

Meritxell Colet

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Education

- Exp. 2028 **Ph.D. in Geophysics**
Columbia University, NY, USA
Emphases: Seismology, Structural & Field Geology
- 2025 **M.A. in Geophysics**
Columbia University, NY, USA
Emphases: Structural Geology, Active Tectonics
- 2020 **B.A. in Physics**, minor in Art History
Carleton College, MN, USA

Research Experience

- 2023 – **Graduate Researcher**
Columbia University, NY, USA
Advisor: Dr. Folarin Kolawole
- 2020 – 2023 **Field Systems Engineer and Analyst**
Infrasound Laboratory, Hawai‘i Institute of Geophysics and Planetology, HI, USA
- 2019 **Undergrad Research Assistant**
University of Hawai‘i, HI, USA
Summer National Science Foundation - Research Experience for Undergraduates (NSF-REU)
Project: Infrasound, geodetic, and seismic data from Kīlauea 2018 caldera collapse
Advisor: Dr. Rhett Butler
- 2017, 2018 **Undergrad Research Assistant**
Summer Carleton College, MN, USA and IFISC, IB, Spain
Project: Complex dynamics of semiconductor lasers with state-dependent delay
Advisors: Drs. Andrés Aragoneses, Ingo Fischer, Miguel Soriano

Publications

In review:

- 2025 Kolawole, F., Ohenhen, L., **Colet, M.**, Yiannias, M., Le, H. d., Ajala, R., Ramarolahy, A., Kornfeld, L., Mitchell, A. S., Tobe, J. T. Geomorphic and Geophysical Evidence for Late Quaternary Surface-Rupturing Earthquakes in Northeastern United States. In review at *Seismological Research Letters*.
- 2025 Kolawole, F., Foster-Baril, Z., Seeber, L., Tielke, J. A., Prakash, A., **Colet, M.**, Beaucé, E., Kim, W., Ajala, R., McCarthy, C. & Waldhauser, F. The 2024 Mw4.8 New Jersey Intraplate Earthquake: Preferential Rupture of an Immature Rough Fault in Frictionally Unstable Basement Rocks. In review at *Geophysical Research Letters*. EES Open Archive Preprint DOI: 10.22541/au.173204170.01301789/v1

Published (Peer-Reviewed):

- [3] 2025 **Colet, M.**, Kolawole, F., Ajala, R., Delvaux, D., & Nkodia, H. M. D-V. (2025) Active Crustal Deformation across a Nucleating Extensional Microplate, D. R. Congo, East Africa. *Tectonics*, 44, e2025TC008815. <https://doi.org/10.1029/2025TC008815>

- [2] 2022 Garcés, M. A., Bowman, D., Zeiler, C., Christe, A., Yoshiyama, T., Williams, B., **Colet, M.**, Takazawa, S., & Popenhagen, S. (2022). Skyfall: Signal Fusion of a Smartphone Falling from the Stratosphere. *Signals*, 3(2), 209-234. <https://doi.org/10.3390/signals3020014>
- [1] 2018 **Colet, M.** & Aragoneses, A. (2018). Forecasting Extreme Events in the Complex Dynamics of a Semiconductor Laser with Feedback. *Scientific Reports*, 8, 1074. <https://doi.org/10.1038/s41598-018-29110-5> (*Undergraduate research*)

Fellowships and Scholarships

2025	Lewis and Clark Fund for Exploration and Field Research , Columbia University (\$5200)
2025	GSA Graduate Student Research Grant , Columbia University (\$2450)
2025	AAPG Foundation Grants-in-Aid , Columbia University (\$1000)
2025	CRESCENT Geoscience Professional Development Fellowship , Columbia Uni. (\$900)
2018	NASA's MN Space Grant Consortium , Carleton College (\$1000)
2017, 2018	Townsley Endowment for the Sciences , Carleton College (\$5000 each year)

Honors and Awards

2025	NSF-GRFP Honorable Mention , Columbia University
2020	Sigma Xi , Carleton College
2017 – 2020	FOCUS Cohort Class of 2020 , Carleton College

Teaching & Mentoring

2026 <i>Spring</i>	Teaching Assistant , Dept. of Earth and Env. Sciences, Columbia University EESC2200: Earth's Environmental Systems: The Solid Earth (including laboratory section)
2025 <i>Summer</i>	Co-mentor , Earth Intern Program, Columbia University PI: Folarin Kolawole, student: Mia Yiannias Project: How do faults activate during the initiation of a 'baby' plate boundary?
2025 <i>Spring</i>	Teaching Assistant , Dept. of Earth and Env. Sciences, Columbia University EESC1010: Geological Excursion to Death Valley, California
2022 <i>Summer</i>	Co-mentor , Earth Science on Volcanic Islands NSF-REU, University of Hawai'i PI: Milton Garcés, student: Nicholas Forcone Project: Secondary Lamb Waves from the 2022 Tonga Eruption
2017 – 2020	Teaching Assistant , Spanish Department, Carleton College

Service

Professional

2025 –	Tectonophysics Executive Committee Student Representative , AGU
2025 –	Tectonophysics Early Career and OSPA Committee , AGU
2025	Session co-convenor (T51B) , AGU Fall Meeting

University

2025 –	Student Talk Series Organizer , Columbia University
2024	First-Year Colloquium Organizer , Columbia University
2017 – 2020	Physicists from Underrepresented Genders , Carleton College

Community

2026 **Earth2Class**, Lamont-Doherty Earth Observatory
 2023 **Open House**, Lamont-Doherty Earth Observatory

Conference Presentations

– 2026 –

- [13] Wang, K., **Colet, M.**, Waldhauser, F., Schaff, D., Tolstoy, M., Wilcock, W., & Tan, Y. J. (2026). Machine-Learning-Enhanced Seismic Monitoring with Cabled and Temporary OBS Array Reveals Caldera-Ridge Interactions at Axial Seamount. *(2026 CGU Annual Meeting)*
- [12] Waldhauser, F., Wang, K., **Colet, M.**, Wilcock, W. S. D., Zhang, M., Tan, Y. J., & Wang, P. (2026). Detection and monitoring of volcano-seismic processes during an eruption cycle at Axial Seamount *(2026 SSA poster)*
- [11] Chang, H., Lloyd, A., Mitchell, L., Waldhauser, F., Kolawole, F., Jin, G., & **Colet, M.** (2026). Using telecom cable with ambient-noise interferometry for urban seismic hazard assessment: A case study in NYC. *(2026 SSA poster)*

– 2025 –

- [10] **Colet, M.**, Kolawole, F., Ajala, R., Waldhauser, F., & Wang, K. (2025). Spatiotemporal Seismicity Patterns and Strain Release in Active Magma-Poor Rifts, Resolved with a Machine-Learning-Enhanced Earthquake Catalog. *(2025 SCEC Annual Meeting poster #30, GSA25 poster #179, AGU25 poster #S43D-0284)*
- [9] **Colet, M.**, Wang, K., Waldhauser, F., Wilcock, W. SD., Tolstoy, M., Tan, Y. J., & Schaff, D. P. (2025). Insights into caldera-ridge interactions and eruption preparation at Axial Seamount from machine-learning analysis of cable and temporary OBS data *(AGU25 poster #T31C-0176)*
- [8] Yiannias, M., Kolawole, F., & **Colet, M.** (2025). Investigation of Active Crustal Deformation Across the Incipient Mweru-Wantipa Rift, NM Zambia, East Africa *(GSA25 poster #181)*

– 2024 –

- [7] **Colet, M.** & Kolawole, F. (2024). Incipient Reactivation of ‘Failed’ Rifts in East Africa: Insights from Surface-Breaking Brittle Faulting. *(Gordon’s Rock Deformation Conference poster # 30, AGU24 poster #V51E-3116)*.
- [6] Kolawole, F., Foster-Baril, Z., Seeber, L., Tielke, J.A., Prakash, A., **Colet, M.**, Beaucé, E., Kim, W.Y., Ajala, R., McCarthy, C., & Waldhauser, F. (2024). The 2024 M4.8 New Jersey Earthquake: Reactivation of a Rough Immature Fault in Frictionally Unstable Basement Rocks. *(AGU24 poster #T53B-3216)*.
- [5] Beaucé, E., Waldhauser, F., Schaff, D., Kim, W.Y., Wang, K., Kolawole, F., **Colet, M.**, Ajala, R., Bacon, C. A., Lloyd, A., & Powell, E. M. (2024). The 2024 Tewksbury, New Jersey seismic sequence revealed by machine-learning and cross-correlation detection techniques. *(AGU24 poster #T43A-3289)*.

– Before 2023 –

- [4] Eckel, F., Garcés, M., & **Colet, M.** (2022). The 15 January 2022 Hunga Tonga event: using Open Source to observe a volcanic eruption on a global scale in near real time. *(EGU poster # EGU22-13582)*.
- [3] **Colet, M.** & Butler, R. (2019). Analysing infrasound, geodetic, and seismic data from Kīlauea 2018 caldera collapse. *(AGU19 poster #V43C-0202) (Undergraduate research)*.

- [2] **Colet, M.**, Fischer, I., & Soriano, M. C. (2018). Analysing the complex dynamics of semiconductor lasers with state-dependent delay. *Summer Research Symposium, Carleton College (poster) (Undergraduate research)*.
- [1] **Colet, M.** & Aragoneses, A. (2017). Forecasting Extreme Events in the Complex Dynamics of a Semiconductor Laser with Feedback. *Summer Research Symposium, Carleton College (poster) (Undergraduate research)*.

Fieldwork

- 2026 **Southern San Andreas Fault, California, US (4 days)**
Structural mapping and rock sampling
- 2025 **125th Fault, New York, US (1 day)**
Testing Distributed Acoustic Sensing (DAS) around the Columbia University campus
- Electrical Resistivity Tomography, New Jersey, US (2 days)**
Deployment of ERT on paleoseismic fault scarps
- 2024 **Axial submarine volcano, offshore Oregon, US (1 week)**
Recovery of ocean-bottom seismometers aboard the R/V Sally Ride
- Mtaka Rift, Tanzania (2 weeks)**
Structural mapping and rock sampling
- Lamont Seismometers Maintenance, New Jersey, US**
Seismometers deployed to record aftershocks of the 2024 Mw4.8 Tewksbury Earthquake
- 2019 **Submarine volcanic rift zone west of Kaho'olawe, Hawai'i (1 week)**
Geodetic mapping survey and dredging aboard the R/V Kilo Moana
- San Andreas Fault, California, US (1 week)**
Structural mapping survey