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EDUCATION

2003 – 2005 Postdoctoral Fellow, Earth & Planetary Sciences, The Johns Hopkins University
2000 – 2003 PhD, Geology, University of Maryland
1995 – 1997 M.S., Earth & Space Sciences, Stony Brook University
1992 – 1995 B.S., Geology, University of Maryland

PROFESSIONAL POSITIONS

2021 – present Director, [Michigan Research and Discovery Scholars](#) (MRADS) program
2019 – present [Arthur F. Thurnau Professor](#), University of Michigan, [Earth & Environmental Sciences](#)
2018 – present Professor, [Program in the Environment](#) (PitE) undergraduate program
2014 – 2018 Associate Professor, Program in the Environment (PitE) undergraduate program
2012 – 2018 Associate Professor, University of Michigan, Earth & Environmental Sciences (tenure home)
2011 – 2012 Associate Professor, University of Nevada, Las Vegas, Geosciences
2005 – 2011 Assistant Professor, University of Nevada, Las Vegas Geosciences
2004 – 2005 Postdoctoral Fellow, The Johns Hopkins University, Earth and Planetary Sciences
2003 – 2004 Research Associate, University of Maryland, Geology

HONORS/AWARDS

2019 Nominated and selected as an [Arthur F. Thurnau Professor](#)
2018 Michigan Sustainability Case studies Innovation Prize (with two undergraduate students)
2017 University of Michigan Provost's Teaching Innovation Prize (one of 5 campus wide)
2017 Best Professor, selected by department undergraduate and graduate students
2016 Best Professor, selected by department undergraduate and graduate students
2015 Elected as a Fellow of the Society of Economic Geology
2012 Graduate and Professional Student Association, Outstanding Contribution Award, UNLV
2010 Distinguished Teacher Award for College of Sciences, UNLV (single awardee)
2009 Graduate and Professional Student Association, Faculty Service Award, UNLV
2006 Congressional Antarctica Service Medal

PROFESSIONAL SERVICE (panels, editorial duties, professional society positions)

2021 – present National Committee for Geosciences (USNC/GS) National Academy of Sciences
2021 Mineralogical Society of American Nominating Committee Chair
2020 Mineralogical Society of American Award Committee, Chair
2020 – present Associate Editor, *Geochimica et Cosmochimica Acta*
2019 – 2020 Society of Economic Geologists Fellows Committee, Chair
2020 Tenure and Promotion review for Al al-Bayt University, Jordan
2019 National Science Foundation Graduate Research Fellowships Panel
2019 – present Society of Economic Geologists, Chair of Committee on Committees
2019 – 2022 Councilor, Mineralogical Society of America (MSA) global governing body (elected)
2018 U. of Michigan Ross Business School, Renewable Energy Case Competition, judge
2018 National Science Foundation Graduate Research Fellowships Panel
2017 U. of Michigan Ross Business School, Renewable Energy Case Competition, judge
2017 – present Associate Editor, *Frontiers in Earth Science*

- 2017 – present Society of Economic Geologists Awards Committee
2017 Estonian Research Council, Grant Proposal Reviews
2017 National Science Foundation postdoctoral fellowship review panel
2017 National Sciences and Engineering Council of Canada (NSERC) panel
2016 – present Associate Editor, Journal of Economic Geology
2016 Tenure and Promotion review for University of Leuven (KU Leuven), Belgium
2016 Spring Panel, National Science Foundation, Petrology and Geochemistry
2016 Reviewer, England’s National Environmental Research Council (NERC)
2016 Reviewer, National Science and Engineering Research Council of Canada (NSERC)
2016 Fall Panel, National Science Foundation, Petrology and Geochemistry Panel
2016 – 2018 Councilor, Society of Economic Geologists (elected position; global governing board)
2016 Reviewer, Fellowship Program, Wissenschaftskolleg zu Berlin, Institute for Advanced Study
2016 Co-chair, Theme 11: Mineral Resources, 2016 Goldschmidt Conference in Yokohama, Japan
2014 – present Faculty sponsor, Student Chapter of the Society of Economic Geologists
2014 – present Faculty sponsor, Student Chapter of American Association of Petroleum Geologists
2014 Organized and convened technical session for AGU Fall Meeting
2014 Co-chair, Theme 11: Mineral Resources, 2014 Goldschmidt Conference
2013 National Science Foundation Graduate Fellowship Review Panel
2012 Organized and convened one technical session for AGU Fall Meeting
2012 Gordon Conference Geochemistry of Mineral Deposits, Session Organizer/Chair
2011 National Science Foundation Graduate Fellowship Review Panel
2010 Reviewer for NSF Engineering Research Centers
2010 Convened Pan-American Current Research on Fluid Inclusions (PACROFI), UNLV
2010 National Science Foundation Graduate Fellowship Review Panel
2010 Geological Society of American Session Convener
2008 National Science Foundation Petrology and Geochemistry Review Panel
2009 Reviewer for NSF Engineering Research Centers
2009 Geological Society of American Session Convener
2008 AGU Fall Meeting Session Convener
2008 GSA Cordilleran Sectional Meeting Session Convener
2007 AGU Fall Meeting Session Convener
2006 Chemical Geology, Guest Editor for Special Issue on Subduction Zone Geology
2006 AGU Spring Meeting Session Convener
2005 AGU Fall Meeting Session Convener
2005 Goldschmidt Session Convener
2002 GSA Annual Meeting Session Convener
2001 AGU Spring Meeting Session Convener

UNIVERSITY SERVICE

- 2021 – 2022 Evaluation Committee for Rhodes, Marshall, Goldwater, and Astronaut Scholarships
2021 – 2022 LSA College level committee to offset scope three carbon emissions
2019 – 2023 International Travel Oversight Committee (Provost's Office)
2018 – 2020 Executive Committee, Program in the Environment (PitE) undergraduate program (elected)
2018 – 2019 Teaching Academy mentor for new faculty; College of Literature, Science, and the Arts
2018 – 2021 Curriculum Committee, College of Literature, Science, and the Arts (elected college wide)
2017 – 2018 University of Michigan Energy Institute, Director search committee (Provost request)
2017 – 2018 Co-chair, Committee for the transition of the undergraduate Program in the Environment (PitE) program to shared governance between School for Environment and Sustainability, and College of Literature, Science, and the Arts
2017 – 2018 UM President’s Greenhouse Gas Reduction Committee

- 2016 – 2017 Curricular Innovations Working Group, developing graduate curriculum recommendations for UM’s new School of Environment and Sustainability (SEAS)
- 2016 – 2017 Michigan Sustainability Case Studies (MSC) curriculum review committee
- 2016 – 2017 Committee responsible for 5-year review of the University of Michigan Energy Institute
- 2016 Member, Program in The Environment (PiTE) committee to revise Natural Sciences major
- 2016 T & P Committee for Department of Communications candidate Sol Hart
- 2014 – 2015 Chair, Program in The Environment (PiTE) Committee to develop ‘Energy science and policy’ minor to UM’s College of Literature, Science and the Arts (LSA)
- 2011 – 2012 Chair, UNLV Graduate College Student Funding Committee
- 2011 – 2012 Member, UNLV Graduate College Executive Advisory Committee
- 2011 – 2012 University Best Graduate Thesis/Dissertation Committee
- 2010 – 2012 UNLV Faculty Senate Academic Standards Committee
- 2007 – 2009 Chair, UNLV Faculty Senate Academic Standards Committee
- 2008 – 2012 Faculty Advisor to UNLV Graduate Professional Student Association
- 2008 – 2012 University Faculty Senate Academic Integrity Appeal Panel Member
- 2008 – 2009 UNLV High Pressure Science and Engineering Center Deputy Director Search
- 2006 – 2008 University Faculty Senate Sabbatical Leave Committee
- 2006 – 2007 UNLV High Pressure Science and Engineering Center faculty search committee
- 2006 Organized and hosted NSF Program Director site visit to UNLV

DEPARTMENT SERVICE

- 2021 – 2023 Executive Committee (elected by faculty)
- 2020 14-day field trip Israel and Jordan with 15 undergraduate/graduate students
- 2018 – present Curriculum Committee
- 2013 – present Alumni Board faculty liaison, alumni relations committee co-chair
- 2016 – present Organize and host career panels each semester for undergraduate/graduate students
- 2016 7-day field trip with 18 undergraduate/graduate students to Ontario and Michigan’s UP
- 2016 Monthly department electronic newsletter
- 2016 Annual department print Newsletter
- 2016 Alumni Relations Committee
- 2015 7-day field trip for 12 undergraduate/graduate students to Ontario
- 2014 – 2015 Alumni Relations Committee
- 2014 – 2015 Executive Committee
- 2014 2-week field trip with 21 students to Chile
- 2014 7-day field trip for 29 undergraduate/graduate students to Michigan’s Upper Peninsula
- 2014 Member, Committee for the Promotion Review of Fuxiang Zhang
- 2014 Turner Postdoctoral Applicants Committee
- 2013 – 2014 Executive Committee (elected by faculty)
- 2013 Graduate Admissions Committee
- 2012 Member, Committee for Promotion Review of EMAL Scientist Gordon Moore
- 2011 – 2012 Geoscience Graduate Coordinator (n = 60 students; no salary compensation provided)
- 2006 – 2012 Supervisor of the Electron Microanalysis and Imaging Laboratory (EMIL)
- 2010 – 2010 Chair, Search Committee, Director of Electron Microprobe Laboratory
- 2009 – 2010 Faculty Mentor, Introductory Geology Course Graduate Lecturers
- 2006 – 2010 Geoscience Promotion and Tenure Committee
- 2008 – 2009 Chair, Search Committee for Director of Electron Microprobe Laboratory
- 2006 – 2008 Faculty Supervisor, Geoscience Student GeoSymposium
- 2006 – 2007 Geoscience Scholarship Committee
- 2006 – 2007 Chair, Undergraduate Enrollment Working Group
- 2006 Geoscience Colloquium Coordinator

2005 – 2006 Geoscience Increasing Undergraduate Numbers Working Group
2006 Chair, Geoscience Undergraduate Awards Committee
2006 Committee, Best Graduate Thesis

INVITED PRESENTATIONS

2022 Witwatersrand University, South Africa
Stony Brook University
Colorado School of Mines
University of Texas Austin, Bureau of Economic Geology
New Mexico Institute of Mining and Technology
University of Texas El Paso
Mohammed VI Polytechnic University, Morocco

2021 Irish Centre for Research in Applied Geoscience (iCRAG)
Workshop on Critical Metals (keynote; 500 attendees)
Institut de Physique du Globe de Paris
University of Alaska
Society of Economic Geologists Annual Meeting (keynote)

2020 University of Ottawa
Department of Energy (Washington, DC)
University of Maryland
Ore Deposits Hub

2019 Chinese Academy of Sciences
China University of Geosciences Beijing
Society of Economic Geologists Annual Meeting
Northern Illinois University
Geologists of Jackson Hole

2018 Society of Economic Geologists Annual Meeting
Goldschmidt Conference
Gordon Conference, Geochemistry of Mineral Deposits
Pan-American Current Research on Fluid Inclusions
University of British Columbia
Michigan Law School, *Journal of Law Reform* Annual Symposium
University of Iowa

2017 Cornell University
Advancing Health Communities through Environmental Engineering and Science
Society for Geology Applied to Mineral Deposits (SGA, keynote)
Society of Economic Geologists, Annual Meeting (Beijing) (keynote)
Prospectors and Developers Association of Canada (PDAC) Annual Meeting
Akita University, Japan
International Cooperation Agency Research Institute, Tokyo, Japan
California State University Fullerton
Brigham Young University
Miami University of Ohio

2016 Geological Society of America Annual Meeting (keynote)
Stanford University (two talks)
Gordon Conference, Geochemistry of Mineral Deposits (keynote)
University of Chile

2015 American Geophysical Union Fall Meeting
University of Hannover, Germany
Goldschmidt Geochemistry Conference, Prague, Czech Republic

- 2014 Ralph J. Roberts Center for Research in Economic Geology
Geological Society of America Annual Meeting
Society of Economic Geologists Annual Meeting
Goldschmidt Geochemistry Conference
Western Michigan University
Wayne State University
- 2013 University of North Dakota
North Dakota State University
AGU Fall Meeting, San Francisco
Goldschmidt Geochemistry Conference
- 2012 University of Illinois Urbana-Champaign
Geological Society of Nevada, Reno
American Museum of Natural History (New York, NY)
University of Michigan, Department of Earth & Environmental Sciences
- 2011 Mineralogical Society of America, Sulfur Short Course, Goslar, Germany
- 2010 Hebrew University of Jerusalem
McGill University
- 2009 University of Southern California
Geological Society of Nevada, Las Vegas Chapter
- 2008 University of Nevada, Reno
Geological Society of Nevada, Elko Chapter
- 2007 Tohoku University, Sendai, Japan
Bern University, Switzerland
- 2006 Barrick Gold Corporation
Northern Arizona University
Institute of Seismology and Volcanology, Petropavlovsk, Russia
Geological Society of Nevada, Las Vegas Chapter
University of Nevada Reno
Colorado School of Mines Colloquium Series
- 2005 Johns Hopkins University

COMMUNITY OUTREACH

- 2019 – 2020 Science Olympiad, Slauson Middle School, Ann Arbor Public Schools
- 2018 – 2019 Mentor for 6th-8th grade Academic Games team, Slauson Middle School, Ann Arbor, MI
- 2016 – present Co-organized, secured funding, and taught Coastal Oceanography Environment Science School (COESS) annual summer school in Accra, Ghana for 150 students from Cameroon, Ghana, Ivory Coast, Nigeria, and Liberia
- 2017 Science Olympiad Coach, Map Reading, 4th and 5th grade, Lawton Elementary School
- 2016 Master event coordinator, 5th grade Battle of the Books, Lawton Elementary School
- 2015 Master event coordinator, Battle of the Books, 4th grade Lawton Elementary School
- 2015 Guest lecturer, Pioneer High School AP Environmental Science
- 2015 Team Leader, Battle of the Books, 3rd grade Lawton Elementary School
- 2014 Team Leader, Battle of the Books, 4th and 5th grades, Lawton Elementary School
- 2013 Rock cycle demonstration, 2nd grade, Lawton Elementary School
- 2013 5th grade Science Olympiad Coach, Lawton Elementary School
- 2013 Earth Science mentor, 6th grade FLL robotics teams, Bloomfield Hills Middle School
- 2010 – 2011 Geoscience Content Specialist, 2011 UNLV – Clark County School District
Summer School VISIONS Program for K-5 Teachers
- 2009 – 2011 Cub Master for Boy Scout Troop 713
- 2006 – 2009 Nevada Southern Regional K-12 Science Fair Judge

ACTIVE GRANTS

2019-2022, \$369,279 (Simon lead PI) 56.5%, NSF EAR, Testing the hypothesis that iron oxide - copper -gold (IOCG) and iron oxide - apatite (IOA) deposits evolve as parts of the same mineral system.

EXPIRED GRANTS

2015-2020, \$350,000 (Simon lead PI) 55.5%, NSF EAR, Sulfur Isotope Fractionation and Sulfur Partitioning between Apatite and Silicate Melts, Co-I Adrian Fiege, American Museum of Natural History

2013-2017, \$388,582 (Simon lead PI; portion \$214,683), 55.5%, NSF EAR, Collaborative Research: The Behavior of Sulfur During Magma Mixing and Implications for Magma Degassing and Ore Formation, Co-I Philipp Ruprecht, Columbia University Lamont-Doherty Earth Observatory

2016-2017 \$33,000, University of Michigan Provost's Third Century Initiative to develop inquiry-based sustainability case studies.

2016, \$20,000, NSF EAR Geochemistry of Mineral Deposits Gordon Research Conference (GRC). Funded students and early career scientists to attend the GRC, held every 4 years.

2012-2016, \$379,393 (Simon lead PI; portion \$251,458), 55.5%, NSF EAR, Quantifying Rare Earth (REE) and High Field Strength (HFSE) Element Mobility in Fluids at Conditions Appropriate for Forearc to Subarc Cold and Hot Subduction Zones.

2010-2014, \$148,000 (Simon portion), 55.5%, NSF EAR, Collaborative Research: Integrated investigations of isotopic fractionation in magmatic systems. Co-PIs: Chip Leshner, UC Davis; Craig Lundstrom, U. Illinois; Jim Van Orman and Daniel Lacks, Case Western Reserve

2010-2011, \$21,350, 0%, NSF EAR, Pan-American Current Research on Fluid Inclusions (PACROFI) Conference. Co-PI Jean Cline, UNLV.

2007-2013, \$164,763, 48.5%, NSF EAR, Platinum group element fractionation in mafic layered intrusions. Sole PI. 1month

2010-2011, \$20,000 (Simon portion), 44%, U.S. Department of the Interior (USGS) History and origin of mineral deposits in Northern Nye County, Nevada. Co-Is, Andrew Hanson, Jean Cline, UNLV (Simon, 1/2 month)

2009-2010, \$75,000 (Simon portion), 44%, U.S. Geological Survey (USGS), History and origin of mineral deposits in Northern Nye County, Nevada. Co-Is, Andrew Hanson, Jean Cline, UNLV (Simon, 1/2 month)

2006-2012, \$570,733 (Simon portion), DOE NNSA, Quantifying trace element mobility at elevated pressure and temperature with applications to subduction zone recycling. Co-Is, Oliver Tschauer, Malcolm Nichol (Simon, 1month)

2007-2008, \$15,000, NSF EPSCoR, Characterization of unsaturated flow in heap leach piles. Co-I Michael Nicholl (Simon, 1 month, no salary)

INDUSTRY SUPPORT

2011-2013, Characterizing ore mineralization at the Estelle property, Alaska. Millrock Resources and Teck Resources. Funded one M.S. student research project. \$20,000

2009-2010, Defining stratigraphy and determining the influence of metamorphism as an ore control in the lower Paleozoic host rocks of the Getchell Carlin-type gold deposit, Nevada, U.S.A. Barrick Gold Corporation, Co-PI Jean Cline. Funded one M.S. student research project. \$30,000.

2007-2008, Igneous Geochronology and Petrography of the Cortez Hills Carlin-type Gold Deposit, Cortez, Nevada. Center for Research in Economic Geology (CREG), University of Nevada, Reno, U.S.A. Funded one M.S. student research project. \$16,000.

SYNCHROTRON BEAM TIME AWARDED (competitive, peer-reviewed proposals)

2021 18 shifts at the National Synchrotron Light Source
 2020 9 shifts at the Advanced Photon Source
 2020 12 shifts at the Swiss Light Source
 2020 9 shifts at the National Synchrotron Light Source
 2019 6 shifts at the National Synchrotron Light Source
 2018 18 shifts at the Advanced Photon Source, Argonne, IL
 2017 18 shifts at the Advanced Photon Source, Argonne, IL
 2016 27 shifts at the Advanced Photon Source, Argonne, IL
 2015 27 shifts at the Advanced Photon Source, Argonne, IL
 2014 9 shifts at the Advanced Photon Source, Argonne, IL
 2013 20 shifts at the Advanced Photon Source, Argonne, IL

COURSES TAUGHT

Scale of 1.0 = lowest ranking, to 5.0 = highest ranking

Q1 = Overall, this was an excellent course.

Q2 = Overall, the instructor was a good teacher.

Resp. = My teaching proportion for the course

Enrol. = Total student enrollment

NC = Teaching evaluations not collected.

NA = Not Asked on this evaluation form

University of Michigan (u = undergraduate; g = graduate)

<u>Year</u>	<u>Term</u>	<u>Type</u>	<u>Name</u>	<u>Credits</u>	<u>Resp.</u>	<u>Enrol.</u>	<u>Q1</u>	<u>Q2</u>
2021	Winter	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	155	4.8	4.8
2020	Sum.	Lecture	uEARTH/ENVIRON 344	4	50%	30	4.3	4.9
2020	Spring	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	72	4.3	4.7
2020	Winter	Lecture/Dis.	uEARTH/ENVIRON 119	4	100%	55	4.8	4.8
2020	Winter	Lecture/Dis.	u/gEARTH 435	3	100%	15	4.9	4.9
2019	Fall	Lecture/Dis.	gEARTH 582	4	100%	9	4.6	4.6
2019	Fall	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	131	4.5	4.7
2019	Fall	Lecture/Dis.	uEARTH/ASTRO 255	3	33%	30	4.5	4.6
2019	Sum.	Lecture	uEARTH/ENVIRON 344	4	50%	15	4.80	5.00
2019	Spring	Lecture	uEARTH/ENVIRON 102	1	100%	42	4.60	4.70
2018	Fall	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	129	4.60	4.80
2018	Fall	Lecture/Dis.	uEARTH/ASTRO 255	3	33%	32	3.9	4.80
2018	Sum.	Lecture	uEARTH/ENVIRON 344	4	50%	14	5.00	5.00
2017	Fall	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	129	4.50	4.83
2017	Fall	Lecture/Dis.	uEARTH/ASTRO 255	3	33%	36	4.42	4.87
2017	Sum.	Lecture	uEARTH/ENVIRON 344	3	50%	19	4.50	5.00

2017	Spring	Lecture	uEARTH/ENVIRON 102	1	100%	67	4.50	4.67
2017	Winter	Lecture/Dis.	uEARTH/ENVIRON 119	4	100%	92	4.73	4.82
2016	Fall	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	133	4.64	4.88
2016	Fall	Lecture/Dis.	uEARTH/ASTRO 255	3	33%	32	3.76	4.88
2016	Sum.	Lecture	uEARTH/ENVIRON 344	3	50%	22	4.94	5.00
2016	Spring	Lecture	uEARTH/ENVIRON 102	1	100%	55	4.00	4.20
2016	Winter	Lecture/Dis.	uEARTH/ENVIRON 119	4	100%	92	4.73	4.82
2015	Fall	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	131	4.71	4.88
2015	Fall	Lecture/Dis.	uEARTH/ASTRO 255	3	33%	30	3.15	4.75
2015	Fall	Lecture/Dis.	gEARTH 582	4	100%	5	5.00	5.00
2015	Sum.	Lecture	uEARTH/ENVIRON 344	1	50%	10	4.67	4.67
2015	Sum.	Field Trip	uEARTH 435	1	100%	8	NC	NC
2015	Spring	Lecture	uEARTH/ENVIRON 102	1	100%	80	4.81	4.95
2015	Winter	Lecture/Dis.	uEARTH/ENVIRON 119	4	100%	125	4.62	4.90
2015	Winter	Lecture	uEARTH 435	1	100%	20	5.00	4.33
2014	Fall	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	109	4.72	4.83
2014	Fall	Field Trip	uEARTH 436	1	50%	19	4.90	4.67
2014	Sum.	Lecture	uEARTH/ENVIRON 344	3	50%	15	4.83	4.83
2014	Spring	Lecture	uEARTH/ENVIRON 380	3	100%	47	4.25	4.70
2014	Winter	Lecture/Dis.	gEARTH 582	4	100%	5	4.50	4.83
2013	Fall	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	107	4.43	4.76
2013	Sum.	Lecture	uEARTH/ENVIRON 344	3	33%	17	4.93	4.93
2013	Winter	Lecture/Dis.	uEARTH/ENVIRON 380	4	100%	62	4.58	4.81

University of Nevada Las Vegas (u = undergraduate; g = graduate)

2012	Spring	Lecture/Lab	Physical Geology	4	100%	75	4.7	4.6
2011	Fall	Lecture/lab	Physical Geology	4	100%	45	4.0	4.1
2011	Fall	Lecture/lab	gMetallic Ore Deposits	4	50%	18	5.0	5.0
2011	Fall	Lecture/lab	uMetallic Ore Deposits	4	50%	18	4.8	4.7
2011	Sum.	Lecture	uPhysical Geography	3	100%	15	N/C	N/C
2011	Spring	Lecture/lab	uPhysical Geology	4	100%	56	3.9	4.1
2010	Sum.	Lecture	uPhysical Geography	3	100%	17	N/C	N/C
2010	Spring	Lecture	uOptical Mineralogy	3	100%	13	5.0	4.8
2010	Spring	Lecture	uPhysical Geology	4	100%	45	4.3	4.9
2009	Fall	Lecture	gMagma PTX	3	100%	6	5.0	4.8
2009	Fall	Lecture/lab	u-gMetallic Ore Deposits	4	50%	20	4.6	4.7
2009	Sum.	Lecture	uPhysical Geography	3	100%	15	NC	NC
2009	Spring	Lecture	gTime Management/Posters	1	100%	18	NC	NC
2009	Spring	Lecture	uPhysical Geology	3	50%	46	4.2	4.5
2009	Spring	Lecture	uPhysical Geology	3	50%	44	4.4	4.5
2009	Spring	Lecture	uOptical Mineralogy	3	100%	12	4.8	4.7
2008	Sum.	Lecture	uPhysical Geography	3	100%	15	N/C	N/C
2008	Spring	Lecture	gMagma evolution	3	100%	5	5.0	4.8
2008	Spring	Lecture	uPhysical Geology	3	50%	12	4.3	4.3
2008	Spring	Lecture	uOptical Mineralogy	3	100%	12	4.6	4.8
2007	Fall	Lecture/lab	uPhysical Geology	4	100%	49	4.2	4.5
2007	Sum.	Lecture	uPhysical Geography	3	100%	21	N/C	N/C
2007	Spring	Lecture	gTectonics, Petrology & Fluids	3	33%	9	4.6	4.5
2007	Spring	Lecture	uOptical Mineralogy	3	100%	12	3.8	4.6
2006	Fall	Lecture/lab	u-gMetallic Ore Deposits	4	50%	6	3.7	3.7

2006	Fall	Lecture/lab	ªPhysical Geology	4	100%	60	4.2	4.7
2006	Sum.	Lecture	ªPhysical Geography	3	100%	20	4.3	4.4
2006	Spring	Lecture	§Magma Emplacement	3	100%	5	5.0	5.0
2005	Fall	Lecture/lab	ªPhysical Geology	4	100%	60	4.8	3.8

Johns Hopkins University (evaluations not available)

2004-2005 §Ore Deposit Geochemistry

University of Maryland (evaluations not available)

2004-2005 ªOptical Mineralogy and ªPhysical Geology lectures and labs

2003-2004 ªOptical Mineralogy and ªPhysical Geology lectures and labs

2002-2003 ªOptical Mineralogy lecture and lab

Northern Virginia Community College (evaluations not available)

1998-2000 ªPhysical Geology and ªHistorical Geology lectures and labs

CURRENT GRADUATE STUDENTS (Primary Advisor; *underrepresented student*)

2021 – present *Andres Felipe Gonzalez Duran, PhD*
 2020 – present Daniel Blakemore, PhD
 2020 – present Chris Emproto, PhD
 2019 – present *Justin Casaus, PhD*
 2018 – present *Jackie Wrage, PhD*
 2017 – present *Maria Alejandra Rodriguez Mustafa, PhD*

FORMER GRADUATE STUDENTS (Primary Advisor; *underrepresented student*)

University of Michigan

2015 – 2019 *Nikita La Cruz, PhD, Guyana Geology and Mines Commission*
 2014 – 2019 Tristan Childress, PhD, exploration geologist
 2014 – 2018 *Brian Konecke, PhD, postdoctoral fellow, NASA*
 2016 – 2018 *Gephen Sadove, M.Sc., Environmental Consultant, Geosyntec*
 2015 – 2016 *Daniel Korfeh, M.Sc., Lecturer, Economic Geology, University of Liberia*
 2013 – 2019 *Jaayke Knipping, PhD, private industry, Germany*
 2012 – 2015 Tom Hudgins, PhD, Assistant Professor, University of Puerto Rico
 2011 – 2015 *Laura Bilenker, PhD, Postdoc, University of British Columbia*
 2010 – 2014 *Liz Tanis, PhD, Petrophysicist, Shell (2010-2012 at UNLV)*

University of Nevada Las Vegas

2012 – 2014 Kevin Meazell, MS, PhD candidate, University of Texas
 2011 – 2014 *Ember Flagg, MS, UNLV, Exploration Geologist*
 2010 – 2012 Seth Schueler, MS, UNLV, Exploration Geologist
 2010 – 2012 *Lindsey Clark, MS, UNLV, Occidental Petroleum, Exploration Geologist*
 2011 – 2012 *Jane Didaleusky, MS, UNLV, Environmental Consultant*
 2008 – 2010 Nathan Eck, MS, UNLV, Exploration Geology, Barrick Gold Corp.
 2008 – 2010 Brian Aillaud, MS, UNLV, Exploration Geology, Independent
 2007 – 2011 Kelly Robertson, PhD, UNLV, Research Scientist, ExxonMobil
 2007 – 2009 Steve Maglio, MS, UNLV, Systems Engineer
 2006 – 2008 *Greg Zellner, UNLV, Environmental Consulting (did not finish MS)*
 2006 – 2008 Zach Artz, UNLV, Environmental Consulting (did not finish MS)
 2006 – 2010 Aaron Bell, PhD, UNLV, Research Scientist, University of Colorado

UNDERGRADUATE STUDENTS PERFORMING RESEARCH WITH MY GROUP

University of Michigan (*underrepresented student*; students reported twice conducted separate projects)

Nur Renollet	2021-2022 Undergraduate Research Opportunity Program (UROP)
Hanna Tuoriniemi	2021-2022 Undergraduate Research Opportunity Program (UROP)
Samantha Barnes	2021-2022 Undergraduate Research Opportunity Program (UROP)
<i>Andres Velasco</i>	2021-2022 Undergraduate Research Opportunity Program (UROP)
Henry Bushell	2021-2022 Undergraduate Research Opportunity Program (UROP)
Ian Goan	2021-2022 (EARTH major) Honors thesis
Amartya Kattemalavadi	2021-2022 (EARTH major) Honors thesis
Kyle Lachance	2020-2021 (EARTH major)
<i>Madeleine Frank</i>	2018-2019 (EARTH major) Honors thesis
Amartya Kattemalavadi	2020-2021 (EARTH major) fall term independent study
Kyle Lachance	2020 (EARTH major) fall term independent study
Anastasia Alexandrova	2020 (EARTH major) winter term independent study
Elizabeth Ratajczyk	2020 (EARTH major) winter term independent study
Danielle Turner	2020 (EARTH major) winter term independent study
<i>Roland Amarteifio</i>	2019-2020 (PitE major) fall and winter term independent study 2019-2020
Madelynn Carter	2019-2020 (Sociology major) fall and winter term independent study 2019-2020
Kristen Hayden	2019-2020 (EARTH major) Honors thesis
<i>Idrees Schieber</i>	2019-2020 (EARTH major) fall and winter term independent study
Madeleine Frank	2018-2019 (EARTH major) fall independent study
Elizabeth Ratajczyk	2018-2019 (EARTH major) fall independent study
Anastasia Alexandrova	2018-2019 (EARTH major) independent study
Madeleine Frank	2018-2019 (EARTH major) UROP summer independent study/research
Elizabeth Ratajczyk	2018-2019 (EARTH major) UROP summer independent study/research
Grant Ducus	2018-2019 (Electrical Engineering) UROP summer independent study/research
Logan Vear	2018-2019 (Environmental Engineering) independent study/research
Sally Ruan	2018-2019 (EARTH major) independent study/research
Catherine Garton	2018-2019 (Ecology & Evolutionary Biology) independent study/research
Elena Essa	2018-2019 (Program in the Environment major) independent study/research
Gregory Cogut	2018-2019 (Program in the Environment major) Honors Thesis
<i>Lydia Whitbeck</i>	2018-2019 (Program in the Environment major) independent study/research
Nathan Houghtheling	2017-2018 (Electrical Engineering) independent study/research
Mitchell Mead	2018 (Economics) independent study/research
Elizabeth Rogers	2017-2018 (EARTH major) Honors Thesis
Elena Essa	2017-2018 (Program in the Environment major) independent study/research
Anne Rosett	2017-2018 (EARTH major) Honors Thesis
Will Arnuk	2017-2018 (EARTH major) Honors Thesis
<i>Sarah Dieck</i>	2017-2018 (Program in the Environment major) Honors Thesis
Alexandria Shand	2017-2018 (Math major, and Computer Science major) independent study/research
Bridget Lockman	2017-2018 (Program in the Environment major) independent study/research
Zachary Brodkey	2017-2018 (EARTH major) independent study/research
Erich Eberhard	2017-2018 (Program in the Environment major) independent study/research
Elizabeth Oliphant	2017-2018 (EARTH major) independent study/research
<i>Lydia Whitbeck</i>	2017-2018 (Program in the Environment major) independent study/research
Katherine Mather	2017 (Economics + Program in the Environment) independent study/research
Liam Wolfram	2017 (Economics + Program in the Environment) independent study/research
Emma Forbes	2017 (EARTH major) independent study/research
Will Arnuk	2017 (EARTH major) independent study/research

Krysten Dorfman	2017 (EARTH major) independent study/research
Ahana Shanbhogue	2017 (Environmental Engineering) UROP independent study/research
Anne Rosett	2017 (EARTH major) independent study/research
<i>Lydia Whitbeck</i>	2017 (Program in the Environment major) independent study/research
Jessica Hicks	2016 (EARTH major) independent study/research
Anne Canavati	2016 (Near Eastern Studies) independent study/research
Elizabeth Oliphant	2016 (EARTH major) independent study/research
<i>Jayson Toney</i>	2016 (Program in the Environment major) independent study/research
Mark Finlay	2016 (EARTH major), independent study/research
Erich Eberhard	2016 (Program in the Environment major) independent study/research
Thomas West	2016 (EARTH Major) independent study/research
Christopher Walker	2016 (EARTH Major) independent study/research
Emily Schottenfels	2015 (EARTH Major) independent study/research
Avery McIntyre	2015 (Computer Science Major) independent study/research
Yuka Yamanishi	2015 (Program in the Environment); senior research project
<i>Andrea Davila</i>	2013-2014 (EARTH Major) Honors Thesis
Alex Wong	2013-2014 (EARTH Major) independent study/research
Ryan Vanderwoude	2013-2014 (EARTH Major) independent study/research
Ray Mahaffy	2013-2014 (EARTH Major) independent study/research

University of Nevada Las Vegas

<i>Brett Perry</i>	2010 – 2011 (Geoscience major) independent study/research
<i>Kirellos Seifein</i>	2010 – 2011 (Geoscience major) independent study/research
<i>Aaron Acena</i>	2009 – 2010 (Geoscience major) independent study/research
<i>Lindsey Clark</i>	2009 – 2010 (Geoscience major) independent study/research
Seth Pages	2007 – 2008 (Geoscience major) independent study/research
Jason Norgan	2007 – 2008 (Geoscience major) independent study/research
Carl Swenberg	2006 – 2008 (Geoscience major) independent study/research
<i>Pat DeIVeccchio</i>	2006 – 2007 (Geoscience major) independent study/research
Jonathan Carter	2006 – 2007 (Geoscience major) independent study/research
Annalee Sendis	2007 (Physics major) summer REU
Patrick Sims	2007 (Physics major) summer REU

Postdoctoral/research fellows hosted (year, name, %sponsor and co-sponsor, current position)

2021-2022	Xuyang Meng, 100%, postdoctoral scholar
2021-2022	Jose Tomas Ovalle Ortega, 100%, postdoctoral scholar
2021-2022	Yuping Yang, 100%, postdoctoral scholar
2013 – 2015	Adrian Fiege, 100%, postdoctoral scholar
2013 – 2014	Yuping Yang, 50% (Youxue Zhang = 50%), visiting research scientist

Visiting scholars hosted (year, name, %sponsor and co-sponsor, current position)

2014	Benjamin Winkler, 100%, visiting MS student from the University of Hannover
2014	Stefan Linsler, 100%, visiting MS student from the University of Hannover
2013 – 2015	Jaayke Knipping, 100%, visiting PhD student (primary advisor), University of Hannover

Member, Ph.D. Committee (Year Completed)

Sooyeon Kim (in progress); Sarah Brehm (in progress); Sha Chen (in progress); Juliana Mesa (in progress); James Jolles (2020); Youngjae Kim (2019); Xiaofei Pu (2018) Chenghuan Guo (2017); Jiachao Liu (2017); Peng Ni (2017); Racheal Johnson (2015, UNLV); Laura Waters (2013); Audrey Rager (2012, UNLV); Chris Adcock (2012, UNLV); Denise Honn (2012, UNLV); Timo Hoffman (2009, UNLV Chemistry);

External Member, Ph.D. Committee

- 2021 Alice Alex, University of Toronto
2021 Lillian Kendall-Langley, University of Western Australia
2019 Guillaume Lesage, University of British Columbia
2017 Christine Wawryk, University of Adelaide
2008 Nicole S. Keller, Australian National University

Member, Preliminary Examination Committee (Year Exam Taken)

Jackie Wrage (2020); Allison Pease (2020); Maria Alejandra Rodriguez Mustafa (2019); Sooyeon Kim (2019); Sarah Brehm (2017); Sha Chen (2017); Nikita La Cruz (2016); Youngjae Kim (2016); Brian Konecke (2016); Tristan Childress (2016); Meredith Cologero (2016); Evan Killeen (2015); James Jolles (2015); Chenghuan Guo (2014); Liz Tanis (2013); Xiaofei Pu (2013); Laura Bilenker (2013); Kate Volk (2013); Tom Hudgins (2012); Chris Adcock (2012, UNLV); Breetha Alagappan (2012, UNLV); Racheal Johnson (2010, UNLV); Denise Honn (2010, UNLV); Kelly Robertson (2011, UNLV); Aaron Bell (2008, UNLV)

Member, M.S. Thesis Committee (Year Completed)

David Levine (2016, UM); Forrest Gilfoy (2016, UM); Kate Turner (2015, UM); Carla Eichler (2012, UNLV); Jordan Armstrong (2012, UNLV); Jeevan Jayakody (2010, UNLV); John Howard (2010, UNLV Physics); Elizabeth Tanis (2010, UNLV Physics); Ashley Tibbetts (2009, UNLV); Daniel Antonio (2009, UNLV Physics); Lisa Hancock (2008, UNLV)

PUBLICATIONS (provided for each citation as: ISI/Scopus/Google Scholar)

Google Scholar: h-index = 28; i10-index since 2016 = 53; citations = 3,249; citations since 2016 = 2,140

BOOKS

Kesler, S.E., Simon, A.C. (2015) Mineral Resources, Economics and the Environment. Cambridge Press.
Perkins, D., Henke, K.R., Simon, A.C., Yarbrough, L.D. (2019) Earth Materials: Components of a Diverse Planet. CRC Press.

INVITED PAPERS AND SPECIAL ISSUES

- Reich, M., Barra, F., **Simon, A.C.**, Hou, T., Palma, G., Bilenker, L. (in prep) The formation of Kiruna-type iron oxide deposits. *Nature Reviews Earth & Environment*.
- Palma, G., Barra, F., Reich, M., **Simon, A.C.**, Romero, R., A review of magnetite geochemistry of Chilean iron oxide - apatite deposits and its implications for ore-forming processes. *Ore Geology Reviews*.
- Kesler, S.E. and **Simon, A.C.** (2020) Custodianship of Global Mineral Resources. *Encyclopedia of Geology*.
- Simon, A.C.**, *Knipping, J.*, Reich, M., Barra, F., Deditius, A.P., *Bilenker, L.*, *Childress, T.* (2018) Kiruna-Type Iron Oxide-Apatite (IOA) and Iron Oxide Copper-Gold (IOCG) Deposits Form by a Combination of Igneous and Magmatic-Hydrothermal Processes: Evidence from the Chilean Iron Belt. *Society of Economic Geology Special Publication No. 21*, pp. 89-114.
- Audétat, A. and **Simon, A.C.** (2012) Magmatic controls on porphyry Cu genesis. In: *Economic Geology Monograph in honor of Richard Sillitoe*. (Eds. J.W. Hedenquist, M. Harris, F. Camus) *Society of Economic Geologists Special Publication Number 16*, 553-572.
- Simon, A.C.** and Ripley, E. (2011) The role of magmatic sulfur in the formation of ore deposits. In *Sulfur in Magmas and Melts: Its Importance for Natural and Technical Processes* (eds Behrens, H. & Webster, J. D.) *Reviews in Mineralogy and Geochemistry, Mineralogical Society of America*, 73, 513–578
- Simon, A.C.**, King, R.L., Pettke, T. and Usui, T. (2007), Chemical and physical processes affecting element mobility from the slab to the surface. In *Simon, A.C., King, R.L., Pettke, T. and Usui, T.*, eds., *Chemical and physical processes affecting element mobility from the slab to the surface*, *Chemical Geology*, 239, 179-181.

PEER-REVIEWED PUBLICATIONS

(graduate students italicized; undergraduate students italicized and blue; postdocs underlined)

2000

Nekvasil, H., **Simon, A.C.**, and Lindsley, D.H. (2000) Crystal fractionation and the evolution of intra-plate hy-normative igneous suites: Insights from their feldspars. *Journal of Petrology*, 41, 1743-1757.

2003

Simon, A. C., Pettke, T., Candela, P.A., Piccoli, P.M. and Heinrich, C.A. (2003) Experimental determination of Au solubility in rhyolite and magnetite: Constraints on magmatic gold budgets. *American Mineralogist*, 88, 1644-1651.

2004

Simon, A.C., Pettke, T., Candela, P.A., Piccoli, P.M. and Heinrich, C.A. (2004) Magnetite solubility and iron transport in magmatic-hydrothermal environments. *Geochimica et Cosmochimica Acta*, 68, 4905-4914.

2005

Simon, A.C., Pettke, T., Candela, P.A., Piccoli, P.M. and Heinrich, C.A. (2005) Gold partitioning in melt vapor-brine systems. *Geochimica et Cosmochimica Acta*, 69, 3321-3335.

2006

Simon, A.C., Pettke, T., Candela, P.A., Piccoli, P.M., Heinrich, C. (2006) Copper partitioning in a melt-vapor-brine-magnetite-pyrrhotite assemblage. *Geochimica et Cosmochimica Acta*, 70, 5583-5600.

2007

Boudreau, A. and **Simon, A.C.** (2007) Crystallization and degassing in the basement sill, McMurdo Dry Valleys, Antarctica. *Journal of Petrology*, 48(7), 1369-1386.

Hersum, T., Marsh, B., **Simon, A.C.** (2007) Contact partial melting of granitic country rock, melt segregation, and re-injection as dike into Ferrar Sills, McMurdo Dry Valleys, Antarctica. *Journal of Petrology*, 48(11), 2125-2148.

Simon, A.C., Frank, M., Pettke, T., Candela, P.A., Piccoli, P.M., Heinrich, C., Glascock, M. (2007) An evaluation of synthetic fluid inclusions for the purpose of trapping equilibrated coexisting immiscible fluids at experimental PVTX conditions. *American Mineralogist*, 92, 124-138.

Simon, A.C., Pettke, T., Candela, P.A., Piccoli, P.M., Heinrich, C. (2007) The partitioning behavior of As and Au in a S-free and S-bearing magmatic systems. *Geochimica et Cosmochimica Acta*, 71, 1764-1782.

2008

Simon, A.C., Pettke, T., Candela, P.A., Piccoli, P.M., Heinrich, C. (2008) The partitioning behavior of silver in a vapor – brine – rhyolite melt assemblage. *Geochimica et Cosmochimica Acta*, 72(6), 1638-1659.

Simon, A.C., Candela, P.A., Piccoli, P.M. and Englander, L. (2008) The effect of crystal – melt Partitioning on the budgets of Cu, Au and Ag. *American Mineralogist*, 93, 1437-1448.

2009

Bell, A., **Simon, A.C.** and Guillong, M. (2009) Experimental constraints on Pt, Pd and Au partitioning and fractionation in silicate melt – sulfide – oxide – aqueous fluid systems at 800°C, 150 MPa and variable sulfur fugacity. *Geochimica et Cosmochimica Acta*, 73(19), 5778-5792.

Simon, A.C. and Pettke, T. (2009) Platinum solubility and partitioning in a felsic melt – vapor – brine assemblage. *Geochimica et Cosmochimica Acta*, 73(12), 438-454.

2011

Bell, A., **Simon, A.C.** and Guillong, M. (2011) Gold solubility in oxidized and reduced, water saturated mafic melt. *Geochimica et Cosmochimica Acta*. 75(7), 1718-1732.

- Bell, A.* and **Simon, A.C.** (2011) Evidence for the alteration of the $\text{Fe}^{3+}/\Sigma\text{Fe}$ of silicate melt caused by the degassing of chlorine-bearing aqueous volatiles. *Geology*, 39(5), 499-502.
- Frank, M.R., Simon, **A.C.**, Pettke, T., Candela, P., Piccoli, P. (2011) Gold and copper partitioning in magmatic-hydrothermal systems at 800°C and 100 MPa. *Geochimica et Cosmochimica Acta*, 75(9), 2470-2482.
- Muntean, J., Cline, J, **Simon, A.C.** and Longo, A. (2011) Magmatic-hydrothermal origin of Nevada's Carlin-type gold deposits. *Nature Geoscience*, 4, 122-127.
- Simon, A.C.** and Ripley, E. (2011) The role of magmatic sulfur in the formation of ore deposits. In *Sulfur in Magmas and Melts: Its Importance for Natural and Technical Processes* (eds Behrens, H. & Webster, J. D.) *Reviews in Mineralogy and Geochemistry*, Mineralogical Society of America, 73, 513–578
- 2012**
- Audétat, A. and **Simon, A.C.** (2012) Magmatic controls on porphyry Cu genesis. In: *Economic Geology Monograph in honor of Richard Sillitoe*. (Eds. J.W. Hedenquist, M. Harris, F. Camus) Society of Economic Geologists Special Publication Number 16, 553-572.
- Pettke, T., Oberli, F., Audétat, A., Guillong, M., **Simon, A.C.**, Hanley, J.J., Klemm, L.M. (2012) Recent developments in element concentration and isotope ratio analysis of individual fluid inclusions by laser ablation single and multiple collector ICP-MS. *Ore Geol Reviews*, 44, 10-38.
- Tanis, E.A.*, **Simon, A.C.**, Tschauer, O., Chow, P., Xiao, Y., Shen, G., Hanchar, J.M., Frank, M. (2012) Solubility of xenotime in 2 M HCl aqueous fluid from 1.2 to 2.6 GPa and 300 to 500C. *American Mineralogist*, 97, 1708-1713.
- 2013**
- Robertson, K.*, **Simon, A.C.**, Pettke, T., Smith, E., Selyangin, O., Kiryukhin, A., Mulcahy, S.R., Walker, J.D. (2013) Melt inclusion evidence for magma evolution at Mutnovsky volcano, Kamchatka. *Geofluids*, 13, 421-439.
- 2014**
- Kirk, J.D., Ruiz, J., Kesler, S.E., **Simon, A.C.**, Muntean, J.L. (2014) Re-Os age of the Pueblo Viejo epithermal deposit, Dominican Republic. *Economic Geology*, 109, 503-512.
- Simon, A.C.**, Yogodzinski, G.M., *Robertson, K.*, Smith, E., Selyangin, O., Kiryukhin, A., Mulcahy, S.R., Walker, J.D. (2014) Evolution and genesis of volcanic rocks from Mutnovsky Volcano, Kamchatka. *Journal of Volcanology and Geothermal Research*, 286, 116-137.
- 2015**
- Fiege, A.*, Vetere, F., Iezzi, G., **Simon, A.C.**, Holtz, F. (2015) The roles of decompression rate and volatiles ($\text{H}_2\text{O}+\text{Cl}\pm\text{CO}_2\pm\text{S}$) on crystallization in (trachy-) basaltic magma. *Chemical Geology*, 411, 211-322
- Hudgins, T.*, Mukasa, S.B., **Simon, A.C.**, Moore, G., Barifajjo, E. (2015) Melt inclusion evidence for CO_2 -rich melts beneath the western branch of the East African Rift: Implications for long-term storage of volatiles in the deep lithospheric mantle. *Contributions to Mineralogy and Petrology*, 2015, 169, Number 5, 1-18, 10.1007/s00410-015-1140-9
- Knipping, J.L.*, *Bilenker, L.*, **Simon, A.C.**, Reich, M., Barra, F., Deditius, A., Lundstrom, C., Bindeman, I., Munizaga, R. (2015) Giant Kiruna-type deposits form by efficient flotation of magmatic magnetite suspensions. *Geology*, 43, 591–594, doi:10.1130/G36650.1. Highlighted by the journal editors as the subject of a separate "Focus" article. (56)
- Knipping, J.L.*, *Bilenker, L.*, **Simon, A.C.**, Reich, M., Barra, F., Deditius, A., Wälle, M., Heinrich, C.A., Holtz, F., Munizaga, R. (2015) Trace elements in magnetite from massive iron oxide-apatite deposits indicate a combined formation by igneous and magmatic-hydrothermal processes. *Geochimica et Cosmochimica Acta*, 171, 15-38.

Tanis, E.A., **Simon, A.C.**, Tschauner, O., Chow, P., Xiao, Y., Burnley, P., Cline II, C., Hanchar, J.M., Pettke, T., Shen, G., Zhou, Y. (2015) The mobility of Nb in rutile-saturated NaCl- and NaF-bearing aqueous fluids from 1-6.5 GPa and 300-800 C. *American Mineralogist*, 100, 1600-1609. Highlighted by the journal editors as a "Notable Paper"

2016

Bilenker, L., **Simon, A.C.**, Reich, M., Lundstrom, C., Bindeman, I., Munizaga, R. (2016) Fe-O stable isotope pairs elucidate a high-temperature origin of Chilean iron oxide-apatite deposits. *Geochimica et Cosmochimica Acta*, 177, 94-104.

Childress, T.M., **Simon, A.C.**, Day, W.C., Lundstrom, C.C., Bindeman, I.N. (2016) Iron and oxygen isotope signatures of the Pea Ridge and Pilot Knob magnetite-apatite deposits, southeast Missouri, USA. *Journal of Economic Geology*, 111, 2033-2044.

Reich, M., **Simon, A.C.**, Deditius, A., Barra, F., Chryssoulis, S., Lagas, G., Tardani, D., Knipping, J., Bilenker, L., Sanchez-Alfaro, P., Roberts, M.P., Munizaga, R. (2016) Trace element signature of pyrite from the Los Colorados iron oxide-apatite (IOA) deposit, Chile: A missing link between Andean IOA and IOCG systems? *Journal of Economic Geology*, 111, 743-761.

Tanis, E.A., **Simon, A.C.**, Zhang, Y., Chow, P., Xiao, Y., Hanchar, J.M., Tschauner, O., Shen, G. (2016) Rutile solubility in NaF-NaCl-KCl-bearing aqueous fluids at 0.5-2.79 GPa and 250-650°C. *Geochimica et Cosmochimica Acta*, 177, 170-181.

Yang, Y., Zhang, Y., Simon, A.C., Ni, P. (2016) Cassiterite dissolution and Sn diffusion in silicate melts of variable water content. *Chemical Geology*, 441, 162-176.

2017

Arnuk, W., Dorfman, K., Forbes, E., Shanbhogue, A., Soberal, N., Simon, A., Fancy, S., Knoop, P. (2018) Solar microgrid feasibility study for City of Ann Arbor (2017). University of Michigan Energy Institute.

Barra, F., Reich, M., Selby, D., Rojas, P., **Simon, A.C.**, Salazar, E., Palma, G. (2017) Unraveling the Origin of the Andean IOCG Clan: A Re-Os Isotopes Approach. *Ore Geology Reviews*. 81, 62-78. (4)

Bilenker, L.B., Van Tongeren, J., Lundstrom, C.C., **Simon, A.C.** (2017) Iron isotopic evolution during fractional crystallization of the uppermost Bushveld Complex layered mafic intrusion. *Geochemistry, Geophysics, Geosystems*, 18 (3), 956-972.

Maroun, L.R.C., Cline, J.S., **Simon, A.**, Anderson, P., Muntean, J. (2017) High-Grade Gold Deposition and Collapse Breccia Formation, Cortez Hills Carlin-Type Gold Deposit, Nevada, USA. *Economic Geology*, 112, 707-740.

Fiege, A., Ruprecht, P., **Simon, A.C.**, Bell, A.S., Göttlicher, J., Newville, M., Lanzirotti, T., Moore, G., (2017) Calibration of Fe XANES for high-precision determination of Fe oxidation state in glasses: Comparison of results obtained at different synchrotron radiation sources. *American Mineralogist*, 102, 369-380. (5)

Fiege, A., Ruprecht, P., **Simon, A.C.** (2017) A magma mixing redox trap that moderates mass transfer of sulfur and metals. *Geochemical Perspectives Letters*, 3, 190-199.

Konecke, B., Fiege, A., **Simon, A.C.**, Parat, F., Stechern, A. (2017) Co-variability of S⁶⁺, S⁴⁺ and S²⁻ in apatite as a function of oxidation state – implications for a new oxybarometer. *American Mineralogist*, 102, 548-557.

Konecke, B., Fiege, A., **Simon, A.C.**, Holtz, F. (2017) Cryptic metasomatism during late-stage lunar magmatism implicated by sulfur in apatite. *Geology*, 45 (8): 739-742.

Ni, P., Zhang, Y., **Simon, A.C.**, Gagnon, J. (2017) Cu and Fe diffusion in rhyolitic melts during chalcocite "dissolution": Implications for porphyry ore deposits and tektites. *American Mineralogist*. 102, 1287-1301.

Kim, Y., Konecke, B., Fiege, A., **Simon, A.C.**, Becker, U. (2017) An ab-initio study of the energetics and geometry of sulfide, sulfite and sulfate incorporation into apatite: The thermodynamic basis for using this system as an oxybarometer. *American Mineralogist*, 102, 1646-1656.

2018 (*undergraduate students italicized and blue*)

- Deditius, A., Reich, M., **Simon, A.C.**, Suvorova, A., *Knipping, J.*, Roberts, M.P., Rubanov, S., Dodd, A., Saunders, M. (2018) Nanogeochemistry of hydrothermal magnetite. *Contributions to Mineralogy and Petrology*, 173(46), <https://doi.org/10.1007/s00410-018-1474-1>
- Fiege, A.*, **Simon, A.C.**, *Linsler, S.A.*, Bartels, A., Linnen, R.L., The effect of phosphorous and boron on Nb and Ta ore formation. *Ore Geology Reviews*, 94, 383-395.
- Oliphant, E.*, *Finlay, M.*, **Simon, A.C.**, Arbic, B.K., Biofuels: Beneficial or Bad: Should a Ghanaian Chief Sell His Land for Biofuel Crop Cultivation? Sustainability: The Journal of Record. 11(1), 16-23.
- Ovalle, J.T., *La Cruz, N.L.*, Reich, M., Barra, F., Simon, A.C., *Konecke, B.*, *Rodriguez-Mustafa, M.A.*, *Childress, T.*, Deditius, A., Morata, D. (2018) Formation of massive iron deposits linked to explosive volcanic eruptions. *Scientific Reports*. 8:14855. DOI:10.1038/s41598-018-33206-3
- Rojas, P.A., Barra, F., Deditius, A., Reich, M., **Simon, A.**, Rojas, P., Roberts, M., Rojo, M. (2018) New contributions to the understanding of Kiruna-type iron oxide-apatite deposits revealed by magnetite ore and gangue mineral geochemistry at the El Romeral deposit, Chile. *Ore Geol Reviews*, 93, 413-435.
- Rojas, P.A., Barra, F., Reich, M., Deditius, A., **Simon, A.C.**, Uribe, F., Romero, R., Rojo, M. (2018) A genetic link between magnetite mineralization and diorite intrusion at the El Romeral iron oxide-apatite deposit, northern Chile. *Mineralium Deposita*, 7, 947-966.
- Simon, A.C.**, *Knipping, J.*, Reich, M., Barra, F., Deditius, A.P., *Bilenker, L.*, *Childress, T.* (2018) Kiruna-Type Iron Oxide-Apatite (IOA) and Iron Oxide Copper-Gold (IOCG) Deposits Form by a Combination of Igneous and Magmatic-Hydrothermal Processes: Evidence from the Chilean Iron Belt. Society of Economic Geology Special Publication No. 21, pp. 89-114.

2019

- Knipping, J.*, *Fiege, A.*, **Simon, A.C.**, Oeser, M., Reich, M., *Bilenker, L.*, 2019, In-situ iron isotope analyses reveal igneous and magmatic-hydrothermal growth of magnetite at the Los Colorados Kiruna-type iron oxide - apatite deposit, Chile. *American Mineralogist*, 104, 471-484.
- Knipping, J.*, Webster, J.D., **Simon, A.C.**, Holtz, F., 2019, Accumulation of magnetite by flotation on bubbles during decompression of silicate magma. *Scientific Reports*, 9:3852.
- Konecke, B.A.*, *Fiege, A.*, **Simon, A.C.**, *Linsler, S.*, Holtz, F. (2019) An experimental calibration of a sulfur-in apatite oxybarometer for mafic systems. *Geochimica et Cosmochimica Acta*, 265, 242-258.
- La Cruz, N.*, **Simon, A.C.**, Wolf, A., Reich, M., Barra, F., Gagnon, J., 2019, The geochemistry of apatite from the Los Colorados Kiruna-type iron oxide - apatite deposit, Chile: Implications for ore genesis. *Mineralium Deposita*. <https://doi.org/10.1007/s00126-019-00861-z>
- Palma, G., Barr, F., Reich, M., Valencia, V., **Simon, A.C.**, Vervoort, J., Leisen, M., Romero, R. (2019) Halogens (F, Cl, OH), trace element contents, and Sr-Nd isotopes in apatite from iron oxide-apatite (IOA) deposits in the Chilean iron belt: Evidence for magmatic and hydrothermal stages of mineralization. *Geochimica et Cosmochimica Acta*, 246, 515-540.
- Sadove, G.*, *Konecke, B.*, *Fiege, A.*, **Simon, A.C.**, Structurally bound S²⁻, S¹⁻, S⁴⁺, S⁶⁺ in terrestrial apatite: The redox evolution of hydrothermal fluids at the Philips mine, New York, USA. *Ore Geology Reviews*, 107, 1084-1096.

2020

- Childress, T.*, **Simon, A.C.**, Reich, M., Barra, F., Arce, M.J., Lundstrom, C., Bindeman, I., Formation of the Mantoverde iron oxide - copper - gold (IOCG) deposit, Chile: Insights from Fe and O stable isotopes and comparisons to iron oxide - apatite (IOA) deposits. *Mineralium Deposita*. <https://doi.org/10.1007/s00126-019-00936-x>
- Childress, T.*, **Simon, A.C.**, Reich, M., Barra, F., *Bilenker, L.D.*, *La Cruz, N.*, Bindeman, I.N., Ovalle, J.T., Triple oxygen, hydrogen, and iron stable isotope signatures indicate a silicate magma source and magmatic-hydrothermal genesis for magnetite ore bodies at El Laco, Chile. *Economic Geology*, 115(7), 1519-1536.

- Del Real, I.*, Thompson, J.F.H., **Simon, A.C.**, Reich, M., 2020, Geochemical and isotopic signature of pyrite as a proxy for fluid source and evolution in the Candelaria-Punta del Cobre IOCG district, Chile. *Economic Geology*, 115(7), 1493-1517.
- La Cruz, N.*, Ovalle, J.T., **Simon, A.C.**, Konecke, B.A., Barra, F., Leisen, M., Reich, M., Childress, T.M., 2020, The geochemistry of magnetite and apatite from the El Laco Kiruna-type iron oxide-apatite deposit, Chile: Implications for ore genesis. *Economic Geology*, 115(7), 1461-1491.
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MANUSCRIPTS IN PRESS OR ACCEPTED PENDING REVISION

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ABSTRACTS

I no longer track abstract submissions. All my graduate students annually present their research at the industry-focused Prospectors and Developers Association of Canada (PDAC) annual meeting in Toronto, Canada. My graduate students also present their research annually at at least one of the following academic meetings: Geological Society of America (GSA), American Geophysical Union (AGU), Goldschmidt Conference, Society of Economic Geologists (SEG), Society for Geology Applied to Ore Deposits (SGA).