Wednesday

8:00am — **Registration Opens**
Registration Desk, Level 5, P Block, QUT Gardens Point Campus

8:30am-9:15am — **Conference Welcome and Opening**
Professor Tommy Chan, SHMII-8 Chair & Dr Saeed Mahini, SHMII-8 Co-Chair, **ROOM: P514**

9:15am - 9:45am — **KL1 - Data Science and Engineering for Structural Health Monitoring**
Professor Hui Li, Harbin Institute of Technology, China
Chair: Ian F.C. Smith, **ROOM: P514**

9:45am - 10:15am — **KL2 - Bridge in-service Performance Monitoring and Risk Management**
Dr Rob Heywood, Department of Transport & Main Roads, Australia
Chair: Genda Chen, **ROOM: P514**

10:15am - 10:50am — **Morning Tea**
Level 5, P Block, QUT Gardens Point Campus

Concurrent Sessions 1

10:50am - 12:30pm

Session 1.1 - ROOM: P512	Session 1.2 - ROOM: P514	Session 1.3 - ROOM: P505	Session 1.4 - ROOM: P504	Session 1.5 - ROOM: P413
MS1: Recent SHM Advances in Australia	**RS1,RS11, RS12,RS13: Smart Sensors, GPS, Remote Monitoring, Integrated Systems**	**RS5: Damage Assessment**	**RS6: Structural Reliability Forecast**	**MS2: Data-Driven Structural Damage Identification and Performance Assessment**
Chairs: Jianchun Li & Andy Nguyen	Chairs: Su Taylor & John C Moore	Chairs: Hong Guan & Mehrisadar Makki Alamdari	Chairs: Ian F.C. Smith & F. Tondolo	Chairs: Ling Yu & He-qing Mu
Invited paper - ID:293 Long-term Vibration Monitoring of a Cable-stayed Bridge: Effects of Environmental and Operational Conditions X.Q. Zhu, B. Samali, M. Rashidi, M.M. Alamdari (Western Sydney Uni)	**ID:12 Remote Monitoring of Steel Radar Towers in the Canadian Arctic** V. Limaye (SHM Canada), F. Horvath (SHM Canada), C. Davies (Cleland Jardine Engineering Ltd.), T. Rudowicz (ONT)	**ID:20 Sparse Regularization for Structural Damage Identification** Rongrong Hou and Yong Xia (Hong Kong Polytechnic University)	**ID:143 Automated Bridge Model Calibration Using SHM Controlled Load Test Data** H. Al-Khateeb (UDEL), C. Natalicchio (UDEL), H. Shenton (UDEL), M. Chajes (UDEL), Z. Wu (Bentley) and W. Elhaddad (Bentley)	**Invited paper - ID:130 Output-only damage detection based on hard threshold method with unknown vehicle-bridge interaction forces** C.D. Pan, L. Yu (Jinan Uni)
ID:294 Finite Element Model Updating of Civil Engineering Infrastructures: a Literature Review H. Moravej, S. Jamali, T.H.T. Chan, A. Nguyen (Queensland University of Technology)	**ID:37 Long-Term Structural Health Monitoring of Suramadu Bridge** M.R. Salami (University of Warwick), A. Jesus (University of Warwick), A.P. Pamuncak (IMPWH). I. Zarkasi (IMPWH), B. Suhendro (GMU), B. Budiono (BIT), P. Suprobo (SNIT), I. Laory (University of Warwick)	**ID:8 Damage Detection Method of Structures Based on Relative Variation of Wavelet Total Energy and experimental study** Y.Q. Xiang, Y.K. Jia (Zhejiang University)	**ID:78 Modal Parameters Variation of PC beams and its influence on Failure Probability** O.S. Luna Vera (KYOTOU), C.W. Kim (KYOTOU), Y. Oshima (PWRI)	**ID:166 Application of sparsity in structural damage detection** Z.P. Chen, L. Yu (Jinan Uni)
ID:295 Smart-based Monitoring of Epoxy Using Piezoelectric Transducers Y. Y. Lim, S. T. Smith, I.Izadgoshasb (Southern Cross University)	**ID:129 Full-scale measurements of the physical response of WTT building with the use of Real-Time Kinematic Global Navigation Satellite System** M. Cwik, M.A. Gizejowski (WUT)	**ID:32 Structural Health Monitoring in the Sydney Harbour Bridge Using Spectral Moments** Mehrisadar Makki Alamdari, Khoa Nguyen, Thierry Rakotoarivelo, Hamed Kalhori and Jun Li (UNSW)	**ID:135 Probabilistic Risk Assessment of Vehicle** Safety on a Bridge using Field-Monitored Data S.J Kim (SNU), H.K Kim (SNU)	**ID:132 RIP-based Subspace Projection Method for Structural Damage Detection** Z.W. Luo, L. Yu (Jinan Uni)
ID:296 Monitoring Blasting Events in an Underground Mine with Artificial Intelligence Techniques Linqi Huang (Central South Uni), Jun Li (Curtin Uni), Hong Hao (Curtin Uni), Xibing Li (Central South Uni)		**ID:60 An Energy-based Damping Evaluation for the Local Damage Detection of an Existing Steel Truss Bridge** Samim Mustafa, Yasunao Matsumoto, Hiroki Yamaguchi	**ID:207 Assistant Decision-making System for Structural Health Monitoring in Three Gorges Project** Chen Bo (HHU), Shi Zhongwen (HHU), Wu Zhongru (HHU)	**ID:219 Structural Modal Frequency-Environmental Condition Relation Development by Bayesian Learning Approach** H.Q. Mu (South China Uni Tech), K.V. Yuen (Uni Macau)
ID:297 Crack Detection via Salient Structure Extraction from Textured Background F. Nayyeri, L. Hou, J. Zhou, H. Guan, A.W.C. Liew (Griffith University)		**ID 92: Early Damage Detection using Multivariate Data-driven Approaches – Application to Experimental Data from a Cable-stayed Bridge** E. Tomé, M. Pimentel, J. Figueiras (University of Porto)		

Wednesday

12.30pm - 1.50pm — **Lunch**
Level 5, P Block, QUT Gardens Point Campus

Concurrent Sessions 2

	Session 2.1 ROOM: P512	Session 2.2 ROOM: P514	Session 2.3 ROOM: P505	Session 2.4 ROOM: P504	Session 2.5 ROOM: P413	Session 2.6 ROOM: P413A
	MS1: Recent SHM Advances in Australia	**MS2: Data-driven Structural Damage Identification and Performance Assessment**	**MS3: Temperature Behaviour of Structures**	**RS6: Model Updating, Safety Evaluation and Reliability Forecast**	**RS5: Damage Identification/ Localization and Evaluation/ Assessment of Bridges and Building Structures**	**RS1, RS5, RS11: Damage Assessment, Smart Sensors, GPS**
	Chairs: Bijan Samali & Tuan Ngo	Chairs: Jun Li & Zhen-Hua Nie	Chairs: Yong Xia & You-lin Xu	Chair: Jiaxing Ye	Chairs: Yi-Qing Ni & Torill Pape	Chairs: George Akhras & Hien Van Le
	Invited paper - ID:298 Output-only modal testing of civil engineering structures: Instrumentation and test management A. Nguyen, T.H.T. Chan, D.P. Thambiratnam, K.T.L Kodikara, N.T. Le, S. Jamali (QUT)	**Invited Paper - ID:264 Development and Application of Online Monitoring and Safety Evaluation System for Long-span Bridges** H. Jiang (Guangdong Earthquake Agency), L.X. Wang (Guangdong Earthquake Agency), K. Yan (Guangdong Earthquake Agency), X.R. Zhao (Guangdong Earthquake Agency), H.W. Ma (Jinan Uni), H. Ding (Guangzhou & Chinese Academy of Sci), Z.H. Nie (Jinan Uni)	**Invited paper - ID:246 Thermal Performance Analysis of a Long-span Suspension Bridge with Long-term Monitoring Data** W. Zhao, Q. Xia, J. Zhang (Southeast Uni)	**ID:17 Improving prediction capability of finite element models of bridges using static and dynamic data** Wen-jun Cao (NUS), Didier Vernay (Singapore-ETH Centre), Chan Ghee Koh (NUS), Ian F.C. Smith (EPFL)	**ID:227 Hidden Defects In Bridges – their identification, management and prevention** T.Pape (AECOM), P. Burnton (Arup), J. Collins (Arup), A. Ghose (Waterman), J. Webb (AECOM), D. Ashurst (Arup), C. Christodoulou (AECOM), P.Sparkes (AECOM)	**ID:228 Smart reinforcement steel bars embedded with MEMS sensors for low-cost structural health monitoring** F. Tondolo, A. Cesetti, E. Matta, A. Quattrone, D. Sabia (Politecnico di Torino)
1:50pm - 3:10pm	**ID:299 Monitoring of Corrosion Process in Structural Adhesive using Smart Materials** Y. Y. Lim, I. Izadgoshasb, S. T. Smith (SCU)	**ID:214 Damage Identification based on Monte Carlo Method using Likelihood Estimates** B. Wen (Southeast Uni), C.F. Wan (Southeast Uni), R. Huang (Southeast Uni), L.Y. Huang (Southeast Uni), T. Sato (Southeast Uni), Y. Wang (Southeast Uni), L.Y. Xie (Tongji Uni), H.S. Tang (Tongji Uni)	**ID:245 3D temperature analysis of a structure subject to nonuniform solar radiation** F. Gao, P. Chen, S. Weng , H. Zhu, K. Wen (Huazhong Uni Sci Tech)	**ID:35 Structural model updating for reserve capacity estimation in concrete bridges** M. Proverbio, D.G. Vernay, I.F.C. Smith (ETH)	**ID:97 Development of a vision based SHM for bridge damage identification** D. Lydon, S.E. Taylor, D. Robinson, M. Lydon, D. Hester (Queens Uni Belfast)	**ID:234 Outlier detection of ARIMA model coefficients estimated from GPS thermal deformation data for assessing structural condition of a cable-stayed bridge** H.V. Le (Uni Transport and Communication), M. Nishio (Yokohama National Uni)
	ID:300 Extraction of Bridge Modal Parameters using a Moving Instrumented Vehicle by SSI Technique J.T. Li, X.Q. Zhu, B. Samali (Western Sydney Uni)	**ID:201 Heterogeneous Wireless Sensor Deployment for Structural Health Monitoring** C.Y. Liu, Z. Peng (HIT)	**ID:251 Some Issues on Temperature Model of Box Girder in HSR** G.L. Dai, Y. Tang (Central South Uni), Y.F. Chen (Central South Uni), J.B. Liang (Central South Uni), L.H. Yang (Central South Uni)	**ID:47 Bayesian Structural Identification of a Suspension Bridge Using Temperature and Traffic Loading** A. Jesus, M.Rm Salami, R. Westgate, K. Koo, J. Brownjohn, I. Laory (Warwick)	**ID:80 Effect of Ballast State on Dynamic Parameters of a Multispan Ballasted Prestressed Concrete Railway Bridge** Y. Zhang, Y. Miyamori, T. Oshima, Y. Shirakawa, S. Mikami, T. Saito (Kitami Institute of Technology)	**ID:100 En"vision"ing a Novel Approach for Structural Health Monitoring – A Model for Full-Field Structural Identification using 3D-Digital Image Correlation** M.S. Dizaji, D.K. Harris, M. Alipour, O.E. Ozbulut (Uni Virginia)
	ID:312 Cloud-based Civil Infrastructure Health Monitoring System with Multi-sensor Integration F.Ke (NUIST)		**ID:252 Experimental study on the temperature field of concrete hollow slab exposed to fire** Y.Z. Chen, Z.F. Xu, Y.P. Wang (Guangdong Hualu Trans Tech Co Ltd) Y.H. Huang, R. Rao (Guangzhou University)	**ID:125 Structural Reliability Analysis of Existing Steel Plate-girder Bridges using Posterior Distributions of Model Parameters estimated by Dynamic Monitoring Data** M. Nishio, R. Kuroda (Yokohama National University)	**ID:170 A Baseline-free Modal Strain Energy Method with Bayesian Data Fusion Technique for Damage Localization** Ummul Baneen (University of Engineering & Technology)	**ID:89 Verification of Seismic Response Estimation Method Based on Limited Number of Sensors by Using a Shaking Table Test Data of 6-Story RC Wall Frame Building** T. Morii, T. Sagawa, K. Sugimoto, K. Okada, M. Shiraishi (Shimizu Corporation)

3:10pm - 3:40pm — **Afternoon Tea**
Level 5, P Block, QUT Gardens Point Campus

Wednesday

Concurrent Sessions 3

	Session 3.1 ROOM: P512	Session 3.2 ROOM: P514	Session 3.3 ROOM: P505	Session 3.4 ROOM: P504	Session 3.5 ROOM: P413	Session 3.6 ROOM: P413A
	MS1: Recent SHM Advances in Australia	**SS3: Optical Based Monitoring Techniques for Infrastructural Maintenance and Safety**	**MS3: Temperature Behaviour of Structures**	**SS1: Recent Advances in Railway System Monitoring in China**	**RS5: Damage Identification**	**RS1, RS5: Smart Sensors, Damage Assessment, Reliability Forecast**
	Chairs: Xinqun Zhu, Andy Nguyen & Jun Li	Chairs: Paul S Sumitro & Hiroshi Matsuda	Chairs: Wei Lu & Lin-ren Zhou	Chair: Yuzhi Zhang	Chairs: Hui Li & Marco Domeneschi	Chairs: Werner Lienhart & David Hester
3:40pm - 5:00pm	**ANSHM Benchmark Structure Collaboration Discussion Forum**	**Invited paper - ID:276 Structural vibration identification of bridges by 3D measurement FE analysis and the actual vibration measurement** K. Yamaguchi (Nagasaki Uni), H. Matsuda (Nagasaki Uni), T. Kawamura (Nagasaki Uni), T. Saigyo (PAL Corp), K. Kimoto (Keisoku Research Consultant Corp), T. Nishikawa (Nagasaki Uni)	**ID:247 Structural state monitoring of buried pipelines using distributed fiber optic temperature and strain sensors** X. Feng, Y. Han, Y. Liu, H.F. Liu, Z.H. Wang, S.L. Gong, J. Zhou (Dalian Uni Tech)	**Invited paper - ID:271 Effective Intrusion Detection for Railway Scene Based on Video Analytics** Y.D. Li (North China Uni Tech) Y.B. Lin (North China Uni Tech), C. Zhang (North China Uni Tech), W.G. Zhao (Shijiazhuang Tiedao Uni)	**ID:6 Improved eigensystem realization algorithm to distinguish spurious modes** C. Qu, T. Yi, H. Li (Dalian Uni of Tech)	**ID:39 Sensor development for monitoring bolt tightness in steel truss girder of a cable-stayed bridge** Z. Sun, X. Ouyang (JSTI)
		ID:280 LiDAR Bridge Inspection Process Analysis and Recommendations for Operation H. Bian (Nanjing Tech Uni), P. Sumitro (Smartsensys), S. Chen (Uni North Carolina)	**ID:248 Stress distributions of Zhuhai Opera House based on temperature variations** J. Teng, W. Lu, L. Qiu, K. Huang (HIT)	**ID:270 Acoustic Emission Monitoring of Switch Rail Detect Based on Wigner-Ville High-order Spectrum and Data Mining Technology** J. Xu, P. Wang, R. Chen, J. Xiao, W. Liang, Y. Hou (Southwest Jiaotong Uni)	**ID: 30 Prognosis of Wire Fracture Through Adaptive Wavelet Analysis of Acoustic Signals** H. Qu, T. Li, J. A. Cain, G. Chen (Missouri Uni. of Science and Tech.)	**ID:233 Identification of System Parameter and Aerodynamic Force from Wind Tunnel Test Data** Y. Hui (Hunan University), S.S. Law (Chongqing University)
		ID:84 Development of Self-Temperature Compensated Strain Visualization Sheet S. Umemoto (Keisoku Research Consultant Co), T. Takaki (Hiroshima Uni), M. Omachi (Keisoku Research Consultant Co), K. Matsuo (Keisoku Research Consultant Co), N. Miyamoto (Keisoku Research Consultant Co),I. Ishii (Hiroshima Uni), T. Aoyama (Hiroshima Uni)	**ID:253 Experimental study on the thermal convection behaviour of concrete material in service environments** L. Zhou, L. Chen, F. Li, Y. Xia (South China Uni Tech)	**ID:274 Construction of Stability Monitoring and Evaluation System for High-speed Railway Roadbed in Cold Regions** Y. Zhang, B. Sun, W. Zhao, A. Wen (Shijazhuang Tiedao Uni)	**ID:40 Spectrogram Analysis of Local Excitation Method (LEM) for SHM Improvement of Damage Detection** T. Oshima, Y. Miyamori , T. Yamazaki, S. Mikami, S. Yasue,Y. Hashidume (Kitami Institute of Techn.)	**ID:242 Structural Assessment of a Childcare Buildings Rooftop Play Area for Landscaping Works** M. Kudrenko, A. Jeary (STRAAM)
	ANSHM AGM	**ID:277 The existing stress measurement of the PC bridges by slit stress relief techniques using the optical full-field measurement method** M. Yonemoto (Keisoku Research Consultant Co), K. Hida (K&T Consultant Co), Y. Ito (Saga Uni), K. Mita (Saga Uni), H. Matsuda (Nagasaki Uni), T. Okamoto (Keisoku Research Consultant Co)	**ID:291 Development of A Real-time Condition Monitoring System for A Footbridge** Y. Xia, W.L. Wu, Y.L. XU (HK Poly U)	**ID: 269 Field measurement of internal force arising in segmental lining of underwater high-speed railway shield tunnel** K. Feng, Z. Dai, W. Wang, C. He, S. Cao, (Southwest Jiaotong University), CN		**ID:243 Smart Steel Strand Fabricated by the Coaxial Cable Fabry-Perot Interferometer Sensor** T. Jiao (Dalian University of Technology), Z. Zhou (Dalian University of Technology), J. Liu (Dalian University of Technology), H. Xiao (Clemson University)

Thursday

8:00am	**Registration Opens** Registration Desk, Level 5, P Block, QUT Gardens Point Campus
8:30am - 9:00am	**Discrete and Distributed Methods for Structural Health Monitoring of Civil Structures** Professor Farhad Ansari, University of Illinois, USA Chair: Aftab Mufti, **ROOM: P514**
9:00am - 9:30am	**Innovative Data Analysis Techniques for Structural Health Monitoring** Professor Hong Hao, Curtin University, Australia Chair: Branko Glisic, **ROOM: P514**
9:30am - 10:00am	**Infrastructure Condition in Japan and New Governmental Infrastructure R&D Program** Professor Yozo Fujino, University of Tokyo, Japan Chair: Wolfgang Habel, **ROOM: P514**
10:00am - 10:30am	**Morning Tea** Level 5, P Block, QUT Gardens Point Campus

Concurrent Sessions 4

	Session 4.1 ROOM: P512	Session 4.2 ROOM: P514	Session 4.3 ROOM: P505	Session 4.4 ROOM: P504	Session 4.5 ROOM: P413
	MS1: Recent SHM advances in Australia	**RS1, RS6, RS17: Smart Sensors, Reliability Forecast, Resilience of Infrastructure Systems**	**MS2: Data-driven Structural Damage Identification and Performance Assessment**	**RS2, RS3, RS8: Data Acquisition, Wireless and Other Advanced Sensor Networks, Performance Monitoring**	**RS3, RS5: Data Acquisition & Damage Assessment**
	Chairs: Brian Uy & Lei Hou	Chairs: Saeed Mahini & Marco Domaneschi	Chairs: Hua-Peng Chen & Wei Lu	Chairs: P.R.A. Fidler & M. Cwik	Chairs: Genda Chen & Toshiyuki Oshima
10:30am - 12:10pm	**Invited paper - ID:302 3D Finite Element Prediction of Scattering and Mode Conversion of Lamb Waves at Delaminations in Composite Laminates** C.T. Ng, G.T Pudipeddi, A. Kotousov (Uni of Adelaide)	**ID:128 Full Probabilistic Model for Traffic Loads on Bridges Based on Weigh-In-Motion Data** J. Kim, J. Song (Seoul National Uni)	**Invited paper - ID:268 Transducer Array Optimisation for Guided Wave Testing of Pipes Using Finite Element Numerical Simulations and Experimental Studies** X. Niu (TWI Ltd & Uni Greenwich), H.R. Marques (TWI Ltd), H.P. Chen (Uni Greenwich)	**ID:19 Comparing algorithms for measurement-system design for bridge load testing** N. Bertola (ETH), M. Papadopoulou (ETH), D. Vernay (ETH), I.F.C. Smith (ETH/EPFL)	**ID:87 Structural Damage Identification Using Millimeter Wave Imaging and Image Processing** A. Noori Hoshyar, S. Kharkovsky, B. Samali (Western Sydney University)
	ID:303 Modal-Based Damage Detection of Shear Connectors in Steel-Timber Composite (STC) Beams A.A. Chiniforush, U. Dackermann, H. Valipour, A. Akbarnezhad (UNSW)	**ID:147 Monitoring human emotions during earthquakes** R. Aguilar (Catholic Uni Peru), C. Apostoliti (Politecnico di Torino), R. Boroshek (Uni Chile), A. Cardoni (Politecnico di Torino), D. Cares (Uni Chile), G.P. Cimellaro (Politecnico di Torino), M. Domaneschi (Politecnico di Torino), D. Galdo (Politecnico di Torino)	**ID:267 Aerodynamic Performance and Fatigue Damage Assessment of Wind Turbine Composite Blades using Corrected BEM Method** C. Zhang, H.P. Chen (Uni Greenwich)	**ID:123 Experimental Qualification of a Monitoring System in an underground tunnel for future French Radioactive Waste repository Cells** R. Farhoud, S. Delepine-Lesoille, N. Gilardi, J. Bertrand, G. Hermand (Andra)	**ID:112 Evaluation of the Coefficient of Thermal Expansion for a Temperature Driven Method of Structural Health Monitoring** J. Reilly (Princeton University), M. Yarnold (Tennessee Technological University), B. Murphy (Tennessee Technological University), B. Glisic (Princeton University)
	ID:304 On the Influence of Structural Complexity on Damage Detection C.J.L. Cowled, D.P. Thambiratnam, T.H.T. Chan (QUT)	**ID:146 Flood Resilience of Masonry Bridges: Analysing Structural Performance under Hydrodynamic Forces and Scour** P. Kripakaran, L. Walter, R. Kahraman, M. Riella, M.E. Ebrahimi, G. Tabor, S. Djordjevic (Uni Exeter)	**ID:190 Monitoring collapse process of a demolished building using piezo-electric smart aggregates** S. Hou, L.L. Cui (South China Uni Tech)	**ID:48 Identifiability based sensor configuration analysis for Bayesian structural identification** A. Jesus (WARWICK), Y. Zhu (WARWICK), K. Koo (EXETER), J. Brownjohn (EXETER), I. Laory (WARWICK)	**ID:136 Signal stationarization in damping estimation for bridges from traff+B39ic loadings** S. Kim, H.K. Kim (Seoul National University)
	ID:305 Dynamic analysis of Vehicle-bridge systems based on Explicit Form of Newmark-b Method S. Pourzeynali, X.Q. Zhu, B. Samali, and M. Rashidi (Western Sydney Uni)	**ID:148 Smart cities to improve resilience of communities** A.Z. Noori (UC Berkeley), S. Marasco (UC Berkeley), O. Kammouh (Politecnico di Torino), M. Domaneschi (Politecnico di Torino), G.P. Cimellaro (UC Berkeley)	**ID:14 Mixed-dimensional Coupling Method of Box Section Member Based on Shear Stress Distribution Pattern** W. Lu, Y. Cui, J. Teng (HIT)	**ID:11 Embedded wireless sensor systems for long-term SHM and corrosion detection in concrete components** M. Bartholmai, S. Johann, C. Strangfeld (BAM)	**ID:152 Comparative Performance Assessment of Response-Only Modal Identification Algorithms for a Skewed Concrete Highway Bridge** A.K. Ndong (Uni of Virginia), A. Bagheri (Uni of Maryland), O.E. Ozbulut (University of Virginia), D.K. Harris (Uni of Virginia)
	ID:306 Numerical Investigation of a Linkage Modelling Technique for Damage Identification Using FRF-Based Model Updating V.V. Nguyen, J. Li, E. Erkmen (UTS)	**ID:127 Probabilistic Diagnosis and Prognosis of Steel Plate Corrosion by Particle Filter Assimilation of Force-Displacement** S.Yi, J. Song (Seoul National University)	**ID:193 SA-based damage process stress monitoring and verification of RC columns subjected to reversed cyclic loading** H.B. Zhang (HIT), S. Hou (South China Uni Tech), J.P. Ou (HIT)	**ID:164 Assessment of Flexural Stiffness and Load Carrying Capacity Using Substructural System** S. Jamali (QUT), K. Y. Koo (Uni. of Exeter), T. Chan (QUT), A. Nguyen (QUT), DP. Thambiratnam	

Thursday

12.10pm-1.20pm — **Lunch**
Level 5, P Block, QUT Gardens Point Campus

1:20pm - 1:50pm — **SHM-Based Life-Cycle Management of Long-Span Cable-Supported Bridges**
Professor You-Lin Xu, The Hong Kong Polytechnic University, Hong Kong
Chair: George Akhras, **ROOM: P514**

Concurrent Sessions 5

	Session 5.1 ROOM: P512	Session 5.2 ROOM: P514	Session 5.3 ROOM: P505	Session 5.4 ROOM: P504	Session 5.5 ROOM: P413	Session 5.6 ROOM: P413A
	MS1: Recent SHM Advances in Australia	**MS3: Temperature Behaviour of Structures**	**MS2: Data-Driven Structural Damage Identification and Performance Assessment**	**RS1, RS2, RS5: Damage Assessment, Smart Sensors, Wireless and Other Advanced Sensor Networks**	**RS6: Reliability Forecast**	**SS2: Case Studies and New Methods for Modal-Based SHM of Civil Structuresw**
	Chairs: David Thambiratnam & Alex Ching-Tai Ng	Chair: Shun Weng	Chairs: Ying Lei & Tzu Kang Lin	Chairs: Matthias Bartholmai & Yasunori Miyamori	Chairs: Gian Paolo Cimellaro & Hongwei Huang	Chairs: Carlo Rainieri & Andy Nguyen
1:50pm - 3:10pm	**Invited paper - ID:307 Fatigue cracking identification using nonlinear Lamb waves for FRP-reinforced steel plates** Y. Wang, R. Guan, Y. Lu, Wenhui Duan (Monash Uni)	**Invited paper - ID:250 Investigation on parametric sensitivity of a transmission tower** B. Chen (Wuhan Uni Tech), H.F. Cheng (Wuhan Uni Tech), X.H. Tao (Guangdong Power Grid Corp Co Ltd)	**Invited paper - ID:259 Data Fusion Based General Kalman Filter with Unknown Inputs** Y. Lei, S.J. Lu, Y. Su (Xiamen Uni)	**ID:157 Using Mobile Phones to capture Mode Shapes: A Feasibility Study** D. Hester, C. Keenan (Queen's Uni)	**ID:142 Resilience assessment of high damping rubber bearings in beyond-design conditions** M. Domaneschi (Politecnico di Torino), L. Martinelli (Politecnico di Milano), G.P. Cimellaro (Politecnico di Torino)	**Invited paper - ID:282 Modal parameter monitoring of the Campobasso's Main Hospital: preliminary results** C. Rainieri, D. Gargaro, G. Fabbrocino (Uni of Molise)
	ID:308 Case Study: Structural Health Monitoring of Timber Bridges using Dynamic Frequency Analysis (DFA) M. Rashidi, B. Samali, X. Zhu, A. Azad, M. Ghodrat (Western Sydney Uni)	**ID:249 Temperature Behaviour Monitoring of the Canton Tower** J.Z. Su (Fuzhou Uni), Y. Xia (HK PolyU)	**ID:168 Nonparametric identification for model-free structural nonlinearities and systems using partial measured structural responses** L.J. Liu, Y. Lei, M.Y. He (Xiamen Uni)	**ID:137 Design of SHM system for My Thuan cable-stayed bridge - disadvantages and proposed changes based on acoustic emission** L.M. Chinh (Thuy Loi Uni), S. Grzegorz (Kielce Uni Tech)	**ID:134 A Finite Element Model Updating Method Considering Changes of Boundary Conditions during Construction** X. Gao (Tongji University), Y. Luo (Tongji University), L. Wang (Tongen Civil Engineering Technology CO), J. Feng (Tongji University)	**ID:285 Damage Detection in Arch Bridges using Vibration based Damage Detection Techniques** N. Jayasundara, D.P. Thambiratnam, T.H.T. Chan, A. Nguyen (QUT)
	ID:309 Time-Series Coefficient-Based Deterioration Detection Algorithm B. Monavari, T.H.T. Chan, A. Nguyen, D.P. Thambiratnam (QUT)	**ID:255 Displacement Estimation by Kalman Filter Based Data Fusion** K. Gao, H. Zhu, F Gao, S. Weng (Huazhong Uni Sci Tech)	**ID:260 A Quantum-Inspired Genetic Algorithm-based Optimization Method for Mobile Impact Test Data Integration** W.J. Zhao (Southeast Uni), S.L. Guo (Southeast Uni), Y. Zhou (Hunan Uni), J. Zhang (Southeast Uni)	**ID:237 Experimental study of temperature effect on WSN tilt node for tunnel structure monitoring** H.W. Huang, F. Du, D.M. Zhang, Y. Wu (Tongji Uni)	**ID:155 Experiences with continuous monitoring of deformation and modal properties of an arch dam** P. Moyo, P. Bukenya (University of Cape Town)	**ID:284 Continuous Dynamic Monitoring of Offshore Structures** M. Rizzo, O. Spadaccini, A. Vignoli (DICeA Uni of Florence)
	ID:310 Monitoring of fibre-reinforced polymer (FRP)-strengthened reinforced concrete cantilever slabs S.S. Zhang, T. Yu (Uni of Wollongong)		**ID:258 Entropy-based Damage Detection for Three-dimensional Structures** T.K. Lin, T.C. Tseng, A.G. Laínez (National Chiao Tung Uni)	**ID:121 Corrosion detection of steel reinforcements of reinforced concrete structures using distributed long gauge sensors** N. Fouad (Aswan Uni), M.A. Saifeldeen (Aswan Uni), H. Huang (Southeast Uni), Z. Wu (Ibaraki Uni)	**ID:162 Safety evaluation of temporary traffic bridge using surface mount fibre-optic strain gauges** F. Fischli, E. de Bruin, M. van Bezooijen, M. Iten (Marmota Engineering AG)	**ID:311 Case Studies in Ambient Vibration Tests and Modal Identification** H.F. Lam (CtyU HK), H.J. Yang (Tongji Uni)

3:10pm - 3:40pm — **Afternoon Tea**
Level 5, P Block, QUT Gardens Point Campus

Thursday

Concurrent Sessions 6

	Session 6.1 ROOM: P512	Session 6.2 ROOM: P514	Session 6.3 ROOM: P505	Session 6.4 ROOM: P504	Session 6.5 ROOM: P413	Session 6.6 ROOM: P413A
	MS1: Recent SHM Advances in Australia	**RS1, RS3: Smart Sensors, Data Acquisition**	**SS1: Recent Advances in Railway System Monitoring in China**	**SS3: Optical Based Monitoring Techniques for Infrastructural Maintenance and Safety**	**RS3: Data Acquisition**	**SS2: Case Studies and New Methods for Modal-Based SHM of Civil Structures**
		Chair: C. Cowled	Chairs: Weigang Zhao & Yong Yang	Chairs: Hiroshi Matsuda & Kohei Yamaguchi	Chairs: R. Kromanis & Hien Van Le	Chairs: Carlo Rainieri & Ostilio Spadaccini
3:40pm - 4:40pm	**ANSHM Industry Forum** Facilitators: Max Willison & Torill Pape	**ID:42 Composite Impact Damage Assessment with Embedded Fiber Bragg Gratings** M. Yeager, C. Key, W. Gregory, M. D. Todd (UCSD)	**Invited paper - ID:273 Monitoring Technique of High-speed Welded ballastless Turnout on Long-span Bridge** L. Gao, Y.L. Zhong, G.L. Sun, X.P. Cai, B.W. Hou, C.Y. Zhou (Beijing Jiaotong Uni)	**Invited paper - ID:279 Multipurpose Wireless Sensors for Asset Management and Health Monitoring of Bridges** M.O. Furkan, Q. Mao, S. Livadiotis, M. Mazzotti, A.E. Aktan, S.P. Sumitro, I. Bartoli (Drexel Uni)	**ID:46 A Study on Accuracy Evaluation of GPS Vertical Monitoring Outcomes on Main Span of Can Tho Bridge, Vietnam** H.L.T. Ho, H.V. Le, L. T. Nguyen (UTCC)	**Invited paper - ID:281 Damage quantification in beam-like structures from modal flexibility change** N.T. Le, D.P. Thambiratnam, T.H.T. Chan, A. Nguyen (QUT)
		ID:138 Tunnel inspection with high-performance devices. Performance Indicators F. Sánchez-Domínguez, J.A. Ramos-García, F. Mata-Aroco, E. Calvo-Haro (Euroconsult Nuevas Tecnologías)	**ID:275 Effective Concrete Surface Crack Detection Based on Extreme Learning Machine** B. Wang, W. Zhao, H. Zhang, X. Wang, G. Zhang (Shijiazhuang Tiedao University, Key Laboratory for Health Monitoring and Control of Large Structures, Collaborative Innovation Center of Large Infrastructure Disaster Prevention and Reduction of Hebei Province)	**ID:86 Visualization of Strain and New Strain Measurement Technique** M. Omachi (Keisoku Research Consultant Co), S. Umemoto (Keisoku Research Consultant Co), T. Takaki (Kiroshima Uni), K. Matsuo (Keisoku Research Consultant Co), N. Miyamoto (Keisoku Research Consultant Co), I. Ishii (Kiroshima Uni), T. Aoyama (Kiroshima Uni)	**ID:109 Experimental vibration analysis of the Colosseum in Rome as part of structural health study and preservation effort** G. Bongiovanni, G. Buffarini, P. Clemente, D. Rinaldis, F. Saitta (ENEA)	**ID:283 Dynamic testing of a liquid storage tank in view of modal based Structural Health Monitoring** D. Gargaro (Uni of Molise) , E. Reynders (KU Leuven), C. Rainieri (Uni of Molise), G. Fabbrocino (Uni of Molise)
	Closing Session for 9th ANSHM Workshop Chairs: Tommy Chan & T. Yu	**ID:216 In-service Aqueduct Tunnel Monitoring Using Optical Fiber Sensor** M. Imai (Kajima Technical Research Institute), K. Ikeda (Hokkaido Electrical Power Company)	**ID:272 Analysis on Void Disease Detection in Ballastless Track of High-Speed Railway based on Direction Filter** Y. Yang, W.G. Zhao, Y.L. Du, X.S. Tian (Shijiazhuang Tiedao Uni)	**ID:278 Development of Bridge Inspection Method without Temporary Scaffolding by Using Optical Measurement Techniques** K. Kimoto (Keisoku Research Consultant Co), K. Yamaguchi, T. Okumatsu, T. Kawamura, H. Matsuda (Nagasaki Uni)		**ID:286 Structural Health Monitoring of Lightweight Footbridges and Pedestrian Vibration Assessment: A Case Study** L. Wang, R. Song, Y. Wu (Beijing Municipal Institute of Labour Protection)
4:40pm	**Conference Dinner attendees to meet at The Cube, Level 4, P Block for departure to Lone Pine Koala Sanctuary**					
5:45pm - 9:30pm	**Conference Dinner** Lone Pine Koala Sanctuary					
9:30pm - 10:00pm	**Bus transfer from Lone Pine Koala Sanctuary to QUT Gardens Point**					

Friday

8:00am — **Registration Opens**
Registration Desk, Level 5, P Block, QUT Gardens Point Campus

Concurrent Sessions 7

Session 7.1 ROOM: P514

RS1, RS10: Smart materials, Structures and Rehabilitation, Smart Sensors

Chair: Ali Hadigheh

ID:217 Research to Improve the Bond between CFRP and Mild Steel for Strengthening Steel Structures
A. Blake (USQ), S. Mahini (UNE), K. B. Tan (UNE)

9:00am - 10:20am

ID:191 Improvement of Accelerated Weathering Resistance of Epoxy Resin Based on Hydrogenated Diglycidyl Ether of Bisphenol A (HDGEBA) Using Multi-Walled Carbon Nanotubes (MWCNTS) to Protect Timber Bridges
S. Ahmed Awad, C.M. Fellows, S. Mahini (UNE)

ID:196 Effect of FRP Length on Damage and Seismic Performance of Retrofitted Ordinary RC Frames
S. Jafari (Shiraz Uni Tech, IR), S.Mahini (UNE)

ID:257: Application and Visualization Techniques for Advanced Sensor Networks Case Study: Sensor Installation in Skilled Trades and Technology Centre
G. Mustapha (SMT Research Ltd.), R. Hoemsen (Red River College), R. Spewak (Red River College), K. Knight (Red River College)

Session 7.2 ROOM: P512

RS1, RS3, RS8: Smart Sensors, Data acquisition, Life-Cycle Performance

Chairs: M. Todd & D. Harris

ID:26 Intelligent Pipelines with Integrated Fibre-Optics for Single-Ended Distributed Strain Sensing
F. Kammann (LIOS Tech GmbH), B. Marx (LIOS Tech GmbH), W. Hill (LIOS Tech GmbH), H. Brauer (Salzgitter Mannesmann Line Pipe GmbH), H. Karbasian (Salzgitter Mannesmann Forschung GmbH), D. Krix (Salzgitter Mannesmann Forschung GmbH)

ID:28 Development of New Technique in Multi Setup Merging of Vibration Test System Identification
A. Sabamehr (Concordia Uni), F. Mirshafiei (Sensequake Inc), A. Bagchi (Concordia Uni), Hans Moravej (QUT)

ID:144 Fatigue assessment in steel bridges: Integrating field measurements and numerical modelling to compute hot spot stresses
J. Kwad, P. Kripakaran (University of Exeter)

ID:229 Establishing Fatigue Life Evaluation Method for Deteriorated Steel Elements
Lee-Sak An, Yeun Chul Park, Ho-Kyung Kim (Seoul National University)

Session 7.3 ROOM: P505

RS3: Data Acquisition, Processing and Management

Chair: Ulrike Dackermann

ID:145 Low cost vision-based systems using smartphones for measuring deformation in structures for condition monitoring and asset management
R. Kromanis (NTU), A. Al-Habaibeh (NTU)

ID:183 The method of optimal sensor placement based on data correlation: Application to cable group of Nanjing No.3 Yangtze River Bridge
S.L. Li (Harbin Institute of Technology), J.L. Dong (Zhejiang Scientific Research Institute of Transport), W. Lu (Harbin Institute of Tech.), H. Li (Harbin Institute of Tech.), W.C. Xu (CCCC Highway Consultants CO., Ltd. (HPDI), Y. Jin (CCCC Highway Consultants CO., Ltd. (HPDI)

ID:188 Validating Strain Gauge Placement Methods for Structural Health Monitoringof Large Cable Support Bridge
Z. Y. Wu (Bentley Systems, Incorporated), K. Zhou (Bentley Systems, incorporated), H. W. Shenton (University of Delaware), M. J. Chajes (University of Delaware)

ID:198 Development of Bridge Weigh-In-Motion Using Acceleration Response of Concrete Deck Slab
K. Suzuki (University of Fukui), K. Kawai (University of Fukui), S. Fukada (Kanazawa University)

Session 7.4 ROOM: P504

RS5: Damage Identification/Localization and Evaluation/Assessment

Chairs: Yasunori Miyamori & Douglas Thomson

ID:218 Fast and automatic intelligent detection of shield tunnel lining defects
YD. Xue, YC. Li, HW. Huang (Tongji Uni.)

ID:140 Modal identification of a flexible footbridge using output-only methods
Marco Domaneschi (Politecnico di Torino), Glan Paolo Cimellaro (Politecnico di Torino), K. Kliewer (Princeton University), B. Glisic (Princeton University)

ID:203 Operational Modal Analysis Using Time-Frequency Stochastic System Identification
C. M. Chang (National Taiwan Uni.), S. K. Huang (National Center for Research on Earthquake Eng.)

Session 7.5 ROOM: P413

RS5, RS13: Integrated Systems and Implementations of SHM, Data Acquisition, Damage Identification

Chairs: S.S. Law & T.Yu

ID:83 Desktop Experiment Rigs as Teaching Aids for Structural Dynamics
N. Haritos (Strucomp Pty Ltd)

ID:101 Monitoring the axial displacement of a high-rise building under construction using embedded distributed fibre optic sensors
N. de Battista (Uni.of Cambridge), N. Cheal (Multiplex Construction Europe Ltd), R. Harvey (WSP Group), C. Kechavarzi Uni.of Cambridge)

ID:173 - A Damage Index Method for Detection of Localized Corrosion in Reinforcement Bars Using Scattering of Longitudinal Guided Waves
R.C., Sriramadasu (IITB-Monash Research Academy), S. Banerjee (IITB), Y. Lu (Monash University)

ID:116 Uncertainty in determining the deformed shape of beams using the conjugate beam method
Kaitlyn Kliewer, C. Kavanaugh, B. Glisic (Princeton University)

10:20am - 10:50am — **Morning Tea**
Level 5, P Block, QUT Gardens Point Campus

Friday

Concurrent Sessions 8

	Session 8.1 ROOM: P514	Session 8.2 ROOM: P512	Session 8.3 ROOM: P505	Session 8.4 ROOM: P504	Session 8.5 ROOM: P413
	RS5, RS12, RS13, RS15: Remote Monitoring, Standardization of SHM Systems, Integrated Systems, Damage Assessment	**RS5: Damage Identification/Localization and Evaluation/Assessment of Bridges and Building Structures**	**RS1: Smart and Other Advanced Sensors**	**RS3, RS5: Damage Assessment, Data Acquisition**	**RS1, RS13, RS16: Critical Issues for SHM, Integrated Systems, Smart Sensors**
	Chairs: Ling Yu & Wei Lu	Chairs: Arturo Gonzalez & Zhi Zhou	Chairs: Paul H.F. Lam & Alex C.T. Ng	Chairs: Xinqun Zhu & Daniel Cusson	Chairs: David Hester & Jie Xu
10:50am - 12:10pm	**ID:232 Deflection Measurement of Concrete Bridge by Moiré Imaging Technique** S. Ri (AIST), H.Tsuda (AIST), T. Narita (ENEC), K. Yamada (ENEC), Y. Hayasaka (NEXCO), M. Kobayashi (NEXCO)	**ID:210 The use of mid-span acceleration measurement of bridges under in-service loads as a parameter for use in a Structural Safety Evaluation (SSE) system** J. Moore (UNE), S. Mahini (QUT), R. Glencross-Grant (UNE)	**ID:50 Leakage monitoring for Steel Pipeline Structures Based on Piezoelectric Ceramics** S. Yan, Q. Hu, P. Zhao (Shenyang Jianzhu University)	**ID:141 Satellite-Based Monitoring of a Highway Bridge in Canada - Challenges, Solutions and Value** Daniel Cusson, Ken Trischuk, Daniel Hébert, Matthew Gara, Parwant Ghuman	**ID:235 Structural Health Monitoring Developments in TRUSS Marie Skłodowska-Curie Innovative Training Network** Arturo Gonzalez et al. (University College Dublin)
	ID:244 Technical Feasibility Study of Condition Monitoring and Safety Warning System of Generic Bridge Structure Yufeng Zhang (JSTI), Jiayi Peng (JSTI), Jinhua Yang (NU), Song Xu (JSTI)	**ID:67 Damage Identification using Temperature-Driven SHM** M. Yarnold (Tennessee Tech. Uni), B. Murphy (TTU), J. Reilly (Princeton Uni.), Branko Glisic (Princeton Uni)	**ID:169 Investigation of the Influence of Breaking Strain and Temperature on a Binary Crack Sensor** F. Raeisi (Uni. of Manitoba), A. Mufti (Uni.of Manitoba), G. Mustapha (Structural Monitoring Technologies), D. Thomson (Uni. of Manitoba), R. Eden (Mnaitoba Infrastructure and Tech.)	**ID:151 Tilt and seismic response monitoring of a rehabilitated building** David Murià-Vila, José Camargo Pérez, Gerardo Rodríguez Gutiérrez, Baruo Daniel Aldama	**ID:72 Structural health monitoring of PSC girder using embedded fibre optic sensors** P. Banerji, S. Chikermane, P. Nellisseri (Indian Institute of Technology Bombay)
	ID:9 Project VIMTO: a new system for the vibration and impact monitoring of tram operations P.R.A. Fidler, S. Hartley, J.P. Talbot (CAM)	**ID:223 Image Recognition of Shield Tunnel Cracks by Deep Learning** Q.T. Li, Y.D. Xue , H.W. Huang (Tongji University)	**ID:187 Applying Phased-based Vision Sensing Method to Modal Feature Identification of Highway Bridge** Z. Y. Wu (Bentley Systems, Inc.), D. Mo (Univ. of Massachusetts), S. Pan (Uni. of Massachusetts), R. Christenson (University of Connecticut), and S. Motaref (Uni. of Connecticut)	**ID:153 Dynamic curvature based monitoring in a highway overpass** Kaitlyn Kliewer, Branko Glisic	**ID:178 Design of Intelligent Decision Support System for Hydraulic Structural Safety** Z. Wu, J. Liang, B. Chen, C. Gu, B. Wu (Hohai University)
	ID:120 Using SHM Data to Determine Continuous Load Ratings for a Cable-Stayed Bridge Hadi Al-Khateeb, Michael Chajes , Harry Shenton (University of Delaware)	**ID:73 Estimation of hydration stresses in a full scale PSC railway bridge** P. Nellisseri, (IIT Roorkee),S. Chikermane (IIT Roorkee), P. Banerji (IIT Bombay)	**ID:231 Efficient Hammering Sound Spectrum Analysis for Concrete Condition Assessment with Distance Metric Learning** J. Ye, T. Kobayashi, M. Iwata, H. Tsuda, M. Murakawa (AIST)	**ID:57 Detection of a void in a concrete bridge pier by a non-destructive technique** Masato Abe, Toyota Fujioka, Yoshifumi Nagata	**ID:185 Longitudinal Response of an Existing Cast Iron Tunnel Subjected to Parallel Piggy-back Tunnelling** N de Battista, C.Y. Gue, M. M. Alhaddad, M. J. Wilcock, M.Z.E.B . Elshafie, R. J.Mair (University of Cambridge)
12:10pm - 1:20pm	**Lunch** Level 5, P Block, QUT Gardens Point Campus				

Friday

Concurrent Sessions 9

	Session 9.1 ROOM: P514	Session 9.2 ROOM: P512	Session 9.3 ROOM: P505	Session 9.4 ROOM: P504	Session 9.5 ROOM: P413
	RS3, RS7, RS10: Smart Materials, Structures and Rehabilitation; Damage Control, Repair and Strengthening, Data Acquisition	**MS2: Data-driven Structural Damage Identification and Performance Assessment**	**MS3: Temperature behaviour of structures**	**RS5: Damage Identification/Localization and Evaluation/Assessment of Bridges and Building Structures**	**RS1, RS3: Data Acquisition, Smart Sensors**
	Chair: Saeed Mahini	Chairs: Hui Jiang & Chengyin Liu	Chair: Ying Lei	Chairs: J.C. Moore & N. Bertola	Chairs: Paul Fidler
	ID:49 Experimental Study on Optimum Proportion of Carbon Fiber Reinforced Cement Intelligent Mortar S. Yan, S.Y. Zhang, C.F. Jin, S.Y. Zhang (Jianzhu Uni)	**Invited paper - ID:24 Exploratory investigation of monitoring data obtained from an in-service pre-stressed concrete bridge incorporating a distinct half-joint layout** Y. Gunawardena (UWA), F. Aslani (Curtin), J. Li (Curtin)	**Invited paper - ID:292 Structural Intelligentization using Optical Fiber Sensors for Civil Infrastructures** Z. Zhou (Dalian Uni Tech), J. Ou (HIT)	**ID:64 Ground Penetrating Radar as a Monitoring Tool: Mapping Internal Features with Attribute Analysis** I. Morris, H. Abdel-Jaber, B. Glisic (Princeton University)	**ID:239 Short-term Wind Speed Forecasting for Traffic Control during Strong Wind on Bridges** W. H. Jung, S. J. Kim, J. Y. Kim, H. K. Kim
1:20pm - 2:40pm	**ID:195 Pre-Heated Epoxy CFRP to Concrete Joints for Reinforced Concrete Structures** J. D. Tan (USQ) S. Mahini (UNE), K. Hoad	**ID:266 Structural damage detection using two sensors measured responses with cross-correlation method** Z. H. Nie (Jinan University)	**ID:256 Using sparse regularization and impedance sensitivity for structural damage detection** X. Fan, J. Li, H. Hao (Curtin Uni)	**ID:76 In-situ Deformation Monitoring of Tunnel Segments using High-resolution Distributed Fibre Optic Sensing** C. Monsberger, W. Lienhart (Institute of Eng Geodesy and Measurement System)	**ID:31 Comparative Study on Two Types of Sensors for Measuring Vibration Response of Building Structures** N. Hakimtoroghi (Concordia Uni), A. Sabamehr (Concordia Uni), M. Mirshafiei (Sesequake Inc), R. Raut (Concordia Uni), A. Bagchi (Concordia Uni), Hans Moravej (QUT)
	ID:70 Non-Destructive Evaluation Techniques for Identification of Interfacial Cracking in FRP-Concrete Connections M. Sarker, A. Hadigheh, D. Dias-da-Costa (Uni Sydney)		**ID:289 Estimation of Thermal Loads in Structural Members based on a KF-UI Approach for Correct Structural Identification and Damage Detection** Y. Lei (Xiamen Uni), J.B. Lu (Xiamen Uni)	**ID:104 Experimental Investigation on the Feasibility of Drive-by Pavement Roughness and Bridge Vibration Monitoring** Souichirou Hasegawa (Kyoto University), Patrick J. McGetrick (Queens University Belfast), Chul-Woo Kim, K.C. Chang, S. Nakajima (Kyoto University)	**ID:29 Structural health monitoring of elastic concrete based on the acoustic emission technique** Jie Xu, Guang Yang, Qinghua Han (Tianjin University)
	ID:63 Infrared Thermography Data Analysis Method for Concrete Bridge Condition Evaluation Shuhei Hiasa, F. Necati Catbas (University of Central Florida)			**ID:94 Efficient and large scale monitoring of retaining walls along highways using a mobile mapping system** Werner Lienhart, Slaven Kalenjuk, Christina Ehrhart (Graz University of Technology)	**ID:65 Spherical Imaging and Virtual Environments for Structural Health Monitoring** R. Napolitano, A. Blyth, B. Glisic (Princeton University)
2:40pm - 3:10pm	**Afternoon Tea** Level 5, P Block, QUT Gardens Point Campus				
3:10pm - 3:40pm	**Advanced SHM using Computer Vision and Machine Learning** Professor Su Taylor, Queen's University Belfast, UK Chair: You-lin Xu **ROOM: P514**				
3:40pm - 4:10pm	**SHM Roles in Autonomous Inspection and Preventive Maintenance of Bridges** Professor Genda Chen, Missouri University of Science and Technology, USA Chair: Zhishen Wu **ROOM: P514**				
4:10pm - 4:40pm	**Conference Close**				