

FRPRCS-9 Symposium Program

Sunday 12 July 2009				
1800 - 1900	REGISTRATION			
1800 - 1900	Welcome Reception			
Monday 13 July 2009				
0800	REGISTRATION			
0900 - 1045	SYMPOSIUM OPENING & KEYNOTE PRESENTATIONS Room: Ballroom Chairs: Deric Oehlers, Michael Griffith and Rudolf Seracino			
0900 - 0915	Symposium Welcome Deric Oehlers			
0915 - 1000	Advances on the use of FRP for the Precast Concrete Industry Sami Rizkalla Chair: Kenneth Neale			
1000 - 1045	Slender FRP-Confined Circular RC Columns Jin-Guang Teng Chair: Charles Bakis			
1045 - 1115 MORNING TEA				
1115 - 1245	Concurrent Sessions 1			
	15. Strengthening or repair of concrete or masonry structures using FRP systems Room: Ballroom Chair: C. Bakis	18. Behaviour and design of members internally reinforced with FRP Room: Kent Room Chair: R. Seracino	3. Accelerated and real time performance of FRP such as bond and strength Room: Bridge Room II Chair: C. Burgoyne	14. Bond of FRP systems to concrete or masonry Room: Wharf Room Chair: J.F. Chen
1115 - 1130	Shear Strengthening of Prestressed Concrete Girders with Externally Bonded CFRP Sheets Michael Murphy	Thermal effects on the Bond Properties of GFRP Rebars embedded in concrete: Experimental study and Analytical Interpretation Radhouane Masmoudi	Experimental Study on the Performance of FRP-to-Concrete Interfaces Subjected to Cyclic Dry/Wet Actions Jian-Guo Dai	Prediction of Axial Behavior of Reinforced Concrete Circular Columns with Short Term Preloading Zheng He
1130 - 1145	Experimental Study on FRP Shear Strengthened Full-Scale Concrete Beams Angel Arteaga	Thermal Cracking of Concrete Slabs Reinforced with Fibre Reinforced Polymer Bars Mamdouh El-Badry	Low Strength Concrete Columns Confined with CFRP: Behaviour under Temperature Changes and Loads Ugurhan Akyuz	Bond Behavior of Carbon Fiber Sheets to Cracked Concrete Amr El-Dieb
1145 - 1200	Behavior of RC T-Beams Strengthened in Shear with Externally Bonded FRP Sheets Abdeljelil Belarbi	Application to PC Beam with CFRP and Material Properties of CFRP Manufactured Automatically Kohei Yamaguchi	Effects of Elevated Temperatures And Freeze-Thaw Cycling on FRP Laminates Behavior Marco Di Ludovico	Guideline for the Performance and Interpretation of Bond Tests on Concrete Specimens with Externally Bonded CFRP Strips Wolfgang Finckh
1200 - 1215	Analytical Evaluation of Punching Strength of Two-Way Slabs Strengthened Externally with FRP Sheets Ahmed Farghaly	Sectional and Arch Models for Shear Strength of FRP Reinforced Beams Without Stirrups Matthias Andermatt	Investigation of the Parameters Influencing FRP Shear-Strengthened Beams Ahmed Godat	Alternative Methods to Surface Preparation to Postpone Debonding of FRP Laminates Ehsan Mahmoudabadi
1215 - 1230	Flexural and Shear Strengthening of RC Columns and Beams with CFRP Sheets: A Practical Case, Compostilla Thermal Plant Power, León - Spain Stefano Primi	Shear Strength of Concrete Beams Reinforced with Glass Fibre Reinforced Polymer (GFRP) Bars Md. Shah Alam	Structural Behavior and Analysis of RC Deep Beams with Openings Strengthened in Shear Using Near Surface Mounted Technique Khaled Heiza	A Proposed Constitutive Law for FRP/Concrete Interfaces Based on Nonlinear Micromechanics Finite Element Analyses Hussien Abd El Baky
1230 - 1245	Shear Design of RC Beams Strengthened with FRP Using Genetic Algorithms Ricardo Perera	Stress and Strain Distribution in Concrete Beams Reinforced with FRP Bars Tomislav Kisicek	Rehabilitation of Precracked RC Push-off Specimens with Bi-Directional CFRP Fabrics J. Jayaprakash	A New Method for Interfacial Stress Analysis of Beams Bonded with a Thin Soffit Plate Vijayabaskar Narayananamurthy
1245 - 1415 LUNCH				
1415 - 1545	Concurrent Sessions 2			
	15. Strengthening or repair of concrete or masonry structures using FRP systems Room: Ballroom Chair: R. Kotlynia	5. Innovations and developments in fibre composite materials and systems Room: Kent Room Chair: S. Rizkalla	3. Accelerated and real time performance of FRP such as bond and strength Room: Bridge Room II Chair: R. Al-Mahaidi	14. Bond of FRP systems to concrete or masonry Room: Wharf Room Chair: Z.S. Wu
1415 - 1430	Strength, Stiffness and Ductility of RC Beams Strengthened with FRP Sheets Maurizio Taliano	Maximum Shear Stress Control in Potted Anchors for Composite Rods Charles Bakis	An Improved Higher Order Zig-Zag Plate Model for Bending and Buckling Response of Soft Core Sandwich Plates A.H. Sheikh	Effective Rib Height of Deformed GFRP Rebar DoYoung Moon
1430 - 1445	Repair of Pre-cracked RC beams using CFRP laminates Adel Elsafty	Tailor-Made 3D-Reinforcements for TRC Structures Christian Kulas	Durability Predictions of GFRP Bars in Concrete Julio F. Davalos	Experimental Study of the Behavior of Various Non-Bolted Anchorage for CFRP Laminates Ted Donchev
1445 - 1500	External Prestressing of RC T-Beams with CFRP Anders Bennitz	Novel Peel-and-Stick FRP System for Confinement of Concrete Rossella Ferraro	Efficiency of Using Externally Bonded CFRP Laminates Under Shear-Moment Interaction Conditions Nasir Shafiq	Shear Strength and Behaviour of FRP Spike Anchors in Cracked Concrete Scott Smith
1500 - 1515	Anchorage Devices for FRP Strengthening of Concrete Structures Close to Beam-Column Joints Valentino Paolo Berardi	New Prestressing System for FRP Reinforcement in Concrete Structures David Horak	Seismic Evaluation And FRP Strengthening of Existing RC Columns Under Near Field Ground Motion Alireza Mortezaei	Behaviour of Externally Bonded Reinforcement Under Low Cycle Fatigue Loading Angela Nizic
1515 - 1530	Nonlinear Dynamic Response of Reinforced Concrete Coupling Beams Externally Bonded with FRP Sheets Hosein Naderpour	Possibilities of Application of Glass-fibre-concrete in Composite Steel-concrete Beams Marcela Karmazinová	Stepped Isostress Method for Aramid Fibres Chris Burgoyne	Intermediate Debonding in RC Beams Externally Strengthened By FRP: Mechanical Remarks and Simplified Formulations Enzo Martinelli
1530 - 1545	Flexural Strengthening of 48-Year Old Pedestrian Reinforced Concrete Bridge Girders Using Various Near-Surface Mounted FRP Systems Raafat El-Hacha	Evaluation of Shrinkage Cracking Properties of Fiber Reinforced Concrete with Using Plat-Ring Type Restrained Test Method Jeong-Soo Nam	Stress-Strain Behaviour of Concrete Cylinders Confined with CFRP Composite Fabrics Sun Punurai	Modeling of Bond Behavior of GFRP Bars Jung-Yoon Lee

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1545 - 1615 AFTERNOON TEA				
1615 - 1745 Concurrent Sessions 3				
1615 - 1745	15. Strengthening or repair of concrete or masonry structures using FRP systems Room: Ballroom Chair: S.T. Smith	18. Behaviour and design of members internally reinforced with FRP Room: Kent Room Chair: S. Foster	17. Hybrid FRP-concrete structures Room: Bridge Room II Chair: J.G. Teng	2. Durability of FRP systems such as in exposure to heat, light and chemicals Room: Wharf Room Chair: J. Myers
1615 - 1630	Finite Element Modelling of FRP Strips Near-Surface Mounted to Concrete Shishun Zhang	Design Procedures and Detailing Guidelines for FRP Pultruded Grid Reinforced Bridge Decks Lawrence Bank	Investigation of a Concrete Bridge Deck Using Structural Stay-In-Place GFRP Formwork Amir Fam	The Role of Chemical Bonding on Durability of FRP-Reinforced Concrete Elliot Douglas
1630 - 1645	Plane Section Assumption for FRP Strengthened Beams Antony Darby	Durability and Long-Term Performance of GFRP RC Bridge Deck Slabs Subjected to Freeze-Thaw Cycles and Fatigue Loading Ehab El-Salakawy	Hybrid Glulam Composite Beams Reinforced with FRP and Ultra High Performance Concrete Emmanuel Ferrier	Performance of FRP Strengthening Systems for Concrete During Exposure to Elevated Temperatures Luke Bisby
1645 - 1700	Structural Performance Evaluation of Strengthening With Sprayed FRP Chunho Chang	Design of Concrete Bridge Deck Slabs Using Different Types of GFRP Bars Tarik Youssef	Development of FRP-Concrete Composite Deck with Long Span Keunhee Cho	Durability of RC Beams Reinforced with CFRP Sheet under Wet-Dry Environmental and Loading Conditions Ren Huitao
1700 - 1715	Long-Term Performance of FRP Wrapped Columns and Beams in Highly Corrosive Environment Harshda Prasad	Carbon Fiber Grid Reinforcement for Cast-In-Place Concrete Toppings Rudi Seracino	Development of a Robust Mechanical Shear Connector Between FRP and Concrete for FRP Stay-In-Place Participating Formwork Xian Gai	Moisture Degradation in Concrete/Epoxy Systems Denvid Lau
1715 - 1730	The Flexural Performance of Strengthened R.C Beams with CFRP-NSMR Method Sung Moo Park	Cracking Behaviour of Concrete Beams Reinforced with GFRP/Steel Wire Composite Rebars Qingduo Hao	Fabric Formwork for Innovative Concrete Structures Tim Ibell	Chemical Durability of Silicon Dioxide Coatings for FRP Tendons Janet Lees
1730 - 1745	Study of the Fire Behaviour of Structures Strengthened with NSM Stijn Matthys	Indirect Deflection Control of Concrete Slabs Reinforced With Fiber-Reinforced Polymers (FRP) Based on Calculated Deflections Martin Kurth	Behavior of Hybrid FRP Composite I-Girder with Concrete Deck Allan Manalo	Stress Transfer and Pull-Off Strength of Externally Bonded CFRP Following Sustained Loading at Elevated Temperature Maria Lopez De Murphy
1800 - 1930 Fun Night				

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Tuesday 14 July 2009				
REGISTRATION				
Concurrent Sessions 4				
0800				
0900 - 1030	15. Strengthening or repair of concrete or masonry structures using FRP systems Room: Ballroom Chair: M. Green	10. Behaviour of FRP confined concrete Room: Kent Room Chair: J. Jirsa	18. Behaviour and design of members internally reinforced with FRP Room: Bridge Room II Chair: M. Guadagnini	14. Bond of FRP systems to concrete or masonry Room: Wharf Room Chair: K. Neale
0900 - 0915	Flexural Strengthening of Reinforced Concrete Bridge Slab Overhangs Using Near Surface Mounted Reinforcement Lijuan Cheng	Behaviour of FRP Wrapped Circular Concrete Columns Muhammad Hadi	Failure Modes in Reinforced Concrete Beams Strengthened With PBO Fiber Reinforced Cementitious Mortars (FRCM) Luciano Ombres	Effect of Bar Sizes on De-Bonding Load of RC Beams Strengthened with FRP Laminates Mohammad Reza Eftekhar
0915 - 0930	Flexural Performance of RC Beams Retrofitted Using Different FRP Systems Through Experimental Investigation Shahab Mehdizad Taleie	Confinement of RC Non-Circular Columns Repaired with Glass Fibre Reinforced Polymer Discrete Strips Abdul Aziz Abdul Samad	Concrete Shear Strength of Beams Reinforced with FRP Bars According to Flexural Reinforcement Ratio and Shear Span to Depth Ratio Hee Jang	Analytical Modeling of FRP-to-Concrete Bond Subjected to Combined Push-Off and Pull-Out Actions Baolin Wan
0930 - 0945	Study on Basic Characteristics of FRP Strand Sheets and its Flexural Strengthening Effect For RC Beams Akira Kobayashi	A Unified Strength Model for FRP-Confined Concrete Columns with Existing Damage Yufei Wu	Structural Response of Full-Scale Reinforced Concrete Columns with Internal FRP Reinforcement Under Compressive Load Antonio De Luca	Tests on FRP Reinforced Concrete Beams Submitted to Vibrations While are Bonded Angel Arteaga
0945 - 1000	CFRP Application for Strengthening of Concrete Bridge Beams and Piers Kianoush Siamardi	External Confinement of Concrete with Post-Tensioned GFRP Sheets: A Pilot Study Alper Ilki	Design of FRP Reinforced Concrete Beams Against Shear Failure Wade Lucas	Tension of Reinforcement Bars Embedded in Concrete Prisms Strengthened with CFRP Plates Piotr Rusinowski
1000 - 1015	CRFP Repair of Concrete Beams Aged by Accelerated Corrosion Julio F. Davalas	Mohr Coulomb Model for Concrete Sections of Various Shapes Confined by FRP Jackets Chris Pantelides	Experimental and Numerical Evaluation of Shear Beam Behaviour Reinforced with External Cement Matrix Composites. Comparison with Beams Externally Reinforced with FRP Amir Si Larbi	Bond Behaviour of Different FRP Sheets Mohamed Fahmy
1015 - 1030	Repair of Concrete Structures Reinforced with FRP Bars Ehab El-Salakawy	FRP Strengthening of Full Scale PC Girders Marco Di Ludovico	Nonlinear Numerical Modelling of FRP-Reinforced Concrete Slabs Y.X. (Sarah) Zhang	The Adhesion Between FRP Reinforcement and Masonry Support Luisa Rovero
1030 - 1100	MORNING TEA			
1100 - 1145	KEYNOTE SESSION Room: Ballroom Chair: T. Ueda			
1100 - 1145	Role of Bond Modelling in Predicting the Behaviour of RC Beams Shear-Strengthened with FRP U-Jackets Jian-Fei Chen			
1150 - 1250	Concurrent Sessions 4			
1150 - 1205	15. Strengthening or repair of concrete or masonry structures using FRP systems Room: Ballroom Chair: J. Barros	11. FRP retrofitting or FRP systems for blast loads Room: Kent Room Chair: K. Soudki	18. Behaviour and design of members internally reinforced with FRP Room: Bridge Room II Chair: E. El-Salakwy	9. Ductility of FRP retrofitted members Room: Wharf Room Chair: TBA
1150 - 1205	Shear Behaviour of Unreinforced Masonry Panels Retrofitted with Fibre Reinforced Polymer Strips Robert Petersen	Tensile Dynamic Behavior of GFRP Subjected to Controlled Strain Rates and Aging Conditions Domenico Asprone	Estimation of Shear Crack Induced Deformation of FRP RC Beams Maurizio Guadagnini	Further Investigations into the Ductility and Deformability of FRP Strengthened RC Elements David Tann
1205 - 1220	Rehabilitation of Existing Un-Reinforced Masonry (URM) Structures Using CFRP Fabrics Mohammad Taghi Mansouri Kia	Near Field Blast Resistance of Hybrid Panels Retrofitted with a Polyurea System John J. Myers	Basalt Fibres for Reinforcing and Strengthening of Concrete Aniello Palmeri	Ductility Design of FRP Reinforced Concrete Beams Matthew Haskett
1220 - 1235	Numerical Investigation on Strengthening Performance of Shear Deficient RC Beams Bonded with CFRP Laminates Haeng-Ki Lee	Performance of Retrofitted Masonry Walls Under Blast Loads Chengqing Wu	Compressive Membrane Action in FRP Reinforced Slabs Gobithas Tharmarajah	Effects of CFRP Strengthening on the Moment Redistribution of Reinforced Concrete Continuous Beams Francesco Micelli
1235 - 1250	Modeling Issues in the Dynamic Finite Element Analysis of Masonry Walls Strengthened with Composite Materials Ehab Hamed	Numerical Modelling of Blast Loaded FRP Strengthened Reinforced Concrete Columns Pat Heffernan	Shear Analysis of Concrete Members with Fiber-Reinforced Polymers (FRP) as Internal Reinforcement Martin Kurth	New Design and Construction of Road Bridge in Composites Materials in Spain: Sustainability Applied to Civil Works Stefano Primi
1250 - 1415	LUNCH			

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Concurrent Sessions 5				
1415-1545	15. Strengthening or repair of concrete or masonry structures using FRP systems Room: Ballroom Chair: A. H. Sheikh	5. Innovations and developments in fibre composite materials and systems Room: Kent Room Chair: I. Harik	17. Hybrid FRP-concrete structures Room: Bridge Room II Chair: A. Fam	12. Seismic retrofitting or seismic-resistant design with FRP systems Room: Wharf Room Chair: C. Pantelides
1415 - 1430	Stress Concentration in Cut-Off Zones of RC Beams Retrofitted with Near Surface Mounted Reinforcement: An Analytical Approach Van Hien Nguyen	Strengthening of Old Reinforced Concrete Structures Using Fiber Reinforced Cementitious Mortars (FRCM): A Case Study Luciano Ombres	Strength and Ductility of CFFT Beams Reinforced with Steel / GFRP Rebars Radhouane Masmoudi	Behavior of Shear Deficient RC Beam-Column Joint Strengthened with CFRP Composites Compared to Ideally Designed Joint Yousef Al-Salloum
1430 - 1445	Non-Linear Finite Element Analysis of RC and PC Bridge Girders Strengthened In Shear With FRP Composites Abdeldjelil Belarbi	Strengthening of Reinforced Concrete One-Way Slabs with Mechanically Fastened FRP Laminates Annalisa Napoli	Structural Behavior of FRP-Concrete Composite Deck With Concrete Wedge Sung Yong Park	Seismic Retrofit of Precast RC Wall Panels with Cut-Out Openings Using FRP Composites István Demeter
1445 - 1500	How Shear Resistance of RC Beams is Affected by Cutting Steel Stirrups for Installing NSM Laminates for the Flexural Strengthening Joaquim Barros	Evaluation of Strand Sheet as a new CFRP for Flexural and Shear Strengthening of RC Beams Using Polymer-Cement Pastes Sanjay Pareek	Composite Assembly Systems of GFRP and Polymer Based Concrete Materials Maria Cristina Ribeiro	Seismic Performance of FRP Retrofitted RC Bridge Piers with Explicit Consideration of Residual Deformations Mohamed Fahmy
1500 - 1515	Use of ANN to Estimate Shear Capacity of FRP-RC Beams Aly Said	Pseudo-Static Experimental Study on the Performance of Concrete Columns Reinforced by Steel-Fiber Composite Bar (SFCB) Zeyang Sun	Structural Behaviour of a SFGP-RC Prototype Panel's Salvatore Russo	Flexural Behaviour of NSM CFRP Retrofitted Masonry Wallettes Under Static and Cyclic Loading Michael Griffith
1515 - 1530	An Experimental Study on Shear Resisting Effect of Reinforced Concrete Beams Filling-Up Carbon Fiber Rod Plastic Gi-Su Ju	Flexural Behaviour of Composite Sandwiches for Structural Applications Allan Manalo	Experimental Study on Hybrid FRP-Concrete Beam Yanlei Wang	Impact Testing of Polyurea Coated Reinforced Concrete and Hybrid Panels John J. Myers
1530 - 1545	Shear Reinforcement Design of Concrete Beams with FRP Using Neural Networks Ricardo Perera	A New Reinforcement Materials of Steel Fiber Composite Bar (SFCB) and its Mechanics Properties Zeyang Sun	Design of Concrete-Filled FRP Tubes: Provisions in the Chinese Code Tao Yu	Use of CFRP Anchors to Strengthen Lap Splices of Rectangular RC Columns James Jirsa
AFTERNOON TEA				
Concurrent Sessions 6				
1615 - 1745	15. Strengthening or repair of concrete or masonry structures using FRP systems Room: Ballroom Chair: D. Oehlers	13. Fatigue resistance of FRP systems Room: Kent Room Chair: P. Hamelin	8. Codes and standards for FRP concrete and masonry systems / 16. Strengthening or repair of historic structures using FRP systems Room: Bridge Room II Chair: R. Masmoudi	12. Seismic retrofitting or seismic-resistant design with FRP systems Room: Wharf Room Chair: M. Griffith
1615 - 1630	Application of Fiber Reinforced Plastics for Concrete T-Beam Bridge Strengthening Ali Asghar Moonesan	Cycling Testing of GFRP Reinforced Concrete Bridge Slabs Valter Carvelli	Influence of the Percentage of Steel Stirrups in the Effectiveness of the NSM Laminates Shear Strengthening Technique Joaquim Barros	Performance of Exterior RC Beam-Column Joints Upgraded With CFRP Composites Under Seismic Loading Yousef Al-Salloum
1630 - 1645	Bond Aspects of NSM FRP Strengthened RC Beams Renata Kotynia	Experimental Tests on Concrete Columns. Step By Step Consolidation Procedures Valeriu Stoian	Experimental Research on Wood Columns Confined with Carbon Fiber Reinforced Polymers Qingfeng Xu	Diagonal Shear Testing of Unreinforced Brick-Masonry Wallettes Retrofitted with Carbon FRP Plates Hamid Mahmood
1645 - 1700	Analytical Procedure for Flexural Strengthening of Reinforced Concrete Chimneys Using Carbon Fiber Reinforced Polymer (CFRP) Mo Ehsani	Fatigue Performance and Modelling of Corroded RC Beams Repaired with CFRP Stephen Foster	Masonry Arches Reinforced with CFRP Strips Ugo Tonietti	Seismic Strengthening of Rectangular RC Columns With CFRPS Günay Özcebe
1700 - 1715	Localized NSM GFRP Rods for Strengthening RC Beams Khaled Soudki	Fatigue Resistance of Reinforced Concrete Beams Strengthened with CFRP Sheets Mohsen Issa	A Case Study on the Preservation of a Timber Structure Using GFRP Composite Systems Woo Weng Seng	Seismic Retrofit of Shear-Critical R.C. Beams Using CFRP Shamim Sheikh
1715 - 1730	Study on Flexural Capacity of RC Beams Reinforced with CFRP Sheet, CFRP Plate And CFRP Strand Sheet Yoshihiro Takahashi	Bond Capacity of Externally Bonded CFRP-Plates on RC-Structures Under Fatigue Load Thorsten Leusmann	The FIB Perspective on FRP Reinforcement in RC Kyriacos Neocleous	CFRP Seismic Collectors for Concrete Diaphragms Owen Arthur Rosenboom
1730 - 1745	Finite Element Modelling of FRP- and Steel- Strengthened Two-Way Slabs Usama Ebead	Fatigue Performance of CFRP Prestressed Concrete Lighting Poles Janet Lees	In-Plane Response of an Alternative URM Infill Wall System with and without a Polyurea Retrofit John J. Myers	Effectiveness of Seismic Retrofit of RC Beam-Column Joints with FRP Composites and Strut-and-Tie Model Chris Pantelides
1900 - 2330	Symposium Dinner			

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Wednesday 15 July 2009				
REGISTRATION				
Concurrent Sessions 7				
0845				
0915 - 1045	<p>15. Strengthening or repair of concrete or masonry structures using FRP systems Room: Ballroom Chair: C. Wu</p>	<p>2. Durability of FRP systems such as in exposure to heat, light and chemicals Room: Kent Room Chair: M. Lopez de Murphy</p>	<p>19. Behaviour and design of members prestressed with FRP Room: Bridge Room II Chair: E. El-Salakawy</p>	<p>14. Bond of FRP systems to concrete or masonry Room: Wharf Room Chair: T. Ueda</p>
0915 - 0930	<p>Dynamic Properties Deterioration in FRP Strengthened Masonry Walls Ehab Hamed</p>	<p>Durability of Aramid and Carbon FRP PC Beams Under Tidal and Thermal Accelerated Exposure Hiroshi Nakai</p>	<p>Flexural Behaviour of Self-Consolidating Concrete Slabs Reinforced with GFRP Bars Khaled Soudki</p>	<p>Bond Behaviour of Various Shapes of NSM CFRP Bars and Concrete Kalpana Perera</p>
0930 - 0945	<p>FRP-Confined Masonry Columns Francesco Micelli</p>	<p>Early Life Freeze/Thaw Tests on Concrete with Varying Types of Fibre Content Alan Richardson</p>	<p>Behaviour of Concrete Column-Slab Connections Strengthened with Pre-Stressed Carbon Fibre Plates Ahmad Abdullah</p>	<p>Basic Research on the Anchorage of Textile Reinforcement in Cementitious Matrix Enrico Lorenz</p>
0945 - 1000	<p>An Experimental Investigation Into the Behaviour of a Two-Span Masonry Arch Bridge Repaired with FRP Jian-Fei Chen</p>	<p>Tensile Capacity of Stressed CFRP Strand Exposed to Extreme Aggressive Groundwater Environments Matthew Sentry</p>	<p>Prestressed Concrete Bridge Girders Strengthened with CFRP Systems Guilherme S Melo</p>	<p>Cement Based Bonding Material for FRP Strengthening of Concrete Structures Siavash Hashemi</p>
1000 - 1015	<p>Iterative Loading Test with Constant Amplitude for Flexural Reinforced RC Beams with FRP Sheet Yusuke Kurihashi</p>	<p>Investigation of CFRP-Concrete Bond Under Long-Term Exposure to Cyclic Temperature Kumari Gamage</p>	<p>Load Carrying Behavior of Flexural Reinforced RC Beams with Pre-Tensioned AFRP Sheet Norimitsu Kishi</p>	<p>The Effect of Cyclic Loading on Performance of Surface Bonded FRP Sheets on Concrete Behnam Shadravan</p>
1015 - 1030	<p>Finite Element Simulation of IC Debonding in FRP-Plated RC Beams: A Dynamic Approach Jin-Guang Teng</p>	<p>Deflection and Strain Variation of GFRP-Reinforced Concrete Beams After One Year of Continuous Loading Tarik Youssef</p>	<p>Prestressed High Strength Concrete Prisms as Reinforcement in Structural Applications Hugues Vogel</p>	<p>Increase of the Bond Capacity of Externally Bonded CFRP-Plates on RC Structures Due to Self-Induced Contact Pressure Thorsten Leusman</p>
1030 - 1045	<p>Application of Carbon Fiber Reinforced Polymer in Strengthening to Shear R/C TBeams Túlio Bittencourt</p>	<p>Effect of Aggressive Environment on FRP-Concrete Bonding Marco Savoia</p>	<p>Experimental and Analytical Study on Pretensioned Inverted T-Beam with Circular Web Openings Strengthened with GFRP Bashar Mohammed</p>	<p>End Anchorage of Externally Bonded FRP Sheets for the Case of Shear Strengthening of Concrete Girders Michael Murphy</p>
1045 - 1115	MORNING TEA			
1115 - 1245	Concurrent Sessions 8			
1115 - 1130	<p>10. Behaviour of FRP confined concrete Room: Ballroom Chair: M. Issa</p>	<p>6. Field applications, case studies or costs of structures with FRP reinforcement Room: Kent Room Chair: L. Bank</p>	<p>15. Strengthening or repair of concrete or masonry structures using FRP systems / 19. Behaviour and design of members prestressed with FRP Room: Bridge Room II Chair: R. El-Hacha</p>	<p>4. Fire resistance of FRP systems / 7. Standardisation of FRP materials, bonding agents, and test methods Room: Wharf Room Chair: L. Bisby</p>
1115 - 1130	<p>FRP Strengthening of Columns Against Bars Buckling-Parametric Finite Element Analyses Theodoros Rousakis</p>	<p>Self-Supporting TRC sandwich façade Christian Kulas</p>	<p>An Experimental Study on Application of New Prestressing System for NSM Strengthening Technique Woo-Tai Jung</p>	<p>Modelling the Heat Transfer and Structural Behaviour of Plain and FRP Confined RC Rectangular Columns in Fire Mark Green</p>
1130 - 1145	<p>Effect of FRP on Behavior of Confined Lightweight Concrete Square Specimens Asghar Vatani Oskouei</p>	<p>Strengthening and Retrofit of Industrial Infrastructure with Carbon Fiber Reinforced Polymer (CFRP) Mo Ehsani</p>	<p>FRP-Prestressed Timber: Losses in Prestressing Force Due to Elastic, Creep and Shrinkage Deformations of the Timber Maurice Brunner</p>	<p>Development of Methods for Quality Control of CFRP Anchors James Jirsa</p>
1145 - 1200	<p>Influence of Concrete Strength and Fibre Type on the Compressive Behaviour of FRP-Confined High-Strength Concrete Thomas Vincent</p>	<p>Twelve Years of Field Applications of FRP Materials in Kentucky Issam Harik</p>	<p>Flexural Strengthening of a Steel Beam with Prestressed CFRP Strips - Preliminary Investigation Khaled Soudki</p>	<p>Fire Resistance of Concrete Slabs Reinforced with FRP Bars: Experimental Investigations Emidio Nigro</p>
1200 - 1215	<p>Behaviour of Concrete Filled FRP Tubes Under Eccentric Loading Shady Hammouda</p>	<p>Field Application of Seismic Retrofit System Using Carbon Fiber Sheet Katsumi Kobayashi</p>	<p>Pre-Stress Technique for the Flexural Strengthening with NSM-CFRP Strips Joaquim Barros</p>	<p>Experimental Round Robin Test on FRP-Concrete Bonding Marco Savoia</p>
1215 - 1230	<p>Evaluation of Effective Ultimate Strain of FRP Confinement Jackets Applied on Circular RC Columns Gian Piero Lignola</p>	<p>A Case Study on Structural Strengthening of Twin 50-Storey Office Towers with CFRP Composite Systems Ong Wee Keong</p>	<p>Use of Fiber Reinforced Polymers in Shear Strengthening of Reinforced Concrete Deep Beams with Openings Tamer El Maaddawy</p>	<p>Detection of Bond Defects in CFRP Sheets Bonded to Concrete Using Infrared Thermography Jawdat Tashan</p>
1230 - 1245	<p>RC Slender Columns Strengthened by CFRP Composite Fabrics Subjected to Biaxial Bending and Axial Compression Wonsiri Punurai</p>	<p>Case Studies on the Maintenance of Infrastructures Using CFRP Composite Systems Woo Weng Seng</p>	<p>Basalt Fiber Reinforced Cementitious Matrix Composites for Infrastructure Rehabilitation Francisco J De Caso y Basalo</p>	<p>Fire Resistance of Concrete Slabs Reinforced with FRP Bars: Theoretical Models Emidio Nigro</p>
1245 - 1415	LUNCH			

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Concurrent Sessions 9				
1415 - 1500	10. Behaviour of FRP confined concrete Room: Ballroom Chair: S. Sheikh	5. Innovations and developments in fibre composite materials and systems Room: Kent Room Chair: T. Ibell	15. Strengthening or repair of concrete or masonry structures using FRP systems Room: Bridge Room II Chair: Y. Wu	11. FRP retrofitting or FRP systems for blast loads / 12. Seismic retrofitting or seismic-resistant design with FRP systems Room: Wharf Room Chair: A. Ilki
1415 - 1430	Research on Strengthening of Reinforced Concrete Wall-Type Columns with FRP Composite Systems Ong Wee Keong	An Experimental Study on the Explosive Spalling Properties of High Strength Concrete with Contents of Fiber and Prestressed Kim Young-Sun	Contribution of PVA Short-Fiber-Mixed Shotcrete and AFRPM to Shear Strength Increase of RC Beams Fumio Taguchi	An Inovative Method for Strengthening RC Beam-Column Connections with CFRP Shahab Mehdizad Taleie
1430 - 1445	Experimental Investigation of FRP Wrapped Hollow RC Columns Muhammad Hadi	Shell Elements of Architectural Concrete Using Fabric Formwork – Part 1: Concept Niki Cauberg	Analytical Investigation of Reinforced Concrete Members Strengthened With FRP Sheets in Tension Kalid Farah	Finite Element Analysis of Slab-Column Connections Strengthened with FRP Sheets Under Impact Loading Seyed Rohollah Hoseini Vaez
1445 - 1500	Evaluation of Seismic Retrofit of RC Bridge Piers with Pseudo-Dynamic Tests Kenneth Neale	Shell Elements of Architectural Concrete Using Fabric Formwork – Part 2: Case Study Tine Tysmans	Shear Strengthening of Reinforced Concrete Beams Using Near-Surface Mounted CFRP Strips Raafat El-Hacha	Investigation the Seismic Behavior of FRP-Strengthened RC Frames Hosein Naderpour
1505 - 1600	KEYNOTE SESSION & CLOSING Room: Ballroom Chair: L. Bank			
1505 -1550	Fibre Reinforced Polymers - Strengths, Weaknesses, Opportunities and Threats Chris Burgoyne			
1550 - 1600	Symposium Closing Remarks Michael Griffith			
1600	AFTERNOON TEA			