

Curriculum vitae with track record (for researchers)

Role in the project Project manager ☐ Project participant ☐

Personal information

First name, Surname:	Johan Berg Pettersen		
Date of birth:	25.03.1977	Sex:	M
Nationality:	Norwegian		
Researcher unique identifier(s) (ORCID, ResearcherID, etc.):	ORCID: 0000-0002-5142-6015		
URL for personal website:	https://www.ntnu.edu/employees/johan.pettersen		

Education

Year	Faculty/department - University/institution - Country
2007	Ph.D. in Industrial Ecology. Industrial Ecology Programme and Dept. of energy and process engineering, NTNU, Norway
2003	Master's in Biotechnology. Dept. of biotechnology, NTNU, Norway

Positions - current and previous

Year	Job title – Employer - Country
2017-	Associate Professor. Norwegian University of Science and Technology (NTNU), Norway
2014-2019	Adj. Assoc. Professor. University of Agder (UIA), Norway
2015-2017	Adj. Assoc. Professor. UiT – The Arctic University of Norway
2014-2017	Senior advisor in LCA, energy & environment. MiSA (Asplan Viak), Norway
2008-2009	Adj. Assoc. Professor. Norwegian University of Science and Technology (NTNU), Norway
2007-2014	Co-founder and CEO. MiSA. Environmental systems analysis consultancy. Norway
2007-2008	Post Doc. Norwegian University of Science and Technology (NTNU), Norway

Project management experience

Year	Project owner - Project - Role - Funder
2022.	Green Deal ambitions applied to EU space activities. Expert. WP1 Coordination, dialogue with stakeholders and definition of shared ambition. European Commission Directorate General, Defense Industry and Space.
2021-2025	CircWtE - Waste-to-Energy and Municipal Solid Waste management systems in Circular Economy. WP Lead. NFR Bionær.

2021-2023	SisAl Slag Valorisation (SisAl). WP Lead. EiT Raw Materials; Acceleration/Upscaling.
2020-2024	Innovative pilot for Silicon production with low environmental impact using secondary Aluminium and silicon raw materials (SisAl Pilot); Task Lead. H2020-SC5-2019-2.
2020-2023	LASTING: Sustainable prosperity through product durability. WP Lead. NFR Miljøforsk.
2020-2022	Sustainable engineering – EVU. Project Lead. Diku Fleksible utdanningstilbud.
2018-2022	REMOVing the waste streams from the primary ALuminium production and other metal sectors in Europe (REMOVAL); Task Lead. H2020-SC5-2017.
2018-2019	LCA Data Harmonization; Project Lead. European Space Agency (ESA).
2010-2012	Environmental analysis – Climate, Norwegian High-Speed Rail Assessment. Project Lead. Norwegian Railway Authority; <u>Project lead.</u>
2014-2017	Life cycle assessment of space materials, manufacturing processes, and propellants. Project Lead. European Space Agency (ESA).

Supervision of students

Master's students	Ph.D. students	University/institution - Country
26	3 (ongoing)	Norwegian University of Science and Technology (NTNU), Norway

Other relevant professional experiences

Year	Description - Role
2020 -	Head of study programs in “Energy and Sustainability”, Faculty of Engineering Science, NTNU
2019-	Local Coordinator, Erasmus Mundus International Master's Programme on Circular Economy. Norwegian University of Science and Technology (NTNU), Norway
2017-	Study program manager, International MSc Programme in Industrial Ecology, Norwegian University of Science and Technology (NTNU), Norway
2019.	Co-chair, “Life cycle thinking in deep-sea mining”-session, NTNU Ocean Week/Norway. 50 national & international participants.
2020.	Technical University of Denmark. <u>Assessment Committee Member</u> . PhD Thesis defence. Flores A. Bohnes: Prospective assessment of the aquaculture sector. National policies and environmental impacts. May 7 th , 2020.
2019.	Université de Bordeaux. <u>Jury member</u> , PhD thesis defence. Thibaut Maury: Consideration of space debris in the life cycle assessment framework. April 5 th , 2019.
2016-2017	Interim Board Member & Vice Chairman, NCE Aquatech Cluster: an aquaculture technology innovation cluster within the Norwegian Innovation Cluster program (National Centre of Expertise).
2013-2016	<u>Chairman</u> of the Board, Smart Water Cluster: a water technology innovation cluster within the Norwegian Innovation Cluster program (Arena cluster).

Track record

Publications and indices.

- Google Scholar: 37 articles. 494 Citations, h-index 8, i10-index 7.
- Scopus: 16 documents. Cited by 316 documents, h-index 7.
- ResearchGate: Research Interest Score 284, 391 Citations, h-index 8.

Selected publications

- Ma, Y., **Pettersen J.B.** (2023). Life cycle assessment of pig iron production from bauxite residue: A European case study. *Journal of Industrial Ecology* 2023: 1-14. <https://doi.org/10.1111/jiec.13448>
- Mora-Sojo M.C., Krych, K., **Pettersen, J.B.** (2023). Evaluating the current Norwegian clothing system and a circular alternative. *Resources, Conservation and Recycling*, Volume 197, 2023, 107109, ISSN 0921-3449, <https://doi.org/10.1016/j.resconrec.2023.107109>
- Ma, Y., Preveniou, A., Kladis, A., **Pettersen, J.B.** (2022). Circular economy and life cycle assessment of alumina production: Simulation-based comparison of Pedersen and Bayer processes. *J Cleaner Prod*, Volume 366, 2022, 132807, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2022.132807>
- Surup, G.R., Kaffash, H., Ma, Y., Trubetskaya, A., **Pettersen, J.B.**, Tangstad, M (2022). Life Cycle Based Climate Emissions of Charcoal Conditioning Routes for the Use in the Ferro-Alloy Production. *Energies* 15, 3933. <https://doi.org/10.3390/en15113933>
- Song, X., Liu, Y., **Pettersen, J.B.**, Brandão, M., Ma, X., Røberg, S., Frostell, B. (2019). Life cycle assessment of recirculating aquaculture systems: a case of Atlantic salmon farming in China. *J. Ind. Ecol.*, 23 (5) pp. 1077-1086, 10.1111/jiec.12845
- **Pettersen, J.B.**; Song, X. (2017). Life Cycle Impact Assessment in the Arctic: Challenges and Research Needs. *Sustainability* 2017, 9, 1605. <https://doi.org/10.3390/su9091605>
- Song, X., **Pettersen, J.B.**, Pedersen, K.B. & Røberg, S. (2017). Comparative life cycle assessment of tailings management and energy scenarios for a copper ore mine: A case study in Northern Norway. *Journal of Cleaner Production*, 164, 892-904. <https://doi.org/10.1016/j.jclepro.2017.07.021>
- Hammervold, J., **Pettersen, J.**, & Moe Bjørnset, M. (2014). Lifecycle Assessment and Lifecycle Costing of Aluminium Wrought-to-Wrought Recycling. In *Materials Science Forum* (Vols. 794–796, pp. 1065–1070). Trans Tech Publications, Ltd. <https://doi.org/10.4028/www.scientific.net/msf.794-796.1065>

Other output

- Co-founder and CEO of *MiSA* from 2007 to 2014, a consultancy for environmental systems analysis. The company grew to 9 employees and was in 2014 acquired by, and later merged into, Asplan Viak, a large Nordic engineering consultancy.
- *ESA space LCA Database v2019*. Contains around 1 000 unique datasets specific to space systems, including materials, manufacturing processes, propellants, components, spacecrafts, and missions. The v2019 was the final output of the *LCA Harmonization* project funded by ESA 2018-2019. Datasets have been developed and harmonized in several projects with **Pettersen** as project manager and principal investigator in positions at MiSA, and NTNU. <https://sdg.esa.int/activity/esa-lca-database-and-handbook-framework-life-cycle-assessment-space-4854>