



# International Symposium on Outfall Systems, 2016

*Industrial and Municipal Discharges: Design, Treatment, Environment*

Wednesday, May 11, 2016

10:50 – 12:10 Technical Session 1

<b>Technical Session 1H</b> Moderator: Jim Bradley	<b>Technical Session 1G</b> Moderator: Mark Davidson	<b>Technical Session 1J</b> Moderator: Colin Rennie
<b>Design and Construction of Open Cooling Circuits for Power Plants</b>  <i>Eloy Pita, Mario Sánchez-Barriga</i>	<b>Duckbill Nozzle Knowledge Base for Inland and Marine Outfall Diffuser Designers and Modelers</b>  <i>Michael J. Duer</i>	<b>Oil Slick Breakup and Coalescence under Breaking Waves</b>  <i>Indrajith D. Nissanka, Poojitha D. Yapa</i>
<b>Modelling Ocean Acidification due to Release of CO<sub>2</sub> Droplets from a Hydrothermal System</b>  <i>Pubudu Kumarage, Poojitha D. Yapa, Kisaburo Nakata</i>	<b>Study of a Chemically Reacting Chlorine Dense Jet Discharging into Coflowing Treated Sewage</b>  <i>Q.S. Qiao, S.N. Chan, K.W. Choi and J.H.W. Lee</i>	<b>A Model for Assessment of Ecological Impact from Gas Releases in Deepwater</b>  <i>Malinda R. Wimalaratne and Poojitha D. Yapa</i>
<b>High Resolution Modeling of the Grand River Discharge into the Nearshore of Lake Erie</b>  <i>Reza Valipour, Luis Leon, Ram Yerubandi, Natalia Demchenko, Craig McCrimmon</i>	<b>Under Water Intake-Outfall for a Pumped-Storage Power Station</b>  <i>César Guzmán, Camilo De la Barra</i>	<b>Modeling of Oil Spreading Under Ice Covers Using Smooth Particle Hydrodynamics</b>  <i>Lakshitha T. Premathilake, Poojitha D. Yapa</i>
<b>Integral Plume Model for Particle Laden Industrial Discharges</b>  <i>Socolofsky, S. A., Dissanayake, A. L.</i>	<b>Experimental and Numerical Study of Non-Buoyant Surface Jet</b>  <i>Amir Gharavi, Abdolmajid Mohammadian, Ioan Nistor, H. M. Qiblawey</i>	<b>An Integrative Methodology to Analyse the Location of the new Suances Waste Waters Treatment Plant based on the Carrying Capacity of the Suances Estuary</b>  <i>Javier García-Alba, Javier F. Bárcena, Andrés García, César Álvarez</i>



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14:00 – 15:20 Technical Session 2

Wednesday, May 11, 2016		
14:00 – 15:20 Technical Session 2		
Technical Session 2H	Technical Session 2G	
Moderator: Vincent Chu	Moderator: Tobias Bleninger	
<p><b>Desalination Effluent Plume Simulation by Lagrangian Block Advection</b></p> <p><i>Vincent H. Chu, Wihel Altai</i></p>	<p><b>Predicting the Trap Elevation of Small Droplets from the Deepwater Horizon Blowout under Conditions of Weak crossflow</b></p> <p><i>Dayang Wang, E. Eric Adams, A. Chow</i></p>	
<p><b>Numerical Studies on the Dynamic Coupling of a Near Field and a Far Field Model</b></p> <p><i>Cristina Ono Horita, Tobias Bernward Bleninger, João Luiz Baptista de Carvalho, R. Morelissen, T. van der Kaaij</i></p>	<p><b>Numerical Modeling of Vertical Buoyant Jets Subjected to Lateral Confinement</b></p> <p><i>Xiaohui Yan, Abdolmajid Mohammadian</i></p>	
<p><b>Impact of Albufeira Bay (Portugal) Outfall Plumes in Bathing Water Quality, a Modelling Approach</b></p> <p><i>Filipe Veríssimo, Flávio Martins</i></p>	<p><b>Optimizing Outfall System Configurations using Decision Support and Numerical Models. Case Study of Santa Catarina Island, Brazil</b></p> <p><i>A.V. Falkenberg, R.C. Barletta, L. Franklin, P. Ribeiro, P.G. De Lara, T. Bleninger, A.B. Trevisan &amp; V. Dos Santos</i></p>	
<p><b>Numerical Simulation of a Thermal Free-Surface Outfall Influenced by an Adjacent Facility</b></p> <p><i>Carlos Serrano Moreno, Myung Eun Lee, Jungwook Lee</i></p>	<p><b>Overview of Wastewater Outfalls in New Zealand</b></p> <p><i>Jim Bradley</i></p>	



# International Symposium on Outfall Systems, 2016

*Industrial and Municipal Discharges: Design, Treatment, Environment*

Wednesday, May 11, 2016

15:50-16:50 Technical Session 3

<b>Technical Session 3H</b> Moderator: Scott Socolofsky	<b>Technical Session 3G</b> Moderator: Philip Roberts	<b>Technical Session 3J</b> Moderator: Alexander Goater
<p><b>Numerical Modelling of Effluent Dilution and Dispersion in the Lower Fraser River</b></p> <p><i>Edwin Wang, Ken Christison, Ryan P. Mulligan</i></p>	<p><b>Dense Discharge in Flowing Water through Rosette Diffusers</b></p> <p><i>Ozeair Abessi, Philippe Roberts</i></p>	<p><b>Multiport Diffuser Design for Regulatory Mixing Zone Compliance</b></p> <p><i>Robert L Doneker, Adithya S. Ramachandran, Frank Opila</i></p>
<p><b>Numerical Modeling of Mixing Downstream of a Mass Slug Injection using Exponential Runge-Kutta Integrator</b></p> <p><i>Xin Liu, Amdolmajid Mohammadian, J.A. Infante Sedano</i></p>	<p><b>Visual Plumes 2016: An Updated Public-Domain Plume Model Suite</b></p> <p><i>Walter E. Frick, Philip J.W. Roberts</i></p>	<p><b>Significant Variables in Initial Dilution Process in Submarine Outfalls Systems</b></p> <p><i>Jacqueline Pedrera Yanes, Jayme Pinto Ortiz, Jose Alberto Vilalta Alonso</i></p>
<p><b>A Meshfree Method for Simulating Oil Spill Problems</b></p> <p><i>M. Kolahdoozan &amp; S. Faraji Gargary</i></p>	<p><b>Numerical Simulations of Dense Effluent Discharges using RANS Approach with Standard k-epsilon turbulence closure</b></p> <p><i>Shuai Zhang, Jie Song, Chunyan Tang, Adrian Wing-Keung Law, DHI-NTU Centre</i></p>	<p><b>Oil Spill Modelling for Offshore Projects</b></p> <p><i>Florence Henno, Alexander Goater, Matthew Wood</i></p>



# International Symposium on Outfall Systems, 2016

*Industrial and Municipal Discharges: Design, Treatment, Environment*

Thursday, May 12, 2015

9:20 – 10:20 Technical Session 4

Thursday, May 12, 2015		
9:20 – 10:20 Technical Session 4		
Technical Session 4H	Technical Session 4G	
Moderator: Poojitha Yapa	Moderator: Susan Gaskin	
<p style="text-align: center;"><b>Diffuser Head Loss Calculation by Excel Spreadsheet</b></p> <p style="text-align: center;"><i>Shouhong Wu</i></p>	<p style="text-align: center;"><b>Laboratory and Numerical Modelling Compared with Field Trials of Dilution at the Sydney Desalination Plant Outfall</b></p> <p style="text-align: center;"><i>Brett Miller, Grantley Smith</i></p>	
<p style="text-align: center;"><b>Nonmodal Analysis of Transverse Shear Stabilities in Open Shallow Flows and Considerations for Outfall Design</b></p> <p style="text-align: center;"><i>Yarzar Tun, Abdolmajid mohammadian</i></p>	<p style="text-align: center;"><b>Three Dimensional Analyses of Singular Horizontal Dense Jets</b></p> <p style="text-align: center;"><i>Semih Nemlioglu, Philip J. W. Roberts</i></p>	
<p style="text-align: center;"><b>Plume analyses at the end of the near field region</b></p> <p style="text-align: center;"><i>Lediane Marcon, Cristina Ono Horita, Tobia Bleninger</i></p>	<p style="text-align: center;"><b>Vertical Mixing of Desalination Reject Brine that accumulates in Local Depressions after Near Field Mixing</b></p> <p style="text-align: center;"><i>E. Eric Adams, Ishita Shrivastava, Aaron C. Chow</i></p>	



# International Symposium on Outfall Systems, 2016

*Industrial and Municipal Discharges: Design, Treatment, Environment*

Thursday, May 12, 2015

10:50 – 12:10 Technical Session 5

<b>Technical Session 5H</b> Moderator: Brett Miller	<b>Technical Session 5G</b> Moderator: Eric Adams	<b>Technical Session 5J</b> Moderator: Abolghasem Pilechi
<p><b>A Study on Monochloramine Dissipation in Stormwater Sewer Systems</b></p> <p><i>Qianyi Zhang, Evan Davies, James Bolton, Yang Liu</i></p>	<p><b>Pollutant Impact of Sewage Discharges through Pollutant Transport Models</b></p> <p><i>Angel N. Menéndez, Emilio A. Lecertúa, Martín Sabarots Gerbec</i></p>	<p><b>Mean and turbulent properties of a wake behind a round bubble plume</b></p> <p><i>Maryam Rezvani, Scott Socolofsky</i></p>
<p><b>Hybrid Model of Santos Outfall, São Paulo, Brazil</b></p> <p><i>Paolo Alfredini, Emilia Arasaki, José Carlos de Melo Bernardino</i></p>	<p><b>Physical Oceanographic Measurements to Support the Outfall System Design in the North of Santa Catarina Island, Brazil</b></p> <p><i>R.C. Barletta, P. Ribeiro, A.V. Falkenberg, M.O.A. Maranhão, L. Franklin, L. Benedet, P.G. De Lara, A.B. Trevisan &amp; V. dos Santos, T. Bleninger</i></p>	<p><b>Visualization Analysis and Assessment Method for Marine Water Environmental Quality of Nearshore District</b></p> <p><i>Zhang guang-yu, Li ming-chang</i></p>
<p><b>Preliminary Design of a River Wastewater Outfall and Associated Treatment System</b></p> <p><i>Diego N. Bottelli, Guillermo Nociari, Sebastián Martijena</i></p>	<p><b>Far Field Dilution of Desalination Brine Discharges in the Northern Arabian Gulf</b></p> <p><i>Aaron C. Chow, E. Eric Adams, Bader Al-Anzi, Khawla Al-Shayji, Tanuspong Pokavanich, Yousef Al-Osairi, Robin Morelissen, Wilbert Verbruggen</i></p>	<p><b>Municipal Sea Outfalls in the Istanbul Metropolitan Area: An Assessment for the Decision-Making Process</b></p> <p><i>S. Burak, T. Tanriverdi, L. Bal</i></p>
<p><b>Installation of Marine Outfalls and Intakes with Trenchless Methods: Technologies and Case Studies</b></p> <p><i>Lutz zur Linde, Gerhard Lang</i></p>	<p><b>Innovative Opportunities in the Designs of Intake and Outfall Systems</b></p> <p><i>Robin Morelissen, Wilbert Verbruggen, Roland Vlijm</i></p>	<p><b>Site Observation test of Thermal Plume from a Nuclear Power Plants into the Yellow Sea</b></p> <p><i>Xiaoli Chen, Jue Yuan, Yijun Zhao, Haiwen Zhang, Qiang Zhang, Xiao Qin</i></p>



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Friday, May 13, 2016

9:20 – 10:20 Technical Session 6

Friday, May 13, 2016		
9:20 – 10:20 Technical Session 6		
Technical Session 6H	Technical Session 6G	
Moderator: Majid Mohammadian	Moderator: Gregory Lawrence	
<p><b>Effect of Crossflow and Diffuser Length on the Mixing Performance of Multiport Diffusers</b></p> <p><i>Ishita Shrivastava, E. Eric Adams</i></p>	<p><b>Two Case Studies of Deep-Sea Tailings Outfall in the Tropical Southern Pacific</b></p> <p><i>James Stronach, Aurelien Hospital, Albert Leung, Daniel Potts, Allister Thompson</i></p>	
<p><b>Integral model for bubble plumes from line-source geometry</b></p> <p><i>A. L. Dissanayake, M. Rezvani, S. A. Socolofsky, K. A. Bierlein, J. C. Little</i></p>	<p><b>Large Eddy Simulations of Inclined Dense Jets with Bottom Impact</b></p> <p><i>Shuai Zhang, Adrian Wing-Keung Law, DHI-NTU centre</i></p>	
<p><b>Method to classify and visualize time series simulations of submarine outfalls</b></p> <p><i>Mayra Matsume Ishikawa, Tobias Bleninger, A.V. Falkenberg, R.C. Barletta, A.B. Trevisan, V. Dos Santos</i></p>	<p><b>Monitoring Sea Outfall discharges in Sao Paulo Coast-Brazil</b></p> <p><i>Claudia Condé Lamparelli, Débora Orgler de Moura, Karla Cristiane Pinto, Aparecida Cristina Camolez</i></p>	



# International Symposium on Outfall Systems, 2016

*Industrial and Municipal Discharges: Design, Treatment, Environment*

Friday, May 13, 2016

10:50 – 12:10 Technical Session 7

<b>Technical Session 7H</b> Moderator: Joseph Lee	<b>Technical Session 7G</b> Moderator: Dongdong Shao	<b>Technical Session 7J</b> Moderator: Danker Kolijn
<p align="center"><b>Study of a Vertical Dense Chlorine Jet into Treated Sewage</b></p> <p align="center"><i>J. K. Yang, S. N. Chan, K.W. Choi and J.H.W. Lee</i></p>	<p align="center"><b>Comparison of Salinity and Temperature Mixing: Experimental and Numerical Study</b></p> <p align="center"><i>H. Alfaifi, A. Mohammadian, H. Kheirkhah Gildeh</i></p>	<p align="center"><b>Well-balanced Positivity Preserving Scheme for Variable Density Shallow-Water Flow Equations on Triangular Grids</b></p> <p align="center"><i>Sepideh Khorshid, Abdolmajid Mohammadian, Ioan Nistor</i></p>
<p align="center"><b>Quantifying Boundary Impingement of Inclined Negatively Buoyant</b></p> <p align="center"><i>A. Ramakanth, M.J. Davidson, R.I. Nokes</i></p>	<p align="center"><b>Concentration Measurements in Horizontal Dense Jets at Low and Moderate Reynolds Numbers</b></p> <p align="center"><i>Dongdong Shao, Dingyong Huang, Baoxin Jiang, Adrian Wing-Keung Law</i></p>	<p align="center"><b>Ottawa river water quality model improvement study</b></p> <p align="center"><i>D.M. Fullarton, R.D. Scott, D.J. Kolijn, D. MacLennan</i></p>
<p align="center"><b>Linking Nearfield CFD Models of Buoyant Discharges to Farfield Dispersion Models</b></p> <p align="center"><i>D.A. Botelho, I.L. Teakle, M. Barnes, M.E. Barry, R. Baheerathan, G. Shiell, G.C. Collicut</i></p>	<p align="center"><b>Effect of Copper Ion Stress on the Growth Characteristics and Physiological Parameters of <i>Vallisneria natans</i></b></p> <p align="center"><i>Zhao Fengbin, Xu Houtao, Wang Liqing</i></p>	<p align="center"><b>3D Numerical Modeling of Secondary Current in Shallow River Bends and Confluences</b></p> <p align="center"><i>Rawaa Shaheed, Abdolmajid Mohammadian, Hossein Kheirkhah Gildeh</i></p>
<p align="center"><b>Modelling of Jeddah sewage outfalls, KSA</b></p> <p align="center"><i>K. Rakha, A. Elansary, S. Abo-Hadima</i></p>	<p align="center"><b>Physical Oceanographic measurements to support the outfall system design in the north of Santa Catarina Island, Brazil</b></p> <p align="center"><i>Rodrigo Barletta</i></p>	<p align="center"><b>A Numerical Study of Discharge-induced Near-bed Flow in the Receiving Reservoir</b></p> <p align="center"><i>A. Najafi-Nejad-Nasser, S. S. Li, C. N. Mulligan</i></p>



# International Symposium on Outfall Systems, 2016

*Industrial and Municipal Discharges: Design, Treatment, Environment*

**Friday, May 13, 2016**  
 14:20 – 15:20 Technical Session 8

Technical Session 8H	Technical Session 8G	
Moderator: Robin Morelissen	Moderator: Daniel Botelho	
<b>Numerical Modeling of Vertical Buoyant Jets discharged from multiport diffusers</b>  <i>Behnaz Ghodusipour, Abdolmajid mohammadian, Ioan Nistor</i>	<b>A Turbulent Jet in a Turbulent Background: Implications for Outfalls</b>  <i>A. Perez-Alvarado, L.M. Mydlarski, S.J. Gaskin</i>	
<b>Computing the Effectiveness of Reducing Salt Intrusion with Coupled Models</b>  <i>Wilbert Verbruggen, Robin Morelissen, Arnout Bijlsma</i>	<b>Field Measurement and Numerical Study of Outfalls in Rivers</b>  <i>Abolghasem Pilechi, Abdolmajid Mohammadian, Colin Rennie</i>	
<b>Case Study of Installed Ø2500 mm Polyethylene (HDPE) Intake Pipelines for Ras Djinet 1200 MW Power Plant in Algeria</b>  <i>Ilija Radeljić</i>	<b>A Marine Outfall as an Alternative Sewerage Disposal Scheme for St. Helena Island</b>  <i>F. van Eeden, M. Retief, R. van Ballegooyen, G. Jacobs, A. Malan</i>	