Ole Martin Løvvik: Curriculum vitae with track record

Personal information

First name **Surname**:	Ole Martin **Løvvik (Lovvik)**		
Date of birth:	09. April 1968	Sex:	Male
Nationality:	Norwegian		
Researcher unique identifier(s) (ORCID, ResearcherID, etc.):	ORCID iD: https://orcid.org/0000-0002-4169-1544, Scopus ID: 6602470195, ResearcherID: F-1476-2019		
URL for personal website:	https://www.sintef.no/en/all-employees/employee/2818/, https://www.mn.uio.no/fysikk/english/people/aca/olem/		

Education

Year	Faculty/department - University/institution – Country
1998	Dr.scient. (Ph.D.), Department of Physics, University of Oslo (UiO), Norway.
1992	Cand.scient. (Master), Dept. of Physics, UiO, Norway.

Positions - current and previous

Year	Job title – Employer - Country
2012-	Adjunct Professor, Dept. of Physics, UiO, Norway. (Present)
2008-	Chief Scientist, SINTEF Materials Physics, Oslo, Norway. (Present)
2006	Consultant, Research Council of Norway (4 months).
2002-2008	Post doc., research fellow, Institute for Energy Technology, Kjeller, Norway.
2001-2002	Associate Professor, Norwegian Univ. of Life Sciences, Ås, Norway (6 months).
1999-2011	Post doc., research fellow, university lecturer, associate professor, Dept. of Physics, UiO.

Career breaks

Year	Reason
1996-2004	Parental leaves, 3 children born 1996, 1999, 2003, in total 14 months.
1998-1999	Civil service as musician, Nordreisa, Troms, Norway.

Project management experience, examples from last 6 years

Year	Project owner - Project - Role – Funder, budget
2021-2025	SINTEF - Cool'em - Project leader - NFR Researcher project, 12 MNOK
2021-2025	SINTEF - Allotherm - Project leader - NFR Researcher project, 12 MNOK
2018-2021	SINTEF - Premeum - Project leader - Norsk Hydro's Fund, 2.7 MNOK
2018-2021	TEGma AS - 3D-TEM - Internal project leader - NFR and TEGma AS, 12 MNOK
2017-2020	SINTEF - Comet - Project leader - NFR Researcher project, 10 MNOK
2014-2017	SINTEF - SunSiC - Project leader - NFR Researcher project, 7 MNOK
2014-2017	SINTEF - HIPP - WP leader – NFR Researcher project; 19 MNOK.
2014-2017	TEGma – Thermomat - Internal project leader – NFR and TEGma AS, 18 MNOK.
2011-2015	SINTEF - NanoThermo - Project leader - NFR Researcher project, 14 MNOK

Supervision of students

Master's students	Ph.D. students	University/institution - Country
14	12	UiO, NTNU (Trondheim, Norway), Univ. Southeast Norway, Leiden Univ. (Netherlands), Univ. Milano (Italy). Currently 5 PhD and 1 MSc students.

Other relevant professional experiences

Year	Description - Role
2007-	Organisation of various international meetings, workshops, etc. Examples (# of participants): **Chair** of the 2nd International Conference on the Conversion between Magnetic, Electric and Thermal Energies, Oslo, Norway, 2019 (30). **Co-chair** of Wide bandgap semiconductor for LEDs, solar and related energy technology at the European Materials Research Society spring meeting, Strasbourg, France, 2017 (100). **Chair** of the international workshop Thermoelectrics–from fundamentals to applications, Hurtigruten, Norway, 2016 (50). **Chair** of the international workshop New Applications of Cubic Silicon Carbide, Oslo, 2015 (60).
2016-	Associate editor of Energy Harvesting and Systems (de Gruyter).
2004-	Evaluator for various research applications to Research Councils and other funding bodies in Norway, Sweden, the Netherlands, Japan, and USA.
2000-	Opponent at several (>20) dissertations in Norway, Sweden, and the Netherlands.
1997-	Referee for >20 journals including Nature Mater., Nature Commun., Phys. Rev. Lett.
1991-	Member of numerous boards, councils, and committees, at UiO and SINTEF.

10-year track record, Ole Martin Løvvik

1. Total number of peer-reviewed publications in international journals during the carrier

Scopus, all (last 10) years: **132 (73)** publications, h-index **31 (16)**, **3591 (1025)** citations.

Google Scholar, all years: **168** publications, h-index **35**, **4774** citations, i10-index **82**.

2. Ten selected publications from last ten years

Numbered according to full list of scientific papers.

129. J. Amici, … **O.M. Løvvik**, … (49 authors), *A Roadmap for Transforming Research to Invent the Batteries of the Future Designed within the European Large Scale Research Initiative BATTERY 2030+*, Advanced Energy Materials, (2022) 2102785.
119. **O. M. Løvvik**, E. Flage-Larsen, G. Skomedal, *Screening of thermoelectric silicides with atomistic transport calculations,* J. Appl. Phys. **128** (2020) 125105. Selected as **Editor's Pick** and Featured in AIP's **SciLight** section.
116. K. Berland, N. Shulumba, O. Hellman, C. Persson, **O. M. Løvvik**, *Thermoelectric transport trends in group 4 half-Heusler alloys*, J. Appl. Phys., **126** (2019) 145102.
109. H. Zhang, K. Hippalgaonkar, T. Buonassisi, **O. M. Løvvik**, E. Sagvolden, D. Ding, *Machine Learning for Novel Thermal-Materials Discovery: Early Successes, Opportunities, and Challenges*, ES Energy Environ. **2** (2019) 1–8.
107. M. V. Tabib, **O. M. Løvvik**, K. Johannesen, A. Rasheed, E. Sagvolden, A. M. Rustad, *Discovering Thermoelectric Materials Using Machine Learning: Insights and Challenges*, Lecture Notes in Computer Science **11139** (2018) 392-401.
101. **O. M. Løvvik**, K. Berland, *Predicting the thermoelectric figure-of-merit from first principles,* Materials Today: Proceedings 5 (2018) 10227–10234.
92. S. N. H. Eliassen, A. Katre, G. K. H. Madsen, C. Persson, **O. M. Løvvik**, K. Berland, *Lattice thermal conductivity of Ti xZr yHf 1-x-yNiSn half-Heusler alloys calculated from first principles: Key role of nature of phonon modes*, Phys. Rev. B **95** (2017) 045202.
85. K. Berland, X. Song, P. A. Carvalho, C. Persson, T. Finstad, **O. M. Løvvik**, *Enhancement of thermoelectric properties by energy filtering: Theoretical potential and experimental reality in nanostructured ZnSb*, J. Appl. Phys. **119** (2016) 125103.
67. T. A. Tollefsen, **O. M. Løvvik**, K. Aasmundtveit, A. Larsson, *Effect of temperature on the die shear strength of a Au-Sn SLID bond*, Metall. Mater. Trans. **44A** (2013) 2914-2916.

Book chapter: E. Flage-Larsen, **O. M. Løvvik**, "Band structure guidelines for higher figure-of-merit; analytic band generation and energy filtering", in *Thermoelectrics and its Energy Harvesting*, Edited by D. M. Rowe, (2012).

3. Granted patent

"Method for pre-processing semiconducting thermoelectric materials for metallization, interconnection and bonding", T. A. Tollefsen, M. Aanvik Engvoll, **O. M. Løvvik**, A. Larsson, US Pat. 2018 / 0323358 A1.

4. Contributions to industrial innovation and design

I have been closely involved in the technical development of the company TEGma since 2012 through various industrial projects and a joint patent (listed above). Their product is thermoelectric generators for heat harvesting.

5. Selected invited presentations at international conferences last ten years

Presentations at international scientific conferences, all (last 10) years: **141** (**47)** presentations, of which **26** (**11)** were invited talks. (Size of conference/attendees)

O. M. Løvvik et al., *Modeling of interfaces for energy technology: Solid oxide fuel cells and solar cells as case studies*, Computation Materials Design Workshop, Kyoto, Japan, 07.03.2012. (200/200)

O. M. Løvvik et al., *Thermoelectric materials from first principles to final applications: Basic and applied thermoelectrics in Oslo*, DLR Thermoelectric Colloquium, Köln, Germany, 08.05.2014. (100/100)

O. M. Løvvik et al., *Predicting the thermoelectric figure of merit from first principles*, 14th European Conference of Thermoelectrics, ECT2016, Lisbon, Portugal, 23.09.2016. (300/100)

O. M. Løvvik et al., *Predicted figure-of-merit of half-Heusler alloys - importance of scattering mechanisms*, 36th International Conference of Thermoel., ICT2017, Pasadena, USA, 30.07.2017. (700/200)

O. M. Løvvik et al., *High-throughput search for new phase transformation materials with low hysteresis, Optimal design of complex materials workshop*, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 15.01.2019. (50/50)

O. M. Løvvik et al., *Screening thermoelectric materials with ab initio atomistic modelling and machine learning techniques*, 17th European Conference on Thermoelectricity, Limassol, Cyprus, 23-25.09.2019. (200/200)

M. Kozdras, **O. M. Løvvik**, *Casting Materials Acceleration Platform and the accelerated search for thermoelectric materials*, Invited Talk at the EERA Second Workshop Energy Materials for Innovation (EM4I) Workshop series – From Lab to Engineering, Online event, 05.10.2021. (50/50)

O. M. Løvvik, *Screening of materials for thermoelectric conversion of heat into electricity*, Invited Talk at the TechConnect Europe Innovation Conference, Malmö, Sweden, 16.11.2021. (300/50)

6. Research communication, dissemination, and outreach

In total 116 (last ten years: 70) contributions to research communication, dissemination, and outreach. This includes interviews and performances in national (NRK) TV and radio shows, newspapers, popular science web pages and magazines, etc.

7. Prizes, awards, memberships

- 1 year stay as Visiting associate, California Institute of Technology, Pasadena, USA (2015-2016).
- Scholarship from the Fulbright program, USA/Norway (2015).
- Award as Visiting professor, Dept. Theoretical Nanotechnology, Osaka University, Japan (2012).
- Deputy member of board, Quantum Chemistry group, Norwegian Chemical Society (2017-2021).
- Member and deputy member of board, Norwegian Physical Society (2006-2017).