

CURRICULUM VITAE

Dr. rer. nat. habil. Susanne M. Straub

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Professional Preparation

2004 Habilitation - Christian-Albrechts-Universität, Kiel, Germany
1995-1997 Postdoctoral Fellow, German Science Foundation, Germany
1991-1994 Postdoctoral Research Scientist, GEOMAR, Germany
1991 PhD - Christian-Albrechts-Universität, Kiel, Germany
1988 German Diplom (~MSc) - TU Clausthal, Clausthal-Zellerfeld, Germany

Academic Appointments

Staff Appointments

since 2015 Lamont Associate Research Professor (senior)
2013-2015 Lamont Associate Research Professor (junior)
2010-2013 Lamont Assistant Research Professor
2008-2010 Doherty Associate Research Scientist, Lamont
2006-2008 Associate Research Scientist, Lamont
since 2004 Senior Faculty member, Kiel University, Germany

Visiting and Adjunct Appointments

2021-2022 Visiting Scientist, Massey U, Palmerston North, New Zealand - *upcoming*
2015-2016 Visiting Professor, Kyoto University, IGS Beppu, Japan
2009-2010 Visiting Research Fellow, IES, Academia Sinica, Taiwan
2007-2008 Visiting Research Fellow, IES, Academia Sinica, Taiwan
2005-2006 Visiting Professor, UNAM Centro de Geociencias, Querétaro, México
2005 Visiting Fellow, Harvard University, U.S.A.
2003-2006 Adjunct Assistant Research Scientist, Lamont
2003-2005 Research Fellow, German Science Foundation, Germany
(Lamont and Harvard University, U.S.A.)
1997-2003 Habilitation Fellow, German Science Foundation, Germany
(GEOMAR, Dept. Volcanology and Petrology, Germany)
1995-1997 Visiting Scholar, Lamont Doherty Earth Observatory, U.S.A.

Theses

2004 Habilitation thesis: 'The Recycling of Elements in Volcanic Arcs'
1991 Doctoral dissertation: 'Origin and Composition of Fallout Tephra From the Mariana Backarc Trough'
1988 Diplomarbeit (~Master of Science thesis) 'Hydrogenetic ferromanganese crusts from the central Pacific ocean'

Academic Advisors

Hans-Ulrich Schmincke, Kiel University, Germany (*Ph.D., postdoctoral, Habilitation*)
Charles H. Langmuir, Harvard University, U.S.A. (*postdoctoral*)

Academic Awards and Fellowships

2020-2021	Collaboration Partner, New Zealand Royal Society Te Apārangi (<i>Arc-trench link in the Taupo Volcanic Zone</i>)
2015-2016	Visiting Professor, Beppu, IGS, Kyoto University, Japan (<i>Quantification of Arc Magmatic Fluxes</i>)
2009-2010	Visiting Research Fellow - National Science Council, Taiwan Institute of Earth Sciences, Academia Sinica, Taipei, Taiwan (<i>Hf isotope constraints on subduction erosion in central Mexico</i>)
2007-2008	Visiting Research Fellow - National Science Council, Taiwan Institute of Earth Sciences, Academia Sinica, Taipei, Taiwan (<i>Sr-Nd isotope constraints on melt differentiation in central Mexico</i>)
2003-2005	Research Fellowship - German Science Foundation, Germany (<i>Major element composition of arc magmas and arc mass fluxes</i>)
1997-2001	Habilitation Fellowship - German Science Foundation, Germany (<i>Fifty million years of evolution of the Izu Bonin Volcanic arc reconstructed from marine tephra layers</i>)
1995-1997	Postdoctoral Fellowship - German Science Foundation, Germany (<i>Petrogenesis of high-Mg# andesites in central Mexico</i>)

Professional Membership

American Geophysical Union, Mineralogical Society of America

Teaching Activities

Classroom activities

2000/2001	Lecture (<i>for postgraduates</i>) "Quantification of elemental fluxes in magmatic systems with special regard to volcanic arcs" (instructor)
2000/2001	Lecture (<i>for undergraduate</i>) "Geochemistry of volcanic rocks" (co-instructor)
1998	Seminar "Geochemistry and Petrology of arc volcanic rocks" (co-instructor)
1997	Seminar "Volcanology and Petrology" (co-instructor)

Teaching/Training/Mentoring

2020	<i>Research Mentor Undergraduate Senior Thesis:</i> William Lindsay Fleming
2019 cont.	<i>Co-supervisor PhD Thesis</i> Carlos Corella Santa Cruz, Massey U, New Zealand (Advisor: Georg F. Zellmer)
2019	<i>Teaching (fall 2019)</i> Barnard undergraduate Clio Tai: Analyzing XFR scan and color image data from IODP Hole U1437B (Izu Bonin Rear-arc) for volcanic ash distribution
2019	<i>Teaching (spring 2019):</i> Columbia undergraduate Elisha Zhao as EI research assistant: Collecting Published Eruptive Volumes of Quaternary Arc Volcanoes
2018	<i>Research Mentor Undergraduate Senior Thesis:</i> Irina Liu
2018	<i>Master Sci thesis committee:</i> Luan Heywood, Western Washington U, USA
2017	<i>Mentoring:</i> Visiting Scientist Quanshu Yan (FIO, SOA, Qingdao, China)
2017	<i>Teaching:</i> Irina Liu - Relational Data Evaluation (Arc Volcanic Rocks)

2016/17	<i>Mentoring: Visiting Postdoc</i> Julie C. Schindlbeck (GEOMAR, Kiel, Germany); solution ICP-MS methods, climate-volcanism link by marine tephra record
2016	<i>Research Mentor Undergraduate Senior Thesis:</i> Kate Corry-Saavedra
2014	<i>Research Mentor Undergraduate Senior Thesis:</i> Rose Ramirez
2014	<i>Mentoring:</i> Students at Goldschmidt Conference
2013	<i>Teaching Lamont Summer Interns:</i> 2 students
2013	<i>Training: Visiting Scientist</i> Ofelia Perez-Arvizu (CGEO-UNAM, Queretaro, Mexico); Sr-Nd-Pb-Hf isotope separation methods.
2009	<i>PhD thesis committee:</i> Yue Cai, Columbia 2009
2009	<i>Student Lecture:</i> Invited Lecture for student audience at National Dong Hwa University, Hualien City, Taiwan (2009).
2009	<i>Teaching: Undergraduate field work in Mexico:</i> 3 students
2009	<i>Research Mentor Undergraduate Senior Thesis:</i> Gary Mesko
since 2005	<i>Teaching undergraduate students for laboratory work:</i> >12 students
since 2005	<i>Judge of student presentations at conferences:</i> Spring AGU 2005; Fall AGU 2011, 2012, 2013,2016; Goldschmidt 2012.

Outreach

2019	Lamont Open House Exhibit: Olivines - Looking into a Volcano's Roots
2019	Earth2Class Lecture 2019 w Mike Passow: The cosmogenic ¹⁰ Be Tracer in Volcanic Arcs

Field Experience

Land-based Field Trips and Field Seasons (postgraduate only)

1994-2017	Mexican Volcanic Belt, Mexico (14 field seasons)
2000-2008	Cascades Volcanic Arc, U.S.A. (3 trips)
1993	New Zealand Volcanic Arc (1993 IAVCEI field trip)
1993	New Hebrides Island Arc, Vanuatu (1993 IAVCEI field trip)
1993	Gran Canaria, Canary Island
1992	Troodos Ophiolithe, Cyprus

Sea-going Experience

2020	Chikyu (<i>onshore</i>), IODP Expedition 386 Japan Trench Paleoseismology (Inorganic Geochemist and Tephra Specialist)- <i>upcoming</i>
2018	JOIDES Resolution IODP Expedition 376 Brothers Arc Flux (Volcanologist)
2017	JOIDES Resolution IODP Expedition 368 South China Sea (Sedimentologist/Petrologist)
2014	R/V ROGER REVELLE Izu Bonin Trench (Petrologist)
2014	JOIDES Resolution IODP Expedition 350 Izu Bonin Reararc Western Pacific (Petrologist)
2012	JOIDES Resolution IODP Expedition 344 CRISP-II Eastern Central Pacific (Sedimentologist)
1988	R/V SONNE Mariana Backarc and Forearc (Petrologist)
1986	R/V SONNE Central Pacific Ocean (Petrologist)

Analytical Expertise

Electron microprobe analyses of mineral phases, glass, and inclusions
 Secondary ion probe mass spectrometry of glass and melt inclusions
 Solution ICPMS for trace elements of igneous rocks
 Laser ablation ICPMS of volcanic glasses and phenocrysts
 XRF, solution DCP-ES and ICP-OES for major element oxides
 Thermal ionization and multi-collector ICP mass spectrometry for Sr-Nd-Pb-Hf isotope ratios

Professional Service

Reviewer and Editor

2020- Advisory Board Member, Journal of Petrology
 2020-2023 Associate Editor "*Journal of Geophysical Research - Solid Earth*"
 2014-2020 Associate Editor with Heather Handley for a Special Volume on subduction zone magmatism for "*American Mineralogist*"
 2013-2014 Co-editor with Georg F. Zellmer and Marie Edmonds: "The Role of Volatiles in the Genesis, Evolution and Eruption of Arc Magmas", *Geological Society of London Special Publication*, published in 2015
 2011-2013 Editor with Arturo Gomez-Tuena and Georg F. Zellmer: "Orogenic Andesites and Crustal Growth", *Geological Society of London Special Publication*, published in 2014
 since 1993 Reviewer for International Journals (*Geochim Cosmochim Acta*, *J Volcano Geotherm Res*, *Geophys Res Lett*, *J Petrol*, *G-cubed*, *Nature*, *Lithos* etc.) and NSF and DFG (German Science Foundation) proposals

Committees and Review Panels

2020 NSF JOIDES Resolution Facility Review Panel, 26-28th Feb 2020, College Station, TX
 2019 NEXT Workshop: Scientific Ocean Drilling Beyond 2023, 6-7th May 2019, Denver, CO
 2018 NSF JOIDES Resolution Facility Review Panel, 28th Feb - 2nd March 2018, College Station, TX
 2017-20 Science Evaluation Panel (SEP) for the International Ocean Discovery Program (IODP)
 2017 IODP JOIDES Resolution Assessment Workshop, Denver, CO, 26-27th September 2017
 2017 Assessment Committee, U Copenhagen, Denmark
 2016 NSF Proposal Review Panel
 2013- Project Coordination Team for IBM 4 (IODP – International Ocean Discovery Program)
 2008-11 U.S. Science Advisory Committee (USAC) to the US Scientific Support Program (USSSP)
 2010 Schlanger Fellowship Review Panel
 2006 NSF Proposal Review Panel

Convenor or Chair at Conferences

2017 Japan Geoscience Union AGU Joint Meeting 2017, Makuhari Messe, Japan, co-convenor for session "Crust-Mantle Connections / Hard-Rock Drilling" (*Yoshihiko Tamura, Katsuyoshi Michibayashi, Eiichi Takazawa, Katy Jane Chamberlain, Tomoaki Morishita, Henry JB Dick, Mark K Reagan, Susanne M Straub*)
 2016 Goldschmidt Conference, Yokohama, Japan, co-chair for **Session** "Hard-Rock Drilling: Oceanic Lithosphere to Continental Crust Formation" (*Yoshihiko Tamura, Susanne Straub, Eiichi Takazawa, Katsuyoshi Michibayashi, Tomoaki Morishita*)
 2016 Goldschmidt Conference, Yokohama, Japan, co-chair for **Theme** "Subduction" (*Hikaru Iwamori, Carl Spandler, Susanne Straub*)
 2016 Japan Geoscience Union Meeting 2016, Chiba-City, Japan, co-chair for session "Hard-Rock Drilling: Oceanic Lithosphere to Continental Crust Formation" (*Yoshihiko Tamura, Tomoaki Morishita, Susanne Straub, Takashi Sano, Susumu Umino, Eiichi Takazawa, Katsuyoshi Michibayashi*)

- 2016 Japan Geoscience Union Meeting 2016, Chiba-City, Japan, co-chair for session “Tectonic processes on the incoming plate seaward of the trench: Inputs to subduction zones” (*Makoto Yamano, Tomoaki Morishita, Gou Fujie, Susanne Straub*)
- 2015 Goldschmidt Conference, Prague, Czech Republic (‘Fluxed and Stretched- Making New Crust’) (*lead convenor with Johan Lissenberg, Philipp Brandl, Oliver Shorttle*)
- 2014 Goldschmidt Conference, Sacramento, U.S.A. (‘New advances in subduction zone magma genesis’) (*lead convenor with Heather Handley and Marc-Antoine Longpre*)
- 2012 Goldschmidt Conference, Montreal, Canada (‘Volatiles and their role in petrogenetic, intrusive and eruptive processes in subduction zones’) (*convenor with Georg Zellmer and Marie Edmonds*)
- 2011 AGU Fall Meeting, San Francisco (‘The Origin of Orogenic Andesites’) (*lead convenor with Georg Zellmer and Arturo Gomez-Tuena*)
- 2010 AGU Fall Meeting, San Francisco (‘Volcanism and Environmental change’) (*convenor with Maria Luisa Tejada*)
- 2010 Western Pacific Geophysical Meeting, Taipei, Taiwan (‘Volcanism and Environmental change’) (*lead convenor with Chang-Hwa Chen*)
- 2008 AGU Fall Meeting, San Francisco (‘Subduction Zones: Geochemical Processes and Geophysical Constraints’) (*co-chair*)
- 2006 Goldschmidt Conference, Melbourne, Australia (‘Subduction zone evolution in 4-D’) (*convenor with Julian Pearce*)
- 2005 EGU General Assembly, Vienna, Austria (‘Volatile recycling in subduction zones’) (*convenor with David Pyle and Tamsin Mather*)

Scientific Workshops

- 2019 IODP Expedition 375 2nd Post-Cruise Meeting, Kagoshima, Japan, 3-7th December 2019
- 2019 IODP Expedition 368/367/368X 2nd Post-Cruise Meeting, Xi’an, PR China, 18-22th September 2019
- 2019 GeoPRISMS Theoretical and Experimental Institute on Subduction Cycles and Deformation, The Menger Hotel, San Antonio, TX, February 27 to March 1, 2019
- 2018 IODP Scientific Exploration of the Arctic and North Pacific” (SEA-NorP) workshop, Timberline Lodge, Mt. Hood, OR, USA, 25-27th September 2018
- 2017 IODP Australasian IODP Regional Planning Workshop, Sydney, AUS, 13-16th June 2017
- 2017 Lamont Data Science Symposium, Palisades NY, USA, 7th March 2017
- 2016 IODP Expedition 350 2nd Post-Cruise Meeting, Marrakesh, Morocco, 2-6th May June 2016
- 2015 GeoPRISMS Theoretical and Experimental Institute on Subduction Cycles and Deformation Portofino Hotel & Marina, Redondo Beach, CA, October 12-14, 2015
- 2015 IODP Expedition 344 2nd Post-Cruise Meeting, Shanghai, China, 22-24 June 2015
- 2014 IODP Core Description Workshop, College Station, TX, 13-15 January 2014
- 2013 CHIKYU+10 International Workshop, Tokyo, Japan
- 2012 Pre-drilling Workshop “Ultra-deep drilling into arc crust: genesis of continental crust in volcanic arcs”, Hawaii, HI, U.S.A.
- 2011 GeoPRISMS SCD Alaska-Aleutian Primary Site Planning Meeting, Portland, OR, U.S.A.
- 2011 GeoPRISMS SCD Implementation Workshop, Bastrop, TX, U.S.A.
- 2010 MARGINS Successor Workshop, San Antonio, TX, U.S.A.
- 2009 CHART ‘Charting the Future Course of Scientific Ocean Drilling’, On-line workshop, U.S.A.
- 2009 MARGINS ‘Mini-lesson’ Workshop Lamont, Palisades, NY, U.S.A.
- 2009 INVEST, ‘IODP New Ventures in Exploring Scientific Targets’, Bremen, Germany
- 2009 MARGINS TEI: Volatiles in the Subduction Factory, Timberline Lodge, OR, U.S.A.
- 2007 NSF-IFREE-MARGINS Workshop Izu-Bonin-Mariana Arc System’, Honolulu, HI, U.S.A.

- 2007 EarthChem/NAVDAT Mini-Workshop on MexDB, Lawrence, KS, U.S.A.
 2007 EarthChem Workshop: Data Reporting in Geochemistry, Lamont, NY, U.S.A.
 2006 Fifth GERM Workshop (*incl.* Workshop on Geoinformatics for Geochemistry), New York City, NY, U.S.A.
 2006 International Mini-Workshop on Izu-Bonin-Mariana Drilling to Study Continental Crust Formation, Yokohama, Japan
 2003 SOTA State-Of-the-Arc, Timberline Lodge, OR, U.S.A.
 2002 NSF-IFREE-MARGINS Workshop "Subduction Factory Research in the Izu-Bonin-Mariana Arc", Honolulu, HI, U.S.A.

Invited Conference Talks and Lectures

- 2019 'Arc magmatic fluxes: the case of the Transmexican Volcanic Belt', Northwest University, Xi'an, PR China
 2018 'Arc magmatic fluxes: the case of the Transmexican Volcanic Belt', Massey University, Palmerston North, New Zealand
 2017 'Arc magmatic fluxes: the case of the Transmexican Volcanic Belt', Macquarie University, Sydney, Australia
 2016 'Towards Quantifying Arc Magmatic Fluxes – a petrogenetic approach', JAMSTEC, Yokosuka, Japan
 2016 'Arc Fluxes and Arc Responses', Beppu Geothermal Research Laboratory, Beppu, Japan
 2016 'Trace elements in olivine - clues to magmagenesis in the central Transmexican Volcanic Belt', Kyoto University, Kyoto, Japan
 2015 'Towards Quantifying Arc Magmatic Fluxes – a petrogenetic approach', Beppu Geothermal Research Laboratory, Beppu, Japan
 2015 Theme 20: Mantle to Crust', Goldschmidt Conference, Prague, Czech Republic, **ANNIVERSARY TALK**
 2015 'What Drives Arc Magma Diversity?', Goldschmidt Conference, Prague, Czech Republic, **INVITED TALK**
 2015 'Temporal evolution of the Izu Bonin Mariana island arc inferred from the marine tephra record ', Key Laboratory of Marine Sedimentation and Environmental Geology, First Institute of Oceanography, State Oceanic Administration of China, Qingdao, China
 2015 'Towards Quantifying Arc Magmatic Fluxes', Key Laboratory of Marine Sedimentation and Environmental Geology, First Institute of Oceanography, State Oceanic Administration of China, Qingdao, China
 2015 'Crustal Recycling by Subduction Erosion in the central Mexican Volcanic Belt', Centro de Geociencias, Universidad Nacional Autónoma de México, Querétaro, México
 2015 'Crustal Recycling by Subduction Erosion in the central Mexican Volcanic Belt', Instituto de Geofísica, Universidad Nacional Autónoma de México, Mexico City, México
 2012 'Geochemical evolution of the Izu Bonin – Mariana arc/backarc/trench system, Pre-drilling Workshop "Ultra-deep drilling into arc crust: genesis of continental crust in volcanic arcs", Hawaii, HI, U.S.A.
 2011 'High-Ni olivines and the mantle origin of arc andesites', XXV IUGG General Assembly, Melbourne, Australia. **INVITED KEYNOTE TALK**
 2011 Linking arc volcanic fluxes and growth rates with Pleistocene climate change: Marine tephrostratigraphy of the Aleutian-Alaska volcanic arc. GeoPRISMS Planning Workshop for the Alaska Primary Site, September 2011, Portland, Oregon.
 2010 'Formation of arc andesites beneath thick continental crust', Colloquium, Institute for Earth Sciences, Academia Sinica, Taipei, Taiwan

- 2010 'Are Primary Arc Magmas in the Central Mexican Volcanic Belt Basaltic or Andesitic? Western Pacific Geophysics Meeting, Taipei, Taiwan.
- 2009 'Cycling and Re-cycling in Volcanic Arcs', Institute of Earth Sciences, National Dong Hwa University, Hualien City, Taiwan
- 2008 'Timescale and causes of secular change in the Izu Bonin-Mariana Volcanic Arcs', Goldschmidt Conference, Vancouver Canada. **INVITED KEYNOTE TALK**
- 2007 'The Geochemical Evolution of Arcs and Beyond', Colloquium, Institute for Earth Sciences, Academia Sinica, Taipei, Taiwan
- 2007 'Evidence from high Ni olivines for a hybridized peridotite/pyroxenite source for orogenic andesites from the central Mexican Volcanic Belt', Instituto de Geofísica, Universidad Nacional Autónoma de México, Mexico City, México
- 2004 'Building a relational data base for the Mexican Volcanic Belt: Why, how and status quo', Centro de Geociencias, Universidad Nacional Autónoma de México, Querétaro, México
- 2005 'Approaching Arc Growth Rates through Linking Geology, Chemistry and Geometry in the Mexican Volcanic Belt', Smithsonian Institution, Washington DC, U.S.A.
- 2005 'Distal Tephra as Tool for Reconstructing the Geochemical Evolution of Arcs' - the Case Study from Izu-Bonin-Mariana Arc/Trench System. AGU Spring Meeting, New Orleans, U.S.A.
- 2005 'The Geochemical Evolution of Arcs and (a Glimpse) Beyond', Woods Hole Oceanographic Institution, Woods Hole, U.S.A.
- 2004 'An integrative approach towards understanding volcanic arcs', Centro de Geociencias, Universidad Nacional Autónoma de México, Querétaro, México

Past and present collaborators

**active within past two years*

- *Richard J. Arculus, Australian National University, Canberra, Australia
- Jaime D. Barnes, University of Texas, Austin, U.S.A.
- *Valentina Batanova, ISTERre, University Grenoble Alpes, France; Vernadsky Institute, Moscow, Russia
- *Julie C. Belo (Schindlbeck), IFM-Geomar, Kiel, Germany
- *Ilya N. Bindeman, University of Eugene, Oregon, U.S.A.
- *Louise L. Bolge, Lamont Doherty Earth Observatory, Palisades, U.S.A.
- Ann-Sophie Bouvier, U Lausanne, Switzerland
- Philipp A. Brandl, Australian National University, Canberra, Australia
- *Marco Brenna, U Otago, Dunedin, New Zealand
- Yue Cai, Lamont Doherty Earth Observatory, Palisades, U.S.A.
- *Paterno R. Castillo, Scripps Institution of Oceanography, La Jolla, U.S.A.
- Cornelia Class, Lamont Doherty Earth Observatory, Palisades, U.S.A.
- *Carlos R. Corella Santa Cruz, Massey University, Palmerston North, New Zealand
- *Susan DeBari, Western Washington U, Bellingham, WA, U.S.A.
- *Kathryn E. Durkin, Scripps Institution of Oceanography, La Jolla, U.S.A.
- *Ramon Espinasa-Perena, Mexico D.F., Mexico
- Luca Ferrari, Centro de Geociencias, UNAM Juriquilla, Qro., Mexico
- Steven L. Goldstein, Lamont Doherty Earth Observatory, Palisades, U.S.A.
- *Arturo Gomez-Tuena, Centro de Geociencias, UNAM Juriquilla, Qro., Mexico
- *Yoshitaka Hashimoto, U Kochi, Kochi, Japan
- *Luan Heywood, International Ocean Discovery Program, College Station, TX, U.S.A.
- Yoshiyuki Iizuka, Institute of Earth Sciences, Academia Sinica, Taipei, Taiwan
- Klaus-Peter Jochum, Max Planck Institute for Geochemistry, Mainz, Germany

Peter Kelemen, Lamont Doherty Earth Observatory, Palisades, U.S.A.
 *Steffen Kutterolf, IFM-Geomar, Kiel, Germany
 Charles H. Langmuir, Harvard University, Cambridge, U.S.A.
 Graham Layne, Memorial University, St. John's, Canada
 *Ananya Mallik, University of Arizona at Tuscon, U.S.A
 Ana Lillian Martin-Del Pozzo, Instituto de Geofísica, UNAM, Mexico D.F., Mexico
 Melina Manzini, U Lausanne, Switzerland
 *Laura Mori, Facultad de Ingeniería, UNAM Mexico City, Mexico
 *Masafumi Murayama, U Kochi, Kochi, Japan
 *Michael J. Passow, Earth2Class, Lamont Doherty Earth Observatory, Palisades, U.S.A.
 *Patricia Persaud, Louisiana State University, Baton Rouge, LA
 César R. Ranero, Center for Subsurface Imaging, Barcelona, Spain
 *Maureen Raymo, Lamont Doherty Earth Observatory, Palisades, U.S.A.
 *Anna Mireia Rebaza Morillo, University of Arizona at Tuscon, U.S.A
 *Andrea Rizzo, Palermo University, Italy
 *Andres Libardo Sandoval-Velasquez, Palermo University, Italy
 Hans-Ulrich Schmincke, IFM-Geomar, Kiel, Germany
 Angelika Schmidt, Hamburger Chaussee 240, Kiel, Germany
 Sascha Serno, Lamont Doherty Earth Observatory, Palisades, U.S.A.
 *Alex Sobolev, ISTERre, University Grenoble Alpes, France; Vernadsky Institute, Moscow, Russia
 Luigi Solari, Centro de Geociencias, UNAM Juriquilla, Qro., Mexico
 *Claudine Stirling, Otago University, Dunedin, New Zealand
 *Finlay M. Stuart, Scottish Univ. Environmental Research Centre, East Kilbride, Scotland
 *Paola Vannucchi, University of Florence, Italy
 *Elizabeth Widom, Miami University, Oxford, Ohio, U.S.A
 *Jon D. Woodhead, University of Melbourne, Melbourne, Australia
 *Quanshu Yan, First Inst. Oceanography, State Oceanic Administration of China, Qingdao, China
 *Georg F. Zellmer, Massey University, Palmerston North, New Zealand

Research Funding

Active research awards

2021-2022 USSSP (*PI Straub*) - *invited*
 Participation Plan for IODP Expedition 386 (Japan Trench Paleoseismology) (*US\$ ~19k*)
 2020-2023 NSF-OCE/EAR (*PI Straub w M Raymo, R Arculus, A Gomez-Tuena*)
 Testing an arc volcanism - climate link in a high-latitude Plio-Pleistocene marine tephra
 archive at ODP Site 882 (northwest Pacific) (*US\$ ~290k*)
 2019-20 Lamont Climate Center (*PIs Straub, Raymo*)
 Testing methods of efficient recording of discrete marine tephra bed series (*US\$ ~6.4k*)
 2019-2022 NSF-EAR (*PI Straub w A GomezTuena, R Espinasa-Perena; PI Widom, Miami U, Oxford, OH*)
 Collaborative Research: Testing Source vs. Crustal Processing in High-Mg# Arc Magmas
 by Os-O-He-Olivine Systematics (*US\$ ~270k*)
 2019-2021 NSF-EAR (*PI Straub w Joerg Schaefer*)
 Testing the Slab Connection: A ¹⁰Be and ¹⁰Be/⁹Be Tracer Study in the Transmexican Volcanic
 Belt (*US\$ ~139k*)
 2018-2020 USSSP (*PI Straub w C Zhang*)
 Post-Expedition Activity Award IODP Expedition 376: Origin of the Brothers dacites:
 insights from silicate phenocrysts and zircon (*US \$18k*)

Historic research awards*United States*

- 2018-2019 USSSP (*PI Straub*)
Participation Plan for IODP Expedition 376 (Brothers Arc Flux) (*US\$ ~38k*)
- 2017-2019 USSSP (*PI Straub*)
Post-Expedition Activity Award IODP Expedition 368: Sr-Nd-Pb-Hf Isotope Studies of the Continental Basement in the South China Sea (*US \$15k*)
- 2014-2018 NSF-OCE (*PI Straub, co-PI Bolge; PI Castillo, Scripps Institution of Oceanography*)
Collaborative Research: Geochemical variation of the Pacific crust subducting beneath the Izu-Bonin arc and its implications for the generation of arc magmas (*US\$ ~167k Lamont*)
- 2016 -2017 Lamont Climate Center (*PI Straub, co-PI Schindlbeck*)
Testing Links between Volcanism and Climate – the Marine Tephra Record (*US\$ ~3k*)
- 2010-2016 NSF-OCE (*PI Straub; Co-PI Kelemen*)
Constraints on the Isotopic Composition of the Subducting Oceanic Crust in the Northwest Pacific Ocean Basin (*US\$ 206k*)
- 2015-2016 USSSP (*PI Straub*)
Post-Expedition Activity Award IODP Expedition 350: Quantification of Dispersed Volcanic Ash in IODP Site 1437 Sediments (*US \$15k*)
- 2014-2016 COCEANL T350A34 (*PI Straub*)
Participation Plan for IODP Expedition 350 (IBM Reararc) (*US\$ ~38k*)
- 2013-2015 USSSP (*PI Straub*)
Post-Expedition Activity Award IODP Expedition 344: The Impact of Subduction Erosion on the Central American Volcanic Arc (*US \$15k*)
- 2012-2015 COCEANL T344A34 (*PI Straub*)
Participation Plan for IODP Expedition 344 (CRISP II) (*US\$ ~38k*)
- 2012-2015 NSF-EAR 12-20481 (*PI Straub; Co-PIs Bolge, Zellmer, with A. Gomez-Tuena at UNAM-Mexico*)
Towards mass balancing arc magmatic fluxes - insights from the central Mexican Volcanic Belt (*US\$ 100k*)
- 2009-2013 NSF-EAR (MARGINS) (*PI Straub*)
The Sr-Nd-Hf-Pb Evolution of the Mariana Island Arc (*US\$ 233k*)
- 2012 *Travel grant* - Support for U.S. Scientists to Attend a Pre-drilling Workshop “Ultra-deep drilling into arc crust: genesis of continental crust in volcanic arcs” Hawaii, 18-21 September, 2012 (*PIs: Straub; DeBari Western Washington University*) (*US\$ 15k*)
- 2008-2012 NSF-EAR 07-42372 (*PI Straub*)
Testing the Processes of Melt Differentiation in the Mexican Volcanic Belt (*US\$ 234k*)
- 2005-2009 NSF-EAR 05-49055 (MARGINS) (*PI Straub*)
Cl Isotope Systematics of the Neogene Izu Bonin Arc Volcanic Rocks (*US\$ 108k*)
- 2005-2009 NSF-OCE 04-53515 (MARGINS) (*PI Straub; Co-PIs Goldstein, Class*)
Reconstructing Slab and Mantle Fluxes during the Eocene-Oligocene Evolution of the Izu-Bonin Volcanic Arc (NW Pacific) (*US\$ 219k*)

Germany

- 2003 *Travel grant* – German Science Foundation (*PI Straub*)
AGU Fall Meeting, San Francisco, USA (*Euro 0.8k*)
- 2002 *Travel grant* – German Science Foundation (*PI Straub*)
Izu Bonin Mariana Subduction Workshop, Honolulu, Hawaii, USA (*Euro 0.9k*)

- 2000-2001 *Standard grant* German Science Foundation (*PIs Straub, Hoernle*)
Sr-Nd-Pb-O isotope chemistry of submarine sediment and lavas drilled outboard the Izu-Bonin arc/backarc system (ODP Leg 185) (*Euro 43K*)
- 1997-2000 *Standard grant* - German Science Foundation (*PIs Straub, Hoernle*)
Sr-Nd-Pb-O isotope chemistry of submarine tephra and lavas of the Izu-Bonin arc/backarc system (*Euro 42K*)
- 1997-2001 *Standard grant* - German Science Foundation (*PI Straub*)
Geochemical, petrological and volcanological evolution of the Izu-Bonin arc/backarc system reconstructed from the submarine tephra record
- 1993 *Travel grant* – German Science foundation (*PI Straub*) (*Euro 1.7K*)
IAVCEI General Assembly, Canberra, Australia

Major contribution to historic research grants in Germany

- 2001-2004 *Special Focus Area (SFB)* - German Science Foundation (*to GEOMAR*)
Constraints on the fluxes of fluids and climatically-active volatile components at convergent margins from the study of mafic volcanic rocks and melt inclusions
- 1998 *Travel grant* - German Academic Exchange Foundation/National Science Foundation (USA) (*to Schmincke/Shimizu*)
Temporal fluctuations on fluid-mobile and fluid-immobile elements of mid-Miocene to Quaternary Izu arc magmas: constraints from EMP and SIMS profiling on vitric submarine fallout tephra
- 1994-1995 *Standard grant* - German Science Foundation (*to Schmincke*)
Petrology and volcanology of Quaternary tephra fallout of the South Sandwich Island Arc
- 1991-1994 *Standard grant* - German Science Foundation (*to Schmincke*)
Evaluation of the submarine tephra record in the Pacific and Indian oceanic basins based on DSDP/ODP drilling data

LIST OF PUBLICATIONS

Peer-reviewed articles in referred journals and books

2020

- Yan Q, **Straub SM**, Castillo P, Zhang H, Tian L, Shi X (2020) Hafnium isotope constraints on the nature of the mantle beneath the Southern Lau basin (SW Pacific). *Scientific Reports*, *accepted*
- Straub SM**, Gomez-Tuena A, Vannucchi P: Arc Magmatism and Subduction Erosion. *Nature Reviews Earth & Environment*, *doi.org/10.1038/s43017-020-0095-1*, *published online*
- Heywood LJ, DeBari SM, Gill JB, **Straub SM**, Schindlbeck-Belo JC, Escobar-Burciaga DR, Woodhead, JD (2020) Across-arc diversity in rhyolites from an intra-oceanic arc: Evidence from IODP Site U1437, Izu Bonin rear-arc and surrounding area, *Geochem Geophys Geosys* 21: e2019GC008353, *doi.org/10.1029/2019GC008353*
- Durkin K, Castillo PR, **Straub SM**, Abe N, Tamura Y, Yan Q (2020) An origin of the along-arc compositional variation in the Izu-Bonin arc system. *Geoscience Frontiers*: *doi.org/10.1016/j.gsf.2019.12.004*

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(#Corresponding author; my former senior thesis student is first author, visiting postdoc second author)
- de Ronde CEJ, Humphris SE, Höfig TW, Reyes A, Brandl PA, Cai L, Cai Y, Caratori Tontini F, Deans JR, Farough A, Jamieson JW, Kolandaivelu KP, Kutovaya A, Labonté J, Martin AJ, Massiot C, McDermott JM, McIntosh IM, Nozaki T, Pellizari VH, Roberts S, Rouxel O, Schlicht LEM, Seo JH, **Straub SM**, Strehlow K, Takai K, Tanner D, Tepley III FJ, Zhang C (2019) Symbiosis between caldera collapse and hydrothermalism in a submarine arc volcano. *Geology*, 47: 762–766
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- Yan Q, **Straub SM**, Shi X (2019) Hafnium isotopic constraints on late Miocene to Pliocene seamount basalts from the South China Sea and its tectonic implications. *J Asian Earth Sci*, 171: 162-168

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- Schindlbeck JC, Kutterolf S, **Straub SM**, Andrews GDM, Wang, KL: The 1 Ma - Recent Tephra Record at IODP Sites U1436 and U1437: Insights into explosive volcanism from the Japan and Izu arcs. *The Island Arc* 27(3): e12244
- Gomez-Tuena A, Mori L, **Straub SM** (2018) Geochemical and petrological insights into the tectonic origin of the Transmexican Volcanic Belt *Invited Review: Earth Science Reviews Special Issue*, 183: 153-181, doi:10.1016/j.earscirev. 2016.12.006.

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Straub SM, Plank T, Jicha B (2013) Continental Crust Formation and Mass Fluxes Through Arcs. CHIKYU+10 International Workshop, Tokyo, Japan

Straub SM (2010) Elemental arc outflux and arc growth rates. MARGINS Successor Workshop, February 2010, San Antonio, TX, U.S.A.

Straub SM (2010) Subduction Volcanism and Environmental Change. White Paper for MARGINS Successor Workshop, February 2010, San Antonio, TX, U.S.A.

- U.S. Advisory Committee for Scientific Ocean Drilling (2009) Societal Relevance of Ocean Drilling', INVEST workshop, September 2009, Bremen, Germany
- Straub SM**, Winckler G (2011) Linking arc volcanic fluxes and growth rates with Pleistocene climate change: Marine tephrostratigraphy of the Aleutian-Alaska volcanic arc. GeoPRISMS Planning Workshop for the Alaska Primary Site, September 2011, Portland, Oregon.
- Yogodzinski G, Nye C, Larsen J, Hoernle K., Vervoort JD, Bizimis M, Sims KWW, **Straub SM**, Kelemen PB (2011) Toward a Synoptic View of Alaska-Aleutian Volcanic Rock Geochemistry: The Rationale for a Campaign of Isotope Data Acquisition on Samples that We Already Have. GeoPRISMS Planning Workshop for the Alaska Primary Site, September 2011, Portland, Oregon

Conference and Workshop Presentations

2020 (AGU abstracts are submitted)

- Corella Santa Cruz CR, Zellmer GF, Stirling C, **Straub SM**, Brenna M, Nemeth K (2020) Crustal AFC versus subducted sediment contributions to felsic magma generation in the Taupo Volcanic Zone (TVZ): evaluating the major oxide, trace element and isotopic evidence, Geoscience Society of New Zealand Annual Conference 2020, Christchurch, New Zealand.
- Corella Santa Cruz CR, Zellmer GF, Stirling C, **Straub SM**, Brenna M, Nemeth K (2020) Hyperactive volcanism in the Taupo Volcanic Zone: a MELTS and Magma Chamber Simulator study to explore if AFC processes with a Torlesse assimilant can explain magmatic differentiation, AGU Fall Meeting, Virtual.
- Heywood LJ, Wurth KN, DeBari SM, Gill JB, **Straub SM**, Belo JC, Escobar-Burciaga RD (2020) Magmatic diversity as an indicator of changing tectonics in the post-Oligocene Izu-Bonin Arc AGU Fall Meeting, Virtual.
- Passow MJ, Plank TA, **Straub SM** (2020) Connecting Classroom Teachers and Students with Volcanologists, AGU Fall Meeting, Virtual.
- Rebeza AM, Mallik A, **Straub SM** (2020) Multiple episodes of melt-rock reaction at the slab-mantle interface: Formation of high silica primary magmas in intermediate to hot subduction zones, AGU Fall Meeting, Virtual.
- Straub SM**, Batanova V, Sobolev A, Gomez-Tuena A, Espinasa-Perena R, Bindeman I, Stuart F, Widom E (2020) Arc melt production from hybrid slab and mantle sources - new evidence from Cr spinel bearing high-Ni olivines in central Transmexican Volcanic Belt, AGU Fall Meeting, Virtual.
- Sandoval-Velasquez AL, Aiuppa A, Rizzo A, Frezzotti ML, **Straub SM**, Gomez-Tuena A, Espinasa-Perena R (2020) Geochemistry of noble gases and CO₂ in mantle xenoliths and arc lavas from central Mexico (EGU2020-17010), EGU General Assembly 2020, Virtual.

2019

- Straub SM**, Zhang C (2019) Magmatic Pyroxenes Reveal the Presence of Mafic Melts in the Plumbing System of Brothers Volcano, Kermadec Arc: Results from IODP Expedition 376 (Brothers Arc Flux) AGU Fall Meeting, San Francisco, USA, T23G-0513.
- *Fleming WL, **Straub SM**, Gomez-Tuena A, Espinasa-Pereña R, Bindeman IN, Stuart FM, Batanova, VG (2019) Using Trace Elements in Olivine Phenocrysts to Test Models of Melt Differentiation at Convergent Margins: Constraints from Times Series in Monogenetic Volcanoes in the Central Transmexican Volcanic Belt AGU Fall Meeting, San Francisco, USA, V51F-0126.
- Heywood LJ, DeBari SM, Gill JB, **Straub SM**, Christin Schindlbeck JC, Escobar-Burciaga RD, Woodhead JD (2019) Three Simultaneous and Distinct Across-Arc Magma Types in the <7 Ma Izu-Bonin Subduction Zone and Implications for Arc Crustal Growth, AGU Fall Meeting, San Francisco, USA V54B-04.

2018

- Straub SM** (2018) Testing the slab connection in volcanic arcs: a global perspective, Goldschmidt Conference, Boston, USA
- Straub SM**, Gomez-Tuena A (2018) A Global View On Arc-Trench Connectivity And Andesite Petrogenesis, AGU Fall Meeting, Washington DC, USA, T21G-0299.
- Gomez-Tuena A, Cavazos-Tovar JG, Parolari M, **Straub SM**, Espinasa-Perena R (2018) Geochronological and geochemical evidence of continental crust "relamination" in the origin of intermediate arc magmas AGU Fall Meeting, Washington DC, USA, T21G-0309

2017

- Straub SM**, Liu I, Gomez-Tuena A (2017) Mantle vs. Crustal Processing in Calc-Alkaline Arc Magma Formation, AGU Fall Meeting, New Orleans U.S.A.
- Kutterolf S, Schindlbeck JC, Jegen MD, Freundt A, **Straub SM** (2016) Milankovitch frequencies in tephra records at volcanic arcs: Does climate control volcanism? IAVCEI Meeting, Portland U.S.A. **INVITED**
- Straub SM** (2017) The Arc Database – Working with Arc Volcanic Rocks, Lamont Database Symposium, Lamont, Palisades U.S.A.

2016

- Schindlbeck JC, **Straub SM**, Jegen MD, Corry-Saavedra K, Murayama M, Woodhead JD, Kutterolf S, Vautravers MJ, Wang KL (2016) Volcanic Cyclicities in the Pacific Northwest: Insights from the Marine Tephra Record from IODP Expedition 350, Izu Bonin Arc, AGU Fall Meeting, San Francisco U.S.A.
- Straub SM**, Kelemen PB (2016) The Origin of Silicic Arc Crust – Insights from the Northern Pacific Volcanic Arcs through Space and Time, AGU Fall Meeting, San Francisco U.S.A.
- Bouvier AS, Manzini M, Baumgartner LP, Rose-Koga EF, Ulmer P, Bonifacie M, Bardoux G, Sharp Z, Williams J, Layne GD, **Straub SM**, Métrich N (2016) Chlorine isotope determination by SIMS: standard development and application to melt inclusions from subduction zone settings, Goldschmidt Conference 2016, Yokohama, Japan.
- Durkin K, Castillo PR, Abe N, Kaneko R, Tamura Y, **Straub SM**, Yan Q (2016) Finding the source of a latitudinal compositional variation in the Izu-Bonin arc system, Goldschmidt Conference 2016, Yokohama, Japan. **INVITED**
- Kars M, Musgrave RJ, Kodama K, **Straub SM**, Schindlbeck JC, Vautravers M (2016) Paleoenvironmental control on the magnetic mineral assemblage in the Izu rear arc over the last 1 Ma, Japan Geoscience Union Meeting, Chiba-City, Japan.
- Straub SM** (2016) Constraints from Arc Magmas on the Pb Isotope Composition of the Subducted Igneous Oceanic Crust, Goldschmidt Conference 2016, Yokohama, Japan.
- *Corry-Saavedra K, **Straub SM**, Bolge LL, Schindlbeck JC, Kutterolf S, Woodhead JD (2016) Quantifying Dispersed Tephra in Marine Sediments: A Pilot Study from IODP Hole 1437B, Expedition 350, 2nd Postcruise Meeting IODP Expedition 350, Marrakesh, Morocco.

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- Abe N, Kanoko R, Castillo PR, **Straub SM**, Durkin K, Garcia E, Yan Q, Tamura Y (2015) Bulk-rock and mineral major element chemistries of the Pacific crust subducting into the Izu-Bonin Trench, Goldschmidt Conference Prague, Czechia.
- *Corry-Saavedra K, **Straub SM**, Bolge LL, Schindlbeck JC, Kutterolf S, Woodhead JD (2015) Exploring links between global climate and explosive arc volcanism in tephra-rich Quaternary sediments: a pilot study from IODP Expedition 350 Site 1437B, Izu Bonin rear-arc region, AGU Fall Meeting, San Francisco U.S.A., V53A-3129.
- Durkin K, Castillo PR, Abe N, Kaneko R, **Straub SM**, Garcia ES, Yan Q, Tamura Y (2015) Geochemical Variation of Subducting Pacific Crust Along the Izu-Bonin Arc System and its Implications on the Generation of Arc Magmas, AGU Fall Meeting, San Francisco U.S.A., DI13A-2628
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Straub SM, Gomez-Tuena A, Bindeman IN, Bolge LL, Brandl PA, Espinasa-Perena R, Solari L, Stuart FM, Vannucchi P, Zellmer GF (2015) Crustal recycling by subduction erosion in the central Mexican Volcanic Belt, GeoPRISMS TEI 'Subduction Cycles and Deformation' Portofino Hotel & Marina, Redondo Beach, CA, USA

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Straub SM, Woodhead JD, Arculus RJ (2014b) Temporal evolution of the Mariana Arc: mantle wedge and subducted slab controls revealed with a tephra perspective, AGU Fall Meeting, San Francisco.

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Kutterolf S, Schindlbeck JC, **Straub SM**, Stroncik NA and IODP 334 & 344 Science Parties (2013) Explosive volcanism from the Galapagos Hotspot: Evidence from Miocene marine tephra found during IODP Exp. 334 and 344. IAVCEI Scientific Assembly, Kagoshima, Japan

Schindlbeck JC, Kutterolf S, **Straub SM**, Baxter AT, Sandoval Gutierrez MI, Nicole A Stroncik NA, Wang KL and Exp. 344 Science party (2013) Miocene to Pleistocene explosive volcanism offshore Costa Rica: Evidence for different sources from IODP Exp. 334, 344 and ODP Exp. 170. AGU Fall Meeting, San Francisco

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Straub SM, Plank T, Jicha B (2013) Continental Crust Formation and Mass Fluxes Through Arcs', *CHIKYU+10* International Workshop, Tokyo, Japan

2012

Straub SM, Gomez-Tuena A, Zellmer GF (2012): Ni-Co systematics of high-Ni olivines in the central Mexican Volcanic Belt: constraints for pyroxenite formation in the mantle wedge. Cordilleran Section, GSA, 108th Annual Meeting. Queretaro, Mexico

Straub SM, Zellmer GF, Gomez-Tuena A, Cai Y, Langmuir CH (2012). Tracing subduction erosion through arc chemistry in the central Mexican Volcanic Belt. Goldschmidt Conference 2012, Montreal

2011

Straub SM, Zellmer GF, Gomez-Tuena A, Stuart FM, Espinasa-Perena R, Cai Y (2011) Mantle Origin of Silicic Calc-alkaline Basalts to Andesites in the Central Mexican Volcanic Belt AGU Fall Meeting, San Francisco.

Straub SM, Gomez-Tuena A, Stuart FM, Zellmer GF, Cai Y, Espinasa-Perena R (2011) High-Ni Olivines and the Mantle Origin of Arc Andesites, GeoPRISMS SCD Alaska-Aleutian Planning Meeting, Portland, Oregon (*Poster*)

Straub SM, Gomez-Tuena A, Stuart FM, Zellmer GF, Cai Y, Espinasa-Perena R (2011) Monogenetic Volcanoes in the Central Mexican Volcanic Belt Record Silicic Slab Flux to Subarc Mantle Sources, XXV IUGG General Assembly, Melbourne, Australia.

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Straub SM, Gomez-Tuena A, Stuart FM, Zellmer GF, Espinasa-Perena R, Cai MY, Iizuka Y (2010) Formation of hybrid arc andesite beneath thick continental crust. GeoPRISMS SCD Implementation Meeting, Bastrop, Texas

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