

# Curriculum Vitae

Dr. Christian J. Renggli

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## Professional experience

- Feb. 2021 – ongoing      Researcher, PI of DFG project RE4601/1 “Gas-solid reactions in hot, reduced planetary environments”, Institut für Mineralogie, Universität Münster
- Apr. 2020 – Jan. 2021      Postdoctoral researcher, TRR 170, Project B7 “Experimental and isotopic investigations of volatile element loss during magma degassing”, Institut für Mineralogie, Universität Münster
- Oct. 2018 – March 2020      Swiss National Science Foundation Early Postdoc.Mobility Fellow, P2SKP2\_181367 “Metal degassing from basaltic melts”, Institut für Mineralogie, University Münster
- May – Sept. 2018              TRR 170 Fellowship, Institut für Mineralogie, University Münster

## Education

- 2014 – 2018              PhD at the Research School of Earth Sciences, Australian National University
- PhD Thesis: Volcanic gases and the reaction of sulfur dioxide with aluminosilicate glasses
  - Supervisor: Prof. Dr. Penelope L. King; Advisors: Dr. Richard W. Henley, Dr. Marc Norman, Prof. Dr. Trevor Ireland, Prof. Dr. Richard Arculus
- 2011 – 2013              Master of Science in Geomaterials and Geochemistry, Ludwig Maximilian University, Munich, Germany
- 2007 – 2010              Bachelor of Science in Earth Sciences, University of Bern Switzerland

## Research interests

- Heterogeneous reactions in Earth and planetary systems
- Gas-solid reactions at high temperatures
- Volcanic gas compositions and properties
- Metal transport in the gas phase
- Experimental petrology
- High-resolution and in-situ analytical techniques

## Teaching and professional experience

- 2014 – 2015              Demonstrator, 1<sup>st</sup> year Earth science class, The Australian National University, Canberra, Australia
- 2013                      Lecturing and designing course “Students for Students”, including topics on statistics, philosophy of science, geochemistry and petrology, Ludwig Maximilian University Munich, Germany
- 2012 – 2013              Teaching assistant, 2<sup>nd</sup> and 3<sup>rd</sup> year petrographic microscopy classes, Ludwig Maximilian University and Technical University Munich, Germany
- 2011                      Research internship (6 months), Technical Ceramics Haldenwanger, Waldkraiburg, Germany
- 2009                      Laboratory assistant geochemistry, Institute of Geological Sciences, University of Bern, Switzerland

## Leadership experience

- 2020 – ongoing      Founding member and organizer of the Postdoc Network Münster (PNM) at the University of Münster.
- 2016 – 2017              Higher Degree Research student representative, Research School of Earth Sciences, The Australian National University, Canberra, Australia
- 2012 – 2013              Student representative Department for Earth and Environmental Sciences, Ludwig Maximilian University Munich, Germany

## Invited Talks

- Mineralogie, Ludwig Maximilian University, München, D, 2. 12. 2019
- Center for Space and Habitability, University of Bern, CH, 28. 11. 2019
- Department of Earth Science, ETH Zürich, CH, 27. 11. 2019
- Laboratoire Magmas et Volcans, Université Blaise Pascal, Clermont-Ferrand, F, 30. 05. 2017
- Institut für Mineralogie, University of Potsdam, D, 24. 05. 2017
- Institut für Mineralogie, University of Münster, D, 23. 05. 2017
- Institut für Mineralogie, University of Hannover, D, 19. 05. 2017
- Department of Earth Science, University of Bristol, UK, 15. 11. 2013

## Peer-reviewed publications

- Renggli C.J., Klemme S. (2021) Experimental investigation of Apollo 16 “Rusty Rock” alteration by a lunar fumarolic gas. *Journal of Geophysical Research – Planets*. DOI: 10.1029/2020JE006609
- Morlok A., Renggli C.J., Charlier B., Reitze M.P., Klemme S., Namur O., Sohn M., Dayl M., Weber I., Stojic A.N., Hiesinger H., Joy K.H., Wogelius R., Tollan P., Carli C., Bauch K.E., Helbert J., (2021) Mid-infrared reflectance spectroscopy of synthetic glass analogs for Mercury surface studies. *Icarus*, 361, 114363. DOI: 10.1016/j.icarus.2021.114363
- Renggli C.J., Klemme S. (2020) Experimental constraints on metal transport in fumarolic gases. *Journal of Volcanology and Geothermal Research*, 400, 106929. DOI: 10.1016/j.jvolgeores.2020.106929
- Renggli C.J., Palm A.B., King P.L., Guagliardo P. (2019) Implications of reactions between SO<sub>2</sub> and basaltic glasses for the mineralogy of planetary crusts. *Journal of Geophysical Research – Planets*, 124. DOI: 10.1029/2019JE006045
- Renggli C.J., King P.L., Henley R.W., Guagliardo P., McMorrow L., Middleton J., Turner M. (2019) An experimental study of SO<sub>2</sub> reactions with silicate glasses and supercooled melts in the system anorthite-diopside-albite at high temperature. *Contributions to Mineralogy and Petrology*, 174, 3-21. DOI: 10.1007/s00410-018-1538-2
- Renggli C.J., King P.L. (2018) SO<sub>2</sub> gas reactions with silicate glasses. *Reviews in Mineralogy & Geochemistry*, 84:229-256. DOI: 10.2138/rmg.2018.84.6
- Palm A.B., King P.L., Renggli C.J., Hervig R.L., Dalby K.N., Herring A., Mernagh T.P., Eggins S.M., Troitzsch U., Beeching L., Kinsley L., Guagliardo P. (2018) Unravelling the consequences for SO<sub>2</sub>-basalt reactions for geochemical fractionation and mineral formation. *Reviews in Mineralogy & Geochemistry*, 84:229-256. DOI: 10.2138/rmg.2018.84.7
- King P.L., Wheeler V.W., Renggli C.J., Palm A.B., Wilson S.A., Harrison A.L., Morgan B., Nekvasil H., Troitzsch U., Mernagh T., Yue L., Bayon A., DiFrancesco N.J., Baile R., Kreider P., Lipiński W. (2018) Gas-Solid Reactions: Theory, experiments, and case studies relevant to Earth and planetary processes. *Reviews in Mineralogy & Geochemistry*, 84:257-284. DOI: 10.2138/rmg.2018.84.1
- Dalby, K.N., Mernagh, T.P., King, P.L., Hervig, R.L., Berger J.A., Brand, H.E.A., Eder, K. Eggins, S.M., Herring, A., Krieder P.B., Palm A.B., Renggli, C.J., Troitzsch, U., Yue, L. (2018) Analytical techniques for probing small-scale layers that preserve information on gas-solid interactions. *Reviews in Mineralogy & Geochemistry*, 84:103-176. DOI: 10.2138/rmg.2018.84.4
- Henley R.W., Brink F.J., King P.L., Leys C., Ganguly J., Mernagh T., Middleton J., Renggli C.J., Sieber M., Troitzsch U., Turner M. (2017) Reactive mass transport and sulfation reactions in the development of calc-silicate Cu-Au skarn mineralization; Ertsberg, West Papua, Indonesia. *Contributions to Mineralogy and Petrology*, 172:106. <https://link.springer.com/article/10.1007/s00410-017-1413-6>
- Renggli C.J., King P.L., Henley R.W., Norman M.D. (2017) Volcanic gas composition, metal dispersion and deposition during explosive volcanic eruptions on the Moon. *Geochimica et Cosmochimica Acta*, 206, 296-311. <https://www.sciencedirect.com/science/article/pii/S0016703717301503>
- Renggli C.J., Wiesmaier S., De Campos C.P., Hess K.-U., Dingwell D.B. (2016) Magma mixing induced by particle settling. *Contributions to Mineralogy and Petrology*, 171:96. <https://link.springer.com/article/10.1007/s00410-016-1305-1>
- Henley R.W., King P.L., Wykes J.L., Renggli C.J., Brink F.J., Clark D.A., Troitzsch U. (2015) Porphyry copper deposit formation by sub-volcanic sulphur dioxide flux and chemisorption. *Nature Geoscience*, 8, 210-215. <https://www.nature.com/articles/ngeo2367>
- Wiesmaier S., Morgavi D., Renggli C.J., Perugini D., De Campos C., Hess K.-W., Ertel-Ingrisch W., Lavalley Y., Dingwell D.B. (2015) Magma mixing enhanced by bubble segregation. *Solid Earth*, 6, 1007-1023. <https://www.solid-earth.net/6/1007/2015/>

## **Other publications**

King P.L., Kirby R.S., Loiseau L.M., Pure L.R., Renggli C.J. (2015) Suggestions for applying for a Master's or PhD degree. Elements, 11 (1).

Renggli C.J., Armbruster T. (2011) Weinstein – ein besonderer Kristall. Schweizer Strahler, 27-30.

Music from Mannheim. CD (2018) Musica da Camera Canberra, Christian Renggli – Musical Director, Justin Julian – Viola. ASIN B07M6GPBXV.

Volcano: What does a lake dream? (2019) A film by Diana Vidrascu. With C. Dias Da Rosa, J.P. Constancia, N. Pereira, A.G. De Melo. Co-writer Johan Härnsten. Music Mondkopf. Volcanological consultant C.J. Renggli.