

# Alida Perez-Fodich, Ph.D

aliperezfodich.github.io

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## EDUCATION

- 2019      PhD in Geological Sciences: Geochemistry and Isotope Geology  
Department of Earth and Atmospheric Sciences, Cornell University  
  
Dissertation: Understanding volcanic weathering processes through geochemical modeling, trace elements and hydrology. Advisor: Dr. Louis Derry
- 2013      MSc in Geology  
Department of Geology, University of Chile. Advisor: Dr. Martin Reich
- 2010      BSc in Geology  
Department of Geology, University of Chile

## PROFESSIONAL APPOINTMENTS

- 2020–Present    Assistant Professor  
Department of Geology, University of Chile
- 2016–2019      Instructor  
Department of Geology, University of Chile

## PUBLICATIONS (\*indicates student/postdoc author)

- Gleeson, S.A., **Perez-Fodich, A.**, Reich, M. (2025) Laterite and supergene copper deposits; ore deposits formed in the Critical Zone. In *Treatise in Geochemistry* 3<sup>rd</sup> Edition, 2, 803-836, doi:[10.1016/B978-0-323-99762-1.00012-7](https://doi.org/10.1016/B978-0-323-99762-1.00012-7).
- Rivas, S., Sanchez-Alfaro, P., Alvarez-Amado, F., **Perez-Fodich, A.**, Godfrey, L., Becerra, P., Tardani D., Perez-Flores, P., Aron, F., Fica, C., Munoz-Saez, C., Mathur, R. (2024) Water-rock interaction and magmatic contribution in thermal fluids of the Southern Volcanic Zone, Chile: insights from Li, B and Sr isotopes. *Journal of Volcanology and Geothermal Research*, 453, 108149, doi:[10.1016/j.jvolgeores.2024.108149](https://doi.org/10.1016/j.jvolgeores.2024.108149).
- Gonzalez-Cariqueo, J.\*, Pfeiffer, M., Peña, M., Macchioli Grande, M.\*, **Perez-Fodich, A.** (2024) Strontium isotopic composition of the mesozoic sedimentary formations of the southern

Central Andes (33°-34°s) and its paleogeographic implications. *Journal of South American Earth Sciences*, 142, 104984, doi:[10.1016/j.jsames.2024.104984](https://doi.org/10.1016/j.jsames.2024.104984).

**Perez-Fodich, A.**, Derry, L.A., Marçais, J., Walter, M.T. (2024) The effect of weathering in runoff-to-groundwater partitioning in the Island of Hawai'i: perspectives for landscape evolution. *Earth and Planetary Science Letters*, 635, 118687, doi:[10.1016/j.epsl.2024.118687](https://doi.org/10.1016/j.epsl.2024.118687).

Munoz-Saez, C., Gong, J., **Perez-Fodich, A.**, van Zulen, M. (2023) Environmental and hydrogeochemical controls of spicule geysirite in opaline hot spring deposits. *Earth and Space Science*, 10(3), e2022EA002645, doi:[10.1029/2022EA002645](https://doi.org/10.1029/2022EA002645).

Pourret, O., Anand, P., Bots, P., Cottrell, E., Dosseto, A., Gunter, A., Hedding, D.W., Ibarra, D.E., Irawan, D.E., Johannesson, K., Labidi, J., Little, S., Liu, H., Makhubela, T.V., Carbonne, J.M., **Perez-Fodich, A.**, Riches, A., Tartèse, R., Tripathi, A. (2022) Evolution of diversity in the editorial boards of *Geochimica et Cosmochimica Acta* and *Chemical Geology*. *European Science Editing*, 48:e89470. doi:[10.3897/ese.2022.e89470](https://doi.org/10.3897/ese.2022.e89470)

Fernandez, N.M., **Perez-Fodich, A.**, Derry, L.A., Druhan, J.L. (2021) A first look at Ge/Si partitioning during amorphous silica precipitation: Implications for Ge/Si as a tracer of fluid-silicate interactions. *Geochimica et Cosmochimica Acta*, 297, 158-178. doi:[10.1016/j.gca.2021.01.007](https://doi.org/10.1016/j.gca.2021.01.007)

**Perez-Fodich, A.**, & Derry, L. A. (2020) A model for germanium-silicon equilibrium fractionation in kaolinite. *Geochimica et Cosmochimica Acta*, 288, 199-213. doi:[10.1016/j.gca.2020.07.046](https://doi.org/10.1016/j.gca.2020.07.046)

**Perez-Fodich, A.**, & Derry, L. A. (2019). Organic acids and high soil CO<sub>2</sub> drive intense chemical weathering of Hawaiian basalts: Insights from reactive transport models. *Geochimica et Cosmochimica Acta*, 249, 173-198. doi:[10.1016/j.gca.2019.01.027](https://doi.org/10.1016/j.gca.2019.01.027)

Alvarez, F., Reich, M., Snyder, G., **Perez-Fodich, A.**, Muramatsu, Y., Daniele, L., & Fehn, U. (2016). Iodine budget in surface waters from Atacama: Natural and anthropogenic iodine sources revealed by halogen geochemistry and iodine-129 isotopes. *Applied Geochemistry*, 68, 53-63. doi:[10.1016/j.apgeochem.2016.03.011](https://doi.org/10.1016/j.apgeochem.2016.03.011)

Alvarez, F., Reich, M., **Perez-Fodich, A.**, Snyder, G., Muramatsu, Y., Vargas, G., & Fehn, U. (2015). Sources, sinks and long-term cycling of iodine in the hyperarid Atacama continental margin. *Geochimica et Cosmochimica Acta*, 161, 50-70. doi: [10.1016/j.gca.2015.03.032](https://doi.org/10.1016/j.gca.2015.03.032)

**Perez-Fodich, A.**, Reich, M., Alvarez, F., Snyder, G. T., Schoenberg, R., Vargas, G., Muramatsu, Y., Fehn, U. (2014). Climate change and tectonic uplift triggered the formation of the Atacama Desert's giant nitrate deposits. *Geology*, 42(3), 251-254. doi:[10.1130/g34969.1](https://doi.org/10.1130/g34969.1)

Reich, M., Snyder, G. T., Alvarez, F., **Perez, A.**, Palacios, C., Vargas, G., Cameron, E. M., Muramatsu, Y., Fehn, U. (2013). Using iodine isotopes to constrain supergene fluid sources in arid regions: insights from the chuquicamata oxide blanket. *Economic Geology*, 108(1), 163-171. doi:[10.2113/econgeo.108.1.163](https://doi.org/10.2113/econgeo.108.1.163)

SUBMITTED, UNDER REVIEW, IN PREP

- Fernandez, N.M., **Perez-Fodich, A.** Soil Ge/Si and Si stable isotopes as viable long-term records of desilication. In prep. for Geophysical Research Letters.
- Peña-Echeverría, A.\*, Louvat, P., Tardani, D., **Perez-Fodich, A.** Weathering rates of rivers draining volcanoes in the Southern Andes. In prep. for Earth and Planetary Science Letters.
- Bustamante, V.\*, Muñoz-Saez, C., Derry, L.A., **Perez-Fodich, A.** Paleoenvironmental constraints in the precipitation rates of siliceous sinter deposits in El Tatio Geyser Field. In prep. for Geochimica et Cosmochimica Acta.
- Perez-Fodich, A.**, Derry, L. A., Smieska, L. Fe oxidation and trace element gradients during early weathering of spheroidally weathered Hawaiian basalts. In prep. for Chemical Geology.
- Macchioli, M.\*, Soto, A.\*, Pfeiffer, M., **Perez-Fodich, A.** Solute sources and concentration-discharge relations in semiarid mountainous watersheds. In prep. for Vadose Zone Journal.
- Perez-Fodich, A.** & Fernandez, N.M., A global assessment of germanium resources in hydrothermal fluids. In prep. for Ore Geology Reviews.

## RESEARCH GRANTS

### As Principal Investigator (PI) or Co-PI

- 2023 FONDEF IDeA Grant ID23I10167 (**co-PI**): “Desarrollo de una herramienta para la evaluación de la calidad del agua superficial de cuencas prioritarias en escenarios futuros de cambio climático”. ANID (Chilean Science Foundation). \$300,000
- 2022 FONDECYT Postdoctoral 2022 Grant 3220318 (**co-PI**): “Concentration-discharge patterns in a Mediterranean watershed under increasing drought: insights on solute and water sources and fluxes, and chemical weathering rates in the Maipo River, central Chile”. ANID (Chilean Science Foundation). \$150,000
- 2020 FONDECYT Iniciación 2020 Grant 11200656 (**PI**): “Chemical weathering fluxes from continental arc volcanoes and their implication for elemental and atmospheric CO<sub>2</sub> budgets in the Southern Andes”. ANID (Chilean Science Foundation). \$130,000
- 2020 U-Inicia 2020 Grant UI- 006/20 (**PI**): "Flujos de meteorización química en arcos volcánicos continentales y sus implicancias para los balances de elementos y dióxido de carbono atmosférico en los Andes del Sur". University of Chile. \$11,000
- 2019 International Association of Geochemistry Student Research Grant. \$2,200
- 2018 Make Our Planet Great Again Short-stay Research Grant. \$9,000
- 2018 Cornell Research Travel Grant. \$2,000
- 2017 Cornell High Energy Synchrotron Source (CHESS). Beamtime
- 2017 Geological Society of America Graduate Student Research Grant. \$1,325

2017 Donovan Research Fund Cornell University. \$1,000  
2016 Integral Consulting Research Grant. \$2,000  
2016 Arthur L. Bloom Grant for Pacific Studies. \$1,000

### **As part of the research team**

2023 Anillo WEF-Chile ATE220029: “The water-energy-food nexus for urban areas in Central Chile. ANID (Chilean Science Foundation).

2023 FONDECYT Regular Grant 1230161: “Timing and tempo of supergene enrichment of copper deposits in the Coastal Cordillera metallogenic province, north-central Chile”. ANID (Chilean Science Foundation).

2021 Nodos para el desarrollo en investigación de Laboratorios Naturales en Chile 2021 NODOSLN000: “Laboratorio Natural Montañas de los Andes del Sur de Chile”. ANID (Chilean Science Foundation).

### **FELLOWSHIPS**

2014 CONICYT PhD Fellowship (Chilean Science Foundation). \$200,000  
2014 Fulbright Foreign Student PhD Fellowship.  
2007 Anglo American Excellence Undergraduate Scholarship. \$20,000

### **INVITED TALKS**

2023 Instituto de Ingeniería, Universidad de O’Higgins, November 16<sup>th</sup> 2023: “Understanding weathering processes through geochemical and hydrological modeling”

2021 Geochemistry group GFZ Postdam, October 25<sup>th</sup> 2021: “Trace elements and reactive transport models to investigate weathering in volcanic provinces”

2021 Red Internacional para Estudiar la Calidad Física de Suelos derivados de Cenizas Volcánicas, September 9<sup>th</sup> 2021: “Understanding volcanic weathering and soil formation processes in the Island of Hawaii through geochemical modeling and hydrology”

2021 Lawrence Berkeley National Laboratory, Lithium Resource Research and Innovation Center, May 26<sup>th</sup> 2021: “A geochemical perspective on the groundwater cycling stories of iodine and lithium in the Atacama Desert”

2020 GET Université de Toulouse III, Paul Sabatier, February 12<sup>th</sup> 2020: “Understanding weathering processes using trace elements”

2020 Institut de Physique du Globe de Paris, January 17<sup>th</sup> 2020: “Understanding volcanic weathering processes”.

## DEPARTMENT TALKS

2022 Department of Geology, University of Chile, August 24<sup>th</sup> 2022: “Trace elements and reactive transport models to investigate weathering in volcanic provinces”

## CONFERENCE PRESENTATIONS (only **first** or student\* author)

- 2023 Peña-Echeverría, A.\*, **Perez-Fodich, A.**, Muñoz-Saez, C., Sanchez-Alfaro, P., Tardani, D. Seasonal variability in solute patterns and implications for rock weathering rates in the active volcanic watersheds of Southern Andes. AGU Fall Meeting 2023. San Francisco CA, USA.
- 2023 **Perez-Fodich, A.**, Derry, L.A. What happens when weathering reduces the permeability of rocks? XVI Congreso Geológico Chileno, Santiago, Chile.
- 2023 **Perez-Fodich, A.**, Fernandez, N.M. Un modelo de transporte reactivo para el fraccionamiento de isótopos de Si y razones Ge/Si. XVI Congreso Geológico Chileno. Santiago, Chile.
- 2023 Peña-Echeverría, A.\*, **Perez-Fodich, A.**, Tardani, D., Louvat, P. Estimación de la influencia termal en los ríos de las cuencas volcánicas de los Andes del Sur (38° a 42°S). XVI Congreso Geológico Chileno. Santiago, Chile.
- 2023 Macchioli Grande, M.\*, Soto, A.\*, González, J.\*, Pfeiffer, M., **Perez-Fodich, A.** Spatial and temporal dynamics of solute sources and fluxes in a Mediterranean catchment of Central Chilean Cordillera. XVI Congreso Geológico Chileno, Santiago, Chile.
- 2023 Clericus, A.\*, Reich, M., **Perez-Fodich, A.**, Barra, F., del Real, I., Procesos de mineralización en la Zona Crítica: simulación del enriquecimiento supérgeno de cobre mediante modelos de transporte reactivo. XVI Congreso Geológico Chileno. Santiago, Chile.
- 2023 Bustamante, V.\*, **Perez-Fodich, A.**, Muñoz-Saez, C., Derry, L.A., Precipitation rates in El Tatio geothermal field: in-situ experiments as an approach to understand trace element partitioning. XVI Congreso Geológico Chileno, Santiago. Chile.
- 2023 **Perez-Fodich, A.**, Fernandez, N.M. Partitioning of Ge/Si and Si-stable isotopes during weathering of granites and basalts: A reactive transport perspective. Goldschmidt Conference 2023. Lyon, France.
- 2023 Bustamante, V.\*, **Perez-Fodich, A.**, Muñoz-Saez, C., Derry, L.A., Trace element partitioning in siliceous sinters as a function of silica precipitation rates in El Tatio geothermal field. Goldschmidt Conference 2023. Lyon, France.

- 2023 Peña, A.\*, **Perez-Fodich, A.**, Louvat, P., Tardani, D. Ge/Si and  $\delta^{11}\text{B}$  for quantifying hydrothermal inputs in river solute fluxes in active volcanoes in the Southern Andes. Goldschmidt Conference 2023. Lyon, France.
- 2022 **Perez-Fodich, A.**, Louvat, P., Peña, A.\*, Tardani, D. The chemical composition and weathering rates of rivers draining volcanoes in the Southern Andes. Goldschmidt Conference 2022. Honolulu HI, USA.
- 2022 **Perez-Fodich, A.**, Munoz-Saez, C., Derry, L., Gong, J. Ge/Si ratios in hydrothermal fluids from El Tatio: Understanding the effect of surface opal precipitation. Goldschmidt Conference 2022. Honolulu HI, USA.
- 2022 Gonzalez, J.\*, Peña, M., **Perez-Fodich, A.**, Pfeiffer, M. The strontium isotopic composition of the Mesozoic sedimentary formations of the Southern Central Andes (33°-34°S). XII South America Symposium on Isotope Geology. Santiago, Chile.
- 2020 **Perez-Fodich, A.**, Derry, L.A. The Convolution of Time and Weathering Intensity on the Fate of Runoff-To-Groundwater Partitioning in the Island of Hawai'i . Goldschmidt Conference 2020. Virtual, Global.
- 2019 **Perez-Fodich, A.**, Derry, L. A., Aguirre, A. A. Depleted Ge/Si groundwater ratios and a thermodynamic model for equilibrium fractionation in natural systems. AGU Fall Meeting 2019. San Francisco CA, USA.
- 2019 **Perez-Fodich, A.**, Derry, L. A. Modeling Ge/Si weathering signatures using thermodynamic data for synthetic germanium minerals. Goldschmidt Conference 2019. Barcelona, Spain.
- 2019 **Perez-Fodich, A.** Organic acids and high soil CO<sub>2</sub> drive intense chemical weathering of Hawaiian basalts: Insights from reactive transport models. Congrès des Doctorants 2019. Institut de Physique du Globe de Paris, Paris, France.
- 2018 **Perez-Fodich, A.**, Derry, L. A. Tracking Fe-oxidation in spheroidal weathering of basalts. Goldschmidt Conference 2018. Boston MA, USA.
- 2017 **Perez-Fodich, A.**, Derry, L. A. Extreme basalt weathering results from high soil CO<sub>2</sub>, unsaturated conditions and organic acids. Goldschmidt Conference 2017. Paris, France.
- 2017 **Perez-Fodich, A.** Intense basalt weathering: high soil CO<sub>2</sub>, unsaturated conditions and organic acids. Critical Zone Observatories All Hands Meeting 2017. Arlington VA, USA.
- 2016 **Perez-Fodich, A.**, Walter, M. T., Derry, L. A. Understanding the roles of ligand promoted dissolution, water column saturation and hydrological properties on intense basalt weathering using reactive transport and watershed-scale hydrologic modeling. AGU Fall Meeting 2016. San Francisco CA, USA.

- 2013 **Perez Fodich, A.**, Alvarez, F., Snyder, G.T., Schoenberg, R., Reich, M. The Role of Groundwater in the Formation of the Giant Nitrate Deposits of Atacama: Iodine-129 and Stable Chromium Isotopic Evidence. Goldschmidt Conference 2013. Florence, Italy.
- 2012 **Perez Fodich, A.**, Alvarez, F., Reich, M., Snyder, G., Schoenberg, R., Vargas, G., Palacios, C. The origin of the nitrate ore fields from the Atacama Desert revisited: New insights from the iodine-129 and stable chromium isotopic systems. XIII Congreso Geológico Chileno, Antofagasta, Chile.

## AWARDS AND HONORS

- 2017 Goldschmidt Merit Student Travel Grant. Geochemical Society  
 2016 Fall Meeting Student Travel Grant. America Geophysical Union  
 2007 Outstanding Student FCFM University of Chile  
 2006 Outstanding Student FCFM University of Chile  
 2005 Irma Salas Merit Scholarship

## RESEARCH EXPERIENCE

- 2023–Present Co-Investigator FONDEF IDeA (ANID ID23I10167), University of Chile, Santiago, Chile.
- 2023–Present Research Associate at Anillo WEF-Chile (ANID ATE220029), University of Chile, Santiago, Chile.
- 2023–Present Investigator FONDECYT Regular (ANID 1230161), University of Chile, Santiago, Chile.
- 2022–Present Co-Investigator FONDECYT Postdoctorado (ANID 3220318), University of Chile, Santiago, Chile.
- 2021–2022 Research Associate at Laboratorio Natural Montañas de los Andes del Sur de Chile (ANID NODOSLN000:), University of Chile, Santiago, Chile.
- 2020–Present Principal Investigator FONDECYT Iniciación (ANID 11200656), University of Chile, Santiago, Chile.
- 2020–Present Research Associate at Andean Geothermal Center of Excellence (FONDAP 15090013), University of Chile, Santiago, Chile.
- 2020–2021 International Collaborator at Deep EarthShape Project (DFG-SPP 1803). German Science Foundation. Germany–Chile.
- 2018–2019 Institut de Physique du Globe de Paris (IPGP) Visiting Student Researcher

Long-term research stay at the Geochemistry of External Envelopes (G2E) group.  
Principal Investigator: Dr. Jérôme Gaillardet. Paris, France.

- 2014–2019 Cornell University PhD Student  
Graduate researcher in the Department of Earth and Atmospheric Sciences  
Principal Investigator: Dr. Louis Derry. Ithaca NY, USA.
- 2012 Universität Tübingen Short-term Student Researcher  
Short-term research at the Isotope Geochemistry Laboratory  
Principal Investigator: Prof. Ronny Schönberg. Tübingen, Germany.
- 2012 Rice University Short-term Student Researcher  
Short-term research at the Marine Geochemistry Laboratory  
Principal Investigator: Dr. Glen Snyder. Houston TX, USA.
- 2011 Catholic University of the North Short-term Student Researcher  
Short-term research at the Fluid Inclusion Laboratory.  
Principal Investigator: Dr. Eduardo Campos. Antofagasta, Chile.
- 2011–2013 University of Chile Master Student  
Research assistant in the Department of Geology for FONDECYT Grant 1100014.  
Principal Investigator: Dr. Martin Reich. Santiago, Chile.

## **PROFESSIONAL SERVICE**

- 2024 Reviewer for Fulbright BIO Fellowship Program
- 2024 Reviewer for AGU Student Travel Grant Program
- 2024 Reviewer for ANID Postdoctoral Grant Program
- 2024 Reviewer for ANID PhD and MSc Fellowship Program
- 2024 Reviewer for ANID Early Career Grant Program (Programa de Inserción en la Academia)
- 2023 Convener at XVI Chilean Geological Congress
- 2023 Reviewer for Fulbright BIO Fellowship Program
- 2022–Present Reviewer for ANID PhD and MSc Fellowship Program
- 2022 Field guide for Goldschmidt Conference 2022 Northeast Big Island Hawaii Soils Fieldtrip. Waikoloa Village HI, USA.
- 2022 Reviewer for Geochimica et Cosmochimica Acta (2), Andean Geology (1)
- 2021 Reviewer for Applied Geochemistry (1), Geochimica et Cosmochimica Acta (1), Water Resources Research (1)
- 2020 Reviewer for Geochimica et Cosmochimica Acta (1), American Journal of Science (2), Chemical Geology (1), Environmental Pollution (1), G-cubed (2)
- 2020 Convener at Goldschmidt Conference
- 2019 Reviewer for Chemical Geology (1), CATENA Regional (1), Ecological Modeling (1)

## **CURRENT STUDENTS AND POSTDOCS**

Marcos Macchioli                      Fondecyt Postdoctoral Fellow (2022–2025)  
Javiera Gutierrez                      MSc Geology (2025–2026)

## **FORMER STUDENTS**

Valeria Bustamante                      MSc Geology (2024)  
Gabriel Arce                              Honors BSc Geology (2024)  
Amanda Peña                              MSc Geology (2023)  
Agustín Soto                              Honors BSc Geology (2022)  
Javiera González                      Honors BSc Geology (2022)  
Lorena Olivares                      Honors BSc Geology (2021)

### **Co-advised students**

Catalina Saldías                      Honors BSc Geology (2023) (Universidad Austral)  
Ismael Contreras                      Honors BSc Geology (2022)  
Roberto Ulloa                      Honors BSc Geology (2022) (Universidad Austral)  
Vicente Méndez                      Honors BSc Geology (2021)

## **TEACHING EXPERIENCE**

### **Main Instructor**

2022                              Principles of Biogeochemistry. Department of Geology, University of Chile.  
2020–2024                      Thermodynamics and Fluid Mechanics in Geological Processes. Department  
of Geology, University of Chile.  
2020–2022                      Introduction to Geology. Department of Geology, University of Chile.

### **Workshop/Diploma Instructor**

2023                              Environmental and Territorial Assessment of Soil Resources, Department of  
Soil and Engineering, University of Chile.  
2020–2024                      Applied Hydrogeology in Mining and Environmental Problems, Department  
of Geology, University of Chile.

### **Teaching Assistant**

2012                              Geochemistry. Dept. of Geology, University of Chile.  
2011                              Geology of Chile. Dept. of Geology, University of Chile.  
2010–2011                      Field Geology I. Dept. of Geology, University of Chile.  
2009–2010                      Stratigraphy and Paleontology. Dept. of Geology, University of Chile.

## **SERVICE AND OUTREACH**

2022                              Department Search Committee for a Journalist  
2022–Present                      Panelist for “Rocadictos” podcast at Radio Universidad de Chile, FM 102.5

- 2022 Goldschmidt Conference 2022 Northeast Big Island Hawaii Soils Fieldtrip. Waikoloa Village HI, USA.
- 2021 External reviewer for MSc. in Meteorology and Climatology, Dept. of Geophysics, University of Chile.
- 2019 Seminar Chair for Cornell Cross-Scale Biogeochemistry and Environmental Science Seminar Series (BESS).
- 2018 Seminar Chair for Cornell Cross-Scale Biogeochemistry and Environmental Science Seminar Series (BESS).
- 2018 Faculty Liaison for Snee Graduate Organization. Cornell University.
- 2012 Graduate Faculty Liaison for FCFM Faculty Council. University of Chile.

## **ANALYTICAL TECHNIQUES**

ICP-MS Thermo Element 2 + hydride generator (i.e., HGX-200, or custom)  
 ICP-OES Spectro Blue.  
 General inorganic geochemistry clean laboratory procedures.  
 Sample purification for isotope preparation:  $^{30}\delta\text{Si}$ ,  $^{53}\delta\text{Cr}$ ,  $\text{I}^{129}$ .  
 Fluid-inclusion T-X measurements Linkam TS 1500.

## **SOFTWARE AND PROGRAMMING SKILLS**

Geochemical Software: CrunchFlow (Advanced), Geochemist Workbench (Advanced), PhreeqC (Intermediate).  
 Programming Languages: Matlab (Intermediate), R (Basic), Bash script (Basic).

## **LANGUAGES**

English: Fluent (C2)  
 Spanish: Native  
 French: Oral/Reading Intermediate (B1). Writing Basic (A2).  
 Croatian/Russian: Elementary (A1), can read with dictionary.

## **SHORT COURSE/WORKSHOPS**

- 2021 Goldschmidt Conference Educational Approaches for Reactive Transport 3-day Workshop. Virtual.
- 2019 AGU SCIWS19: Toward an International Critical Zone Network-of-Networks for the Next Generation through Shared Science, Tools, Data and Philosophy, San Francisco CA, USA.
- 2019 MSA Short Course: Reactive Transport in Natural and Engineered Systems, Barcelona, Spain.

2018            Critical Zone Ecosystem Dynamics Summer Course. Gran Paradiso, Italy.  
2016            Tutorial Community Land Model v.5. NCAR, Boulder CO, USA.

## **SOCIETY MEMBERSHIPS**

Geochemical Society (member since 2011)  
European Association of Geochemistry (member since 2011)  
International Association of Geochemistry (member since 2018)  
American Geophysical Union (member since 2012)

## **INDUSTRY EXPERIENCE**

2013-2014     Mid-term Production Geologist  
                  Derk Engineering and Geology for CODELCO. Radomiro Tomic Mine, Chile.

## **REFERENCES**

Louis Derry  
Cornell University  
Department of Earth and Atmospheric Sciences  
4140 Snee Hall, Ithaca NY, 14853, USA  
derry@cornell.edu  
+1 (607) 255-9354

Martin Reich  
University of Chile  
Department of Geology  
Plaza Ercilla 803, Santiago, Chile  
mreich@cec.uchile.cl  
+56 2 29784986

Jérôme Gaillardet  
Institut de Physique du Globe de Paris  
Laboratoire de Géochimie des Enveloppes Externes  
1 Rue Jussieu, 75238, Paris, France  
gaillard@ipgp.fr  
+33 1 83 95 74 43

Ronny Schönberg  
Universität Tübingen  
Isotope Geochemistry Laboratory  
Wilhelmstrasse 56, 72074, Tübingen, Germany  
schoenberg@ifg.uni-tuebingen.de  
+49-7071-29-78903