Terry Plank

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*PROFESSIONAL APPOINTMENTS*

2013-present Arthur D. Storke Memorial Professor, Earth & Env. Sci, Columbia University

2021 Moore Scholar, Caltech

2016-2019 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:*

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

2010 Sample collecting, Mojave Desert, CA

2009 Sample collecting, Uinkaret Volcanic Field, W. Grand Canyon, AZ

2008 Sample collecting, Crater Flat, NV and Big Pine Volcanic Field, CA

2007 Sample collecting, Seguam island and volcano, Aleutians

2005 Sample collecting, Akutan volcano, Aleutians

1996 Sample collecting: Nicaragua volcanoes

1989 Sample collecting: Popocatepetl volcano, Mexico.

1987 Sample collecting: Zambales ophiolite and Bulusan volcano, Philippines

1984-5 Sample collecting: Cardigan pluton, New Hampshire

*SHIPBOARD EXPERIENCE:*

1999 Co-Chief Scientist, JOIDES *Resolution*., ODP Leg 185. Mariana-Izu

1992 Shipboard Scientist, R/V *Atlantis* II. Dredging and rock coring the

 Mid Atlantic Ridge near the Azores (30-40°N).

1989 Shipboard Scientist, R/V *Thomas Washington*.

 Dredging and Seabeam mapping of the East Pacific Rise 8-12°N.

1988 Shipboard Scientist, SEDCO/BP 471, JOIDES *Resolution*.

 Igneous Petrologist, ODP Leg 123, Argo Abyssal Plain.

1988 Shipboard Scientist, R/V *Moana Wave*. Dredging and SEAMARC II survey of the Australian-Antarctic Discordance, Indian Ocean.

*Professional Activities – Last 5 years*

2020-2024 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

Department & University Service, Earth and Environmental Science, Columbia University

2011-2021 member, then chair of Curriculum Committee

2021 DEES Chair Nominating Committee

2020 Columbia Master Class Lecture to over 750 Prospective Students

2020 Columbia Climate School Working Group for Disaster Resiliency

2009-2019 co-organizer of Geodynamics Seminar (internal and external speakers)

2017-2018 Search Committee, Experimental Earth Science Search

2017-2018 Lamont Postdoctoral Fellows Selection Committee

2016-2017 Search Committee, AMNH Curator in Earth & Planetary Science

2015-2016 Search Committee, Broad Search Faculty Position

2016 Search Committee, Lamont Research Professor

2014 Search Committee, Experimental Earth Science Faculty Position

2013 Search Committe for Executive Vice President for Arts and Sciences

2011-2013 co-Director of Undergraduate Studies

2013 Lamont Postdoctoral Fellows Selection Committee

2009-2013 Adjunct Faculty Committee, Endowment Committee, Vision Committee

*Keynote Talks* – last 5 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

*Invited Departmental Lectures – past 5 years*

**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

*Students:*

Primary Advisor or Co-Advisor

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

**Sharothy Mahmud** (B.A., Barnard College, in progress)

**Henry Towbin** (Ph.D.; Columbia Univ/LDEO., in progress)

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

**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.

**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

**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"

 Now at Mavenlink, Software

**Megan Crowley** (M.Phil, Columbia/LDEO, 2014) “Ultrahigh pressure sediments and Kilauea eruptions”

**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.

**Timothy Greene** (B.A., Columbia Univ., senior thesis, 2011) “The Origin of Volcanism in Papua New Guinea”

**Lauren Cooper** (Ph.D.; Boston Univ., 2009) "Volatiles in Tonga arc magmas and their role in unraveling subduction zone processes. " ETH, Zurich, Switzerland (2009-2017)

**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” Now at: 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" Now at: 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, NSF-ADVANCE Faculty Fellow, Professor of Oceanography.

**Michael Hamilton** (B.A., Boston Univ., senior thesis, 2003) “Using phenocryst composition as a water proxy in Alamagan lavas, Marianas Islands” Now at: 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. Now at: Miami Dade College, Faculty.

**Vaughn Balzer** (M.S.; Kansas; 1999)“Late Miocene history of sediment subduction & recycling

 as recorded in the Nicaraguan volcanic arc” Now at: 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”

 Now at: 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

**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

 Now: 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: Associate 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 2021 n= 25 **X**=

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

*GRANTS/PROJECTS FUNDED – current*

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 – 08/31/22

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 – 08/31/22

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

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

*PUBLICATIONS:*

Total number citations (1987 - 2021): **18,322** (*Google Scholar*)

h index: **55** (*Google Scholar*) • most cited publications: \*\*\* (n > 400) \*\* (n > 100), \* (n > 50)

† Student Advisee, †† Postdoc Mentored

**2021**

† Cooper, L.C., **Plank, T**., Arculus, R., Hauri, E., Kelley, K.A. Arc–Backarc Exchange Along the Tonga-Lau System: Constraints from Volatile Elements. *Journal of Petrology*, submitted Nov 2021.

† Rasmussen, D.J., **T. Plank**, D.C. Roman, M. M. Zimmer. Magmatic water content, not neutral buoyancy, controls the storage depth of arc magmas. In Revision for *Science*, December, 2021.

Parendo, C., Jacobsen, S.B., and **Plank, T**. Controls on the K-isotope compositions of marine sediments adjacent to the Izu-Bonin Trench and Nankai Trough. *Geochimica Cosmochimica Acta*, in review, December, 2021.

† Towbin, W.H., **Plank, T.,** Klein, E.M., Hauri, E.H. Measuring Water in Olivine by Secondary Ionization Mass Spectrometry: Challenges and Paths Forward. *American Mineralogist*, in revision, November, 2021.

Power, J.A., Roman, D.C., Le Mével, H., Nicolaysen, K.P., Izbekov, P.E., Werner, C., Wagner, L.S., Janiszewski, H.A., Portner, D.E., **Plank, T.,** † Rasmussen, D.J., Lyons, J.J., Haney, M.M., Kaufman, A.M. Evidence for a Hidden Caldera in the Islands of the Four Mountains, Alaska. Submitted to Nature in April 2021; then Nature Geoscience in May 2021

103. de Moor, J.M., Fischer, T.P. and **Plank, T.** (2021) Constraints on the sulfur subduction cycle in Central America from sulfur isotope compositions of volcanic gases. *Chemical Geology*, p.120627.

102. † Barth A and **Plank T** (2021) The Ins and Outs of Water in Olivine-Hosted Melt Inclusions: Hygrometer vs. Speedometer. *Front. Earth Sci*. 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:*

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>.

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.