

Publications for 2017

Book Chapter:

- Chanson, H., & Felder, S. Hydraulics of Selected Hydraulic Structures. In A. Radecki-Pawlik, S. Pagliara & J. Hradecky (Eds.), *Open Channel Hydraulics, River Hydraulic Structures and Fluvial Geomorphology: For Engineers, Geomorphologists and Physical Geographers* (pp. 25-46): CRC Press.
- Hadjikakou, M., & Wiedmann, T. Shortcomings of a growth-driven food system. In P. A. Victor & B. Dolter (Eds.), *Handbook on Growth and Sustainability* (pp. 256-276): Edward Elgar Publishing.
- Harley, M.D. Coastal Storm Definition. In P. Ciavola & G. Coco (Eds.), *Coastal Storms: Processes and Impacts* (Vol. First Edition, pp. 1-22): Wiley Blackwell.
- Hayes, J., Stuetz, R., & Stevenson, R. A review of modern olfactometry, equipment and applications *Chemosensory Sensors and Systems: Evolutionary Significance, Biological Effects and New Insights* (pp. 127-148): Nova Science Publishers.
- Holyoak, N., Taylor, M., Hadjikakou, M., & Percy, S. An Integrated Demand and Carbon Impact Forecasting Approach for Residential Precincts. In S. Geertman, A. Allan, C. Pettit & J. Stillwell (Eds.), *Planning Support Science for Smarter Urban Futures* (pp. 295-315). Cham: Springer International Publishing.
- Manefield, M., Alfan-Guzman, R., & Lee, M. Anaerobic bioreactors for the treatment of chlorinated hydrocarbons. In D. Thangadurai & J. Sangeetha (Eds.), *Industrial Biotechnology: Sustainable Production and Bioresource Utilization* (pp. 421-452): CRC Press Taylor & Francis Group.
- Manefield, M., Lee, M., & Koenig, J. The nature and relevance of solvent stress in microbes and mechanisms of tolerance. In C. Chénard & F. M. Lauro (Eds.), *Microbial Ecology in Extreme Environments*: Springer.
- Puente, C.E., Maskey, M.L., & Sivakumar, B. Combining fractals and multifractals to model geoscience records. *B. Fractals: concepts and applications in geoscience* (pp. 297-332): Taylor and Francis Group, LLC.

Conference Proceedings:

- Beuzen, T., Splinter, K. D., Turner, I. L., Harley, M. D., & Marshall, L. (2017/06/21). *Predicting storm erosion on sandy coastlines using a Bayesian network*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.
- Blacka, M., Shand, T., Howe, D., Coghlan, I., Carley, J., Estigarribia, L., & Whalley, O. (2017/06/23). *Affordable coastal protection in the pacific islands: testing and design of alternative protection options for low-energy coastlines*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.
- Blacka, M., Foster, M., Shand, T., & Bakker, P. (2017/06/23). *Waitangi Wharf and Port Upgrade - Providing a critical lifeline at the edge of New Zealand*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.
- Blacka, M., Carley, J., Shand, T., Whalley, O. & Estigarribia L. (2017/06/23). *Affordable coastal protection in the Pacific: Impacts of local resource availability and transport costs*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.
- Carley, J. T., Coghlan, I. R., & Anning, D. (2017/06/23). *Coastal processes and management in Byron Bay, Australia*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.
- Coghlan, I. R., Glamore, W. C., Howe, D., & Felder, S. (2017/06/23). *Innovative Ecological Engineering: Two-Dimensional Physical Modelling of Oyster Shell Filled Bags for Coastal Protection*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.
- Crawford, R. H., Bontinck, P. A., Stephan, A., & Wiedmann, T. (2017/01/01). *Towards an Automated Approach for Compiling Hybrid Life Cycle Inventories*. Paper presented at the International High- Performance Built Environment Conference – A Sustainable Built Environment Conference 2016 Series (SBE16), iHBE 2016, Sydney, Australia.
- Darley, T., Felder, S., Allis, M., & Turner, I. (2017/06/23). *Do we need to consider void fractions in the swash zone?* Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.

Drummond, C., Carley, J., & Harrison A. (2017/06/23). *Observations From The Design, Construction And Drone Monitoring Of A Geotextile Sand Container (GSC) Seawall*. Paper presented at the Australasian Coasts and Ports Conference, Cairns.

Dunlop, T., Felder, S., Glamore, W. C., Howe, D., & Coghlan, I. R. (2017/06/23). *Optimising Ecological and Engineering Values in Coastal Protection via Combined Oyster Shell and Sand Bag Designs*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.

Glamore, W., Rayner, D., & Miller B. (2017/06/23). *The dirawong, the mullet run and the clarence River: Design challenges for ebb tide releases at Yamba and Iluka, NSW*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.

Harley, M. D., Turner, I. L., Middleton, J., Kinsela, M. A., Hanslow, D., Splinter, K. D., & Mumford, P. (2017/06/21). *Observations of beach recovery in SE Australia following the June 2016 east coast low*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, QLD, Australia.

Harrison, A. J., Miller, B. M., Carley, J. T., Turner, I. L., Clout, R., & Coates, B. (2017/06/23). *NSW beach photogrammetry: A new online database and toolbox*. Paper presented at the Australasian Coasts and Ports Conference, Cairns.

Harty, M. G., Felder, S., & Miller, B. (2017/11/13). *Physical modelling of the onset of pressurised flow in a culvert junction*. Paper presented at the 13th Hydraulics in Water Engineering Conference, Sydney.

Howe, D., & Cox, R. J. (2017/06/21). *Using high-density concrete to enhance the stability of armour units*. Paper presented at the Coasts and Ports 2017, Cairns.

Li, R., Montano, L., & Felder, S. (2017/11/13). *LIDAR measurements of free-surface characteristics in hydraulic jumps*. Paper presented at the 13th Hydraulics in Water Engineering Conference, Sydney.

Montano, L., & Felder, S. (2017/08/18). *Air-water flow properties in hydraulic jumps on a positive slope*. Paper presented at the 37th IAHR World Congress, Kuala Lumpur, Malaysia.

Montano, L., & Felder, S. (2017/11/13). *Measurements of air-water flow properties in hydraulic jumps in a sloping channel*. Paper presented at the 13th Hydraulics in Water Engineering Conference, Sydney.

Monteiro, L., Alvarez, G., Moore, S., Chang, N., & Corkish, R. (2017/12/31). *Life Cycle Assessment on Advanced Silicon Solar Modules*. Paper presented at the Asia Pacific Solar Research Conference 2017, Melbourne.

Phillips, M., Blenkinsopp, Splinter, K. D., Harley, M. D., Turner, I. L., & Cox, R. J. (2017/06/21). *High-frequency observations of berm recovery using a continuous scanning Lidar*. Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.

Severi, A., & Felder, S. (2017/08/18). *Flow properties and shear stress on a flat-sloped spillway*. Paper presented at the 37th IAHR World Congress, Kuala Lumpur, Malaysia.

Severi, A., & Felder, S. (2017/11/13). *Boundary layer development on a flat-sloped spillway with micro-roughness*. Paper presented at the 13th Hydraulics in Water Engineering Conference, Sydney.

Simmons, J., Harley, M. D., Turner, I. L., & Splinter, K. D. (2017/06/21). *Quantifying calibration data requirements for coastal erosion models: how many storms is enough?* Paper presented at the Australasian Coasts and Ports Conference, Cairns, Australia.

Simpson, J., Glamore, W., & Felder, S. (2017/08/18). *An experimental study of the hydraulic performance of a buoyancy-operated tidal gate*. Paper presented at the 37th IAHR World Congress, Kuala Lumpur, Malaysia.

Smith, G. P., Modra, B., & Felder, S. (2017/11/30). *Experimental Testing of Flood Hazard Curves for a Partially Submerged Vehicle*. Paper presented at the 13th Hydraulics in Water Engineering Conference, Sydney.

Splinter, K. D., Freeman, E., & Cox, R. (2017/06/23). *Suitable Criteria for Safe Motion Limits of a Floating Pontoon Relative to the Postural Stability of a Stationary Standing Person*. Paper presented at the Australasian Coasts and Ports Conference, Cairns.

Splinter, K. D., Huo, M., Barthelemy, X., & Blacka M. (2017/06/23). *Laboratory Experiments into the Effect of Reef Width on Extreme Water Levels During Cyclone Events*. Paper presented at the Australasian Coasts and Ports Conference, Cairns.

Splinter, K. D., Killalea, R., Blacka, M., & Barthelemy, X., (2017/06/23). *Considerations for the Design of Rock Armoured Structures on Fringing Reef Coastlines*. Paper presented at the Australasian Coasts and Ports

Conference, Cairns.

Teh, S. H., Wiedmann, T., Schinabeck, J., & Moore, S. (2017/01/01). *Replacement Scenarios for Construction Materials Based on Economy-wide Hybrid LCA*. Paper presented at the International High - Performance Built Environment Conference – A Sustainable Built Environment Conference 2016 Series (SBE16), iHBE 2016, Sydney, Australia.

Vulic, J., Lim, M., Felder, S., Chan, S., Jones, J., & Vigentini, L. (2017/12/10). *A problem shared is a problem halved: Benefits of collaborative online engineering L and T content development*. Paper presented at the 28th Annual Conference of the Australasian Association for Engineering Education (AAEE 2017), Sydney.

Yu, M., Wiedmann, T., Crawford, R., & Tait, C. (2017/01/01). *The Carbon Footprint of Australia's Construction Sector*. Paper presented at the International High - Performance Built Environment Conference – A Sustainable Built Environment Conference 2016 Series (SBE16), iHBE 2016, Sydney, Australia.

Zamani, K., Felder, S., & Miller, B. (2017/11/13). *Hydrodynamic modelling of lateral outflow of non-cohesive sediment over a side weir*. Paper presented at the 13th Hydraulics in Water Engineering Conference, Sydney.

Zhang, K., Manuepillai, D., Raut, B., Jakob, C., Reeder, M., Deletic, A., & Bach, P. (2017/09/15). *Impact of future rainfall projections from ensemble GCMs on stormwater management*. 14th International Conference on Urban Drainage, Prague.

Conferences:

Collins, R. N. Enhanced trace metal environmental analyses and oxidation state-specific EXAFS *High-energy-resolution XAS workshop*. Australian Synchrotron, Melbourne, Australia.

Collins, R. N., Jones, A., Murphy, C., & Waite, T.D. Green rust formation induced by reaction between aqueous Fe(II) and smectite clay minerals *254th American Chemical Society National Meeting and Exposition*. Washington DC, USA.

Henderson, R. K., Zamyadi, A., Choo, F., Stuetz, R. M., & Newcombe, G. Development & application of online methods for real time management of toxic cyanobacterial blooms in water supply systems *11th IWA Symposium on Tastes, Odours and Algal Toxins in Water*. UNSW, Sydney.

Hotchkis, M., Child, D., Johansen, M., Collins, R.N., Howell, N., Howard, D., & Ikeda-Ohno, A. Markers from Australia's nuclear legacy in marine wildlife *2017 ANSTO User Meeting*. Melbourne, Victoria.

Imran Khan, S., Zamyadi, A., Stuetz, R., & Henderson, R. Identification of fluorophores released by cyanobacterial species using Fluorescence spectroscopy and PARAFAC analysis *11th IWA Symposium on Tastes, Odours and Algal Toxins in Water: Occurrence and Control*. UNSW, Sydney, Australia.

Jones, A.M., & Collins, R.N. Fe(II) interactions with Fe-smectite clays – Temporal changes in reduction potential & speciation, and implications towards contaminant reduction *2017 ANSTO User Meeting*. Melbourne, Victoria.

Jugder, B. E., Payne, K., Fisher, K., Manefield, M., Lee, M., Les, D., & Marquis, C.M. Heterologous production of functional chloroform reductive dehalogenase *American Society for Biochemistry and Molecular Biology Annual Meeting* (Vol. 31). Chicago, US: Federation of American Society of Experimental Biology (FASEB).

McDonough, L., Oudone, P., Rutledge, H., Meredith, K., O'Carroll, D., Andersen, M. S., & Baker, A. The effect of microbial activity and adsorption processes on groundwater dissolved organic carbon character and concentration *American Geophysical Union Fall Meeting*. New Orleans.

Meredith, K. J., Andersen, M. S., O'Carroll, D., Baker, A., Bryan, E., Zainuddin, N., . . . McDonough, L. Tracing organic carbon processes in a shallow coastal sandy aquifer *American Geophysical Union Fall Meeting*. New Orleans.

Oudone, P., McDonough, L., Meredith, K., Rutledge, H., Andersen, M., O'Carroll, D., & Baker, A. Sorption of Groundwater Dissolved Organic Carbon onto Minerals *American Geophysical Union Fall Meeting*. New Orleans.

Payne, T. E., Kinsela, A. S., Ikeda-Ohno, A., Vazquez Campos, X., Waite, D., Harrison, J. J., . . . Wilsher, K. L. Impacts of dynamic geochemical conditions on plutonium and americium mobility at a legacy trench disposal site *16th International Conference on the Chemistry and Migration Behaviour of Actinides and Fission Products in the Geosphere*. Barcelona, Spain.

Rutledge, H., Oudone, P., McDonough, L., Andersen, M. S., Baker, A., Meredith, K., & O'Carroll, D. Insights in

groundwater organic matter from Liquid Chromatography-Organic Carbon Detection *American Geophysical Union Fall Meeting*. New Orleans.

Tang, Y., Marshall, L., Sharma, A., & Ajami, H. Bayesian multi-objective calibration and uncertainty analysis in ecohydrological modeling *The 22nd International Congress on Modelling and Simulation*.

Vazquez Campos, X., Kinsela, A., Payne, T., & Waite, T.D. Metagenomic and geochemical changes following rainfall at a legacy radionuclide waste disposal site *Australian Microbial Ecology Conference - AusME 2017*. Melbourne, Australia.

Vazquez Campos, X., Kinsela, A. S., Wilkins, M. R., Payne, T. E., & Waite, T.D. Phylogenomics of a radioactive legacy site reveals new Archaea phyla of unknown function *Sydney Bioinformatics Research Symposium 2017*. Sydney, Australia.

Wiedmann, T. Expanding a global MRIO for city footprint analysis *25th International Input-Output Conference of the International Input-Output Association (IIOA)*. 20-23 June 2017. Atlantic City, New Jersey, USA.

Wiedmann, T., Crawford, R., Yu, M., Schinabeck, J., & Teh, S. H. (2017). The "forgotten" greenhouse gas emissions of our built environment will be a hard nut to crack: The Fifth Estate.

Journal Articles:

Ajami, H., Sharma, A., Band, L. E., Evans, J. P., Tuteja, N. K., Amirthanathan, G. E., & Bari, M. A. On the non-stationarity of hydrological response in anthropogenically unaffected catchments: An Australian perspective. *Hydrology and Earth System Sciences*, 21(1), 281-294. doi: 10.5194/hess-21-281-2017

Alfán-Guzmán, R., Ertan, H., Manefield, M., & Lee, M. Isolation and characterization of *Dehalobacter* sp. strain TeCB1 including identification of TcbA: A novel tetra- and trichlorobenzene reductive Dehalogenase. *Frontiers In Microbiology*, 8(APR). doi: 10.3389/fmicb.2017.00558

Alfán-Guzmán, R., Ertan, H., Manefield, M., & Lee, M. Genome sequence of *Dehalobacter* sp. strain TeCB1, able to respire chlorinated benzenes. *Genome Announcements*, 5(8). doi: 10.1128/genomeA.01681-16

Allen, C., Metternicht, G., & Wiedmann, T. An Iterative Framework for National Scenario Modelling for the Sustainable Development Goals (SDGs). *Sustainable Development*. doi: 10.1002/sd.1662

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Anabalón, A., & Sharma, A. On the divergence of potential and actual evapotranspiration trends: An assessment across alternate global datasets. *Earth's Future*, 5(9), 905-917. doi: 10.1002/2016EF000499

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- Byrne, D. M., Lohman, H. A. C., Cook, S. M., Peters, G. M., & Guest, J. S. Life cycle assessment (LCA) of urban water infrastructure: Emerging approaches to balance objectives and inform comprehensive decision-making. *Environmental Science: Water Research and Technology*, 3(6), 1002-1014. doi: 10.1039/c7ew00175d
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- Choudhury, D., Sen Gupta, A., Sharma, A., Mehrotra, R., & Sivakumar, B. An assessment of drift correction alternatives for CMIP5 decadal predictions. *Journal of Geophysical Research: Atmospheres*, 122(19), 10282-10296. doi: 10.1002/2017JD026900
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