CURRICULUM VITAE

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EDUCATION

1983	**B.Sc.** (Hons) Geology, University of Southampton, U K.
1987	**Ph.D.** Earth Sciences, Open University, U.K.

POSITIONS HELD

Leadership/Administrative (detailed in next section below)

2014 to 2022	**Science Editor**, *Geosphere,* Geological Society of America
2015 to 2019	**Vice President**, International Association of the Volcanology and Chemistry of the Earth's Interior (IAVCEI)
7/2008 to 6/2013	**Fellow,** NASA Space Grant/EPSCoR, NASA HQ, Washington D.C.
8/2001 to 8/2006	**Chairperson**, Department of Space Studies, University of North Dakota **Director**, North Dakota NASA Space Grant Consortium **Director,** North Dakota NASA EPSCoR Program
8/2000 to 7/2001	**Interim Director of the Faculty Computing Resource Center** Indiana State University

Academic

8/2006 to present	**Professor**, Geology and Geophysics, College of Earth, Ocean and Atmospheric Science, Oregon State University
1/2020 to 3/2020	**Visiting Professor** Department of Geosciences, University of Cape Town, Cape Town, South Africa (Sabbatical appointment cut short by COVID-19)
8/2012 to 8/2013	**Visiting Professor**, Earth Observatory of Singapore, Nanyang Technological University, Singapore *(1-year Sabbatical leave)*
8/2001 to 8/2006	**Professor**, Department of Space Studies, University of North Dakota **Adjunct Professor**, Department of Geology and Geological Engineering, University of North Dakota
6/2000 to 8/2001	**Professor of Geology**, Department of Geography, Geology and Anthropology, Indiana State University
5/1995 to 6/2000	**Associate Professor of Geology (with tenure)**, Department of Geography, Geology and Anthropology, Indiana State University
1/1991 to 5/1995	**Assistant Professor of Geology**, Department of Geography and Geology, Indiana State University
9/1987 to 12/1990	**Visiting Post-Doctoral Fellow,** Lunar & Planetary Institute, Houston, Texas.

LEADERSHIP and ADMINISTRATIVE ROLES (In reverse chronological order.)

1) Oregon State University

Department of Geosciences and College of Earth, Ocean, and Atmospheric Science, Oregon State University
Professor of Geology and Geophysics, 2006 – present

Oregon State University is a public, land-grant research university in Corvallis, Oregon. The university offers more than 200 undergraduate-degree programs along with a variety of graduate and doctoral degrees. On-campus enrollment averages near 32,000 students, making it the state's largest university. OSU is classified as a Carnegie Very High Research Activity (R1) institution of higher education and is one (1) of only 28 universities to concurrently hold the *community engagement classification* in 2020

Increasing Access, Inclusivity and Student Success Efforts

- ***Increasing Diversity in the Earth Sciences (IDES).***
  As Principal Investigator of 5-year NSF funded program ($1.14 million), [subject?] led efforts to increase access and success of individuals from underrepresented groups in the EarthSciences (http://ides.science.oregonstate.edu/).
  - Led development and writing of proposal – two (2) rounds.
  - Developed partnerships with community colleges from Portland, Salem, andAlbany.
  - Led program design and implementation plan.
  - Developed recruitment plan and conducted visits to colleges.
  - Worked with two (2) Co-Is, one (1) Program Manager and two (2) GRAs to deliver the program over five (5) years
  - Developed a plan for mentor/mentee matching and monitored progress. Providedfunding when mentor couldn't.
  - Leveraged funding through partnerships.
  - Worked with a professional evaluator to develop assessment instruments.
  - Successfully proposed for IRB approval.
  - Budget authority and management.
  - Personnel management.
  - Annual Reporting to NSF.
  - Disseminated results through presentations at major conferences.
  - Helped college and university establish similar programs (e.g. STEM Leaders at OSU). Currently writing up results for a perspective article.
- ***LSAMP, STEM Leaders Program, and Undergraduate Research Advisory Committee.***
  - Served on the advisory committees of these programs. Advised on strategy and assessment.
- ***LBOS-Geobridge***
  Follow-up to IDES. This bridge program was designed to facilitate successful transfer of Geoscience majors from 2-year colleges to OSU. Focus was on "at-risk" students, not the highest achievers. In partnership with Linn-Benton CC. (NSF funded)

Social Justice, Inclusivity and Diversity at OSU

- ***Tenured Faculty Diversity Initiative (TFDI)***
  - Advisory Committee (2006 to 2016)
  - Served on committee advising Senior Vice Provost for Academic Affairs on campus climate and strategies for enhancing diversity of the faculty.
  - Reviewed proposals from academic units for TFDI funds. Advised units on preparation of proposals.
- ***Social Justice and Inclusivity Task Force***
  - 2016 Served on committee advising Senior Vice Provost for Academic Affairs and SeniorAssociate for Social Justice Learning and Engagement on strategy and content for faculty training.

Other selected committee service

- ***Undergraduate Research Advisory Committee (2015 to 2019)***
  - Advised the Director of Undergraduate Research on best practices and strategies for enhancing the undergraduate research experience at Oregon State University. Particular focus on broadening participation.

- ***College of Arts and Sciences Strategic Planning Committee (2008).***
  - Co-chaired the committee. Developed a plan on how to advance the Arts and Sciences at OSU. Initiatives aligned with University Strategic Plan identified forshort- and long-term investments.
  - Wrote "Strategic Concentrations in the Arts and Sciences at OSU" report submitted to the Deans of COS and CLA in June 2008.

- ***University Research Council of the Faculty Senate (2017-2019)***
  - Worked with Vice-Provost for Research and the research office to design, implement, and manage university-wide research competitions for infrastructure and research seed grants.

2) **Geological Society of America (GSA)**

Science Co-Editor, Geosphere, Jan, 2014 – Dec, 2022

The journal publishes comprehensive studies that significantly advance the knowledge of process, phenomenon or region.

Worked closely with co-editors, a managing editor, and a production team to promote Geosphere as a premier outlet for excellent research in the Geological Sciences.

- Read all incoming new submissions assigned to me (c. 50 to 60/year); make initial decision whether to send out for review or decide on AE allocation.
- Worked with Editorial Board in the peer-review process; conduct editorial correspondence with all authors, including writing letters explaining/summarizing peer reviews and recommending strategies for revision or submission elsewhere.
- Reviewed many and edited all works accepted and many that were rejected with the option to revise/resubmit: argument, organization, style. For accepted works, typically go through three (3) rounds of revision with authors.
- Consulted with managing editor about copyediting issues, journal policies, and author

queries
- Developed policy for *comment and reply* submissions.
- Solicited, evaluated and made decisions on proposals for thematic issues.
- Worked with production team to develop tools to enhance dynamic content inpublications. Promote dynamic content capabilities to authors.
- Reviewed editorial board performance. "Sunset" unproductive AEs; solicited, evaluated and made decisions on new AE applications.
- Worked with managing editor to train and install new AEs.
- Scouted for articles and met with prospective authors in various settings.
- Engaged closely with early career authors in particular to make their revisions successful
- Served on GSA publications committee developing policy and strategic planning for all GSA journals.
- Led the development of a data archiving/warehousing policy for GSA publications.

3) International Association of Volcanology and Chemistry of the Earth's Interior

Vice-President, 2015 to 2019 (elected through global election)

The IAVCEI is the primary international focus for research in volcanology and for efforts to mitigate volcanic disasters. Scientists also participate in IAVCEI research in closely related disciplines, such as igneous geochemistry and petrology, geochronology, volcanogenic mineral deposits, and the physics of the generation and ascent of magmas in the upper mantle and crust.

- Primary responsibility was to **coordinate the 23 commissions and promote discussions for inter-commission and interdisciplinary collaborations.**
  - Worked with and coordinated commissions covering the entire IAVCEI stable. Sunsetted two (2) underperforming commissions and combined two (2) others to ensure their success.
  - Led and facilitated discussions about the future of World Organisation of Volcano Observatories (WOVO.org). This required coordination with the IAVCEI Volcano Observatory commission, WOVO.dat, and observatory groups in US, France, New Zealand.

- Led efforts to **develop a stronger ECR engagement in IAVCEI**.
  - Mentored the new ECR.net (ECR group) of IAVCEI and oversaw internationalizing their membership. Guided their contributions to IAVCEI 2017.
  - Offered an ECR Publishing workshop at IAVCEI 2017. A workshop will be delivered at the next IAVCEI 2023 in Rotorua, New Zealand.

- Arranged for the **dissemination and discussion of research results and policy matters on volcanology at major conferences and workshops**.
  - One (1) of six (6) members of the Organizing committee for the 2017 IAVCEI General Assembly in Portland, OR – particular focus on commission participation in session development and organization, ECR representation with a focus on ECR contributions and dedicated meetings for ECR concerns.
  - Organised two (2) international workshops: State of the Arc (SOTA) 2018, in San Pedro de Atacama in Chile and 2018 IAVCEI Collapse Calderas Commission in Toba, Sumatra.

Particular focus on ECR representation on organizing committee, focus on ECR contributions and dedicated meetings for ECR concerns.

- **IAVCEI representative for the IUGG Executive committee**
  - represented IAVCEI in the organizing committee for the 2019 IUGG General Assembly in Montreal. Advocated for IAVCEI issues, and solicited, proposed and coordinated 26 sessions at the IUGG 2018 led by IAVCEI commissions.

- **Leadership in advocacy for broadening participation and recognition of scientists working in a resource or technology constrained context.**
  - Advocated for more inclusive representation for consideration for the Maurice Krafft medal.
  - Lobbied and advocated for more inclusive representation for consideration for IAVCEI medals.
  - Was instrumental in establishing the **Volcanic Surveillance and Crisis Management Award** that has been award to Indonesia (2018) and Ecuador (2020)
  - **Advocated for and supported developing country partnerships for the advancement of global volcano science** Developing Nations Network* (DNN) which has been instigated to support scientists working in a resource or technology constrained context.

4) NASA Space Grant Program/NASA Experimental Program for Stimulating Competitive Research (EPSCoR), NASA HQ, Washington D.C.

Fellow – 2008 to 2013

Funded for two (2) months per year, I advised and assisted the NASA Space Grant/NASA EPSCoR Program Director to manage and evaluate state programs across the U.S.A.

Space Grant (Program Budget ~$40 million/year)

- Reviewed reports, proposals, and budgets for state Space Grant programs
- Provided information and assisted in developing guidelines for Space Grant programs
- Provided and presented Space Grant data and graphics for a variety of government and professional meetings, primarily in evaluation and program data collection.
- Assisted in other aspects of the Space Grant program as needed, including responding to requests from individuals within NASA and Space Grant consortia
- Assisted with designing, implementing and managing peer-reviewed grant competitions

EPSCoR (Program Budget ~$20 million/year)

- Assisted in programmatic implementation and review of the NASA EPSCoR Program
- Assisted with designing, implementing and managing peer-reviewed grant competitions
- Analysed and reported on outcomes of the national NASA EPSCoR Program
- Provided and presented EPSCoR data and graphics for a variety of government and professional meetings, primarily in evaluation and program data collection
- Acted as liaison to other agency EPSCoR programs to develop stronger coordination and collaboration
- Reviewed reports, proposals, and budgets for state EPSCoR Programs
- Worked with state EPSCoR teams and PIs to make them more competitive
- Advised state programs about best practices in reporting and grant

administration and reporting.

5) North Dakota NASA Space Grant Consortium (NDSGC)

Director (2001 - 2006)

The North Dakota Space Grant Consortium (NDSGC) provides and supports opportunities for students, faculty, and educators across North Dakota at K-12 schools and 18 affiliate institutions to participate in hands-on STEM and NASA initiatives. The NDSGC places a significant focus on diversity and inclusion initiatives, including the engagement of program participants from underrepresented and underserved communities in gender, race/ethnicity, and disability statuses. As Director, I was responsible for developing, managing and coordinating programs to realize the goals of the national program for the state of North Dakota. I also provided leadership to the Space Grant community.

- Led a consortium of 14 institutions of higher education institutions in North Dakota, including
- Three (3) tribal colleges in developing inclusive and accessible educationaland experiential learning programs that contribute to the nation's and NASA's scientific enterprise by funding research, education, and public service projects.
- Worked with University of North Dakota (lead institution) and Assistant Director to manage the Cooperative Agreement with NASA, including submission of the annual budget requests and work plan; submission of annual financial and technical reports; and submission of Consortium Management Information System (CMIS) database information.
- Hired, directed, and supervised 2.5 Consortium staff at the NDSGC HeadquartersOffice; called meetings/teleconferences of the NDSGC Management Team in addition to hosting Consortium-wide Annual meeting.
- Implemented the goals and objectives of the Consortium; developed and administered the annual budget ~$750K according to the Cooperative Agreement with NASA.
- Fulfilled reporting requirements to NASA on behalf of the Consortium.
- Administered the state-wide programs of the NDSGC
- Appointed committees as needed to assist consortium programs.
- Chaired management team that developed short and long-term planning and goalsand conducted an annual review and update of NDSGC's Strategic Plan; Adoptedthe annual budget; Approved program expenditures; Developed guidelines for all awards; Reviewed proposals and recommended awards; Reviewed other requests tothe Consortium for financial or technical support.
- Served as the Consortium's chief spokesperson and public relations officer; represented NDSGC at national and regional meetings of the National Council ofSpace Grant Directors.
- Developed new NDSGC proposals and renewal of agreements.
- Successfully lobbied Governor of North Dakota for a line item in the state budget of $200K/year to support NDSGC activities.
- As a member of the National Space Alliance Executive Committee (2004) developedthe strategic plan for the National Space Grant.
- Successful lobbied US congressional representatives for annual "plus-up"from presidential budget allocation.

6) North Dakota NASA Experimental Program to Stimulate Competitive Research (NDEPSCoR)

Director (2001 to 2006)

The overall goal of the North Dakota NASA EPSCoR Program is to increase the competitiveness of North Dakota for merit-based grants and contracts in support of science and technology research from federal funding agencies. As Director, I was responsible for developing, managing and coordinating programs to realize the goals of the national program for the state of North Dakota.

- Responsible for providing programming and seed funding to enable state of North Dakota to develop an academic research enterprise directed toward long-term, self-sustaining, nationally-competitive, capabilities in aerospace and aerospace-related research
- Worked in tandem with NDSGC consortium to achieve goals of ND NASAEPSCoR by stimulating new research capabilities in the state.
- Worked with University of North Dakota (lead institution) to manage the Cooperative Agreement with NASA, including submission of the annual budgetrequests and work plan, submission of annual financial and technical reports
- Managed a budget of $250K to $750K/year for ND NASA EPSCoR and awardedgrants for interdisciplinary projects aligned with NASA and state goals
- Developed an interdisciplinary "white paper" program to stimulate inter-institutional, cross-disciplinary collaboration
- Implemented a mentoring research program for teaching and community collegefaculty to team with research faculty.
- Successful annual lobbying of US congressional representatives for annual "plus-up"from Presidential budget allocation.

7) Department of Space Studies, University of North Dakota

Chairperson, 2001 - 2006

The Master of Science and Ph.D. in Space Studies are multi-disciplinary graduate programs and include disciplines such as planetary science, space engineering, life support systems, space policy and law, space history and space-related aspects of business and management. Unlike a typical aerospace engineering degree, the Space Studies degrees provide the student with the broader background necessary to understand the linkages between engineering, space science, law, business, and policy.

- *Program transformation.*
  - Negotiated and organized department's successful transition from an online professional MS degree to include a campus-delivered MS thesis-based program.
  - Existing 12-month teaching contracts were replaced with new faculty in 9-month tenure-track positions with traditional teaching, research, and service expectations.
  - External research funding rose from zero (2002) to $1 million within 2 years (2004)and grew annually to $1.8 million (2006). Indirect cost return was negotiated and used for discretionary funds for faculty development.
  - Wrote successful proposal to establish the Human Space Flight laboratory; hired

the first faculty on soft money and successfully transitioned them to permanent staff.
    - Led the development of the PhD in Space Studies. This was finally approved after I left UND.
- *Program development.*
    - Organized and directed department's successful long-range plan. A proposal for an interdisciplinary PhD program was developed; finally approved in 2008 after I left.
    - Met with directors of undergraduate minor and graduate studies regarding curriculum and other matters.
    - Enhanced SPACE.EDU brand with marketing materials and souvenirs/wearables.
- *Budget and resource management.*
    - Responsible for Department of Space Studies budgets: operating, temporary instruction, start-up and other limited-term accounts (Annual total approx. $2.25million).
    - Developed annual plans for allocating operating budget, including travel support for faculty. Coordinated departmental space, including procuring additional lab space for new faculty.
    - Procured two (2) additional TA positions through Graduate School.
    - Revised campus and distance offerings to produce a budget surplus since 2002.
- *Personnel.*
    - Supervised faculty/staff of seven (7) professors, two to four (2-4) instructors, one (1) administrative assistant, one (1) student worker, six (6) teaching assistants and one (1) webmaster.
    - Developed all hiring processes from initial position request to negotiation of start-uppackages and offers (five (5) tenure-track faculty searches; two (2) temporary position searches).
    - Mentored pre-tenure faculty and prepared departmental dossiers on two (2)successful tenure/promotion cases and one (1) promotion to full.
    - Conducted annual merit evaluation for faculty and staff, in consultation with facultycommittee.
    - Led annual faculty workshop on preparing annual evaluations.
    - Arranged medical leave for faculty member and arranged for course coverage.
- *Leadership in graduate distance education.*
    - Led redesign of SPACE.EDU website
    - Supervised development of in-house web-based classroom management system;
    - Secure examination site developed for remote students
    - Enhanced synchronous and asynchronous delivery of curricular materials - Video tapes replaced with DVD then online streaming; video chats replaced audio only
    - Developed partnerships to allow place-based students to conduct MS thesis research inremote locations; virtual committee meetings enhanced to track distance student progress.
    - Distance graduate student enrollment grew to over 200 (5-year average) with 15 on-campus.
- *Faculty development.*
    - Wrote three (3) successful proposals to state NSF EPSCoR program for $150K start-up supplements for three (3) assistant professor hires.

- Assist colleagues in preparing and revising grant proposals. Two (2) successful NSFCAREER proposals were submitted and both were funded.
- Two (2) hires successfully granted tenure during my time as chair
- Successfully proposed for a senior hire as an Associate Professor with tenure.
- Observed classes of instructors and faculty and provided feedback. Set up peer-review of teaching process.
- Mentored the Director of Graduate Studies.
- Nominated faculty and staff for institutional awards: one (1) successful university-level, four (4) successful college-level.
- Department won the *All-University Faculty Teaching Award* in 2005 - the first for a graduate-only program.

- *Development and external relations.*
  - Coordinated development and launch of new department website.
  - Conducted alumni receptions in various cities, primarily Washington D.C. andHouston, TX.
  - Worked with alumni to develop and conduct recruitment trips in India, Sri Lanka,Russia, and China.
- *Policy, planning, and assessment.*
  - Coordinated program review: departmental self-study, selection and visit of externalreviewers, and department's response to reviewers' report.
  - Revised department by-laws, policies, and procedures.
  - Prepared department's first manual for chair; updated for each transition to newchair.
- *Scheduling.*
  - Drafted department's teaching schedule (Spring and Fall, plus Summer Session) to meet departmental needs and maximize enrollments.
  - *Student Affairs*Attended student recruitment events and meet with potential students at majorconferences.
  - Met with potential graduate student groups to discuss the programs, expectations,and careers.
  - Met with students to discuss complaints, potential grievances, and other concerns.
  - Advised faculty on academic dishonesty cases. Coordinate mediation and grievance as required (one (1) case of a grievance against a faculty member).

8) Indiana State University

Assistant, Associate, and Full Professor, Department of Geography, Geology, and Anthropology (1991 to 2001)

Indiana State University is a public university in Terre Haute, Indiana. It was founded in 1865 and offers over 100 undergraduate majors and more than 75 graduate and professional programs. Indiana State is classified among "D/PU: Doctoral/Professional Universities".

Interim Director, Faculty Computing Resource Center, Indiana State University 2000- 2001

- Provided leadership for a center serving a body of approximately 1,500 students; 52 full-time and adjunct faculty members; professional student services staff and

tutors;and learning and writing specialists through leadership in modalities and technologies for teaching with technology and e-teaching and learning.

- Coordinated and supervised daily activities in the Center, including oversight of anadministrative assistant, two (2) e-learning technologies specialists, three (3) adjunct faculty and student workers.
- Facilitated and promoted classroom and laboratory innovation including assistance in the administration of educational mini-grants and other professional opportunities (including procurement of grants by individual faculty and staff).
- Provided assistance and training in the implementation and evaluation of educational technologies (classroom management systems WedCT, early Blackboard) and e-learning media that enhance teaching and student engagementand learning.
- Developed and implemented workshops and consultations to help promote teaching with technology for both new and experienced faculty.

Director, Graduate Studies, Department of Geography, Geology, and Anthropology 1997–2000

- Responsible for recruitment, admissions, TA selection, and scholarship awards. Responsible for all students' advisement up to their selection of advisory-examiningcommittee, and for continuing advisement on program-related issues and requirements. Work with Graduate School on specific cases requiring graduate dean's approval.
- Chaired Graduate Studies Committee. Led committee and departmentalreview/revision of M.A. and Ph.D. program requirements.
- Developed TA training seminar for incoming students, practicum for students teaching introductory-level Geology and Geography courses, and comprehensive examinations. Reorganized seminar into faculty panel format. Observed classes of allTAs teaching Geology courses, and provided substantial feedback.

University-wide: governance and strategic planning

- ***Served at all levels*** from department, College of Arts and Sciences, to all university
- ***Member of the all-university Curriculum Affairs Committee*** that revised the entireGeneral Education curriculum in 1996-1997.
- ***Faculty Senator,*** 1998 – 2001, representing College of Arts and Sciences
- ***Member, Executive Committee of the Faculty Senate,*** *2000-2001.* Consulted with President and senior administrators ensuring that faculty perspectives and concerns were brought to bear on relevant issues. Reviewed and approved changes in formal policy that fell under Senate responsibility; Initiated consideration and exploration of issues of concern to the faculty.

AWARDS/RECOGNITION

2020	**Alexander von Humboldt Foundation Research Fellow**
2014 to 2019	**Vice President** International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)
2011	**Fellow of the Geological Society of America**
2004 to 2005	**Faculty Scholar finalist,** University of North Dakota
2004 to 2005	**Departmental Excellence in Teaching**, University of North Dakota (All University Department Award)
1995	**Honourable mention** for Geological Society of America **Biggs Teaching award**
1994 to 1995	**Educational Excellence Award** College of Arts & Sciences, Indiana State University

FELLOWSHIPS

1987 to 1990	**National Aeronautics and Space Administration** Postdoctoral Research Fellowship
1983 to 198	**National Environmental Research Council**, U.K., Postgraduate Research Fellowship.

GRANTS

Independent Research Grants (PI unless Co-PI indicated)

2023 – 2026 **National Science Foundation** Pre-eruptive magma assembly, evolution and associated magma fluxes at arc calderas: insights from the active Cerro Blanco Volcanic Complex, Catamarca, Argentina. EAR Petrology and Geochemistry 2243737. $380,251

2023 – 2026 **(Co-PI)** Novel tools for dating explosive volcanic eruptions in the critical window. US$233,000 **Australian Research Council** (Canberra, AU) GRANT_NUMBER: DP230103085 https://dataportal.arc.gov.au/NCGP/Web/Grant/Grant/DP230103085

2017 – 2022 (extended 2-years during COVID-19) **National Aeronautics and Space Administration** **"**Quantifying rates of aeolian transport and sedimentation in the Argentinean Puna as an analog laboratory for Mars" (Proposal Number: 16-SSW16_2-0141) $346,700.

2016 – 2020 **(Co-PI)** Developing and testing a new dating tool for Quaternary Science. US$221,121 Australian Research Council (Canberra, AU) GRANT_NUMBER: DP160102427 URL: https://dataportal.arc.gov.au/NCGP/Web/Grant/Grant/DP160102427

2016 - 2021 (extended 2-years during COVID-19) **National Science Foundation** Timing, Rates and History of Post-YTT (<74ka) Resurgent Uplift of Samosir Island, Toba, Sumatra. EAR Petrology and Geochemistry 1551187 $354,938

2014 – 2015 **National Science Foundation** RAPID: Sinabung Volcano, Sumatra: Testing the link to the Toba Supervolcano. EAR Petrology and Geochemistry1445634 ($49,961)

2010 - 2014 **National Aeronautics and Space Administration** Constraining Aeolian Processes on Mars through Analog Studies of Gravel Megaripples ion the Andean Puna Region of the Earth. MFRP NNX10AP79G $388,477

2009 – 2014 **National Science Foundation** Investigating the Relationship between Pluton Growth and Volcanism, Central Andes. EAR Continental Dynamics 0908324 ($4.23 million total project: $575,810 (OSU))

2009 – 2013 **National Science Foundation** Timescales of Continental Magmatism and Development of Large Silicic Systems. EAR Petrology and Geochemistry 0838536 $299,016

2006 – 2010 **National Science Foundation** "Spatiotemporal evolution of the Neogene Ignimbrite Flare-up in the Altiplano-Puna Volcanic Complex, Central Andes: Insights into the development of large silicic magmatic systems. EAR Petrology and Geochemistry 0710545 $362,920

2001– 2003 **National Science Foundation** RUI "Dynamics of Plinian eruptions: constraints from the proximal facies of the 1600 eruption of Huaynaputina, Southern Peru. EAR Petrology and Geochemistry 0087181 $180,000

1997 - 1999 **National Science Foundation** RUI "The 1600 AD eruption of Huaynaputina: Volcanology. Petrology, and Environmental Impact" EAR 9614405 $137,000

1996 **National Science Foundation** "Aquisition of GPS equipment for consortium studies of global change and tectonics of western margin of the Americas" ARI Collaborative proposal $50,000 (Co-PI; PI was Tim Dixon, RSMAS)

1995 - 1997 **National Science Foundation** "Application of in-situ produced cosmogenic Cl^{36} technique to problems of Andean Volcanology" EAR Petrology and Geochemistry 9523565 $45,000 (Co-PI; PI was Pankaj Sharma, Purdue University)

1993 - 1995 **National Science Foundation** RUI: "Andean Magmagenesis: Constraints from minor centers in the Central Andes" EAR Petrology and Geochemistry 9217547. $73,000 (Co-PI with Jon Davidson, UCLA)

1991 - 1995 **NASA** "Evidence in Palaeolake shorelines for the Neotectonics of the Altiplano" NAG 5-1734 $150,625 (Co-PI; PI was Bruce Bills NASA Goddard)

1990 - 1992 **National Science Foundation** RUI: "Petrogenetic processes and sources of volcanic rocks in the Central Andes: Constraints from mafic monogenetic centers in Bolivia" EAR Petrology and Geochemistry 8916496 $27,000 (Co-PI with Jon Davidson, UCLA)

1987 **Royal Society of London** " Volcanological and petrological evolution of the La Pacana caldera, N. Chile" 1,500 GBP

Access and Inclusivity, Enhancing Diversity Grants (PI unless stated otherwise)

2016 – 2020 **National Science Foundation** Geopathways: EXTRA Plugging the Leaky Geoscience Pipeline: Bridging the Transition from Community College to University in Oregon. DUE:IUSE 1600403 $ 261,684 Co-PI with Deron Carter, LBCC

2010 – 2015 **National Science Foundation** Increasing Diversity in the Earth Sciences (IDES) – A Track 2 Project. GEO 0914707 $1,148,211.

Infrastructure and Training Grants (all at University of North Dakota) PI on all

These grants were related to my role as Chairperson of UND Space Studies, Director of the North Dakota NASA Space Grant Consortium and North Dakota NASA EPSCoR Programs.

2001 – 2005	ND NASA EPSCoR Program	$ 450,000
2001 – 2005	NASA Space Grant	$1,650,000
2003	NDSTaR – NASA Workforce Development Initiative	$ 94,500
2003	FIRST Robotics Program	$ 100,000
2004	FIRST Robotics Program	$ 100,000
2004	ND STaR2004 – NASA Workforce Development	$ 124,750
2005 – 2007	ND NASA EPSCoR Program*	$ 250,000
2002 – 2005	ND EPSCoR Faculty Start-up grants for new positions	$ 750,000
2004 - 2005	NASA Space Grant Workforce Development	$ 94,000
2005 – 2010	NASA Space Grant*	$1,800,000
2005	NASA Space Grant supplement	$ 136,000

*I left North Dakota in 2006, having secured these grants for the programs.

PUBLICATIONS

Researcher ID A-4630-2011; h-index 49 (Google Scholar accessed 14th April 2023)

Books/Edited Monographs

Pattern to Process: Remotely Sensed Observations of Volcanic Deposits and Their Implications for Surface Processes: Edited by Lionel Wilson, **Shanaka de Silva**, Laura Kerber, Patrick Whelley. Journal of Volcanology and Geothermal Research, Volume 342, Pages 1-90 (15 August 2017)

Harpel, C.J.*, **de Silva, S.L.**, and Salas, G., (2011) "*The 2ka eruption of El Misti, Southern Peru*" Special Paper 484 of the Geological Society of America, 74pp

de Silva, S.L., Bachmann, O., Miller, C.F., Yoshida, T., and Knesel, K., eds. 2007. *Large Silicic Magmatic Systems*. Special Volume of the Journal of Volcanology Geothermal Research, v 167.

Walter L.S. & **de Silva, S.L**. eds 1991. *Volcanism-Climate Interactions*, NASA Conference Publication 10062, (Microfiche) NASA Goddard Space Flight Center, 63pp

de Silva, S.L. & Francis, P.W. 1991. *Volcanoes of the Central Andes* Springer-Verlag, Heidelberg. 232 pp.

Peer-review journal articles (Graduate Advisee Authors*; Post doc/Early Career authors**)

Published

1. Iriarte R, **de Silva SL** de, Schmitt AK, Jimenez NJ (2024) The Cerro Guacha Caldera complex, SW Bolivia: A long-lived, multicyclic, resurgent caldera complex in the Altiplano-Puna Volcanic Complex of the Central Andes. J Volcanol Geotherm Res 446:107988. https://doi.org/10.1016/j.jvolgeores.2023.107988
2. Kobayashi M., Okumura S., Sasaki O., **de Silva S.L.** 2023. The role of decompression history in gas bubble formation in crystal-rich silicic magma: Gas retention versus segregation. J Volcanol Geotherm Res 107844. https://doi.org/10.1016/j.jvolgeores.2023.107844
3. Zimbelman, J., Spagnuolo, M., **de Silva S.L.**, 2023. Aerodynamic Roughness Height of Gravel-Covered Plains in the Puna of Argentina. *The Planetary Science Journal of the AAS* https://doi.org/10.3847/PSJ/accdd9
4. Bertin D., **de Silva S.L.**, Lindsay, J.M., Cronin, S., Caffe, P., Connor, C.B., Grosse, P., Baez, W., Bustos, E., and Constantinescu, R., 2023. Magmatic addition rates reveal flare-up and steady-state magmatism in the Central Andean arc. *Nature Communications Earth and Environment 4, 75.* https://doi.org/10.1038/s43247-023-00744-2
5. Burns, D.H., **de Silva, S.L.**, 2023. Andesites and evolution of the continental crust: Perspectives from the Central Volcanic Zone of the Andes. *Frontiers Earth Sci* 10, 961130. https://doi.org/10.3389/feart.2022.961130
6. Pan, B.**, **de Silva, S.L.**, Danišík, M., Schmitt, A.K., Miggins, D.P., 2022. The Qixiangzhan eruption, Changbaishan-Tianchi volcano, China/DPRK: new age constraints and their implications. *Nature Scientific Reports* 12, 22485. https://doi.org/10.1038/s41598-022-27038-5
7. Bertin, D.*, Lindsay, J.M., Cronin, S.J., **de Silva, S.L.**, Connor, C.B., Caffe, P.J., Grosse, P., Báez, W.**, Bustos, E.**, Constantinescu, R., 2022. Probabilistic Volcanic Hazard Assessment of the 22.5–28°S Segment of the Central Volcanic Zone of the Andes. *Frontiers Earth Sci* 10, 875439. https://doi.org/10.3389/feart.2022.875439
8. Alohali, A.*, Bertin, D.*, **de Silva, S.**, Cronin, S., Duncan, R., Qaysi, S., Moufti, M.R., 2022. Spatio-temporal forecasting of future volcanism at Harrat Khaybar, Saudi Arabia. Journal of

Applied Volcanology 11, 12. https://doi.org/10.1186/s13617-022-00124-z

9. **de Silva, S.**, Self, S., 2022. Capturing the Extreme in Volcanology: The Case for the Term "Supervolcano." *Frontiers Earth Science* 10, 859237. https://doi.org/10.3389/feart.2022.859237
10. Lubbers, J.*, Kent, A.R., and **de Silva, S.L.**, 2022 Thermal budgets of magma storage constrained by diffusion chronometry: the Cerro Galán ignimbrite. *Journal of Petrology* 63. https://doi.org/10.1093/petrology/egac048
11. Cisneros de Leon, A.**, Mittal, T.**, **de Silva, S.L.**, Self, S., Schmitt, A.K., and Kutterolf, S., 2022. On Synchronous Supereruptions, *Frontiers in Earth Science-Volcanology* 10, 827252. https://doi.org/10.3389/feart.2022.827252
12. Lewis, C.T.*, **de Silva, S.L**., and Burns, D.H., 2022. Rhyolitic Melt Production in the Midst of a Continental Arc Flare-Up - The Heterogenous Caspana Ignimbrite of the Altiplano-Puna Volcanic Complex of the Central Andes. *Geosphere.* https://doi.org/10.1130/ges02462.1
13. **de Silva, S.L.**, Roberge, J., Bardelli*, L., Báez, W**., Ortiz, A.**, Viramonte, J.G., Arnosio, M., and Becchio, R., 2022. Magmatic evolution and architecture of an arc-related, rhyolitic caldera complex: The Late-Pleistocene to Holocene Cerro Blanco Volcanic Complex, Southern Puna, Argentina. *Geosphere* https://doi.org/10.1130/ges02294.1
14. Burns, D.H.**, **de Silva, S.L.**, Shane, P., and Coble, M.A.**, 2022. Crustal Forensics at Putauaki (Mt. Edgecumbe), New Zealand reveal the influence of deep arc crust on magma evolution in the Taupo Volcanic Zone. *Contributions to Mineralogy and Petrology,* v.117, 16. https://doi.org/10.1007/s00410-021-01875-5
15. Mucek*, A., Danišík, M., **de Silva, S.L.**, Miggins, D.E., Schmitt, Pratomo, I., A.K., Koppers,A., and Gillespie, J., 2021. Resurgence initiation and subsolidus eruption of cold carapace of warm magma at Toba Caldera, Sumatra. *Communications Earth and Environment,* 2, 185. https://doi.org/10.1038/s43247-021-00260-1
16. Solada, K. E.*, Reilly, B.T., Stoner, J.S., **de Silva, S.L.**, Mucek, A.E.*, Hatfield, R.G., Pratomo, I., Jamil, R., and Setianto, B., 2020. Paleomagnetic Observations From Lake Sediments on Samosir Island, Toba Caldera, Indonesia, and Its Late Pleistocene Resurgence. *Quaternary Research*, v. 95. p.97–112. https://doi:10.1017/qua.2020.13.
17. Pan, B.**, **de Silva, S.L.**, Xu, J., Liu, S., and Xu, D., 2020. Late Pleistocene to Present Day Eruptive History of the Changbaishan-Tianchi Volcano, China/DPRK: New Field, Geochronological and Chemical Constraints. *Journal of Volcanology and Geothermal Research* v.399. Elsevier B.V.: 106870. https://doi:10.1016/j.jvolgeores.2020.106870.
18. Báez, W.**, **de Silva, S.L.**, Chiodi, A., Bustos, E.**, Giordano, G., Arnosio, M., Suzaño, N., Viramonte, J.G., Norini, G., and Groppelli, G., 2020. "Pulsating Flow Dynamics of Sustained, Forced Pyroclastic Density Currents: Insights From a Facies Analysis of the Campo De La Piedra Pómez Ignimbrite, Southern Puna, Argentina" *Bulletin of Volcanology*, 82: 53. https://doi:10.1007/s00445-020-01385-5
19. Báez, W.**, Bustos, E.**, Chiodi, A., Reckziegel, F., Arnosio, M., **de Silva, S.L.**, Giordano, G., Viramonte, J. G., Sampietro-Vattuone, M. M., and Peña-Monné, J. L., 2020. Eruptive Style and Flow Dynamics of the Pyroclastic Density Currents Related to the Holocene Cerro Blanco Eruption (Southern Puna Plateau, Argentina)." *Journal of South American Earth Sciences* 98. Article 102482. https://doi:10.1016/j.jsames.2019.102482.
20. Burns, D.H.**, **de Silva, S.L.**, Tepley, F.J., and Schmitt, A.K., 2019. Chasing the mantle: Deciphering cryptic mantle signals through Earth's thickest continental magmatic arc. *Earth and Planetary Science Letters*. https://doi.org/10.1016/j.epsl.2019.115985
21. Perkins, J. P.**, N.J. Finnegan, **S. L. de Silva**, and M. J. Willis. 2019. Controls on Eolian Landscape Evolution in Fractured Bedrock. *Geophysical Research Letters* 46 (21). John Wiley &

Sons, Ltd: 12012–20. https://doi:10.1029/2019GL083955
22. Sacchi, M, Giuseppe De Natale, V Spiess, L Steinmann, V Acocella, M Corradino, **S.L. de Silva**, et. al. 2019. "A Roadmap for Amphibious Drilling at the Campi Flegrei Caldera: Insights From a MagellanPlus Workshop." *Scientific Drilling* 7 (November): 1–18. https://doi:10.5194/sd-7-1-2019.
23. Okumura, S., **de Silva**, **S. L.,** Nakamura, M., and Osamu, S., 2019. Caldera-Forming Eruptions of Mushy Magma Modulated by Feedbacks Between Ascent Rate, Gas Retention/Loss and Bubble/Crystal Framework Interaction. *Nature Publishing Group*, October. Springer US, 1–12. https://doi:10.1038/s41598-019-52272-9.
24. Bustos, E*, Báez, W., Norini, G., Arnosio, M., and **de Silva**, **S.L.,** 2018. "The Geological and Structural Evolution of the Long-Lived Miocene-Pleistocene La Hoyada Volcanic Complex in the Geodynamic Framework of the Central Andes, Argentina." *Journal of Volcanology and Geothermal Research*, 385, p120 - 142. https://doi:10.1016/j.jvolgeores.2018.07.010.
25. **de Silva S.L.**, and Kay, S.M., 2018. Turning up the heat: High Flux magmatism in the Central Andes. *Elements* v. 14, No. 4, p.245 - 250
26. Pritchard, M.E., **de Silva, S.L.**, Michelfelder, G., Zandt, G., McNutt, S.R., Gottsmann, J., West, M.E., et al. 2018. Synthesis: PLUTONS: Investigating the Relationship Between Pluton Growth and Volcanism in the Central Andes. *Geosphere*, March, 1-29. https://doi:10.1130/GES01578.1.
27. Grocke*, S.B, **de Silva, S.L.**, Wallace,P.J., Cottrell, E., and Schmitt, A.K., 2018. Catastrophic Caldera-Forming (CCF) Monotonous Silicic Magma Reservoirs: Constraints from Volatiles in Melt Inclusions From the 3·49 Ma Tara Supereruption, Guacha II Caldera, SW Bolivia. *Journal of Petrology* 58 (11), p. 2114-2142. https://doi:10.1093/petrology/egy003.
28. Grocke, S. B.*, Andrews, B.J., and **de Silva, S.L.**, 2017. Experimental and Petrological Constraints on Long-Term Magma Dynamics and Post-Climactic Eruptions at the Cerro Galán Caldera System, NW Argentina. *Journal of Volcanology and Geothermal Research,* v.347, p.296–311. https://doi:10.1016/j.jvolgeores.2017.09.021.
29. **de Silva, S.L**. and Bailey, J.E., 2018. Some unique surface patterns on ignimbrites on Earth: A "bird's eye" view as a guide for planetary mappers, *Journal of Volcanology and Geothermal Research.* v. 342, p. 47-60. http://dx.doi.org/10.1016/j.jvolgeores.2017.06.009
30. Pan, B.,** **de Silva, S.L.**, Xu, J., Chen, Z., Miggins, D.P., Wei, H., 2017. The VEI-7 Millennium eruption, Changbaishan-Tianchi volcano, China/DPRK: New field, petrological, and chemical constraints on stratigraphy, volcanology, and magma dynamics, *Journal of Volcanology and Geothermal Research*, Available online 7 June 2017, ISSN 0377-0273, https://doi.org/10.1016/j.jvolgeores.2017.05.029.
31. Godoy, B*., Wörner, G., Le Roux, P., **de Silva, S.L.**, Parada, M.A., Kojima, S., González-Maurel, O., Morata, D., Polanco, E., Martínez, P., 2017. Sr- and Nd- isotope variations along the Pleistocene San Pedro – Linzor volcanic chain, N. Chile: Tracking the influence of the upper crustal Altiplano-Puna Magma Body, *Journal of Volcanology and Geothermal Research*, Available online 31 May 2017, ISSN 0377-0273, https://doi.org/10.1016/j.jvolgeores.2017.05.030.
32. Mucek, A. E.*, Danisik, M., **de Silva, S. L.**, Schmitt, A. K., Pratomo, I., & Coble, M. A., 2017. Post-supereruption recovery at Toba Caldera. *Nature Communications*, *8*, 1–9. http://doi.org/10.1038/ncomms15248
33. Grocke, S. B*., **de Silva, S. L**., Iriarte, R.*, Lindsay, J. M., & Cottrell, E., 2017. Catastrophic Caldera-Forming (CCF) Monotonous Silicic Magma Reservoirs: Geochemical and Petrological Constraints on Heterogeneity, Magma Dynamics, and Eruption Dynamics of the 3·49 Ma Tara Supereruption, Guacha II Caldera, SW Bolivia. *Journal of Petrology*, *58*(2), 227–260. http://doi.org/10.1093/petrology/egx012
34. Perkins, J. P.*, Ward, K. M., & **de Silva, S. L.**, Zandt, G., Beck, S.L., & Finnegan, N.J., 2016. Surface uplift in the Central Andes driven by growth of the Altiplano Puna Magma Body. *Nature Communications*, http://doi.org/10.1038/ncomms13185

35. Kaiser, J. F*., **de Silva, S.**, Schmitt, A. K., Economos, R., & Sunagua, M., 2016. Million-year melt–presence in monotonous intermediate magma for a volcanic– plutonic assemblage in the Central Andes: Contrasting histories of crystal-rich and crystal-poor super-sized silicic magmas. *Earth and Planetary Science Letters*, 1–14. http://doi.org/10.1016/j.epsl.2016.09.048
36. Tierney, C.R.*, Schmitt, A.K., Lovero, O.M., and **de Silva, S.L.**, 2016. Voluminous plutonism during volcanic quiesecence revealed by thermochemical modeling of zircon. *Geology*, *44*, 683-686
37. Best. M., Christiansen, E.H., **de Silva, S.**, & Lipman, P. W., 2016. Slab-rollback ignimbrite flareups in the southern Great Basin and other Cenozoic American arcs: A distinct style of arc volcanism. *Geosphere*, GES01285.1–39. http://doi.org/10.1130/GES01285.1
38. Kern, J. M**.*, de Silva, S. L.**, Schmitt, A. K., Kaiser, J. F*., Iriarte, A. R.*, & Economos, R., 2016. Geochronological imaging of an episodically constructed subvolcanic batholith: U-Pb in zircon chronochemistry of the Altiplano-Puna Volcanic Complex of the Central Andes. *Geosphere*, GES01258.1–24. https://doi.org/10.1130/GES01258.1
39. Grocke, S. B.*, Cottrell, E., **de Silva, S.L.**, & Kelley, K. A., 2016. The role of crustal and eruptive processes versus source variations in controlling the oxidation state of iron in Central Andean magmas. *Earth and Planetary Science Letters*, *440*(C), 92–104. https://doi.org/10.1016/j.epsl.2016.01.026
40. Zimbelman, J. R., Scheidt, S. P., **de Silva, S. L.**, Bridges, N. T., Spagnuolo, M. G.**,& Neely, E. M.,* 2016. Aerodynamic roughness height for gravel-mantled megaripples, with implications for wind profiles near TARs on Mars. *Icarus*, 266(C), 306–314. https://doi.org/10.1016/j.icarus.2015.11.008
41. Gregg, P. M.** Grosfils, E. B., & **de Silva, S. L.,** 2015. Catastrophic caldera-forming eruptions II: The subordinate role of magma buoyancy as an eruption trigger. *Journal of Volcanology and Geothermal Research*, *305*(C), 100–113. https://doi.org/10.1016/j.jvolgeores.2015.09.022
42. Bridges, N T, M G Spagnuolo, **S L de Silva**, J R Zimbelman, and E M Neely. 2015. "Formation of Gravel-Mantled Megaripples on Earth and Mars: Insights From the Argentinean Puna and Wind Tunnel Experiments." *Aeolian Research* 17 (C). Elsevier B.V.: 49–60. https://doi:10.1016/j.aeolia.2015.01.007.
43. Perkins, J. P.*, Finnegan, N. J., & **de Silva, S. L.**, 2015. Amplification of bedrock canyon incision by wind. *Nature Geoscience*. doi:10.1038/ngeo2381
44. **de Silva, S. L**., Mucek, A. E.*, Gregg, P. M.**, & Pratomo, I., 2015. Resurgent Toba— field, chronologic, and model constraints on time scales and mechanisms of resurgence at large calderas. *Frontiers in Earth Science*, *3*. https://doi:10.3389/feart.2015.00025
45. Burns, D. H.*, **de Silva, S. L**., Tepley, F., III, Schmitt, A. K., & Loewen, M. W.* 2015. *Earth and Planetary Science Letters*, *422*(C), 75–86. https://doi:10.1016/j.epsl.2015.04.002
46. **de Silva, S.L.** and Lindsay, J.M.*, 2015. *Volcanic Landforms*. Chapter 15, *Encyclopedia of Volcanoes*, 2nd Edition. Eds. Sigurdsson et al., Routledge Publishers
47. **de Silva, S. L**., Riggs, N. R., & Barth, A. P., 2015. Quickening the Pulse: Fractal Tempos in Continental Arc Magmatism. *Elements*, *11*(2), 113–118. https://doi:10.2113/gselements.11.2.113
48. **de Silva, S.L.** and Gregg, P.M.**, 2014. Thermomechanical feedbacks in magmatic systems: The critical importance of the thermal history of host rocks to the growth, longevity, and evolution of large silicic magma reservoirs. *Journal of Volcanology and Geothermal Research 282*(C), 77–91. http://doi:10.1016/j.jvolgeores.2014.06.001
49. Breitkreuz, C., **de Silva, S. L.**, Wilke, H. G., Pfänder, J. A., & Renno, A. D. (2014). Neogene to Quaternary ash deposits in the Coastal Cordillera in northern Chile: Distal ashes from supereruptions in the Central Andes. *Journal of Volcanology and Geothermal Research*, *269*, 68–82. https://doi:10.1016/j.jvolgeores.2013.11.001
50. Gregg, P. M.#, **de Silva, S. L.**, & Grosfils, E. B. (2013). Thermomechanics of shallow magma chamber pressurization: Implications for the assessment of ground deformation data at active volcanoes. *Earth and Planetary Science Letters*, *384*(C), 100–108.

https://doi:10.1016/j.epsl.2013.09.040

51. de Silva, S. L., Spagnuolo, M. G.#, Bridges, N. T., & Zimbelman, J. R. (2013). Gravel-mantled megaripples of the Argentinean Puna: A model for their origin and growth with implications for Mars. *Geological Society of America Bulletin*, 125(11- 12), 1912–1929. https://doi:10.1130/B30916.1
52. Martiny, B.M., Moran-Zenteno, D.J., Solari, L., Lopez-Martinez, M., **de Silva, S.L.**, Flores-Huerta, D., Zuniga-Lagunes L., Luna-Gonzalez, L., 2013. Caldera formation and progressive batholith construction: Geochronological, petrographic and stratigraphic constraints from the Coxcatlán-Tilzapotla area, Sierra Madre del Sur, Mexico. *Revista Mexicana de Ciencias Geologicas*, v.30, p. 247 - 267
53. Folkes, C. B.*, **de Silva, S. L.**, Bindeman, I. N., & Cas, R. A., 2013. Tectonic and climate history influence the geochemistry of large-volume silicic magmas: New $\delta^{18}O$ data from the Central Andes with comparison to N America and Kamchatka. *Journal of Volcanology and Geothermal Research*. https://doi:10.1016/j.jvolgeores.2013.05.014
54. Tepley, F., **de Silva, S.L.**, Salas, G., 2013. Magma dynamics and petrologic evolution leading to the VEI 5 2000 B.P. eruption of El Misti volcano, southern Peru. *Journal of Petrology, v.* 54 (10), p. 2033-2065
55. McLeod, C.L.*, Davidson J.P., **de Silva, S.L**., and Schmitt, A.K., 2013. Characterizing the continental basement of the Central Andes: constraints from Bolivian crustal xenoliths. *Geological Society of America Bulletin 125*(5-6), 985-997. https://doi:10.1130/B30721.
56. Ort, M. H., **de Silva, S. L.**, Jiménez C, N., Jicha, B. R., & Singer, B. S. (2013). Correlation of ignimbrites using characteristic remanent magnetization and anisotropy of magnetic susceptibility, Central Andes, Bolivia. *Geochemistry Geophysics Geosystems*, *14*(1), 141–157. https://doi:10.1029/2012GC004276
57. Gregg, P.#, **de Silva, S.L**., Grosfils, E., and Parmigiani, 2012. Catastrophic Caldera Collapse: Models implementing temperature-dependant rheology. *Journal of Volcanology and Geothermal Research*, v.241-242, p.1-12, https://doi:10.1016/j.jvolgeores.2012.06.009
58. McLeod, C.L.*, Davidson, J.P., Nowell, G.F., and **de Silva, S.L.**, 2012., Disequilibrium melting during crustal anatexis and implications for modeling open magmatic systems. *Geology*, published online on 26 March 2012 as https://doi:10.1130/G33000.1
59. Folkes, C.B.*, **de Silva S.L**., Schmitt, A.K., and Cas, R.A., 2011. A reconnaissance of U-Pb zircon ages in the Cerro Galán system, NW Argentina: prolonged magma residence, crystal recycling, and crustal assimilation. *Journal of Volcanology and Geothermal Research,* v. 206, p.136–147.
60. Folkes C.B.*, Wright H.M., Cas R.A.F., **de Silva S.L.**, Lesti C., and Viramonte J.G., 2011. A re-appraisal of the stratigraphy and volcanology of the Cerro Galán volcanic system, NW Argentina. *Bulletin of Volcanology* v.73, p.1427-1454
61. Folkes C.B.*, **de Silva S.L.**, Wright H.M. and Cas R.A.F. 2011. Geochemical homogeneity of a long-lived, large silicic system; evidence from the Cerro Galán caldera, NW Argentina. *Bulletin of Volcanology* v.73, p. 1455-1486.
62. Salisbury, M.J.*, Jicha, B.R., **de Silva, S.L.**, Singer, B.S., Jimenez, N.C., and Ort, M.H., 2010. ^{40}Ar-^{39}Ar chronostratigraphy of Altiplano-Puna volcanic complex ignimbrites reveals the development of a major magmatic province. *Geological Society of America Bulletin*, https://doi:10.1130/B30280.1
63. de Silva, S.L., 2010. The largest wind ripples on Earth: COMMENT. Geology, v. 38, p. e218, https://doi:10.1130/G30780C.1
64. Hora, J.M., Singer, B.S., Jicha, B.R., Beard, B.L., Johnson, C.M. **de Silva, S.L.**, and Salisbury, M.J. *, 2010. Volcanic biotite-sanidine $^{40}Ar/^{39}Ar$ age discordances reflect partitioning and pre-eruption closure in biotite. *Geology*, v. 38; no. 10; p. 923–926; https://doi:10.1130/G31064.1

65. Dietterich, H. *, and **de Silva, S.L.**, 2010. Sulfur yield of the 1600 eruption of Huaynaputina, Peru: Contributions from magmatic, fluid-phase, and hydrothermal sulfur. *Journal of Volcanology and Geothermal Research*, v.197, p. 303-312. https://doi:10.1016/j.jvolgeores.2010.01.003
66. **de Silva, S.L.**, Bailey, J.E., Mandt, K.E. *, and J-C., Viramonte, 2010. Yardangs in terrestrial ignimbrites: Synergistic remote and field observations on Earth with applications to Mars. Planetary and Space Science, v. 58, Issue 4, p. 459-471
67. Lavallée, Y.*, **de Silva, S. L.**, Salas, G., & Byrnes, J. M.# (2009). Structural control on volcanism at the Ubinas, Huaynaputina, and Ticsani Volcanic Group (UHTVG), southern Peru. *Journal of Volcanology and Geothermal Research*, *186*(3), 253–264. http://www.sciencedirect.com/science/article/pii/S0377027309002868
68. Mandt, K. *, **de Silva, S.L.**, Zimbleman, J., and Wyrick, D., 2009. Distinct erosional progressions in the Medusae Fossae Formation, Mars, indicate contrasting environmental conditions. Icarus, 204, Issue 2, , Pages 471-477
69. Mandt, K. *, **de Silva, S.L.**, Zimbleman, J., and Crown, D.A., 2008. The origin of the Medusae Fossae Formation, Mars: Insights from a synoptic approach. Journal of Geohysical Research (Planets) J. Geophys. Res., 113, E12011, https://doi:10.1029/2008JE003076.
70. Self, S., **de Silva, S.L.,** and Cortes, J.A., 2008. Enigmatic clastogenic rhyolitic volcanism: the Corral de Coquena spatter ring, North Chile. *Journal of Volcanology and Geothermal Research*, https://doi:10.1016/j.jvolgeores.2008.01.047
71. **de Silva, S.L**., 2008. Arc magmatism, calderas, and supervolcanoes. *Geology*, v.36, no.8., p.671-672
72. **de Silva, S.L.,** Salas, G., and Schubring, S. *, 2008. Triggering Explosive Eruptions: The case for silicic magma recharge at Huaynaputina, southern Peru. *Geology* v. 36, p.387-390.
73. **de Silva, S.L.**, Bachmann, O., Miller, C.F., Yoshida, T., and Knesel, K., eds. 2007. Preface to "Large Silicic Magmatic Systems" Special Volume of the *Journal of Volcanology Geothermal Research*, v. 167, vii – ix.
74. Bachmann, O., Miller, C.F., **de Silva, S.L.,** 2007. The volcanic–plutonic connection as a stage for understanding crustal magmatism. *Journal of Volcanology and Geothermal Research*. v. 167, p.1-23 https://doi:10.1016/j.jvolgeores.2007.08.002.
75. **de Silva, S.L**., and Gosnold, W.A., 2007. Episodic construction of batholiths: insights from the spatiotemporal development of an ignimbrite flare-up. *Journal of Volcanology and Geothermal Research*, v. 167, p.320-335. https://doi:10.1016/j.jvolgeores.2007.07.015
76. **de Silva, S.L.,** Zandt, G., Trumbull, R., Viramonte, J., Salas, G., and Jimenez, N., 2006 Large-scale silicic volcanism in the Central Andes – a tectonomagmatic phenomenon. G. de Natale, C., Troise, and Kilburn, C., eds. *Special Publication 269 by the Geological Society of London: Mechanisms of activity and unrests at large calderas'*. p.47-64
77. **de Silva, S.L.,** Zandt, G., Trumbull, R., and Viramonte J., 2006. Large scale silicic volcanism – the result of thermal maturation of the crust. Chapter 21 In: *Advances in Geosciences – Volume* Editor Chen Yun-tai, World Scientific Press p. 215-227
78. Lavallee, Y*., **de Silva, S.L.,** Salas, G., and Byrnes, J.#,2006. Subsidence cessation during the initial stage of funnel caldera formation at Huaynaputina, southern Peru. *Bulletin of Volcanology* https://doi:10.1007/s00445-005-0010-0
79. **de Silva, S.L.,** 2003. Eruptions linked to El Niño. *Nature*, v. 426, p 239 – 241
80. Schmitt, A.K. #, Lindsay, J.,M. #, **de Silva, S.L.**, and Trumbull, R.B., 2003. U-Pb zircon chronostratigraphy of early-Pliocene ignimbrites from La Pacana, north Chile: implications for the formation of stratified magma chambers, *Journal of Volcanology and Geothermal Research*, v. 120, p. 43-53.
81. **de Silva, S.L.,** 2001 comment on "Magmas in collision: Rethinking chemical zonation in silicic magmas" by Eichelberger et al. *Geology* v.28, p.1063-1064.

82. Schmitt, A.K.*, **de Silva, S.L.**, Trumbull, R., and Emmermann, R., 2001. Recharge in the Cerro Purico magma system: implications for compositional zonations in silicic magma chambers. *Contributions to Mineralogy and Petrology*, v. 140, p. 180-200
83. Lindsay J. M.*, Schmitt, A.K. *, Trumbull, R., **de Silva, S.L.,** Siebel , W., and Emmermann, R., 2001. Magmatic evolution of the La Pacana Caldera system, Central Andes, Chile: Compositional variation and contrasting eruption mechanisms of two cogenetic large volume felsic ignimbrites. *Journal of Petrology*, v. 42, p. 459-486
84. Lindsay J. *, **de Silva, S.L.,** Trumbull, R., Emmermann, R., and Wemmer, K., 2001 The La Pacana Caldera, N. Chile,: a re-evaluation of one of the world's largest resurgent calderas, *Journal of Volcanology and Geothermal Research*, v. 106, p. 145-173
85. Adams, N.*, **de Silva, S.L.**, Self. S., Salas, G., Permenter, J.*, and Arbesman, K.*, 2001 Physical Volcanology of the 1600AD eruption of Huaynaputina. *Bulletin of Volcanology*, v.62, p. 493-518
86. **de Silva, S.L.,** Alzueta, J.*, and Salas, G. 2000. The socioeconomic consequences of the 1600 AD eruption of Huaynaputina. In: Heiken, G & McCoy, F. eds., *Volcanic Hazards and Human Antiquity*, *Special Paper 345 of the Geological Society of America*, p.15-24.
87. Schmitt, A. K.*, & **de Silva, S.L.**, 2000. The Merzbacher & Eggler (1984) geohygrometer: a cautionary note on its suitability for high-K suites. *Journal of Petrology,* v.41, 3, p357-362
88. Davidson J.P. and **de Silva, S.L.**, 1999. "Composite Volcanoes" Chapter in *Encyclopedia of Volcanoes*, edited by Sigurdsson, et al. Academic Press p.663-681.
89. Watts, R.B. *, **de Silva, S.L.** Jimenez, G, and Croudace, I. 1999 Effusive silicic volcanism triggered and fuelled by recharge: a case study of the Cerro Chascon-Runtu Jarita, of SW Bolivia. *Bulletin of Volcanology* v.60, p.241-264
90. **de Silva, S.L.** and Zielinski, G.A., 1998. Global Influence of the AD 1600 eruption of Huaynaputina, Peru. *Nature,* v. 393, p455-458.
91. Davidson, J.P., and **de Silva, S.L.**, 1995. Late Cenozoic magmatism of the Bolivian Altiplano. *Contributions to Mineralogy and Petrology* v. 119, p. 387-408
92. **de Silva, S.L.** and Wolff, J.A., 1995. Zoned magma chambers: the influence of magma chamber geometry on sidewall convective fractionation. *Journal of Volcanology and Geothermal Research* v. 65, no. 1 - 2, p. 111-118.
93. **de Silva, S.L.,** Self, S., Francis, P.W., Drake, R.E., and Ramirez, C. 1994. Effusive silicic volcanism in the Central Andes - The Chao dacite and associated silicic lava bodies. *Journal of Geophysical Research* v. 99, no. B9, p.17805-17825.
94. Bills, B.G., **de Silva, S.L.**, Currey, D, Emenger, R., Lillquist, K., Donnellan, A., and Worden, B., 1994. Hydro-Isostatic deflection and tectonic tilting in the Central Andes: Initial results of a GPS survey of the Lake Minchin shorelines. Geophysical Research Letters , v.21, p.293-296.
95. Davidson, J.P., and **de Silva, S.L.**, 1993. Reply to comment on "Volcanic rocks from the Bolivian Altiplano: constraints on contamination and re-cycling in the Central Andes" by Hoke et al. Geology, 21, 1148-1149
96. **de Silva, S.L.,** Davidson, J.P., Croudace, I.W., and Escobar, A., 1993. Volcanological and petrological evolution of Volcan Tata Sabaya, S.W., Bolivia. *Journal of Volcanology and Geothermal Research,* v. 55, p. 305-335.
97. Davidson, J.P., and **de Silva, S.L.**, 1992. Volcanic rocks from the Bolivian Altiplano: constraints on contamination and re-cycling in the Central Andes. *Geology,* v. 20, No. 12, p. 1127-1130
98. **de Silva, S.L.,** 1991. Zonations in silicic magma chambers - insights from Central Andean ignimbrites. Geological Society of America Special Paper 265, p. 217 - 232.
99. Andres, R.J., Rose, W.I., Kyle, P.R., **de Silva, S.L.,** Francis, P.W., Gardeweg, M., and Moreno Rao, H., 1991. Excessive sulfur dioxide emissions from Chilean volcanoes. *Journal of Volcanology and Geothermal Research*, v.46, p. 323-329.
100. **de Silva, S.L.**, & Francis, P.W., 1990. Potentially active volcanoes of Peru - Observations using Landsat Thematic Mapper and Space Shuttle imagery. *Bulletin of Volcanology*, v.52, p.286-

301.

101. **de Silva, S.L.**, Wolff, J.A., and Sharpton, V.L., 1990. Explosive volcanism and associated pressures; Implication for models of endogenically shocked quartz. *Geological Society of America Special Paper 247*, p. 139 - 145.

102. Davidson, J.P., **de Silva, S.L.**, Holden, P., & Halliday, A., 1990. Investigation of magmatic processes: small scale sampling of a mafic inclusion and its more silicic host. *Journal of Geophysical Research* v.95, No. B11, p.17,661-17,675.

103. **de Silva, S.L.**, 1989b. Geochronology and stratigraphy of the ignimbrites from the 21° 30'S to 23° 30' S portion of the Central Andes of N. Chile. *Journal of Volcanology and Geothermal Research* v. 37, No. 2, p.93-191

104. **de Silva, S.L.** 1989a. the Altiplano-Puna Volcanic Complex of the Central Andes. *Geology*, v.73, No. 12, p.1102-1106

105. **de Silva, S.L,** & Francis P.W**.,** 1989 Correlation of large volume ignimbrites - two case studies from the Central Andes of N. Chile. *Journal of Volcanology and Geothermal Research.* v. 37, No. 2, p.133-149

106. Francis, P.W., **& de Silva, S.L.,** 1989. Application of Landsat Thematic Mapper to the identification of potentially active volcanoes in the Central Andes. *Remote Sensing of the Environment* v.28, p.245-255.

107. **de Silva, S.L.**, 1989c. The origin and significance of crystal-rich inclusions in pumices from two Chilean ignimbrites. *Geological Magazine* v. 126, No. 2, p.159-175

Professional Field Guides

de Silva, S.L., Mucek, A.*, Pratomo, I., and Prambada, O., 2018 Field Guide to Toba Caldera. *VIIth IWCC, September 2018, Tuk Tuk, Samosir. IAVCEI.* 32pp

de Silva, S.L., Burns, D.H.**, and Schmitt, A.K., 2018. Field Trip Guide: Purico to La Pacana: An across arc transect into the heart of an ignimbrite flare-up. *State of the Arc 7, 2018. San Pedro de Atacama, Chile*. 44pp

de Silva S.L., 1994. The Kentland Dome, Indiana: an Astrobleme. *Geol. Soc. Am. North-Central Section Guidebook*, p 16 - 42, Western Michigan University, Kalamazoo, MI.

Other Professional Papers

de Silva, S.L., 2005 The volcanic impact on climate. *Encyclopedia of Climatology*, ed. John Oliver, Kluwer publishing. p.471-478

Allen, J.*, and **de Silva, S.L.** 2005. Landsat: An integrated history. *Quest: History of Spaceflight Quarterly,* v.12, No.1, p. 1 – 16.

Pervez, Md. #, and **de Silva, S.L.**, 2005. Towards a methodology for Assessing Vulnerability and Coping Capacity of Developing Countries to Global Climate Change. In: Proceedings of the 30th Annual Third World Conference, Chicago, IL. p.14-27.

Huss, S.*, and **de Silva, S.L.,** 2000. The Case for an Astrobleme at Kentland, Indiana. "Indiana Studies" edited by Oliver J., and Dutta, P., *Indiana State University Geography Professional Paper Series* no 21, p7-22

>600 Professional Abstracts

MENTORING/ADVISING

GRADUATE STUDENTS

Select Masters Theses – Oregon State University only (31 in all)

2009 Mangon Abot	*Geobarometry of amphiboles from the Altiplano-Puna Volcanic Complex, Central Andes* Last: Senior Geologist, Geological Survey of Malaysia, Borneo
2010 Robert Peckyno	*Parameterisation of Lava Flow Morphology on Earth, Mars, and Venus* Last: Freelance Media Consultant
2011 Casey Tierney	*Times scales of magmatic evolution in the Altiplano Puna Volcanic Complex –* *insights from accessory phase geochronology.* Current: Interim Assistant Professor, Humboldt University
2012 Rodrigo Iriarte	*The Cerro Guacha caldera complex, SW Bolivia – volcanological and structural development.* Current: Professor, UMSA, La Paz, Bolivia
2012 Jamie Kern	*Longevity of supervolcanic systems inferred from U-Pb Chronology of zircons from the Altiplano-Puna Volcanic Complex of the Central Volcanic Zone of the Andes* Current: Informal Educator/Interpreter, National Park Service
2015 Bethany Murphy	*Longevity of mush at Unzen volcano, Japan* Current: Geoscience Consultants, New Zealand
2018 Katharine Solada	*Resurgence at Toba caldera: constraints from sedimentary record of Samosir Island* Current: Instructor, Spokane Community College
2019 Jade Bowers	*Petrological Forensics of Mount Sinabung, Indonesia* Current: PhD Student, Boise State University
2019 Michelle Neely	*Spatial characteristics of gravel megaripples, NW Argentina* Current: GIS Specialist, Portland, OR
2021 Abdullah Alohali	Spatiotemporal Volcanic Hazard Assessment for Harrat Khaybar, Saudi Arabia Current: PhD student at Oregon State University

Current:
2023 Verenice Becerill-Gonzalez

Select Ph.Ds – while at Oregon State University only (12 in total)

2010 Chris Harpel	*Stratigraphy, Sedimentology, and Eruptive Dynmaics of the 2-ka Eruption of El Mist, Southern Peru* Current: Volcanologist, USGS, Volcano Disaster Assistance Program
2010 Chris Folkes	*Volcanological and petrological evolution of the Cerro Galan caldera, NW Argentina* (Monash University, co-advisor with Ray Cas) Current: Senior Geologist, New South Wales Geological Survey
2014 Dale Burns	*Evolution of continental magmatic systems – insights from the Cerro Purico Complex, N. Chile.* (Co-advisor with Frank Tepley) Current: Research Faculty, Geological Sciences, Stanford University
2014 Stephanie Grocke	*Melt inclusion constraints on the volatile budgets of large silicic magmatic systems* Current: Geologic Consultant, Nevada Resources, Truckee, NV
2014 Jason Kaiser	*The Pastos Grandes caldera complex, SW Bolivia volcanological and structural development.* Current: Associate Professor, University of Southern Utah

2017 Adonara Mucek	*Duration, rates, style, and mechanisms of post-YTT resurgent uplift of Samosir Island, Sumatra* Current: STEM Curriculum Developer, Singapore
2021 Jordan Lubbers	*Thermochemical Storage Conditions of Caldera Forming Magmatic Systems Revealed by Diffusion Chronometry* (co-advised with Adam Kent) Current: USGS Volcano Hazard Group, Alaska
2022 Daniel Bertin,	*Spatiotemporal analysis of volcanism in back-arc setting: the Puna plateau, Argentina* University of Auckland (co-advisor w. Jan Lindsay)

Current:
2020 Charles Lewis, Oregon State University
2021 Abdullah Alohali, Oregon State University
2023 Abby Gillen, Oregon State University

6 other PhD committees (member)
15 External PhD committees (member or primary examiner)
42 Summer REU/interns (undergraduate)

POST-DOCTORAL ADVISEES[1]/SPONSORED VISITING RESEARCH SCHOLARS[2] *Current Position*

Guido Salas[2]	2006 to 2007	*Professor, UNSA, Arequipa*
Patricia Gregg[1]	2010 to 2014	*Associate Professor at University of Illinois*
Mauro Spagnuolo[1]	2012 to 2014	*Universidad de Buenos Aires, CONICET Investigator*
Pan Bo[1]	2013 to 2014	*Staff Scientist, Chinese Earthquake Administration, Beijing, China*
Akihiko Tomiya[2]	2014 to 2015	*Senior Scientist, Geological Survey of Japan*
Seiko Yamasaki[2]	2016 to 2017	*Scientist, Geological Survey of Japan*
Shimpei Uesawa[2]	2017 to 2018	*Scientist, CRIEPI, Japan*
Alejandro Cisneros de Leon[1]	2023 to 2025	Oregon State University
Walter Baez[2]	2023 to 2024	Oregon State University
Agostina Chiodi[2]	2023 to 2024	Oregon State University

SELECTED SYNERGISTIC PROFESSIONAL ACTIVITIES (last 10 years) Those of particular relevance to NSF program director position are highlighted in blue.

Service to the national and international scientific and engineering community

Leadership roles:

Vice President, International Association of Volcanology and Chemistry of the Earth's Interior, 2015-2019
Co-Commissioner IAVCEI Commission on Collapse Calderas, 2016-2018

113th Congress, Natural Resources Sub-Committee Expert Testimony on "*Volcano Hazards: Exploring the National Preparation and Response Strategy*". November 19, 2014, Washington D.C

Scientific Publishing:

Books Editor, Geological Society of America (GSA) Publications - Current
Science Editor, *Geosphere*, GSA publications, 2014 to 2021
Editorial Boards *Journal of Volcanology and Geothermal Research* (2000 -2018)
Frontiers in Earth Science:Volcanology (2017 to present)
Earth, Planets and Space (2010 to 2018)
Publications Committee of the Geological Society of America (2014 to 2021)

K-U Outreach

Director/Coordinator – *VolcanoWorld* (http://volcano.oregonstate.edu/) – One of the first comprehensive volcano outreach websites now in its 30th year

Broadening Participation of Groups Underrepresented in STEM

Geobridge program housed at Linn Benton Community College on which I was the Co-PI(https://serc.carleton.edu/sage2yc/transfer/geopaths/carter.html).

Aug 2020 - International panel on equality, diversity and inclusion in volcanology by the UK-based Volcanic Magmatic Studies Group (VMSG). Panel 2 - https://vmsg.org.uk/events/edi-panel-events/