

Curriculum vitae with track record (for researchers)

* **ROLE IN THE PROJECT** Project manager Work package leader Project partner

* PERSONAL INFORMATION

*Family name, First name:	Jacobsen, Stefan		
*Date of birth:	11.07.1963	*Sex:	male
*Nationality:	Norwegian		
Researcher unique identifier(s) (ORCID, ResearcherID, etc.):	ORCID iD registered to stefan.jacobsen@ntnu.no is https://orcid.org/0000-0001-8268-9259		
URL for personal website:	https://www.ntnu.edu/employees/stefan.jacobsen		

* EDUCATION

	Name of faculty/department, name of university/institution, country
1995	PhD Engineering (dr.ing.), Dept of Concrete Structures, Norw. Inst. of Tech. (NTH), Norway
1986	MSc Eng., Dept of Build.Materials, Norw. Inst. of Technology (NTH), Norway

* **POSITIONS** (academic, business, industry, public sector, national or international organisations)

Current Position

	Job title/name of employer/country
2005-	Professor/NTNU- Norwegian University of Science and Technology/Norway

Previous positions held (list)

	Job title/name of employer/country
2003-2005	Professor/Narvik University College/The Arctic University of Norway/Norway
2000-2003	Project engineer, Head of Environment Health and Safety/PEAB AS, Oslo/Norway
1988-2000 (1991-95)	Researcher, Norwegian Building Research Institute, Oslo/Norway (including 4 yr 75 % PhD study 1991-1995)

FELLOWSHIPS

	Name of institution/country
1991-1994	3 year Norwegian Research Council PhD Fellowship, Norway
1994-1995	NOK Norwegian Research Council NATO/Canada-Norway Fellowship
2012-2013	NTNU Sabbatical Fellowship USA

MOBILITY

Research stays abroad lasting more than three months

	Name of faculty/department/centre, name of university/institution/country
1994-1995	1 yr Stagiaire PhD – Visiting PhD student/Département de Génie Civil/Université Laval/Québec, Canada
2012-2013	1yr Visiting Research Scholar - Sabbatical/Dept of Civil and Environmental Engineering /Princeton University/NJ USA

Stays abroad related to positions outside academia

	Name of host (business, industry, public sector, national or international organisation/country)
≈1 month	Shorter courses and visits (management, Environment, Site visits, Construction- and Concrete Technology etc) PEAB AB Sweden

PROJECT MANAGEMENT EXPERIENCE

Projects funded by Research Council of Norway, international research programmes, private or public organisations

	Project and role, funding from
1988-2000	Participant and Lead of 15 medium and big research-, development- and consultancy projects, mainly financed by Research Council and Industry
1997-2000	RESIBA (RESirkulert tilslag I Bygg og Anlegg), Lead, ØkoBygg/Industry (11 mill NOK)

1998-2000	Development of Roller Compacted Concrete for Dams, Lead, EnFo - Energiforsyningens FellesOrganisasjon, Vest-Agder Energi, Elkem (2 mill NOK)
1998-2000	ITN ReCy NET, Recycled Concr in the constr. Ind., Norw Memb, EUDG XII-FWP4
(2000	Conlife -successful applicant, member, EU commission DG XII-5th FWP/Industry)
2004-2005	Building Technology for Cold Climate, successful applicant, Interreg IIIA Kolarctic/Industry
2005-2019	5-6 small prj (å ≈200' -800' kNOK) Concr cold env, Skattefunn, Norw Res Councl pre-proj
2007-2014	SFI COIN, PhD supervisor, WP/TAC leader/Discipl resp Norw Res Council/Industry
2014-2019	DACS, Lead WP2, memb. Steer Comm, PhD superv, Norw.Res Council/Ind. (36 mill NOK)
2015-2020	MIKS, Lead, PhD supervisor, Norwegian Research Council/Industry (17.5 mill NOK)
2019-2023	SUPERCON, partner, PhD supervisor, Norwegian Research Council/Industry (17.5 mill NOK)

SUPERVISION OF GRADUATE STUDENTS AND RESEARCH FELLOWS (if applicable)

	No. of	Master's students/ Ph.D./Postdocs	Name of faculty/department/centre, name of university/institution/country
	≈ 35	MSc	Norw. Build Res. Inst/NTH-NTNU/Oslo College-OsloMet (1987-2000): 10 Norw Univ of the Arctic (2003-2005): 5, NTNU (2005-): 15
2003-	11	PhD	2 Narvik Univ College, Norw Arct Univ. Norway, 6 Dept of struct Eng, NTNU,Norway, 1 NTNU, Dept of Civil and Env Eng., NTNU Norway 1 Dept of Geology, NTNU Norway, 1 Lund Inst of Techn., Sweden
	4	Post Docs	Dept of Struct Eng, NTNU, Norway 2008-2020

TEACHING ACTIVITIES (if applicable)

	Teaching position – topic, name of university/institution/country
2003-2005 2005-	Professor Building Technology, Concrete and Building materials for BSc, MSc and PhD Professor of Structural Engineering, Teacher Building materials, Concrete Technology Concrete: Structure-Property Relation, Experts of Team, MSc, PhD

ORGANISATION OF MEETINGS (if applicable – interpreted at workshops and conferences)

	Role and name of event/number of participants/country
2003 2007-2019	Chair Sc. Comm, member org comm. National conf condition and durability of Norwegian Churches, Narvik Univ College, Norw Arct Univ. Norway 2004, 1:Chair Scientific committee, International Workshop on concrete and ice Helsinki 2006 Aker Arctic/Aalto University, Editor Proc. Nordic Concrete Research Worksh. Proc. ISSN 0800-6377 ISBN 978-82-8208-007-1 (2008) 13 papers, 181 pages, 32 participants, Finland 2:Chair Scientific Comm., member Organizing Comm. Int. Conference on Sustainability in the Cement and Concrete Industry, Lillehammer, Norway, September 16 – 19, 2007, 60 papers, one volume, ISBN 978-82-8208-0019, 681 pages, 150 participants, Norway 3:Chair Scientific Comm., member Organizing Comm. ICDC 2012 – Int Conf on Durability of Concrete, Trondheim Norway, 122 papers, ISBN 978-82-8208-031-6, 1796 pages proceedings, 200 participants, Norway 4:Concrete in Arctic Conditions 2019, NCR Workshop Proc No.16, ISBN: 978-82-8208-067-5 Member organizing and scientific committee, co-editor of proc. 17 papers, 79 pages, 32 participants, Norway

INSTITUTIONAL RESPONSIBILITIES (if applicable)

Member of a committee etc.

	Name of university/institution/country
2005-2015	5 times PhD-opponent and -committee administrator / LTH, Lund, Sweden, DTU, Lyngby, Denmark, LTU, Luleå, Sweden, NTNU Norway
2006-2015	4 times assessment of professor/ ass. professor / Chalmers Göteborg Sweden, LTH Lund Sweden/ KTH Sweden / UiS Stavanger Norway

COMMISSIONS OF TRUST IN ACADEMIC, PUBLIC OR PRIVATE ORGANISATIONS (if applicable)

Scientific advisory board/review board/review panel member/editorial board/scientific advisory board/reviewer/scientific evaluation/etc.

	Name of university/institution/country – and role
2007-2014	COIN CONcrete INnovation centre 2007-2014 Discipline responsible Fresh Concrete
2006-	FORMAS 2006-2013, 2018-2019 – Swedish Research Council for Building, Construction and Area, member of evaluation group 8 Built environment, Chair 2008-2013
2014-	Nanocem Core Project 14 Frost durability, project partner
2010-	Elsevier Outstanding (2) and Recognized (7) reviewer of 9 Elsevier Journals 114 reviews/9 years https://www.reviewerrecognition.elsevier.com/#/profile/074aaa8b-6819-4b5c-a145-6c6f3002cc45 ,
2003-	Review of a number of journal- and conference papers from other journals/publishers (Materials and Structures, Nordic Concrete Research, Consec, Rilem SCC, ACI etc)
2005-	Sensor for app 10 MSc these at colleges/universities in Norway (UiS, UoA, OsloMet, UiA)

Other commissions of trust - in business, organisations or public life

	Name of board/body/country – and role
2000-2003	NHO/EBA (Contractors Employer Ass.) PEAB represent. Comm on HSE working environm.

MEMBERSHIPS OF ACADEMIES / SCIENTIFIC SOCIETIES / NETWORKS (if applicable)

	Name of academies, scientific societies, networks
1992-1993	Betongind. Landsforb, Norm for betongkvalitet i betongveirekker, Vegdir.
1996-2000	CEN TC 154 TG 9 "Thermal and wheating properties of aggregates"
1996-2000	Standard Norge comm. CEN TC 154 "Aggregates", TC 104/SC 8 "Concrete repair"
1991-1997	RILEM TC 117 FDC Frost and Deicing salt testing of Concrete
1997- 2002	RILEM TC 176 IDC Internal Damage of Concrete due to frost
2005-2010	RILEM TC Durability of Self Compacting Concrete
2014-	RILEM TC MRP Measuremets of Rheological Performance of cement based Materials
2019-	RILEM TC FTC Durability of concrete under combined Freeze Thaw and Chloride exposure
≈1988	Norwegian Concrete Association, member
2006-	Norw Concr Ass Environmental committee, member
2010-	Regional member meeting group, Trondheim, chair
≈2010	ISO/TC 71, Concrete, reinforced concrete and prestressed concrete, Subcommittee SC 8, Environmental management for concrete and concrete structures.

MAJOR COLLABORATIONS (if applicable)

Name of university/ institution/ faculty/ department/ centre, company/ governmental or non-governmental organisation	Topic
Université Laval, Québec, Canada	PhD project Frost durab, research, exch.
Universität Gesamthochschule Essen, Germany	EU project CONLife (FWP5/Industry)
Arkhangelsk Technical University, Russia	Concrete in cold climate
Far Eastern Federal University, Engineering faculty, Russia	Concrete and ice
Princeton University, Dept of Civil and Env. Eng NJ, USA	Frost durability of concrete
NIST, Build.&Fire Res. Inorganic build mat group, MD, USA	Fresh concrete, particle characterisation
DTU –Dept of mech. eng, Lyngby, Denmark	Fresh concrete rheology
LTH – Lund University, LTH, Dept of Build Mat., Sweden	Frost and suppl cem materials

Track record

- The total number of publications during the career (excl teaching material): 269
- Ten publications in major international peer-reviewed scientific journals:
 Jacobsen S. et al, HSC - freeze/thaw testing and cracking, Cem Con Res 25(8)1775-1780,1995
 Jacobsen S. et al, SEM observations of frost deteriorated&self-healed concretes, CCR25(8)1781-1790,1995
 Jacobsen S et al, Effect of cracking and healing on chloride transport in concr, CCR 26(6) 869-881, 1996

- Jacobsen S. et al, Frost durable HSC: eff. of internal cracking on ice formation, CCR 26(6) 919-936, 1996
- Jacobsen S. Calculating liquid transport into HPC during wet freeze/thaw, Cem Con Res 35 (2005) 215-219
- Jacobsen S. et al Aggregate packing and -void saturation in concrete proportioning. Mat&Str 41.(4) 703-716
- Jacobsen S. et al, Flow conditions of fresh mortar and concrete in pipes. CCR 39(11) 2009, 997-1006
- Jacobsen S. et al Flow of SCC along surfaces, RILEM Bookseries V1, Springer, ISBN 978-90-481-9663-0. (2010) 163-173
- Jacobsen S et al, Visualizing & simulating flow conditions in concrete form filling CBMat(49)2013, 328-342
- Jacobsen S. et al. Concrete-Ice Abrasion Mechanics. Cement & Concrete Research (73) 2015, 79-95
3. Examples of leadership/participation in industrial or public innovation or design and/or highlights from research or innovation with societal impact (if applicable):
 - 3.1 HSC/HPC 1988-1991 Norcem Development and full-scale testing and use of High Strength Concrete for roads in Norcem's large scale research facility for abrasion of concrete.
 - 3.2 Troll Platform Lower domes water tightness (1991) With Norw.Contractors, field studies in Hinnavågen, lab measurements of water permeability in cracks of concrete at the Lab in Oslo;
 - 3.3 Norwegian Building Research Institute: Concrete Structure condition survey and R&D projects lead to service life prolonging (housing, industry, bridges, roads, hydropower dams, offshore etc)
 - 3.4 Frost Durable Safety Barriers (1990-1991) lead to Guidelines for production of salt frost durable Concrete Safety barriers that were applied from 1993 in the industry
 - 3.5 RESIBA (1998-2001) developed Declaration system, guidelines for use of recycled concrete aggregate (RCA), new LWA block with RCA, started studies of leaching from RCA incl work on a European leaching test and Veidekke (Norway's largest contractor) applied RCA I full scale: http://www.byggemiljo.no/wp-content/uploads/2014/10/04_2002_Veileder_resirkulert_tilslag.pdf
- As member of a European project on the same topic (ReCy NET with BBRI I ensured transfer of knowledge to Norwegian industry, partly financed with a network under EUDGXII/FWP4.
- 3.6 RCC (1995, 1998-1999) With Vest Agder Energi and EnFo 2-yr project developed High Volume Fly Ash Roller Compacted Concrete (RCC) for the Urar and Skjerka hydropower dams. R&D on RCC with up to 70 % Fly Ash, preparations for tenders for two large Hydropower dams. Several publications and site visits.
 - 3.7 RCA in full scale production (2004-2005) in Oslo with PEAB AS in two 16000 tonne concrete structures in the Pilestredet Park Environmental City area, fulfilling the 25% of mass recycling requirement. Skattefunn support for R&D to achieve 25 % replacement by mass. Publications and site visits.
 - 3.8 Ice Abrasion. Following pre-project supported by Norwegian Research council concrete ice abrasion lab was developed at NTNU and with Kvaerner, COIN and DACS and 2 PhD projects. Results applied in production of ice exposed offshore concrete structure at Sakhalin in Sea of Okhotsk.
 - 3.9 Manufactured sand, In COIN (2007-14) and MIKS (2015-20) R&D with the cement, aggregate and concrete industry incl 2 PhD-projects and international research-cooperation (Heidelberg, NIST, DTU, Feiring, Skanska etc) contributed to use of crushed sand in full scale concrete production.
4. Leadership of field work: 3.1-3.9 above all included full-scale site work combined with lab at industries in Norway, Europe, USA, Canada and Russia: cement- aggregate and concrete producers, contractors, concrete off-shore platforms, hydropower dams, concrete coastal bridges.
 5. Invited lectures (examples): 1: Environmental and concrete ageing effects on transport. *Int. conference on Ion and Mass Transport in CBM, UToronto 1999, proc. Am.Cer.Soc 2001 ISBN 9781574981131. pp.13-27*, 2: Non-air entrained HPC/HSC in wet freeze/thaw. *Durability of High-performance Concrete Proc. of an Int. Conf and final Workshop of CONlife, UGH Essen, Germany Aedificatio Publ. 2004 ISBN 3-931681-80-7. s. 157-178*
 6. Experiences major research communication and outreach activities and/or in public (examples).
 - 6.1 Organized 1 national and 4 international conferences and workshops
 - 6.2 Radio interview July 2019 in National Radio NRK P2 Studio2 about the role of concrete in society vs its environmental effect <https://radio.nrk.no/serie/studio-2-p2/MKRD04013219/03-07-2019#t=57m32.56s>