

Coasts & Ports 2015

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Engineering Conference & the 15th Australasian Port and
Harbour Conference

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15 - 18 September 2015

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PROGRAM

TUESDAY 15 SEPTEMBER

15:00-20:00 **Registration Desk Open**

18:00-20:00 **WELCOME RECEPTION**

Princes Ballroom pre-function area

WEDNESDAY 16 SEPTEMBER

7:30 **Registration opens**

Princes Ballroom pre-function area

8:25 **MĀORI WELCOME – PŌWHIRI**

8:30-9:20 **CONFERENCE OPENING**

9:20-10:20 **KEYNOTE ADDRESS**

Todd S. Bridges

U.S. Army's Senior Research Scientist for Environmental Science. He is the Director of the Centre for Contaminated Sediments and the Programme Manager for the Dredging Operations ENVIRONMENTAL Research programme, and leads USACE's Engineering with Nature program.

Princes Ballroom

Sponsored by



10:20-10:50 **Morning tea**

10:50-12:30 Concurrent sessions

| | 1 PLANNING, POLICY AND MANAGEMENT SPONSORED BY BOFFA MISKELL | 2 PORT AND MARITIME ENGINEERING - LARGE PROJECTS SPONSORED BY CARDNO | 3 TSUNAMI, CYCLONES AND EXTREME EVENTS SPONSORED BY THE NATURAL HAZARDS RESEARCH PLATFORM | 4 COASTAL STRUCTURES - BREAKWATERS SPONSORED BY PIANC | 5 COASTAL PROCESSES - WAVES SPONSORED BY NZ COASTAL SOCIETY |
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| 11:10-11:30 | Landscape, Natural Character, Aquaculture and the NZKS Supreme Court Decision Bentley, J. 62 | Port of Brisbane Deepening Project Wharves Assessment Bendell, G. 56 | Tsunami evacuation modelling and mitigation measures for Tauranga City, New Zealand Knook, P. 481 | Concept Design of a Multipurpose Submerged Control Structure for Palm Beach, Gold Coast Australia Mortensen, S. 594 | Wave measurements from the Australian Coastal Ocean Radar Network Middleditch, A. 572 |
| 11:30-11:50 | An overview of financing models for coastal protection in Australia Ware, D. 933 | The problems of developing a small port within the controlled waters of larger Port Chambers, M. 170 | Tsunami hazard potential for the equatorial southeastern Pacific atolls of Tokelau from scenario-based simulations Orpin, A. 647 | Monitoring of Geotextile Offshore Breakwaters to Enhance Mangrove Revegetation Lauchlan Arrowsmith, C. 497 | Reflected Waves in Port Phillip Heads Provis, D. 739 |
| 11:50-12:10 | Environomics' in the Great Barrier Reef World Heritage Area: a Plan for Port Sustainability Sprott, S. Dukes, S. 841 | A New Generation of Accessible and Flood Resilient Ferry Terminals Nilsen, A. | Developing Robust Tsunami Forecasts for Ports and Harbours Power, W. 702 | Design and Construction of a Submerged Breakwater for Beach Stabilisation Jackson, A. 428 | Modelling of Bimodal Wave Conditions Refracting around Rottnest Island using UnSWAN Fanai, H. 287 |
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| 16:40-17:00 | MetOceanTrack: A desktop GUI to simulate the dispersal of invasive species in coastal and continental shelf regions Lobato, A. 529 | Infragravity Wave Processes Recent Experience in New Zealand and Australia Nielsen, L. 609 | Time-Frequency Analysis of Tsunami 332 Goring, D. | Makara Estuary Monitoring: Effects-based monitoring within a degraded, yet dynamic, coastal environment Haggitt, T. 364 | Physical and Economic Feasibility of Rubble Mound Breakwater Upgrades for Sea Level Rise 371 Harison, A. |
| 17:00-17:20 | Defining Beachfront Setbacks Based on 'Acceptable Risk' – Is it the New Approach? Horton, P. 422 | Boussinesq modelling of long period wave directional spectra for tranquillity improvement studies in ports and harbours 582 Monetti, F. | Observing the Approaching Tsunami Heron, M. 404 | Surveying, Risk Avoidance and Accreditation of Hydrographic Surveyors in New Zealand 927 Wallen, B. | Navigating Climate Change: Adaptation Planning for Ports and Navigation Infrastructure Mackenzie, T. 547 |

18.00

PIANC YOUNG PROFESSIONALS NETWORKING FUNCTION

Venue: Harbourside Restaurant, The Ferry Building, 99 Quay Street, Auckland City

RSVP: w.glamore@wrl.unsw.edu.au (limited to 50 attendees) Young Professionals are under 40. PIANC membership not required. Some drinks and nibbles supplied.

THURSDAY 17 SEPTEMBER

7.15-8.25 **FREE STUDENT BREAKFAST (STUDENTS AND INVITED MENTORS ONLY)** Venue TBC
 - SPONSORED BY NEW ZEALAND COASTAL SOCIETY
 The NZCS Student Breakfast aims to provide students with an opportunity to network with and 'pick the brains' of invited mentors who have 'been there, done that' in the coastal scene. Most invited mentors are in positions that involve recruiting, so they are able to provide insights into the qualities they are looking for in potential coastal employees and to offer a range of career examples and advice. The breakfast is also an opportunity to network with other students and is intended to be informal with open discussions encouraged. The event is FREE to all students that have registered for the conference.

8.30-9.20 **KEYNOTE ADDRESS:** Plenary Room - Princes Ballroom
Ngarimu Blair
 Ngati Whatua's Ngarimu Blair is a geographer with 15 years of experience in advancing a range of iwi issues in Auckland City. He established the largest ecological restoration project on the Auckland isthmus at Bastion Point and has instigated a number of city art and urban design projects that have highlighted the Maori history of the city. He is a treaty settlement negotiator for Ngati Whatua, a trustee on the Ngati Whatua Orakei Trust and a Director of Waterfront Auckland, Ngati Whatua Orakei Whai Rawa Ltd and Nga Tira Ltd.
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9.20-9.40 **Mini break for room reset**

9.40-10.40 Concurrent sessions

| | 16 PLANNING, POLICY AND MANAGEMENT SPONSORED BY BOFFA MISKELL | 17 PORT AND MARITIME ENGINEERING SPONSORED BY CARDNO | 18 TSUNAMI, CYCLONES AND EXTREME EVENTS SPONSORED BY THE NATURAL HAZARDS RESEARCH PLATFORM | 19 DREDGING, MINING AND MONITORING SPONSORED BY CARDNO | 20 CLIMATE CHANGE AND ADAPTATION - COASTAL EROSION SPONSORED BY IPENZ |
|-------------|---|---|--|---|---|
| Room | Gallery 3 | Princes Ballroom A | Regatta Room D | Gallery 2 | Princes Ballroom B |
| 9:40-10:00 | First generation responses to coastal inundation risk and where to from here: Learnings from the Auckland Unitary Plan Tamura, M. 879 | Navigation Aids in Variable Rock Conditions Can Drilling be Avoided? Deussen, N. 259 | Effects of Storm Event on Coastal and Maritime Structures in Port Phillip, Victoria Burmeister, N. 121 | Dispersal of dredging plumes in Tauranga Harbour, New Zealand: A field study Cussioli, M. 222 | Four decades of coastal monitoring at Narrabeen Beach: the past, present and future of this unique dataset Harley, M. 378 |
| 10:00-10:20 | The Coastal Calculator: a user friendly tool for estimating coastal storm-driven water levels Allis, M. 1 | A technique to optimise a shipping channel - Design approach based on hindcast wave conditions and dynamic vessel response studied for two harbour cases Delaux, S. 246 | Quantifying Uplift Loads on Pile Supported Wharf Structures, Part 1: Tsunami Bore Chen, C. 192 | ICHTHYS LNG PROJECT: Successful Dredging Campaign in Darwin Harbour, NT Carle, J. 147 | Will the sand come back? Definitions, observations and challenges in understanding beach recovery Phillips, M. 676 |
| 10:20-10:40 | Wakesurfing: Some Wakes are More Equal Than Others Ruprecht, J. 779 | Measuring Pile Length of Marine Structures Using Low Strain Testing O'Connor, J. 630 | Quantifying Uplift Loads on Pile Supported Wharf Structures, Part 2: Solitary Wave Popovich, B. 690 | Application of XBeach for storm erosion modelling in complex reef environments of Western Australia Branson, P. 107 | |



THURSDAY 17 SEPTEMBER (continued)

| | | | | | |
|-------------|---|---|--|--|---|
| 10:40-11:10 | Morning tea | | | | |
| 11:10-12:10 | Concurrent sessions | | | | |
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| 11:10-11:30 | Portarlinton Beach Renourishment and Seawall Renewal Projects James, D. 4 3 9 | Restricted water effects on berthed ship - passing ship interaction Denehy, S. 2 5 2 | Estimating Flood Impacts: A Status Report Brown, T. 1 1 4 | Designing the remediation and replacement of marine infrastructure at Pt Wilson, Victoria. Carboon, C. 1 4 1 | Evolution of the Tauranga Harbour Entrance: Influences of tsunami, geology and dredging de Lange, W. 2 3 5 |
| 11:30-11:50 | Coastal Hazard Lines - A Good Concept - Last Century Gordon, A. 3 2 5 | Development of a Cyclone Response Strategy for a Large Unpowered Barge Hedderwick, C. 3 9 1 | Stochastic Tropical Cyclone Modelling in the Australian Region: An Updated Track Model Burston, J. 1 2 8 | QARANI JETTY - Developing a Slice of Paradise & Environomics in Fiji Hirsch, V. 4 1 5 | Importance of Hydromorphodynamic Modelling in Minimising Siltation along Quayside in Microtidal Complex Estuaries Purohit, A. 7 4 5 |
| 11:50-12:10 | Onehunga Foreshore Restoration Project Reinen-Hamill, R. 7 7 1 | To improve the efficiency of ports exposed to swell van Deyzen, A. 9 1 9 | Estimating Wave Heights and Water Levels inside Fringing Reefs during Extreme Conditions Blacka, M. 8 3 | Concrete Block Mattress Revetment Alternative for Roy Hill Infrastructure Rail Loop Stewart, J. 8 5 3 | A Small Complex Estuary Alongside the Proposed AQUIS Casino Development Nielsen, J. 6 1 6 |
| 12:10 | Collect take-away lunch | | | | |
| 12:30-17:00 | Field trips | | | | |
| | FIELD TRIP 1 AUCKLAND HARBOUR TOUR Field Trip 1 transportation leaves for ferry terminal - shuttle bus. The ferry gives delegates a water-based perspective of Wynyard Quarter and Westhaven Marina, Ports of Auckland and the nourished beaches of Kohimarama, Mission Bay, St. Heliers and Torpedo Bay. The voyage will finish with a lap around Motukorea (Browns Island). Sponsored by Bentley & Co | | FIELD TRIP 2 CITY COASTAL TOUR Field Trip 2 transportation leaves for Onehunga. A bus will take delegates to the site of the Onehunga Foreshore Restoration Project on the northern shore of the Manukau Harbour where over 6 Ha of reclamation has occurred with 8 artificial beaches and headlands, then the Northwestern Motorway Causeway upgrade, and finish with a trip to the southern end of Muriwai Beach Sponsored by Fulton Hogan | | |
| | BENTLEY & Co | |  | | |
| 18:00-19:00 | Dinner Bus Transport leaves from the Pullman Hotel - shuttle bus | | | | |
| 18:30-23:00 | Pre-Dinner Drinks and Conference Dinner - Royal New Zealand Yacht Squadron, 101 Curran Street, Westhaven | | | | |
| 22:30 | Shuttle bus leaves for Pullman Hotel | | | | |
| 23:00 | Last shuttle bus leaves for Pullman Hotel | | | | |

FRIDAY 18 SEPTEMBER

8:30-9:20

KEYNOTE ADDRESS

Plenary Room - Princes Ballroom

Arthur Webb

Dr Arthur Webb's earlier technical and research work involved coastal vegetation systems and agroforestry in the equatorial atolls of the Central Pacific and later this extended to near-shore sediment biogeochemistry in sub-tropical eastern Australia. Arthur was until recently the Deputy Director of the Ocean & Islands Programme within the Applied Geoscience and Technology Division (SOPAC Division) of the Secretariat of the Pacific Community (SPC).



9:20-9:40

Mini break for room reset

9:40-10:40

Concurrent sessions

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|-------------|---|--|---|--|---|
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| 10:00-10:20 | The influence of the Southland Current on circulation patterns within Pegasus Bay 8 28 Soutelino, R. | Super Heavy Duty Wharf Design: 100 kPa and Beyond 1 35 Campbell, L. | Assessing the risk of Auckland's coastal hazards 1 62 Carpenter, N. | Littoral Hydrodynamics and Sediment Transport around a Semi-permeable Breakwater 5 23 Li, H. | Storm surge risk from transitioning tropical cyclones in Australia Hetzel, Y. 4 08 |
| 10:20-10:40 | Wave Modulation by Tidal Currents near Cook Strait Rapizo, H. 7 64 | Augusta Boat Harbour Breakwaters 3 0 Barr, S. | An Evaluation of the 2011 MV Rena Disaster Response, Using the Mauri Model Decision Making Framework Fa'au'i, T. 2 80 | Verification of a Coastal Wave Transfer Function for the New South Wales Coastline 8 86 Taylor, D. | |



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FRIDAY 18 SEPTEMBER (continued)

| 10:40-11:10 | | Morning tea | | | |
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| 11:00-12:30 | | Concurrent sessions | | | |
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FRIDAY 18 SEPTEMBER (continued)

| | | | | | |
|--|--|--|--|---|--|
| 12:30-13:30 Lunch | | | | | |
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