.*
- 2017 **Vanderkluyesen, L.**, Barber, N., Woloszynek, S., O'Connor, M.P., Mittal, T., Sealing, C.R., Sprain, C.J. & Renne, P.R. (oral presentation) Analysis of Deccan Basalt Geochemistry: An Updated Look at Deccan Chemostratigraphy. *AGU Fall Meet. Abstr. V33I-03*
- 2017 Sprain, C.J., Renne, P.R., Fendley, I., Pande, K., Self, S., **Vanderkluyesen, L.** & Richards, M.A. (oral presentation) High-Precision ⁴⁰Ar/³⁹Ar dating of the Deccan Traps. *AGU Fall Meet. Abstr. V33I-04*
- 2017 Moyer, D.K., Sealing, C.R., Carn, S.A. & **Vanderkluyesen, L.** (poster) Measuring H₂O and CO₂ Emissions in the Mud Volcano region of Yellowstone using Open Path FTIR. *AGU Fall Meet. Abstr. V11A-0325*
- 2017 Richards, M.A., Renne, P.R., Alvarez, W., DePalma, R.A., Smit, J., Manga, M., Karlstrom, L., **Vanderkluyesen, L.**, Fainstein, R. & Gibbson, S.A. (oral presentation) Triggering of the Largest Deccan Eruptions and Other Possible Geophysical Effects of the M_w~11 Chicxulub Impact. *AGU Fall Meet. Abstr. V34B-05*
- 2017 Hernandez Nava, A., Black, B.A., **Vanderkluyesen, L.**, Renne, P.R. & Self, S. (poster) Melt Inclusion Constraints on the Evolving Volatile Budget of the Deccan Traps. *AGU Fall Meet. Abstr. V43E-0572*
- 2017 **Vanderkluyesen, L.**, Barber, N., Woloszynek, S., O'Connor, M.P., Mittal, T., Sealing, C.R., Sprain, C.J. & Renne, P.R. (invited talk) A Modern Look at the Deccan Chemostratigraphic Scheme. *Geological Society of America Annual Meeting, Seattle, WA, U.S.A., 22-25 Oct. 2017, Abstract with Program vol. 49(6), paper 197-10*
- 2017 Barber, N., Jay, A. & **Vanderkluyesen, L.** (poster) Using Geographic Information Systems to refine Estimates of Deccan Lava Flow Volumes (India). *General Assembly of the International Association of Volcanology and Chemistry of the earth Interior (IAVCEI), Portland, OR, 14-18 August 2017, Abstract #183.*
- 2017 Moyer, D., Sealing, C., Carn, S., Burton, M. & **Vanderkluyesen, L.** (poster) Measuring H₂O and CO₂ Emissions in the Mud Volcano Region Using Open Path FTIR (Yellowstone National Park). *General Assembly of the International Association of Volcanology and Chemistry of the earth Interior (IAVCEI), Portland, OR, 14-18 August 2017, Abstract #782.*
- 2017 Self, S., Jay, A. & **Vanderkluyesen, L.** (poster) Physical characteristics of Deccan basalt lavas in the Central Western Ghats, India. *General Assembly of the International Association of Volcanology and Chemistry of the earth Interior (IAVCEI), Portland, OR, 14-18 August 2017, Abstract #544.*
- 2017 Sprain, C., Renne, P., Fendley, I., **Vanderkluyesen, L.**, Pande, K. & Richards, M. (oral presentation) Timing, Tempo, and Transitions in the Deccan Volcanic Sequence. *General Assembly of the International Association of Volcanology and Chemistry of the earth Interior (IAVCEI), Portland, OR, 14-18 August 2017, Abstract #1275.*
- 2017 **Vanderkluyesen, L.**, Rader, E., Sheth, H., Self, S., Clarke, A. & Moyer, D. (oral presentation) Variability of lava flow morphologies in the Deccan Traps large igneous

- province (India). *General Assembly of the International Association of Volcanology and Chemistry of the earth Interior (IAVCEI), Portland, OR, 14-18 August 2017, Abstract #204.*
- 2017** Renne, P.R., Sprain, C.J., Richards, M.A., Self, S., **Vanderkluyesen, L.**, Pande, K. & Fendley, I. (invited talk) The Interaction of Impact and Volcanism at the end of the Earth's Cretaceous Period. *Goldschmidt Conference, Paris, France, 13-18 August 2017, Goldschmidt Abstract 2017 #3321.*
- 2017** Sprain, C.J., Renne, P.R., Fendley, I., Pande, K., Self, S., **Vanderkluyesen, L.** & Richards, M.A. Timing and Tempo of Deccan Volcanism. *European Geoscience Union 2017 General Assembly, Vienna, Austria, 23-28 April 2017, Geophysical Research Abstracts*
- 2016** **Vanderkluyesen, L.**, Rader, E.L., Self, S., Clarke, A.B., Sheth, H.C. & Moyer, D.K. (oral presentation) Lateral Variability of Lava Flow Morphologies in the Deccan Traps Large Igneous Province (India). *AGU Fall Meet. Abstr. V43B-05.*
- 2016** Rader, E.L., Clarke, A.B., & **Vanderkluyesen, L.** (poster) Wax Modeling and Image Analysis for Classroom-Scale Lava Flow Simulations. *AGU Fall Meet. Abstr. ED21A-0759.*
- 2016** Barber, N., Jay, A.E., & **Vanderkluyesen, L.** (oral presentation) A Refined Estimate of Lava Flow Volume of the Deccan Traps (India) Using Geographic Information Systems. *Gulf Coast Undergraduate Research Symposium, 22 October 2016, Houston, TX.*
- 2016** Renne, P., Sprain, C., Pande, K., Richards, M., **Vanderkluyesen, L.** & Self, S. (oral presentation) Tempo of the Deccan Traps eruptions in relation to events at the Cretaceous-Paleogene boundary. *European Geoscience Union 2016 General Assembly, Vienna, Austria, 17-22 April 2016, Geophysical Research Abstracts vol. 18, EGU2016-9496.*
- 2015** Rader, E.L., **Vanderkluyesen, L.** & Clarke, A.B. (poster) Experimental Parameters for Wax Modeling of the Deccan Traps Flood Basalt Province. *AGU Fall Meet. Abstr. V41C-3079.*
- 2015** **Vanderkluyesen, L.**, Self, S., Jay, A.E., Sheth, H.C. & Clarke, A.B. (poster) Transitions in Lava Emplacement Recorded in the Deccan Traps Sequence (India). *AGU Fall Meet. Abstr. V41C-3082.*
- 2015** Sprain, C.J., Renne, P.R., Richards, M.A., Self, S., **Vanderkluyesen, L.**, Pande, K., Morgan, L.E. & Cosca, M.A. (poster) High-precision $^{40}\text{Ar}/^{39}\text{Ar}$ dating of the Deccan Traps. *AGU Fall Meet. Abstr. V41C-3084.*
- 2015** Richards, M.A., Alvarez, W., Self, S., Karlstrom, L., Renne, P.R., Manga, M., Sprain, C.J., Smit, J., **Vanderkluyesen, L.** & Gibson, S.A. (poster) Triggering of the Largest Deccan Eruptions by the Chicxulub Impact. *AGU Fall Meet. Abstr. V41C-3086.*
- 2015** Carr, B.B., Clarke, A.B., Arrowsmith, R. & **Vanderkluyesen, L.** (oral presentation) The Ongoing Lava Flow Eruption of Sinabung Volcano (Sumatra, Indonesia): Observations from Structure-from-Motion and Satellite Remote Sensing. *AGU Fall Meet. Abstr. V13D-04.*
- 2015** **Vanderkluyesen, L.**, Self, S., Jay, A.E., Sheth, H.C. & Clarke, A.B. (oral presentation) Transitions in lava emplacement recorded in the Deccan Traps sequence (India). *Geological Society of America Annual Meeting, Baltimore, MD, U.S.A., 1-4 November 2015, Abstract with Program vol. 47(7), p. 209.*
- 2015** Self, S., **Vanderkluyesen, L.**, Renne, P. & Richards, M. (oral presentation) Are continental flood basalt (CFB) provinces volcanoes? *IUGG 26th General Assembly, Prague, Czech Republic, 22 June-2 July, 2015.*
- 2015** Self, S., Brown, R., Glaze, L., **Vanderkluyesen, L.** & Jay, A. (poster) The enigma of continental flood basalt (CFB) vents. *IUGG 26th General Assembly, Prague, Czech Republic, 22 June-2 July 2015, Abstr. VS03p-383.*
- 2015** Renne, P., Sprain, C., Self, S., Richards, M. & **Vanderkluyesen, L.** (oral presentation) High precision $^{40}\text{Ar}/^{39}\text{Ar}$ dating of the Deccan Traps and Implications for Volatile Release at

the Cretaceous-Paleogene Boundary. *IUGG 26th General Assembly, Prague, Czech Republic, 22 June-2 July 2015, Abstr. IUGG-4726.*

- 2014 **Vanderkluyzen, L.**, Self, S., Jay, A., Sheth, H. & Clarke, A. (poster) Distribution of “Compound” and “Simple” Flows in the Deccan Traps (India). *AGU Fall Meet. Abstr. V13C-4796.*
- 2014 Carr, B., **Vanderkluyzen, L.** & Clarke, A.B. (poster) The 2013-2014 Effusive Eruption of Sinabung Volcano, Sumatra, Indonesia: Satellite Thermal Observations and Ground-Based Photogrammetry of a Growing Lava Lobe. *AGU Fall Meet. Abstr. V13C-4788.*
- 2014 Richards, M., Alvarez, W., Self, S., Karlstrom, L., Renne, P., Manga, M., Sprain, C., Smit, J., **Vanderkluyzen, L.** & Gibson, S. (poster) Possible Triggering of the Largest Deccan Traps Eruptions By the Chicxulub Impact. *AGU Fall Meet. Abstr. S51B-4449.*
- 2014 **Vanderkluyzen, L.**, Burton, M.R., Clarke, A.B., Hartnett, H.E. & Smekens, J.-F. (oral presentation) Cities on Mud Volcanoes? Monitoring gas and mud explosions from LUSI mud volcano (East Java, Indonesia). *Cities on Volcanoes 8, Jogjakarta, cov8-abs-341.*
- 2014 Carr, B., Clarke, A.B. & **Vanderkluyzen, L.** (poster) Identification of detailed eruptive activity using MODIS TIR records of Merapi Volcano, Java, Indonesia. *Cities on Volcanoes 8, Jogjakarta, cov8-abs-370.*
- 2013 **Vanderkluyzen, L.**, Hartnett, H.E., Clarke, A.B. & Burton, M.R. (poster) Origin of fluids and eruption dynamics at LUSI mud volcano (East Java, Indonesia). *AGU Fall Meet. Abstr. T51B-2470.*
- 2013 **Vanderkluyzen, L.**, Burton, M.R., Clarke, A.B., Hartnett, H.E. & Smekens, J.-F. (poster) Periodic gas release from the LUSI mud volcano (East Java, Indonesia). *IAVCEI 2013 Assembly, #3J-P9. Kagoshima, Japan, 20-24 July 2013.*
- 2012 **Vanderkluyzen, L.**, Burton, M.R., Clarke, A.B., Hartnett, H.E. & Smekens, J.-F. (poster) Periodic Gas Release from the LUSI mud volcano (East Java, Indonesia). *AGU Fall Meet. Abstr. NH41A-1590.*
- 2012 Carr, B.B., Clarke, A.B., **Vanderkluyzen, L.** & De' Michieli Vitturi, M. (poster) Transitions in Eruption Style at Merapi Volcano (Java, Indonesia); Insights from Satellite Thermal Infrared Images and Numerical Modeling. *AGU Fall Meet. Abstr. V33A-2835.*
- 2011 **Vanderkluyzen, L.**, Clarke, A.B., Hartnett, H.E., Burton, M.R. & Smekens, J.-F. (poster) Cyclic activity of the LUSI mud volcano (East Java, Indonesia). *AGU Fall Meet. Abstr. V53A-2593.*
- 2011 Hartnett, H.E., **Vanderkluyzen, L.** & Clarke, A.B. (poster) Fluid geochemistry of the LUSI mud volcano (East Java, Indonesia) and implications for eruption dynamics. *AGU Fall Meet. Abstr. V53A-2594.*
- 2011 **Vanderkluyzen, L.**, Harris, A.J.L., Colò, L., Ripepe, M. & Dehn, J. (poster) Bursting and jetting drives ballistic-dominated eruptions at Stromboli (Italy). *XXV IUGG General Assembly, V08 #4933, Melbourne, June 28-7 July 2011.*
- 2011 Hartnett, H.E., **Vanderkluyzen, L.** & Clarke, A.B. (oral presentation) Evolution of the LUSI mud volcano: Fluid chemistry and remote sensing. *2011 Goldschmidt Conference, Prague, Czech Republic, August 14-19, 2011.*
- 2011 Beier, C., Regelous, M., Mahoney, J., **Vanderkluyzen, L.** & Haase, K. (oral presentation) Lithospheric Control on Geochemical Composition of the Louisville Seamount Chain. *2011 Goldschmidt Conference, Prague, Czech Republic, August 14-19, 2011.*
- 2011 **Vanderkluyzen, L.**, Clarke, A.B., Hartnett, H.E. & Smekens, J.-F. (oral presentation) Evolution of the LUSI eruption from satellite and ground-based remote sensing. *Lumpur Sidoarjo Symposium, 25-26 May 2011, Surabaya, Indonesia.*
- 2011 Hartnett, H.E., **Vanderkluyzen, L.**, Clarke, A.B. & Smekens, J.-F. (oral presentation) Geochemical fingerprinting of LUSI fluids, some historical mud volcanoes, and local surface waters. *Lumpur Sidoarjo Symposium, 25-26 May 2011, Surabaya, Indonesia.*
- 2011 Clarke, A.B., Arrowsmith, R., Smekens, J.-F., Hartnett, H.E. & **Vanderkluyzen, L.** (oral presentation). Earthquake triggering. *Lumpur Sidoarjo Symposium, 25-26 May 2011, Surabaya, Indonesia.*

- 2010 **Vanderkluyesen, L.**, Harris, A.J.L., Colò, L., Ripepe, M. & Dehn, J. (poster) Bursting and jetting drives ballistic-dominated eruptions at Stromboli (Italy). *AGU Fall Meet. Abstr. V13A-2348.*
- 2010 **Vanderkluyesen, L.**, Harris, A.J.L., Kelfoun, K., Ripepe, M., Tsunematsu, K. & Bonadonna, C. (poster) Bombs Behaving Badly: Deviation of Bombs from Ideal Ballistic Trajectories. *Cities on Volcanoes 6, Tenerife, Spain, 1.2/P/34.*
- 2010 Tsunematsu, K., Falcone, J.-L., **Vanderkluyesen, L.**, Bonadonna, C. & Chopard, B. (poster) A New Numerical Model Describing Ballistic Trajectories and Collisions. *Cities on Volcanoes 6, Tenerife, Spain, 1.2/P/07.*
- 2008 **Vanderkluyesen, L.**, Mahoney, J.J., Hooper, P.R., Sheth, H.C. & Ray, R. (oral presentation) The geochemical signature of dikes of the Deccan Traps (India): implications for the evolution of a flood basalt feeder system. *IAVCEI General Assembly, Reykjavik, Iceland, Aug. 18-22, session 1-e.*
- 2007 Mahoney, J.J., **Vanderkluyesen, L.**, Hooper, P.R., Sheth, H.C. & Ray, R. (poster) Geochemistry of Deccan Traps Dikes: Insights Into the Evolution of a Flood Basalt Feeder System. *EOS Trans. AGU, 88 (52), Fall Meet. Suppl., Abstr. V33B-1395.*
- 2007 **Vanderkluyesen, L.**, Mahoney, J.J., Koppers, A.A.P. & Lonsdale, P.F. (oral presentation) Geochemical Evolution of the Louisville Seamount Chain. *EOS Trans. AGU, 88 (52), Fall Meet. Suppl., Abstr. V42B-06.*
- 2006 **Vanderkluyesen, L.**, Mahoney, J.J., Hooper, P.R. & Sheth, H.C. (poster) Location and Geometry of the Deccan Traps Feeder System Inferred from Dike Geochemistry. *EOS Trans. AGU, 87 (52), Fall Meet. Suppl., Abstr. V13B-0681.*
- 2004 **Vanderkluyesen, L.**, Mahoney, J.J. & Hooper, P.R. (poster) Implications for the emplacement of the Deccan Traps. (India) from isotopic and elemental signatures of dikes. *EOS Trans. AGU, 85 (47), Fall Meet. Suppl., Abstr. V51B-0561.*
- 2003 Volentik, A., **Vanderkluyesen, L.**, Principe, C., Rufer, D., Buettner, A., Hougard, L. & Hunziker, J.C. (poster) Geological map of Nisyros Volcano, Greece. *The South Aegean Active Volcanic Arc: Present Knowledge and Future Perspectives, Milos Island, September 2003.*
- 2003 Volentik, A., **Vanderkluyesen, L.**, Principe, C., Hunziker, J. & Hernandez, J. (poster) Volcanic Hazard Assessment of Nisyros Volcano, Greece. *The South Aegean Active Volcanic Arc: Present Knowledge and Future Perspectives, Milos Island, Sept. 2003.*
- 2003 **Vanderkluyesen, L.**, Volentik, A., Hernandez, J., Principe, C. & Hunziker, J.C. (oral presentation) The Evolution of Nisyros Volcano (Greece) in Space and Time. *The South Aegean Active Volcanic Arc: Present Knowledge and Future Perspectives, Milos Island, September 2003.*
- 2003 Volentik, A., **Vanderkluyesen, L.**, Principe, C., Hunziker, J.C. & Hernandez, J. (oral presentation) New Insight on the Stratigraphy of Nisyros Volcano (Greece). *The South Aegean Active Volcanic Arc: Present Knowledge and Future Perspectives, Milos Island, September 2003.*
- 2003 Volentik, A., **Vanderkluyesen, L.**, Rufer, D., Principe, C., Buettner, A., Hougard, L. & Hunziker, J.C. (poster) Geological map of Nisyros Volcano, Greece. *AGU-EGS-EUG joint assembly, Nice, France, April 2003.*
- 2003 **Vanderkluyesen, L.**, Volentik, A., Principe, C., Hernandez, J. & Hunziker, J.C. (poster) The Evolution of Nisyros Volcano (Greece) in Space and Time. *AGU-EGS-EUG joint assembly, Nice, France, April 2003.*
- 2003 Volentik, A., **Vanderkluyesen, L.**, Principe, C., Hernandez, J. & Hunziker, J.C. (oral presentation) Implications of New Stratigraphic Data on Volcanic Hazard Assessment for Nisyros Volcano, Greece. *AGU-EGS-EUG joint assembly, Nice, France, April 2003.*