

CV – Professor Rune B. Larsen – January 2023

Role in the project Project manager ☐ Project partner ☒

Personal information

First name, Surname:	Rune Berg-Edland Larsen		
Date of birth:	08.07.1962	Sex:	<u>Male</u>
Nationality:	Danish		
Researcher unique identifier(s) (ORCID, ResearcherID, etc.):	https://orcid.org/0000-0001-9856-3845		
URL for personal website:	https://www.ntnu.edu/employees/rune.larsen		

Education

Year	Faculty/department - University/institution - Country
1992 (dissertation defended)	Ph.D. University of Copenhagen, Dep. of Geology, Denmark
1988	MSc. University of Copenhagen, Dep. of Geology, Denmark

Positions - current and previous (Management positions in bold)

Year	Job title – Employer - Country
2017-2022	Deputy Head , Dep. of Geoscience and Petroleum, NTNU, Norway
2013-2015	Head of Studies , Dep. of Geoscience and Petroleum, NTNU, Norway
2010-now	Expert Advisor, Nordic Mining ASA, Norway
2009-now	Full Professor, NTNU, Norway
2006-2010	Senior Consulting Geologist (20% position), Nordic Mining ASA, Norway
2004-2009	Associate Professor, Dep. of Geology and Env, Engineering, NTNU, Norway
2001-2004	Group-Leader (formation of high purity quartz and REE-deposits), Geological Survey of Norway
1992-2004	Senior Geologist, Project Leader , Geological Survey of Norway

Career breaks

Year	Reason
2003 & 5	Paternity leave, 2 x 3 months

Project management experience (only major projects >3yr's)

Year	Project owner - Project - Role - Funder
2017-2021	NTNU, Green Management of Mineral resources (GEMMS), PM , DiKU (former SiU, the Norwegian Foreign Affairs Department)
2014-2018	NTNU, Marie Curie Actions: Training network on reactive geological systems from the mantle to the abyssal sub-seafloor (ABYSS). Partner , EU
2014-2017	NTNU, Formation of the Reinfjord PGE-Cu-Ni deposits (PLATINUMPROBE), PM , Nordic Council of Minister's (NordMin-programme), NTNU, Industry
2007-2012	NTNU, Cu-Ni-PGE potential of the Atchiza mafic- ultramafic complex Mozambique, PM , SiU (now DiKU), NTNU, industry
2002-2016	NTNU, The value chain from quartz to product, PM , NFR, NTNU + industry

Supervision of students

Master's students	Ph.D. students	University/institution - Country
32	15	NTNU, Norway
1		Århus Universitet, Denmark
	1	MiT, USA

Other relevant professional experiences

Year	Description - Role
2022	Guest Editor , Bulletin Geological Survey of Denmark and Greenland (GEUS), The Skaergaard PGE-Au deposit, E. Greenland
2019	Chair Scientific Program , Geological Winter-meeting, Geological Society of Norway
2019	Advisory Board , Ministry of Trade and Industry, evaluation of the Norwegian Geological Survey
2012-now	Fellow , Royal Norwegian Society of the Sciences and Letters
2009	Guest Editor , Mineralogical Magazine, "Frontiers of Quartz Research"
2008	Convener & Chief Organiser at the 33 rd IGC session "Frontiers of Quartz Research", Norway
2007-9	Committee Leader , Norway, Sustainable Management of Ore-Deposits, International Year of the Planet Earth, UNESCO
2004-now	Opponent , PhD defences, Aarhus U. (DK), Arctic U. (N), Cambridge U. (UK), U. Oslo (N)
1992-now	Member , GSA, AGU, SGA, MAC, NGF

10-year Track record

Relevant references past 10 years

Included papers are all from projects where I was the project initiator and PM. Research projects that produced the papers are outlined in the section "Scientific Leadership". Imbedded DOI for open source papers, only.

1. [Pryadunenko, Anna; Nilsson, Lars Petter; B. Larsen, Rune. \(2021\) Geochemical characteristics of the Feragen ultramafic body, central Scandinavian Caledonides: Implications for petrogenesis and tectonic significance. *Norwegian Journal of Geology*.](#)
2. [Grant TB, Larsen RB, Brown EL, Müller A \(2020\) Mixing of heterogeneous, high-MgO, plume-derived magmas at the base of the crust in the Central Iapetus Magmatic Province \(Ma 610-550\): Origin of parental magmas to a global LIP event. *Lithos* 364–365.](#)
3. [Larsen RB, Sørensen BE, Nikolaisen E \(2019\) Formation and disruption of Cu-Ni-PGE deposits in a giant deep-seated mafic-ultramafic conduit system. Proceedings of the 15th SGA Biennial Meeting, 27-30 August 2019, Glasgow, Scotland, pages 528-531.](#)
4. [Sørensen BE, Grant TB, Ryan EJ, Larsen RB \(2019\) In situ evidence of earthquakes near the crust mantle boundary initiated by mantle CO₂ fluxing and reaction-driven strain softening. *Earth and Planetary Science Letters*, 524, 1-11.](#)
5. [ter Maat GW, McEnroe SA, Church NS, Larsen RB \(2019\) Magnetic mineralogy and petrophysical properties of ultramafic rocks: Consequences for crustal magnetism. *Geochemistry, Geophysics, Geosystems*. 1794-1817.](#)
6. [Larsen RB, Grant T, Sørensen BE, Tegner C, McEnroe S, Pastore Z, Fichler C, Nikolaisen, E, Grannes KRB, Church NS, ter Maat G, Michels A \(2018\) Portrait of a giant deep-seated magmatic conduit system: The Seiland Igneous Province. *Lithos*. 266-299 \(Invited Synthesis paper\).](#)
7. Drivenes K, [Larsen RB](#), Müller AB, Sørensen BE (2016) Crystallization and uplift path of late Variscan granites evidenced by quartz chemistry and fluid inclusions: Example from the Land's End granite, SW England. *Lithos*, 57-75.
8. Grant TB, [Larsen RB](#), Anker-Rasch L, Grannes KR, Iljina S, McEnroe S, Schanche M, Øen E (2016) Anatomy of a deep crustal magmatic conduit system: The Reinfjord ultramafic complex, Seiland Igneous Province, Northern Norway. *Lithos*, 200-221.
9. Ibraimo D., [Larsen R.B.](#) (2015): Geological setting, emplacement mechanism and igneous evolution of the Atchiza mafic-ultramafic layered suite in North-West Mozambique. *Journal of African Earth Science*, 421-443.
10. Drivenes K, [Larsen RB](#), Müller A, Sørensen BE, Wiedenbeck M, Raanes MP (2015): Late magmatic immiscibility during batholith emplacement: Assessment of B-isotopes and trace elements in tourmaline from the Land's End granite, SW England. *Contributions to Mineralogy and Petrology*, 1-27.

11. Müller A, Ihlen PM, Snook B, Larsen RB, Flem B, Bingen B, Williamson B (2015) The chemistry of quartz in granitic pegmatites of southern Norway: Petrogenetic and economic implications. *Economic Geology*, 110, 1737-1757

Full length peer reviewed articles. 21 of totally 81 published in the past 10 years.

Invited lecturer. 8 in past 10 years of totally 17

Visiting Scholarships. Most recent at University of California Davis, USA (2012-13), Totally four 6-12 months international scholarships (Stanford, Monash, Paul Sabatier)

Research Expeditions, (Leader and organizer). In the past 10 years at NTNU, field campaigns aiming at high purity quartz and rare element granitic pegmatite deposits, subsequently, field campaigns in Mozambique and Norway aiming at Ultramafic-hosted Cu-Ni-PGE deposits. Both involving up to 14 colleagues, annually, from Norwegian and international academia, the industry and several graduate/ post-doctoral students.

Scientific leadership major projects i.e., >3 years duration and ongoing. PI several projects aiming at understanding the formation of Cu-Ni-PGE deposits in Norway, Greenland and Mozambique. Current research focus on the flux of ore-forming igneous melts and volatiles from the deep mantle to the lower crust in high yielding magmatic systems and emplacement rates for Large Igneous Provinces. Main locality is the Ediacaran Seiland Igneous Province covering c. 5000 Km² in N. Norway and hosting 5 giant ultramafic conduit systems (paper 1-6, 8, 9). 4 PhD's and one post-doc trained in program.

PI in *The value chain from quartz to product* and leader of systematic research into the genesis of solar grade quartz raw materials, Si-feedstock and associated REE deposits. Development of new analytical techniques and the application of quartz to study granite genesis and their ore-deposits and the formation of rare element deposits in granitic pegmatite. 5 PhD trained in program (paper 7, 10, 11).

PI in the genesis of Sn-W-Cu deposits during batholithic scale magmatism. Primary focus on the Cornubian Batholith (UK) and the magmatic – hydrothermal transition (paper 7, 10). 1 PhD and 1 post-doc trained in program.

PI for international educational and student exchange programs funded by DiKU/SiU (Foreign Affairs Dep., Norway). 1) Collaborations with University Eduardo Mondlane (Mozambique) and successful establishment of new BSc and MSc programs in mineral-deposit management, and pioneering research of the Atchiza gabbro complex Cu-Ni-PGE deposits (paper 10). 2) Collaboration with Texas Tech. University (U.S.A.) focusing on mutual graduate student exchange, common field courses and fieldwork and training in research techniques. 5 PhD's trained in program.