BRIEF CV: MAGNUS LARSON (1958-08-12)

Professor, Department of Water Resources Engineering (DWRE), Lund University (LU), Box 118, S-221 00 Lund, Sweden. Phone: +46 (0)46 - 222 87 29; Fax: +46 (0)46 - 222 44 35

EDUCATION, APPOINTMENTS, AND AWARDS

1982	M.Sc. in Civil Engineering, LU
1988	Ph.D. in Engineering, LU
1988	Assistant Professor, DWRE
1991	Associate Professor, DWRE
1994	D.Sc. (Docent)
2000	Professor, Water Resources Engineering, LU
2004-06	Adjunct Professor, Nihon University, Tokyo, Japan
2009	Coastal Dynamics Award (most prestigious international prize in coastal engineering sciences handed out every fourth year)

KEY QUALIFICATIONS

Fundamental and applied work on physical processes in coastal areas, including waves, currents, sediment transport, and morphological evolution. Developer of theoretical formulas, analytical formulations, empirical techniques, and numerical models for predicting a wide range of coastal processes. Experience of advanced data analysis techniques and data-driven simulation methods. Studies on water flows in the environment and their impacts on water quality with focus on rivers, lakes, and estuaries. Project experience from a large number of different countries, for example, USA, Japan, Australia, China, Sri Lanka, Egypt, and Vietnam (in the four latter countries under Sida sponsorship). Author of more than 230 Journal Articles, Conference Papers, and Technical Reports. Invited Visiting Researcher/Professor at: Coastal and Hydraulics Laboratory (USA), Texas A&M University (USA), University of Sydney (Australia), University of Tokyo (Japan), University of Tsukuba (Japan), Nihon University (Japan), and Kyoto University (Japan).

VISTING RESEARCHER (only longer visits included; m=months of stay)

1986-87	U.S. Army Engineer Waterways Experiment Station (USACE), USA. (16m)
1988-90	Institute of Geoscience, University of Tsukuba, Japan (4m)
1989	Leichtweiss-Institut, Technische Universität Braunschweig, Germany (2m)
1991	Department of Civil Engineering (DCE), University of Tokyo, Japan (1m)
1993	Conrad Blucher Institute, Texas A&M University (2m)
1994-95	DCE, University of Tokyo, Japan (24m)
1996	Department of Geography (DoG), University of Sydney, Australia (2m)
1999-04	DCE, University of Tokyo, Japan (8m)
2005-11	DCE, University of Tokyo, Japan (12m)
2006-07	DoG, University of Sydney, Australia (2m)

SELECTED RESEARCH EXPERIENCE

Overview of selected projects with sponsoring organization (PM denotes project manager).

- Numerical modeling of beach change (USACE; PM)
- Long-term effects of nearshore structures on the sand transport (SNV and BFR)
- Storage of fresh water in sea water based on stratified flow conditions (BFR and National Swedish Board for Technical Development STU)
- Numerical modeling of wave height decay in the surf zone (NFR; PM)
- Interfacial mixing in two-layered stably stratified flow (Swedish Technical Science Research Council TFR; PM)

- Turbulence under breaking waves (NFR; PM)
- Integration and advancement of coastal sediment processes simulation models (USACE)
- Coastal processes along the South Swedish Coast (Ystad and Vellinge Kommun)
- Velocity and mixing characteristics downdrift a propeller in Newtonian and non-Newtonian fluids (TFR; PM)
- Prediction of aggregated-scale coastal evolution (PACE) (Marine Science and Technology Research Program of the European Union)
- Soft beach protection and beach nourishment (SAFE) (Marine Science and Technology Research Program of the European Union)
- The Baltic Sea system study (BASYS) (Marine Science and Technology Research Program of the European Union)
- Surf zone hydrodynamics (NFR; PM)
- The transport of material to the Pearl River Estuary and bordering areas of the South China Sea (Swedish International Development Cooperation Agency SAREC; PM)
- Beach engineering research and management (Ministry of Education, Japan)
- Numerical models for simulating morphological processes at coastal inlets (USACE)
- Mathematical modeling of turbulent boundary layers (NFR; PM)
- Simulation of nearshore wave propagation using a Boussinesq model (NFR; PM)
- Coastal evolution in the Red River Delta Vietnam (SAREC; PM)
- Human interaction with large-scale coastal morphology (HUMOR, 5th RTD Framework Program of the European Commission)
- Hydrodynamics and sediment transport in the swash zone (NFR; PM)
- The interaction of large and high speed vessels with the environment in archipelagos *(*Swedish Agency for Innovation Systems; VINNOVA)
- Morphological response of coastal dunes (VR; PM)
- Coastal evolution and coastal zone management in Vietnam (SAREC; PM)
- Seasonal closure of coastal inlets in Sri Lanka (SAREC; PM)
- Development and application of a process based coastal response model to quantify coastal erosion and inundation (Department of Natural Resources, NSW, Australia)
- Integrated Flood Risk Analysis and Management Methodologies (FLOODsite, 6th RTD Framework Program of the European Commission)
- European Network for Coastal Research (ENCORA, 6th RTD Framework Program of the European Commission)
- Slope failure in contaminated areas – spreading of pollutants to surface waters in a changing climate (Formas: PM)
- Long-term modeling of inlet migration and the environmental impact on coastal lagoons in Vietnam (SAREC; PM)
- Long-term Coastal Evolution: Modeling and Managing Coastal Areas in Developing Countries with special regard to Climate Change (SAREC; PM)

SUPERVISING ACTIVITIES

Doctoral students: Sten Blomgren (2000), Li Erikson (2005), Chuqun Chen (2008), Chantal Donnelly (2008), Charlotta Lövstedt (2008), Ty Wamsley (2009), Pham Thanh Nam (2010), Le Xuan Hoan (2010), Raed Bashtialshaaer (2011), Gunnel Göransson, (fall 2012), Jaime Palalane (2015).

Postdoc students: Atilla Bayram (1999-2000; Technical University of Istanbul, Turkey), Hiromune Yokoki (2002; Ibaraki University, Japan), Yasuyuki Baba (2003; Kyoto University, Japan), Benoit Camenen (2003-2004; University of Grenoble, France), Shigeru Kato (2007-2008; Toyohashi Institute of Technology, Japan).

SELECTED REVIEWED JOURNAL ARTICLES (2006-2010)

1. Camenen, B. and Larson, M., 2006. "Phase-lag Effects in Sheet Flow Transport," *Coastal Engineering*, Vol 56, pp 531-542.
2. Camenen, B., Bayram, A., and Larson, M. 2006. "Equivalent Roughness Height for Plane Bed Under Steady Flow," *Journal of Hydraulic Engineering*, Vol 132, No. 11, pp 1146-1158.
3. Donnelly, C., Kraus, N.C., and Larson, M. 2006. "State of knowledge on measurement and modeling of coastal overwash," *Journal of Coastal Research*, Vol. 22, No. 4, pp 965-999.
4. Erikson, L., Larson, M., and Hanson, H. 2007. "Laboratory Investigation of Beach Scarp and Dune Recession due to Notching and Subsequent Failure," *Marine Geology*, 245, 1-19.
5. Hanson, H. and Larson, M. 2008. "Extreme Waves and Water Levels in the Southern Baltic Sea: Implications for Flooding at Present and Future Conditions," *Journal of Hydraulic Research*, Vol. 46. No. 2, pp 292-302.
6. Camenen, B. and Larson, M. 2007. "Predictive Formulas for Breaker Depth Index and Breaker Type," *Journal of Coastal Research*, 23(4), 1028-1041.
7. Chen, C., Tang, S., Pan, Z., Zhan, H., Larson, M., and Jönsson, L. 2007. "Remotely sensed assessment of water quality levels in the Pearl River Estuary, China," *Marine Pollution Bulletin*, 54, 1267-1272.
8. Larson, M., Donnelly, C., Jimenez, J., and Hanson, H. 2007. "Analytical Model of Beach Erosion and Overwash During Storms," *Maritime Engineering*, 162(3), 105-114.
9. Donnelly, C., Larson, M., and Hanson, H. 2007. "A Numerical Model of Coastal Overwash," *Maritime Engineering*, 162(3), 105-114.
10. Camenen, B. and Larson, M. 2008. "A General Formula for Non-Cohesive Suspended Sediment Transport," *Journal of Coastal Research*, Vol 24, No. 3, 615-627.
11. Kroon, A., Larson, M., Möller, I., Yokoki, H., Rozynski, G., Cox, J., and Larroude, P. 2008. "Statistical analysis of coastal morphological data sets over seasonal to decadal time scales," *Coastal Engineering*, Vol 55, 581-600.
12. Vinh, P.N. and Larson, M. 2008. "Analytical solutions of two- and three-dimensional periodic flows for numerical model testing," *Communications in Numerical Methods in Engineering* (published online).
13. Camenen, B., Larson, M., and Bayram, A. 2009. "Equivalent Roughness Height for Plane Bed Oscillatory Flow," *Estuarine, Coastal, and Shelf Science*, Vol 81, pp 409-422.
14. Hoan, L.X., Hanson, H., Larson, M., Donnelly, C., and Nam, P.T. 2010. "Modeling Shoreline Evolution at Hai Hau Beach, Vietnam," *Journal of Coastal Research*, 26(1), 31-43.
15. Nam, P.T., Larson, M., Hanson, H., and Hoan, L.X. 2009. "A numerical model of nearshore waves, currents, and sediment transport," *Coastal Engineering*, 56(11/12), 1084-1096.
16. Göransson, G., Larson, M., and Bendz, D. 2009. "Combining landslide and contaminant risk: a preliminary assessment," *Journal of soils and sediments*, 9(1), 33-45.
17. Nam, P.T. and Larson, M. 2010. "Modeling of nearshore currents and waves around a detached breakwater," *Journal of Waterways, Port, Coastal, and Ocean Engineering*, 136(3), 156-176.
18. Larson, M., Hoan, L.X., and Hanson, H. 2010. "A direct formula to compute wave properties at incipient breaking," *Journal of Waterway, Port, Coastal and Ocean Engineering*, 136(2), 119-122.
19. Borell-Lövstedt, C. and Larson, M. 2009. "Wave damping in reed: Field measurements and mathematical modeling," *Journal of Hydraulic Engineering*, 136(4), 222-233.
20. Larson, M., Camenen, B., and Nam, P.T. 2011. "A unified sediment transport model for inlet application," *Journal of Coastal Research*, Special Issue 59, 27-38.
21. Chen, C., Zhan, H., Shi, P., Achterberg, E. Lavender, S., Larson, M., and Jönsson, L. 2011. "Retrieval of gelbstoff absorption coefficient in Pearl River estuary from SeaWiFS data," *Estuarine, Coastal, and Shelf Science* (under revision).
22. Hoan, L.X., Hanson, H., Larson, M., and Nam, P.T. 2011. "Modeling regional sediment transport and shoreline response in the vicinity of tidal inlets on the Long Island coast, United States," *Coastal Engineering*, 58(6), 554-561.

23. Nam, P.T., Larson, M., Hanson, H., and Hoan, L.X. 2011. “A numerical model of beach morphological evolution due to waves and currents in the vicinity of coastal structures,” *Coastal Engineering*, 58(9), 863-876.
24. Hoan, L.X., Hanson, H., and Larson, M. 2011. “A mathematical model of spit growth and barrier elongation,” *Estuarine, Coastal, and Shelf Science*, 93(4), 468-477.

Other publications not presented here include more than 55 reviewed articles (from <2006), 10 book contributions, 90 conference papers (mostly reviewed contributions), 20 reviewed international reports, 30 national reports, and 50 unpublished papers and reports. About three articles are in preparation (more than 50% written).

Several computer programs have been developed for the U.S. Army Corps of Engineers since the end of the 1980s, including SBEACH, NMLONG, BMAP (RMAP), and certain parts of the Coastal Modeling System (CMS).

INVITATIONAL LETTER

Department of Socio-Cultural Environmental Studies
Graduate School of Frontier Sciences
The University of Tokyo
Environment Bldg. 660, 5-1-5 Kashiwanoha
Kashiwa, Chiba 277-8563, Japan

Phone: +81-4-7136-4812
Fax: +81-4-7136-4825
Email: isobe@k.u-tokyo.ac.jp

Dr. Masahiko Isobe, Professor

January 31, 2012

Professor Magnus Larson
Department of Water Resources Engineering
University of Lund
Box 118, S-221 00 Lund, SWEDEN

Invitation Letter

Dear Professor Larson:

It is a great pleasure for me to invite you to Water Environment Science and Technology Laboratory, Department of Socio-Cultural Studies, Graduate School of Frontier Sciences, University of Tokyo in 2012.

As is known to all over the world, Japan is the country which suffers from various coastal disasters such as storm surges, tsunamis, and coastal erosion. To overcome these problems, international cooperation is truly effective. It will be beneficial for us if you could come to Japan to visit our laboratory.

Therefore, I wish you to be awarded a financial support to visit Japan. During your stay, you will be given a title of visiting fellow of the graduate school. The title does not include any financial support but some assistance like normal secretarial services.

I look forward to hosting you at our laboratory.

Sincerely,

Masahiko Isobe