



IAHR
2017

**37th IAHR
WORLD CONGRESS**
13-18 August, 2017
Kuala Lumpur, Malaysia

TRANSIENTS IN PIPES

Lead Speaker: Silvia Meniconi



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Special Session 1B/Transients in pipes

FAULT DETECTION IN REAL TRANSMISSION MAINS BY PRESSURE WAVES

keynote lecture

B. Brunone

Water Engineering Laboratory (WEL)
Dipartimento di Ingegneria Civile ed Ambientale
University of Perugia, Italy



Speisial Session: TRANSIENTS IN PIPES

Lead organizer:

Professor Silvia Meniconi, University of Perugia, Italy

Co-organizing Team:

Professor Arturo Leon, University of Houston, USA,

Professor Pedro Lee, University of Canterbury, New Zealand,

Professor Sang Hyun Kim, Pusan National University, Republic of Korea, and

Dr. Moez Louati, Hong Kong University of Science and Technology, Hong Kong.

Special session 1A Date: Tuesday 15th August 2017 — Time: 9:30 to 11:00 — ROOM: Pulau Pinang

Chairpersons: Silvia Meniconi and Moez Louati

8a-1a	08-36-0803	FAULT DETECTION IN REAL TRANSMISSION MAINS BY PRESSURE WAVES	Keynote lecture by Prof. Bruno Brunone
		BRUNO BRUNONE	20min + 5minQ&A
8a-1b	08-36-0596	DYNAMICS OF FRICTIONAL WATER HAMMER - THEORY AND FIELD TESTS	10min + 3minQ&A
		JIM C. P. LIOU, BRUNO BRUNONE, SILVIA MENICONI	
8a-1c	08-36-1399	SOME INTRIGUING ASPECTS OF BOUNDARY CONDITIONS IN WATER HAMMER	10min + 3minQ&A
		ARRIS S. TIJSSELING, ALAN E. VARDY	
8a-1d	08-36-1561	DEVELOPMENT AND EVALUATION OF MESHLESS PARTICLE METHODS FOR MODELLING AND ANALYSIS OF TRANSIENT PIPE FLOWS	10min + 3minQ&A
		HUAN-FENG DUAN, HEXIANG YAN, FEI LI, QINGZHI HOU, TAO TAO, KUNLUN XIN, SHUPING LI	
8a-1e	08-36-1452	MONITORING OF PIPE LEAKAGE BASED ON EMPIRICAL MODE DECOMPOSITION AND AUTOMATIC SELECTION OF INTRINSIC MODE FUNCTION	10min + 3minQ&A
		MUHAMMAD HANAFI YUSOP, MOHD FAIRUSHAM GHAZALI, MOHD FADHLAN MOHD YUSOF, MUHAMMAD AMINUDDIN PIREMLI	
8a-1f	08-36-1624	ANALYSIS OF PIPE TRANSIENTS IN HYDROPOWER INSTALLATIONS	10min + 3minQ&A
		GORAN PAVIC, FABIEN CHEVILLOTTE	

Special session 1B Date: Tuesday 15th August 2017 — Time: 11:30 to 13:00 — ROOM: Pulau Pinang

Chairpersons: Arturo S. Leon and Huan-Feng Duan

8a-2a		WATER HAMMER: WHY HAS ITS EXISTENCE BEEN UNRECOGNIZED BY MOST FLUID BOOKS?	Keynote lecture by Prof. Mohamed Ghidaoui
		MOHAMED S. GHIDAOU	20min + 5minQ&A
8a-2b	08-36-0826	EFFECT OF LEAK SIZE ON THE TRANSIENT BEHAVIOR OF A VISCOELASTIC PIPE	10min + 3minQ&A
		SILVIA MENICONI, BRUNO BRUNONE, CATERINA CAPPONI	
8a-2c	08-36-1417	SINGLE EXTENDED BLOCKAGE IDENTIFICATION USING A MODEL-BASED MATCHED-FIELD PROCESSING APPROACH	10min + 3minQ&A
		FEDI ZOUARI, XUN WANG, MOEZ LOUATI, MOHAMED S. GHIDAOU	
8a-2d	08-36-1416	THEORETICAL ANALYSIS OF THE INFLUENCE OF BLOCKAGE IRREGULARITY ON TRANSIENT WAVES IN WATER SUPPLY PIPELINES	10min + 3minQ&A
		TONG-CHUAN CHE, HUAN-FENG DUAN, PEDRO J LEE, MOHAMED S. GHIDAOU	
8a-2e	08-36-1371	SCATTERING BEHAVIOR OF HIGH FREQUENCY ACOUSTIC WAVES DUE TO BLOCKAGE IN PRESSURIZED WATER-FILLED PIPE	10min + 3minQ&A
		MOEZ LOUATI, MOHAMED S. GHIDAOU	
8a-2f	08-36-1609	UNIFIED EQUATION FOR ESTIMATION OF FRICTION FACTOR	10min + 3minQ&A
		BALKRISHNA SHANKAR CHAVAN	

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Special session 1C Date: Wednesday 16th August 2017 — Time: 9:30 to 11:00 — ROOM: Pulau Pinang

Chairpersons: Sanghyun Kim and Arris S. Tijsseling

8a-3a	08-36-1574	DAMPING RATE OF TRANSIENT OSCILLATIONS IN PRESSURIZED CLOSED CONDUITS	Keynote lecture by Prof. Hanif Chaudhry
		SAHAD KHILQA, MOHAMED ELKHOLY, MOHAMED H. AL-TOFAN, JUAN M. CAICEDO, M. HANIF CHAUDHRY	20min + 5minQ&A
8a-3b	08-36-1560	INFLUENCE OF AIR CONTENT ON TRANSIENT FLOW BEHAVIORS IN VISCOELASTIC PIPES	10min + 3minQ&A
		YAN ZHU, HUAN-FENG DUAN, FEI LI, CHEN-GUANG WU, YI-XING, YUAN, ZHEN-FENG SHI	
8a-3c	08-36-1419	TIME DOMAIN INVERSE TRANSIENT ANALYSIS FOR PIPELINE LEAK DETECTION IN A NOISY ENVIRONMENT	10min + 3minQ&A
		ALIREZA KERAMAT, MOHAMED S. GHIDAQUI, XUN WANG	
8a-3d	08-36-1522	MATCHED-FIELD PROCESSING METHOD FOR LEAK DETECTION IN A PIPE	10min + 3minQ&A
		XUN WANG, MOHAMED S. GHIDAQUI	
8a-3e	08-36-0731	INVERSE TRANSIENT ANALYSIS PARAMETER ESTIMATION ACCURACY FOR SYSTEMS SUBJECT TO HYDRAULIC NOISE AND SHORT DAMAGED SECTIONS	10min + 3minQ&A
		CHI ZHANG, AARON ZECCHIN, JINZHE GONG, MARTIN LAMBERT, ANGUS SIMPSON	
8a-3f	08-36-0493	THE EFFECT OF WAVE SPEED AND PUMP SPECIFIC SPEED ON TRANSIENT PRESSURES SIMULATIONS	10min + 3minQ&A
		RUBEN NERELLA, VENKATA RATHNAM ERVA	

Special session 1D Date: Wednesday 16th August 2017 — Time: 11:30 to 13:00 — ROOM: Pulau Pinang

Chairpersons: Jim C. P. Liou and Bruno Brunone

8a-4a	08-36-1537	COMBINING OPTIMAL FILTERING WITH PUMP SCHEDULING FOR REAL-TIME ENERGY MANAGEMENT IN WATER DISTRIBUTION SYSTEMS	10min + 3minQ&A
		ERNESTO ARANDIA, JOE NAOUM-SAWAYA	
8a-4b	08-36-0051	MECHANISMS THAT LEAD TO THE OCCURRENCE OF VIOLENT GEYSERS IN STORMWATER AND COMBINED SEWER SYSTEMS	10min + 3minQ&A
		ARTURO S. LEON	
8a-4c	08-36-1608	LEAK-INDUCED FREQUENCY SHIFTS IN TRANSIENT-BASED FREQUENCY DOMAIN METHOD FOR LEAKAGE DETECTION	10min + 3minQ&A
		JINGRONG LIN, MOHAMED S. GHIDAQUI	
8a-4d	08-36-1070	DESIGN OF AIR CHAMBER FOR MITIGATING TRANSIENT PRESSURES IN A PUMPING MAIN	10min + 3minQ&A
		NANGIGADDA MOWLALI, RUBEN NERELLA, VENKATA RATHNAM ERVA	
8a-4e	08-36-0655	OPTIMIZATION OF AFFECTING PARAMETERS OF PRESSURE RELIEF VALVE USING GENETIC ALGORITHM	10min + 3minQ&A
		HYUNJUN KIM, DAWON BAEK, GEONJI KIM, EUNHYUNG LEE, MINJI CHO, XIAOYI DONG, SANGHYUN KIM	
8a-4f	08-36-1298	CFD ANALYSIS OF MULTI-SCALE TRANSIENT FLOWS ON THE FRANCIS TURBINE UNDER THE LOAD REDUCTION CONDITION	10min + 3minQ&A
		DAQING ZHOU, JIE ZHANG	