

Curriculum vitae with track record (for researchers)

Role in the project Project manager ☒ Project participant ☐

Personal information

First name, Surname:	Stefan Jacobsen		
Date of birth:	11 th July 1963	Sex:	Male
Nationality:	Norwegian		
Publications:	https://scholar.google.com/citations?user=iY-D64EAAAAJ&hl=no		
URL for personal website:	https://www.ntnu.edu/employees/stefan.jacobsen		

Education

Year	Faculty/department - University/institution - Country
1995	PhD (dr.ing.) – Civil engineering/Department of Concrete Structures, University of Trondheim, Norwegian Institute of Technology (now NTNU)
1986	MSc (Siv.ing) – Civil engineering/Department of Building Materials, University of Trondheim, Norwegian Institute of Technology (now NTNU)

Positions - current and previous

(Academic sector/research institutes/industrial sector/public sector/other)

Year	Job title – Employer - Country
2012-2013	1yr Visiting Research Scholar - Sabbatical/Dept of Civil and Environmental Engineering /Princeton University/NJ USA
2005-	Professor/Norwegian University of Science and Technology/Dept. of Structural Engineering
2003-2005	Professor/Narvik University College/The Arctic University of Norway
2000-2003	Project engineer, Head of Environment Health and Safety/PEAB AS, Oslo/Norway
1994-1995	1 yr Stagiaire PhD – Visiting PhD student/Département de Génie Civil/Université Laval/Québec, Canada
1988-2000 (1991-95)	Researcher, Norwegian Building Research Institute, Oslo/Norway (including 4 yr 75 % PhD study 1991-1995)

Career breaks

Year	Reason
1987-88	16 months civil service (siviltjeneste)
1990	6 months backpacking in Latin-America
1991	1 month parental leave, oldest daughter
1994	1 month parental leave youngest daughter
2014	1 month stay in Peru adoption of son + 1 month parental leave

Project management experience

(Academic sector/research institutes/industrial sector/public sector/other. Please list the most relevant.)

Year	Project owner - Project - Role - Funder
1997-2000	NBI/RESIBA (RESirkulert tilslag I Bygg og Anlegg), Lead, ØkoBygg/Industry (11 mill NOK)
1998-2000	EnFo/Development of High Volume Fly Ash Roller Compacted Concrete for Hydropower Dams, Lead at NBI. EnFo/Energiforsyning. FellesOrg., Vest-Agder Energi, Elkem (2 mill NOK)
1998-2000	NBI/ITN ReCy NET, Recycled Concr in the constr. Ind., Norw Memb, EUDG XII-FWP4
(2000-	UEssen - ConLife - partner, EU comm DG XII-5th FWP success appl. -> new job PEAB)
2004-2005	UiT/Building Technology for Cold Climate, success appl. EU/Interreg IIIA /Industry
2005-2006	PEAB/NTNU – Production of 16000 ton concrete structure in Pilestredet Park, Oslo using recycled concrete, Lead, Skattefunn/Forskningsrådet, 0.6 mill NOK cash + much in-kind
2007-2014	Sintef/SFI COIN, PhD supervisor, WP/TAC leader/Discipl resp Norw Res Council/Industry
2014-2019	Kværner/DACS, Lead WP2, SC-memb, PhD superv, Norw.Res Council/Ind. (36 mill NOK)
2015-2020	NTNU/MIKS, Lead, PhD superv, Norwegian Research Council/Industry (17.5 mill NOK)
2019-2023	SINTEF/SUPERCON, partner, PhD superv, Norw. Research Council/Industry (17.5 mill NOK)

Supervision of students

(Total number of students)

Master's students	Ph.D. students	University/institution - Country
≈35		Norw. Build Res. Inst/NTH-NTNU/Oslo College-OsloMet (1987-2000): 10 Norw Univ of the Arctic (2003-2005): 5, NTNU (2005-22): 20
	12	1 Norw Arct Univ. Norway, 8 (YP, EM, RC, GS, AS, ES, NT, NH). 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

Other relevant professional experiences

(E.g. institutional responsibilities, organisation of scientific meetings, membership in academic societies, review boards, advisory boards, committees, major research or innovation collaborations, other commissions of trust in public or private sector)

Year	Description - Role
2000-2003	NHO/EBA (Contractors Employer Ass.) PEAB represent. Standing Comm. HSE work environm.
1996-2000	International committees:
1996-2000	CEN TC 154 TG 9 "Thermal and weathering prop. of aggregates"-member
1991-1997	Standard Norge CEN TC 154 "Aggregates", TC 104/SC 8 "Concrete repair"-member
1997- 2002	RILEM TC 117 FDC Frost and Deicing salt testing of Concrete - member
1997- 2002	RILEM TC 176 IDC Internal Damage of Concrete due to frost - member
2005-2010	RILEM TC Durability of Self Compacting Concrete - member
2014-2020	RILEM TC MRP Measurements of Rheological Performance of cem. based mtrl - member
2019-2022	RILEM TC FTC Durability of concrete under combined Fr/Th & Chloride exp. - member
2006-2022	Norw Concr Ass.. Environmental committee, member
2010-2022	Regional member meeting group, Trondheim, chair
2010 - 2015	ISO/TC 71 SC 8, Environm. Managem. for concrete and concrete structures - member
2007-2014	COIN COncrete INnovation centre 2007-2014 Discipline responsible
2006-	FORMAS 2006-2013, 2018-2019 – Swedish Research Council for Building, Construction and Area, member of evaluation group 8 Built environment, Chair 2008-2013
2016-2021	Nanocem Core Project 14 Frost durability, project partner
2011-2019	Elsevier Outstanding & Recognized reviewer 9 Journals 114 reviews/8 years
2012-2017	Bilateral cooperation agreement NTNU-FarEast Federal University, Vladivostok, Russia, visits, Student exchange and research, PhD students for Project DACS

2016-2021	Cooperation agreement NIST (Nat.Inst of Sci & Techn.), Build.&Fire Res. Inorganic build mat group, Maryland, USA, project MIKS, PhD student exchange
2007	Chair Scientific committee, International Workshop on concrete and ice Helsinki 2006 Aker Arctic/Aalto University, Ed. Proc. Nordic Concrete Research Worksh. Proc. ISSN 0800-6377 ISBN 978-82-8208-007-1 (2008) 13 papers, 181 pages, 32 participants
2007	Chair Scient. Comm., memb Org.Comm. Int. Conf.Sustainab. in the Cem.&Concr. Ind., Lillehammer, Sept. 16 – 19 Ed.60 papers, ISBN 978-82-8208-0019, 681 p., 150 particip.
2012	Chair Scientific Comm., memb. Org.Comm. ICDC 2012 – Int Conf Durab Concr., Trondh. 122 papers, ISBN 978-82-8208-031-6, 1796 p. proc., 200 participants
2019	Concrete in Arctic Conditions 2019, NCR Workshop Proc No.16, ISBN: 978-82-8208-067-5 Memb. Org. and sci. comm., co-editor of proc. 17 papers, 79 pages, 32 participants
2016-	Cotutelle agreement NTNU-DTU-Lyngby Denmark, co-supervision 2 PhD students
2005-2022	9 times PhD-opponent and -committee administrator / LTH, Lund, Sweden, DTU, Lyngby, Denmark, LTU, Luleå, KTH Sweden, Aalto University Finland, NTNU Norway
2006-2022	6 times assessment of professor/ ass. professor /Dosentur Chalmers Göteborg, LTH Lund, KTH Stockholm Sweden / UiS, UiT Norway
2003-2005 2005-2022	Teaching (lectures/exercises/supervision/laboratory exercises exams w solutions) Professor Building Technology, Concrete and Building materials: BSc, MSc and PhD Professor of Structural Engineering, Teacher Building materials, Concrete Technology Concrete: Structure-Property Relation, Experts of Team: MSc, PhD

Track record

- The total *number* of publications during the career: 267
(in NTNUs Cristin 1992-2022: 227 + reports/Byggforskserie/tradejournal articles: ≈40)
- A *list* of up to *ten* publications in major national or international peer-reviewed journals, peer-reviewed conference proceedings, peer reviewed book chapters and/or monographs:

Jacobsen S. et al Effect of cracking & self-healing on Chloride transport in concr. CCR 26(6) 869-881,1996
 Jacobsen S. et al, Properties and frost durability of recycled aggregate from Oslo, Norway, Proc. Int.Symp. Sustainable Construction: Use of Recycled concrete, Dept of Trade and Industry, London Nov.11-12 1998 Thomas Telford Publishing, Ed. R.K.Dhir et al ISBN 0 7277 2726 5, pp. 189-196
 Jacobsen S. et al Aggregate packing and -void saturation in concrete proportion Materials and Structures 41(4) 2008, 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, Visualizing & simulating flow cond. in concr. form filling ConBuildMat(49)2013, 328-342
 Jacobsen S. et al. Concrete-Ice Abrasion Mechanics. Cement & Concrete Research (73) 2015, 79-95
 Jacobsen S., Scherer G.W, Freezing-induced stresses in concrete-steel composite beams and effect of air voids, Proc. Frost action in concrete, Rilem PRO 114, ISBN 978-2-35158-182-7, 2016,pp. 71-80
 Gong F., Jacobsen S. Modeling water transport in satur. Concr in fr/th, Cem Con Res 115 (2019) 294-307
 Bahafid S., Hendriks M., Jacobsen S., Geiker M. Revisiting concrete frost-salt scaling: On the role of the frozen salt-solution microstructure (2022) Cem Con Res 157 106803
 Shpak A., Gong F., Jacobsen S. Frost durability of High Volume Fly Ash Concrete, Cem Con Res (2022) 107017, 20 p. (acc.)

- Industrial or public innovation or design and/or highlights from research or innovation with societal impact.

- 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.
- 2.Troll Platform Lower domes water tightness (1991) With Norwegian Contractors, field studies on site, measurements of water permeability in cracks of concrete samples from Troll at the Lab in Oslo
- 3.Norwegian Building Research Institute (1988-2000): Concrete Structure condition survey and R&D projects lead to service life prolonging (housing, industry, bridges, roads, hydropower dams, offshore etc)
- 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
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 in full scale in a number of projects:
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) I ensured transfer of knowledge to Norwegian industry, partly financed with a network under EU DG XII/FWP 4.
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 Urra 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.
7. Recycled concrete 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 m-% replacement. Publications, workshops
8. Ice Abrasion. Concrete ice abrasion lab was developed at NTNU and with Kvaerner, COIN-centre and DACS-project and 2 PhD projects. Results applied in production of ice-exposed offshore concrete structure at Sakhalin in Sea of Okhotsk, Far-Eastern Russia
9. Manufactured sand, In COIN (2007-14) and MIKS (2015-21) 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.

- Invited presentations to peer-reviewed national or international conferences and/or international advanced schools.

“Environmental and concrete ageing effects on transport”, Invited lecture, University of Toronto, Canada, 1999, International Conference on Ion and Mass transport in Cement-Based Materials. Matrl Sci. of Concrete Special Vol. American Cer. Soc. 2001 ISBN 9781574981131. pp. 13-27

“Non-air entrained HPC/HSC in wet freeze/thaw”, Invited key-note, Universität Essen, Germany, Durability of High-performance Concrete Proc. of an Int. Conf. and final Workshop of CONlife. 2000-2004 EU FWP5 project., Aedificatio Publishers, Freiburg 2004 ISBN 3-931681-80-7. p. 157-178

- Experiences from major research communication, dissemination or outreach activities

Organized 1 national and 4 international conferences and workshops

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>

- Fellowships

1991-1994	3 year Norwegian Research Council PhD Fellowship, Norway
1994-1995	1 year Norwegian Research Council NATO/Canada-Norway Fellowship
2012-2013	1 year NTNU Sabbatical Fellowship USA