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and Exhibition 2013
(WODCON XX)**

The Art of Dredging

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Volume 1 of 2

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TUE
04-06

Session 1: Developments in dredging equipment / 1

[TSHD dredging pump operation condition analysis](#)

Lv YF, Liu JB and Liu YX – Shijiazhuang Kinda Pump Industry Group Co Ltd, Peoples Republic of China

[A study on the standard operation of the cutter suction dredger in a dredging project](#)

Gao W, Li DY and Liu H – CCCC Tianjin Dredging, Peoples Republic of China

Tian J – China Communication Institute Co Ltd, Peoples Republic of China

Li X – Tianjin Normal University, Peoples Republic of China

[Developments in mining equipment and pumps for subsea and inland submerged deposits](#)

Kapusniak S – Soil Machine Dynamics Ltd., United Kingdom

Tenwolde D and Winkelman MO – Damen Dredging Equipment, the Netherlands

[Solution for the vibration challenges on cutter suction dredgers](#)

De Bruin R – Van Oord Dredging and Marine Contractors, the Netherlands

De Bruijn A – IHC Merwede, the Netherlands

Van Ramshorst, DJ – Loggers, the Netherlands

[Development of a new-type plough-shaped tooth](#)

Lou QM – CCCC Key Laboratory of Dredging Technology, Shanghai, Peoples Republic of China

Lin F – CCCC Shanghai Dredging, Peoples Republic of China

Session 2: WODA Environmental Panel hosted by the CEDA Environment Commission

Session 3: Modeling hydraulic transport

[An overview of flow regimes describing slurry transport](#)

Ramsdell R – Great Lakes Dredge & Dock Company, United States of America

Miedema SA – Delft University of Technology, the Netherlands

[A head loss model for slurry transport based on energy considerations](#)

Miedema SA – Delft University of Technology, the Netherlands

Ramsdell RC – Great Lakes Dredge & Dock Company, United States of America

[Numerical simulation of hydrodynamical behaviour of sand water mixtures](#)

Goeree JC - Delft University of Technology, the Netherlands

Van Rhee, C – Delft University of Technology, the Netherlands

[Experimental study on applying hydrocyclone for improving the loading efficiency of TSHD](#)

Zhao TB – CCCC Key Laboratory of Dredging, Shanghai, Peoples Republic of China

Lin F – CCCC Shanghai Dredging, Peoples Republic of China

Jiang JA – Shanghai Waterway Engineering, Dredging & Consulting, Peoples Republic of China

Session 4: Use of dredged sediments

[The use of engineered sediments for the construction of a compartment dyke in the Controlled Flooding Area Vlassenbroek](#)

Van Renterghem B, Van Nederkassel J and Joos P – Envisan, Belgium

Vermeersch T – Jan De Nul Group, Belgium

Quaeyhaegens H – Waterwegen en Zeekanaal, Belgium

[Land reclamation using a mixture of dredged soil and converter slag](#)

Matsumoto A and Tanaka Y – Penta-Ocean Construction, Japan

Nakagawa M, Yamagoshi Y and Kanno H, Nippon Steel & Sumitomo Metal Corporation, Japan

[Fine-grained organic dredged materials for Dike Cover Layers – Material Characterisation and Experimental Results](#)

Cantré S, Nitschke E, Große AK and Saathoff F – Universität Rostock, Germany

Henneberg M – Steinbeis Transferzentrum Angewandte Landschaftsplanung, Germany

[Using waste products as building material for landfill closure and construction of a sediment](#)

[treatment plant](#)

Palleman I, Van Zele S and Nachtergaele K – Envisan, Belgium

Session 5: Monitoring the dredging process

[Construction of a perimeter bund using the PM-CLAY method](#)

Saitoh T – Toa Corporation, Japan

[Innovative free fall sediment profiler for preparing and evaluating dredging works and determining the nautical depth](#)

Geirnaert K, Staelens P and Deprez S – dotOcean, Belgium

Noordijk A and Van Hassent A – Port of Rotterdam, the Netherlands

[Monitoring the consolidation process of mud from different European ports in a full scale test facility](#)

Staelens P, Geirnaert K, and Deprez S – dotOcean, Belgium

Noordijk A and Van Hassent A – Port of Rotterdam, the Netherlands

[Pinpoint underwater grab bucket navigation system \(PUGNAVI\) applied to restoration work of great east Japan earthquake](#)

Fujiyama E – Shinko Construction, Japan

Session 6: Treatment of sediments / 1

[Solindus experimental dredged material treatment platform: a versatile solution for sediment treatment and clay flocculation](#)

Bréquel H, Gineys N and Urbain F - Centre Terre et Pierre, Belgium

Couturier F and Duchadeau A - SNF, France

[Soil washing techniques for sediment dewatering and sand recycling](#)

Pensaert S, van de Velde K, De Bruecker T and Lepere X – DEME, Belgium

[Twenty years of large-scale sediment treatment at the METHA-plant, Hamburg](#)

Detzner HD – Hamburg Port Authority, Germany

[High speed dewatering of ultra-fine sediments](#)

Hodges M and Shobrook C – Genesis Water, United States of America

WED

05-06

Session 7: Modeling of dredge pumps

[Numerical simulation of motion trajectory of sediment particles in dredge pump](#)

Hong GJ – Key Lab of Dredging Technology of MOC, Shanghai, Peoples Republic of China

Jiang JA – Key Lab of Dredging Technology of MOC, Shanghai, Peoples Republic of China

Yu GL – Shanghai Jiaotong University, Peoples Republic of China

[Restratification in hydraulic transport: is it a bend effect?](#)

Brouwers RJP, van Fulpen ML and Talmon AM – Delft University of Technology, Faculty 3Me, the Netherlands

[Latest developments in dredge pump technology](#)

Bugdayci HH – IHC Parts & Services, the Netherlands

Grinwis H and Munts E – MTI Holland, the Netherlands
[Estimating production and booster pump location for long-distance pumping](#) &+,
Randall R and Yeh P – Texas A&M University, United States of America

Session 8: Dredging for navigation

[Licensing navigation dredging – developing a proportionate, risk-based approach](#) &,-
Basford KE and Clay N – Royal HaskoningDHV, United Kingdom
Birchenough AC – Cefas, United Kingdom
[Treating the highly contaminated sediments from the industrial canal Ghent-Terneuzen: Towards a cleaner environment with maximum re-use of materials](#) &-
Pynaert K, Van Zele S, Pallemans I and Nachtergaele KI – Envisan, Belgium
David C - DEME Environmental Contractors, Belgium
[Recent developments in sediment management in the Port of Hamburg](#) &-\$-
Röper H and Netzband A – Hamburg Port Authority, Germany
[Maintenance dredging in Ponta da Madeira maritime terminal](#) &-%*
Gaglianone de Moraes D and Loureiro Monteiro RF – Vale SA, Brazil

Session 9: Dredging for port development

[Development of the preliminary dredging plan for the Vale Ponta da Madeira pier IV export facility, Sao Luis, Brazil](#) &*)
Nairn R, Dibajnia M and Lu Q, Baird & Associates Coastal Engineers Ltd., Canada
Delaure S, Baird & Associates LTD Engineering Consultancy LLC, Oman
[The expansion of the Botlek Tank Terminal area: a sustainable solution in the Port of Rotterdam](#) &*) -
Jumelet HD – DEME Group, the Netherlands
Laenen KCJ – Port of Rotterdam, the Netherlands
Plate SE - De Vries and van de Wil, the Netherlands
[Port of Lisbon maintenance dredging in a sensitive environmental system](#) &*) %
Sá Pereira MT and Silveira Ramos R – Port of Lisbon Authority, Portugal

Session 10: Methods & equipment: case studies

[Installing blocks of fish reefs in the deep sea](#) &*) *)
Yamamoto K – Tomac Corporation, Japan
[The use of encapsulated sand elements for beach protection](#) &*) +
Zengerink E and ter Harmsel M – TenCate Geosynthetics, the Netherlands
Koffler A – TenCate Water en Environment region France, France
[Study on combined dredging concept of twin-hull trailing suction dredger with self-propelled barges](#) &*) , +
Yang ZW– China Dredging Association (CHIDA), Peoples Republic of China
Fei L and Liu HS – Marine Design & Research Institute of China, Peoples Republic of China
Lin F – CCCC Shanghai Dredging Corporation, Peoples Republic of China
[Improving the capacity of Altamira Port \(Mexico\) by dredging](#) &*) --
Verdugo I, Iribarren JR, Atienza R, Cal CB, Pecharroman L and Trejo I – Sipo21, Spain
[Cuttability and abrasivity of rocks in capital dredging: applicability to the Port Miami dredging 2013-2014](#) &*) (%&
Prieto L – Piedroba Consulting Group, United States of America
Verna T – US Army Corps of Engineers, United States of America

Session 11: With Nature...

[Working with Nature: applying the philosophy to maintenance dredging](#) &*) (&\$
Brooke J – Jan Brooke Environmental Consultant, United Kingdom
Bird R – Mersey Docks and Harbour Company, United Kingdom

[Building with Nature works!](#) (%)

Van Raalte, G – Royal Boskalis Westminster, the Netherlands

Zwemmer DJ, Hof D and Daan M – Boskalis BV, the Netherlands

['Aquapuncture': adaptation and optimal use of inland waterways and their waterfronts](#) ((

Waterman R – Ministry of Infrastructure & Environment, the Netherlands

Brouwer JA – Soeters van Eldonk Architects, the Netherlands

[Flanders Bays on Belgian North Sea Coast: smart beach & dune nourishments to achieve an integrated and sustainable reinstatement of beach barrier systems](#) ()'

Malherbe B and Fordeyn J – Jan De Nul Group, Belgium

Defloor D – DEME, Belgium

[Dredging for flood management in river systems: opportunities and dilemmas](#) (* +

Hakstege AL – Rijkswaterstaat Centre for Infrastructure, Ministry of Infrastructure and Environment, the Netherlands

Session 12: Environmental dredging

[A review of lessons learned after nearly three decades of environmental dredging in the United States](#) (+)

Doody J P, Gardner R and Mohan R – Anchor QEA, United States of America

[Environmental dredging of a chromium contaminated fjord in Valdemarsvik, Sweden](#) (, +

Pensaert S, Nollet H, Rombaut E and Lepere X – DEME, Belgium

[YH Bay clean-up project involving marine sediments in Busan, South Korea](#) (-)

Kim SH, Choi KY, Kim K and Hong GH – Korea Institute of Ocean Science & Technology, South Korea

[Environmental dredging project 'Remediation Ketelmeer-West' in the IJsselmeer, the Netherlands](#) (\$) (

Dekker JSG – de Vries & van de Wiel, the Netherlands

[Human health risk assessment guidance for dredging and disposal at sea of marine and estuarine sediments](#) (%) &

Droit J – CETMEF, France

Bataille T – Guadeloupe Port Caraïbes, France

Delouis A – GEODE / GPM Nantes Saint Nazaire, France

Session 13: Modeling optimisation of equipment

[Half a century of changing the design of a dredger: market pull or technology push?](#) (&

de Bruijn A, de Graaff PC, de Groot JW and Verkaik CJ – IHC Beaver Dredgers, the Netherlands

[Study and application for high-precision on elevation by a grab dredger](#) (') ''

Cao XB, Chen L and Liu GS – CCCC Guangzhou Dredging, Peoples Republic of China

[Optimising drive train design for TSHDs using dynamic simulation models](#) (') (%)

Den Boer L, Kuypers R and van der Blom E – IHC Dredgers, the Netherlands

Gonçalves Castro B and Mestemaker B – MTI Holland, the Netherlands

[Provision for geologic investigation in capital waterway dredging engineering in China and its perspectives](#) (\$) \$

Cai DF, Bei M, Liu HH, Zhou J, Zou Z, Xia W, Li QH and Shao – Chiangjiang Waterway Planning Design & Research Institute, Peoples Republic of China

Session 14: Treatment of sediments / 2

[Use of fibres waste in sediments stabilization / solidification](#) (') *%

Levacher D, Normandy University, France

Liang Y, Université du Québec en Abitibi-Temiscamingue, Institut de recherche en mines et en environnement (IRME), Canada

[Investigation and implementation of sediment remediation at the An-Shun remediation site, Tainan City, Taiwan](#) (') +'

Mastin B – Southern Research Institute, Birmingham, United States of America

Moore D – ENVIRON, United Kingdom

Renfrew D – Weston Solutions, United States of America

Chen J - Weston Solutions, Taiwan

[Breaking technology for dewatering and valorization of sediment in France](#) (), (

Mancioppi L and Dhervilly P – Sedigate, France

Levacher D – Normandy University, France

[Soil decontamination and soil volume reduction technologies for benthic sediment in lakes, reservoirs, and other bodies of water](#) ()) - \$

Enomoto T – Toyo Construction, Japan

Session 15: Dredging works in the Westerschelde / 1

[The AMORAS project: dewatering and reuse of the Antwerp Port sediments](#) ()) * \$ &

Van Esbroeck M and Dockx J – Dept of Mobility and Public Works, Maritime Access, Flemish Government, Belgium

Van de Velde K and Pensaert S – Deme Environmental Contractors, Belgium

Pynaert K - Envisan NV, Belgium

Horckmans L - VITO NV, Belgium

[The development of a current deflecting wall in estuarine conditions \(salinity gradients\) to reduce siltation in the tidal Deurganckdok, Port of Antwerp](#) ()) * %

Roose F and Meersschat Y – Maritime Access division, Flemish Government, Belgium

Sas M – International Marine & Dredging Consultants, Belgium

[Monitoring the siltation rate at Deurganckdok, Port of Antwerp, and its reduction by a current deflecting wall](#) ()) * & &

Decrop B, Sas M and Zimmermann N – International Marine & Dredging Consultants, Belgium

Roose F – Maritime Access division, Flemish Government, Belgium

Session 16: Methods, equipment and techniques: Dealing with silt

[Turbidity caused by spillage from dredging / mining transverse axis cutter](#) ()) * ' * *

Sarkar M, Bose N, Chai S - Australian Maritime College, University of Tasmania, Australia

Dowling K - School of Health Science, University of Ballarat, Australia

Sarkar S – SAIPEM, United Kingdom

[The art of screening: effectiveness of silt screens](#) ()) * (* *

Radermacher M – Delft University of Technology, the Netherlands

Van der Goot, F and Rijks D – Boskalis, the Netherlands

De Wit L – Svasek Hydraulics, the Netherlands

[Towards a comprehensive design for silt screens in open configuration from the hydraulics perspective](#) ()) *),

Vu TT – Nanyang Technological University, Singapore

Tan SK – Nanyang Environment & Water Research Institute and Marine Research Center, Singapore

[Study on dredging at head area and utilization of sediment resources in three gorges reservoir](#) ()) * * * -

Hu XH, Deng YT, Xiao H, Zhou B – Hubai Changjiang Dredging Engineering, Peoples Republic of China

Session 17: Assessment and monitoring / 1

[The UK marine aggregate regional environmental assessment: an effective model for regionalised dredging areas worldwide?](#) ()) * * +,

Lloyd Jones D and Reach I – Marine Space, United Kingdom

Powell M - South Coast GIS, United Kingdom

[A method for identifying a new offshore dredging disposal site based on environmental sensitivity](#) ()) * * - (

Harris K and Eccles D - HR Wallingford, United Kingdom

[Design and implementation of marine monitoring studies with reference to dredging projects: essentials](#) ()) * + \$ *

Lee M, Pendle M, Taylor J and Dearnaley M – HR Wallingford, United Kingdom

[Monitoring system of the environmental quality of the sediments derived from dredging activity](#) ()) * + %

Moraes e Sousa MES and Fialho GO – GARTA / COPPE / UFRJ, Brazil

Session 18: Dredging works in the Westerschelde / 2

[Dredging works in the Western Schelde to deepen the navigation channel and to create ecologically valuable areas: status after three years of monitoring](#)+++&

Depreiter D and Sas M – International Marine & Dredging Consultants, Belgium

Beirinck K - Flemish Government, Belgium

Liek GJ – Ministry of Infrastructure and the Environment, the Netherlands

[Long term modeling of the impact of dredging strategies on morpho- and hydro-dynamic developments in the Western Scheldt](#)+++ -

Dam G, Poortman SE and Blik AJ – Svašek Hydraulics, the Netherlands

Plancke Y – Flanders Hydraulics, Belgium

[Tidal evolution in the Scheldt estuary and its interaction with dredging works](#)+++)

Taal M, Wang ZB and Kuijper K – Deltares, the Netherlands

Cleveringa J – Arcadis, the Netherlands

Sas M – International Marine & Dredging Consultants, Belgium

[Impact of human interventions on estuarine dynamics – towards a regime shift in the Scheldt?](#)+++**

Winterwerp JC – Delft University of Technology, the Netherlands

Wang ZB – Deltares and Delft University of Technology, the Netherlands

THU

06-06

Session 19: Optimising the dredging processes

[Decision support system for dredging and reclamation environmental monitoring and management plans \(EMMPS\)](#)+++

Hoa KH – DHI Water & Environment, Australia

Doorn-Groen SM, Forster TM and Truong TT – DHI Water & Environment (S), Singapore

[Towards a faster and cleaner fairway maintenance of Dutch rivers](#)+++ , -

Talmon A – Deltares and Delft University of Technology, The Netherlands

Sieben J – Rijkswaterstaat, the Netherlands

Van der Lugt T - Delft University of Thechnology, The Netherlands

[Optimising manpower and reducing fuel consumption while increasing dredging production](#)+++ , \$

Osnabrugge J and Van den Bergh PM – IHC Systems, the Netherlands

[A validated tool for evaluating the design and predicting the workability of dredgers](#)+++ , %

Hannot SDA and Los JG – MTI Holland, the Netherlands

Van Spaendonk BAW – IHC Dredgers, the Netherlands

Krijger ACL, Kruijswijk AB – IHC Beaver Dredgers, the Netherlands

Session 20: Assessment and monitoring / 2: Plumes

[Detailed full scale simulations of near field overflow plume mixing](#)+++ , &

de Wit L and Van Rhee C - TU Delft, the Netherlands

[Physical modelling based assessment of some influence factors on overflow plume behaviour](#)+++ , ' -

Decrop B and Sas M – International Marine & Dredging Consultants, Belgium

Ve Mulder T – Hydraulics Laboratory, Ghent University, Belgium

Toorman E – Hydraulics Laboratory, KULeuven, Belgium

[Trial monitoring of dredger plumes using a multibeam echosounder](#)+++ , (-

Brett C, Lee M, Taylor J and Dearnaley M – HR Wallingford, United Kingdom

Bellamy A - Tarmac Marine Dredging Ltd, United Kingdom

[Far-field and long-term dispersion of released dredged material](#)+++ , *'

Van Kessel T and van Maren DS – Deltares, the Netherlands

Session 21: Numerical simulation of dredging processes

[Study on fine silt loading characters of TSHD based on computerised fluid dynamics \(CFD\)](#), +&
Yang ZJ and Qin L – CCCC Tianjin Dredging, Peoples Republic of China
Li ZC and Gao W – CCCC Tianjin Port and Waterway Research Institute, Peoples Republic of China
[Numerical simulation of the current drag force on the hull of a cutter suction dredger](#), , &
Xu LQ – Engineering Research Centre, Dredging Technology, Hebei University, Peoples Republic of China
Zhang PP, Ni Y and Ni FS – Hohai University, Peoples Republic of China
[Constructing the shields curve. Part C: cohesion by silt.](#), , - \$
Miedema S - Delft University of Technology, the Netherlands
[On self-emptying at high discharge mixture densities](#) , - \$)
De Nijs M - Van Oord, the Netherlands

Session 22: Assessment and monitoring / 3

[Development of a numerical modelling module for dredging and relocation in COHERENS](#) , - %
Martens C – Department of Mobility and Public Works, Flemish Government, Belgium
Breugem A and van Holland G – International Marine & Dredging Consultants, Belgium
Luyten P – Management Unit of the North Sea Mathematical Models, Belgium
Rocabado I – Antea Group, Belgium
[Environmental monitoring and control of sediments around dredging and reclamation works, Thames, UK](#) , - ' \$
Leggett DJ and Read K – Dredging International United Kingdom, United Kingdom
Black KS – Partrac, United Kingdom
[The application of three-dimensional geological modeling in a dredging project](#) , - ((
Wang YQ, Gao W – CCCC Tianjin Dredging, Peoples Republic of China

Session 23: Alluvial and deep sea mining

[Porosity calculation in discrete element modeling of sand cutting process](#) , -) \$
Chen X and Miedema SA – Offshore and Dredging Engineering, Delft University of Technology, the Netherlands
[Advances in the modeling of vertical hydraulic transport by a continuum approach](#) , - * (
Van Wijk J - MTI Holland, Belgium
Van Rhee C - Delft University of Technology, Belgium
Talmon AM - Deltares, the Netherlands
[Cutting through hard rock-like materials – a review of the process](#) , - +(
Helmons RLJ and Miedema SA – Delft University of Technology, the Netherlands
[System design for sustainable phosphate mining operations at the Chatham Rise](#) , - , ,
Steenbrink AC, van Doorn T, Jansen J and van Raalte GH – Royal Boskalis Westminster, the Netherlands
Van Hoeven B – Boskalis Dolman, the Netherlands
Falconer R - Chatham Rock Phosphate, New Zealand

Session 24: Management and economics

[An overall applicable strategy for optimising maintenance dredging works, a case study for the Port of Bayonne](#) , - - *
De Wit K – IMDC, Belgium
Fages S – Conseil Régional Aquitaine, France
[Development, practical use and implementation of cutter suction dredger operator competence & certification system \(DOCS\)](#) , , %\$%\$
Zhou LY – Guangzhou Dredging Company, Peoples Republic of China
Ooijens SC – Beaver Dredgers, IHC Merwede, the Netherlands
Roosendaal LA and Shi W – Training Institute for Dredging, the Netherlands
[Dealing with price fluctuations in dredging contracts](#) , , %\$&&
Roukema DC – Blue Pelican Associates, the Netherlands
Kinlan DG – Kinlan Consulting, Australia
[Carbon offsetting? Blue carbon provides opportunities for the dredging industry](#) , , %\$' &
Van der Klis P – Van Oord, the Netherlands
Sansoglou P – European Dredging Association, Belgium
Mink F – Interel European Affairs, Belgium