

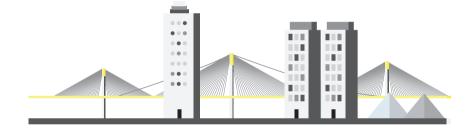




## Programme of the Eighth International Conference on Fibre-Reinforced Polymer (FRP) Composites in Civil Engineering

14 - 16 December 2016 Hong Kong, China

Official Conference of the International Institute for FRP in Construction (IIFC)



# **CICE 2016**



## INTERNATIONAL SCIENTIFIC COMMITTEE

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,	University of Southern Queensland	Australia
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Lees, Janet	University of Cambridge	UK
Leung, Christopher K.Y.	Hong Kong University of Science and Technology	Hong Kong, China
Li, Hui	Harbin Institute of Technology	China
Li, Li-Juan	Guangdong University of Technology	China
Li, Rong	Central Research Institute of Building and Construction Co., Ltd, MCC Group	China
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Ueda, Tamon	Hokkaido University	Japan
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Wang, Xin	Southeast University	China
Wu, Gang	Southeast University	China
Wu, Yu-Fei	RMIT University	Australia
Wu, Zhi-Shen	Southeast University	China

Xian, Gui-Jun	Harbin Institute of Technology	China
Xiao, Yan	Nanjing Tech University	China
Xue, Wei-Chen	Tongji University	China
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Ye, Lie-Ping	Tsinghua University	China
Yu, Tao	University of Wollongong	Australia
Yue, Qing-Rui	Central Research Institute of Building and Construction Co., Ltd, MCC Group	China
Zhao, Xiao-Ling	Monash University	Australia
Zhou, Li-Min	The Hong Kong Polytechnic University	Hong Kong, China

## CONFERENCE ORGANIZING COMMITTEE

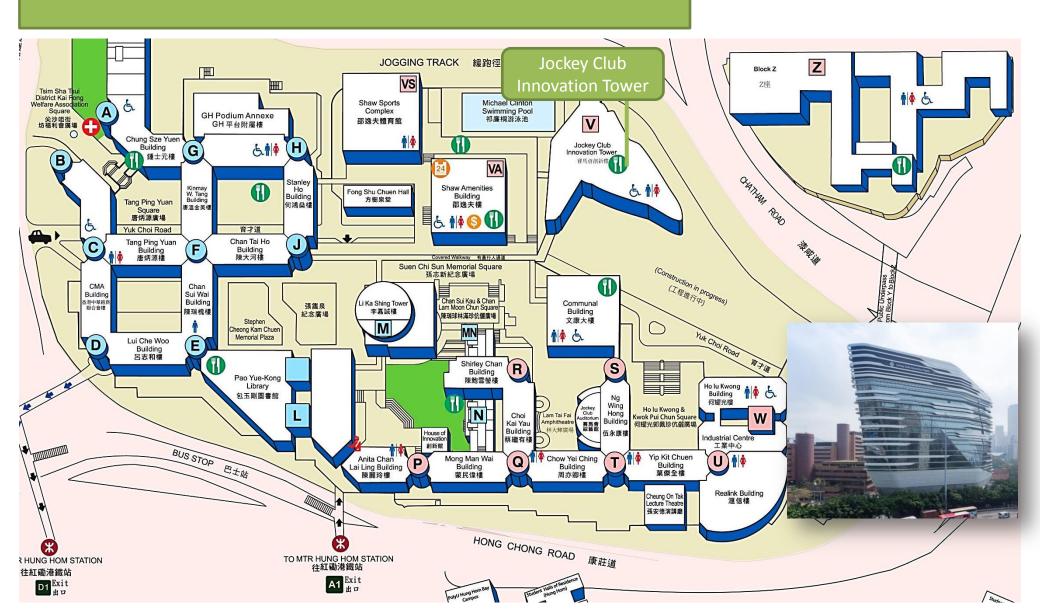
#### Chairman:

Chairman: Teng, Jin-Guang	The Hong Kong Polytechnic University	Hong Kong, China
<b>Co-chairman:</b> Dai, Jian-Guo	The Hong Kong Polytechnic University	Hong Kong, China
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Feng, Peng	Tsinghua University	China
Fernando, Dilum	University of Queensland	Australia
Fu, Bing	Guangdong University of Technology	China
Jiang, Tao	Zhejiang University	China
Lam, Lik	Redland Concrete Ltd	Hong Kong, China
Lau, Denvid	City University of Hong Kong	Hong Kong, China
Wong, Hon-Ting	FibrPro International Ltd	Hong Kong, China
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Wang, Xin	Southeast University	China
Wang, Yan-Lei	Dalian University of Technology	China
Xian, Gui-Jun	Harbin Institute of Technology	China
Xue, Wei-Chen	Tongji University	China
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Yu, Tao	University of Wollongong	Australia
Zhang, Bing	Nanjing Tech University	China
Zhang, Da-Wei	Zhejiang University	China
Zhang, Shi-Shun	University of Wollongong	Australia
Zheng, Yu	Dongguan Institute of Technology	China
Zhou, Ying-Wu	Shenzhen University	China
Wang, Jin-Song	Fyfe (Hong Kong) Limited	Hong Kong, China

### ORGANIZERS OF MINI-SYMPOSIA AND SPECIAL SESSIONS

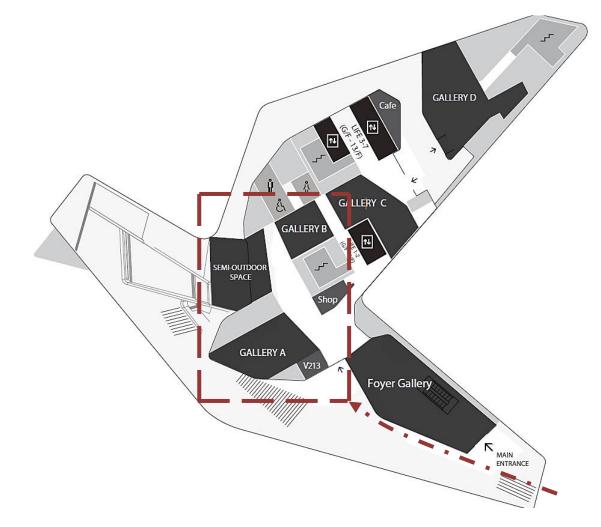
Mini-symposium on Near-Su	urface Mounted FRP for Structural Strengthening	Ţ
Zhang, Shi-Shun	University of Wollongong	Australia
Sena-Cruz, Jose	University of Minho	Portugal
Mini-symposium on Seismic	Retrofit of RC Structures with FRP Composites	
Ilki, Alper	Istanbul Technical University	Turkey
Ferrier, Emmanuel	University of Claude Bernard Lyon 1	France
Mini-symposium on Pres Constructions	tressed FRP for Strengthening and New	
El-Hacha, Raafat	University of Calgary	Canada
Rojob Hothifa	University of Calgary	Canada
Mini-symposium on Strength	eening of Steel Structures with FRP	
Deng, Jun	Guangdong University of Technology	China
Yang, Yongxin	Central Research Institute of Building and Construction Co., Ltd, MCC Group	China
Mini-symposium on FRP-Co	ncrete Hybrid Structures	
Feng, Peng	Tsinghua University	China
Yu, Tao	University of Wollongong	Australia
Mini-symposium on FRP , Construction	Sandwich Structures in Bridge and Building	
Keller, Thomas	Swiss Federal Institute of Technology, Lausanne (EPFL)	Switzerland
Mini-symposium on Struc Impact/Blast Loading	tures Incorporating FRP Composites under	
Remennikov, Alex	University of Wollongong	Australia
Huo, Jingsi	Huaqiao University	China
Special Session on FRP Com	posites in Spatial Structures	
Jiang, Tao	Zhejiang University	China
Gattas, Joe	University of Queensland	Australia
Special Session on Natural F	ibre Composites in Construction	
Xian, Gui-Jun	Harbin Institute of Technology	China
Yan, Libo	Technical University of Braunschweig	Germany

## **Conference Venue: Jockey Club Innovation Tower, PolyU**



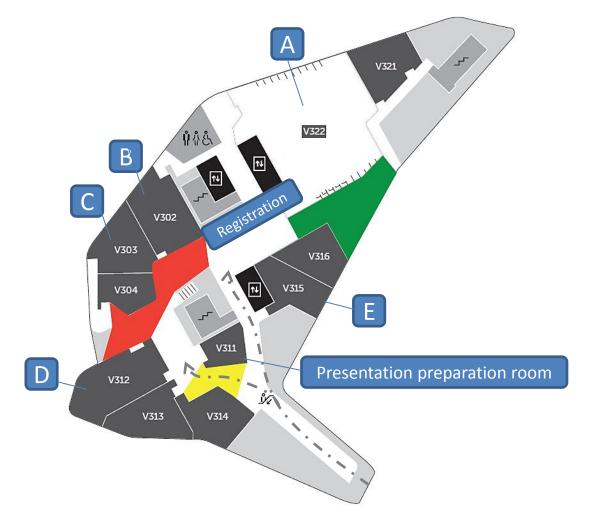
## Venue for Cocktail Reception on 13 December & Venue for Coffee Breaks on 14 – 16 December

Location: Galleries A & B, Exhibition Area, Podium Floor, Jockey Club Innovation Tower, PolyU



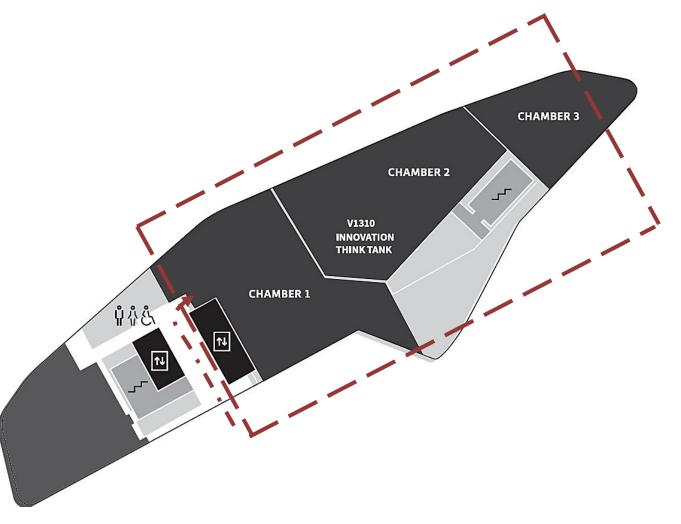
## **Venue for Conference Presentations/Registrations**

Location: Floor 3, Jockey Club Innovation Tower, PolyU



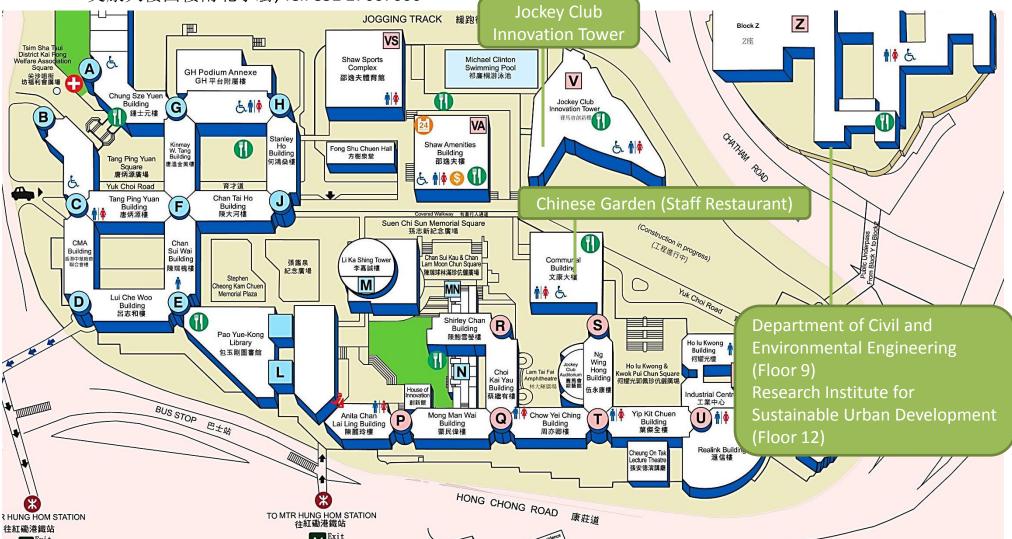
## Venue 1 for Lunch on 14 & 15 December

Location: Innovation Think Tank, Floor 13, Jockey Club Innovation Tower, PolyU



## Venue 2 for Lunch on 14 & 15 December

Location: Chinese Garden (Staff Restaurant), Floor 4, Communal Building, PolyU 文康大樓四樓南北小廚, Tel: 852 27667006



## **Venue for Conference Banquet on 15 December**

#### Sitting-Out 楊通道 Area Jockey Club The Hong Kong 紅菱道休憩處 Polytechnic University... 香港理工大學 Lind **Innovation Tower** 工業中心,W座 6C 6B 1001 ne Hong Kong TT TT TT TT Polytechnic Universiity... Princess Margaret Rduink 香港理工大學賽馬 Royal Peninsula Block 2 半島豪庭2座 The Hong Kong 會創新樓, V座 Polytechnic University.. 香港理工大學 Royal Penir Hong Kong Polytechnic 張安德演講廳 半島 University Jockey Club... 香港理工大學 9 賽馬會綜藝館 CTS Cargo & 67 理工大學S座 Logistics Centre 中旅貨運物流中心 princess Margaret Rd Link **Rehabaid Centre** 復康專科及資源中心 The Hong Kong Polytechnic University. 香港理工大學邵逸夫樓 康莊道 Yuk Choi Rd □ 半島膏 The Hong Kong 1 Polytechnic University... 6A 香港理工大學陳 Royal Peninsula Bl 鮑雪瑩樓, R座 半島豪庭1座 The Hong Kong Polytechnic University... 香港理工大學方樹泉堂 The Hong Kong Polytechnic University... 香港理工大學 A3 🕄 李嘉誠樓, M座 Hong Kong Polytechnic A2 The Hong Kong The Metropolis University Car Park 香港理工大學停車場 The Hong Kong Polytechnic University... Metropolis Tower Polytechnic University... Cheong Wan Rd 香港理工大學 國際都會都會大廈 香港理工大學 何鴻燊樓, HJ翼 陳麗玲樓, P座 P Pri D On Wan Rd Metropolis The Hong Kong Wedding Banquet Specialist, Polytechnic University... Rd The Hong Kong B2 🔀 香港理工大學 陳大河樓, FJ翼 Polytechnic University... Hong Chong F \_ C1 🕄 香港理工大學包 Shop 776, Fortune Metropolis 玉剛圖書館, L座 P 紅磡站停車場 The Hong Kong 煌府婚宴專門店 Polytechnic University... 香港理工大學 Hung Hom 陳瑞槐樓, EF翼 暢運道 Tel: 21806198 The Hong Kong Intercity Through Train Station ATM Polytechnic University... Link garet Rd Link 香港理工大學 C2 -long Kong 城際直涌重 呂志和樓, DE翼 nic University... The Metropolis P Fortune Metropolis 工大學, BC翼 墨 國際都會置富都會 ( <del>0</del> ,通道南 車站停車場P etropolis **Residence Tower 1** Metropo 國際都會都會軒1座 long Tai Path → Cheong Wan Rd 都會大廈 🗖 C3 🕄 D6 1×

Location: Wedding Banquet Specialist, Shop 776, Fortune Metropolis

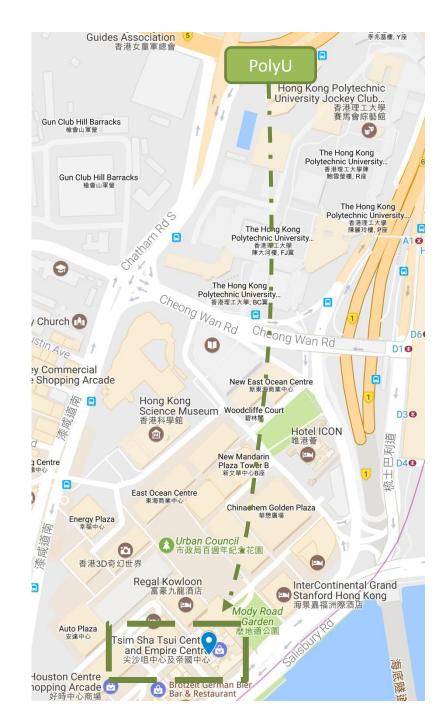
## Venue for Lunch on 16 December

Location:

The Banqueting House, Floor 1, Empire Center, 68 Mody Road East Tsim Sha Tsui, Kowloon 御苑皇宴 Tel: 852 3962 1188

*We will provide shuttle bus services for participants between the restaurant and PolyU Innovation Tower for lunch on 16 December.* 

Gathering time and Point: 12 noon, Lift Lobby Area, Floor 3, Jockey Club Innovation Tower, PolyU



#### **Conference Schedule Overview**

	13 December 2016 (Tuesday)	
Time	Event	Venue
15:00-19:30	Registration	Galleries A & B, Podium Level, Jockey Club Innovation Tower,
18:00-19:30	Cocktail Reception	PolyU

		14 Dec	cember 2016 (Wednesday)			
Time	Event			Venue		
08:00-08:30	Registration			Lift Lo	obby, 3/F, Jockey Club Inno	ovation Tower, PolyU
08:30-08:50	Opening Ceremony Opening Speech: Prof. Alex	x P.K. Wai, Vice President (Research	arch Development), PolyU	Room	V322, 3/F, Jockey Club Inr	novation Tower, PolyU
08:50-09:30	IIFC General Meeting			Room	V322, 3/F, Jockey Club Inr	novation Tower, PolyU
09:30-10:30	Plenary Keynote Session 1	K1 (Chair: Tamon Ueda)		Room	V322, 3/F, Jockey Club Inr	novation Tower, PolyU
10:30-11:00	Tea Break			Galler PolyU		ockey Club Innovation Tower,
			Technical Session	s		
	Stream A (Room V322)	Stream B (Room V302)	Stream C (Room V303)		Stream D (Room V312)	Stream E (Room V315)
	Session A-1	Session B-1	Session C-1		Session D-1	Session E-1
	Flexural Strengthening	FRP-Reinforced Concrete	FRP Strengthening of M	etallic	Seismic Performance	FRP Anchors/Fasteners and
11:00-12:30	of RC Structures	Structures	Structures		of Structures	Strengthening of Masonry
11.00-12.30	(Chairs: Issam E. Harik	(Chairs: M.N.S. Hadi	(Chairs: Xiao-Ling Zhao		Incorporating FRP	Structures
	and Guang-Ming Chen)	and Li-Juan Cheng)	and Ben Young)		Composites	(Chairs: Russell Gentry
					(Chairs: Xin Wang	and Dilum Fernando)
			Lunch		and Michel Laurent)	
12:30-14:00		Communal Buildin	g (Venue 1) and Innovation	Think T	ank (Venue 2), PolyU	
	Session A-2	Session B-2	Session C-2		Session D-2	Session E-2
	Field Applications-1	FRCM-strengthened RC	Mini-symposium		<u>Mini-symposium</u>	<u>Mini-symposium</u>
14:00-15:30	(Chairs: Kent A. Harries	Structures-1	Strengthening of Steel		FRP-Concrete Hybrid	Near-Surface Mounted FRP for
14.00-15.50	and Denvid Lau)	(Chairs: Lik Lam	Structures with FRP-1		Structures-1	Structural Strengthening-1
		and L. H. Sneed)	(Chairs: Jun Deng		(Chairs: Peng Feng	(Chairs: Shishun Zhang
			and Yongxin Yang)		and Tao Yu)	and Jose Sena-Cruz)
15:30-16:00		Galleries A & B	<b>Tea Break</b> , Podium Level, Jockey Club	o Innova	tion Tower. PolvU	
	Session A-3	Session B-3	Session C-3		Session D-3	Session E-3
	Field Applications-2	FRCM-strengthened RC	Mini-symposium		Mini-symposium	<u>Mini-symposium</u>
16:00-17:30	(Chairs: John Myers	Structures-2	Strengthening of Steel		FRP-Concrete Hybrid	Near-Surface Mounted FRP for
10:00-17:50	and Hon-ting Wong)	(Chairs: Carlo Pellegrino	Structures with FRP-2		Structures-2	Structural Strengthening-2
		and Zhenyu Wang)	(Chairs: Jun Deng		(Chairs: Peng Feng	(Chairs: Shishun Zhang
			and Yongxin Yang)		and Tao Yu)	and Jose Sena-Cruz)
17:30-19:00			IIFC Council Meeting (Ro	om V30	(3)	

		15 D	ecember 2016 (Thursday)		
Time	Event		Venu	e	
09:00-10:30	Plenary Keynote Session K	<b>2</b> (Chair: Jian-Fei Chen)	Room	N V322, 3/F, Jockey Club Int	novation Tower, PolyU
10:30-11:00	Tea Break		Galler PolyU		ockey Club Innovation Tower,
			Technical Sessions		
	Stream A (Room V322)	Stream B (Room V302)	Stream C (Room V303)	Stream D (Room V312)	Stream E (Room V315)
11:00-12:30	Session A-4 Innovative Uses of FRP Composites (Chairs: T. Ozbakkaloglu and M. Dawood)	Session B-4 New Structures with Pultruded FRP Profiles (Chairs: Yu Bai and Yan-Lei Wang)	Session C-4 <u>Special Session</u> Natural Fiber Composite in Construction (Chairs: Guijun Xian and Libo Yan)	Session D-4 <b>Hybrid Structures</b> (Chairs: Jia-Lai Wang and Francesco Micelli)	Session E-4 <b>FRP Sandwich Structures and</b> <b>Prestressed FRP</b> (Chairs: Amir Fam and An Chen)
12:30-14:00		Communal Buildir	<b>Lunch</b> ng (Venue 1) and Innovation Think 7	Tank (Venue 2), PolyU	
14:00-15:30	Session A-5 Bond Behavior of Externally Bonded FRP Reinforcement-1 (Chairs: Bao-Lin Wan and Da-Wei Zhang)	Session B-5 Long-term Performance and Material Tests-1 (Chairs: Adel ElSafty and Yong-Chang Guo)	Session C-5 IIFC Best PhD Thesis Award Competition-1 (Chair: Renata Kotynia)	Session D-5 <u>Mini-symposium</u> Seismic Retrofit of RC Structures with FRP Composites-1 (Chairs: Alper Ilki and Emmanuel Ferrier)	Session E-5 <u>Mini-symposium</u> FRP Sandwich Structures in Bridge and Building Construction-1 (Chair: Thomas Keller)
15:30-16:00		Galleries A&B	<b>Tea Break</b> , Podium Level, Jockey Club Innova	ation Tower, PolyU	
16:00-17:30	Session A-6 Bond Behavior of Externally Bonded FRP Reinforcement-2 (Chairs: Asad-Ur-Rehman Khan and Chakrapan Tuakta)	Session B-6 Long-term Performance and Material Tests-2 (Chairs: C.K.Y. Leung and Yu Zheng)	Session C-6 <b>IIFC Best PhD Thesis Award</b> <b>Competition-2</b> (Chair: Renata Kotynia)	Session D-6 <u>Mini-symposium</u> Seismic Retrofit of RC Structures with FRP Composites-2 (Chairs: Alper Ilki and Emmanuel Ferrier)	Session E-6 <u>Mini-symposium</u> FRP Sandwich Structures in Bridge and Building Construction-2 (Chair: Thomas Keller)
17:30-19:00		IIFC Advisory C	committee/Executive Committee M	feeting (Room V303)	
19:00-22:00			<b>Conference Banquet</b> beaker: Prof. Timothy W. Tong, Pres Shop 776, Level 7, Fortune Metropol		g Hom

		16 D	ecember 2016 (Friday)		
Time	Event		Venue	9	
09:00-10:30	Plenary Keynote Session	K3 (Chair: Lawrence C. Bank)	Room	V322, 3/F, Jockey Club Int	novation Tower, PolyU
10:30-11:00	Tea Break		Galler PolyU		ockey Club Innovation Tower,
			Technical Sessions		
	Stream A (Room V322)	Stream B (Room V302)	Stream C (Room V303)	Stream D (Room V312)	Stream E (Room V315)
11:00-12:30	Session A-7 Spatial and Hybrid Structures (Chairs: J.G. Dai and Sylvain Bel)	Session B-7 FRP and FRP-strengthened Structures under Severe Conditions (Chairs: Luke Bisby and Rebecca Gravina)	Session C-7 Elevated Temperature and Fire Behavior (Chairs: Mark F. Green and Wan-Yang Gao)	Session D-7 <b>Confinement-1</b> (Chairs: Yan Xiao and Guan Lin)	Session E-7 Bond of Internal FRP Reinforcement (Chairs: Enzo Martinelli and Bing Fu)
12:30-14:00		/	Lunch Empire Centre, 68 Mody Road, Ea	st Tsim Sha Tsui, Kowloon	
14:00-15:30		Session B-8 Shear Strengthening of RC Structures (Chairs: Maria Anna Polak and Akihisa Kamiharako)	Session C-8 <u>Mini-symposium</u> Structures Incorporating FRP Composites under Impact/Blast Loading-1 (Chairs: Alex Remennikov and Jingsi Huo)	Session D-8 Confinement-2 (Chairs: Yan Zhuge and Yu-Lei Bai)	Session E-8 <u>Mini-symposium</u> Prestressed FRP for Strengthening and New Constructions-1 (Chairs: Raafat El-Hacha and Hothifa Rojob)
15:30-16:00		Galleries A & B,	Tea Break Podium Level, Jockey Club Innova	ation Tower, PolyU	¥ /
16:00-17:30		Session B-9 <u>Special Session</u> FRP Composites in Spatial Structures (Chairs: Tao Jiang and Joe Gattas)	Session C-9 <u>Mini-symposium</u> Structures Incorporating FRP Composites under Impact/Blast Loading-2 (Chairs: Alex Remennikov and Jingsi Huo)	Session D-9 <b>Confinement-3</b> (Chairs: Yu-Fei Wu and Thong M. Pham)	Session E-9 <u>Mini-symposium</u> Prestressed FRP for Strengthening and New Constructions-2 (Chairs: Raafat El-Hacha and Hothifa Rojob)
17:30-18:00		Closing Ceremony and Prese	ntation of Best Paper and Best Ph	D Thesis Awards (Room	5

## **CICE 2016 Final Programme**

	14 December 2016 (Wednesday)
08:00-08:30	Registration
08:30-08:50	Opening Ceremony (Room V322)
	Opening Speech: Prof. Alex P.K. Wai, Vice President (Research Development), PolyU
08:50-09:30	IIFC General Meeting (Room V322)
09:30-10:30	Plenary Keynote Session K1 (Room V322)
	Chair: Tamon Ueda
09:30-10:00	DEBONDING FAILURES IN FRP-STRENGTHENED RC STRUCTURES: RECENT
	ADVANCES AND RESEARCH NEEDS
	J.F. Chen, G.M. Chen and J.G. Teng
10:00-10:30	DURABILITY OF FRP REBARS IN AGGRESSIVE ENVIRONMENTS
	Brahim Benmokrane and Ahmed H. Ali
10:30-11:00	Tea Break
11:00-12:30	Session A-1 (Room V322)
	Flexural Strengthening of RC Structures
	Chairs: Issam E. Harik and Guang-Ming Chen
11:00-11:15	COMPARISON OF MODELS FOR PREDICTING THE BEHAVIOURS OF FRP
	STRENGTHENED CONCRETE BEAMS CONSIDERING COMPRESSIVE MEMBRANE
	ACTION
	Y. Zeng, R. Caspeele, S. Matthys and L. Taerwe
11:15-11:30	FORCE DISTRIBUTION BETWEEN INTERIOR STEEL REINFORCEMENT AND
	EXTERNALLY BONDED CFRP OF RC BEAMS UNDER CYCLIC LOADING
	T. Leusmann and H. Budelmann
11:30-11:45	SHORT AND LONG TERM PERFORMANCE OF CFRP LAMINATE PRODUCED USING
	FURFURYL ALCOHOL BIO RESIN FOR CONCRETE RETROFITTING
	K. Mak, C. McSwiggan, and A. Fam
11:45-12:00	STRENGTH AND DUCTILITY OF CFRP STRENGTHENED HIGHWAY PC GIRDERS:
	AN FEM INVESTIGATION
10.00.10.15	T. Bai, B. Yan, H. Ataei and R. Aboutaha
12:00-12:15	EXPERIMENTAL STUDY ON BOND BEHAVIOR OF EXTERNALLY BONDED BFRP
	SHEETS - CONCRETE JOINTS UNDER SUSTAINED LOADING
10.15 10.20	K. Iwashita, Z.D. Tang, T. Yamauchi, O. Kondo and H. TakamiEFFECT OF U-SHAPE FRP ANCHORAGE ON THE SEPARATION OF BEAM-TYPE
12:15-12:30	CANTILEVER STRENGTHENED WITH CFRP LAMINATE
	D.W. Zhang, H.F. Shi, W.L. Jin, X.Y. Liang and T. Ueda
11:00-12:15	Session B-1 (Room V302)
11:00-12:15	FRP-Reinforced Concrete Structures
	Chairs: M.N.S. Hadi and Li-Juan Cheng
11:00-11:15	INFLUENCE OF USING PITCH-BASED ULTRA-HIGH MODULUS CARBON FIBRES ON
11.00-11.15	THE STRUCTURAL BEHAVIOUR OF FRP REINFORCED CONCRETE SLABS
	P. Reiter, B. Zwingmann, Y. Liu and M. Schlaich
11:15-11:30	DEVELOPMENT OF BRAIDED BASALT FRP REBAR FOR REINFORCEMENT OF
11.15-11.50	CONCRETE STRUCTURES
	S. Antonopoulou, C. McNally and G. Byrne
11:30-11:45	AXIAL BEHAVIOUR OF CIRCULAR GEOPOLYMER CONCRETE COLUMNS
11.50-11.45	REINFORCED WITH GFRP BARS AND SPIRALS
	G.B. Maranan, A.C. Manalo, B. Benmokrane, W.M. Karunasena and P.A. Mendis
	O.B. Iviai anani, A.C. Ivianato, B. Bennioki ane, W.W. Kalunasena and F.A. Iviendis

11:45-12:00	EXPERIMENTAL AND NUMERICAL STUDY ON THE SHEAR BEHAVIOUR OF
	GEOMETRICALLY SIMILAR FRP RC BEAMS
	Szymon Cholostiakow, Matteo Di Benedetti, Maurizio Guadagnini, Chandan Gowda, Joaquim
	Barros and Emanuele Zappa
12:00-12:15	AN EXPERIMENTAL STUDY ABOUT THE SHEAR BEHAVIOR OF HIGH STRENGTH
	CONCRETE BEAMS REINFORCED WITH FRP BARS
	H.O.A. Said, Y.A. Hassanean and A.M.A. Moussa
11:00-12:15	Session C-1 (Room V303)
	FRP Strengthening of Metallic Structures
	Chairs: Xiao-Ling Zhao and Ben Young
11:00-11:15	REINFORCEMENT OF OLD STEEL STRUCTURES BY CFRP BONDING -
	EXPERIMENTAL DETERMINATION OF MODIFIED MODE I STRESS INTENSITY
	FACTOR
	E. Lepretre, S. Chataigner, L. Dieng and L. Gaillet
11:15-11:30	DEVELOPMENT OF REPAIR AND STRENGTHENING METHOD OF STEEL MEMBERS
	USING VARTM TECHNOLOGY
	H. Nakamura, R. Kondo, T. Matsui and Y. Matsumoto
11:30-11:45	RELIABILITY ANALYSIS OF ADHESIVELY BONDED CFRP-TO-STEEL DOUBLE-LAP
	SHEAR JOINTS WITH THIN OUTER ADHERENDS
	M. Liu and M. Dawood
11:45-12:00	FATIGUE LIFE EXTENSION OF A STEEL PLATE WITH AN EDGE CRACK BY CFRP
	PLATES BONDING
	R. Matsumoto, M. Takemura, T. Ishikawa, Y. Hiratsuka and H. Kawano
12:00-12:15	EVALUATION OF FATIGUE DURABILITY OF ADHESIVELY BONDED JOINTS
	BETWEEN STEEL PLATE AND CFRP LAMINATES
	V. Thay, H. Nakamura and S. Tezuka
11:00-12:00	Session D-1 (Room V312)
11:00-12:00	Session D-1 (Room V312) Seismic Performance of Structures Incorporating FRP Composites
	Session D-1 (Room V312)         Seismic Performance of Structures Incorporating FRP Composites         Chairs: Xin Wang and Michel Laurent
11:00-12:00 11:00-11:15	Session D-1 (Room V312)         Seismic Performance of Structures Incorporating FRP Composites         Chairs: Xin Wang and Michel Laurent         HYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRP
	Session D-1 (Room V312)         Seismic Performance of Structures Incorporating FRP Composites         Chairs: Xin Wang and Michel Laurent         HYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRP         COMPOSITE BARS UNDER QUASI-STATIC LOADING
11:00-11:15	Session D-1 (Room V312)         Seismic Performance of Structures Incorporating FRP Composites         Chairs: Xin Wang and Michel Laurent         HYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRP         COMPOSITE BARS UNDER QUASI-STATIC LOADING         Z.Y. Sun, J.Q. Liu, G. Wu and Z.S. Wu
	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELS
11:00-11:15 11:15-11:30	Session D-1 (Room V312)         Seismic Performance of Structures Incorporating FRP Composites         Chairs: Xin Wang and Michel Laurent         HYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRP         COMPOSITE BARS UNDER QUASI-STATIC LOADING         Z.Y. Sun, J.Q. Liu, G. Wu and Z.S. Wu         SEISMIC BEHAVIOR OF GLASS FRP WALL PANELS         H. Wu and A. Chen
11:00-11:15	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENED
11:00-11:15 11:15-11:30	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNS
11:00-11:15         11:15-11:30         11:30-11:45	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNSD.Y. Wang, Z.Y. Wang and X.B. Song
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11:00-11:15         11:15-11:30         11:30-11:45	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNSD.Y. Wang, Z.Y. Wang and X.B. SongANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERSREINFORCED WITH STEEL AND FRP BARS
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNSD.Y. Wang, Z.Y. Wang and X.B. SongANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERSREINFORCED WITH STEEL AND FRP BARSZhenyu Wang and Zhongkui Cai
11:00-11:15         11:15-11:30         11:30-11:45	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNSD.Y. Wang, Z.Y. Wang and X.B. SongANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERSREINFORCED WITH STEEL AND FRP BARSZhenyu Wang and Zhongkui CaiSession E-1 (Room V315)
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNSD.Y. Wang, Z.Y. Wang and X.B. SongANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERSREINFORCED WITH STEEL AND FRP BARSZhenyu Wang and Zhongkui CaiSession E-1 (Room V315)FRP Anchors / Fasteners and Strengthening of Masonry Structures
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00         11:00-12:15	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNSD.Y. Wang, Z.Y. Wang and X.B. SongANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERSREINFORCED WITH STEEL AND FRP BARSZhenyu Wang and Zhongkui CaiSession E-1 (Room V315)FRP Anchors / Fasteners and Strengthening of Masonry StructuresChairs: Russell Gentry and Dilum Fernando
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNSD.Y. Wang, Z.Y. Wang and X.B. SongANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERSREINFORCED WITH STEEL AND FRP BARSZhenyu Wang and Zhongkui CaiSession E-1 (Room V315)FRP Anchors / Fasteners and Strengthening of Masonry StructuresChairs: Russell Gentry and Dilum FernandoAN EXPERIMENTAL INVESTIGATION ON THE SPLAY PORTION OF EMBEDDED
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00         11:00-12:15	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP Composites Chairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRP COMPOSITE BARS UNDER QUASI-STATIC LOADING Z.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELS H. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENED FULL-SCALE RECTANGULAR RC COLUMNS D.Y. Wang, Z.Y. Wang and X.B. SongANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERS REINFORCED WITH STEEL AND FRP BARS Zhenyu Wang and Zhongkui CaiSession E-1 (Room V315)FRP Anchors / Fasteners and Strengthening of Masonry Structures Chairs: Russell Gentry and Dilum Fernando AN EXPERIMENTAL INVESTIGATION ON THE SPLAY PORTION OF EMBEDDED FRP TENSION ANCHORS
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00         11:00-12:15         11:00-11:15	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNSD.Y. Wang, Z.Y. Wang and X.B. SongANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERSREINFORCED WITH STEEL AND FRP BARSZhenyu Wang and Zhongkui CaiSession E-1 (Room V315)FRP Anchors / Fasteners and Strengthening of Masonry StructuresChairs: Russell Gentry and Dilum FernandoAN EXPERIMENTAL INVESTIGATION ON THE SPLAY PORTION OF EMBEDDEDFRP TENSION ANCHORSRavi Kanitkar, Scott T. Smith and Chris Lewis
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00         11:00-12:15	Session D-1 (Room V312)Seismic Performance of Structures Incorporating FRP CompositesChairs: Xin Wang and Michel LaurentHYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRPCOMPOSITE BARS UNDER QUASI-STATIC LOADINGZ.Y. Sun, J.Q. Liu, G. Wu and Z.S. WuSEISMIC BEHAVIOR OF GLASS FRP WALL PANELSH. Wu and A. ChenEXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENEDFULL-SCALE RECTANGULAR RC COLUMNSD.Y. Wang, Z.Y. Wang and X.B. SongANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERSREINFORCED WITH STEEL AND FRP BARSZhenyu Wang and Zhongkui CaiSession E-1 (Room V315)FRP Anchors / Fasteners and Strengthening of Masonry StructuresChairs: Russell Gentry and Dilum FernandoAN EXPERIMENTAL INVESTIGATION ON THE SPLAY PORTION OF EMBEDDEDFRP TENSION ANCHORSRavi Kanitkar, Scott T. Smith and Chris LewisFORCE-BASED MODEL FOR STRAIGHT FRP ANCHORS EXHIBITING FIBRE
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00         11:00-12:15         11:00-11:15	Session D-1 (Room V312)         Seismic Performance of Structures Incorporating FRP Composites         Chairs: Xin Wang and Michel Laurent         HYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRP         COMPOSITE BARS UNDER QUASI-STATIC LOADING         Z.Y. Sun, J.Q. Liu, G. Wu and Z.S. Wu         SEISMIC BEHAVIOR OF GLASS FRP WALL PANELS         H. Wu and A. Chen         EXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENED         FULL-SCALE RECTANGULAR RC COLUMNS         D.Y. Wang, Z.Y. Wang and X.B. Song         ANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERS         REINFORCED WITH STEEL AND FRP BARS         Zhenyu Wang and Zhongkui Cai         Session E-1 (Room V315)         FRP Anchors / Fasteners and Strengthening of Masonry Structures         Chairs: Russell Gentry and Dilum Fernando         AN EXPERIMENTAL INVESTIGATION ON THE SPLAY PORTION OF EMBEDDED         FRP TENSION ANCHORS         Ravi Kanitkar, Scott T. Smith and Chris Lewis         FORCE-BASED MODEL FOR STRAIGHT FRP ANCHORS EXHIBITING FIBRE         RUPTURE FAILURE MODE
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00         11:00-12:15         11:00-11:15         11:15-11:30	Session D-1 (Room V312)         Seismic Performance of Structures Incorporating FRP Composites         Chairs: Xin Wang and Michel Laurent         HYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRP         COMPOSITE BARS UNDER QUASI-STATIC LOADING         Z.Y. Sun, J.Q. Liu, G. Wu and Z.S. Wu         SEISMIC BEHAVIOR OF GLASS FRP WALL PANELS         H. Wu and A. Chen         EXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENED         FULL-SCALE RECTANGULAR RC COLUMNS         D.Y. Wang, Z.Y. Wang and X.B. Song         ANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERS         REINFORCED WITH STEEL AND FRP BARS         Zhenyu Wang and Zhongkui Cai         Session E-1 (Room V315)         FRP Anchors / Fasteners and Strengthening of Masonry Structures         Chairs: Russell Gentry and Dilum Fernando         AN EXPERIMENTAL INVESTIGATION ON THE SPLAY PORTION OF EMBEDDED         FRP TENSION ANCHORS         Ravi Kanitkar, Scott T. Smith and Chris Lewis         FORCE-BASED MODEL FOR STRAIGHT FRP ANCHORS EXHIBITING FIBRE         RUPTURE FAILURE MODE         E. del Rey Castillo, M. Griffith and J. M. Ingham
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00         11:00-12:15         11:00-11:15	Session D-1 (Room V312)         Seismic Performance of Structures Incorporating FRP Composites         Chairs: Xin Wang and Michel Laurent         HYSTERIC BEHAVIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRP         COMPOSITE BARS UNDER QUASI-STATIC LOADING         Z.Y. Sun, J.Q. Liu, G. Wu and Z.S. Wu         SEISMIC BEHAVIOR OF GLASS FRP WALL PANELS         H. Wu and A. Chen         EXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENED         FULL-SCALE RECTANGULAR RC COLUMNS         D.Y. Wang, Z.Y. Wang and X.B. Song         ANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERS         REINFORCED WITH STEEL AND FRP BARS         Zhenyu Wang and Zhongkui Cai         Session E-1 (Room V315)         FRP Anchors / Fasteners and Strengthening of Masonry Structures         Chairs: Russell Gentry and Dilum Fernando         AN EXPERIMENTAL INVESTIGATION ON THE SPLAY PORTION OF EMBEDDED         FRP TENSION ANCHORS         Ravi Kanitkar, Scott T. Smith and Chris Lewis         FORCE-BASED MODEL FOR STRAIGHT FRP ANCHORS EXHIBITING FIBRE         RUPTURE FAILURE MODE
11:00-11:15         11:15-11:30         11:30-11:45         11:45-12:00         11:00-12:15         11:00-11:15         11:15-11:30	Session D-1 (Room V312)         Seismic Performance of Structures Incorporating FRP Composites         Chairs: Xin Wang and Michel Laurent         HYSTERIC BEHA VIOR OF CONCRETE COLUMNS REINFORCED BY STEEL-FRP         COMPOSITE BARS UNDER QUASI-STATIC LOADING         Z.Y. Sun, J.Q. Liu, G. Wu and Z.S. Wu         SEISMIC BEHAVIOR OF GLASS FRP WALL PANELS         H. Wu and A. Chen         EXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF CFRP STRENGTHENED         FULL-SCALE RECTANGULAR RC COLUMNS         D.Y. Wang, Z.Y. Wang and X.B. Song         ANALYSIS OF POST-TENSIONED PRECAST SEGMENTAL BRIDGE PIERS         REINFORCED WITH STEEL AND FRP BARS         Zhenyu Wang and Zhongkui Cai         Session E-1 (Room V315)         FRP Anchors / Fasteners and Strengthening of Masonry Structures         Chairs: Russell Gentry and Dilum Fernando         AN EXPERIMENTAL INVESTIGATION ON THE SPLAY PORTION OF EMBEDDED         FRP TENSION ANCHORS         Ravi Kanitkar, Scott T. Smith and Chris Lewis         FORCE-BASED MODEL FOR STRAIGHT FRP ANCHORS EXHIBITING FIBRE         RUPTURE FAILURE MODE         E. del Rey Castillo, M. Griffith and J. M. Ingham         BEARING STRENGTH OF SMALL-DIAMETER SELF-TAPPING FASTENERS IN

11:45-12:00	CONTRIBUTION OF EXTERNALLY BONDED FRP TO FLEXURAL CAPACITY OF
11.15 12.00	REINFORCED MASONRY WALLS SUBJECTED TO OUT-OF-PLANE LOAD
	Z. Aljaberi and J.J. Myers
12:00-12:15	EXPERIMENTAL RESEARCH ON MASONRY WALL STRENGTHENED WITH LARGE
12.00 12.15	RUPTURE STRAIN FRP
	Xi Chen, Xiangmin Li, Qingfeng Xu, Lingzhu Chen, Rundong Gao, Zhuolin Wang
12:30-14:00	Lunch
14:00-15:15	Session A-2 (Room V322)
14.00 15.15	Field Applications – 1
	Chairs: Kent A. Harries and Denvid Lau
14:00-14:15	A REVIEW OF GEOTECHNICAL APPLICATIONS OF FIBRE REINFORCED POLYMER
11100 11110	MATERIALS
	J.L. Zhou, X. Zhang, H. Jiang, M. Bolton and E. Oh
14:15-14:30	A REVIEW ON DEVELOPMENT AND APPLICATIONS OF HYBRID COMPOSITE
1110 11100	PLATE (HCP): A ROBUST RETROFITTING SOLUTION FOR RC MEMBERS
	E. Esmaeeli
14:30-14:45	UPGRADING THE DUNDAS POINT BOARDWALK, APPLECROSS WITH THE USE OF
1 1100 1 1110	GFRP BAR REINFORCED CONCRETE COLUMNS AND FOOTINGS
	J. Brown
14:45-15:00	FLEXURAL DESIGN OF LIGHT RAIL GUIDEWAY GIRDERS USING ULTRA-HIGH-
	PERFORMANCE FIBRE-REINFORCED CONCRETE AND GLASS-FIBRE-REINFORCED
	POLYMER
	D. Hubbell and P. Gauvreau
15:00-15:15	EXPERIMENTAL AND NUMERICAL ANALYSIS OF AN FRP LIGHTHOUSE
	SUBJECTED TO FREE VIBRATIONS
	J.D. Jiménez-Vicaria, P. Sánchez-Sierra, E. Navarro-Lera and C. Paulotto
14.00.15.20	
14:00-15:30	Session B-2 (Room V302)
14:00-15:30	Session B-2 (Room V302) FRCM-strengthened RC Structures – 1
14:00-15:30	
14:00-15:30	FRCM-strengthened RC Structures – 1
	FRCM-strengthened RC Structures – 1 Chairs: Lik Lam and L.H. Sneed
	FRCM-strengthened RC Structures – 1         Chairs: Lik Lam and L.H. Sneed         DURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETE
	FRCM-strengthened RC Structures – 1Chairs: Lik Lam and L.H. SneedDURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETEUNDER DIFFERENT ENVIRONMENTAL AGEING CONDITIONSZ.R. Aljazaeri and J.J. MyersINFLUENCE OF THE FIBER TYPE ON THE BONDING OF FRCM COMPOSITE STRIPS
14:00-14:15	FRCM-strengthened RC Structures – 1Chairs: Lik Lam and L.H. SneedDURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETEUNDER DIFFERENT ENVIRONMENTAL AGEING CONDITIONSZ.R. Aljazaeri and J.J. Myers
14:00-14:15 14:15-14:30	FRCM-strengthened RC Structures – 1Chairs: Lik Lam and L.H. SneedDURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETEUNDER DIFFERENT ENVIRONMENTAL AGEING CONDITIONSZ.R. Aljazaeri and J.J. MyersINFLUENCE OF THE FIBER TYPE ON THE BONDING OF FRCM COMPOSITE STRIPSAPPLIED TO CONCRETE SUBSTRATESC. Sabau, J.H. Gonzalez-Libreros, L.H. Sneed, C. Pellegrino and G. Sas
14:00-14:15	FRCM-strengthened RC Structures – 1Chairs: Lik Lam and L.H. SneedDURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETEUNDER DIFFERENT ENVIRONMENTAL AGEING CONDITIONSZ.R. Aljazaeri and J.J. MyersINFLUENCE OF THE FIBER TYPE ON THE BONDING OF FRCM COMPOSITE STRIPSAPPLIED TO CONCRETE SUBSTRATESC. Sabau, J.H. Gonzalez-Libreros, L.H. Sneed, C. Pellegrino and G. SasSHEAR STRENGTHENING OF RC BEAMS WITH FRCM: WHAT DO WE KNOW SO
14:00-14:15 14:15-14:30	FRCM-strengthened RC Structures – 1Chairs: Lik Lam and L.H. SneedDURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETEUNDER DIFFERENT ENVIRONMENTAL AGEING CONDITIONSZ.R. Aljazaeri and J.J. MyersINFLUENCE OF THE FIBER TYPE ON THE BONDING OF FRCM COMPOSITE STRIPSAPPLIED TO CONCRETE SUBSTRATESC. Sabau, J.H. Gonzalez-Libreros, L.H. Sneed, C. Pellegrino and G. SasSHEAR STRENGTHENING OF RC BEAMS WITH FRCM: WHAT DO WE KNOW SOFAR?
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14:00-14:15         14:15-14:30         14:30-14:45         14:45-15:00         15:00-15:15         15:15-15:30	FRCM-strengthened RC Structures – 1 Chairs: Lik Lam and L.H. SneedDURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETE UNDER DIFFERENT ENVIRONMENTAL AGEING CONDITIONS Z.R. Aljazaeri and J.J. MyersINFLUENCE OF THE FIBER TYPE ON THE BONDING OF FRCM COMPOSITE STRIPS APPLIED TO CONCRETE SUBSTRATES C. Sabau, J.H. Gonzalez-Libreros, L.H. Sneed, C. Pellegrino and G. SasSHEAR STRENGTHENING OF RC BEAMS WITH FRCM: WHAT DO WE KNOW SO FAR? J.H. Gonzalez-Libreros, C. Sabau, L.H. Sneed, C. Pellegrino and G. SasON TENSILE BEHAVIOR OF FRCM MATERIALS: AN OVERVIEW B. Ferracuti and F. NerilliSTRENGTHENING OF SHEAR DEFICIENT REINFORCED CONCRETE BEAMS WITH TEXTILE REINFORCED MORTAR (TRM) A. Khan and F. MasoodBONDING BEHAVIOUR AND SHEAR STRENGTHENING EFFECT OF CFRP GRID WITH PCM SHOTCRETE METHOD FOR RC MEMBER Rui Guo, Shinichi Hino, Shigetada Hatakeyama, Atsuya Komori and Kenshi TaniguchiSession C-2 (Room V303) Mini-symposium on Strengthening of Steel Structures with FRP - 1
14:00-14:15         14:15-14:30         14:30-14:45         14:45-15:00         15:00-15:15         15:15-15:30         14:00-15:40	FRCM-strengthened RC Structures – 1Chairs: Lik Lam and L.H. SneedDURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETEUNDER DIFFERENT ENVIRONMENTAL AGEING CONDITIONSZ.R. Aljazaeri and J.J. MyersINFLUENCE OF THE FIBER TYPE ON THE BONDING OF FRCM COMPOSITE STRIPSAPPLIED TO CONCRETE SUBSTRATESC. Sabau, J.H. Gonzalez-Libreros, L.H. Sneed, C. Pellegrino and G. SasSHEAR STRENGTHENING OF RC BEAMS WITH FRCM: WHAT DO WE KNOW SOFAR?J.H. Gonzalez-Libreros, C. Sabau, L.H. Sneed, C. Pellegrino and G. SasON TENSILE BEHA VIOR OF FRCM MATERIALS: AN OVERVIEWB. Ferracuti and F. NerilliSTRENGTHENING OF SHEAR DEFICIENT REINFORCED CONCRETE BEAMS WITHTEXTILE REINFORCED MORTAR (TRM)A. Khan and F. MasoodBONDING BEHAVIOUR AND SHEAR STRENGTHENING EFFECT OF CFRP GRIDWITH PCM SHOTCRETE METHOD FOR RC MEMBERRui Guo, Shinichi Hino, Shigetada Hatakeyama, Atsuya Komori and Kenshi TaniguchiSession C-2 (Room V303)Mini-symposium on Strengthening of Steel Structures with FRP - 1Chairs: Jun Deng and Yongxin Yang
14:00-14:15         14:15-14:30         14:30-14:45         14:45-15:00         15:00-15:15         15:15-15:30	FRCM-strengthened RC Structures – 1 Chairs: Lik Lam and L.H. SneedDURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETE UNDER DIFFERENT ENVIRONMENTAL AGEING CONDITIONS Z.R. Aljazaeri and J.J. MyersINFLUENCE OF THE FIBER TYPE ON THE BONDING OF FRCM COMPOSITE STRIPS APPLIED TO CONCRETE SUBSTRATES C. Sabau, J.H. Gonzalez-Libreros, L.H. Sneed, C. Pellegrino and G. SasSHEAR STRENGTHENING OF RC BEAMS WITH FRCM: WHAT DO WE KNOW SO FAR? J.H. Gonzalez-Libreros, C. Sabau, L.H. Sneed, C. Pellegrino and G. SasON TENSILE BEHA VIOR OF FRCM MATERIALS: AN OVERVIEW B. Ferracuti and F. NerilliSTRENGTHENING OF SHEAR DEFICIENT REINFORCED CONCRETE BEAMS WITH TEXTILE REINFORCED MORTAR (TRM) A. Khan and F. MasoodBONDING BEHAVIOUR AND SHEAR STRENGTHENING EFFECT OF CFRP GRID WITH PCM SHOTCRETE METHOD FOR RC MEMBER Rui Guo, Shinichi Hino, Shigetada Hatakeyama, Atsuya Komori and Kenshi TaniguchiSession C-2 (Room V303) Mini-symposium on Strengthening of Steel Structures with FRP - 1 Chairs: Jun Deng and Yongxin YangDURABILITY OF STEEL BEAMS STRENGTHENED WITH CFRP PLATE
14:00-14:15         14:15-14:30         14:30-14:45         14:45-15:00         15:00-15:15         15:15-15:30         14:00-15:40	FRCM-strengthened RC Structures – 1Chairs: Lik Lam and L.H. SneedDURABILITY PERFORMANCE OF FRCM COMPOSITE BONDED TO CONCRETEUNDER DIFFERENT ENVIRONMENTAL AGEING CONDITIONSZ.R. Aljazaeri and J.J. MyersINFLUENCE OF THE FIBER TYPE ON THE BONDING OF FRCM COMPOSITE STRIPSAPPLIED TO CONCRETE SUBSTRATESC. Sabau, J.H. Gonzalez-Libreros, L.H. Sneed, C. Pellegrino and G. SasSHEAR STRENGTHENING OF RC BEAMS WITH FRCM: WHAT DO WE KNOW SOFAR?J.H. Gonzalez-Libreros, C. Sabau, L.H. Sneed, C. Pellegrino and G. SasON TENSILE BEHA VIOR OF FRCM MATERIALS: AN OVERVIEWB. Ferracuti and F. NerilliSTRENGTHENING OF SHEAR DEFICIENT REINFORCED CONCRETE BEAMS WITHTEXTILE REINFORCED MORTAR (TRM)A. Khan and F. MasoodBONDING BEHAVIOUR AND SHEAR STRENGTHENING EFFECT OF CFRP GRIDWITH PCM SHOTCRETE METHOD FOR RC MEMBERRui Guo, Shinichi Hino, Shigetada Hatakeyama, Atsuya Komori and Kenshi TaniguchiSession C-2 (Room V303)Mini-symposium on Strengthening of Steel Structures with FRP - 1Chairs: Jun Deng and Yongxin Yang

14:25-14:40	EXPERIMENTAL STUDY ON INTERFACIAL BONDING BEHAVIORS BETWEEN ECC
	AND CONCRETE
	Jun Tian and Wenwei Wang
14:40-14:55	ANALYSIS OF BUCKLING BEHAVIORS OF CFRP-ALUMINUM HYBRID COLUMNS
	L.L. Hu, P. Feng, P. Qian and L.P. Ye
14:55-15:10	EXPERIMENTAL STUDY ON THE FATIGUE BEHAVIOUR OF CRACKED STEEL
	BEAMS STRENGTHENED BY DIFFERENT HIGH STRENGTH MATERIALS
	Q.Q. Yu and Y.F. Wu
15:10-15:25	MODE-I FATIGUE CRACK ARREST IN METALLIC GIRDERS USING PRE-STRESSED
	UN-BONDED CFRP PLATES
	Elyas Ghafoori and Masoud Motavalli
15:25-15:40	COMPARISON AND ANALYSIS OF THE EFFECT OF STRENGTHENING STEEL PLATE
	WITH VOLUME TYPE DEFECT BY CFRP ON ONE SIDE
	Zheng Xue, Bin Jia, Xiao Liu and Jianwei Yu
14:00-15:30	Session D-2 (Room V312)
	Mini-symposium on FRP-Concrete Hybrid Structures - 1
	Chairs: Peng Feng and Tao Yu
14:00-14:15	EFFECT OF GLASS TRANSITION TEMPERATURE ON FLEXURAL BEHAVIOR OF
	GFRP AND UFC COMPOSITE BEAMS
	I.S.K. Wijayawardane and H. Mutsuyoshi
14:15-14:30	THEORETIC FAILURE MODES MAP FOR GFRP SHS COLUMNS UNDER
	COMPRESSION WITH EXPERIMENTAL VALIDATION
	Lei Xie, Yujun Qi, Yu Bai, Colin Caprani and Hao Wang
14:30-14:45	EXPERIMENTAL STUDY ON BOND BEHAVIOR BETWEEN CONCRETE AND GFRP
	PULTRUDED I-SECTION USING PUSH-OUT TEST
	J.S. Yuan and M.N.S. Hadi
14:45-15:00	EXPERIMENTAL INVESTIGATION OF GFRP REINFORCED SQUARE CONCRETE
	COLUMNS UNDER AXIAL AND ECCENTRIC LOADING
	Jim Youssef and Muhammad N.S. Hadi
15:00-15:15	HYBRID DOUBLE-SKIN TUBULAR COLUMNS WITH A LARGE RUPTURE STRAIN
	FRP OUTER TUBE: STUB COLUMN TESTS
15 15 15 20	T. Yu, S.S. Zhang, L. Huang and C. Chan
15:15-15:30	FRP-CONFINED CONCRETE-ENCASED CROSS-SHAPED STEEL COLUMNS: STUB
	COLUMN TESTS
14.00 15.40	L. Huang, T. Yu, S.S. Zhang and Z.Y. Wang
14:00-15:40	Session E-2 (Room V315) Mini group active an Near Surface Manufed EBB for Structural Structural Structural Structural Structure 1
	Mini-symposium on Near-Surface Mounted FRP for Structural Strengthening - 1 Chairs: Shishun Zhang and Jose Sena-Cruz
14:00-14:25	BOND ON NSM CFRP SYSTEMS: RECENT CONTRIBUTIONS OF UMINHO ON
14.00-14.23	DURABILITY, QUALITY CONTROL AND DESIGN
	(Invited Presentation)
	J. Sena-Cruz, P. Fernandes, M. Coelho, P. Silva, J. Granja, A. Benedetti, M. Azenha and L.
	Neves
14:25-14:40	FATIGUE BEHAVIOR OF NSM CFRP-STRENGTHENED REINFORCED CONCRETE
11.25 11.10	BEAMS
	C. Chen and L. Cheng
14:40-14:55	BEHAVIOUR OF CONCRETE BRIDGE DECK SLABS STRENGTHENED WITH NSM
	FRP BARS
	Y. Zheng, L.P. Xia and C.M. Ma
14:55-15:10	BOND BEHAVIOUR OF NSM CFRP-CONCRETE SYSTEMS: ADHESIVE AND CFRP
•	CROSS-SECTION INFLUENCES
	J. Cruz, A. Borojevic, J. Sena-Cruz, E. Pereira, P. Fernandes, P. Silva and A. Kwiecien

15:10-15:25	EXPERIMENTAL INVESTIGATION OF RC SLABS STRENGTHENED WITH NSM CFRP
	SYSTEM SUBJECTED TO ELEVATED TEMPERATURES UP TO 80 °C
	P. Silva, G. Escusa, J. Sena-Cruz and M. Azenha
15:25-15:40	ASSESSMENT OF CURRENT GUIDELINE FORMULATIONS FOR FLEXURAL
	STRENGTHENING OF REINFORCED CONCRETE BEAMS USING NSM
	REINFORCEMENT
	T. D'Antino, A. Limonta and M.A. Pisani
15:40-16:00	Tea Break
16:00-17:15	Session A-3 (Room V322)
	Field Applications – 2
	Chairs: John Myers and Hon-ting Wong
16:00-16:15	DURABILITY ASSESSMENT OF FRP BARS EXTRACTED FROM EXISTING FRP
	BRIDGE STRUCTURES EXPOSED TO FIELD CONDITIONING
	W. Wang and J.J. Myers
16:15-16:30	BRIDGE RETROFIT WITH FRP MATERIALS: FIFTEEN YEARS OF EXPERIENCE
	I.E. Harik and A. Peiris
16:30-16:45	DEVELOPMENT OF GFRP TRUSSED INSPECTION PATH WITH 10-M LONG SPAN
	Y. Ishii, H. Nakamura, K. Koizumi, Y. Furuya, H. Nakai and M. Nishida
16:45-17:00	STATIC PERFORMANCE OF AN ALL-COMPOSITE MODULAR COMPOSITE BEAM
	UNDER POSITIVE AND NEGATIVE BENDING SCENARIOS
	Sindu Satasivam, Colin Caprani and Yu Bai
17:00-17:15	STRUCTURAL STRENGTHENING OF BRIDGE STRUCTURE USING FRP AND ITS
	LONG TERM PERFORMANCE: A CASE STUDY
	Faye Qiao, Gary Lee, Kevin Tang, Jinsong Wang and Scott Arnold
16:00-17:30	Session B-3 (Room V302)
	FRCM-strengthened RC Structures – 2
	Chairs: Carlo Pellegrino and Zhenyu Wang
16.00.16.15	DIA CONTAL CHEAD TROTE OF FULL COAL F FRAME CONTRACTOR IN THE AD COMPANY
16:00-16:15	DIAGONAL SHEAR TESTS OF FULL SCALE FRM-STRENGTHENED LIMESTONE
16:00-16:15	MASONRY WALLS
	MASONRY WALLS F. Micelli, M.S. Sciolti, A. Dudine, M. Leone and M.A. Aiello
16:00-16:15 16:15-16:30	MASONRY WALLS F. Micelli, M.S. Sciolti, A. Dudine, M. Leone and M.A. Aiello EXPERIMENTAL STUDY ON THE MECHANICAL BEHAVIOUR OF CIRCULAR
	MASONRY WALLS F. Micelli, M.S. Sciolti, A. Dudine, M. Leone and M.A. Aiello EXPERIMENTAL STUDY ON THE MECHANICAL BEHAVIOUR OF CIRCULAR REINFORCED CONCRETE COLUMNS STRENGTHENED WITH FRP TEXTILE AND
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16:15-16:30	MASONRY WALLS F. Micelli, M.S. Sciolti, A. Dudine, M. Leone and M.A. Aiello EXPERIMENTAL STUDY ON THE MECHANICAL BEHAVIOUR OF CIRCULAR REINFORCED CONCRETE COLUMNS STRENGTHENED WITH FRP TEXTILE AND ECC Zhong-Feng Zhu and Wen-Wei Wang
	MASONRY WALLSF. Micelli, M.S. Sciolti, A. Dudine, M. Leone and M.A. AielloEXPERIMENTAL STUDY ON THE MECHANICAL BEHAVIOUR OF CIRCULARREINFORCED CONCRETE COLUMNS STRENGTHENED WITH FRP TEXTILE ANDECCZhong-Feng Zhu and Wen-Wei WangFILIGREE TEXTILE-REINFORCED CONCRETE CONSTRUCTIONS
16:15-16:30 16:30-16:45	MASONRY WALLS F. Micelli, M.S. Sciolti, A. Dudine, M. Leone and M.A. Aiello EXPERIMENTAL STUDY ON THE MECHANICAL BEHAVIOUR OF CIRCULAR REINFORCED CONCRETE COLUMNS STRENGTHENED WITH FRP TEXTILE AND ECC Zhong-Feng Zhu and Wen-Wei Wang FILIGREE TEXTILE-REINFORCED CONCRETE CONSTRUCTIONS S. Rempel, N. Will, J. Hegger and J. Bielak
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16:15-16:30 16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30	MASONRY WALLS F. Micelli, M.S. Sciolti, A. Dudine, M. Leone and M.A. Aiello EXPERIMENTAL STUDY ON THE MECHANICAL BEHAVIOUR OF CIRCULAR REINFORCED CONCRETE COLUMNS STRENGTHENED WITH FRP TEXTILE AND ECC Zhong-Feng Zhu and Wen-Wei Wang FILIGREE TEXTILE-REINFORCED CONCRETE CONSTRUCTIONS S. Rempel, N. Will, J. Hegger and J. Bielak THE BEHAVIOR BETWEEN CFRP GRID AND STIRRUP IN RC BEAMS STRENGTHENED BY CFRP GRID AND SPRAYED MORTAR N.L. Vu, K. Uji and V.D. Tran TEXTILE REINFORCED MORTAR VERSUS FRP FOR CONFINED CONCRETE: BEHAVIOUR AT ELEVATED TEMPERATURES G. Cerniauskas, Z.Tetta, D. Bournas and L.A. Bisby STRENGTHENED REINFORCED CONCRETE BEAMS USING FIBER REINFORCED POLYMER GRID AND ULTRA HIGH TOUGHNESS CEMENTITIOUS COMPOSITE Yuzhou Zheng, Wenwei Wang and Khalid M. Mosalam Session C-3 (Room V303) Mini-symposium on Strengthening of Steel Structures with FRP - 2
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16:15-16:30	BEHAVIOR OF BOND BETWEEN FRP AND STEEL AT ELEVATED TEMPERATURE
	S. Li, T. Zhu, Y.Y. Lu, W.Q. Xu and B. Yan
16:30-16:45	TEST ON FLEXURAL PERFORMANCE OF RC BEAMS STRENGTHENED WITH
	PRESTRESSED HB-CFRP SYSTEM
	Feng Zhang, Lei Gao and Wanzhi Zhang
16:45-17:00	PRESENTATION OF THE FASSTBRIDGE PROJECT: FAST AND EFFECTIVE
	SOLUTION FOR STEEL BRIDGES LIFE-TIME EXTENSION
	S. Chataigner, I. Calderon and C.J. Schulte
17:00-17:15	FLEXURAL FATIGUE PERFORMANCE OF RC BEAMS STRENGTHENED WITH
	PRESTRESSED NSM CFRP STRIPS
	Heng Li, Peng Su, Yang Liu, Jianren Zhang and Hui Peng
16:00-17:15	Session D-3 (Room V312)
	Mini-symposium on FRP-Concrete Hybrid Structures - 2
	Chairs: Peng Feng and Tao Yu
16:00-16:15	SEISMIC PERFORMANCE OF CONCRETE-FILLED SQUARE STEEL TUBE WITH FRP-
	CONFINED CONCRETE CORE
	S. Cheng and P. Feng
16:15-16:30	SCATTER IN MECHANICAL PROPERTIES OF RECYCLED CONCRETE AGGREGATE
	COLUMNS CONFINED BY HAND-LAID GFRP UNDER AXIAL COMPRESSION
	D. Loughery, J. Wang, P. Feng and Z.Y. Wang
16:30-16:45	EXPERIMENTAL RESEARCH OF CFFT WITH PULTRUDED FRP PROFILES UNDER
	AXIAL COMPRESSION
	J. Wang, P. Feng, C. Yi and J.X. Yang
16:45-17:00	BEHAVIOUR OF HYBRID FRP/STEEL-CONCRETE BEAMS SUBJECTED TO STATIC
	FLEXURAL LOADING
	Yanlei Wang, Yunyu Li, Jinping Ou and Q.F. Xu
17:00-17:15	CONSTRUCTION OF A SHORT SPAN PEDESTRIAN BRIDGE USING HIGH
	CORROSION RESISTANT HYBRID FRP COMPOSITE BEAMS
	H. Mutsuyoshi, I.S.K. Wijayawardane and H. Nguyen
16:00-17:15	Session E-3 (Room V315)
	Mini-symposium on Near-Surface Mounted FRP for Structural Strengthening - 2
16:00-16:15	Chairs: Shishun Zhang and Jose Senza-Cruz
16:00-16:15	FIRE RESISTANCE OF RC MEMBERS STRENGTHENED WITH NEAR-SURFACE
	MOUNTED FRP BARS
16:15-16:30	Hong Zhu, Kai Zhang, Guanlin Zhu, Yan Liu, Xiaowei Wang and Geliang ChenINTERACTION FORCES IN RC BEAMS STRENGTHENED WITH NSM FRP ROUND
10.13-10.30	BARS
	S.S. Zhang and T. Yu
16:30-16:45	THREE DIMENSIONAL FINITE ELEMENT MODELING OF BOND FOR NEAR
10.30-10.43	SURFACE MOUNTED CFRPS IN CONCRETE
	L. Zhang and L. Cheng
16:45-17:00	THE TORSIONAL STRENGTHENING OF RC BEAMS USING THE NSM FRP
10.45 17.00	TECHNIQUE WITH FRP ROPE
	G. Al-Bayati, R. Al-Mahaidi and R. Kalfat
17:00-17:15	FIRE BEHAVIOUR OF NSM-CFRP-STRENGTHENED REINFORCED CONCRETE
11.00 11.15	BEAMS: EXPERIMENTAL AND NUMERICAL STUDY
	J.P. Firmo, J.R. Correia and M. Arruda
17:30-19:00	
17:50-19:00	IIFC Council Meeting (Room V303)

15 December 2016 (Thursday)	
09:00-10:30	Plenary Keynote Session K2 (Room V322)
	Chair: Jian-Fei Chen
09:00-09:30	IIFC Distinguished Lecture
	LONGEVITY DESIGN OF MAJOR STRUCTURES STRENGTHENED/REINFORCED
	WITH FRP COMPOSITES
	Zhi-Shen Wu (Recipient of the IIFC Medal) and Xin Wang
09:30-10:00	FRP SANDWICH STRUCTURES IN BRIDGE AND BUILDING CONSTRUCTION
	T. Keller
10:00-10:30	BIO-BASED FRP COMPOSITES – DO THEY HAVE A PLACE IN CONSTRUCTION?
	A. Fam and K. Mak
10:30-11:00	Tea Break
11:00-12:15	Session A-4 (Room V322)
	Innovative Uses of FRP Composites
	Chairs: Togay Ozbakkaloglu and Mina Dawood
11:00-11:15	TOWARD THE DEVELOPMENT OF SUSTAINABLE COMPOSITE STRUCTURAL
	SYSTEMS
11.15.11.20	Togay Ozbakkaloglu
11:15-11:30	STUDY OF THE STRUCTURAL BEHAVIOUR OF ECC FOR LINK SLABS
11.20 11.45	L.F. Zhang, Y. Zheng, C. Sun and G.Y. Yu
11:30-11:45	REUSE OF WASTE GFRP COMPOSITES AS COARSE AGGREGATES FOR CONCRETE
11.45.10.00	L.C. Bank, A. Yazdanbakhsh, C. Chen and Y.Tian
11:45-12:00	NEW FRONTIERS FOR THE USE OF FRP REINFORCEMENT IN GEOMETRICALLY COMPLEX CONCRETE STRUCTURES
	Saverio Spadea, John Orr and Antonio Nanni
12:00-12:15	A NEW CLOSED-STIRRUP TECHNOLOGY FOR SHEAR STRENGTHENING OF RC T-
12.00-12.15	BEAMS USING CFRP LAMINATES AND ROPES
	Georges El-Saikaly, Simon Bourget and Omar Chaallal
11:00-12:30	Session B-4 (Room V302)
	New Structures with Pultruded FRP Profiles
	Chairs: Yu Bai and Yan-Lei Wang
11:00-11:15	COMPARISON OF BOLTED AND BONDED CONNECTIONS BETWEEN GFRP
	PULTRUDED PROFILES AND CONCRETE USING DIC
	S. Bel, A. Koaik and B. Jurkiewiez
11:15-11:30	PERFORMANCE AND STRENGTH OF PULTRUDED GFRP ANGLE STRUTS SUBJECT
	TO CONCENTRIC COMPRESSION
	D.C.T. Cardoso and B.S. Togashi
11:30-11:45	CHARACTERIZATION OF ROTATIONAL BEHAVIOR OF WEB-FLANGE JUNCTIONS
	OF PULTRUDED GFRP BRIDGE DECKS
	S. Yanes-Armas, J. De Castro and T. Keller
11:45-12:00	EXPERIMENTAL STUDY OF PULTRUDED GFRP BRIDGE DECK WITH DOUBLE
	CELLS
10.00.10.17	C.Z. Wang, H.H. Xin, Y.Z. Zuo, A. Du and Y.Q. Liu
12:00-12:15	FLEXURE STABILITY OF PULTRUDED GFRP I-SHAPES
10.15.10.00	J.D. Vieira, T.Q. Liu and K.A. Harries
12:15-12:30	EXPERIMENTAL INVESTIGATION ON THE FLEXURAL BEHAVIOUR OF
	PULTRUDED GFRP BEAMS FILLED WITH DIFFERENT CONCRETE STRENGTHS
	M. Muttashar, A. Manalo, K. Karunasena and W. Lokuge

11:00-12:40	Session C-4 (Room V303)
	Special Session on Natural Fibre Composites in Construction
	Chairs: Guijun Xian and Libo Yan
11:00-11:25	NATURAL MATERIAL COMPOSITES FOR EARTHQUAKE-RESISTANT STRUCTURES
	(Invited Presentation)
	N. Chouw
11:25-11:40	USING NATURAL FIBRES AND NATURAL FIBRE REINFORCED POLYMER
	COMPOSITES AS REINFORCEMENT MATERIALS OF CONSTRUCTION STRUCTURES
	L.B. Yan, B. Wang and L. Huang
11:40-11:55	FLEXURAL BEHAVIOR OF RC BEAMS STRENGTHENED BY NATURAL FLAX FRP
	PLATES
	L. Huang, B. Yan and L.B. Yan
11:55-12:10	EXPERIMENTAL STUDY ON SHEAR BEHAVIOR OF RC BEAMS JACKETED BY JUTE
	NFRP
	T. Jirawattanasomkul, T. Ueda, Y. Hiruma and K. Horsangchai
12:10-12:25	SHEAR BEHAVIOR OF RC BEAMS REINFORCED BY NATURAL COMPOSITES
	MATERIALS (FLAX TECHNIC FIBER): EXPERIMENTAL-MODELING STUDY
12.25.12.10	M.D. Ngo, E. Ferrier, M. Laurent, S. Bel and C. Caggegi
12:25-12:40	BEHAVIOR OF CONCRETE CONFINED WITH NATURAL FIBER REINFORCED
	POLYMER
11:00-12:30	K. Horsangchai, T. Jirawattanasomkul and T. Ueda Session D-4 (Room V312)
11:00-12:50	Hybrid Structures
	Chairs: Jia-Lai Wang and Francesco Micelli
11:00-11:15	DOUBLE-TUBE CONCRETE COLUMNS WITH AN FRP OUTER TUBE AND A HIGH-
11.00-11.15	STRENGTH STEEL INNER TUBE
	J.G. Teng, Z.H. Wang, T. Yu, Y. Zhao and L.J. Li
11:15-11:30	LOCAL BUCKLING OF HYBRID FRP-TIMBER THIN-WALLED COLUMNS: AN
11.15-11.50	EXPERIMENTAL INVESTIGATION
	L. Min, D. Fernando and J.G. Teng
11:30-11:45	EXPERIMENTAL RESEARCH ON GFRP-CONCRETE-STEEL COMPOSITE BEAMS
	Zhaojie Tong, Qiao Huang, Dawen Gao, Shengchao Yang and Weigang Bao
11:45-12:00	ENERGY DISSIPATION CHARACTERISTICS OF CONNECTIONS FOR HYBRID AND
	FRP INFILL PLATES FOR SHEAR WALLS
	M. Dakhel, T. Donchev, H. Hadavinia and M. Limbachiya
12:00-12:15	BEHAVIOUR OF STEEL FRAMED SHEAR WALLS WITH FRP INFILL PLATES
	N. Petkune, T. Donchev, H. Hadavinia, D. Wertheim and M. Limbachiya
11:00-12:30	Session E-4 (Room V315)
	FRP Sandwich Structures and Prestressed FRP
	Chairs: Amir Fam and An Chen
11:00-11:15	DEVELOPMENT OF A SMART GFRP HONEYCOMB SANDWICH FOR INTERACTIVE
	BRIDGES
	E. Rudolph, A. Ehrlich, S. Gelbrich and L. Kroll
11:15-11:30	EXPERIMENTAL STUDY ON THE PERFORMANCE OF GFRP CONNECTORS FOR USE
	IN PRECAST CONCRETE SANDWICH PANELS
	J.Q. Huang and J.G. Dai
11:30-11:45	EXPERIMENTAL INVESTIGATION OF FLEXURAL BEHAVIOUR OF THIN
	SANDWICH WALL PANELS REINFORCED WITH GFRP REBARS
	M.M. Haffke, A. Schmitt and M. Pahn
11:45-12:00	STATIC BEHAVIOR OF COMPOSITE BRIDGE DECK WITH PRESTRESSED BFRP
	SHELL AND CONCRETE
	Jianzhe Shi, Xin Wang, Shenpeng Sun, Zhishen Wu, Lining Ding

12:00-12:15	NUMERICAL ANALYSIS OF RC BEAMS STRENGTHENED WITH PRESTRESSED
	CFRP LAMINATES
	R. Kotynia, S. Sarega and K. Lasek
12:15-12:30	NUMERICAL ANALYSIS OF BENDING AND SHEAR IN LARGE-SCALE
	PRETENSIONED CONCRETE BRIDGE GIRDERS STRENGTHENED WITH
	PRESTRESSED CFRP LAMINATES
	R. Kotynia, A. Herwig, M. Staśkiewicz, J. Michels, C. Czaderski, M. Motavalli
12:30-14:00	Lunch
14:00-15:30	Session A-5 (Room V322)
	Bond Behaviour of Externally Bonded FRP Reinforcement – 1
	Chairs: Bao-Lin Wan and Da-Wei Zhang
14:00-14:15	DIRECT MEASUREMENT OF TRACTION-SEPARATION LAW OF CONCRETE/EPOXY
	INTERFACES UNDER MODE-I LOADING
	Shahrooz Amidi and Jialai Wang
14:15-14:30	ASSESSMENT OF THE BOND QUALITY BETWEEN CONCRETE AND FRP
	STRENGTHENING SYSTEMS USING A NOVEL NONDESTRUCTIVE TEST
	A. Billon, F. Taillade, M. Quiertant, J-M. Hénault, R. Maurin, J-C. Renaud, E. Merliot and K.
	Benzarti
14:30-14:45	DEFECT CRITICALITY IN FRP/CONCRETE BOND JOINT – A FINITE ELEMENT
	STUDY
14454500	C. Tuakta and C. Yoopom
14:45-15:00	EXPERIMENTAL STUDY OF INTERMEDIATE CRACK DEBONDING FAILURE IN FRP-
	STRENGTHENED CONCRETE BEAMS
15.00.15.15	T. Mohammadi, B. Wan and K.A. Harries
15:00-15:15	EFFECT OF CONCRETE STRENGTH AND AMOUNT OF POLYUREA RESIN ON
	CONCRETE - STRAND SHEET BOND
15,15,15,20	M. Arazoe, A. Kobayashi, Y. Takahashi and Y. Sato
15:15-15:30	IMPROVEMENT OF DEBONDING BEHAVIOR AMONG LOW STRENGTH CONCRETE AND EXTERNALLY BONDED CFRP
	M. Lunardelli, T. Leusmann and H. Budelmann
14:00-15:15	Session B-5 (Room V302)
14:00-15:15	Long-Term Performance and Material Tests – 1
	Chairs: Adel ElSafty and Yong-Chang Guo
14:00-14:15	BOND STRENGTH DURABILITY OF BFRP BARS IN CONCRETE SUBJECTED TO
14.00-14.15	ELEVATED TEMPERATURE AND ALKALINE ENVIRONMENT
	M. Hassan, B. Benmokrane, A. Elsafty and A. Fam
14:15-14:30	MODELING OF THE EFFECT OF WATER INGRESS ON THE BOND BETWEEN CARBON
11.15 11.50	FIBER - EPOXY RESIN WITH THE MOLECULAR DYNAMICS TECHNIQUE
	Yanrong Xiao, Guijun Xian and Hui Li
14:30-14:45	EFFECTS OF SURFACE TREATMENT ON THE TENSILE AND BONDING PROPERTIES
	OF CARBON FIBERS
	Guijun Xian and Zike Wang
14:45-15:00	STRENGTHENING EFFECT OF DAMAGED RC BEAM RETROFITTED WITH FRP
	SHEET IN DETERIORATED BY SALT ATTACK
	A. Kamiharako, T. Miura and S. Fukushi
15:00-15:15	DURABILITY OF DRY AND IMPREGNATED REINFORCEMENT FIBRES EXPOSED TO
	DIFFERENT ALKALINE ENVIRONMENTS
	F. Micelli, M. Orsini, A. Dudine and M.A. Aiello

14:00-15:30	Session C-5 (Room V303)
	IIFC Best PhD Thesis Award Competition – 1
	Chair: Renata Kotynia
14:00-14:30	COMPRESSIVE STRENGTH OF PULTRUDED GLASS-FIBER REINFORCED POLYMER
	(GFRP) COLUMNS
	Cardoso Taissum Daniel Carlos
14:30-15:00	DEVELOPMENT OF HYBRID COMPOSITE PLATE (HCP) FOR STRENGTHENING AND
	REPAIR OF RC STRUCTURES
	Esmaeel Esmaeeli
15:00-15:30	FATIGUE STRENGTHENING OF METALLIC MEMBERS USING UN-BONDED AND
	BONDED CFRP LAMINATES
	Ghafoori Elyas
14:00-15:40	Session D-5 (Room V312)
11.00 15.10	Mini-symposium on Seismic Retrofit of RC Structures with FRP composites - 1
	Chairs: Alper Ilki and Emmanuel Ferrier
14:00-14:25	DESIGN MODELS FOR THE STRENGTH, THE STIFFNESS AND THE CYCLIC
14.00 14.25	DEFORMATION CAPACITY OF RC MEMBERS RETROFITED WITH FRP
	(Invited Presentation)
	M.N. Fardis
14:25-14:40	CYCLIC STRESS-STRAIN MODEL FOR STEEL REBARS IN FRP-CONFINED
14.23-14.40	CONCRETE CONSIDERING BUCKLING EFFECT
	Y.L. Bai and J.G. Dai
14:40-14:55	SEISMIC RETROFITTING OF REINFORCED CONCRETE STRUCTURES USING
14.40-14.33	COMPOSITES: FRENCH GUIDELINE
	E. Ferrier, M. Laurent and M. Quiertant
14:55-15:10	SEISMIC RESPONSE OF AFRP RETROFITTED PRE-DAMAGED AND UNDAMAGED
14.33-13.10	SUBSTANDARD RC COLUMNS IN WEAK-AXIS DIRECTION
	E.C. Seyhan, I. Saribas, C. Goksu and A. Ilki
15:10-15:25	E.C. Seynan, I. Sanbas, C. Coksu and A. IKI EXPERIMENTAL AND THEORETICAL INVESTIGATION OF THE SEISMIC
15.10-15.25	BEHAVIOUR OF RC BEAM-COLUMN JOINTS
	Angelo Masi, Giuseppe Santarsiero, Francesco Fabbrocino, Gian Piero Lignola and Gerardo
	Mario Verderame
15:25-15:40	A HYBRID FRP-BASED SYSTEM FOR SEISMIC UPGRADING OF R.C. COLUMNS:
13.23-13.40	EXPERIMENTAL RESULTS AND MICROPLANE BASED NUMERICAL SIMULATIONS
	G. Cersosimo and N. Nisticò
14:00-15:40	Session E-5 (Room V315)
14.00-13.40	Mini-symposium on FRP Sandwich Structures in Bridge and Building Construction - 1
	Chair: Thomas Keller
14:00-14:25	VISCOELASTIC BEHAVIOUR OF COMPOSITE SANDWICH PANELS FOR CIVIL
14.00-14.25	ENGINEERING APPLICATIONS: EXPERIMENTS AND ANALYTICAL MODELLING
	(Invited Presentation)
	M. Garrido, J.R. Correia, T. Keller and S. Cabral-Fonseca
14:25-14:40	EXPERIMENTAL STUDY ON THE MECHANICAL BEHAVIOR OF FRP CURVED
14.23-14.40	SANDWICH PANELS WITH FOAM CORE
	X. Meng, P. Feng and D. Zhang
14:40-14:55	THEORETICAL STUDY ON THE MECHANICAL BEHAVIOR OF FRP CURVED
14:40-14:55	
	SANDWICH PANELS WITH FOAM CORE
14.55 15.10	X. Meng, P. Feng and T. Keller
14:55-15:10	THE EFFECT OF FOAM CORE DENSITY ON THE FLEXURAL BEHAVIOUR OF
	SANDWICH PANELS WITH FLAX FRP SKINS
	L. CoDyre, K. Mak and A. Fam

15:10-15:25	FRP SANDWICH STRUCTURES: CASE STUDIES IN AUSTRALIA
	T. Aravinthan and A. Manalo
15:25-15:40	BEHAVIOUR OF STRUCTURAL SANDWICH COMPOSITES WITH A PHENOLIC CORE
	AT ELEVATED TEMPERATURE
	A.C. Manalo, G. Van Erp and B. Benmokrane
15:40-16:00	Tea Break
16:00-17:15	Session A-6 (Room V322)
	Bond Behaviour of Externally Bonded FRP Reinforcement – 2
	Chairs: Asad-Ur-Rehman Khan and Chakrapan Tuakta
16:00-16:15	EXTRACTION OF BOND-SLIP CHARACTERISTICS IN FRP-TO-CONCRETE JOINTS
	CONDITIONED BY EXPOSURE TO ACCELERATED AGGRESSIVE ENVIRONMENTS
	R.J. Gravina, H. Aydin and P. Visintin
16:15-16:30	CYCLIC BEHAVIOUR OF FRP-TO-CONCRETE BONDED JOINTS: AN EXPERIMENTAL
	STUDY
	Hao Zhou and Dilum Fernando
16:30-16:45	STRUCTURAL RESPONSE OF FRP-TO-CONCRETE JOINTS UNDER CYCLIC
	ACTIONS: FRACTURE MECHANICS AND FATIGUE ANALYSIS
	E. Martinelli and A. Caggiano
16:45-17:00	COMPREHENSIVE ASSESSMENT OF THE CFRP DEBONDING PROCESS IN
	STRENGTHENED RC BEAMS BY IRT
	A. Bykov, I. Shardakov and A. Shestakov
17:00-17:15	DEBONDING DETECTION OF FRP STRENGTHENED CONCRETE BEAMS BASED ON
	IMPEDANCE ANALYSIS
	Rui Sun and Enrique Sevillano
16:00-17:30	Session B-6 (Room V302)
	Long-Term Performance and Material Tests – 2
	Chairs: C.K.Y. Leung and Yu Zheng
16:00-16:15	FLEXURAL BEHAVIOR OF CFRP-REINFORCED CONCRETE BEAMS ATTACKED BY
	ACID RAIN
	H.Y. Luan, A. Chen and Y.F. Fan
16:15-16:30	FREEZE-THAW RESISTANCE OF WET LAY-UP BFRP LAMINATE AND BFRP-TO-
	BFRP ADHESIVELY-BONDED SINGLE-LAP JOINT
	J.W. Shi, H. Zhu and Z.S. Wu
16:30-16:45	TENSILE PROPERTIES OF BASALT-FIBRE REINFORCED POLYMER (BFRP) BARS
	WITHIN SEAWATER AND SEA SAND CONCRETE ENVIRONMENT
	Z.K. Wang, X.L. Zhao, G.J. Xian, G. Wu, R.K. Singh Raman and S. Al-Saadi
16:45-17:00	INFLUENCE OF CONCRETE CHEMISTRY ON CFRP BONDING EPOXY LONG TERM
	PROPERTIES
	N. Roche and R. Maurin
17:00-17:15	SHEAR TESTING OF GFRP BARS
	P. Arczewska, M.A. Polak and A. Penlidis
17:15-17:30	EXPERIMENTAL INVESTIGATION OF THE SHEAR RESISTANCE OF GFRP
	COMPOSITE BARS
	C. Tan, J. Xu and R. Aboutaha
16:00-17:30	Session C-6 (Room V303)
	IIFC Best PhD Thesis Award Competition – 2
	Chair: Renata Kotynia
16:00-16:30	DEVELOPMENT AND APPLICATION OF A NOVEL TEST METHOD FOR STUDYING
	THE FIRE BEHAVIOUR OF CFRP PRESTRESSED CONCRETE STRUCTURAL
	ELEMENTS
	Maluk Cristian

16:30-17:00	LATERAL-TORSIONAL BUCKLING RESISTANCE OF PULTRUDED FIBRE
10:50-17:00	REINFORCED POLYMER SHAPES
17:00-17:30	Nguyen Tien-Thuy           DESIGN AND CHARACTERIZATION OF NATURAL FLAX FIBRE REINFORCED
17:00-17:50	POLYMER TUBE ENCASED COIR FIBRE REINFORCED CONCRETE COMPOSITE
	STRUCTURE
16.00.17.20	Libo Yan
16:00-17:30	Session D-6 (Room V312)
	Mini-symposium on Seismic Retrofit of RC Structures with FRP Composites - 2
1 < 00 1 < 1 =	Chairs: Alper Ilki and Emmanuel Ferrier
16:00-16:15	UNIQUE USAGE OF FRP SHEET TO STRENGTHEN RC WALLS
	S. Kono, H. Watanabe, M. Sakashita, K. Fujikake and H. Tanaka
16:15-16:30	RELOCATING THE PLASTIC HINGE AT BEAM COLUMN JOINT INTERFACE INTO
	THE BEAM IN CFRP STRENGTHENING
	M.K. Rahman, O.S. Arowojolu, M.H. Baluch , A.H. Gadhib and M. Al-Osta
16:30-16:45	RESILIENCE RESERVE OF RC COLUMNS EXTERNALLY CONFINED WITH
	COMPOSITE ROPE OR FRP SHEET UNDER SEISMIC OVERLOADS
	T.C. Rousakis
16:45-17:00	ANALYSES OF PLASTIC HINGE REGIONS IN FRP-CONFINED RC COLUMNS UNDER
	CYCLIC LOADING
	F. Yuan and Y.F. Wu
17:00-17:15	SEISMIC RETROFITTING OF RC WALLS EXTERNALLY STRENGTHENED BY FLAX-
	FRP STRIPS
	E. Ferrier, L. Michel, G. Di Luccio and E. Martinelli
17:15-17:30	STRENGTHENING OF RC SHEAR WALLS WITH CFRP STRIPS
	S. Altin, Ö. Anil, Y. Kopraman and M. E. Kara
16:00-17:15	Session E-6 (Room V315)
	Mini-symposium on FRP Sandwich Structures in Bridge and Building Construction - 2
	Chair: Thomas Keller
16:00-16:15	STRUCTURAL CONCEPT AND DESIGN OF A GFRP-POLYURETHANE SANDWICH
	ROOF STRUCTURE
	S. Yanes-Armas and T. Keller
16:15-16:30	TWIN-SHAPED CFRP-SANDWICH PEDESTRIAN BRIDGE
	F. Broggini, L. Diviani, D. Rüegg, M. Ambrosini and T. Keller
16:30-16:45	EXPERIMENTAL STUDY ON FLEXURAL PERFORMANCE OF FRP COMPOSITE
	SANDWICH BEAMS WITH WOOD-PLASTIC COMPOSITE CORE
	Yuan Leng, Yu-jun Qi and Wei-qing Liu
16:45-17:00	CYCLIC LOADING RESPONSE OF PRECAST SANDWICH SHEAR WALL PANELS
	WITH FRP CONNECTORS
	W.C. Xue, J.L. Yang and Y. Li
17:00-17:15	BOND BEHAVIOUR OF COMPOSITE SANDWICH PANEL AND EPOXY POLYMER
	MATRIX
	Wahid Ferdous, Allan Manalo and Thiru Aravinthan
17:30-19:00	IIFC Advisory Committee/Executive Committee Meeting (Room V303)
19:00-22:00	Conference Banquet
	Banquet Speaker: Prof. Timothy W. Tong, President of PolyU

16 December 2016 (Friday)	
09:00-10:30	Plenary Keynote Session K3 (Room V322)
	Chair: Lawrence C. Bank
09:00-09:30	FUTURE BUILDING – CARBON FOR BRIDGES, ROOFS AND FACADES
	M. Schlaich and Y. Liu
09:30-10:00	REDUCING THE COST OF FRP RC RESEARCH AND DEVELOPMENT
	D.J. Oehlers and P. Visintin
10:00-10:30	FIRE BEHAVIOUR OF FRP STRUCTURES
	João Ramôa Correia (Recipient of the IIFC Distinguished Young Researcher Award)
10:30-11:00	Tea Break
11:00-12:15	Session A-7 (Room V322)
	Spatial and Hybrid Structures
11.00.11.15	Chairs: J.G. Dai and Sylvain Bel
11:00-11:15	NONLINEAR ANALYSIS OF FRP CABLE NET STRUCTURES
11.15.11.20	W.F. Du, L.M. Zhu and Y. Sun
11:15-11:30	RESEARCH ADVANCES IN CFRP CABLE DOME STRUCTURES
11:30-11:45	Weihong Qin EXPERIMENTAL BEHAVIOUR OF HYBRID FRP-CONCRETE-STEEL DOUBLE-SKIN
11:50-11:45	TUBULAR ARCHES
	S. Jiang, D. Fernando, J.G. Teng, M. Heitzmann and G. Angliss
11:45-12:00	A NOVEL DESIGN: CFRP CONTINUOUS WINDED BAND SYSTEM
11.45-12.00	Y. Liu, B. Zwingmann and M. Schlaich
12:00-12:15	BEHAVIOUR OF ULTRA HIGH PERFORMANCE STEEL FIBRE CONCRETE
12.00 12.15	REINFORCED WITH POLYMER MATERIALS UNDER COMPRESSION AND FLEXURAL
	LOADINGS
	M. Singh, M.S. Mohamed Ali, A.H.Sheikh, M. Griffith and P.Visintin
11:00-12:15	Session B-7 (Room V302)
	FRP and FRP-strengthened Structures under Severe Conditions
	Chairs: Luke Bisby and Rebecca Gravina
11:00-11:15	LONG TERM PERFORMANCE OF GFRP BARS UNDER THE COMBINED EFFECTS OF
	SUSTAINED LOAD AND SEVERE ENVIRONMENTS
	Hamed Fergani, Matteo Di Benedetti, Maurizio Guadagnini, Cyril Lynsdale and Cristina Mias
11:15-11:30	TENSILE PROPERTIES OF CFRP PLATES UNDER HIGH STRAIN RATES
	Alaa Al-Mosawe, Riahd Al-Mahaidi and Xiao-Ling Zhao
11:30-11:45	EFFECT OF SHEET VOLUME ON IMPACT RESISTANT CAPACITY OF RC BEAM
	STRENGTHENED WITH AFRP SHEET
	Y. Kurihashi, H. Mikami, M.Komuro and N.Kishi
11:45-12:00	INVESTIGATION INTO THE BEHAVIOUR OF REINFORCED CONCRETE BEAMS
	RETROFITTED WITH FRP FABRICS SUBJECTED TO BLAST LOADING
	M. Saloo, M.Z. Kabir and M.R. Khedmati
12:00-12:15	COMPOSITE MATERIALS AS PART OF AN OPTIMAL STRATEGY FOR SEISMIC
	RETROFITTING OF RC FRAMES
11.00.12.20	R. Falcone, C. Faella, C. Lima and E. Martinelli
11:00-12:30	Session C-7 (Room V303)
	Elevated Temperature and Fire Behaviour
11:00-11:15	Chairs: Mark F. Green and Wan-Yang Gao AN EXPERIMENTAL STUDY ON THE THERMOMECHANICAL AND RESIDUAL
11.00-11:13	BEHAVIOUR OF THE PULTRUDED CARBON FIBER REINFORCED POLYMER
	LAMINATE SUBJECTED TO HIGH TEMPERATURE LOADING
	P.L. Nguyen, X.H.Vu and E. Ferrier
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11.15.11.00	
11:15-11:30	NUMERICAL ANALYSIS OF THE POST-FIRE STRENGTH OF FRP REINFORCED
	BRIDGE DECKS
	H. Hajiloo and M.F. Green
11:30-11:45	TENSILE PROPERTIES OF GFRP BARS EXPOSED TO HIGH TEMPERATURES
	C.C. Li, J.F. Chen and Y.L. Wang
11:45-12:00	TEMPERATURE EFFECT ON THE MECHANICAL PROPERTIES OF FRP-WOOD
	COMPOSITE
	Ao Zhou and Denvid Lau
12:00-12:15	SINGLE SHEAR TESTS OF CEMENT-BASED FIBER COMPOSITE FOR
	STRENGTHENING OF CONCRETE STRUCTURES AT ELEVATED TEMPERATURES
	K. Wang
12:15-12:30	TEMPERATURE EFFECTS ON CONCRETE SANDWICH PANELS REINFORCED WITH
	GLASS FIBRE REINFORCED POLYMERS (GFRP)
	A. Schmitt, M. Haffke, V. Carvelli and M. Pahn
11:00-12:15	Session D-7 (Room V312)
	Confinement -1
	Chairs: Yan Xiao and Guan Lin
11:00-11:15	AXIAL STRENGTH OF CFRP REPAIRED RC CIRCULAR COLUMNS DAMAGED BY
	FIRE
	Q. Chang and R. Aboutaha
11:15-11:30	AXIAL STRENGTH OF FRP-CONFINED REINFORCED CONCRETE COLUMNS
	M.L. Moretti, E. Miliokas and I. Paparizos
11:30-11:45	REVIEW OF CONFINING NON-CIRCULAR CONCRETE COLUMN WITH FRP USING
	MODIFIED CROSS SECTION METHODS
	A.N. AL-Gemeel and Y. Zhuge
11:45-12:00	AXIAL COMPRESSIVE BEHAVIOR OF LARGE-SCALE SQUARE COLUMNS CONFINED
	WITH WRAPPED CFRP
	Bo Shan, Fucheng Gui, Jing Cai, Monti Giorgio and Yan Xiao
12:00-12:15	EFFECT OF AGGREGATE SIZE ON CONCRETE BEHAVIOUR UNDER LATERAL
	CONFINEMENT: TEST
11.00.12.00	Cheng Jiang and Yu-Fei Wu
11:00-12:00	Session E-7 (Room V315)
	Bond of Internal FRP Reinforcement
11.00.11.15	Chairs: Enzo Martinelli and Bing Fu
11:00-11:15	COMPARISON OF BOND PROPERTIES OF STEEL AND SAND-COATED GFRP BARS IN
	FLY ASH-BASED GEOPOLYMER CONCRETE
11:15-11:30	Biruk Hailu Tekle, Yifei Cui, Amar Khennane and Obada Kayali PULL-OUT BEHAVIOR OF CFRP GROUND ANCHORS WITH TWO-STRAP ENDS
11:15-11:50	
11.20 11.45	Haifeng Fan, Anastasios P. Vassilopoulos and Thomas Keller BOND MODELLING OF FRP REBARS IN FRC
11:30-11:45	
11.45.12.00	S. Sólyom, G.L. Balázs and S.G. Nehme
11:45-12:00	STATIC AND FATIGUE BOND BEHAVIOUR OF GFRP BARS AND CONCRETE
12.20 14.00	A. Veljkovic, M.M. Haffke, V. Carvelli and M. Pahn
12:30-14:00	Lunch
14:00-15:30	Session B-8 (Room V302) Shoon Strengthening of BC Strengtungs
	Shear Strengthening of RC Structures
14.00 14.15	Chairs: Maria Anna Polak and Akihisa Kamiharako
14:00-14:15	INVESTIGATION OF THE SHEAR BEHAVIOUR OF CONCRETE SLABS STRENGTHENED WITH ETS FRP BARS
	X.G. Wang, Y. Zheng, J.B. Yang and C.M. Ma

14:15-14:30	EFFECT OF SHEAR SPAN-DEPTH RATIO ON BEHAVIOR OF RC BEAMS SHEAR-
	STRENGTHENED WITH VARIOUS FRP WRAPPING CONFIGURATIONS
	W.W. Li and Christopher K.Y. Leung
14:30-14:45	EXPERIMENTAL INVESTIGATION ON RC BEAMS STRENGTHENED IN SHEAR WITH
	EXTERNALLY BONDED COMPOSITES
	J.H. Gonzalez-Libreros, C.Sabau, L.H. Sneed, C. Pellegrino and G. Sas
14:45-15:00	A NEW SHEAR STRENGTH MODEL FOR RC DEEP BEAMS STRENGTHENED WITH
	FRP COMPOSITES
	G.L. Wang, M.Z. Chen and W.S. Ding
15:00-15:15	SHEAR STRENGTHENING OF CONTINUOUS REINFORCED CONCRETE T-BEAMS
	USING DEEP EMBEDMENT TECHNIQUE
	V. Raicic, T.J. Ibell, A.P. Darby, M. Evernden and J.J. Orr
15:15-15:30	SIZE EFFECT IN RC BEAMS SHEAR-STRENGTHENED WITH FRP
	W.N. Liu, P.Y. Zhou, G.M. Chen, J.G. Teng and J.F. Chen
14:00-15:40	Session C-8 (Room V303)
	Mini-symposium on Structures Incorporating FRP Composites under Impact/Blast
	Loading - 1
	Chairs: Alex Remennikov and Jingsi Huo
14:00-14:25	RESEARCH ON FRP ENHANCED STRUCTURES AND STRUCTURAL COMPONENTS
	SUBJECTED TO IMPACT LOADING
	(Invited Presentation)
	Y. Xiao
14:25-14:40	RC BEAMS STRENGTHENED WITH LONGITUDINAL AND U-WRAP FRP
	Thong M. Pham and Hong Hao
14:40-14:55	DYNAMIC TENSILE PROPERTIES OF CARBON AND BASALT FIBER REINFORCED
	POLYMERS
	Hong Hao, Wensu Chen and Xihong Zhang
14:55-15:10	IMPACT BEHAVIOR OF UHPFRC PANELS UNDER MODERATE VELOCITY IMPACT
	LOADINGS
15 10 15 25	S. Kataoka, M. Beppu, H. Musha and S. Okamoto
15:10-15:25	IMPACT RESISTANCE OF ULTRA-HIGH STRENGTH CONCRETE BEAM WITH FRP
	REINFORCEMENT
15:25-15:40	Alex Remennikov, Matthew W. Goldston and M. Neaz Sheikh
15:25-15:40	APPLICATION OF DIF IN MESO-SCALE FE SIMULATION OF FRP-CONCRETE BOND BEHAVIOR UNDER DYNAMIC LOADING USING A LOCAL CONCRETE DAMAGE
	MODEL
	X. Li and J.F. Chen
14:00-15:30	Session D-8 (Room V312)
14.00-15.50	Confinement – 2
	Chairs: Yan Zhuge and Yu-Lei Bai
14:00-14:15	STRESS-STRAIN BEHAVIOUR OF FRP-CONFINED CONCRETE IN ECCENTRICALLY-
14.00 14.15	LOADED CIRCULAR COLUMNS
	G. Lin and J.G. Teng
14:15-14:30	EXPERIMENTAL STUDY ON BFRP CONFINED RAC STUBS UNDER CYCLIC AXIAL
	COMPRESSION
	L. Zeng, L.J. Li, Z.F. Pan and S. Fang
14:30-14:45	PROBABILISTIC ASSESSMENT OF STRENGTH AND DUCTILITY OF FRP-CONFINED
	CONCRETE COLUMNS
	H. Baji, H.R. Ronagh and C.Q. Li
14:45-15:00	COMPRESSION TESTS ON SEAWATER AND SEA SAND CONCRETE (SWSSC) FILLED
	STAINLESS STEEL, CFRP AND BFRP TUBULAR STUB COLUMNS
	Y.L. Li, X.L. Zhao, R.K. Singh Raman and S. Al-Saadi

15:00-15:15	REDUCED ORDER APPROXIMATION OF THE LATTICE DISCRETE PARTICLE MODEL
	FOR THE SIMULATION OF FRP CONFINED CONCRETE COLUMNS
	C. Ceccato, X. Zhou, D. Pelessone, C. Pellegrino and G. Cusatis
15:15-15:30	EFFECT OF EXTERNAL CONFINEMENT ON PLASTIC HINGE OF RC COLUMNS
	Fang Yuan and Yu-Fei Wu
14:00-15:40	Session E-8 (Room V315)
	Mini-symposium on Prestressed FRP for Strengthening and New Constructions - 1
	Chairs: Raafat El-Hacha and Hothifa Rojob
14:00-14:25	FRP PRESTRESSING SYSTEMS FOR FLEXURAL STRENGTHENING OF STRUCTURAL
	ELEMENTS – A REVIEW
	(Invited Presentation)
	R. El-Hacha and H. Rojob
14:25-14:40	TWO EXAMPLES OF POST-TENSIONED CFRP CABLES IN BRIDGE CONSTRUCTION:
	ONE IN REHABILITATION, ONE IN NEW CONSTRUCTION
	U. Meier, R. Brönnimann and P. Anderegg
14:40-14:55	PRESTRESSING SYSTEM OF MULTI-PLY FRP SHEETS FOR STRUCTURAL
	STRENGTHENING
	C.Y. Zhou, J. Liu and L. Xie
14:55-15:10	EXPERIMENTAL INVESTIGATION ON RC BEAMS WITH PRESTRESSED NSM SYSTEM
	H. Lee, W. Jung and W. Chung
15:10-15:25	PRESTRESSED NSM CFRP FOR STRENGTHENING A CONSTRUCTED BRIDGE:
	ANCHORAGE BEHAVIOR FROM MACRO TO MICROSCALE PERSPECTIVES
	Y.J. Kim, Y. Ji, J. Kang, J. Park and W. Jung
15:25-15:40	DEFORMABILITY OF PRETENSIONED PC BEAMS WITH BFRP REINFORCEMENT
	M. Mirshekari, T. Donchev, D. Petkova and M. Limbachiya
15:40-16:00	Tea Break
16:00-17:25	Session B-9 (Room V302)
16:00-17:25	Special Session on FRP Composites in Spatial Structures
	Special Session on FRP Composites in Spatial Structures Chairs: Tao Jiang and Gattas Joe
16:00-17:25 16:00-16:25	Special Session on FRP Composites in Spatial StructuresChairs: Tao Jiang and Gattas JoeMODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN
	Special Session on FRP Composites in Spatial Structures         Chairs: Tao Jiang and Gattas Joe       MODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN         ARCHITECTURE       ARCHITECTURE
	Special Session on FRP Composites in Spatial Structures         Chairs: Tao Jiang and Gattas Joe         MODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN         ARCHITECTURE         (Invited Presentation)
16:00-16:25	Special Session on FRP Composites in Spatial Structures Chairs: Tao Jiang and Gattas JoeMODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN ARCHITECTURE (Invited Presentation) J. Knippers, V. Koslowski, J. Solly and T. Fildhuth
	Special Session on FRP Composites in Spatial Structures Chairs: Tao Jiang and Gattas JoeMODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN ARCHITECTURE (Invited Presentation) J. Knippers, V. Koslowski, J. Solly and T. FildhuthFOLDED FABRICATION OF COMPOSITE CURVED-CREASE COMPONENTS
16:00-16:25 16:25-16:40	Special Session on FRP Composites in Spatial StructuresChairs: Tao Jiang and Gattas JoeMODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN ARCHITECTURE(Invited Presentation)J. Knippers, V. Koslowski, J. Solly and T. FildhuthFOLDED FABRICATION OF COMPOSITE CURVED-CREASE COMPONENTS T.U. Lee and J.M. Gattas
16:00-16:25	Special Session on FRP Composites in Spatial StructuresChairs: Tao Jiang and Gattas JoeMODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN ARCHITECTURE(Invited Presentation)J. Knippers, V. Koslowski, J. Solly and T. FildhuthFOLDED FABRICATION OF COMPOSITE CURVED-CREASE COMPONENTS T.U. Lee and J.M. GattasDIGITAL DESIGN AND CONSTRUCTION OF A WEAVING STRUCTURE
16:00-16:25 16:25-16:40 16:40-16:55	Special Session on FRP Composites in Spatial StructuresChairs: Tao Jiang and Gattas JoeMODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN ARCHITECTURE(Invited Presentation)J. Knippers, V. Koslowski, J. Solly and T. FildhuthFOLDED FABRICATION OF COMPOSITE CURVED-CREASE COMPONENTS T.U. Lee and J.M. GattasDIGITAL DESIGN AND CONSTRUCTION OF A WEAVING STRUCTURE W.X. Huang, D. Yan, P. Luo and X.L. Li
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16:00-16:25         16:25-16:40         16:40-16:55         16:55-17:10         17:10-17:25	Special Session on FRP Composites in Spatial Structures Chairs: Tao Jiang and Gattas JoeMODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN ARCHITECTURE (Invited Presentation) J. Knippers, V. Koslowski, J. Solly and T. FildhuthFOLDED FABRICATION OF COMPOSITE CURVED-CREASE COMPONENTS T.U. Lee and J.M. GattasDIGITAL DESIGN AND CONSTRUCTION OF A WEAVING STRUCTURE W.X. Huang, D. Yan, P. Luo and X.L. LiFORM-FINDING OF BENDING-ACTIVE GRIDSHELLS IN FRP COMPOSITES T. Jiang, P. F. Zhang, N. Ning and Y.Z. LuoEXPERIMENTAL ANALYSIS OF A REVERSE ELASTICA POP-UP GEOMETRY T.U. Lee and J.M. GattasSession C-9 (Room V303) Mini-symposium on Structures Incorporating FRP Composites under Impact/Blast
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16:00-16:25         16:25-16:40         16:40-16:55         16:55-17:10         17:10-17:25         16:00-17:30         16:00-16:15	Special Session on FRP Composites in Spatial Structures Chairs: Tao Jiang and Gattas JoeMODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN ARCHITECTURE (Invited Presentation) J. Knippers, V. Koslowski, J. Solly and T. FildhuthFOLDED FABRICATION OF COMPOSITE CURVED-CREASE COMPONENTS T.U. Lee and J.M. GattasDIGITAL DESIGN AND CONSTRUCTION OF A WEAVING STRUCTURE W.X. Huang, D. Yan, P. Luo and X.L. LiFORM-FINDING OF BENDING-ACTIVE GRIDSHELLS IN FRP COMPOSITES T. Jiang, P. F. Zhang, N. Ning and Y.Z. LuoEXPERIMENTAL ANALYSIS OF A REVERSE ELASTICA POP-UP GEOMETRY T.U. Lee and J.M. GattasSession C-9 (Room V303)Mini-symposium on Structures Incorporating FRP Composites under Impact/Blast Loading - 2 Chairs: Alex Remennikov and Jingsi HuoTEMPERATURE EFFECT ON THE DYNAMIC BOND BEHAVIOR OF CFRP/STEEL SINGLE-LAP SHEAR JOINTS Mingxia Yao, Deju Zhu, Yiming Yao, Huaian Zhang and Barzin Mobasher
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16:00-16:25         16:25-16:40         16:40-16:55         16:55-17:10         17:10-17:25         16:00-17:30         16:00-16:15	Special Session on FRP Composites in Spatial Structures Chairs: Tao Jiang and Gattas JoeMODULAR CORELESS FILAMENT WINDING FOR LIGHTWEIGHT SYSTEMS IN ARCHITECTURE (Invited Presentation) J. Knippers, V. Koslowski, J. Solly and T. FildhuthFOLDED FABRICATION OF COMPOSITE CURVED-CREASE COMPONENTS T.U. Lee and J.M. GattasDIGITAL DESIGN AND CONSTRUCTION OF A WEAVING STRUCTURE W.X. Huang, D. Yan, P. Luo and X.L. LiFORM-FINDING OF BENDING-ACTIVE GRIDSHELLS IN FRP COMPOSITES T. Jiang, P. F. Zhang, N. Ning and Y.Z. LuoEXPERIMENTAL ANALYSIS OF A REVERSE ELASTICA POP-UP GEOMETRY T.U. Lee and J.M. GattasSession C-9 (Room V303) Mini-symposium on Structures Incorporating FRP Composites under Impact/Blast Loading - 2 Chairs: Alex Remennikov and Jingsi HuoTEMPERATURE EFFECT ON THE DYNAMIC BOND BEHAVIOR OF CFRP/STEEL SINGLE-LAP SHEAR JOINTS Mingxia Yao, Deju Zhu, Yiming Yao, Huaian Zhang and Barzin Mobasher TRANSVERSE RESISTANCE OF CFRP CABLES UNDER DROP-WEIGHT IMPACT

16:45-17:00	EXPERIMENTAL AND NUMERICAL INVESTIGATION ON IMPACT LOADING
	BEHAVIORS OF CFRP WRAPPED RC BEAMS WITHOUT STIRRUPS
	T. Liu and Y. Xiao
17:00-17:15	EXPERIMENTAL STUDY ON SHEAR MECHANISM OF CFRP STRENGTHENED RC
	BEAMS WITHOUT STIRRUPS UNDER IMPACT LOADING
	Jingsi Huo and Jintong Liu
17:15-17:30	NUMERICAL SIMULATION OF ULTRA-HIGH PERFORMANCE CONCRETE
	RETROFITTED WITH FRP PLATE UNDER DEFORMABLE PROJECTILE PENETRATION
	Jian Liu and Chengqing Wu
16:00-17:00	Session D-9 (Room V312)
	Confinement – 3
	Chairs: Yu-Fei Wu and Thong M. Pham
16:00-16:15	CYCLIC STRESS-STRAIN MODEL OF FRP-CONFINED CONCRETE FEATURING POST-
	PEAK STRAIN SOFTENING
	P.D. Li and Y.F. Wu
16:15-16:30	FRICTION EFFECT OF CONCRETE SPECIMENS UNDER UNIFORM PASSIVE
	CONFINEMENT IN TRUE-TRIAXIAL COMPRESSION TEST
	B.B. Li, J.F. Jiang, P.C. Xiao and H.B. Xiong
16:30-16:45	CONCRETE CUBE UNDER MULTI-AXIAL PASSIVE CONFINEMENT
	Mohammadi Mohsen and Yu-Fei Wu
16:45-17:00	COMPRESSIVE BEHAVIOUR OF CFRP-WRAPPED CONCRETE EXPOSED TO CYCLIC
	WET-DRY-ENVIRONMENT
	Y.C. Guo, J.F. Chen, J.H. Xie and Y.H. Huang
16:00-17:30	Session E-9 (Room V315)
10100 17100	
10100 17100	Mini-symposium on Prestressed FRP for Strengthening and New Constructions - 2
	<b>Mini-symposium on Prestressed FRP for Strengthening and New Constructions - 2</b> Chairs: Raafat El-Hacha and Hothifa Rojob
16:00-16:15	Mini-symposium on Prestressed FRP for Strengthening and New Constructions - 2Chairs: Raafat El-Hacha and Hothifa RojobFATIGUE REPAIR OF METALLIC STRUCTURES WITH A THERMALLY-ACTIVATED
	Mini-symposium on Prestressed FRP for Strengthening and New Constructions - 2Chairs: Raafat El-Hacha and Hothifa RojobFATIGUE REPAIR OF METALLIC STRUCTURES WITH A THERMALLY-ACTIVATEDSHAPE MEMORY ALLOY (SMA)/ CARBON FIBER REINFORCED POLYMER (CFRP)
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#### **GENERAL INFORMATION**

#### Hong Kong – a magnificent city

Hong Kong is a Special Administrative Region of the People's Republic of China. It is a territory of about 1070 sq.km. located at the trading crossroads of Asia. Hong Kong is one of the world's leading economies, a major manufacturing and international financial centre, the world's busiest container port and the main gateway to the Chinese mainland.

The climate in December is pleasant and dry, with an average temperature of 15 to 18°C. Visas are not required for citizens of most countries entering Hong Kong as visitors. However, participants are advised to consult their travel agents or the nearest Chinese Embassy for current formalities.

Hong Kong currently has a population of about seven million, of which 98 percent are of Chinese origin. Cantonese, a southern dialect of the Chinese language, is the commonly spoken language while English is the language of business, finance and tertiary education.

#### **Presentation of Papers**

English should be used for presentations and discussions.

#### Currency

The current exchange rate is US\$1 = HK\$7.8 approximately. Most foreign currencies can be freely exchanged at banks, shops and money changers. There is no exchange control for inward or outward remittances. Travelers' cheques and major credit cards are widely accepted.

#### Electricity

The voltage and frequency used in Hong Kong are 220 volts and 50 Hz, respectively.

#### Communication

Hong Kong has one of the best communication networks in the world. Local calls are free but cost HK\$1 when calling from public telephones. Participants are reminded that hotels charge a high levy for IDD calls made in-house.

#### **Cocktail Reception**

Begin your stay by renewing old friendships and making new friends at the Cocktail Reception. Date: 13 December 2016 (Tuesday) Time: 18:00-19:30 Venue: Gallery A-B, Podium Level, Jockey Club Innovation Tower (JCIT), PolyU

#### **Conference Banquet**

Enjoy a wonderful evening of Chinese cuisine at the conference banquet.

Date: 15 December 2016 (Thursday) Time: 19:00-22:00 Venue: Wedding Banquet Specialist, Shop 776, Fortune Metropolis, 6 Metropolis Drive, Hung Hom Fee: Free for delegates who have completed full registration. Additional tickets available at HKD800 per person.

#### HOTEL INFORMATION

#### Accommodation

Reservations for the following hotels, all within easy access to the conference venue, can be made online.

#### **<u>1. Harbour Plaza Metropolis</u>**

To conference venue: around 10-15 mins walk Address: 7 Metropolis Drive, Hunghom, Kowloon, Hong Kong Web Site: <u>www.harbour-plaza.com/hpme</u> Tel No: (852) 3160 6871 Fax No: (852) 3160 6988 Email: <u>vickyc@harbour-plaza.com</u> Please check the room rates and availability with the hotel by sending an email to <u>vickyc@harbour-plaza.com</u>

Please state that you are attending the event "8<sup>th</sup> International Conference on Fibre-Reinforced Polymer (FRP) Composites in Civil Engineering (CICE 2016)".

#### 2. Regal Kowloon Hotel

To conference venue: around 15 mins walk Address: 71 Mody Road, Tsimshatsui, Kowloon , Hong Kong Web Site: <u>www.regalhotel.com</u> Tel No: (852) 2313 8637 Fax No: (852) 2311 8900

#### 3. Hotel ICON

To conference venue: around 5 mins walk Address: 17 Science Museum Road, Tsim Sha Tsui East, Kowloon, Hong Kong Web Site: <u>www.hotel-icon.com</u> Tel No: (852) 3400 1688

#### 4. New World Millennium Hong Kong Hotel

To conference venue: around 15 mins walk Address: 72 Mody Road, Tsim Sha Tsui East, Kowloon, Hong Kong Web Site: <u>www.newworldmillenniumhotel.com</u> Tel No: (852) 2313 4516 or 2313 4305 Fax No: (852) 2313 4517 or 2366 9862

#### 5. BP International

To conference venue: around 5 mins by taxi Address: 8 Austin Road, Tsim Sha Tsui, Kowloon, Hong Kong. Web Site: <u>www.bpih.com.hk</u> Tel No: (852) 2376 3335 Fax No: (852) 2376 1333

## **CICE 2016**

Programme of the Eighth International Conference on Fibre-Reinforced Polymer (FRP) Composites in Civil Engineering 14 - 16 December 2016 Hong Kong, China

Organised by





DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING 土木及環境工程學系



RESEARCH INSTITUTE FOR SUSTAINABLE URBAN DEVELOPMENT 可持續城市發展研究院

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