Terry Plank

Lamont Doherty Earth Observatory, 61 Rte 9W, PO Box 1000, Palisades, NY 10964

845/365-8410 tplank@ldeo.columbia.edu

https://terryplank.weebly.com

*PROFESSIONAL APPOINTMENTS*

2013-present Arthur D. Storke Memorial Professor, Department of Earth & Environmental Science, Columbia University

2022 Moore Scholar, Caltech

2016-2023 Wiess Visiting Professor, Dept of Earth Sci, Rice University

2016 Benjamin Meaker Visiting Professor, University of Bristol, UK

2008-2013 Professor, Earth and Env. Sci, Columbia University

2005-2007 Professor, Earth Sciences, Boston University

1999-2005 Associate Professor, Earth Sciences, Boston University

2002 (summer) Visiting Professor, Universite Joseph Fourier, Grenoble, France

1995-1999 Assistant Professor, University of Kansas

1998 (summer) Visiting Professor, University of Rennes, Rennes, France

1993-1995 Post-doctoral Fellow, Cornell University (W.M. White, supervisor)

*EDUCATION:*

2015 Dartmouth College

 Honorary Doctor of Science

1985-1992 Lamont-Doherty Earth Observatory at Columbia University,

 Ph.D., Geosciences, *with distinction*, May 1993

 Thesis title: Mantle Melting and Crustal Recycling at Subduction Zones.

 Advisor: Charles H. Langmuir

1981-1985 Dartmouth College

 A.B., Earth Sciences, *summa cum laude*, 1985

 Sr Thesis: Magmatic Garnets from the Cardigan Pluton, NH

 Advisor: John B. Lyons

*HONORS AND FELLOWSHIPS:*

Wollaston Medal, Geological Society of London (2018) • Elected, American Academy of Arts and Sciences (2016) • Geological Society of America Thompson International Distinguished Lecturer (2016-2017) • Honorary Degree, Dartmouth Colloge (2015) • Elected, National Academy of Sciences (2013) • MacArthur Foundation Fellow (2013-2017) • EarthScope Lecturer (2011-2012) • Fellow of the Geochemical Society (2011) • Mineralogical Society of America Distinguished Lecturer (2010-2011) • Fellow of the Mineralogical Society of America (2009) • Fellow of the American Geophysical Union (2008) • Ingerson Lecturer, Geochemical Society (2007) • MARGINS Distinguished Lecturer (2006) • Donath Young Scientist Medal, Geological Society of America (1998) • Fellow of the Geological Society of America (1998) • Houtermans Young Scientist Medal, European Assoc'n Geochemistry (1998) • Joint Oceanographic Institutions/USSAC Distinguished Lecturer (1994-5) • National Science Foundation Postdoctoral Fellowship (1993-4) • Heezen Prize for Excellence in Research, Lamont-Doherty Earth Obs. (1991) • JOI/USSAC Ocean Drilling Program Fellowship (1998-90) • National Science Foundation Graduate Fellowship (1985-88) • John Ebers Geology Award, Dartmouth College (1985) • Upham Geology Prize, Dartmouth College (1985) • Summer Undergraduate Research Fellow, GSO, U. Rhode Island (1984) • Phi Beta Kappa, Dartmouth College (1984)

*FIELD WORK – past 10 years*

2022 Installing Sensors, Okmok Volcano (AK)

2018 Sample collecting, Uinkaret Volcanic Field (AZ) and Cima (CA)

2018 Sample collecting, Etna Volcano, Sicily, Italy

2016 Sample collecting, Westdahl, Cleveland, Vsevidof, Akutan volcanoes, AK

2015 Sample collecting, Makushin and Cleveland volcano, Aleutians

*Professional Activities – past 10 years*

2023 Member, Organizing Committee, CIDER Summer Institute, Berkeley

2020-2025 Member, Science Advisory Board, GEOMAR, Helmholz Centre for Oceans

2018-2021 Member, Steering Committee, SZ4D Research Coordination Network

2021 Lead Convener & Organizer, Workshop on Novel Instrumentation to Anticipate Volcanic Eruptions, LDEO (virtual)

2020 Convener, GSA session: “Building the SZ4D Magmatic Drivers of Eruption Theme: Geologic Evidence from Active and Exhumed Arcs”

2020 Member of EAG Ringwood Science Innovation Award Committee

2019 Lead Convener & Organizer, Workshop on Mantle Water, LDEO

2019 Lead Convener & Organizer, Alaska-Aleutian GeoPRISMS Synthesis Workshop, LDEO

2013-2019 Executive Committee, Deep Carbon Observatory, Sloan Foundation

2018 Member, External Review Committee, GFZ Potsdam, Germany

2017-2018 Goldschmidt Conference, Magmas and Volcanoes Theme co-Organizer

2017 Member, External Review Committee, Geomar Institute, Germany

2017 Member, External Review Committee, University of Cambridge, UK

2017 Lead Convener, IAVCEI Town Hall: Subduction Volcanism, Portland

2017 Lead Convener, AGU Town Hall: Subduction Hazard Science, New Orleans

2017 Co-Lead Author, SZ4D Vision Document to NSF

2016 Co-Chair, Organizing Committee, Subduction Zone Observatories Workshop

2016 Member, Committee on Improving Understanding of Volcanic Eruptions, NRC Report, National Academies

2014-2015 Co-Convener, CIDER Summer Program: Solid Earth & Hydro/Carbosphere

2014-2015 Convener, DCO Thematic Instit. Carbon from the Mantle to the Surface

2014-2015 Co-Convener, SOTA, State-of-the-Arc, Montserrat, Caribbean

2014 Organizer, Workshop on the Geology of the Manhattan Prong, Lamont

2014 Organizer, Symposium in honor of Dave Walker, Lamont

2012-2015 Member, WHOI Ionprobe Nation Facility Advisory Committee

*Keynote Talks* – past 10 years

**2021** The Bradley Lecture, Geological Society of Washington, AGU Headquarters:

“At the Speed of Volcanic Eruptions”

**2019** Cornell University, INSTOC Symposium: “Water and Carbon in the Mantle”

**2019** Miller Institute, UC Berkeley, “At the Speed of Volcanic Eruptions”

**2018** Gordon Conference: Deep Carbon

**2016** Plenary Speaker, Goldschmidt Conference, Yokohama, Japan

 “The Volatile Input to Volcanoes and Eruptions”

**2015** Shell Distinguished Woman in Science Lecture, Ohio State University

**2015** Gordon Conference: Deep Earth

**2015** Convocation Address, The Tatnall School, Delaware

**2014** Jaeger-Hales Lecture, Australian National University

 "At the Speed of Volcanic Eruptions"

**2014** Research Briefings: A Sampling of the Work of Members Elected in 2013,

 National Academy of Science: "Clocking the Run-up to Volcanic Eruptions"

*Invited Departmental Lectures – past 5 years*

**2023**

*"Subducting Carbon"*Caltech • Rice University

“*Magma Stalling and Launching Depths*” University of Oregon • Woods Hole Oceanographic Inst. • CIDER Summer Institute • Williams College

**2022**

*"Subducting Carbon"*UC Riverside • University of Bern (Switzerland)

*"At the Speed of Volcanic Eruptions"*Caltech • Harvard • Yale University • Duke University

*“Magmatic Water Content Controls the Pre-Eruptive Depth of Arc Magmas”*ETH Zurich (Switzerland) • Caltech

**2021**

*"Subducting Carbon"* GFZ/Potsdam

*"At the Speed of Volcanic Eruptions"* Purdue University • Washington State Univ. • Brown University • Geological Society of Washington

**2020** "At the Speed of Volcanic Eruptions"

UCLA • Princeton University • UC Santa Barbara

“Water in Aleutian Arc Magmas: From the Slab to the Surface”

Univeristy of Alaska, Fairbanks

**2019** "At the Speed of Volcanic Eruptions"

Lamont Doherty Earth Observatory • Miller Institute, UC Berkeley

“Subducting Carbon”

Cornell University • Deep Carbon 2019 Meeting

**2018** "Volatiles and Volcanic Vigor"

Harvard University • University of Manchester • Oxford University • University of Delaware

**2017** "Joint Inversion of Petrology and Seismology: Solving for the Geotherm"

Imperial College London • University of Bremen • University of Wisconsin • University of Wellington • University of Auckland

“The Vigor of Volcanic Eruptions”

Geomar, Kiel, Germany • Imperial College London • University of Bremen • University of Wisconsin • University of New Mexico • Penn State University • University of Wellington • GNS Taupo NZ • University of Auckland • Johns Hopkins University • West Chester University • Stanford University •

“The Flux of Organic Carbon into the Mantle”

Marum, Bremen, Germany • GNS Wellington NZ

**2016** "Joint Inversion of Petrology and Seismology: Solving for the Geotherm"

Rice University • Scripps Institution of Oceanography • University of Bristol

"At the Speed of Magma Ascent and Volcanic Eruption"

University of Bristol • University of Washington

**2015** "At the Speed of Magma Ascent and Volcanic Eruption"
Ohio State University • Rice University • Carnegie Institution of Washington

**2014**  "At the Speed of Magma Ascent and Volcanic Eruption"

UCLA • ETH, Zurich, Switzerland • University of Bristol, UK • Cambridge University, UK • Univ of Oregon • Univ of Tasmania • Univ of Melbourne

 "Extending a Continent: Magmatism and Lithosphere Dynamics across the Basin and Range Province of the western United States"UCLA • Queens College • Oxford Univ, UK • Oregon State Univ. • ANU

"How Much Water Erupts from Arc Volcanoes?" Virginia Tech

*Professional Societies:*

American Geophysical Union • Geological Society of America • Geochemical Society • Mineralogical Society of America

*Students:*

**Primary Advisor** or ***Co-Advisor***

**Daniel Lee** (Ph.D.; Columbia Univ/LDEO., in progress)

**Ally Peccia** (Ph.D.; Columbia Univ/LDEO., in progress)

**Henry Towbin** (Ph.D.; Columbia Univ/LDEO., 2023) “The Fidelity of the Mantle Signal in Peridotite Xenoliths: Interactions during Magmatic Ascent” Went onto: Gemological Institute of America

***Sharothy Mahmud*** (B.A., Barnard College, 2022) “Diffusion Chronometry Analysis of Fe-Mg Zonation in Olivine Crystals from the 2016 Cleveland Volcanic Eruption” *co-advised with Dr. Euan Mutch and Ally Peccia*

***Ally Peccia*** (B.A., Columbia Univ., 2021) “Quantifying the Sulfur Load of Okmok-II Caldera-Forming Eruption” *co-advised with Prof. Yves Moussallam*

**Anna Barth** (Ph.D.; Columbia Univ/LDEO, 2021) “Volatiles and ascent rate of explosive basaltic eruptions” Went onto: UC Berkeley, Miller Postdoctoral Fellow.

***Sarah Shi*** (B.A., Columbia Univ., 2020) “Run-Up and Syn-Eruptive Dynamics of Volcán de Fuego’s Eruption of 2018” Went onto: Cambridge University, Master Program. *co-advised with Anna Barth*

**Dan Rasmussen** (Ph.D.; Columbia Univ/LDEO, 2019) “The Aleutian arc through and through: Subduction dynamics and the generation, storage, and eruption of hydrous magmas” Went onto: The Smithsonian Instititution, Buck Postdoctoral Fellowship

***Channing Prend*** (B.A. Columbia Univ**.** senior thesis, 2018**) “**Quantifying the total marine carbonate budget using regional models of the calcite compensation depth” Went onto: UCSD (Scripps) Graduate Program in Oceanography. *co-advised with Prof. Alberto Malinverno*

**Zach Wiles** (B.A., Columbia Univ., senior thesis, 2016) “Using Volcanic Products to Determine Magma Characteristics of the 1964 and 1991 Eruptions of Westdahl Volcano, Alaska” Went onto: US Air Force

**Claire Bendersky** (M.Phil.; Columbia/LDEO, 2014) "Magmatism in the Basin and Range"

 Went onto: Mavenlink, Software

***Megan Crowley*** (M.Phil, Columbia/LDEO, 2014) “Ultrahigh pressure sediments and Kilauea eruptions” *also advised by Prof. Peter Kelemen*

**Alexander Lloyd** (Ph.D.; Columbia Univ/LDEO., 2014) "Timescles of magma ascent during explosive eruptions: Insights from the re-equilibration of magmatic volatiles." Now at: The Hun School, Princeton, NJ

***Siobhan Campbell*** (B.A., Columbia Univ., senior thesis, 2013) Distinguishing the Effects of Temperature and Melt on Seismic Velocities in the Upper Mantle. Went onto: Syracuse University, PhD Program. *Co-advised with Prof. Meredith Nettles*

***Timothy Greene*** (B.A., Columbia Univ., senior thesis, 2011) “The Origin of Volcanism in Papua New Guinea” *Co-advised with Dr. Philipp Ruprecht*

**Lauren Cooper** (Ph.D.; Boston Univ., 2009) "Volatiles in Tonga arc magmas and their role in unraveling subduction zone processes. " Went onto: ETH, Zurich, Switzerland. Now at: Zurich Water Department

**Mindy Zimmer** (Ph.D.; Boston Univ., 2008) "Water in Aleutian Magmas: Its Origins in the Subduction Zone and its Effects on Magma Evolution" Now at: Pacific Northwest National Lab, Staff Scientist

**Jennifer Wade** (Ph.D., Boston Univ., 2008) “Constraints on the Central American Slab Fluid Composition from Arc Melt Inclusions and Phenocrysts” Now at: National Science Foundation, Program Office, EAR, Petrology and Geochemistrty

**Kevin Schrecengost** (B.A., Boston Univ., senior thesis, 2007) “Using thermobarometry to determine the pressure of crystallization of Aleutian magmas” Went onto: University of North Carolina, MA program.

**Kathryn Grover** (B.A., Boston Univ., senior thesis, 2006) “Magmatic water content in Aleutian Volcanoes”

**Ezra Benjamin** (M.A., Boston Univ., 2004) "Water content of a hypothetically dry magma: The 1723 and 1963 eruptions of Irazu Volcano, Costa Rica" Went onto: Enviornmental Resource Management, Boston, Senior Director, Business Operations and Chief of Staff

**Katherine Kelley** (Ph.D.; Boston Univ., 2004) “Trench inputs and arc outputs in the Mariana-Izu-Bonin Subduction Factory” Now at: Graduate School of Oceanography, Univ. of Rhode Island, Professor of Oceanography.

**Michael Hamilton** (B.A., Boston Univ., senior thesis, 2003) “Using phenocryst composition as a water proxy in Alamagan lavas, Marianas Islands” Went onto: Univ. of Northern Arizona MA program

**Linda Farr** (M.S., Boston Univ., 2002) “Mineral hosts of uranium in the altered oceanic crust and mechanisms controlling its distribution: a laser ablation-ICPMS study. Went onto: Miami Dade College, Faculty.

**Vaughn Balzer** (M.S.; Kansas; 1999)“Late Miocene history of sediment subduction & recycling as recorded in the Nicaraguan volcanic arc” Went onto: Oregon State Geological Survey

***Kefa Wang*** (Ph.D., Kansas; 1999) “Crust-mantle interactions and mantle chemical systematics during Basin and Range extension, SW USA: Evidence from late Cenozoic volcanic rocks” *Co-advised with Prof. Douglas Walker*

 Went onto: Sprint Communications, Kansas City.

**Chris Spies** (B.S., Kansas, senior thesis, 1999) “Geochemical variations in recent Nicaragua

 and Costa Rica volcanics”

*Post-Doctoral Research scientists mentored:*

**Euan Mutch** (Ph.D., University of Cambridge, 2019) LDEO 2021-2023

Went onto: Earth Observatory of Singapore, Assistant Professor

**Shuo Ding** (Ph.D., Rice University, 2016) LDEO 2019-2021

Now: Associate Research Scientist, LDEO

**Michael Jollands** (Ph.D., Australian National University, 2016) LDEO 2020-2022

Now: Gemological Institute of America

**Megan Newcombe** (Ph.D., Caltech, 2015) LDEO 2016-2018

 Now: Assistant Professor, University of Maryland

**Alexander Lloyd** (Ph.D., Columbia University, 2014)

Columbia Science Fellow 2014-2017

Now at: The Hun School, Princeton, NJ

**David Ferguson** (Ph.D., Oxford University, 2011) LDEO 2011-2013

 Postdoctoral Fellow, Harvard University, 2014-2016

 Now: Univerisity Academic Fellow (tenure-track), Univeristy of Leeds

**Elizabeth Ferriss** (Ph.D., University of Michigan, 2009) LDEO 2011-2014

 Lamont Associate Research Scientist, 2014-2017

 Went onto: Adaptive Mangement with DataMonster

**Philipp Ruprecht** (Ph.D., University of Washington, 2009) LDEO 2009-2012

 Now: Associate Professor, University Nevada, Reno

**Esteban Gazel** (Ph.D., Rutgers University, 2009) LDEO 2009-2011

 Now: Professor, Cornell University

*Courses Taught* (n = students enrolled; **X** = average score for overall performance; 5.0 is highest score)

**Columbia University:**

EESC UN3101: Geochemistry/Habitable Planet Fall 2023 n= 40 **X**=

EESC UN3101: Geochemistry/Habitable Planet Fall 2022 n= 18 **X**= 4.3

EESC UN3101: Geochemistry/Habitable Planet Fall 2021 n= 25 **X**= 4.3

EESC G6700: Magmatism and Volcanism Spring 2021 n= 8 **X**= 5.0

EESC UN3101: Geochemistry/Habitable Planet Fall 2020 n= 27 **X**= 4.5

EESC 9701: Seminar on Anticipating Eruptions Spring 2020 n= 3/20 **X**= na

EESC UN3101: Geochemistry/Habitable Planet Fall 2019 n= 27 **X**= 4.2

EESC G6700: Magmatism and Volcanism Spring 2019 n= 7 X = 4.7

EESC UN3101: Geochemistry/Habitable Planet Fall 2018 n= 25 **X**= 4.9

EESC 4701: Igneous & Metamorphic Petrology Spring 2016 n= 8 **X**= 4.8

EESC UN3101: Geochemistry/Habitable Planet Fall 2017 n= 26 **X**= 4.7

EESC UN3101: Geochemistry/Habitable Planet Fall 2016 n= 25 **X**= 4.9

EESC G6700: Magmatism and Volcanism Fall 2016 n= 8 X = 4.8

EESC 4701: Igneous & Metamorphic Petrology Spring 2016 n= 5 **X**= 4.0

EESC 3101: Geochemistry/Habitable Planet Fall 2015 n= 10 **X**= 5.0

SCNC C1000 Frontiers of Science (w/ 3 others) Spring 2015 n > 500 **X**= 3.6

SCNC C1000 Frontiers of Science (w/ 3 others) Fall 2014 n > 500 **X**= 3.4

EESC 3101: Geochemistry/Habitable Planet Fall 2013 n= 26 **X**= 4.1

SCNC C1000 Frontiers of Science (w/ 3 others) Spring 2013 n > 500 **X**= 4.0

EESC 9701: Seminar on Diffusion (w/ Ferriss) Spring 2013 n= 6 **X**= na

EESC 3101: Geochemistry/Habitable Planet Fall 2012 n= 22 **X**= 4.7

SCNC C1000 Frontiers of Science (w/ 3 others) Spring 2012 n > 500 **X**= 4.0

EESC 3101: Geochemistry/Habitable Planet Fall 2011 n= 17 **X**= 4.2

EESC 9701: Seminar on Volcanic Eruptions Fall 2011 n= **X**= na

EESC 9701: Seminar in Volcanism & Extension Spring 2011 n= 5 **X**= 5.0

SCNC C1000 Frontiers of Science (w/ 3 others) Spring 2011 n > 500 **X**= 4.2

EESC 3101: Geochemistry/Habitable Planet Fall 2010 n= 7 **X**= 4.5

SCNC C1000 Frontiers of Science (w/ 3 others) Spring 2010 n= 546 **X**= 3.8

EESC 3101: Geochemistry/Habitable Planet Fall 2009 n= 15 **X**= 4.5

SCNC C1000 Frontiers of Science (w/ 3 others) Spring 2009 n= 500 **X**= 3.8

EESC 2200: Earth System: Solid Earth (w/ Menke) Fall 2008 n= 29 **X**= 4.0

EESC 9701: Seminar in Volcano Petrology Fall 2008 n= 9 **X**= 4.3

EESC 9701: Seminar in Volatiles (w/Hofmann) Fall 2008 n= 4 **X**= na

*(performance based on student evaluations)*

*GRANTS/PROJECTS FUNDED: - 8 most recent*

Amount: $ 562,031 (LDEO)

Title: "Volatile Recycling at Tonga-Lau: A Global End-Member”

Agency: National Science Foundation (Marine Geology & Geophysics) OCE- 2332776

Period: 11/15/2023 – 10/31/2026

PI: T.Plank and S.Ding (Co-PI), both LDEO

Amount: $ 257,440 (LDEO)

Title: " What Controls the CO2/SO2 Ratio in Arc Volcanic Gas?"

Agency: National Science Foundation (Petrology & Geochemistry) EAR- 2017814

Period: 09/01/20 – 08/31/23

PI: T.Plank and S.Ding (Co-PI), both LDEO

Amount: $ 2,470,814 (LDEO)

Title: " AVERT: Anticipating Volcanic Eruptions in Real Time"

Agency: Moore Foundation #8995

Period: 11/04/19 – 1/31/25

PI: T.Plank (LDEO) and E. Lev with 6 other PI’s

Amount: $ 455,659 (LDEO) and GBP300,000 (Oxford)

Title: " NSFGEO-NERC: Sulfur Cycling at Subduction Zones"

Agency: National Science Foundation (Marine Geology & Geophys) OCE- 1933773

Period: 09/01/19 – 08/31/23

PI: T.Plank (LDEO) with T. Mather (Oxford) and A. Aiuppa (Univ.Palermo)

Amount: $ 14,064 (LDEO)

Title: " Aleutian - Alaska Workshop at Lamont for GeoPrisms Synthesis"

Agency: National Science Foundation (GeoPrisms) OCE-1941699

Period: 08/01/19 – 02/28/20

PI: T.Plank (LDEO)

Amount: $ 499,400 (U Washington Award)

Title: " RCN: A Research Coordination Network for the SZ4D Initiative"

Agency: National Science Foundation (5 Programs) EAR- 1828096

Period: 09/15/18 – 10/31/22

PI: H. Tobin (PI) w/ steering committee of 14, including T.Plank

Amount: $ 980,000 Total Award

Title: " MRI: Acquisition of an electron microprobe at the American Museum of Natural History"

Agency: National Science Foundation (Instrumentation & Facilities) EAR- 1828110

Period: 10/01-2018 – 09/30/21

PI: J. Webster, D. Ebel, A. Fiege (AMNH), T.Plank (LDEO), Flores (CUNY)

Amount: $ 208,362 LDEO Award

Title: " Acquisition of a Fourier Transform Infrared Imaging Microscope at LDEO"

Agency: National Science Foundation (Instrumentation & Facilities) EAR- 1748684

Period: 03/15/18 – 08/31/20

PI: T.Plank (LDEO)

*PUBLICATIONS:*

Total number citations (1987 - 2023): **22,155** (*Google Scholar*) as of 11/23/23

h index: **60** (*Google Scholar*) • most cited publications: \*\*\* (n > 400) \*\* (n > 100), \* (n > 50)

† Student Advisee, †† Postdoc Mentored

**2023**

113. † Peccia, A., Moussallam, Y., **Plank, T.,** DallaSanta, K., Polvani, L., Burgisser, A., et al. (2023). A new multi-method assessment of stratospheric sulfur load from the Okmok II caldera-forming eruption of 43 BCE. Geophysical Research Letters, 50, e2023GL103334. https://doi.org/10.1029/2023GL103334.

112. Jaret, S.J., Tailby, N.D., Hammond, K.G., Rasbury, E.T., Wooton, K., Ebel, D.S., **Plank, T**., DiPadova, E., Yuan, V., Smith, R. and Jaffe, N., 2023. The Manhattan project: Isotope geochemistry and detrital zircon geochronology of schists in New York City, USA. Geological Society of America Bulletin.

111. Lopez, T., Fischer, T.P., **Plank, T.,** Malinverno, A., Rizzo, A.L., Rasmussen, D.J., Cottrell, E., Werner, C., Kern, C., Bergfeld, D., Ilanko, T., Andrys, J.L., Kelley, K.A. (2023) Tracking carbon from subduction to outgassing along the Aleutian-Alaska Volcanic Arc. *Science Advances*, 9(26), p.eadf3024.

110. † Towbin, W.H., **Plank, T.,** Klein, E.M., Hauri, E.H. (2023) Measuring H2O in Olivine by Secondary Ion Mass Spectrometry: Challenges and Paths Forward. *American Mineralogist*, 108 (5), 928-940.

109. †† Ding, S., **Plank, T.,** Wallace, P.J. and † Rasmussen, D.J (2023). Sulfur\_X: A model of sulfur degassing during magma ascent. *Geochemistry, Geophysics, Geosystems*, 24, e2022GC010552.

108. † Barth, A., **Plank, T.** and † Towbin, W.H. (2023). Rates of dehydration in hydrous, high-Fo olivines. *Geochimica Cosmochimica Acta*, v. 342, Pages 62-73.

107. Taracsák, Z., Mather, T., †† Ding, S**., Plank, T**., Brounce, M., Pyle, D. and Aiuppa, A., (2023). Sulfur from the subducted slab dominates the sulfur budget of the mantle wedge under volcanic arcs. *Earth and Planetary Science Letters*.

**2022**

106. Parendo, C.A., Jacobsen, S.B. and **Plank, T**., 2022. Potassium-isotope variations of marine sediments adjacent to the Izu-Bonin Trench and Nankai Trough. *Geochimica et Cosmochimica Acta*, 337, pp.166-181.

105. † Cooper, L., **Plank, T.,** Arculus, R., Hauri, E. and Kelley, K.A., 2022. Arc–Backarc Exchange Along the Tonga–Lau System: Constraints From Volatile Elements. *Journal of Petrology*, 63(8), p.egac072.

104. † Rasmussen, D.J., **Plank, T.A**., Roman, D.C. and Zimmer, M.M., 2022. Magmatic water content controls the pre-eruptive depth of arc magmas. *Science*, 375(6585), pp.1169-1172.

103. de Moor, J.M., Fischer, T.P. and **Plank, T.** (2022) Constraints on the sulfur subduction cycle in Central America from sulfur isotope compositions of volcanic gases. *Chemical Geology*, p.120627.

**2021**

102. † Barth A and **Plank T** (2021) The Ins and Outs of Water in Olivine-Hosted Melt Inclusions: Hygrometer vs. Speedometer. *Frontiers in Earth* Science 9:614004. doi: 10.3389/feart.2021.614004

101. Wallace, P.J., **Plank, T.,** Bodnar, R.J., Gaetani, G.A., Shea, T. (2021) Olivine-hosted melt inclusions: A microscopic perspective on a complex magmatic world. *Annual Reviews in Earth and Planetary Sciences*. 49:465–84.

100. Rose-Koga, and 50+ co-authors (including **T.Plank**). Silicate melt inclusions in the new millennium: A review of recommended practices for preparation, analysis, and data presentation. *Chemical Geology*, 570 (2021) 120145

99. Power, John, Diana Roman, John Lyons, Matthew M. Haney, † Dan Rasmussen, **Terry Plank**, Kirsten Nicolaysen, Pavel Izbekov, Cynthia Werner, Max Kaufman (2021) Volcanic Seismicity Beneath Chuginadak Island, Alaska (Cleveland and Tana Volcanoes): Implications for Magma Dynamics and Eruption Forecasting. *Journal of Volcanology and Geothermal Research*, 412: 107482.

**2020**

98. Liu, E., Wood, K., Aiuppa, A., Bitetto, M., Giudice, G., Fischer, T., McCormick Kilbride, B., **Plank, T.,** Hart, T. (2020) Volcanic activity and gas emissions along the South Sandwich arc. *Bulletin of Volcanology*, 83(1), 1-23, doi.org/10.1007/s00445-020-01415-2.

97. Hu, Y., Teng, F.Z., **Plank, T**. and Chauvel, C. (2020) Potassium isotopic heterogeneity in subducting oceanic plates. *Science Advances*, 6(49), p.eabb2472.

96. † Rasmussen, D.J., **Plank, T**., Wallace, P.J., Newcombe. M. and Lowenstern, J.B. (2020) Vapor-bubble growth in olivine-hosted melt inclusions. *American Mineralogist*, 105(12), pp.1898-1919.

95. †† Newcombe ME, **Plank T**, Zhang Y, Holycross M, Barth A, Lloyd AS, Ferguson D, Houghton BF and Hauri E (2020) Magma Pressure-Temperature-Time Paths During Mafic Explosive Eruptions. *Front. Earth Sci*. 8:531911. doi: 10.3389/feart.2020.531911

94. ††Newcombe, M., **T. Plank**, †A. Barth, P. Asimow, E. Hauri (2020). Water-in-olivine magma ascent chronometry: Every crystal is a clock. *Journal of Volcanology and Geothermal Research*, 398, 106872.

93. Werner, C., † D.J. Rasmussen, **T.** **Plank**, P.J. Kelly, C. Kern, T. Lopez, J. Gliss, J. Power, D. C. Roman, P. Izbekov, and J. Lyons (2020). Linking Subsurface to Surface using Gas Emission and Melt Inclusion data at Mount Cleveland volcano, Alaska. *Geochemistry, Geophysics, Geosystems, 21*, e2019GC008882, https://doi.org/10.1029/2019GC008882.

92. Nielsen, S.G., Shu, Y., Auro M., Yogodzinski G., Shinjo, R., **Plank, T.,** Kay, S.M. and Horner, T.J. (2020) Barium isotope systematics of subduction zones. *Geochimica et Cosmochimica Acta* 275: 1-18. doi.org/10.1016/j.gca.2020.02.006

**2019**

91. Ducklow, H and **Plank, T**. (2019) Perspectives: Volcano-stimulated marine photosynthesis. *Science*, **365**, 978-979.

90. **\*\* Plank, T**., & Manning, C. E. (2019). Subducting carbon. *Nature*, 574 (7778), 343-352.

89. † Barth, Anna, ††Megan Newcombe, **Terry Plank**, Helge Gonnermann, Sahand Hajimirza, Gerardo Soto, Armando Saballos, and Erik Hauri. Magma decompression rate correlates with explosivity at basaltic volcanoes—Constraints from water diffusion in olivine. *Journal of Volcanology and Geothermal Research* (2019): 106664.

88. \* Aiuppa, A., T. P. Fischer, **T. Plank**, P. Bani (2019) CO2 flux emissions from the Earth’s most actively degassing volcanoes, 2005-2015. *Scientific Reports* 9:5442 | https://doi.org/10.1038/s41598-019-41901-y.

**2018**

87. Bellot, N., Boyet, M., Doucelance, R., Bonnand, P., Savov, I. P., **Plank, T.,** & Elliott, T. (2018). Origin of negative cerium anomalies in subduction-related volcanic samples: Constraints from Ce and Nd isotopes. *Chemical Geology*, 500: 46-63.

86. †† Ferriss, E., **T. Plank**, †† M.Newcombe, D. Walker, E. Hauri. (2018) Site-specifc dehydration of olivines from San Carlos and Kilauea Iki. *Geochimica et Cosmochimica* Acta 242: 165–190.

85. \* Huang, Kangjun, Fang-Zhen Teng, **Terry** **Plank**, Hubert Staudigel, Yan Hu, and Zheng-Yu Bao (2018) Magnesium isotopic composition of the altered oceanic crust and implications for the magnesium geochemical cycle, *Geochim. Cosmochim. Acta*., 238: 357-373.

84. \* Williams, HM, J. Prytulak, JD Woodhead, KA Kelley, M Brounce, **T Plank** (2018) Interplay of crystal fractionation, sulfide saturation and oxygen fugacity on the iron isotope composition of arc lavas. An example from the Marianas. *Geochimica Cosmochimia Acta.* 226: 224 – 243.

83. † Rasmussen, D.J., **Plank, T**., Roman, D.C., Power, J.A., Bodnar, R.J. and Hauri, E.H. (2018) When does eruption run-up begin? Multidisciplinary insight from the 1999 eruption of Shishaldin volcano. *Earth and Planetary Science Letters*, 486: 1–14.

**2017**

82. \* Hu, Yan, Feng-zhen Teng, **T. Plank** and Kang-Jun Huang (2017) Magnesium isotopic composition of subducting marine sediments. *Chemical Geology*, 466, 15-31.

81. \*\* Aiuppa, Allesandro, Tobias P. Fischer, **Terry Plank**, Philippe Robidoux, and Rossella Di Napoli. (2017) Along-arc and inter-arc variations in volcanic gas CO2/ST ratios reveal dual source of carbon in arc volcanism. *Earth Science Review*, 168: 24–47.

80. Prytulak, J., A. Brett, M. Webb, **T. Plank**, M. Rehkamper, P. S Savage, J. D. Woodhead (2017) Thallium elemental behavior and stable isotope fractionation during magmatic processes. *Chemical Geology*, [Volume 448](http://www.sciencedirect.com/science/journal/00092541/448/supp/C), Pages 71–83.

**2016**

 79. Prytulak, J., Paolo A Sossi, Alex N Halliday, **Terry Plank**, Paul S Savage, Jon D Woodhead (2017) Stable vanadium isotopes as a redox proxy in magmatic systems? *Geochemical Perspectives Letters*, v3, n1, doi: 10.7185/geochemlet.1708, 2016.

78. \* † Lloyd, A.S., **Terry Plank**, Philipp Ruprecht, Elizabeth Ferris, Erik Hauri (2016) An assessment of clinopyroxene as a recorder of magmatic water and ascent. *Journal of Petrology*, Vol.57, No.10, 1865–1886.

77. **Plank, Terry** (2016) The Geochemistry of Subduction Zones. *The Encyclopedia of Geochemistry*, editor, William M. White, Springer International Publishing Switzerland. DOI 10.1007/978-3-319-39193-9\_268-1.

76. \* †† Ferguson, D.J., ., Gonnermann, H.M., Ruprecht, P., **Plank, T.,** Hauri, E.H., Houghton, B.F. and Swanson, D.A. (2016) Magma decompression rates during explosive eruptions of Kilauea volcano, Hawaii, *Bulletin of Volcanology*, 78 (10), 712016.

75. \* ††Ferriss, E., **Plank, T.,** Walker, D. (2016) Site-specific hydrogen diffusion rates during clinopyroxene dehydration. *Contrib. Mineral. Petrol*., 171:55. DOI 10.1007/s00410-016-1262-8

74. **\*\* Plank, T**. and Forsyth, D.W. (2016) Thermal Structure and Melting Conditions in the Mantle beneath the Basin and Range Province from Seismology and Petrology, *Geochem. Geophys. Geosyst*, 17: 1312-1338, doi:10.1002/2015GC006205.

73. \* Nielsen, S.G.; Gene Yogodzinski; Julie Prytulak; **Terry Plank**; Suzanne Kay; Robert Kay; Jerzy Blusztajn; Jeremy Owens; Maureen Auro; Tristan Kading (2016) Tracking along-arc sediment inputs to the Aleutian arc using thallium isotopes. *Geochem. Cosmochem. Acta*., 181: 217-237.

**2015**

72. Rabinowitz, H.S., Savage, H.M., Plank, T. Polissar, P.J., Kirkpatrick, J.D. and Rowe, C.D. (2015) Multiple major faults at the Japan Trench: Chemostratigraphy of the plate boundary at IODP Exp. 343: JFAST, *Earth and Planetary Science Letters* 423, 57-66.

71. \*\* Wallace P, **Plank T**, Edmonds M, Hauri EH (2015) Volatiles in Magmas. In: H. Sigurdsson et al. (Editors) *Encyclopedia of Volcanoes*, Elsevier. <http://dx.doi.org/10.1016/B978-0-12-385938-9.00007-9>, 163-183.

70. Moore, J.C., **T. Plank**, F.M. Chester, P.J. Polissar, H.M Savage (2015). The plate boundary thrust of the 2011 great Tohoku earthquake: Oceanographic provenance and controls on slip propagation. *Geosphere,* v.11. 533-541, doi:10.1130/GES01099.1 .

69. \*\* Moore, L., E, Gazel, R Tuohy, †A Lloyd, R Esposito, EH Hauri, PJ Wallace, **T Plank**, RJ Bodnar (2015) Bubbles matter: An assessment of the contribution of vapor bubbles to melt inclusion volatile budgets. *American Mineralogist*, 100 (4), 806-823.

68. ††Ferriss, E., **Plank, T**., Walker, D., Nettles, M. (2015) The whole block approach: Measuring hydrogen diffusivity by geochemical tomography. *American Mineralogist*, DOI: http: //dx.doi.org/10.2138/am-2015-4947.

67. Wei, S.S, D A. Wiens, Y. Zha, T. Plank, S. C. Webb, D. K. Blackman, R.A. Dunn, and J. A. Conder (2015). Seismological Evidence of Effects of Water on Mantle Melt Transport beneath the Lau Back-arc Basin. *Nature*, 518: 395-398.

**2014**

66. \* Abers, GA, KM Fischer, G Hirth, DA Wiens, **T Plank**, BK Holtzman, C McCarthy, E Gazel (2014) Reconciling mantle attenuation-temperature relationships from seismology, petrology and laboratory measurements. *Geochem. Geophys. Geosyst*. 10.1002/2014GC005444.

65. \*\* †Lloyd, A.S., **Plank, T**., Ruprecht, P., Hauri, E.H., Rose, W., and Gonnermann, H.M. (2014) NanoSIMS results from olivine-hosted melt embayments: Magma ascent rate during explosive basaltic eruptions. *Journal of Volcanology and Geothermal Research*, 283, 1-18, http://dx.doi.org/10.1016/j.jvolgeores.2014.06.002.

64. Wanless, V.D., M.D.Behn, A.M.Shaw, **T. Plank** (2014) Variations in melting dynamics and mantle compositions along the Eastern Volcanic Zone of the Gakkel Ridge: insights from olivine-hosted melt inclusions. *Contrib Mineral Petrol*, 167:1005. DOI 10.1007/s00410-014-1005-7

63. \*\*\* **Plank, T**. (2014) The Chemical Composition of Subducting Sediments. In: Holland H.D. and Turekian K.K. (eds.) *Treatise on Geochemistry*, Second Edition, vol. 4, pp. 607-629. Oxford: Elsevier. http://dx.doi.org/10.1016/B978-0-08-095975-7.00319-3. Data tables archived at EarthChem Library: DOI: 10.1594/IEDA/100416

**2013**

62. Waters, C.L., Sims, K.W.W, Soule, S.A, Blichert-Toft, J., Dunbar, N.W., **Plank, T.,** Sohn, R.A., Tivey, M.A. (2013) Recent Volcanic Accretion at 9-10°N East Pacific Rise as Resolved by Combined Geochemical and Geological Observations. *Geochem. Geophys. Geosyst*., v. 14, 14, 2547–2574, doi:10.1002/ggge.20134.

61. \*\* †† Ruprecht, P. and **Plank, T.**  (2013) Feeding andesitic eruptions with a high-speed connection from the mantle. *Nature*, v: 50, 68-72 doi:10.1038/nature12342.

60. \* Prytulak, J., Nielsen, S.G., **Plank, T.** Barker, M. and Elliott, T. (2013) Assessing the utility of thallium and thallium isotopes for tracing subduction zone inputs to the Mariana arc. *Chemical Geology*, 345: 139–149.

59. \* †† Ferguson, D.J., J. Maclennan, I.D. Bastow, D.M. Pyle, S.M. Jones, D. Keir, J.D. Blundy, **T. Plank,** G. Yirgu (2013) Melting during late-stage rifting in Afar is hot and deep. *Nature*, 499: 70-74. doi:10.1038/nature12292.

**58. \*\*\* Plank, T.**, Kelley, K.A., †Zimmer, M.M., Hauri, E.H. and Wallace, P.J. (2013) Why do mafic arc magmas contain ~4 wt% water on average? *Earth and Planetary Science Letters*, Frontiers Article, v. 364: 168-179.

57. \*\* Davidson, J., Turner, S. and **Plank, T**. (2013) Dy/Dy\*: variations arising from mantle sources and petrogenetic processes. *Journal of Petrology*, 54(3): 525-537, doi:10.1093/petrology/egs076.

56. \*\* †Lloyd, A.S., **Plank, T.**, Ruprecht, P., Hauri, E. and Rose, W. (2013) Volatile Loss from Melt Inclusions in Pyroclasts of Differing Sizes. *Contributions to Mineralogy and Petrology*, 165: 129-153. DOI 10.1007/s00410-012-0800-2

**2012**

55. \* †† Gazel, E., **Plank, T.** Forsyth, D., †Bendersky, C., Lee, C-T.A., Hauri, E.H. Lithosphere vs. Asthenosphere Sources at Big Pine Volcanic Field (2012) *Geochem. Geophys. Geosyst*. 13 doi:10.1029/2012GC004060.

54. \*\* †Cooper, L.B., Ruscitto, D., **Plank, T.**, Wallace, P.J., Syracuse, E. and Manning, C.E. (2012) Global Variations in H2O/Ce I: Slab Surface Temperatures beneath Volcanic Arcs. *Geochem. Geophys. Geosyst*. 13, Q03024, 27 PP., doi:10.1029/2011GC003902

53. \* Ruscitto, D., P.J. Wallace, † L. Cooper and **T. Plank** (2012) Global Variations in H2O/Ce II: Relationships to Arc Magma Geochemistry and Volatile Fluxes. *Geochem. Geophys. Geosyst*. 13, Q03025, 27 PP., doi:10.1029/2011GC003887

52. Hall, P.S., †Cooper, L.C. and **Plank, T.** (2012) Thermochemical evolution of the sub-arc mantle due to back-arc spreading. *Journal of Geophysical Research*, 117, B02201, doi:10.1029/2011JB008507

**2011**

51. \*\*\* Vervoort, J.D., **Plank, T**., and Prytulak, J. (2011) The Hf-Nd isotopic composition of marine sediments. *Geochimica Cosmochimica Acta*, 75: 5903-5926.

50. \* Parman, S.W., Grove, T.L., Kelley, K.A. and **Plank**, T. (2011) Along-arc variations in the pre-eruptive H2O contents of magmas inferred from fractionation paths. *Journal of Petrology*, 52: 257-278, doi:10.1093/petrology/egq079 .

**2010**

49. \*\* †Zimmer, M.M., **T. Plank**, E.H. Hauri, G.M. Yogodzinski, P. Stelling, J. Larsen, B. Singer, B. Jicha, Mandeville, C. and C.J. Nye (2010) The role of water in generating the calc-alkaline trend: New volatile data for Aleutian magmas and a new tholetiitic index. *Journal of Petrology*, 51: 2411-2444, doi:10.1093/petrology/egq062.

48. \*\* †Kelley, K.A., **Plank, T**., Newman, S., Stolper, E**.** Grove, T.L., Parman, S. and Hauri, E. (2010) Mantle melting as a function of water content beneath the Mariana arc. *Journal of Petrology*, 51, 1711-1738, doi:10.1093/petrology/egq036.

47. \*\* †Cooper, L. B., **T. Plank**, R. J. Arculus, E. H. Hauri, P. S. Hall, and S. W. Parman (2010), High-Ca boninites from the active Tonga Arc, *J. Geophys. Res.*, 115, B10206, doi:10.1029/2009JB006367.

46. Beier, C., Turner, S., **Plank, T**. and White, W.M. (2010) A preliminary assessment of the symmetry of source composition and melting dynamics across the Azores plume. *Geochem. Geophys. Geosyst.,* 11, Q02004, doi:10.1029/2009GC002833

**2009**

45. \***\* Plank, T.**, †Cooper, L. and Manning, C.E. (2009) Emerging geothermometers for estimating slab surface temperatures. *Nature Geoscience*, **2**: 611-615.

44. \* Chadwick, J., Perfit, M., McInnes, B., Kamenov, G., **Plank, T.**, Jonasson, I., Chadwick, C. (2009) Arc lavas on both sides of a trench: Slab window effects at the Solomon Islands triple junction, SW Paciﬁc. *Earth and Planetary Science Letters,* 279: 293-302.

43. \* Scudder, R., Murray, R.W. and **Plank, T.** (2009) Dispersed ash in deeply buried sediment from the northwest Paci!c Ocean: An example from the Izu–Bonin arc (ODP Site 1149). *Earth and Planetary Science Letters*, 284: 639-648.

42. \*\*\* Lee, C-T., Luffi, P., **Plank, T.**, Dalton, H., Leeman, W.P. (2009) Constraints on the depths and temperatures of basaltic magma generation on Earth and other terrestrial planets using new thermobarometers. *Earth and Planetary Science Letters*, 279: 20-33.

41. \*\* Chauvel, C., Marini, J-C., **Plank, T**., Ludden, J.N. (2009) Hf-Nd input flux in the Izu-Mariana subduction zone and recycling of subducted material in the mantle. *Geochem. Geophys. Geosyst.,* 10, Q01001, doi:10.1029/2008GC002101.

**2008**

40. \*\* Rychert, C. A., K. M. Fischer, G. A. Abers, **T. Plank**, E. Syracuse, J. M. Protti, V. Gonzalez, W. Strauch (2008) Strong along-arc variations in attenuation in the mantle wedge beneath Costa Rica and Nicaragua. *Geochem. Geophys. Geosyst.,* 9, Q10S10, doi/10.1029/2008GC002040.

39. \* Konter, J.G., Hanan, B.B., Blichert-Toft, J., Koppers, A.P., **Plank, T.**, Staudigel, H. (2008) One hundred million years of mantle geochemical history: Why retiring mantle plumes is premature. *Earth and Planetary Science Letters*, 275: 285-295.

38. \* Ziegler, C., Murray, R.W., **Plank, T**. and Hemming, S. (2008) Sources of Fe to the equatorial Pacific Ocean from the Holocene to the Miocene. *Earth and Planetary Science Letters*, 270: 258-270.

37. \*\* †Wade, J., **Plank, T.**, Zimmer, M., Hauri, E., Roggensack, K., Kelley, K. (2008) Prediction of magmatic water contents via measurement of H2O in clinopyroxene phenocrysts. *Geology*, v. 36: 799-802.

**36. Plank, T.** and van Keken, P. (2008) News and Views, Geodynamics: Ups and downs of sediments. *Nature Geoscience*, v.1, p. 17-18.

**2007**

35. \*\* †Benjamin, E.R., **Plank, T**., †Wade, J.A., Kelley, K.A., Hauri, E.H., Alvarado, G.E. (2007) High water contents in basaltic magmas from Irazu Volcano, Costa Rica. *Journal of Volcanology and Geothermal Research*, 168: 68-92.

34. \* Feineman, M.D., Ryerson, F.J., DePaolo, D.J. and Plank, T. (2007) Zoisite-aqueous fluid trace element partitioning with implications for subduction zone fluid composition. *Chemical Geology* 239; 250-265.

**33. \*\* Plank, T.**, †Kelley, K.A., Murray, R.W., and Quintin-Stern L. (2007) Chemical composition of sediment subducting at the Izu-Bonin trench. *Geochem. Geophys. Geosyst*, v. 8/4, Q04I16, doi:10.1029/2006GC001444, 16 pp.

**2006**

32. \* Prytulak, J., Vervoort, J.D., **Plank, T**., and Yu, C. (2006) Astoria Fan sediments, DSDP Site 174, Cascadia Basin: Hf-Nd-Pb Constraints on Provenance and Outburst Flooding. *Chemical Geology*, 233: 276-292.

31. \* Wiens, D.A., Kelley, K. and **Plank, T**. (2006) Mantle temperature variations beneath back-arc spreading centers inferred from seismology, petrology and bathymetry. *Earth and Planetary Science Letters*, 248: 30-42.

30. \*\* † Wade, J.A., **Plank, T.**, Melson, W.G., Soto, G.J. and Hauri, E. (2006) The volatile content of magmas from Arenal volcano. *J. Volcan. Geotherm. Res*., 157: 94-120.

29. \*\*† Kelley, K.A., **Plank, T**., Newman, S., Stolper, E**.** Grove, T.L. and Hauri, E. (2006) Mantle melting as a function of water content at subduction zones. I: Back-arc Basins. *J. Geophysical Research*, 111: B09208.

28. \*\* Chan, L-H., Leeman, W.P. and **Plank, T**. (2006) Lithium isotopic composition of marine sediments, *Geochem. Geophys. Geosyst*, v. 7, Q06005, doi:10.1029/2005GC001202.

27. Ludden, J., **Plank, T.** Larson, R. and Escutia, C. (2006) ODP Leg 185: Sampling the oldest crust in the ocean basins to understand Earth's geodynamic and geochemical fluxes. Leg Synthesis. Proc. ODP, Sci. Res. [Online]. <http://www-odp.tamu.edu/publications/185\_IR/185ir.htm>.

**2005**

26. George, R., Turner, S., Morris, J.D, **Plank, T**., Hawkesworth, C.J. and Ryan, J. (2005) Pressure-temperature-time paths of sediment recycling beneath the Tonga-Kermadec arc. *Earth and Planetary Science Letters*, 233: 195-211.

25. \*\* †Wade, JA, **T Plank**, RJ. Stern, DL. Tollstrup, JB. Gill, JC.O’Leary, J Eiler, R B. Moore, JD Woodhead, F Trusdell, TP. Fischer, and DR. Hilton (2005) The May 2003 eruption of Anatahan volcano, Mariana Islands: geochemical evolution of a silicic island arc volcano. *J. Volcan. Geotherm. Res.*, v. 146: 139-170.

24. \*\* Hacker, B., Luffi, P., Lutkov, V., Minaev, V., **Plank, T**., Ducea, M., Patino-Douce, A., McWilliams, M., and Metcalf, J. (2005) Near-ultrahigh pressure processing of continental crust: Miocene crustal xenoliths from the Pamir. *J. Petrology*, 46: 1661-1687.

23. \*\* †Kelley, K.A., **Plank T.**, †Farr, L., Ludden, J. and Staudigel, H. (2005) Subduction cycling of U, Th and Pb. *Earth & Planetary Science Letters*, 234: 369-383.

**22. \*\*\* Plank, T.** (2005) Constraints from Th/La on sediment recycling at subduction zones and the evolution of the continents. *J. Petrology*, 46 (5), 921-44, doi:10.1093/petrology/egi005.

21. Staudigel, H., B. Tebo, A. Yayanos, H., H. Furnes, K. Kelley, **T. Plank**, K. Muehlenbachs (2005) The Oceanic Crust as a Bioreactor: Deep Subsurface Biosphere at Mid-Ocean Ridges, William S. D. Wilcock, Edward F. DeLong, Deborah S. Kelley, John A. Baross and S. Craig Cary (Eds.), *AGU Geophysical Monograph Series* 144, p 325-341.

**2003**

20. \*\*\*†Kelley, K.A., **Plank, T.**, Ludden, J.N. and H. Staudigel (2003) The composition of altered oceanic crust at ODP sites 801 and 1149. *Geochem. Geophys. Geosyst.*. 4 (6), doi: 10.1029/2002GC000435.

19. \*\* Abers, G.A., **Plank, T.** and Hacker, B.R. (2003) The wet Nicaragua slab. *Geophys. Res. Lett.*, 30(2), 1098, doi: 10.1029/2002GL015649, 2003.

**2002**

**18. \*\* Plank, T.**, †Balzer, V. and Carr, M. (2002) Nicaraguan volcanoes record paleoceanographic changes accompanying closure of the Panama gateway. *Geology*, v. 30: 1087-1090.

17. Smith, E.I., Keenan, L., and **Plank, T**. (2002) Episodic Volcanism and Hot Mantle: Implications for Volcanic Hazard Studies at the Proposed Nuclear Waste Repository at Yucca Mountain, Nevada. *GSA Today* v. 12, p. 4-10.

16. \*\*\*†Wang, K., **Plank, T.**, Walker, J.D. and Smith, E.I. (2002) A mantle melting profile across the Basin and Range, SW USA.  *J. Geophys. Res.*, 107: 10.1029/2001JB000209, ECV 5-1-21.

**1999-1995**

15. \*\*\* Johnson, M. C., and **T. Plank** (1999) Dehydration and melting experiments constrain the fate of subducted sediments, *Geochem. Geophys. Geosyst.*, 1: doi:10.1029/1999GC000014.

**14. \*\*\* Plank, T.** and Langmuir, C.H. (1998) The chemical composition of subducting sediment: implications for the crust and mantle. *Chemical Geology*, 145: 325-394.

13, Clark, S.K., Reagan, M.K., and **Plank, T.** (1998) Trace element and U-series systematics for 1963-1965 tephras from Irazú Volcano, Costa Rica: Implications for magma generation processes and transit times. *Geochim. Cosmochim. Acta.*, 62: 2689-2699.

12. \*\*\* Elliott, T., **Plank, T.**, Zindler, A., White, W. and Bourdon, B. (1997) Element transport from subducted slab to volcanic front at the Mariana arc, *Journal of Geophysical Research*, 102: 14991-15019.

11. \*\*\*Staudigel, H., **Plank, T.**, White, W.M. and Schmincke, H. (1996) Geochemical fluxes during seafloor alteration of the upper oceanic crust: DSDP Sites 417 and 418, Bebout and Kirby, eds., *SUBCON: Subduction From Top to Bottom, AGU Geophysical Monograph*, 96, 19-38.

**10. Plank, T.** (1996) The brine of the Earth, News and Views, *Nature*, 380: 202-203

**9. \* Plank, T.**, M. Spiegelman, C.H. Langmuir and D. Forsyth (1995) The meaning of "Mean F": Clarifying the mean extent of melting at ocean ridges, *Journal of Geophysical Research*, 100, 15045-15052.

**1994-1992**

**8. Plank, T.** and Langmuir, C.H. (1994) A view from the Sunda arc, Reply. *Nature*, 367: 224.

**7. \*\*\* Plank, T.** and C.H. Langmuir (1993) Tracing trace elements from sediment input to volcanic output at subduction zones, *Nature*, 362, 739-743.

6. \*\*\* Langmuir, C.H., E.M. Klein and **T. Plank** (1992) Petrological systematics of mid-ocean ridge basalts: Constraints on melt generation beneath ocean ridges. In *Mantle Flow and Melt Generation at Mid-Ocean Ridges*, J. Phipps-Morgan, D.K. Blackman and J. Sinton, eds., *AGU Geophysical Monograph*, 71, 183-280.

5. **\*\* Plank, T.** and C.H. Langmuir (1992) Effects of the melting regime on the composition of the oceanic crust, *Journal of Geophysical Research*, 97, 19749-19770.

4. **\* Plank, T.** and J.N. Ludden (1992) Geochemistry of sediments in the Argo Abyssal plain at ODP Site 765: A continental margin reference section for sediment recycling in subduction zones, *Proc. ODP, Sci. Results*, 123, 167-189.

3. Gillis, K.M., J.N. Ludden, **T. Plank** and L.D. Hoy (1992) Low temperature alteration and subsequent reheating of the shallow oceanic crust at ODP Site 765D. Argo Abyssal Plain, *Proc. ODP, Sci. Results*, 123, 191-200.

**1988-1987**

**2. \*\*\* Plank, T.** and C.H. Langmuir (1988) An evaluation of global variations in the major element chemistry of arc basalts. *Earth and Planetary Science Letters*, 90, 349-370.

**1. Plank, T.** (1987) Magmatic garnets from the Cardigan pluton and the Acadian thermal event in southwest New Hampshire. *American Mineralogist*, 72, 681-688.

*REPORTS:*

Rasmussen, D. J., Plank, T. A., Cottrell, E., Johansson, A., Lehnert, K. A., Hauri, E. H., 2022. DCO-EarthChem Melt Inclusion Expert Dataset, Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). https://doi.org/10.26022/IEDA/112364

Ruprecht, P., Plank, T., 2022. Dataset on major and trace element concentrations in olivine from the 1963-65 Irazú eruption, Costa Rica, Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). https://doi.org/10.26022/IEDA/112499. Accessed 2022-07-25.

Hauri, E., Plank, T., Fischer, T., Tamura, Y., Ishizuka, O., 2021. Melt Inclusion data from the Marianas and Izu volcanic arcs, and Mariana Trough back-arc basin, Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). https://doi.org/10.26022/IEDA/112036

Plank, T., Wade, J., 2020. Bulk rock data for Marianas arc tephra, Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). <https://doi.org/10.26022/IEDA/111736>.

Plank, T., Rasmussen, D. J., Stelling, P., Roman, D. C., 2020. Field Report for the Collection of Mafic Tephra from the Aleutians Islands between Unimak and the Island of Four Mountains (Alaska, USA), Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). <https://doi.org/10.26022/IEDA/111584>.

Rasmussen, D.J., Plank, T. and Roman, D. (2019) The Aleutians arc through and through: How subduction dynamics influences the generation, storage and eruption of volatile-bearing magmas. GeoPrisms Newsletter, 42, 10-13.

Plank, T., Arculus, R., 2018. Petrology Samples from the Submarine Tonga Arc Collected during the TELVE and NoToVE Cruises, Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). <https://doi.org/10.1594/IEDA/100743>.

Plank, T., Bendersky, C., Lee, C., Forsyth, D., 2015. Field Report for Young Basaltic Samples from the Basin and Range (Utah and Arizona, USA), Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). https://doi.org/10.1594/IEDA/100525.

McGuire, J.J., **T. Plank,** et al. 2017. *The SZ4D Initiative: Understanding the Processes that Underlie Subduction Zone Hazards in 4D*. Vision Document Submitted to the National Science Foundation. The IRIS Consortium, 63 pp.

National Academies of Sciences, Engineering, and Medicine. 2017. *ERUPT: Volcanic Eruptions and Their Repose, Unrest, Precursors, and Timing*. Washington, DC: The National Academies Press. doi: <https://doi.org/10.17226/24650> [**Plank** was one of the 12-member writing team]

Smith, E.I., Conrad, C.P., Plank, T., Tibbetts, A., Keenan, D., 2008, Testing models for basaltic volcanism: implications for Yucca Mountain, Nevada: American Nuclear Society, Proceedings of the 12th International High-Level Radioactive Waste Management Conference, p. 157-164.

Silver, E., **Plank, T.**, van Keken, P. (2007) Workshop to integrate subduction factory and seismogenic zone studies in Central America. *MARGINS Newlsetter*, #19, 1-4.

Hauri, E.H., Shaw, A., Gaetani, G., **Plank, T.**, Kelley, K., Wade, J. and O'Leary, J. (2007) Subduction Factory: Understanding the role of water flux in arc systems. *MARGINS Newsletter* #18, 1-5.

Hoernle, K., **Plank, T**., Silver, E., Alvarado, G., Gonzales, V. and Protti, M. (2007) *Central American Subduction System*. Workshop Report. Eos, 88: 459.

**Plank, T.** (2002) Drilling Subduction Factory Input and Output. A*chievements and Opportunities of Scientific Ocean Drilling: The Legacy of the Ocean Drilling Program.* Special Issue of the JOIDES Journal, Volume 28, No. 1

**Plank, T.** (2001) Subduction Cycling. *Ocean Sciences in the new Millennium; NSF.*

Plank, M.O., Srogi, L., Schenck, W. and **Plank, T**. (2001) Geochemistry of the mafic rocks, Delaware Piedmont and adjacent Pennsylvania and Maryland. Report of Investigations No. 60, Delaware Geological Survey.

**Plank, T.,** Ludden, J.N., Escutia, C., et al. (2000) Proc. ODP, Init. Repts., 185 [Online]. <http://www-odp.tamu.edu/publications/185\_IR/185ir.htm> **[40]**

**Plank, T.**, Stern, R. and Morris, J. (1998) *The Subduction Factory Science Plan*, MARGINS Program, National Science Foundation, 44 pp. http://www.soest.hawaii.edu/margins/SubFac.html

Morris, J., **Plank, T.** and Stern, R. (1998) *The Subduction Factory Workshop Report*, JOI/USSAC Workshop Report, 28 pp.

**Plank, T.**, Ludden, J. and Leg 185 Proponents (1998) Drilling input to the Mariana-Izu subduction factory: ODP Leg 185, *MARGINS Newsletter*, 1: 15-19.

Staudigel, H., Albarede, F., Blichert-Toft, J., Edmond, J., McDonough, W., Jacobsen, S., Keeling, R., Langmuir, C., Nielsen, R., **Plank, T**., Rudnick, R., Shaw, H., Shirey, S., Veizer, J. and W. White. (1998) Geochemical Earth Reference Model (GERM): description of the initiative. *Chemical Geology*, 145: 153-160. **[3]**

**Plank, T.** and Langmuir, C.H. (1997)Sediment recycling at subduction zones: the ins and outs. *ODP’s Greatest Hits*.

Scholl, D.W., **Plank, T**., Morris, J., von Huene, R. and Mottl, M. (1996) *Scientific Opportunities in Ocean Drilling to Investigate Recycling Processes and Material Fluxes at Subduction Zones*, JOI/USSAC Workshop Report.

Klein, E.M., **T. Plank**, and C.H. Langmuir (1991) Constraints on models for mantle melting beneath ocean ridges, *RIDGE Events*, 2, 11-12.