

Curriculum Vitae – Kristoffer Szilas

Bio data

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Website: www.KristofferSzilas.com

Instagram: www.instagram.com/kristoffer.szilas

Military service: 12 months in the Royal Life Guards (Den Kongelige Livgarde)

Hobby: Mountain climbing (12 expeditions to Himalaya, Alaska, Patagonia)



Education

2012 PhD Geology. University of Copenhagen. Thesis titled: ‘Geochemistry of Archaean supracrustal belts in SW Greenland’. Supervised by Professor Minik T. Rosing, Professor Robert Frei, Anders Scherstén and Thomas F. Kokfelt.

2008 MSc Geology. University of Copenhagen. Thesis on the Archaean Storø gold deposit in SW Greenland.

2006 BSc Geology. University of Copenhagen. Graduation project on porphyry copper deposits.

Academic career

2023-Present Associate Professor Promotion Programme (FFP) at the University of Copenhagen, Denmark.

2021-2023 Associate Professor of Petrology and Geochemistry at the University of Copenhagen, Denmark.

2018-2021 Tenure-track Assistant Professor at the University of Copenhagen, Denmark.

2017 Postdoctoral researcher at the Geological Survey of Denmark and Greenland (GEUS), Denmark.

2014-2016 Postdoctoral researcher at Stanford University, California, USA.

2012-2014 Postdoctoral researcher at Lamont-Doherty Earth Observatory, Columbia University, New York, USA.

Research interests/keywords

Mineral deposit formation; geological evolution of Greenland; initiation of plate tectonics on early Earth; geodynamic settings of Archaean supracrustal belts; origins of Archaean peridotites (cumulate vs. mantle); petrogenesis of Archaean andesites; crustal assimilation in noritic intrusions; origins of Archaean anorthosites; chromitites; metasomatic processes.

Research impact metrics

1554 citations; 389 recommendations; 35,840 item reads (Retrieved from www.ResearchGate.net)

1529 citations; h-index 23; i10-index 48 (Retrieved from <https://Scholar.Google.com>)

1335 total citations; 75 publications; H-index of 22, 148 co-authors (Retrieved from www.Scopus.com)

Scientific service

2019-present Associate Editor at [Geoscience Frontiers](https://www.frontiersin.org).

Member of the review panel (NT-B) of the [Swedish Research Council](https://www.skr.se) (VR) in 2021, 2022, and 2023.

2020 Guest Editor for Frontiers article collection titled “[The Early Earth Crust and its Formation](#)”.

Session convenor at the Goldschmidt Conference of Geochemistry.

Reviewer for: ‘Geology’; ‘Journal of Petrology’; ‘Gondwana Research’; ‘Geoscience Frontiers’; ‘Chemical Geology’; ‘Lithos’; ‘Precambrian Research’; ‘Canadian Mineralogist’; ‘Tectonophysics’; ‘Mineralogical Magazine’; ‘Ore Geology Reviews’; ‘Journal of the Geological Society’; ‘Geological Society London Special Publications’; ‘Journal of Geophysical Research - Solid Earth’; ‘Chemie der Erde’; ‘Geological Journal’; ‘Earth, Planets and Space’; ‘Journal of Marine Science and Engineering’; ‘Physical Sciences Research International’; NERC and NSF grant proposals.

Mission statement

My research is dedicated to understanding the geological evolution of Greenland. I work on the petrology and geochemistry of Archaean and Proterozoic rocks to understand the relations between peridotitic-noritic-anorthositic plutonic rocks and the corresponding mafic-andesitic volcanic rocks, which can constrain tectonic models for the early Earth. The goal of my research is to establish the sequence of events that started with the fractionation of Earth’s earliest crust, its reprocessing to form continental crust, and finally the amalgamation of crust to produce stable cratons. This research requires a broad range of skills and methods in a holistic approach that integrates magmatic, metamorphic, and hydrothermal processes, which therefore also has implications for understanding mineral deposit formation. I have published research on several ore deposits in Greenland, including commodities of: gold, platinum, chromium, ruby, diamond, nickel, graphite, olivine, and anorthosite.

Scientific social responsibility

A better understanding of the geological evolution of Greenland, can improve models for mineral deposit identification. This may be economically important for the society in Greenland, because mining may contribute to financial independence in the future. Furthermore, the green transition is dependent on identifying a broad range of new metal deposits, and thus, my research directly contributes to a sustainable future development in line with UN's SDGs.

Grants and funding (only >1 million DKK)

2023 Carlsberg Foundation Infrastructure grant: 1,678,787 DKK for the acquirement of a Raman microscope.
2023 Villum Foundation Young Investigator Plus: 3,987,410 DKK for a three-year project on the first UHP subduction.
2020 Sapere Aude, Independent Research Fund Denmark: 6,162,047 DKK Reassessing plate tectonics on the early Earth.
2020 Independent Research Fund Denmark: 2,867,749 DKK Using olivine from Greenland to capture industrial CO₂.
2018 Carlsberg Foundation Distinguished Fellowship: 4,495,927 DKK to study the oldest rocks on Earth.
2018 Villum Foundation Young Investigator: 7,398,929 DKK for a five-year study of the formation of continents.
2014 Villum Foundation: 1,200,000 DKK for postdoctoral research about the Seqi dunite body in SW Greenland.
2012 Danish Council for Independent Research: 1,800,000 DKK for postdoctoral research on Archaean serpentinites.
Total research funding received: 30,903,035 DKK

Field work

2023 Fieldwork in the Nagsugtoquidian orogen (Sisimiut area), SW Greenland.
2022 Fieldwork in the Nuuk region (Isua, Qilangaarsuit, Storø), SW Greenland.
2022 Fieldwork at the Fiskeneset Anorthosite Complex, SW Greenland.
2020 Fieldwork South of Isua to sample Eoarchaean peridotites, Nuuk region, SW Greenland.
2019 Fieldwork with students in the Nuuk region, SW Greenland.
2019 Fieldwork on peridotites and chromitites at Isua and Ujaragssuit nunât, Nuuk region, SW Greenland.
2018 Logging and sampling drill-cores in Kangerlussuaq, West Greenland.
2017 Fieldwork on peridotites and chromitites at Isua and Ujaragssuit nunât, Nuuk region, SW Greenland.
2016-2017 Eight weeks of fieldwork for the Ministry of Mineral Resources (MMR), Maniitsoq region, SW Greenland.
2013-2015 Fieldwork on peridotites in the Fiskefjord-region, SW Greenland.
2014 Fieldwork with GEUS in Tasiilaq-region of South-East Greenland.
2009-2010 Nine weeks of fieldwork with the Geological Survey of Denmark and Greenland (GEUS), SW Greenland.
2006-2008 17 weeks of fieldwork during the summers for NunaMinerals A/S in Godthåbsfjord, SW Greenland.

Public outreach and media

2024 [Bloom Science Festival](#), Public talk about the link between Earth's geological evolution and life.
2023 [Bloom Science Festival](#), Public talk about the need for mining to support the green transition.
2023 [24 Spørgsmål til Professorene](#), Weekendavisen Podcast about fundamental research on Earth's evolution.
2022 [Hjernerassen](#), DR P1 radio interview about the need for mining to supply metals for the green transition.
2022 Folkemødet, Bornholm. Presentation about the need of mining for the green transition at Carlsbergfondet.
2022 [Illustreret Videnskab](#), feature article about my research on the formation of the continents.
2022 [Forskerzonen](#) article "Det store dilemma: Et fossilfrit samfund kræver øget minedrift".
2022 Awarded as communicator of the year 2021 at my department.
2022 Golden Days talk at Café Europa about the geological evolution of Europe.
2022 [Forskerzonen](#) article "Mysteriet om Grønlands 3,7 milliarder år gamle vulkaner er måske løst".
2022 [Geoland](#) podcast interview about using olivine to capture CO₂ from the atmosphere.
2022 [Carlsberg Foundation](#) published a news story about my research.
2021 [Aktuel naturvidenskab](#), I authored an article about the onset of plate tectonics on Earth.
2021 [Vin & Videnskab](#), presentation about diamonds and the formation of cratons.
2021 [Hjernerassen](#), DR P1 radio interview about diamonds.
2021 [Universitetsavisen](#), interview about my research career.
2021 [Vildt Naturligt](#), DR P1 radio interview about the early geological evolution of Earth.
2021 [DR.dk](#), article about my research on the formation of continents.
2020 [Illustreret Videnskab](#), feature article about my research (#18, pages 50-57 and cover).
2020 Weekendavisen, article about my research on carbon capture storage in olivine from Greenland.
2020 [Bloom Science Festival](#), panel debate titled "Dybhavet og det ydre rum".
2020 Talk at Frederikssund Gymnasium about mineral resources and their importance for modern society.
2020 Weekendavisen, article about my Nature paper on the late arrival of Earth's water from meteorites.
2020 [Science Stories](#), Podcast interview about the late veneer and the arrival of water on Earth.
2020 Talk at the Faculty of Science, Copenhagen University: "Inspirationsdag for Gymnasielærere".
2019 Talk at VUC Roskilde, Denmark titled: "Geologi og geokronologi".
2018 [Bloom Science Festival](#), Tankefrø - Bjerger, presentation titled: "Bjergbestigningens Geologi".

Leadership development

2020-present Leader for the geochemistry research group at our department (representing four other professors).
2022 Leading Research course. Six-month long leadership course at the University of Copenhagen.
2020-2021 UCPH Forward participant. One year long talent programme for research group management.
2020 LUKU course. Month long leadership course at the University of Copenhagen.
2019 "På vej til ledelse" leadership introduction course at the University of Copenhagen.

Teaching experience

Mineralogy and Metamorphic Petrology for BSc level university students. Course responsible.
Economic Geology and Ore-deposits for MSc level geology students. Course responsible.

Past course contributions:

Structural Geology 2nd year geology students. Responsible for 50% of the course on stereographic projections.
Core to Crust for MSc level students. Responsible for 40% of the course about isotope geochemistry.
High Temperature Isotope Geochemistry and Geochronology. Responsible for 50% of the course.
Arctic Geoscience for MSc level geoscience students. Contributing one full day of lectures about mining in Greenland.

Student supervision

21 BSc students, and 17 MSc students

PhD students (main supervisor)

Benjamin Eskesen, 2023-present
Benjamin Linnebjerg, 2022-present
Lingyu Zhang, 2021-2024

PhD students (co-supervised)

Jiawei Wang, Beijing University, 2019-present
Ikuya Nishio, Kanazawa University, 2021-2024
Yuesheng Han, Beijing University, 2019-2023
Catherine Crotty, McGill University, 2018-2022

Postdocs

Sampriti Basak, 2021-present
Maja Bar Rasmussen, 2022-2023
Aliz Zemeny, 2021-2022
Natasha Barrett, 2020-2022
Pedro Waterton, 2019-2022

Peer-reviewed publications in international journals

* Marks publications by students (co-)supervised by me

- [77] Maier, W.D., Muir, D.D., Barnes, S.-J., & **Szilas, K.** (2024). Petrogenesis of Ni-sulfide mineralisation in the ca. 3.0 Ga Maniitsoq intrusive belt, western Greenland. *Mineralium Deposita*.
<https://doi.org/10.1007/s00126-024-01282-3>
- [76] *Waterton, P., Serre, S.H., Pearson, D.G., Woodland, S., DuFrane, S.A., Morishita, T., & **Szilas, K.** (2024). Chondritic osmium isotope composition of early Earth mantle. *Geochemical Perspectives Letters*, 31.
<https://doi.org/10.7185/geochemlet.2424>
- [75] Kadlag, Y., Anand, A., Fischer-Gödde, M., Mezger, K., **Szilas, K.**, Goderis, S., & Leya, I. (2024). Identification of Earth's late accretion by large impactors through mass independent Cr isotopes. *Icarus*, 116143.
<https://doi.org/10.1016/j.icarus.2024.116143>
- [74] Yu, J., Glorie, S., Hand, M., Simpson, A., Gilbert, S., **Szilas, K.**, Roberts, N., Pawley, M., & Cheng, Y. (2024). Laser ablation (in situ) Lu-Hf geochronology of epidote group minerals. *Contributions to Mineralogy and Petrology*, 179, 1-26.
<https://doi.org/10.1007/s00410-024-02143-y>
- [73] *Zhang, L., Basak, S., Zakharov, D., & **Szilas, K.** (2024). Selective metasomatism of ultramafic cumulates within Archean supracrustal sequences. *Geoscience Frontiers*, 15, 101851.
<https://doi.org/10.1016/j.gsf.2024.101851>

- [72] Petersson, A., Waight, T., Whitehouse, M., Kemp, A., & **Szilas, K.** (2024). An isolated mildly depleted mantle source for the north atlantic craton. *Precambrian Research*, 407, 107399.
<https://doi.org/10.1016/j.precamres.2024.107399>
- [71] Macdonald, J.E., Sugden, P., Dumont, M., **Szilas, K.**, Glorie, S., Burke, A., & Stüeken, E.E. (2024). Evaluating the multiple-sulfur isotope signature of Eoarchean rocks from the Isua Supracrustal Belt (Southwest-Greenland) by MC-ICP-MS: Volcanic nutrient sources for early life. *Geobiology*, 22, e12595.
<http://doi.org/10.1111/gbi.12595>
- [70] Möller, C., Cai, Y., Brueckner, H.K., **Szilas, K.**, & Whitehouse, M.J. (2024). An Iapetus origin for a layered eclogite complex in the northern Western Gneiss Region, Scandinavian Caledonides. *Journal of Metamorphic Geology*, 42, 319-354.
<https://doi.org/10.1111/jmg.12757>
- [69] *Waterton, P., Woodland, S., Pearson, G., Serre, S.H., & **Szilas, K.** (2024). Probing the $^{186}\text{Os}/^{188}\text{Os}$ Precision Barrier: New Recommended Values for the DROsS Reference Material and an Assessment of Mixed 1011 and 1012 Ω Amplifier Arrays. *Geostandards and Geoanalytical Research*, 48, 109-132.
<https://doi.org/10.1111/ggr.12532>
- [68] *Zhang, L., & **Szilas, K.** (2024). Eoarchean ultramafic rocks represent crustal cumulates: A case study of the Narssaq ultramafic body, southern West Greenland. *Earth and Planetary Science Letters*, 625, 118508.
<https://doi.org/10.1016/j.epsl.2023.118508>
- [67] Xu, Y., **Szilas, K.**, Zhang, L., Zhu, J.-M., Wu, G., Zhang, J., Qin, B., Sun, Y., Pearson, D.G., & Liu, J. (2023). Ni isotopes provide a glimpse of Earth's pre-late-veener mantle. *Science Advances*, 9, eadj2170.
<https://doi.org/10.1126/sciadv.adj2170>
- [66] *Eskesen, B.C.F., Fassmer, K., Münker, C., Ulrich, T., **Szilas, K.**, Wagner, S., Hoffmann, E., & Nagel, T.J. (2023). Neoproterozoic synkinematic metamorphic peak in the Isua supracrustal belt (Western Greenland). *Geology*, 51, 1017-1021.
<https://doi.org/10.1130/G51564.1>
- [65] *Zemeny, A., Kinney, C., Yakymchuk, C., Olierook, H.K.H., Kirkland, C.L.K., Gardiner, N.J., & **Szilas, K.** (2023). Mesoarchean peridotite-norite cumulates of SW Greenland – The Miaggoq Ultramafic Complex. *Lithos*, 458, 107352.
<https://doi.org/10.1016/j.lithos.2023.107352>
- [64] Sawada, H., Morishita, T., Vezinet, A., Stern, R., Tani, K., Nishio, I., Takahashi, K., Pearson, D.G., & **Szilas, K.** (2023). Zircon within chromitite requires revision of the tectonic history of the Eoarchean Itsaq Gneiss Complex, Greenland. *Geoscience Frontiers*, 101648.
<https://doi.org/10.1016/j.gsf.2023.101648>
- [63] *Zhang, L., Hyde, W.R., Kirkland, C.L., Han, Y., & **Szilas, K.** (2023). Geochemical and thermodynamic constraints on Archean comagmatic volcanic and cumulate rocks from southern West Greenland. *Geochimica et Cosmochimica Acta*, 348, 122-139.
<https://doi.org/10.1016/j.gca.2023.03.005>
- [62] *Nishio, I., Morishita, T., Itano, K., Takamizawa, S., Ichiyama, Y., Arai, S., Barrett, N., Tamura, A., & **Szilas, K.** (2023). Formation process of ultra-depleted peridotite and its relation to boninitic melt: an example from the Kamuikotan Zone, Hokkaido, Japan. *Journal of Geophysical Research - Solid Earth*, 128, e2022JB025066.
<https://doi.org/10.1029/2022JB025066>
- [61] Stueeken, E., **Szilas, K.**, & van Hinsberg, V.J. (2023). Evaluating the biosignature potential of nitrogen concentrations in graphite and associated K-silicates. *Chemical Geology*, 617, 121274.
<https://doi.org/10.1016/j.chemgeo.2022.121274>
- [60] *Crotty, C., van Hinsberg, V.J., & **Szilas, K.** (2023). Pressure-Temperature history of the 1.9 Ga Nagssugtoqidian Orogeny in the Tasiilaq Region, South-East Greenland: Amphibolite facies metamorphism of a Palaeoproterozoic accretionary prism. *Lithos*, 438, 106993.
<https://doi.org/10.1016/j.lithos.2022.106993>
- [59] Gardiner, N.J., Mulder, J.A., **Szilas, K.**, Nebel, O., Whitehouse, M., Jeon, H., & Cawood, P.A. (2023). A record of Neoproterozoic cratonisation from the Storø Supracrustal Belt, West Greenland. *Earth and Planetary Science Letters*, 602, 117922.
<https://doi.org/10.1016/j.epsl.2022.117922>

- [58] Hasenstab, E., Tusch, J., Hoffmann, J.E., Fischer-Gödde, M., Szilas, K., & Münker, C. (2022). Temporal evolution of ¹⁴²Nd signatures in SW Greenland from high precision MC-ICP-MS measurements. *Chemical Geology*, 614, 121141.
<https://doi.org/10.1016/j.chemgeo.2022.121141>
- [57] *Crotty, C., van Hinsberg, V., **Szilás, K.**, & Poulsen, D. M. (2022). Palaeoproterozoic arc related supracrustal units from the Tasiilaq Region, SE Greenland: Insights into the convergence of the Rae and North Atlantic Cratons. *Precambrian Research*, 379, 106808.
<https://doi.org/10.1016/j.precamres.2022.106808>
- [56] *Nishio, I., Itano, K., Waterton, P., Tamura Hasebe, A., **Szilás, K.**, & Morishita, T. (2022). Compositional Data Analysis (CoDA) of Clinopyroxene from Abyssal Peridotites. *Geochemistry Geophysics Geosystems*, 23, e2022GC010472.
<https://doi.org/10.1029/2022GC010472>
- [55] *Nishio I., Morishita, T., Itano, K., Guotana, J. M., Tamura, A., **Szilás, K.**, & Pearson, D. G. (2022). Metasomatic modification of the Mesoarchean Ulamertoq ultramafic body, southern West Greenland. *Journal of Petrology*, 63, egac004.
<https://doi.org/10.1093/petrology/egac004>
- [54] *Waterton, P., Guotana, J. M., Nishio, I., Morishita, T., Tani, K., Woodland, S., & **Szilás, K.** (2022). No mantle residues in the Isua Supracrustal Belt. *Earth and Planetary Science Letters*, 579, 117348.
<https://doi.org/10.1016/j.epsl.2021.117348>
- [53] Guotana, J.M., Morishita, T., Nishio, I., Tamura, A., Mizukami, T., Tani, K., Harigane, Y., **Szilás, K.**, & Pearson, D.G. (2022). Deserpentinization and high-pressure (eclogite-facies) metamorphic features in the Eoarchean ultramafic body from Isua, Greenland. *Geoscience Frontiers*, 13, 101298.
<https://doi.org/10.1016/j.gsf.2021.101298>
- [52] Yakymchuck, C., van Hinsberg, V., Kirkland, C.L., **Szilás, K.**, Kinney, C., Kendrick, J., & Hollis, J.A. (2021). Corundum (ruby) growth during the final assembly of the Archean North Atlantic Craton, southern West Greenland. *Ore Geology Reviews*, 138, 104417.
<https://doi.org/10.1016/j.oregeorev.2021.104417>
- [51] Peters, S.T.M., Meike, F.B., Pack, A., **Szilás, K.**, Appel, P.W.U., Münker, C., Luigi, D., & Marien, C. (2021). Tight bounds on missing late veneer in early Archean peridotite from triple O isotopes. *Geochemical Perspectives Letters*, 18, 27-31.
<https://doi.org/10.7185/geochemlet.2120>
- [50] Pearson, D.G., Scott, J.M., Liu, J., Schaeffer, A., Wang, L.H., van Hunen, J., **Szilás, K.**, Chacko, T., & Kelemen, P.B. (2021). Deep continental roots and cratons. *Nature*, 596, 199-210.
<https://doi.org/10.1038/s41586-021-03600-5>
- [49] Olierook, H.K.H., Kirkland, C.L., Hollis, J.A., Gardiner, N.J., Yakymchuck, C., **Szilás, K.**, Hartnady, M.I.H., Barham, M., McDonald, B.J., Evans, N.J., Steenfelt, A., & Waterton, P. (2021). Regional zircon U-Pb geochronology for the Maniitsoq region, southwest Greenland. *Scientific Data*, 8, 139.
<https://doi.org/10.1038/s41597-021-00922-x>
- [48] *Aarestrup, E., McDonald, I., Armitage, P., Nutman, A., Christiansen, O., & **Szilás, K.** (2021). The Mesoarchean Amikoq Layered Complex of SW Greenland: Part 2. Geochemical evidence for high-Mg noritic plutonism through crustal assimilation. *Mineralogical Magazine*, 85, 1-64.
<https://doi.org/10.1180/mgm.2021.44>
- [47] McIntyre, T., Waterton, P., Vezinet, A., **Szilás, K.**, & Pearson D.G. (2021). Extent and age of Mesoarchean components in the Nagssugtoqidian orogen, West Greenland: implications for tectonic environments and crust building in cratonic orogenic belts. *Lithos*, 396, 106182.
<https://doi.org/10.1016/j.lithos.2021.106182>
- [46] Stüeken, E., Boocock, T., **Szilás, K.**, Mikhail, S., & Gardiner, N.J. (2021). Reconstructing nitrogen sources to Earth's earliest biosphere at 3.7 Ga. *Frontiers in Earth Science*, 9, 286.
<https://doi.org/10.3389/feart.2021.675726>
- [45] van Hinsberg, V., Yakymchuk, C., Jepsen, A.T.K., Kirkland, C.L., & **Szilás, K.** (2021). The corundum conundrum: Constraining the compositions of fluids involved in ruby formation in metamorphic melanges of ultramafic and aluminous rocks. *Chemical Geology*, 571, 120180.
<https://doi.org/10.1016/j.chemgeo.2021.120180>

- [44] Han, Y., Waterton, P., **Szilas, K.**, Santosh, M., & Kirkland, C. (2021). Origin of high-Cr stratiform chromitite in the Fangmayu Alaskan-type ultramafic intrusion, North China Craton. *Precambrian Research*, 355, 106096. <https://doi.org/10.1016/j.precamres.2021.106096>
- [43] Yakymchuk, C., Kirkland, C.L., Cavosie, A.J., **Szilas, K.**, Hollis, J.A., Gardiner, N.J., Waterton, P., Steenfelt, A., & Martin, L. (2021). Stirred not shaken; critical evaluation of a proposed Archean meteorite impact in West Greenland. *Earth and Planetary Science Letters*, 557, 116730. <https://doi.org/10.1016/j.epsl.2020.116730>
- [42] Kirkland, C.L., Yakymchuk, C., Olierook, H.K.H., Hartnady, M., Gardiner, N.J., Moyon, J.-F., Smithies, R.H., **Szilas, K.**, & Johnson, T. (2021). Theoretical versus empirical secular change in zircon composition. *Earth and Planetary Science Letters*, 554, 116660. <https://doi.org/10.1016/j.epsl.2020.116660>
- [41] Steenfelt, A., Hollis, J., Kirkland, C.L., Sandrin, A., Gardiner, N.J., Olierook, H.K.H., **Szilas, K.**, Waterton, P., & Yakymchuk, C. (2021). The Mesoarchean Akia terrane, West Greenland, revisited: New insights based on spatial integration of geophysics, field observation, geochemistry and geochronology. *Precambrian Research*, 352, 105958. <https://doi.org/10.1016/j.precamres.2020.105958>
- [40] Santosh, M., He, X-F., Waterton, P., **Szilas, K.**, & Pearson, D.G. (2020). Chromitites from an Archean layered intrusion in the Western Dharwar Craton, southern India. *Lithos*, 376, 105772. <https://doi.org/10.1016/j.lithos.2020.105772>
- [39] *Waterton, P., Hyde, W.R., Tusch, J., Hollis, J.A., Kirkland, C.L., Kinney, C., Yakymchuk, C., Gardiner, N.J., Zakharov, D., Olierook, H.K., Lightfoot, P.C., & **Szilas, K.** (2020). Geodynamic implications of synchronous norite and TTG formation in the 3 Ga Maniitsoq Norite Belt, West Greenland. *Frontiers in Earth Science*, 8, 406. <https://doi.org/10.3389/feart.2020.562062>
- [38] *Aarestrup, E., Jørgensen, T.R.C., Armitage, P.E.B., Nutman, A.P., Christiansen, O., & **Szilas, K.** (2020). The Mesoarchean Amikoq Layered Complex of SW Greenland: Part 1. Constraints on the P-T evolution from igneous, metasomatic and metamorphic amphiboles. *Mineralogical Magazine*, 84, 1-29. <http://dx.doi.org/10.1180/mgm.2020.68>
- [37] Peters, S.T.M., **Szilas, K.**, Sengupta, S., Kirkland, C.L., Garbe-Schönberg, D., & Pack, A. (2020). >2.7 Ga metamorphic peridotites from southeast Greenland record the oxygen isotope composition of Archean seawater. *Earth and Planetary Science Letters*, 544, 116331. <https://doi.org/10.1016/j.epsl.2020.116331>
- [36] Olierook, H.K., Kirkland, C.L., **Szilas, K.**, Hollis, J.A., Gardiner, N.J., Steenfelt, A., Jiang, Q., Yakymchuk, C., Evans, N.J., & McDonald, B.J. (2020). Differentiating between inherited and autocrystic zircon in granitoids. *Journal of Petrology*, 61, ega081. <https://doi.org/10.1093/petrology/egaa081>
- [35] **Szilas, K.**, Tusch, J., Herwartz, D., & Fonseca, R.O.C. (2020). Two metamorphic gold mineralization events confirmed by Lu-Hf isotope dating of garnet in the Late Archean Storø Au deposit, Nuuk region of SW Greenland. *Ore Geology Reviews*, 121, 103476. <https://doi.org/10.1016/j.oregeorev.2020.103476>
- [34] Yakymchuk, C., Kirkland, C., Hollis, J., Kendrick, J., Gardiner, N., & **Szilas, K.** (2020). Mesoarchean partial melting of mafic crust and tonalite production during high-T–low-P stagnant tectonism, Akia Terrane, West Greenland. *Precambrian Research*, 399, 105615. <https://doi.org/10.1016/j.precamres.2020.105615>
- [33] Kirkland, C., Yakymchuk, C., Gardiner, N., **Szilas, K.**, Hollis, J., Olierook, H., & Steenfelt, A. (2020). Titanite petrochronology linked to phase equilibrium modelling constrains tectono-thermal events in the Akia Terrane, West Greenland. *Chemical Geology*, 536, 119467. <https://doi.org/10.1016/j.chemgeo.2020.119467>
- [32] Gardiner, N., Kirkland, C., Hollis, J., Cawood, P., Nebel, O., **Szilas, K.**, & Yakymchuk, C. (2020). North Atlantic Craton architecture revealed by kimberlite-hosted crustal zircons. *Earth and Planetary Science Letters*, 534, 116091. <https://doi.org/10.1016/j.epsl.2020.116091>
- [31] Fischer-Gödde, M., Elfers, B.-M., Münker, C., **Szilas, K.**, Maier, W.D., Messling, N., Morishita, T., van Kranendonk, M., & Smithies, H. (2020). Ruthenium isotope vestige of Earth's pre-late veneer mantle preserved in Archean rocks. *Nature*, 579, 240-244. <https://doi.org/10.1038/s41586-020-2069-3>

- [30] *Whyatt, L., Peters, S., Pack, A., Kirkland, C., Balic-Cunic, T., & **Szilas, K.** (2020). Metasomatic reactions between Archean dunite and trondhjemite at the Seqi Olivine Mine in Greenland. *Minerals*, 10, 85.
<https://doi.org/10.3390/min10010085>
- [29] McIntyre, T., Pearson, D.G., **Szilas, K.**, & Morishita, T. (2019). Origin of Eoarchean ultramafic rocks of the North Atlantic Craton – A study of the Tussaap Ultramafic Complex, Itsaq Gneiss Complex, southern West Greenland. *Contributions to Mineralogy and Petrology*, 174, 96.
<https://doi.org/10.1007/s00410-019-1628-9>
- [28] Nishio, I., Morishita, T., **Szilas, K.**, Pearson, D.G., Tani, K.-I., Tamura, A., Harigane, Y., & Guotana, J.M. (2019). Titanian clinohumite-bearing peridotite from the Ulamertoq Ultramafic body in the 3.0 Ga Akia Terrane of southern West Greenland. *Geosciences*, 9, 153.
<https://doi.org/10.3390/geosciences9040153>
- [27] Gardiner, N., Kirkland, C.L., Hollis, J., **Szilas, K.**, Steenfelt, A., Yakymchuk, C., & Heide-Jørgensen, H. (2019). Building Mesoarchean crust upon Eoarchean roots: The Akia Terrane, West Greenland. *Contributions to Mineralogy and Petrology*, 174, 20.
<https://doi.org/10.1007/s00410-019-1554-x>
- [26] Gardiner, N., Johnson, T.E., Kirkland, C., & **Szilas, K.** (2019). Modelling the Hafnium–Neodymium Evolution of Early Earth: A Study from West Greenland. *Journal of Petrology*, 60, 177-197.
<https://doi.org/10.1093/petrology/egy110>
- [25] Kirkland, C.L., Yakymchuk, C., **Szilas, K.**, Evans, N., Hollis, J., McDonald, B., & Gardiner, N. (2018). Apatite; a U-Pb thermochronometer or geochronometer? *Lithos*, 318, 143-157.
<https://doi.org/10.1016/j.lithos.2018.08.007>
- [24] van Hinsberg, V., Crotty, C., Roozen, S., **Szilas, K.**, & Kisters, A. (2018). Pressure–Temperature History of the >3 Ga Tartoq Greenstone Belt in Southwest Greenland and Its Implications for Archaean Tectonics. *Geosciences*, 8, 367.
<https://doi.org/10.3390/geosciences8100367>
- [23] Guotana, J.M., Morishita, T., Yamaguchi, R., Nishio, I., Tamura, A., Tani, K., Harigane, Y., **Szilas, K.**, & Pearson, D.G. (2018). Contrasting Textural and Chemical Signatures of Chromitites in the Mesoarchean Ulamertoq Peridotite Body, Southern West Greenland. *Geosciences*, 8, 328.
<https://doi.org/10.3390/geosciences8090328>
- [22] **Szilas, K.** (2018). A Geochemical Overview of Mid-Archaean Metavolcanic Rocks from Southwest Greenland. *Geosciences*, 8, 266.
<https://doi.org/10.3390/geosciences8070266>
- [21] Yakymchuk, C., & **Szilas, K.** (2018). Corundum (ruby) formation by metasomatic reactions in Archean metapelite – Case study from SW Greenland. *Geoscience Frontiers*, 9, 727-749.
<https://doi.org/10.1016/j.gsf.2017.07.008>
- [20] **Szilas, K.**, van Hinsberg, V.J., McDonald, I., Næraa, T., Rollinson, H., Adetunji, J., & Bird, D. (2018). Highly refractory Archaean peridotite cumulates: Petrology and geochemistry of the Seqi Ultramafic Complex, SW Greenland. *Geoscience Frontiers*, 9, 689-714.
<http://dx.doi.org/10.1016/j.gsf.2017.05.003>
- [19] Klausen, M.B., **Szilas, K.**, Kokfelt, T.F., Keulen, N., Schumacher, J.C., & Berger, A. (2017). Tholeiitic to calc-alkaline metavolcanic transition in the Archean Niglerlikasik Supracrustal Belt, SW Greenland. *Precambrian Research*, 302, 50-73.
<https://doi.org/10.1016/j.precamres.2017.09.014>
- [18] Rollinson, H., Adetunji J., Lenaz, D., & **Szilas, K.** (2017). Archaean chromitites show constant Fe³⁺/ΣFe in Earth's asthenospheric mantle since 3.8 Ga. *Lithos*, 282, 316-325.
<http://dx.doi.org/10.1016/j.lithos.2017.03.020>
- [17] **Szilas, K.**, Tusch, J., Hoffmann, J.E., Garde, A.A., & Münker, C. (2017). Hafnium isotope constraints on the origin of Mesoarchean andesites in southern West Greenland, North Atlantic craton. In: Halla, J., Whitehouse, M. J., Ahmad, T. & Bagai, Z. (Eds.) *Crust–Mantle Interactions and Granitoid Diversification: Insights from Archaean Cratons*. Geological Society, London, Special Publications, 449, 19-38.
<http://dx.doi.org/10.1144/SP449.2>
- [16] **Szilas, K.**, Hoffmann, J.E., Schulz T., Hansmeier, C., Polat, A., Viehmann, S., Kasper, H.U., & Münker, C. (2016). Combined bulk-rock Hf- and Nd-isotope compositions of Mesoarchean metavolcanic rocks from the Ivisaartoq

Supracrustal Belt, SW Greenland: Deviations from the mantle array caused by crustal recycling. *Chemie der Erde*, 76, 543-554.

<http://dx.doi.org/10.1016/j.chemer.2016.09.004>

- [15] **Szilas, K.**, Maher, K., & Bird, D. (2016). Aluminous gneiss derived by weathering of basaltic source rocks in the Neoproterozoic Storø Supracrustal Belt, southern West Greenland. *Chemical Geology*, 441, 63-80.
<http://dx.doi.org/10.1016/j.chemgeo.2016.08.013>
- [14] **Szilas, K.**, Kelemen, P.B., & Bernstein, S. (2015). Peridotite enclaves hosted by Mesoarchaean TTG-suite orthogneisses in the Fiskefjord region of southern West Greenland. *GeoResJ*, 7, 22-34.
<http://dx.doi.org/10.1016/j.gr.2014.07.010>
- [13] **Szilas, K.**, Kelemen, P.B., & Rosing, M.T. (2015). The petrogenesis of ultramafic rocks in the >3.7 Ga Isua supracrustal belt, southern West Greenland: Geochemical evidence for two distinct magmatic cumulate trends. *Gondwana Research*, 28, 565-580.
<http://dx.doi.org/10.1016/j.gr.2014.07.010>
- [12] **Szilas, K.**, Hoffmann, J.E., Hansmeier, C., Hollis, J.A., Münker, C., Viehmann, S., & Kasper, H.U. (2015). Sm-Nd and Lu-Hf isotope and trace-element systematics of Mesoarchaean amphibolites, inner Ameralik fjord, southern West Greenland. *Mineralogical Magazine*, 79, 857-876.
<http://dx.doi.org/10.1180/minmag.2015.079.4.02>
- [11] Keulen, N., Schumacher, J.C., Næraa, T., Kokfelt, T.F., Scherstén, A., **Szilas, K.**, van Hinsberg, V.J., Schlatter, D.M., & Windley, B.F. (2014). Meso- and Neoproterozoic geological history of the Bjørnesund and Ravens Storø Supracrustal Belts, southern West Greenland: settings for gold enrichment and corundum formation. *Precambrian Research*, 254, 36-58.
<http://dx.doi.org/10.1016/j.precamres.2014.07.023>
- [10] **Szilas, K.**, van Gool, J.A.M., Scherstén, A., & Frei, R. (2014). The Neoproterozoic Storø Supracrustal Belt, Nuuk region, southern West Greenland: An arc-related basin with continent-derived sedimentation. *Precambrian Research*, 247, 208-222.
<http://dx.doi.org/10.1016/j.precamres.2014.04.010>
- [9] **Szilas, K.**, van Hinsberg, V.J., Creaser, R.A., & Kisters, A.F.M. (2014). The geochemical composition of serpentinites in the Mesoarchaean Tartoq Group, SW Greenland: Harzburgitic cumulates or melt-modified mantle? *Lithos*, 198, 103-116.
<http://dx.doi.org/10.1016/j.lithos.2014.03.024>
- [8] **Szilas, K.**, Hoffmann, J.E., Scherstén, A., Kokfelt, T.F., & Münker, C. (2013). Archaean andesite petrogenesis: Insights from the Grædefjord Supracrustal Belt, southern West Greenland. *Precambrian Research*, 236, 1-15.
<http://dx.doi.org/10.1016/j.precamres.2013.07.013>
- [7] **Szilas, K.**, & Garde, A.A. (2013). Mesoarchaean aluminous rocks at Storø, southern West Greenland: New age data and evidence of premetamorphic seafloor weathering of basalts. *Chemical Geology*, 354, 124-138.
<http://dx.doi.org/10.1016/j.chemgeo.2013.07.001>
- [6] Bernstein, S., **Szilas, K.**, & Kelemen, P.B. (2013). Highly depleted cratonic mantle in West Greenland extending into diamond stability field in the Proterozoic. *Lithos*, 168, 160-172.
<http://dx.doi.org/10.1016/j.lithos.2013.02.011>
- [5] **Szilas, K.**, van Hinsberg, V.J., Kisters, A.F.M., Hoffmann, J.E., Windley, B.F., Kokfelt, T.F., Scherstén, A., Frei, R., Rosing, M.T., & Münker, C. (2013). Remnants of arc-related Mesoarchaean oceanic crust in the Tartoq Group, SW Greenland. *Gondwana Research*, 23, 436-451.
<http://dx.doi.org/10.1016/j.gr.2011.11.006>
- [4] Kisters, A.F.M., van Hinsberg, V.J., & **Szilas, K.** (2012). Geology of an Archaean accretionary complex – the structural record of burial and return flow in the Tartoq Group of South West Greenland. *Precambrian Research*, 220, 107-122.
<http://dx.doi.org/10.1016/j.precamres.2012.07.008>
- [3] **Szilas, K.**, Næraa, T., Scherstén, A., Stendal, H., Frei, R., van Hinsberg, V.J., Kokfelt, T.F., & Rosing, M.T. (2012). Origin of Mesoarchaean arc related rocks with boninite/komatiite affinities from southern West Greenland. *Lithos*, 144, 24-39.
<http://dx.doi.org/10.1016/j.lithos.2012.03.023>
- [2] **Szilas, K.**, Hoffmann, J.E., Scherstén, A., Rosing, M.T., Kokfelt, T.F., Windley, B.F., van Hinsberg, V.J., Næraa, T., Keulen, N., Frei, R., & Münker, C. (2012). Complex calc-alkaline volcanism recorded in Mesoarchaean

supracrustal belts north of Frederikshåb Isblink, southern West Greenland: Implications for subduction zone processes in the early Earth. *Precambrian Research*, 208, 90-123.
<http://dx.doi.org/10.1016/j.precamres.2012.03.013>

- [1] Scherstén, A., **Szilás, K.**, Creaser, R.A., Næraa, T., van Gool, J.A.M., & Østergaard, C. (2012). Re-Os and U-Pb constraints on gold mineralisation events in the Meso- to Neoproterozoic Storø greenstone belt, Storø, southern West Greenland. *Precambrian Research*, 200, 149-162.
<http://dx.doi.org/10.1016/j.precamres.2011.12.014>