

## Keynote Speakers.

**Morris Te Whiti Love – Te Atiawa**

WAI MAORI – MAORI AND FRESHWATER RESOURCES?

**Prof. Hubert Chanson**

TIDAL BORES, AEGIR AND POROROCA: THE GEOPHYSICAL WONDERS.

**Mohamed S. Ghidaoui**

ON LANGMUIR CIRCULATIONS IN UNSTEADY FREE SURFACE FLOWS.

**Earl Shaver**

STORMWATER MANAGEMENT IMPLEMENTATION IN AUSTRALIA, NEW ZEALAND AND THE UNITED STATES.



## Session 1

### Soil-rain interaction + rainfall/runoff.

- **MEMBRANE FINITE ELEMENT METHOD FOR FLUID FLOW IN POROUS MEDIUM.**  
*Zhan Meili, Sheng Jinchang, Zhang yu, Yang lin, He Shuyuan. 1a025*
- **A RUNOFF AND POLLUTANT LOAD MODEL OF THE ARIAKE SEA CATCHMENT AREA USING GIS.**  
*Dr. Koichiro Ohgushi, Yoshiaki Tsuruta, and Prof. Hiroyuki Araki. 1c036*
- **ASSESSMENT OF UNCERTAINTY OF DESIGN RAINFALL EVENT IN HYDROLOGIC ENGINEERING APPLICATIONS.** *Yeou-Koung Tung and C.L. Wong. 1a049*
- **THREE DIMENSIONAL INCOMPRESSIBLE UNSTEADY FLOW IN A CIRCULAR TUBE WITH STRONG CURVATURE USING THE NAVIER-STOKES EQUATIONS**  
*Kidoo Park, Prof. Kil Seong Lee, and Won Gu Kang. 1c025*

### Water Resources Management.

- **AGAINST THE FLOW: PRIORITISING COMPETING NEEDS IN THE MANAGEMENT OF THE WAIKATO RIVER.**  
*Dr Kepa Morgan. 2a015*
- **ECO-COMPATIBLE MANAGEMENT OF RIVER BASINS COMPOSED OF ASSEMBLY OF FLUX NETWORKS AND DISTRIBUTED LANDSCAPES.** *Tetsuro Tsujimoto, Yuji Toda and Makiko Obana. 2a025*
- **WATER RESOURCES ALLOCATION AMONG WILDLIFE AND HUMAN ACTIVITIES – LEARNING FROM THE EXAMPLE OF THE SABIE RIVER BASIN, SOUTH AFRICA.** *Tetsuro Tsujimoto, Satoshi Yamagishi, Masaru Kubota and Junko Sagara. 1b006*
- **FLOOD AND DROUGHT MANAGEMENT IN LARGE RIVER BASIN.**  
*Dr. Saisunee Budhakooncharoen. 1b012*
- **MANAGEMENT OF FLOW AND WATER QUALITY FOR SEONAKDONG RIVER WATERSHED.**  
*Heejin Noh, Deokho Kang, Prof. Youngdo Kim and Jaehyun Kwon, Taewon Kim. 2a008*

### Bedforms.

- **INTEGRATING BEDFORM DYNAMICS WITH LARGE-SCALE COMPUTATIONAL MODELS FOR FLOW AND MORPHODYNAMICS IN RIVERS.** *Jonathan Nelson, Yasuyuki Shimizu, and Richard McDonald. 3a017*
- **THE RELATIONSHIP BETWEEN THE BAR GENERATION PROCESS AND TREE GROWTH AT THE MEANDER RESTORATION SITE ON THE SHIBETSU RIVER.** *Masato YAMAMOTO, Yasuharu WATANABE and Hiroyasu YASUDA. 3a042*
- **DEPENDENCE OF DUNE EVOLUTION ON TRANSPORT ASSUMPTIONS.**  
*Prof. Stephen R. McLean. 3a051*
- **USING HIGH RESOLUTION LASER SCANNING TO INDICATE MECHANISMS OF STABILISATION UNDER VARYING SUB THRESHOLD FLOW EXPOSURES.** *A. Ockelford, H. Haynes, R. Hodge and R. Haynes. 3a002*
- **MEANDERING BED DEVELOPMENT TIME: A FIRST APPROACH TO THE PROBLEM THROUGH DIMENSIONAL CONSIDERATIONS AND EXPERIMENTS.** *Dr. Ana Maria Ferreira da Silva and Andrew D. Binns. 3b011*
- **DUNE DYNAMICS IN CURVED RIVER SECTIONS.** *Dr.-Ing. Jochen Aberle, Dipl.-Ing. Martin Henning and Dipl.-Ing. Bernd Hentschel. 3a016*

### Mechanics.

- **STUDY ON THE WIND-WAVE-CURRENT INTERACTION PROCESS FOR SEA SURFACE BOUNDARY LAYER IN SHALLOW WATER.** *Assist. Prof. Han Soo Lee and Prof. Takao Yamashita. 4a007*
- **OPERATIONAL RISKS ON THE CONTROLLABILITY OF A VESSEL IN HARBOUR ENVIRONMENT DUE TO SHALLOW WATER EFFECTS.** *Sheeja Janardhanan and Krishnankutty P. 4a020*
- **IMPLEMENT OF DYNAMIC BOUNDARY CONDITION IN A HYDRODYNAMIC PRESSURE MODEL.**  
*Mr. Jin Woo Lee, Prof. Minha Choi, Prof. Yong-Sik Cho. 4a017*
- **REFLECTION AND TRANSMISSION COEFFICIENTS OF A SUBMERGED ELASTIC PLATE IN WAVES.**  
*Thayaprabha, M., Murali, K., and Anantha Subramanian, V. 4a018*
- **SPATIAL MAPPING OF MONTHLY MAXIMUM WAVE HEIGHTS USING ANN AND GP.**  
*S B Charhate and M C Deo. 4a002*

### Pollutant Generation in the Catchment.

- **EVALUATION OF A HIGHWAY RUNOFF TSS MODEL AGAINST NEW UK DATA.**  
*Dr Virginia Stovin, Prof. Ian Guymer, Dr Paul Gaskell and Prof. Lorraine Maltby. 5a013*
- **C-CALM – DEVELOPMENT AND APPLICATION OF A PLANNING TOOL FOR STORMWATER MANAGEMENT IN NEW ZEALAND.** *Dr. Annette Semadeni-Davies, Jonathan Moores and Anna Altenberger. 5a015*
- **THE RELATION BETWEEN TRANSPORT CHARACTERISTICS OF FLOAT AND ACCUMULATION OF SLUDGE IN THE HORI RIVER.** *Makoto TAKEDA, Ugendra REGMI and Naoki MATSUO. 5a017*
- **INVESTIGATION OF LAND USE IMPACTS ON STORMWATER FLOW AND QUALITY FROM A TROPICAL CATCHMENT WITH DIVERSE LAND USE.** *Le Song Ha, Asst. Prof. Chua Hock Chye Lloyd, Assoc. Prof. Lo Yat-man Edmond and Assoc. Prof Shuy Eng Ban. 5a009*
- **CONTAMINANT SOURCES, TRANSPORT, AND FATE IN STORMWATER RUNOFF IN CHRISTCHURCH.**  
*Dr. Daniel Wicke, Dr. Tom Cochrane, and Dr. Aisling O’Sullivan. 5a011*

### Flood Control and Defence.

- **ESTIMATION OF INUNDATION HAZARD AND THE FLOOD REDUCTION EFFECT OF STORAGE PIPE.**  
*Asst. Prof. Taira Ozaki, Prof. Taisuke Ishigaki and Prof. Keiichi Toda. 3b007*
- **POROUS CYLINDERS – A NEW MEASURE FOR RIVERBANK PROTECTION.**  
*Prof. Shaohua Marko Hsu, Associate Prof. Chinkun Huang and Yanmin Chen. 3a049*
- **A STUDY ON CORRELATION BETWEEN VIBRATION CHARACTERISTICS OF RIVER BRIDGE AND WATER LEVEL DURING FLOOD USING TIME SERIES ANALYSIS.** *K. Matsumoto, D-Y. Song, T. Okada, H. Tamaki, M. Yazawa and Y. Shimizu. 3d024*
- **EXPERIMENTAL STUDY ON FLOOD CONTROL DURING CONSTRUCTION FOR JINPING II HYDROPOWER STATION.** *Dr. Chunju Zhao, Prof. Yihong Zhou and Prof. Hongmin Guo. 1b002*
- **HYDRAULIC AND MORPHOLOGICAL EFFECTS OF A PROPOSED CONFLUENCE REALIGNMENT ON A NEW ZEALAND RIVER.** *Terry van Kalken, Dr. Soren Tjerry, and Colin Roberts. 3b013*
- **HYDRAULIC IMPLICATIONS ASSOCIATED WITH THE PLACEMENT OF TIMBER SNAGS IN A DEVELOPING ANABRANCH.** *Julian Martin, Dr. Christine Lauchlan Arrowsmith, Warwick Bishop and Dr. Dean Judd. 1a009*

## Session 2

### Hydrological Modelling.

- **NUMERICAL SIMULATION OF INUNDATION FLOW CONSIDERING EFFECTS OF DRAINAGE PROCESS OF STORMWATER IN URBAN AREA.** *Kenji Kawaike, Hajime Nakagawa and Yohei Imai. 1a019*
- **NUMERICAL SIMULATION OF REVERSING LAKE OUTFLOW.**  
*Hugh MacMurray. 1a024*
- **3D NUMERICAL PREDICTION METHOD FOR FLOATING OBJECTS IN FREE-SURFACE FLOWS.**  
*S. Ushijima, A. Fukutani, O. Makino and N. Kuroda. 1a029*
- **NUMERICAL ANALYSIS OF FLOOD INTENSITY IN INUNDATION AREA WITH AN IDEALIZED CITY.**  
*Dr. Hyung-Jun Kim, Dr. Kwang Seok Yoon, Mr. Jin Woo Lee and Prof. Yong-Sik Cho. 1b004*
- **STREAM FLOW FORECASTING USING MODEL TREES.**  
*Prof. Shreenivas Londhe 1c012*
- **NUMERICAL INVESTIGATION OF COMBINED FLOOD MITIGATION AND GROUNDWATER RECHARGE IN THE CHAO PHRAYA RIVER BASIN.** *Dr.-Ing. Phatcharasak Arlai, Prof. Dr. Manfred Koch, Mr. Monthon Yongprawat, Ms. Sudarat Pirom and Assoc. Prof. Dr. Tuantan Kitpaisalsakul. 1b026*

### Management.

- **SCIENCE SUPPORTING MANAGEMENT OF WATER AND ECOLOGICAL RESOURCES IN THE CENTRAL PLATTE RIVER, NEBRASKA, USA.** *Paul Kinzel, Jonathan Nelson, Richard McDonald, and Brandy Logan. 2a033*
- **AGRICULTURAL WATER USE IN NEW ZEALAND: SHOULD MORE BE DONE TO BALANCE PRIVATE PROPERTY RIGHTS WITH GREATER PUBLIC INTEREST IN AN INCREASINGLY SCARCE RESOURCE?**  
*Fisher, R., Halsey, G., & Cooper, K. 2a061*
- **STUDY ON WATER PRICING REGULATION IN WATER SUPPLY AND DEMAND BASED ON SYSTEM DYNAMICS: A CASE STUDY OF YULIN CITY WANG XIAO-JUN, ZHANG JIAN-YUN, LIU JIU-FU AND LIU CUI-SHAN.**  
*Wang Xiao-jun, Zhang Jian-yun, Liu Jiu-fu and Liu Cui-shan. 2a044*
- **VOLUMETRIC WATER FLOW MEASUREMENT SYSTEM**  
*Mohammad Riahi, Homayoon Sabbaghzadeh, Rouhallah Benvari, Maziar Ahamadi Zeidabadi. 2a056*
- **NATIONAL / REGIONAL WATER DISPATCHING CENTER (N/RWDC).**  
*Mohammad Riahi, Homayoon Sabbaghzadeh, Ali Moridi, Mohammad Ali Tabibi. 2a057*

### Bedforms.

- **SIMULATION OF DUNES IN RIVERS USING LARGE EDDY SIMULATION.**  
*M. Nabi. 3a044*
- **SEDIMENT TRANSPORT AND BED DEFORMATION CHARACTERISTICS ON LAYERS COMPOSED OF ROCKS OR COHESIVE MATERIAL.** *Hiroshi Takebayashi, Takuya Nakamoto, Masaharu Fujita. 3a012*
- **CHANGE OF PARTICLE SIZE DISTRIBUTION DURING CLUSTER EVOLUTION.**  
*Katherine Heays, Heide Friedrich and Bruce W. Melville. 3a056*
- **NUMERICAL AND EXPERIMENTAL STUDY OF DEVELOPMENT AND TRANSITION PROCESSES OF DUNES.**  
*Assistant Prof. Shinichiro Onda, Prof. Takashi Hosoda and Yoshizumi Ishibashi. 3a037*
- **EXPERIMENTAL AND NUMERICAL INVESTIGATION OF TURBULENT STRUCTURE OVER DEVELOPING SAND DUNES.** *K. Noguchi, I. Nezu, M. Sanjou and T. Nakajima. 3d020*
- **AN EXPERIMENTAL STUDY ON THE FORMATION PROCESSES OF WATER COURSE AND SANDBAR DURING THE FALLING STAGE OF FLOODING.** *Yasuyuki Hirai, Kei Karasawa, Yasuharu Watanabe. 3d037*

### Modelling/Analysis.

- **DEVELOPMENT OF ESTUARY HYDRODYNAMICS MODEL TO EVALUATE THE IMPACT OF WATER WITHDRAWALS ON SALINITY AND THERMAL REGIMES.** *Donald D. Carpenter, Lei Yang, Dean Mades, Ken Watson, and Sid Flannery. 4a023*
- **LONGSHORE SEDIMENT TRANSPORT AND SHORELINE EVOLUTION ALONG COAST OF SOUTH CHENNAI, INDIA.** *P.K. Suresh, V. Sundar, S.A. Sannasiraj and A. Selvarajah. 4b007*
- **QUASI-3D FLOW SOLVER BY CIP-SOROBAN SCHEME AND ITS APPLICATION TO FLOOD FLOW IN TONE RIVER, JAPAN.** *Keisuke Yoshida and Tadaharu Ishikawa. 3a043*
- **A SHOCK-CAPTURING METHOD FOR 1D DEBRIS FLOW EQUATIONS.**  
*Asst. Prof. Joongcheol Paik, Prof. Sang-Deok Park and Assoc. Prof. Young-Ho Yoon. 3a018*
- **LATERAL DISTRIBUTION OF UNIT DISCHARGE IN A COMPOUND CHANNEL WITH VEGETATION ON THE FLOODPLAIN.** *Sung-Uk Choi, Hyeongsik Kang, and Jaekook Shin. 3b009*
- **OBSERVATION OF SUSPENDED SEDIMENT AND TURBULENCE CHARACTERISTICS IN A TIDAL ESTUARY.**  
*Mahdi Razaz, Prof. Kiyoshi Kawanishi and Prof. Mahmoud F. Maghrebi. 4a011*

### Integrated Urban Water Resources.

- **U.S. EPA RESEARCH ON URBAN WET-WEATHER FLOW CONTROL AND AGING WATER INFRASTRUCTURE.**  
*Anthony N. Tafuri, PE, BCEE, D.WRE; Richard Field, PE, BCEE, D.WRE. 5c005*
- **GREEN INFRASTRUCTURE FOR CSO CONTROL IN KANSAS CITY, MISSOURI.** *Scott D. Struck, Ph.D.; Richard Field P.E., BCEE, D.WRE; Robert Pitt, Ph.D., P.E., D.WRE; Deborah O'Bannon Ph.D., P.E.; Erich Schmitz P.E.; Michael A. Ports, P.E., D.WRE; Tom Jacobs, Ginny Moore, J.D., Anthony N. Tafuri, P.E., D.WRE. 5d003*
- **EVALUATION OF INTEGRATED CATCHMENT MANAGEMENT PLANS.**  
*Dr. Claudia Hellberg, Matthew Davis, Clare Feeney and Will Allen. 5c001*
- **THE ROLE OF PRICING IN SUSTAINABLE URBAN WATER MANAGEMENT.**  
*Karen Kviberg Creagh. 5c002*

### Climate Change.

- **GENERATION OF RAINFALL STATE IN A RIVER BASIN INCORPORATING CLIMATE CHANGE.**  
*S. Kannan and Subimal Ghosh. 1a013*
- **ESTIMATION OF THE FUTURE FLOOD DAMAGES IN JAPAN USING GCMS AND NUMERICAL GEOLOGICAL DATA.** *Hirofumi TAKIGUCHI, Ayumu SATO, Seiki KAWAGOE and So KAZAMA. 1b003*
- **FLOOD INUNDATION SIMULATION WITH LEVEE FAILURE IN URBAN AREA DUE TO CLIMATE CHANGE.**  
*Dr. Tsung-Yi Pan, Shiang-Kuan Chang, Dr. Jihn-Sung Lai and Prof. Yih-Chi Tan. 1b019*
- **ESTIMATING IMPACTS OF CLIMATE CHANGE ON WATER RESOURCES IN THE HAIHE RIVER BASIN USING WEP-L MODEL AND CMIP3 DATA SET.** *Xiangyi Ding, Yangwen Jia, Cunwen Niu and Hao Wang. 1a010*
- **COUPLING A HYDROLOGICAL MODEL AND A CROP GROWTH MODEL TO PREDICT CROP YIELD UNDER CLIMATE CHANGE IN THE HAIHE RIVER BASIN.** *Suhui Shen 1, Prof. Yangwen Jia and Dr. Cunwen Niu. 2b005*

## Session 3

### Hydraulic Modelling/Simulation.

- **HYDROLOGICAL SIMULATION CONSIDERING THE ANTHROPOGENIC IMPACT ON THE YANGTZE RIVER'S WATER DISCHARGE: EFFECTS OF THE THREE GORGES DAM.**  
*Dr. Ana Jagui Perez-Kuroki, Han Soo Lee and Takao Yamashita. 2a002*
- **NUMERICAL SIMULATION OF COHERENT IN STRUCTURE IN SUBMERGED VEGETATED OPEN-CHANNEL FLOWS.** *Taka-aki Okamoto and Iehisa Nezu. 2a031*
- **NUMERICAL INVESTIGATION OF THE REYNOLDS NUMBER DEPENDENCE OF THE FLOW WITHIN MODEL PONDS AT DIFFERENT GEOMETRIC SCALE RATIOS.** *Sher Khan, Bruce W. Melville, Roger Nokes, Asaad Y. Shamseldin and Heide Friedrich. 2a038*
- **THE DYNAMICS OF A STEADY SHALLOW TURBULENT JET.**  
*Claire Biggs, Dr. Roger Nokes and Dr. Ross Vennell. 1c016*

### Biological + Water Quality.

- **AQUATIC MACROPHYTE DISTRIBUTION IN RELATION TO PHYSICAL ENVIRONMENTAL FACTORS IN A SHALLOW LAKE.** *Ass. Prof. Hiroshi Yajima, Dr. Hideo Otani and Miho Akiyoshi. 2a010*
- **CURRENT AND WATER QUALITY AT THE MOUTH OF TOKYO AND ISE BAY OBTAINED BY FERRY OBSERVATION.** *Kojiro Suzuki. 2a017*
- **NUTRIENT LOADS DUE TO BIRDS IN A SMALL TIDAL FLAT.**  
*Prof. Eiji Yauchi, Mr. Kazuhisa Onodera and Ms. Maiko Motonaga. 2a054*
- **WATER PURIFICATION OF AQUATIC PLANT IN A EUTROPHIC CLOSED RESERVOIR.**  
*Prof. Hisao Nagabayashi, Kohta Baba and Yasumasa Yamada. 2a004*
- **A PRACTICAL METHOD OF CALCULATING HABITAT SUITABILITY INDEX (HSI) FOR MACROINVERTEBRATES.**  
*Dr. Xue-hua Duan, Prof. Zhao-yin Wang and Dr. Meng-zhen Xu. 2a050*
- **EFFECT OF LEACHATE FROM SANITARY LANDFILLS IN THE POLLUTION OF LAKES AND RIVERS.**  
*Ana Rodriguez, Freddy Soria. 2c001*

### Groundwater/soil moisture.

- **IMPACT OF CHANGES IN CATCHMENT CHARACTERISTICS ON ARTESIAN WATER SUPPLY OF THE WAIWHETU AQUIFER IN LOWER HUTT WELLINGTON.**  
*Deepal Gangodawila and A/Prof Gregory De Costa. 2a006*
- **FORECASTING IN AN INTEGRATED SURFACE WATER-GROUND WATER SYSTEM: THE BIG CYPRESS BASIN, SOUTH FLORIDA.** *Michael Butts, Kent Feng, Anders Klinting, Ken Stewart, Ananta Nath, Preston Manning, Timothy Hazlett, Torsten Jacobsen, Jacob Larsen, Greg Whyte. 3b014*
- **COMPARATIVE STUDY OF GROUND WATER RECHARGE METHODS AND ITS SUSTAINABILITY THROUGH PARAMETRIC EVALUATIONS.** *S. D. Desai, S. B. Charhate and P. A. Dode. 1a042*
- **AN ASSESSMENT OF THE EFFECTS OF THE ARNOLD RIVER DIVERSION ON THE GROUNDWATER RESOURCES OF THE ARNOLD VALLEY.** *Dr. Douglas N. Mzila, John Male. 1a012*
- **VALIDATION OF COMMON LAND MODEL (CLM) FOR SOIL MOISTURE AND ENERGY FLUXES IN KOREA FLUX NETWORK (KOFUX) SITES.** *Prof. Minha Choi, Prof. Seung Oh Lee, Dr. Hyojung Kwon, Prof. Joon Kim and Prof. Jong-Kyu Lee. 1a007*

### Tsunami Waves.

- **TSUNAMI FORECASTING USING REAL-TIME DEEPWATER BUOY OBSERVATIONS.**  
*DAO My Ha, Pavel TKALICH, CHAN Eng Soon. 4c012*
- **OPTIMISATION OF GRID SIZE FOR NEAR SHORE INVESTIGATION OF LONG WAVES.**  
*Manasa Ranjan Behera, Dr. K. Murali and Prof. V. Sundar. 4c023*
- **NUMERICAL SIMULATION OF TSUNAMI INUNDATION USING EQUIVALENT RESISTANCE COEFFICIENT.**  
*Jae Seok Bae, Dr. Junwoo Choi and Prof. Sung Bum Yoon. 4c013*
- **NUMERICAL STUDY OF THE EFFECTS OF CORAL REEFS ON TSUNAMI RUN-UPS.**  
*Dr. Hongwei Liu and Prof. Mohamed S. Ghidaoui. 4c020*
- **PROPOSAL OF GENERATION METHOD OF BOTTOM BOUNDARY LAYER UNDER SOLITARY WAVE.**  
*Bambang Winarta, Hitoshi TANAKA, Suntoyo. 4a016*
- **SHOALING EFFECTS AND RUN-UP OF SUBMARINE LANDSLIDE GENERATED TSUNAMIS.**  
*Assist Prof. A. NAJAFI-JILANI, Prof. B. ATAIE-ASHTIANI. 4c004*

### IUWMC / Green Devices 1.

- **THE DESIGN, CONSTRUCTION AND OPERATION OF A NEW LOW IMPACT DEVELOPMENT RESEARCH CENTER IN THE WESTERN UNITED STATES.** *Curtis Hinman. 5d008*
- **MONITORING OF A STORMWATER TREATMENT TRAIN**  
*Mona Liao, Elizabeth A. Fassman, Somayeh Shadkam-Torbati, Matt Hope. 5d014*
- **SIMPLIFIED METHOD FOR CALCULATING VOLUME-REDUCTION BENEFITS OF STORMWATER BEST MANAGEMENT PRACTICES.** *T. Andrew Earles; James C.Y. Guo; Ken A. MacKenzie and Hayes Lenhart. 5d007*
- **CHANGING LOW IMPACT DEVELOPMENT AND BIORETENTION PERFORMANCE METRICS.**  
*Dr. William F. Hunt, Ms. Jacqueline K. McNett, Dr. Allen P. Davis, and Dr. Robert G. Traver. 5b006*

### Wave Mechanics.

- **RELATIONSHIP BETWEEN SIGNIFICANT WAVE HEIGHT AND PERIOD AND SOME SPECTRAL PARAMETERS OF LARGE DEEPWATER WAVES.** *Prof. Kyung-Duck Suh, Mr. Hyuk-Dong Kwon and Dr. Dong Young Lee. 4c008*
- **NUMERICAL SIMULATION OF WAVES OVER PLANE AND SERRATED SLOPES.**  
*D. Swetha, K. Murali and V. Sundar. 4c009*
- **NEW IMPROVEMENT OF BREAKWATER ARMOR WEIGHT ESTIMATION.**  
*Prof. Dong-Hoon Yoo, Jong-Joo Yoon and Pyung-Kyo Jung. 4d012*
- **NUMERICAL SOLUTION OF 2D SHALLOW WATER EQUATIONS USING FV METHOD OVER CURVILINEAR GRID.**  
*A. Mohammadian, M. Mohammadian and B. Mohammadnezhad. 1c034*
- **MODELING OF EXTREME WAVE BREAKING.**  
*DAO My Ha, XU Haihua, Pavel Tkalic, CHAN Eng Soon. 4c019*

## Session 4

### Fluid Mechanics.

- **COMPUTING STROUHAL NUMBER IN TRANSVERSE WAVE GENERATION BY VORTEX SHEDDING IN OPEN CHANNELS.** *Reza Azizi , Mehdi Ghomeshi. 1c020*
- **PIV MEASUREMENTS OF HORIZONTAL VORTEX IN LARGE-SCALE COMPOUND OPEN-CHANNEL FLOW.** *Michio Sanjou, Iehisa Nezu and Sohei Suzuki. 1c028*
- **EFFECTS OF FREE-SURFACE SHEAR ON COHERENT HAIRPIN VORTEX GENERATED NEAR FLUME BED.** *Michio Sanjou and Iehisa Nezu. 1c029*
- **COHERENT STRUCTURE IN INTERFACIAL SHEAR LAYER WITH WIND-INDUCED WATER WAVES.** *Michio Sanjou, Iehisa Nezu and Akihiro Toda. 1c030*
- **MECHANISM OF SECONDARY CURRENTS INITIATION AND MAINTENANCE IN OPEN CHANNEL FLOWS.** *Shu-Qing Yang. 1c031*
- **INDICATORS OF HYDROLOGIC ALTERATION FOR HYDROELECTRIC POWER DEVELOPMENT IN THE UPPER SAN JOAQUIN BASIN, CALIFORNIA, USA.** *Dr. Brian Caruso. 1d001*

### Water Quality Modelling / Monitoring.

- **DRY WEATHER BACTERIA MONITORING AND VARIATION WITH LAND USE FOR KRANJI RESERVOIR CATCHMENT, SINGAPORE.** *Lloyd H. C. Chua, Peter Shanahan, Edmond Y. M. Lo, Eng Ban Shuy, Janelle Thompson, Cameron C. Dixon, Kathleen B. Kerigan, Jean Pierre Nshimiyimana, Jessica M. Yeager, Li-Jun Lee, and Yu-Ling Por. 2c005*
- **DEVELOPMENT AND APPLICATION OF A 1-D DYNAMIC WATER QUALITY MODEL IN THE LUANHE RIVER.** *Prof. Yangwen Jia, Hui Gao and Dr. Cunwen Niu. 2c003*
- **SMALL-SCALE WATERSHED EXTENDED METHOD FOR NON-POINT SOURCE POLLUTION ESTIMATION AND CASE STUDY IN PART OF THREE GORGES RESERVOIR REGION.** *Qian Hong, Liang Xu, Zongliang Sun, Tian Tian, Ruimin Liu, Zhenyao Shen. 2c013*
- **STUDY ON ADVECTION AND DIFFUSION OF POLLUTANTS FOR COASTAL WATER QUALITY MANAGEMENT.** *HAN Eun Jin, YOO Min Wook, KIM Young Do, LYU Siwan, SEO IlWon. 4a006*
- **DEVELOPING AN ECOSYSTEM DATABASE USING GISIGHT.** *Prof. Toshiyuki Moriyama, Prof. Masahiro Takagi, Kyotaro Kon, Akiko Ogawa and Makoto Hikida. 1c014*
- **PLANS FOR THE LOCALIZATION OF IMPLEMENTING WATER QUALITY AND QUANTITY MONITORING SYSTEMS BY REMOTE SENSING.** *Homayoon Sabbaghzadeh, Ali Moridi, Majid Delavar. 1c010*

### Sediment Motion / Erosion.

- **EROSION OF UNSATURATED RIVER EMBANKMENT DUE TO OVERTOPPING.** *Hajime Nakagawa, Takaharu Utsumi, Kenji Kawaike, Yasuyuki Baba, Hao Zhang and Ripendra Awal. 3a031*
- **THE TEMPORAL-SPATIAL CHARACTERISTIC OF SOIL EROSION IN THE XIANGXI RIVER WATERSHED BEFORE AND AFTER IMPOUNDING OF THREE GORGES RESERVOIR, CHINA.** *Rui-min LIU, Xiu-juan WANG, Yong-wei GONG, Zhen-yao SHEN. 3a054*
- **PYROCLASTIC DEPOSIT CHARACTERISTICS OF VOLCANIC RIVERS AND ITS AFFECT TO THE TRANSPORT MECHANISM (A CASE STUDY: GENDOL RIVER, MT. MERAPI, INDONESIA).** *Wasis Wardoyo, Djoko Legono, Rachmad Jayadi and Teuku Faisal Fathani. 3a041*
- **DIFFUSION OF BED-LOAD AND THE DEVELOPMENT OF STABLE STRAIGHT GRAVEL-BED CHANNELS.** *Graham Macky. 3a025*
- **RUNOFF AND SEDIMENT YIELD EVALUATION IN THE JAPARATUBA-MIRIM RIVER BASIN/BRAZIL WITH THE KINEROS2 MODEL.** *Ricardo de Aragão, Eduardo Enéas de Figueiredo and Vajapeyam S. Srinivasan. 3a050*
- **SEDIMENT RUNOFF FROM MOUNTAINOUS AREAS IN KYUSHU, JAPAN.** *Prof. Haruyuki Hashimoto and Hiroyuki Nagano. 3c003*

### Salt Water Intrusion.

- **MOTION OF SALT WATER IN IWAKI RIVER MOUTH.** *Mikio Sasaki, Hitoshi Tanaka and Makoto Umeda. 4d015*
- **THE STUDY OF ESTIMATION SALINITY INTRUSION DUE TO NUMERICAL SIMULATION AT THE NAKDONG ESTUARY.** *Sang Kil Park, Chong Soo Han, Do Hoon Kim. 4d008*
- **EFFECTIVE LOCATION OF INJECTION WELLS AND CUTOFF WALLS FOR CONTROLLING SEAWATER INTRUSION.** *Kei Nakagawa, Kazuro Momii and Roger Luyun Jr. 2d004*
- **A STUDY ON GROUNDWATER QUALITY CHANGES OF THE HAUTERE AND COASTAL GROUNDWATER ZONE IN KAPITI COAST, WELLINGTON, NEW ZEALAND.** *Jayatha Dias-Wanigasekera, Associate Professor Gregory Shahane de Costa, Dr Beatrice Dias-Wanigasekera. 2d005*

### IUWMC / Green Devices 2.

- **AUCKLAND REGIONAL COUNCIL'S INNOVATIVE STORMWATER TREATMENT INVESTIGATIONS.** *Melanie Skeen, Judy-Ann Ansen, Rajika Jayaratne and Matthew Davis. 5b031*
- **HYDROLOGIC PERFORMANCE EVALUATION OF AN EXTENSIVE GREEN ROOF IN A TEMPERATE NORTH AMERICAN CLIMATE.** *Donald D. Carpenter, Preethi Kaluvakolanu, Biman Paudel, and Rajesh Seth. 5d001*
- **STORMWATER MITIGATION BY LIVING ROOFS IN AUCKLAND, NEW ZEALAND.** *Emily Voyde, Elizabeth Fassman, Ph.D., A.M.ASCE, Robyn Simcock, Ph.D. 5d009*
- **APPLICATION OF A PHYSICALLY-BASED GREEN ROOF MODEL TO LIVING ROOFS IN AUCKLAND, NEW ZEALAND.** *Nian She, Ph.D., A.M.ASCE, Elizabeth Fassman, Ph.D., A.M.ASCE, Emily Voyde. 5d015*

### Flow Modelling + Computing.

- **SIMULATION OF POLLUTANT TRANSPORT USING 2-D RIVER ANALYSIS AND MODELING SYSTEM (RAMS) AROUND MULGEUM INTAKE STATION.** *KIM Ji Hoon, KIM Jae Dong, KIM Young Do, LYU Siwan, SEO Il Won. 3c006*
- **NUMERICAL SIMULATION OF AERATED FLOW IN A SUPERCRITICAL FLOW DIVERSION INTAKE.** *C. K.C. Wong, D.Y. Yu, and J. H.W. Lee. 3d057*
- **DEPTH-AVERAGED MODELING OF FLOW AND BED ELEVATION CHANGE IN A CURVED CHANNEL WITH DISPERSION STRESS TERMS.** *Dr. Tae Beom Kim, and Prof. Sung-Uk Choi. 3a021*
- **ANALYSIS OF THE BEND FLOW IN THE HAN RIVER, KOREA.** *Joo-Young Kim, Prof. Jong-Kyu Lee, Jai-Hong Lee and Dr. Kwang Seok Yoon. 1a017*
- **COMPUTATIONAL FEASIBILITY OF LONG TERM CONTINUOUS SIMULATION.** *Dr A.G. Barnett. 1b001*
- **EVIDENCE FOR LONG STREAMWISE VORTEX STRUCTURES IN FLOODPLAIN FLOW.** *Dr. John E. Cater and Prof. John J. R. Williams. 3d003*

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- **ASPECTS OF HAZARD ASSESSMENTS FOR TWO UNIQUE NATURAL HAZARDS IN NEW ZEALAND.**  
*M G Webby, G T Hancox, H J R Keys and J Walker. 2a046*
- **ASSESSMENT OF FLOOD HAZARD MAP USING SIMULATION OF INUNDATION AND HUMAN BEHAVIORS.**  
*Tetsuro Tsujimoto, Emi Ukai and Ryota Tsubaki. 1c021*
- **THE INFLUENCE OF THE SHOTOVER RIVER ON LAKE WAKATIPU FLOOD HAZARD.**  
*Ramon Strong and Tim Davies. 3a055*
- **PHYSICAL HYDRAULIC MODEL STUDY OF SEWAGE OVERFLOW MITIGATION, AUCKLAND, NEW ZEALAND.**  
*Audsley Jones, Lena Kelly, Heide Friedrich, Bruce W. Melville. 3d055*
- **FLOOD FLOW SIMULATION IN THE CASE OF LACK OF BOTH UPSTREAM AND DOWNSTREAM BOUNDARY CONDITIONS.** *Prof. Takashi Hosoda, Assistant Prof. Shinichiro Onda, Takahiro Murakami, M. Iwata, Y. Shibayama and Puay How Tion. 1b014.*

### Approaches to Water Quality Improvement.

- **INNOVATION OF A WASTEWATER SCREENING DEVICE FOR SEWER OVERFLOWS: CFD MODELLING.**  
*Charley Lubinbert, Dr. Monzur Imteaz, Dr. Jamal Naser and Dr. Donald Phillips. 2c008*
- **DEVELOPMENT AND TESTING OF A LOW COST, LIGHT WEIGHT FILTRATION MEDIA FOR THE REMOVAL OF ORTHO-PHOSPHATE.**  
*Jia Ma, PhD, PE, James H. Lenhart, PE, D.WRE, Karel Tracy. 2c010*
- **A MIXED ZONE TRANSPORT MODEL OF FLOW THROUGH A CONSTRUCTED WETLAND.**  
*Graham A. Jenkins. 2c004*
- **APPLICATION OF GIS COUPLING TECHNOLOGY TO COMPREHENSIVE ASSESSMENT OF ECOLOGICAL RIPARIAN ZONE.** *XIA Jihong, YAN Zhongmin, LIN Junqiang. 1c037*
- **OPTIMISING EFFLUENT RELEASE IN A SUB TROPICAL ESTUARINE ENVIRONMENT – SMART RELEASE DECISION SUPPORT SYSTEM.** *Greg Stuart, Franz Thomsen, Simon Mortensen, Sayed Khan, Anna Hollingsworth, Matt Pollard, Bill Capati, Prof. Rodger Tomlinson, Sally Kirkpatrick. 1c008*

### Experimental Investigation.

- **RE-EVALUATION OF IMAGE ANALYSIS FOR SEDIMENTARY PROCESSES RESEARCH.**  
*Katherine Heays, Heide Friedrich and Bruce W. Melville. 3a011*
- **A FIELD STUDY ON THE SEDIMENT TRANSPORT CHARACTERISTICS OF A HIGH SEDIMENT LOAD RIVER IN TAIWAN.** *Jau-Yau Lu, Chih-Chiang Su, Jian-Hao Hong. 3a014*
- **A NOTE ON BURST EVENT DETECTION IN UNSTEADY NATURAL FLOWS.**  
*Dr. Mark Trevethan and Prof. Hubert Chanson. 3a058*
- **SEDIMENT LOADS IN A FULL PIPE FLOW.**  
*SON, Kwang Ik, K.H. Kim, S. Jang, M.C. Kim and H.J. Kim. 3a022*
- **MEAN AND VARIANCE OF SUSPENDED PARTICLES VERTICAL VELOCITY IN TURBULENT FLOW.**  
*Prof. Kiyoshi Kawanishi, Hitoshi Masuoka and Prof. Peter Nielsen. 3a027*
- **A HEALTH MONITORING METHOD OF RIVERBANK USING SELF POTENTIAL METHOD WITH PFC ELECTRODE.**  
*K. Matsumoto, A. Takeuchi, T. Okada, H. Tamaki, M. Yazawa, D-Y. Song and Y. Shimizu. 3b004*

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- **EVALUATION OF CLIMATE CHANGE EFFECTS ON DISCHARGE GENERATION IN A HETEROGENEOUS WATERSHED.** *Mr. Freddy Soria and Dr. So Kazama. 2b002*
- **TIDAL EXCEEDANCES, STORM TIDES AND THE EFFECT OF SEA-LEVEL RISE.**  
*Dr. Robert Bell. 2b001*
- **AN XML-BASED GENETIC ALGORITHM TOOL: APPLICATION FOR THE CALIBRATION OF TANK MODEL.**  
*BSc. Amílcar Soares Júnior, Dr. Camilo A. S. de Farias, Assoc. Prof. Celso Augusto Guimarães Santos and Prof. Koichi Suzuki. 1c002*
- **GENETIC PROGRAMMING BASED SEA LEVEL ANOMALY FORECASTING MODELS AS DATA ASSIMILATION TOOLS.** *Dr. Rao Raghuraj and Prof. Vladan Babovic. 2b003*
- **PARAMETER OPTIMIZATION AND DATA ASSIMILATION TO IMPROVE THE TIDAL PREDICTION OF THE SINGAPORE REGIONAL MODEL.** *S.K. Ooi, H. Gerritsen, A. Kurniawan, and D.J. Twigt. 4a021*
- **COASTAL PROTECTION OF LOWLANDS: ARE ALTERNATIVE STRATEGIES A MATCH TO EFFECTS OF CLIMATE CHANGE?** *Hanz D. Niemeyer. 4d014*

### IUWMC / Water Quality and Treatment.

- **FLOATING TREATMENT WETLANDS—AN INNOVATIVE ECOTECHNOLOGY FOR STORMWATER TREATMENT.**  
*Dr Chris, C. Tanner, Dr Tom Headley and Judy-Ann Ansen. 5b012*
- **PERFORMANCE EFFICIENCY AND NUTRIENT BIOACCUMULATION OF CONSTRUCTED AND NATURALLY OCCURRING WETLANDS IN THE LAS VEGAS WATERSHED.** *Kumud Acharya, Achyut Adhikari, Mark Stone, Seth Shanahan, Xiaoping Zhou, Debbie Van Dooremolen and Carol Lane. 5a005*
- **IRON-ENHANCED SAND FILTRATION FOR STORMWATER PHOSPHORUS REMOVAL.**  
*Andrew J. Erickson, John S. Gulliver, Peter T. Weiss, and Brian J. Huser. 5b001*
- **THE TREATMENT OF STORMWATER FOR DISSOLVED METALS IN TROPICAL AND SUBTROPICAL ENVIRONMENTS.** *Mike Hannah, Nick Vigar. 5b009*
- **SETTLING VELOCITY DISTRIBUTION IN URBAN STORMWATER RUNOFF.**  
*Eric Hettler and John S. Gulliver. 5b003*
- **BACTERIAL DENSITY IN SEDIMENT BASIN DISCHARGE.**  
*Dr. Calvin Sawyer, Dr. William English, Dr. John Hayes, Dr. William Bridges, Dr. Louwanda Jolley and Dr. Christopher Post. 5b029*

### Computer Modelling.

- **BUOYANT JET INTERACTION ABOVE AN ALTERNATING DIFFUSER.**  
*Adrian C. H. Lai and Joseph H. W. Lee. 3c017*
- **SEQUENTIAL CHARACTERIZATION OF CONTAMINANT PLUMES USING DESIGNED MONITORING NETWORK.**  
*Dr. Deepesh Singh Dr. Bithin Datta. 1a033*
- **DISPERSION SIMULATION OF NEGATIVE BUOYANT JET DISCHARGED FROM ORV.**  
*Il Won Seo, Chang Geun Song, In Ok Jun and Seung Yong Oh. 1a034*
- **A HYBRID RANS-LES MODEL FOR FLOWS IN OPEN-CHANNEL T-DIVERSIONS.**  
*C. Zeng and C. W. Li. 2a024*
- **LARGE COHERENT STRUCTURES IN LARGE EDDY SIMULATION OF THE OPEN CHANNEL FLOW.**  
*Jianmin Ma and Prof. J.J.R. Williams. 3d017*

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- RIVER STAGE PROFILE FORECASTING USING DYNAMIC WAVE ROUTING TECHNIQUE AND ARTIFICIAL NEURAL NETWORKS. *Ming-Hsi Hsu, Shu-Horng Lin, Jin-Cheng Fu.* 1c013
- FUZZY INFERENCE MODEL FOR MULTI-RESERVOIRS SYSTEM. *Choi, Changwon<sup>1</sup> and Yi, Jaeung.* 1a008
- PREDICTION OF ATMOSPHERIC NITROGEN DEPOSITION ONTO AQUATIC ECOSYSTEM USING ARTIFICIAL NEURAL NETWORK. *Sundarambal Palani, Pavel Tklich, Rajasekhar Balasubramanian, and Jegathambal Palanichamy.* 1c017
- IMPACT OF CATCHMENT SIZE FOR STORMWATER MODELLING IN THE AUCKLAND REGION. *Yudan Liang, Heide Friedrich, Asaad Shamseldin and Bodo Hellberg.* 1a051
- SURFACE RUNOFF FRICTION FACTOR AND TIME OF CONCENTRATION. *Prof. Yoo, D. H., Lee, T. H. and Lee, M. H.* 1a023
- APPROACH OF REMOTE SENSING-BASED EVAPOTRANSPIRATION (ET) MODEL IN KOREA. *Prof. Minha Choi, Prof. Tae Woong Kim, Dr. Mi Seon Lee, Prof. Seong Joon Kim, Ms. Jin Woo Lee, Prof. Yong-Sik Cho, and Prof. Jong-Kyu Lee.* 1a006

### Channel Flows.

- THE FREE SURFACE PROFILE OF HYDRAULIC JUMPS IN ABRUPTLY EXPANDING INCLINED CHANNELS. *Assoc. Prof. J. D. Demetriou.* 3c016
- EXPERIMENTAL STUDY ON DRIFTWOODS TRAPPED BY RIPARIAN FORESTS ON SANDBARS. *Akiyoshi SASAKI, Yasuharu WATANABE and Takahiko MASUMOTO.* 3c026
- EFFECTS OF GROWTH AND INTERSPECIFIC COMPETITION OF RIPARIAN VEGETATION ON CROSS-SECTIONAL BED TOPOGRAPHY OF SAND BED RIVER. *Yuji Toda, Tetsuro Tsujimoto and Hideki Maeda* 2a055
- THE HYDRAULIC MONITORING FOR THE NATURE-FRIENDLY IMPROVED KYUNGAN RIVER. *Seojun Kim, Jihye Kim, Prof. Byungman Yoon and Dr. Un Ji.* 2a016
- CONTINUOUS MONITORING OF WATER DISCHARGE, TEMPERATURE, AND SALINITY IN A TIDAL RIVER WITH A NEW ACOUSTIC TOMOGRAPHY SYSTEM. *Prof. Kiyoshi Kawanishi, Satoshi Watanabe and Prof. Arata Kaneko.* 1a030

### Sediment and Environment.

- A METHOD FOR EVALUATING THE EFFECTS FLOW MAGNITUDE AND DURATION ON THE MANAGEMENT OF SPAWNING HABITAT. *Richard McDonald, Jonathan Nelson, Vaughn Paragamian, and Gary Barton.* 3c010
- FORMING PROCESS OF LITTER PATCHES AROUND RIVER BANK IN A GRAVEL BED RIVER. *Dr. Takeyoshi Chibana, Dr. Kaori Kochi and Mr. Naoki Watanabe.* 3c014
- PREDICTING THE DEPOSITION OF HIGHWAY-DERIVED SEDIMENTS IN A RECEIVING RIVER REACH. *Prof. Ian Guymer, Dr Virginia Stovin, Dr Paul Gaskell, Prof. Lorraine Maltby and Dr Jonathan Pearson.* 3c015
- SEDIMENT EROSION AT CHANNEL JUNCTION IN SUBCRITICAL FLOW. *A. NAZARI G.* 3a032
- HYDRAULIC CHARACTERISTICS OF DRAINAGE SUB-CHANNEL IN HAN RIVER. *Prof. Yoo, D. H. and Lee, G. K.* 2a023

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- AN ANALYSIS OF HEAD LOSS COEFFICIENTS AT SURCHARGED MANHOLES WITH A 90° BEND. *Prof. Sei Eui Yoon, Jung Soo Kim, and Ju Il Song.* 3d032
- MEASUREMENT OF VOID FRACTION AND BUBBLE OCCURRENCE IN PIPELINE UNDER NEGATIVE SURGE PRESSURE. *Prof. Yukio Kono, Dr. Kazumi Ishikawa, Yudai Shimoasa, Prof. Akira Haga and Dr. Kazuo Kato.* 3d039
- VELOCITY DISTRIBUTION AT CREST OF SHARP-CRESTED WEIR. *Dr. Shuen-Jong Tsorng, Mr. Fong-Zuo Lee, Dr. Jihn-Sung Lai and Prof. Yih-Chi Tan.* 3d035
- EXPERIMENTAL STUDY OF THE HYDRAULIC BEHAVIOR OF PIANO KEY WEIRS. *O. Machiels, S. Erpicum, P. Archambeau, B. J. Dewals, and M. Pirotton.* 3d044
- TOWARDS PREDICTING FLOOD RISK ASSOCIATED WITH DEBRIS AT STRUCTURES. *Nick Wallerstein, Scott Arthur and Dian Sisinngih.* 3b001
- COMPARING OF TEN MODES OF OSCILLATION OCCURRING ACROSS THE OPEN CHANNELS. *Ahmad Jafari, Mehdi Ghomeshi, Mahmood Bina, and Seyed Mahmood Kashefipour.* 3d001

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- INVESTIGATING LEVEL SPREADER – VEGETATED FILTER STRIP SYSTEMS FOR STORMWATER MANAGEMENT. *Mr. Ryan J. Winston and Dr. William F. Hunt.* 5b005
- CONTINUOUS FLOW AND QUALITY SIMULATION OF A STORMWATER INFILTRATION TRENCH. *Jaclyn Marge, Hans Benford, and Prof. Robert Traver.* 5a010
- HYDROLOGICAL BEHAVIOUR OF COMBINED RAIN TANKS IN AUCKLAND. *M. Uhl, B. Hellberg.* 5a008
- CONCENTRATION OF RAIN TANKS IN URBAN ENVIRONMENTS : A REVIEW OF EFFECTS. *Dr Guinevere Nalder.* 5b030
- ARTIFICIAL RECHARGE OF GROUND WATER BY STORM WATER REUSE IS VIABLE AND SUSTAINABLE SOLUTION FOR BETTER TOMORROW. *Prof. Pratima Patel and Dr. M. D. Desai.* 5d005
- FLOW CONTROL AND WATER QUALITY TREATMENT PERFORMANCE OF A RESIDENTIAL LOW IMPACT DEVELOPMENT PILOT PROJECT IN WESTERN WASHINGTON. *Curtis Hinman* 5d011

### Vegitative Interaction.

- ONE-DIMENSIONAL UPWIND IMPLICIT SCHEME FOR ESTIMATING FLOW RESISTANCE BY TREES. *Jisung Kim, Won Kim, Keuksoo Kim.* 2a013
- INDICATORS FOR CLASSIFYING THE POSSIBILITY OF FORESTATION ON A GRAVEL BAR IN A RIVER. *Prof. Norio Tanaka and Dr. Junji Yagisawa.* 2a029
- LIF MEASUREMENTS OF TURBULENT DIFFUSION IN VEGETATED OPEN –CHANNEL FLOW. *Taka-aki Okamoto, Iehisa Nezu and Aki Katayama.* 2a030
- MEASUREMENTS OF COHERENT WAVING MOTION OF FLEXIBLE VEGETATIONS. *Taka-aki Okamoto and Iehisa Nezu.* 2a032
- FLOW RESISTANCE AND MOMENTUM TRANSPORT IN OPEN CHANNEL FLOW WITH SUBMERGED VEGETATION. *Asst. Prof. Takayuki Tanaka, Prof. Terunori Ohmoto and Shinya Tanaka.* 2a041

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### Statistics and Water Resources.

- **A NEW METHOD FOR BOUNDARY RIVERS OR COASTLINE TREATMENT IN WATERSHED DELINEATION.**  
*Xiao-Hui LEI, Zu-Hao ZHOU, Xiang-Yi DING, Yang-Wen JIA and Yu TIAN. 1a035*
- **MULTIVARIATE STOCHASTIC GENERATION OF DAILY RESERVOIR INFLOWS AND GROUNDWATER LEVELS.**  
*Dr. Camilo A. S. de Farias, Prof. Koichi Suzuki, Dr. Alcigeimes B. Celeste, and Assoc. Prof. Akihiro Kadota. 1a005*

### Groynes + Bank Protection.

- **EXPERIMENTAL STUDY ON MEAN AND COHERENT FLOW STRUCTURES AROUND A SINGLE GROUYNE.**  
*Mr. Eiji Kojima, Assoc. Prof. Akihiro Kadota and Koichi Suzuki. 3d021*
- **EXPERIMENTAL STUDY ON MEAN AND COHERENT FLOW STRUCTURES CAUSED BY T-TYPE AND L-TYPE GROYNES.** *Assoc. Prof. Akihiro Kadota, Prof. Koichi Suzuki. 3d022*
- **FLOW FIELD AROUND BANK PROTECTION STRUCTURES ALONG THE JAMUNA RIVER.**  
*Mohammad Nazim Uddin, Prof. M Mozzammel Hoque and Prof. Md. Munsur Rahman. 3d043*
- **EFFECTS OF RELATIVE GROIN HEIGHT ON BED CONFIGURATIONS AND FLOW STRUCTURE IN AN OPEN CHANNEL FLOW.** *Dr. Ryuichi Hirakawa, Prof. Kunitohsi Watanabe, Prof. Terunori Ohmoto and Mr. Syunsuke Tokiwa. 2a009*

### Scour.

- **EFFECT OF SEEPAGE ON VELOCITY PROFILE, BED SHEAR STRESS AND SCOUR AT HYDRAULIC STRUCTURES, IN UNIFORM FLOWS: A REVIEW.** *N. P. Singh, P. L. Patel and Raghvendra Singh. 3d052*
- **INTELLIGENT PREDICTION OF BRIDGE SCOUR IN CLAYEY SANDS.**  
*Mohammad Zakermoshfegh, S. Ali Akbar Salehi Neyshabouri. 3d040*
- **BED VARIATION AROUND SPUR DYKE UNDER NON-UNIFORM SEDIMENT TRANSPORT.**  
*Hao Zhang, Hajime Nakagawa and Hideaki Mizutani. 3a045*

### Aspects of Water Quality.

- **MEASUREMENTS ON WATER QUALITY OF LIUXIHE RESERVOIR-A TYPICAL TROPICAL AND SUBTROPICAL RESERVOIR IN THE SOUTHERN CHINA.** *Prof. Xin Qian, Dr. Sheng Wang, Prof. Boping Han. 2c014*
- **DAILY FORECASTING OF COASTAL BEACH WATER QUALITY.**  
*W. Thoe, H.C. Wong, K.W. Choi, and J.H.W. Lee. 2c017*

### IUWMC / Infrastructure Rehabilitation.

- **STORMWATER BMP MAINTENANCE AND CERTIFICATION PROGRAM IN NORTH CAROLINA, USA.**  
*Mr. William G. Lord and Dr. William F. Hunt. 5a006*
- **U.S. EPA RESEARCH ON SANITARY SEWER OVERFLOW CONTROL.**  
*Richard Field, PE, BCEE, D.WRE, Anthony N. Tafuri, PE, BCEE, D.WRE, Thomas P. O'Connor. 5c006*
- **PREDICTING LONG TERM CONTAMINANT RUNOFF AND ACCUMULATION IN THE CENTRAL WAITEMATA AND SOUTHEASTERN MANUKAU HARBOURS (NEW ZEALAND).**  
*Malcolm Green, Jonathan Moores, Mike Timperley, Shane Kelly and Matthew D. Davis. 5b028*



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### Weirs & Spillways + Hydro-electric.

- **THE TURBULENCE STRUCTURE OF FLOWS OVER ROUGH SURFACES AND FRESHWATER BIOFILMS.**  
*Jessica Andrewartha, Dr Jane Sargison, Kathryn Perkins, Dr Greg Walker and Dr Alan Henderson. 1d002*
- **DISCHARGE COEFFICIENTS OF BROAD-CRESTED WEIR IN THE WIDE OPEN CHANNEL.**  
*Dong Sop Rhee, Dr. Chang Wan Kim. 3d008*
- **NUMERICAL STUDY ON MIXING PROCESS OF DENSITY CURRENT IN A BRACKISH LAKE ENHANCED BY BED MOUNTED OBSTACLES.** *T. Kudo, Dr. I. Kimura, Prof. Y. Shimizu and Dr. H. Yasuda. 2a019*
- **COLLAPSE OF TREES INDUCED BY GUST DISASTER AT THE ARAKAWA RIVER ON FEB 2008.**  
*Dr. Yasumasa YAMADA and Prof. Hisao NAGABAYASHI. 2a053*
- **HYDRAULIC MODEL STUDIES FOR AERATOR OF ORIFICE SPILLWAY.**  
*V. V. Bhosekar, V. Jothiprakash and P.B. Deolalika. 3d002*
- **WOODY DEBRIS AND TURBIDITY CURRENT IN THE SHIHMEN RESERVOIR.**  
*Fong-Zuo Lee, Dr. Jihn-Sung Lai, Dr. Shuen-Jong Tsorng, Prof. Yih-Chi Tan. 2a047*
- **ENERGY DISSIPATION ON EMBANKMENT DAM STEPPED SPILLWAYS, OVERFLOW STEPPED WEIRS AND MASONRY STEPPED SPILLWAYS.** *Prof. Hubert Chanson and Stefan Felder. 3d004*

### Flood Flows.

- **PREDICTIVE UNCERTAINTY IN FLOOD FORECASTING AND EMERGENCY MANAGEMENT.**  
*Prof. Ezio Todini. 1a046*
- **APPLICATION OF TWO DIMENSIONAL FLOW MODELLING FOR FLOOD HAZARD MAPPING IN NEW ZEALAND.**  
*Terry van Kalken, Antoinette Taylor, Matthew Davis, Nick Brown and Chris Bacon. 1b024*
- **UNDERSTANDING AND MODELLING THE IMPACTS OF LAND USE MANAGEMENT ON FLOODING.**  
*John Ewen, Greg O'Donnell, Josie Geris, Will Mayes, Mark Wilkinson, Paul Quinn and Enda O'Connell. 1a047*
- **STUDY ON NESTING MODEL BY USING H-VA INUNDATION ANALYSIS METHOD.**  
*Makoto Takeda and Naoki Matsuo. 3b008*
- **EARLY WARNING OF INUNDATION USING HYDRAULIC SIMULATION LINKING TYPHOON RAINFALL FORECASTING.** *Dr. Tsung-Yi Pan, Lung-Yao Chang, Shiang-Kuan Chang, Dr. Jihn-Sung Lai and Prof. Cheng-Shang Lee. 3b010*
- **FLOW AND FLOOD DAMAGE IN A NARROW STREAM VALLEY.**  
*Prof. Taisuke Ishigaki, Mr. Kazuhiko Hattori, Prof. Koji Shiono and Assoc. Prof. Hiroaki Shimada. 1b013*
- **ANALYSIS OF FLOOD CONTROL EFFECT BY FLOOD STORAGE RESERVOIRS USING NUMERICAL AND EXPERIMENTAL MODEL.** *Dr. Kwang Seok Yoon, Dr. Hyung-Jun Kim and Mr. Chang-Hwa Lim. 1b009*
- **INTEGRATED FLOOD MANAGEMENT: A CASE STUDY.**  
*Homayoon Sabbaghzadeh, Ali Moridi, Mohammad Zakermoshfegh. 1b021*

### River Hydraulics and Food Mechanics.

- **ENERGY-BASED STABILITY CRITERIA FOR SHALLOW FLOWS.**  
*Mr. M. Y. Lam, Prof. M. S. Ghidaoui and Prof. A. A. Kolyshkin 1a022*
- **LEAK DETECTION IN PIPELINES BY PURE FREQUENCY DOMAIN ANALYSIS.**  
*Dr. Guo Xinlei, Prof. Yang Kailin, Wang Tao, Guo Yongxin, Fu hui. 1c022*
- **UNCERTAINTY PROPAGATION IN PIPE FLUID TRANSIENTS.**  
*Huan-Feng Duan, Yeou-Koung Tung, and Mohamed S. Ghidaoui. 1c006*
- **VORTEX INTERACTION AROUND AN OSCILLATING CIRCULAR CYLINDER IN THE PRESENCE OF A SLOW LATERAL FLOW STREAM.** *P. Liu and K. M. Lam. 1c027*
- **WATER SURFACE MEASUREMENT AND ANALYSIS OF FREE OVERFALL FLOW WITH A PLUNGE POOL.**  
*Dr. Shuen-Jong Tsorng, Mr. Guan-Ru Chen, Prof. Jihn-Sung Lai and Prof. Yih-Chi Tan. 1c003*
- **AN INVESTIGATION INTO THE BEHAVIOUR OF A JET AT AN OBLIQUE ANGLE TO A CROSS-FLOW.**  
*Eric Scheepbouwer, Assoc. Prof. Mark J. Davidson and Assoc. Prof. Roger I. Nokes. 1c007*
- **GENERALIZATION OF REICHARDT'S HYPOTHESIS: MULTIPLE COFLOWING SQUARE JETS.**  
*B. S. Pani, Joseph H.W. Lee, and Adrian C.H. Lai. 1c026*

### Solid Liquid Interaction.

- **3D NUMERICAL MODEL FOR FISH MOVEMENT IN A POOL TYPE FISHWAY USING DENSITY FUNCTION METHOD CONSIDERING FISH BEHAVIOUR.** *Shinji Fujii, Dr. Ichiro Kimura and Prof. Yasuyuki Shimizu. 2a011*
- **EFFECTS OF BOULDER ARRANGEMENT ON A GRAVEL-BED FLOW.**  
*Chamika De Costa, N.Henrys, A/ Professor S. Coleman 2a065*
- **FLOW STRUCTURE IN A COMPOUND MEANDRING CHANNEL WITH EMBAYMENTS.**  
*Dr MUTO Yasunori, Prof ISHIGAKI Taisuke and Mr KONDO Haruki. 2a027*
- **ESTIMATION OF EQUIVALENT RESISTANCE COEFFICIENT FOR UNIFORM ARRAYS OF UNSUBMERGED RIGID OBSTRUCTIONS.** *Kab Keun Kwon, Dr. Junwoo Choi and Prof. Sung Bum Yoon. 4a009*
- **THE STRUCTURE OF FLOWS IN SUSPENDED AQUACULTURE CANOPIES.**  
*Dr. David Plew, Prof. Roger Nokes, Jan Noering and Micah Kenall-Grant. 3d051*
- **ICE FORECAST BY ARTIFICIAL NEURAL NETWORKS IN SOUTH-TO-NORTH WATER DIVERSION MIDDLE ROUTE PROJECT.** *Wang Tao, Yang Kai-lin, Fu Hui, Guo Yongxin, Guo Xinglei. 2a042*

### Sediment Transport.

- **WHITE RIVER? GREEN RIVER? - SAND/GRAVEL BAR SUCCESSION TO RIPARIAN VEGETATION IN THE RIVERS, KOREA.** *Dr. Hyoseop Woo, Dr. Moon Hyeong Park, Mr. Sang Joon Jeong, and Dr. Han Tae Kim. 2a048*
- **AN EXPERIMENTAL INVESTIGATION OF THE RELATIONSHIP BETWEEN ASPECTS OF TURBULENCE AND FINE SEDIMENT RESUSPENSION IN ACCELERATING OPEN-CHANNEL FLOW.**  
*PhD student. Fereshteh Bagherimiyab, Prof. U Lemmin. 3a009*
- **EVALUATION OF RESERVOIR SEDIMENTATION COUNTERMEASURES BY A NUMERICAL SEDIMENT TRANSPORT MODEL.** *Dr. H. Jin, M. Ouchi and T. Fukuda. 3a015*
- **REACH SCALE MODELLING OF SEDIMENT TRANSPORT IN TROPICAL AUSTRALIA.**  
*Prof. Eric M. Valentine. 3a039*
- **MODELING OF SEDIMENT TRANSPORT AND MORPHOLOGIC CHANGES IN ALLUVIAL CHANNELS.**  
*Dr. Minh Duc Bui and Prof. Dr. Peter Rutschmann. 3a028*
- **STABILITY ANALYSIS ON THE SELF-ADJUSTMENT OF RIVER WIDTH.**  
*Yasuharu Watanabe, Takahiko Masumoto, Hiroshi Hayakawa, Yasuyuki Hirai. 3a026*
- **FLOW STRUCTURES AND HYDRODYNAMIC FORCE DURING SEDIMENT ENTRAINMENT: A CAUSE AND EFFECT ANALYSIS.**  
*Ambuj Dwivedi, Bruce W. Melville, Asaad Y. Shamseldin. 3a001.*

## **Additional paper.**

- **MODELLING OF FLOW IN EVERGLADES NATIONAL PARK, FLORIDA, USA USING A QUADTREE GRID.**  
*Nguyen Quang Chien , Tan Soon Keat, 2a060*