

Sarah Lambert

University of Utah – Geology and Geophysics
115 S 1460 E – FASB 409
Salt Lake City, UT 84112, USA

+1 (801) 792-3186
sarah.lambart@utah.edu
<http://sarahlambart.com>

Academic appointments

Assistant Professor in Igneous Processes

University of Utah - Department of Geology and Geophysics

Since March 2018

MSCA-COFUND Fellow

Cardiff University - School of Earth and Ocean Sciences

Jan. 2017 - Jan. 2018

Visiting Assistant Professor

University of California Davis - Department of Earth and Planetary Sciences

Jul. 2015 - Dec. 2016

Lamont Postdoctoral Fellow

Columbia University - Lamont-Doherty Earth Observatory

Sep. 2013 - Jun. 2015

Postdoctoral Scholar

Caltech - Division of Geological and Planetary Sciences

Sep. 2010 - Aug. 2013

Education

2006-2010: Ph.D. in Earth Sciences, Blaise Pascal University, France

2004-2006: MS Earth Sciences, Blaise Pascal University, France

2001-2004: BS Earth Sciences, Blaise Pascal University and Rennes I University, France

Research interests

- Mantle melting and magma transport
- Magma/Fluid - Rock interactions
- Mantle heterogeneities
- Magma chamber processes
- Mineral carbon sequestration

Grants

At the University of Utah:

As PI or co-PI:

- “Constraining the nature of the mantle source and the melting regime beneath magma-rich continental margin” (**Sole PI**, NSF-EAR, 01/01/24-12/31/2026, \$400k) – **in preparation**
- “Acquisition of a Multi-Collector Inductively Coupled Plasma Mass Spectrometer at the University of Utah” (**co-PI** (PI: Chad Ostrander, co-PIs: Juan Carlos de Obeso, Diego Fernandez, Sarah Lambert, NSF-MRI, \$1000k) – **pending**
- Schangler fellowship for PhD student Emily Cunningham (**PI**: Lambert, Science PI: PhD student E. Cunningham, USSSP, 09/01/22-08/31/2023, \$30k) – **2022**
- Post-cruise activity grant (**Sole PI**, USSSP, 05/01/22-10/31/2023, \$18k) – **2022**
- Participation in IODP exp 396: “Mid-Norwegian Continental Margin Magmatism” (**Sole PI**, IODP/JRSO, 08/01/21-30/09/2022, \$51k) – **2021**
- New digital resources for Mineralogy and Petrology. (**Sole PI**, University of Utah – Teaching grant, 11/01/20-06/30/2021, \$3,461) – **2021**
- “High-Temperature Experiments for Pore-Scale Investigation of a Two-Fluid Phase Migration in Porous Media” (**Sole PI**, ASC-DNI, 09/01/20-08/31/2023, \$110k) – **2020**
- “Development of an experimental technique for characterizing the effects of magma flow in porous media” (**Sole PI**, NSF-EAR, 04/01/20-03/31/2024, \$200k) – **2020**

- “Development of an experimental technique to study magma migration” (**Sole PI**, CMES Seed grant, 06/01/19-05/31/2020, \$22k) – **2019**
- “Near-fractional melting of pyroxenite: Experimental investigations and applications to basalt petrogenesis” (**Lead PI (transfer)**, NSF-EAR: 06/16-05/19; \$70k) – **2018**

As Co-I:

- “Characterization of Mercury's surface using machine learning and melting experiments” (**co-I**, (PI: Asmaa Boujibar, WWU) NASA-NSPIRES, Feb 2024-2026, \$300k) – **pending**
- “CAREER: Modeling two-phase flow, multi-lithologic melting, and chemical disequilibrium with uranium-series isotopes”. (**co-I**, (PI: Lynne Elkins, University of Nebraska, Lincoln), NSF-EAR, 06/2021-05/2026, \$700k) – **2021**

As international co-I:

- “Isomlce (Isotopic analysis of melt inclusions from Reunion and Iceland to disclose Earth’s mantle composition).” (**co-I** (PI: Janne Koornneef, VU Amsterdam), NWO, 2022-2025, 500k €) – **2022**
- “Modelling arc recycling in the oceanic mantle using radiogenic isotope systems (OCEANS)” (**co-I** (PI: Romain Tilhac), European Union, 2022-2023, 400k €) – **2022**

Before joining the U:

- “Investigation of the melt-rock reaction in the lower oceanic crust.” (**Lead PI**, CUROP project: 06/17-08/17, £1600) – **2017**
- “Near-fractional melting of pyroxenite: Experimental investigations and applications to basalt petrogenesis” (**Lead PI**, NSF-EAR: 06/16-05/19; \$154k) – **2016**
- “A combined experimental and theoretical investigation to reactive flow in brittle media with applications to solid Earth geodynamics” (**Postdoc co-author**, NSF-EAR: 06/15-05/17; \$409k) – **2015**
- “Collaborative Research: Alteration of mantle peridotite: Geochemical fluxes and dynamics of far from equilibrium transport (**Postdoc co-author**, NSF-EAR: 09/15-08/18; \$2,972k, LDEO part: \$1,968k) – **2015**
- “Experimental & Theoretical Studies of Reaction-Driven Cracking in Natural & Engineered Geological Systems” (**co-PI**, RISE award: 06/14-05/16; \$160k) – **2014**

Awards

- **Award**: Geology and Geophysics Outstanding Teaching Faculty **2022**
- **MSCA-COFUND fellowship** (three years of full-time funding; ~£255k) – **2016**
- **LDEO Postdoctoral fellowship** (one year of full-time funding) – **2012**
- **PhD Scholarship “MESR”** (three years of full-time funding) – **2006**
- **National scholarship** for highly ranked students – **2005**

Awards won by mentored graduate students:

7. Ashley Morris - University of Utah's WAGS/ProQuest Distinguished Master's Thesis Award 2023
6. Emily Cunningham – Williamson Fellow Fall 2023
5. Ashley Morris - Outstanding G&G Teaching Assistant 2023
4. Ashley Morris - Outstanding G&G and AWG graduate student 2023
3. Emily Cunningham – Schlanger Fellow 2022-2023
2. Emily Cunningham – Outstanding G&G and CMES Teaching Assistant 2022
1. Otto Lang - Outstanding G&G Master student 2021

Teaching

University of Utah:

GEO 5920/6920/7920 – Advanced Petrology	Graduate (2021-22)
GEO 3050 – Igneous and metamorphic Petrology	Undergrad. (2019-20, 2022, 2024)
GEO 3020 – Mineralogy	Undergrad. (2018-2022)
GEO 2100 – Reactive Earth	Undergrad. (S&F2023)

University of California Davis:

GEL 105 – Igneous Petrology	Undergrad (2016)
GEL 62 – Optical mineralogy	Undergrad. (2015)
GEL 60 – Mineralogy	Undergrad (2015-2016)
GEL 1 – The Earth	Undergrad (2016)

Lamont Doherty Earth Observatory:

Upper mantle seminar	Graduate (2013)
----------------------	-----------------

Mentored Students at the University of Utah:

Current

- Emily Cunningham (PhD candidate [other committee members: L. Birgenheier, L. Elkins, P. Lippert, A. Mallik]; University of Utah; since spring 2021)
- Ashley Morris (PhD student [other committee members: J. C. de Obeso, D. Fernandez, TBD, TBD]; University of Utah; since fall 2023)
- Autumn Hartley (ACCESS and UROP scholar; University of Utah; co-supervised with E. Cunningham – since spring 2022)
- Constance Sauvé (Lab assistant; University of Utah; since fall 2023)
- Sean Juan-Carlos Gershaneck (Lab assistant; University of Utah; since fall 2023)

Past:

- Ashley Morris (MSc student [other committee members: J. C. de Obeso, D. Fernandez], 2021-2023)
- J.R. Murphy (UROP Scholar; University of Utah; fall 2022)
- Karrah Spendlove (Lab assistant; University of Utah; 2021-2022)
- Otto Lang (MSc student [other committee members: J. Bartley, L. Miyagi]; U. of Utah; 2019-2021)
- Helen Lindsey (ACCESS student; University of Utah; spring 2021)
- Sarah Hamilton (UROP Scholar; Senior thesis; University of Utah; 2019-2020)
- Elliott Gray (UROP Scholar; University of Utah; spring 2020)
- William Haddick (UROP Scholar; Senior thesis; University of Utah; 2018-2019)

Graduate Students – Advisory Committee Member

Current

- Sandra Ramirez Garcia, current PhD student, University of Utah (role: committee member; advisor: Pete Lippert).
- Audrey Berlin, current PhD student, University of Utah (role: committee member; advisor: Lowell Miyagi).
- Ruben M. Ruhekenya, current PhD candidate, Vrije Universiteit Amsterdam (role: co-advisor with Dr. Janne Koornneef)
- Kevin Mendoza, current PhD candidate, University of Utah (role: committee member + supervision; advisor: John Bartley)
- Ryan Avila, MSSST student, University of Utah (role: committee member; advisor: Lowell Miyagi)

Past:

- Joshua Shea, PhD candidate, Macquarie University (role: examiner; advisor: Stephen Foley) – Nov 2022
- Delphine Klaessens, PhD candidate, Université de Lorraine, France (role: committee President; advisors: David Jousset & Laurie Reisberg) – Feb 2021
- Samantha Couper, PhD candidate, University of Utah (role: committee member; advisors: Lowell Miyagi & Marie Jackson) – Feb 2021
- Joshua Marquardt, MSc student, University of Utah (role: committee member; advisors: Pete Lippert & Marie Jackson) – May 2020

International publications:

Summary: 24 papers published, 3 papers under review, total citations 1076, h = 12, *grad students, **undergrad students, †media coverage

[28] *Morris A., **Lambart S.**, Stearns M.A., Bowman J., Jones M.T., Freeling J., Guo P., Chatterjee S., Mohn G.T.F., Andrews G., Berndt C., Planke S., Alvarez Zarikian C.A., and the IODP Expedition 396 Party (in revisions) Crust-mantle interactions during continental break-up: insights from an early Eocene dacitic unit within the Norwegian margin collected during IODP Expedition 396. *In revisions for Journal of Petrology*.

[27] Longman J., Clementi V.C., Frieling J., Jones M.T., Chatterjee S., Planke S., Berndt C., Alvarez Zarikian C., Betlem P., Brinkhuis H., Christopoulou M.E., E.C. Ferre, Filina I.Y., Harper D.T., **Lambart S.**, Millett J.M., Mohn G.T.F., Scherer R.P., Varela N., Xu W., Yager S.L. and the IODP Expedition 396 Party (in revisions) The impact of marine silicate diagenesis in the Norwegian Sea on Early Eocene climate. *In revisions for Palaeogeography, Palaeoclimatology, Palaeoecology*.

[26] Henriquez S., Ochir G., **Lambart S.**, Johnson C.L., Webb L.E., Lippert P.C., (under review) From an accretionary margin to a sediment-rich collision: Spatiotemporal evolution of the magmatism during the closure of the Mongol-Okhotsk Ocean. *Under reviews in Gondwana Research*. (submission: October 2023)

[25] Elkins L.J., **Lambart S.** (under review) Uranium-series disequilibria in MORB, revisited: A systematic numerical approach to partial melting of a heterogeneous mantle. *Under reviews in Volcanica*. (submission: Oct 2023).

[24] Xu R., **Lambart S.**, Nebel O., Li M., Bai Z., Zhang J., Zhang G., Goa J., Zhong H., Liu Y. (in press) Iron isotope evidence on continental intraplate basalts for mantle lithosphere imprint on heterogeneous asthenospheric melts. *Earth and Planetary Science Letters*.

[23⁺] Berndt C., Planke S., Alvarez Zarikian C., Frieling J., Millett J.M., Jones M.T., Brinkhuis H., Bünz S., Svensen H.H., Longman J., Scherer R.P., Karstens J., Manton B., Huisman R.S., Agarwal A., Andrews G.D.M., Betlem P., Bhattacharya J., Chatterjee S., Christopoulou M., Clementi V.J., Ferré E.C., Filina I.Y., Guo P., Harper D.T., **Lambart S.**, Mohn G., Nakaoka R., Tegner C., Varela N., Wang M., Xu W., and Yager S.L. (2023) Coastal-water hydrothermal venting linked to the Paleocene Eocene Thermal Maximum. *Nature Geoscience*. doi: 10.1038/s41561-023-01246-8

[22] Klöcking M., Wyborn L., Lehnert K. A., Ware B., Prent A.M., Profeta L., Kohlmann F., Noble W., Bruno I., **Lambart S.**, Ananuer H., Barber N., Becker H., Brodbeck M., Deng H., Deng K., Elger K., Franco G., Gao Y., Ghasera K.M., Hezel D., Huang J., Kerswell B., Koch H., Lanati A.W., ter Maat G., Martínez-Villegas N., Nana Yobo L., Redaa A., Schäfer W., Swing M., Taylor R.J.M., Traun M.K., Whelan J., Zhou T., (2023) Community recommendations for geochemical data, services and analytical capabilities in the 21st century, *Geochimica et Cosmochimica Acta*, 351:192-205, **invited contribution**. doi:10.1016/j.gca.2023.04.024

[21⁺] Planke S., Berndt C., Alvarez Zarikian C.A. and **the Expedition 396 Scientists** (2023) Mid-Norwegian Margin Magmatism and Paleoclimate Implications. *Proceedings of the International Ocean Discovery Program*, 396. doi: 10.14379/iodp.proc.396.2023

- [20] Lang* O. I., **Lambart S.** (2022) First-row transition elements in pyroxenites and peridotites: a promising tool for constraining mantle source mineralogy. *Chemical Geology*, 612, 121137, **invited research article**. doi:10.1016/j.chemgeo.2022.121137
- [19] Mourey A., Shea T., Lynn K., Lerner A., **Lambart S.**, Costa F., Oalman J., Lee L., Gansecki C., (2022) Trace elements in olivine fingerprint the source of 2018 magmas and shed light on explosive-effusive eruption cycles at Kilauea Volcano. *EPSL*, 595, 117769, doi: 10.1016/j.epsl.2022.117769.
- [18] Pin* J., France L., **Lambart S.**, Reisberg L. (2022) Thermodynamic modeling of melt addition to peridotite: Implications for the refertilization of the non-cratonic continental mantle lithosphere. *Chemical Geology*, 609, 121050. doi: 10.1016/j.chemgeo.2022.121050
- [17] **Lambart S.**, Hamilton** S., Lang* O. (2022) Chemical variability of San Carlos Olivine. *Chemical Geology* 605, 120968. doi: 10.1016/j.chemgeo.2022.120968
- [16] Xu R., Liu Y., **Lambart S.**, Hoernle K., Wang Z., Zou Z., Zhang J., Zhu Y., Li M., Moynier F., Chen H., Hu Z. (2022) Decoupled Zn-Sr-Nd isotopes of continental intraplate basalts caused by two-stage melting process. *Geochimica et Cosmochimica Acta* 326, 234-252. doi: 10.1016/j.gca.2022.03.014
- [15] Planke S., Berndt C., Alvarez Zarikian C.A. and **the Expedition 396 Scientists** (2022) Expedition 396 Preliminary Report: Mid-Norwegian Continental Margin Magmatism. International Ocean Discovery Program. <https://doi.org/10.14379/iodp.pr.396.2022>
- [14] Mallik[†] A., **Lambart[†] S.**, Chin[†] E. (2021) Tracking the evolution of magmas from heterogeneous mantle sources to eruption. In: Konter J., Ballmer M, Cottaar S, & Marquardt H. (Eds.), Mantle Convection and Surface Expressions. *Geophysical Monograph* 263, pp. 153-176, doi:10.1002/9781119528609.ch6. **invited contribution**. (†equally contributing authors)
- [13] Xu R., Liu Y., **Lambart S.**, (2020) Melting of a hydrous peridotite mantle source under the Emeishan large igneous province. *Earth Science Reviews*, 207, 103253. doi: 10.1016/j.earscirev.2020.103253
- [12⁺] **Lambart S.**, Koornneef J.M., Millet M.-A., Davies G., Cook** M., Lissenberg C.J. (2019) A Highly Heterogeneous Depleted Mantle Recorded in the Lower Oceanic Crust. *Nature Geoscience*, 12: 482-486. doi: 10.1038/s41561-019-0368-9
- [11] Elkins L.J., Bourdon B., **Lambart S.** (2019) Testing pyroxenite vs. peridotite sources for marine basalts using U-series isotopes. *Lithos*, **invited review**, 332-333: 226-244, doi: 10.1016/j.lithos.2019.02.011
- [10] **Lambart S.**, Savage H.M., Robinson** B., Kelemen P.B. (2018) Experimental investigation of the pressure of crystallization of Ca(OH)₂: implications for the reactive-cracking process. *Geochemistry, Geophysics, Geosystems*. doi: 10.1029/2018GC007609.
- [9] Kelemen et al. (2018) In situ carbon mineralization in ultramafic rocks: Natural processes and possible engineered methods. *Energy Procedia – Special issue: International Carbon Conference*, 146: 92-102. doi: 10.1016/j.egypro.2018.07.013.
- [8] **Lambart S.** (2017) No direct contribution of recycled crust in Icelandic basalts. *Geochemical Perspectives Letters*, 4: 7-12. doi: 10.7185/geochemlet.1728
- [7⁺] **Lambart S.**, Baker M.B., Stolper E.M (2016) Role of pyroxenite in basalt genesis: Melt-PX, a melting parameterization for mantle pyroxenites at 0.9-5 GPa. *Journal of Geophysical Research – Solid Earth*, 121. doi: 10.1002/2015JB012762.
- [6] Laporte D., **Lambart S.**, Schiano P., Ottolini L. (2014) Experimental derivation of nepheline syenite and phonolite liquids by partial melting of upper mantle peridotites. *Earth and Planetary Science Letters*, 404:319-331. doi: 10.1016/j.epsl.2014.08.002.

[5] Shortlille O., Maclennan J., **Lambart S.** (2014), Quantifying lithological variability in the mantle. *Earth and Planetary Sciences Letter*, 395(1):24-40. doi: 10.1016/j.epsl.2014.03.040.

[4] **Lambart S.**, Laporte D., Schiano P. (2013), Markers of the pyroxenite contribution on the major-element compositions of oceanic basalts: review of the experimental constraints. *Lithos, Invited Review*, 160: 14-36, doi:10.1016/j.lithos.2012.11.018.

[3] **Lambart S.**, Laporte, D., Provost A., Schiano, P. (2012), Fate of pyroxenite-derived melts in the peridotitic mantle: Thermodynamic and experimental constraints. *Journal of Petrology*, 53(3): 451-476. doi: 10.1093/petrology/egr068.

[2] **Lambart S.**, Laporte, D., Schiano, P. (2009), An experimental study of pyroxenite partial melts at 1 and 1.5 GPa: Implications for the major-element composition of Mid-Ocean Ridge Basalts. *Earth and Planetary Science Letters*, 288: 335-347. doi: 10.1016/j.epsl.2009.09.038.

[1] **Lambart S.**, Laporte, D., Schiano, P. (2009), An experimental study of focused magma transport and basalt-peridotite interactions beneath mid-ocean ridges: implications for the generation of primitive MORB compositions. *Contributions to Mineralogy and Petrology*, 157: 429-451. doi 10.1007/s00410-008-0344-7.

Other publications

[3] **Lambart S.** (2010) "Role of mantle heterogeneities in MORB genesis: Experimental study of the partial melting of pyroxenites and of the magma/rock interaction at high pressure", Ph.D thesis, Département des Sciences de la Terre, Université Blaise Pascal, Clermont-Ferrand, France, January 8th 2010, pp. 286.

[2] **Lambart S.** (2006) "Experimental approach on the role of focused magma transport beneath mid-ocean ridge: implications for MORB genesis", Master thesis, Département des Sciences de la Terre, Université Blaise Pascal, Clermont-Ferrand, France, pp. 51.

[1] **Lambart S.** (2005) "Kinetics of growth and dissolution of diopside in silicate bath", Master thesis, Département des Sciences de la Terre, Université Blaise Pascal, Clermont-Ferrand, France, pp. 21.

Selection of published abstracts (* denote the speaker, *student)

- **Morris A., **Lambart S.**, Guo P., Jones M.T., Mohn G.T.F., Andrews G., Planke S., Berndt C., Alvarez Zarikian C., and the IODP Expedition 396 Party. Crust-mantle interactions during continental break-up: insights from an early Eocene dacitic unit within the Norwegian margin collected during IODP Expedition 396. Goldschmidt, Lyon, France, July **2023**.
- ***Lambart S.**, *Lang O.I., *Murphy J.R., Progressive carbonatite-rock interactions recorded in magmatic cumulates from Santo Antão (Cabo Verde). Goldschmidt, Lyon, France, July **2023**.
- **Hartley A.S., *Cunningham E., **Lambart S.**, Guo P., Chatterjee S., Tegner C., Planke S., Berndt C., Alvarez Zarikian C., and the IODP Expedition 396 Party. Melting conditions during the Northeast Atlantic break-up: insight from the petrology and geochemistry of the basaltic sequences within the Norwegian Passive Margin (IODP Exp. 396). Goldschmidt, Lyon, France, July **2023**.
- **Cunningham E., **Lambart S.**, Guo P., Chatterjee S., Tegner C., Planke S., Berndt C., Alvarez Zarikian C., Betlem P., and the IODP Expedition 396 Party. The Northeast Atlantic breakup (IODP Exp. 396): A case study for modeling the evolution of mantle source mineralogy during continental rifting. Goldschmidt, Lyon, France, July **2023**.
- ***Lambart S.**, *Lang O., A new approach to quantify the mineralogical make-up of the mantle sources. Goldschmidt, Honolulu, Hawaii, July. **2022. Invited Talk**
- **Lang O., **Lambart S.** Identifying lithological tracers with first row transition element partitioning of natural pyroxenites. AGU 2020, *virtual*, Dec. **2020**.

- ***Lambart S.,** †Lang O. Lithological heterogeneities in the mantle: origins and contributions to magma genesis. Goldschmidt 2020, virtual, Jun. **2020**, doi: 10.46427/gold2020.1405. **Keynote talk**
- †Hamilton S., ***Lambart S.** Compositional variability of San Carlos olivine. Goldschmidt 2020, virtual, Jun. **2020**.
- ***Lambart S.,** Koornneef J.M., Millet M.-A., Davies G., †Cook M., Lissenberg C.J. Centimeter-scale isotopic heterogeneity preserved in the lower oceanic crust. AGU FM, San Francisco, Calif., Dec. **2019**. **Invited talk**
- †Haddick W., **Lambart S.** Investigating Melt-Rock Interactions in Gabbroic Rocks from the Atlantis Massif: Implications for Oceanic Crustal Accretion. NCUR 2019, Kennesaw, GA, Apr. **2019**.
- ***Lambart S.,** Batch vs Continuous Melting: Importance of the Melting Regime in Quantifying the Mantle Heterogeneity. Goldschmidt, Paris, France, August **2017**. **Invited talk**
- Gaudio S. J., †Ajoku C., †McCarty B., **Lambart S.** "Building" 3D visualization skills in mineralogy. AGU FM, San Francisco, Calif., Dec. **2016**.
- ***Lambart S.,** Melt-rock interactions: infinite source of new mantle lithologies. GSA meeting, Baltimore, Maryland, Nov. **2015**. **Invited talk**
- ***Lambart S.,** Baker M.B., Stolper E.M. PX-MELT: a predictive model for the melting of pyroxenites in the mantle, 6th International Orogenic Lherzolite Conference, Marrakech, Morocco, May **2014**.
- ***Lambart S.,** Laporte D., Schiano P., Provost A. Mantle pyroxenites as source of the compositional variability in alkali basalts?, AGU, San Francisco, Calif., #V13F-01, Dec. **2010**. **Invited talk**

Invited talks and seminars since 2010:

International conferences and workshops:

- 2022: Keynote speaker at the Goldschmidt workshop: "Earth Science meets Data Science: what are our needs for geochemical data, services and analytical capabilities in the 21st century?", Honolulu, HI, Jul. 2022, doi: 10.5281/zenodo.7221958.
Invited talk for Goldschmidt 2022, session 4i: Oceanic crust magmatic systems: from spreading ridges to ocean islands", Honolulu, HI, Jul. 2022
- 2021: Invited talk for AGU 2021, session V024 "The Magmatic Plumbing Systems of Oceanic Islands" (declined)
Invited lecturer for the 2nd International Mantle School MEREMA, Sestri Levante, IT, Oct. 2021
Invited talk for Goldschmidt 2021, session 5a: Session 5a "Magmatic systems beneath ultraslow- to fast-spreading ridges" (declined)
- 2020: Keynote speaker at the Goldschmidt 2020 for the session 03a, virtual, June 2020
- 2019: Invited talk at the AGU Fall meeting, San Francisco, CA, Dec. 2019
- 2017: Invited talk at the Goldschmidt conference, Paris-FR, Aug. 2017
- 2015: Invited talk at the Geological Society of America Annual Meeting, Nov. 2015
- 2010: Invited talk at the AGU Fall Meeting, Dec. 2010

Invited seminars:

- 2022: BLS seminar UC Berkeley, CA-USA, Mar 2022
Departmental seminar at University of Arizona, AZ-USA, Feb 2022
- 2021: School seminar series - Research School of Earth Sciences - ANU, virtual, Jun 2021
Petrology seminar - Research School of Earth Sciences - ANU, virtual, Jun 2021
Departmental seminar at SUNY-Geneseo, virtual, Mar. 2021
- 2020: Stout Lecture at University of Nebraska, Lincoln, virtual, Sept. 2020
Departmental seminar at Utah State University, UT-USA, Mar. 2020 (cancelled due to COVID-19)
Departmental seminar at Laboratoire Magmas et Volcans, Clermont-Ferrand, FR, Jan. 2020
- 2019: Departmental seminar at University of Iowa, IA-USA, Nov. 2019
- 2018: Departmental seminar at Brigham Young University, UT-USA, Oct. 2018
Departmental seminar at Utah Valley University, UT-USA, Oct. 2018

- 2017: Departmental seminar at the University of Utah, UT-USA, Feb. 2017
Seminar at CRPG, Nancy, FR, Feb. 2017
- 2016: Seminar at the University of Nevada, Reno, NV-USA, Sep. 2016
- 2015: Geoscience seminar & Journal club seminar at Aarhus University, DK, Mar. 2015
Geochemistry seminar at Lamont-Doherty Earth Observatory, NY-USA, Mar. 2015
DTM weekly seminar at the Carnegie Institution, DC-USA, Mar. 2015
- 2014: Earth and Planetary Sciences Seminar at AMNH, NY-USA, Oct. 2014
- 2013: Geodynamics seminar at Lamont-Doherty Earth Observatory, NY-USA, Oct. 2013
Departmental seminar at Rice University, TX-USA, Jan. 2013
- 2012: Brown bag seminar at University of California Davis, CA-USA, Apr. 2015
Division seminar at Geosciences Montpellier, FR, Apr. 2015
- 2011: Magmas seminar at ISTO, Orléans, FR, Dec. 2011
General seminar at CRPG, Nancy, FR, Dec. 2011
General seminar at Laboratoire Magmas et Volcans, Clermont-Ferrand, FR, Dec. 2011

Service & Outreach

Current/Ongoing

- Member of the Critical Minerals Working Group – University of Utah
- Faculty liaison of the ACCESS program – College of Sciences/University of Utah
- GG representative in the College EDI Executive Committee – College of Sciences/University of Utah
- Member of the Graduate Affair Committee – Geology and Geophysics/University of Utah
- Member of the Diversity-Pathway Committee – Geology and Geophysics/University of Utah
- Reviewer for the UROP proposals – College of Sciences/University of Utah
- Member of the MSA Task group in charge of evaluating programs and operations, as part of the strategic plan 2024-2029 – Mineralogical Society of America
- Panelist and reviewer for several NSF GEO funding programs
- Reviewer for the Energy and Environment Program at the Alfred P. Sloan Foundation
- Reviewer for the Natural Environment Research Council, UK (NERC)
- Reviewer for several international journals (e.g., Science Advance, Geology, Nature Geoscience, GCA, EPSL, Lithos, GGG, JGR, Journal of Petrology, CMP)
- Registered mentor for geochemists from low-income countries:
<https://www.geochemsoc.org/programs/mentorship-program>

Past

- Member of the Faculty Reviews Committee – Geology and Geophysics/University of Utah 2020-2023
- Mentor for early career scientists at Goldschmidt 2023
- Invited chair and coordinator for Theme 2 “Deep Earth”, Goldschmidt, Hawaii, 2022.
- Member of the search committee for two new faculty positions (2022)
- Lead in the development of the new G&G 3D rock collection 2020-2022
- Q&A leader for the Rift2Ridge NSF workshop, virtual, Jun. 2021
- Guest speaker for the Geologists of Jackson Hole (<https://geologistsofjacksonhole.org/>), WY-USA, May 2021
- Convener and chair of the session 2e: “Mantle heterogeneity: origins and contribution to magmatism”, Goldschmidt, virtual, 2021.
- Judge at the Undergraduate Research Symposium at University of Utah
- Inventory and update of the thin section teaching collection at University of Utah
- Volunteer for the department Open House: supervise the “petrology” table.

- Convener and chair of the session 03g: “Probing Mantle Processes Using Mantle Massifs, Xenoliths and Xenocrysts to Understand Formation and Evolution of Continental and Oceanic Lithosphere”, Goldschmidt, 2020 (fully virtual edition).
- Commencement speaker for the celebration of the new 2019 PhD from the "Ecole Doctorale des Sciences Fondamentales" of Université Clermont Auvergne, Clermont-Ferrand, FR (Jan. 2020)
- Member of the organization committee of @MineralCup
- Convener and chair of the session 06a «Mantle2Crust: Basalt genesis, transport and differentiation», Goldschmidt, Barcelona, SP (2019)
- Member of the search committee for a new faculty position in Geodesy (2018-2019)
- In charge of the organization of the Distinguished Lecture Series at University of Utah (Fall 2018)
- Seminar organization Solid Earth brown-bag seminars at Cardiff University (2017)
- In charge of the experimental lab at UC Davis (2015-16)
- Member of the Volcanology-Geochemistry-Petrology (VGP) student awards committee (2014-16)
- Primary advisor of a geoscience education project: "Building" 3D visualization skills in mineralogy (2016)
- Co-Convener of the session 04f «Mantle Melting in Earth and Planetary Interiors», Goldschmidt, Yokohama, JP. (2016)
- Primary Convener and chair of session #7653 “The origin of basalt magmatism”, AGU Fall Meeting, San Francisco, CA, Dec. (2015)
- Postdoc representative for the Campus Life Committee at LDEO (2014-15)
- OSPA Judge (Outstanding Student Paper Awards) at the AGU Fall Meetings (2011-12)

Professional development

- UPSTEM faculty fellow – Faculty Peer mentoring for Equity and Success, 2023-2024
- NSF-DUE workshop on Teaching Petrology, Smith College, Northampton, MA, Aug. 2023
- Panelist at the Goldschmidt workshop: “Earth Science meets Data Science: what are our needs for geochemical data, services and analytical capabilities in the 21st century?”, Honolulu, HI, Jul. 2022 <https://2022.goldschmidt.info/goldschmidt/2022/meetingapp.cgi/Session/3301>
- URGE (Unlearning Racism in Geoscience) – Spring 2021
- Geochemical Society alphaMELTS2.0 *virtual* workshop – Nov. 2020
- Goldschmidt diffusion modeling *virtual* workshop – Jun. 2020
- CPR-First-aid Class, University of Utah, Salt Lake City – Dec. 2019
- “Nature Masterclasses” workshop, University of Utah, Salt Lake City – May 2019
- alphaMELTS workshop, University of Maryland, College Park MD – Dec. 2018
- Workshop for Early Career Geoscience Faculty, University of Maryland, College Park MD – July 2018
- Visiting Scientist at V.U. Amsterdam, Netherlands – Summer and fall 2017
- Geochemistry Group Research in progress, Bristol, UK – summer & fall 2017
- GeoPRISMS mini-workshop: “From rifting to drifting: evidence from rifts and margins worldwide”, San Francisco (CA), USA – Dec. 2015
- DCO thematic institute: “Carbon from the Mantle to the Surface”, Berkeley (CA), USA – Jul. 2015
- CIDER Summer Program: “Mantle Interactions with the Hydrosphere & Carbonsphere”, Berkeley (CA), USA – Jul. 2015
- RCN-CCUS annual meeting and workshop, New-York (NY), USA – Apr. 2014
- EarthCube DEFORM/COMPRES workshop, Alexandria (VA), USA – Nov. 2013
- Short course «MELTS Camp», Pasadena (CA), USA – Sep. 2011
- Short course «Melts, Glasses, Magmas», München, Germany – Jun. 2007
- Short course «Gros Volumes», Clermont-Ferrand, France – Apr. 2007

Field experience

2021: IODP expedition 396 “Mid-Norwegian Continental Margin Magmatism” – Petrologist (2 months)

2019: Big Island, Hawaii – graduate & undergraduate field trip supervision (1 week); Lunar Crater fieldwork – sample collection (2 days); Arizona fieldwork – sample collection (3 days)

2018: Bonneville Salt Flats, UT, fieldwork - Seismometer deployment (1 day); Markagunk landslide, UT, fieldtrip led by Bob Biek, UGS (2 days)

2016: Smartville complex, CA, fieldtrip supervision (1 day)

2014: Oman ophiolite, Oman, fieldwork (two weeks); Beni Bousera, Morocco, Orogenic Lherzolite Conf., Field Forum (3 days)

Selected Media coverage and highlights:

Nat. Geo. 2023:

UNews: [Ancient volcanism drove ancient global warming that marked the end of the Paleocene](#)

Earth & Environment Nature Blog: [Behind the scene](#)

Science Daily: [Past climate warming driven by hydrothermal vents](#)

Phys.org: [New study shows volcanism 56 million years ago released more methane than thought](#)

IODP cruise 2021:

UNews (post-expedition): <https://attheu.utah.edu/facultystaff/u-geoscientist-sails-on-arctic-research-cruise/>

UNews (pre-expedition): <https://attheu.utah.edu/announcements/u-professor-to-sail-on-expedition-sampling-the-rocks-of-the-seafloor/>

Teaching resources:

UNews: [How 3-D modeling helped U geologists teach during COVID-19](#)

Geobites: [Got an apatite for minerals? Of quartz you do!](#)

Nat. Geo. 2019:

UNews: [How Earth’s mantle is like a Jackson Pollock](#)

EGU Blog: [Are mantle melts heterogeneous on a centimeter scale?](#)

NSF news: [Earth's mantle looks like a painting](#)

Utah Public Radio: [New Research Reveals Heterogeneous - Think Jackson Pollock - Composition Of Earth's Interior](#)

JGR2016

Editor’s highlights:

<https://agupubs.onlinelibrary.wiley.com/article/10.1002/2015JB012762/editor-highlight/10.5555/MIG-HO.6f59621a-59e1-40bb-b79a-3b2aa2981905>

Eos Research Spotlights: [A Better Model for How the Mantle Melts](#)

Collaborators – Present and past (alphabetical order):

Mike Baker (Caltech), Asmaa Boujibar (WWU), Emily Chin (SCRIPPS), Lynne Elkins (University of Nebraska-Lincoln), Lyderic France (CRPG), Sarah Gaudio (SUNY Geneseo), Peter Kelemen (Columbia U.), Janne Koornneef (V.U. Amsterdam), Didier Laporte (UCA), Chip Leshner (UC Davis), Johan Lissenberg (Cardiff University), Ananya Mallik (University of Arizona), Marc-Alban Millet (Cardiff University), Adrien Mourey (CRPG), Juliette Pin (Univ. Brest), Ariel Provost (UCA), Laurie Reisberg (CRPG), Heather Savage (LDEO), Pierre Schiano (UCA), Thomas Shea (University of Hawaii), Oliver Shorttle (Cambridge U.), Ed Stolper (Caltech), Romain Tilhac (Universidad de Granada), Rong Xu (China University of Geosciences, Wuhan), IODP Expedition396 Science party (<https://iodp.tamu.edu/scienceops/precruise/midnorwegian/participants.html>).

Last update: November 15th, 2023