

CURRICULUM VITAE

Lars M. Bergdahl Date of birth: 1943-12-15

Professional preparation

1980 Docent (Honorary Research Associate) in Hydraulics, CTH
1978 Doctor of Philosophy in Hydraulics at CTH
1968 Master of Science in Civil Engineering at CTH

Appointments

Jan. 2012 – present Professor at Department of Shipping and Marine Technology
May 1990 – Oct 2011 Professor in Engineering Hydraulics,
Department of Water Environment Transport
Oct. 1989 –April 1990 Full time at Dynomar AB
Sept. 1985 - Oct. 1989 Technical Manager Hydrodynamics (Götaverken Arendal, 80 %)
Sept. 1985 - Oct. 1989 Senior Research Engineer in Hydraulics (CTH, (20 %).
Jul. 1984 - Aug. 1985 Acting Professor in Hydraulics (CTH).
Jan. 1980 - Aug. 1985 Hydraulic expert consultant (Scandiaconsult International AB) (25 %)
Jan. 1979 - June 1984 Senior Research Engineer in Hydraulics (CTH).
June 1968 - Dec. 1978 Assistant teacher and graduate student in Engineering Hydraulics
(CTH).

Entrepreneurial achievements

Founder, chairman and part owner of the offshore consultancy company Dynomar AB Oct.
1989 -Nov 1996, 10 full-time employees when sold to Caran AB Nov. 1996
Member of the board of IBBAB from 2000 and onwards

Memberships:

Committee of Slender Structures (ISSC 1991 &1994)
Committee of Floating Production Systems (ISSC 1997)
WG for wave energy of the Eng. Comm. of Ocean Resources (UNESCO) (1997 - 2003)
PIANC, PTC II, Working Group 41 “High-Speed Ferries at Sea and Port Approaches (00 - 03)
EWTEC, Technical committee up to 2015

Professional Experience:

Lars Bergdahl’s research within **computational fluid dynamics** (CFD) has focused on its application to hydraulics and environmental problems e.g. mixing in ponds and reservoirs, flow over weirs and in rivers: Within the area Bergdahl has advised **four PhDs** Mia Bondelind, 2011: Dissolved Air Flotation, Åsa Adamsson, 2004: Computational fluid dynamics for detention tanks, Ola Nordblom, 2004: Water exchange in drinking water service reservoirs, Jesper Persson: Hydraulic efficiency of pond design, 1999 and four **Lic. Eng.** Jan Forsberg, 1995: Control of flow over a side weir, Nahidh Sharif, 1997: Seepage through earth-fill dams and stability analysis of downstream embankment, Åsa Adamsson, 1999: Computational fluid dynamics for detention tanks, and Jaan Kiviloog, 2005: Three-dimensional numerical modelling for studying smolt migration in regulated rivers

Lars Bergdahl’s research on **water surface gravity waves** is devoted to wave forces on and wave-induced motions of fixed and floating structures, to the dynamics and fatigue of mooring cables, and to wave energy studies. Within the area Bergdahl has advised **seven PhDs**: John Fitzgerald, 2009: Position mooring of wave energy converters, Jenny Trumars, 2006: Wave Loads on Offshore Wind Power Plants, Claes Eskilsson, 2005: Spectral/hp Discontinuous Galerkin Methods for Computational Hydraulics, Yungang Liu, 1998: Dynamics and Extreme-Value Problems for Moored Floating Platforms, Xiaomeng Lei, 1996: Dynamic Characteristics of Floating Breakwaters, Mickey Johansson, 1989: Barrier-Type Breakwaters, Göran Moberg 1988: Wave Forces on a Vertical Slender Cylinder **six Lic. Eng.**: Jenny Trumars, 2003: Simulation of Irregular Waves and Wave induced loads on Wind-Power Plants in Shallow Water, Larry Berggren, 1992: Energy take-out from a wave energy device, Göran Olsson 1989: Hybridelementmetoden, En metod för beräkning av ett flytande föremåls rörelse, Wilhelm Rankka, 1989: Estimating the time to fatigue failure of mooring cables, Nils Mårtensson, 1987: On the wave climate of the Southern Baltic, Jan Lindahl, 1983: Dynamic analysis of mooring cables.

Presently (2013 - 2017) Lars Bergdahl assists in tutoring two PhD students in Shipping and Marine Technology: Johannes Palm: Mooring dynamics of wave energy devices and Shun-Han Yang: Fatigue of suspended cables of wave energy devices.

Ice research. Lars Bergdahl's thesis treated thermally induced, non-linear, viscoelastic expansion of ice sheets in water reservoirs and the rheological behaviour of sea ice. He has been a tutor of a few MSc theses in this field. In 2002 he wrote a proposal for a design standard of ice loads on offshore wind-power plants. He was is involved in the IEC work on design requirements for offshore wind turbines as regards "Sea ice loads".

Moored floating platforms. At GVA (shipyard) and Dynomar AB Lars Bergdahl was involved in practical applications on mooring studies for e.g. Heidrun Early Production ship, Petrobrás XVIII, XIX, XX and Ali Baba production platforms. In 2001-2002 he was engaged by GVAC in the design of the Thunder Horse for the Mexican Gulf then the largest-ever floating oil-production platform. He was also engaged in the design of Jack St Malot a still larger platform, which was installed 2014.

Harbour studies. At Scandiaconsult, in the early 80's, Lars Bergdahl participated in project planning and field studies for ports at Ras Abu Khamis in Saudi Arabia, on Sokotra in South Yemen and at Landskrona in Sweden.