

Short CV of prof J.A. Roelvink

Name:	ROELVINK, Jan Adriaan (Dano)	Nationality:	Dutch
Profession:	Coastal engineer	Place of Birth:	The Hague
Years with Firm:	since 2005/1985	Date of Birth:	10 May 1959
Present Employer:	UNESCO-IHE AND DELTARES, Delft, The Netherlands		

KEY QUALIFICATIONS

Prof. Roelvink has 30 years of experience in coastal engineering and research. He has participated as team member and as project manager in a number of major consultancy projects related to coastal morphology. He has managed the development of the Delft3D model system for two- and three-dimensional simulation of waves, currents, water quality, ecology and morphodynamics, and is still active in the further development of the morphological part of this system. He has been actively involved in the EU-sponsored MaST-G6M and MaST-G8M, SASME, COAST3D, DELOS, MICORE and Risc-Kit research projects on coastal morphodynamics, amongst others as member of the SASME steering group. His field of expertise is in coastal hydrodynamics and morphodynamics modelling, in one, two or three dimensions. In 1993 he obtained a PhD-degree at TU Delft, based on a thesis on the effect of surf beats on coastal profiles. He has published numerous articles on coastal hydraulics and morphodynamics in international journals and conference proceedings, and he has been a part-time Assistant Professor, later Associate Professor at Delft University of Technology from 1990-2005 and presently holds a Professorship there. He has been Delft Hydraulics' principal investigator in the discipline of morphology and is a strong proponent of international scientific cooperation with various parties in order to further the state-of-the-art in morphodynamic modelling and has set up collaborative projects with the US Geological Survey, the US Office of Naval Research and the Army Corps of Engineers. Since working at UNESCO-IHE he has been involved in research and capacity building projects in the US, Australia, China, Vietnam, Indonesia, Brazil, Barbados, Fiji, Ghana, Ivory Coast and Bangladesh. He is presently a member of the Programme Committee of the Netherlands Centre for Coastal Research (NCK). In his current position he is head of the Chair Group of Coastal Engineering and Port Development at UNESCO-IHE Institute for Water Education. His latest work has focused on the development of an open-source model for prediction of storm impacts on sandy coasts, XBeach.

EDUCATION

1985	MSc. Civil Engineering, Delft University of Technology.
1993	PhD, Delft University of Technology.

EMPLOYMENT RECORD

2005-	UNESCO-IHE, Professor of Coastal Engineering and Port Development
2006-	Delft University of Technology, Professor of Coastal Engineering and Port Development (honorary appointment)
1985-pres.	DELTARES (FORMERLY WL DELFT HYDRAULICS), Marine and Coastal Management Division, senior specialist coastal morphology, principal investigator morphology
1990-2005	Delft University of Technology, part-time associate professor
1983-1985	Delft University of Technology, student assistant.

LIST OF RECENT PUBLICATIONS (2004 – 2015)

Books

Dano Roelvink and Ad Reniers. A Guide to Modeling Coastal Morphology. Advances in Ocean Engineering, World Scientific, Singapore, 280 pp.

Articles in refereed scientific journals

- FM Achete, M van der Wegen, D Roelvink, B Jaffe. Suspended sediment dynamics in a tidal channel network under peak river flow. *Ocean Dynamics* 66 (5), 703-718, 2016
- G Dam, M Wegen, RJ Labeur, D Roelvink. Modeling centuries of estuarine morphodynamics in the Western Scheldt estuary *Geophysical Research Letters* 2016
- R Bakhtyar, A Dastgheib, D Roelvink, DA Barry. Impacts of wave and tidal forcing on 3D nearshore processes on natural beaches. Part I: Flow and turbulence fields. *Ocean Systems Engineering* 6 pp 23-60, 2016
- R Bakhtyar, A Dastgheib, D Roelvink, DA Barry. Impacts of wave and tidal forcing on 3D nearshore processes on natural beaches. Part II. Sediment transport. *Ocean Systems Engineering* 6, pp 61-97 2016
- M Zhou, Z Zou, D Roelvink. Prediction of ship-ship interactions in ports by a non-hydrostatic model. *Journal of Hydrodynamics, Ser. B* 27 (6), 824-834
- TM Duong, R Ranasinghe, D Walstra, D Roelvink. Assessing climate change impacts on the stability of small tidal inlet systems: Why and how? *Earth-Science Reviews* 2015
- AR Carrasco, Ó Ferreira, D Roelvink. Coastal lagoons and rising sea level: A review. *Earth-Science Reviews*
- L Guo, M van der Wegen, DJA Roelvink, ZB Wang, Q He. Long-term, process-based morphodynamic modeling of a fluvio-deltaic system, part I: The role of river discharge. *Continental Shelf Research*
- L Sembiring, A van Dongeren, G Winter, D Roelvink. Dynamic Modelling of Rip Currents for Swimmer Safety on a Wind-Sea-Dominated Mesotidal Beach. *Journal of Coastal Research*
- J Akter, MH Sarker, I Popescu, D Roelvink. Evolution of the Bengal Delta and Its Prevailing Processes. *Journal of Coastal Research*
- Y Wan, H Wu, D Roelvink, F Gu. Experimental study on fall velocity of fine sediment in the Yangtze Estuary, China. *Ocean Engineering* 103, 180-187
- L Sembiring, M van Ormondt, A van Dongeren, D Roelvink. A validation of an operational wave and surge prediction system for the Dutch coast. *Natural Hazards and Earth System Science* 15 (6), 1231-1242.
- Leicheng Guo, Mick van der Wegen, David A Jay, Pascal Matte, Zheng Bing Wang, Dano Roelvink, Qing He. River-tide dynamics: Exploration of nonstationary and nonlinear tidal behavior in the Yangtze River estuary. *J. Geophysical Res., Oceans*.
- Andrew WM Pomeroy, Ryan J Lowe, Ap R Van Dongeren, Marco Ghisalberti, Willem Bodde, Dano Roelvink. Spectral wave-driven sediment transport across a fringing reef. *Coastal Engineering*, 98, pp. 78-94.
- FM Achete, M van der Wegen, D Roelvink, B Jaffe. A 2-D process-based model for suspended sediment dynamics: a first step towards ecological modeling. *Hydrology and Earth System Sciences Discussions* 12, 1507-1553
- Y Wan, F Gu, H Wu, D Roelvink. Hydrodynamic evolutions at the Yangtze Estuary from 1998 to 2009. *Applied Ocean Research* 47, 291-302, 2014
- Y Wan, D Roelvink, W Li, D Qi, F Gu. Observation and modeling of the storm-induced fluid mud dynamics in a muddy-estuarine navigational channel. *Geomorphology* 217, 23-36, 2014
- L Sembiring, M van Ormondt, A van Dongeren, D Roelvink. A validation of an operational wave and surge prediction system for the Dutch Coast. *Natural Hazards and Earth System Sciences Discussions* 2, 3251-3288 2014
- Van Dongeren, A., Lowe, R., Pomeroy, A., Trang, D.M., Roelvink, D., Symonds, G., Ranasinghe, R. Numerical modeling of low-frequency wave dynamics over a fringing coral reef (2013) *Coastal Engineering*, 73, pp. 178-190.
- Roshanka Ranasinghe, Trang Minh Duong, Stefan Uhlenbrook, Dano Roelvink & Marcel Stive, Climate-change impact assessment for inlet-interrupted coastlines. *Nature Climate Change* (2012) doi:10.1038/nclimate1664

- R. Almar, R. Ranasinghe, N. Senechal, P. Bonneton, D. Roelvink, K. Bryan, V. Marieu and J. Parisot. Video based detection of shorelines at complex meso-macro tidal beaches, *Journal of Coastal Research*, Vol 28(5): 1040-1048
- D.M.P.K. Dissanayake, A. Wurpts, M. Miani, H. Knaack, H.D. Niemeyer, J.A. Roelvink. Modelling morphodynamic response of a tidal basin to an anthropogenic effect: Ley Bay, East Frisian Wadden Sea – applying tidal forcing only and different sediment fractions. *Coastal Engineering*, Volume 67, September 2012, Pages 14-28
- D. M. P. K. Dissanayake, R. Ranasinghe and J. A. Roelvink. The morphological response of large tidal inlet/basin systems to relative sea level rise. *Climatic Change*, Volume 113, Number 2 (2012), 253-276, DOI: 10.1007/s10584-012-0402-z
- Christopher Daly, Dano Roelvink, Ap van Dongeren, Jaap van Thiel de Vries, Robert McCall Validation of an advective-deterministic approach to short wave breaking in a surf-beat model. *Coastal Engineering*, Volume 60, February 2012, Pages 69–83.
- D.J.R. Walstra, A.J.H.M. Reniers, R. Ranasinghe, J.A. Roelvink, B.G. Ruessink. On bar growth and decay during interannual net offshore migration. *Coastal Engineering*, Vol. 60: 190-200D. M. P. K. Dissanayake, R. Ranasinghe, D. Roelvink, Z. B. Wang and H. D. Niemeyer. 2011. Process-based and semi-empirical modelling approaches on tidal inlet evolution. *Journal of Coastal Research*, SI 64, 1013-1017.
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- D. M. P. K. Dissanayake, R. Ranasinghe and J. A. Roelvink. The morphological response of large tidal inlet/basin systems to relative sea level rise, *Climatic Change* (in press: accepted 31st Oct 2011).
- D.J.R. Walstra, A.J.H.M. Reniers, R. Ranasinghe, J.A. Roelvink, B.G. Ruessink. On bar growth and decay during interannual net offshore migration. Accepted, *Coastal Engineering*
- Van Der Wegen, M., Jaffe, B.E., Roelvink, J.A. Process-based, morphodynamic hindcast of decadal deposition patterns in San Pablo Bay, California, 1856-1887 *Journal of Geophysical Research F: Earth Surface* 116 (2), art. no. F02008
- Van Der Wegen, M., Dastgheib, A., Jaffe, B.E., Roelvink, D. Bed composition generation for morphodynamic modeling: Case study of San Pablo Bay in California, USA. *Ocean Dynamics* 61 (2-3), pp. 173-186
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- Roshanka Ranasinghe, Cilia Swinkels, Arjen Luijendijk, Dano Roelvink, Judith Bosboom, Marcel Stive, DirkJan Walstra. Morphodynamic upscaling with the MORFAC approach: Dependencies and sensitivities. *Coastal Engineering*, Volume 58, Issue 8, August 2011, Pages 806-811.
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- Dano Roelvink, Ad Reniers, Ap van Dongeren, Jaap van Thiel de Vries, Robert McCall, Jamie Lescinski. Modelling storm impacts on beaches, dunes and barrier islands, *Coast. Eng.* (2009), doi:10.1016/j.coastaleng.2009.08.006
- M.W.J. Smit, A.J.H.M. Reniers, B.G. Ruessink, J.A. Roelvink The morphological response of a nearshore double sandbar system to constant wave forcing. *Coastal Engineering*, Volume 55, Issue 10, October 2008, Pages 761-770

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