

9th Australasian
Congress on Applied
Mechanics (ACAM 9)

DAY I: MONDAY 27TH OF NOVEMBER 2017

Time	Session	Room
07:00-18:00	Registration Open	Ainsworth theatre Foyer
08:45-08:50	Welcome and setting the scene	Ainsworth theatre G03
08:50-08:55	Traditional Landowners welcome	
08:55-09:00	Welcome address and introduction to opening address speaker <u>Professor Mark Hoffman</u> Dean of UNSW Engineering	
09:05-09:15	Opening address <u>Professor Mary O'Kane</u> NSW Chief Scientist & Engineer	
09:15-10:10	Damage Tolerance in Advanced Metallic, Biological and Bioinspired Structural Materials Plenary Speaker <u>Professor Robert O. Ritchie</u> Chua Distinguished Professor of Engineering University of California, Berkeley Chair: <u>Mark Hoffman</u> , UNSW	
10:10-10:30	Morning tea	Undergraduate Teaching Laboratory
	<p>Advanced Materials and Structures Fatigue, Fracture and Failure Analysis of Structures Chair: <u>Andrei Kotousov</u> The University of Adelaide</p> <p>Computational and Experimental Mechanics Chair: <u>Chongmin Song</u> UNSW Sydney</p> <p>Dynamics and Vibration Chair: <u>Martin Veidt</u> University of Queensland</p> <p>Multi-functional Structures & Materials Chair: <u>Sarah Zhang</u> UNSW Canberra</p>	
	<p>Concurrent Stream 1 Room: Ainsworth G01</p> <p>Concurrent Stream 2 Room: Ainsworth G02</p> <p>Concurrent Stream 3 Room: Ainsworth I01</p> <p>Concurrent Stream 4 Room: Ainsworth I02</p>	
10:30-11:00	<p>Keynote Enhancing the Fracture Toughness of Bulk Metallic Glasses Thermomechanical Treatments <u>Jamie Kruzic</u> UNSW Sydney</p> <p>Keynote Computational Cardiology towards Patient-specific Numerical Simulations <u>Michael Kaliske</u> Institute For Structural Analysis</p> <p>Keynote Modal parameter based identification of systems with general damping <u>Eric Hahn</u> UNSW Sydney</p> <p>Keynote Analysis of Compression and Shear Strengths of Closed-cell Foams based on the Kelvin and Weaire-Phelan Structures <u>Raj Das</u> RMIT</p>	
11:00-11:20	<p>Invited On the Damage Tolerance of the FCC High-Entropy Alloy CrMnFeCoNi in the Range Room Temperature to Liquid Nitrogen Temperatures <u>Bernd Gludovatz</u> UNSW Sydney</p> <p>Invited Weld Residual Stress Simulation and Validation <u>Philip Bendeich</u> ANSTO</p> <p>Invited Optimization of Conductor Geometry of an Eddy Current Damper <u>Sangarapillai Kanapathipillai</u> UNSW Sydney</p> <p>Invited Automated Computational Design of Kinematically Active Multifunctional Molecular Framework Materials <u>Alex Greaney</u> UC Riverside</p>	
11:20-11:40	<p>An ultrafine grained modern high strength low alloy steel for construction and automotive industries <u>Carina Ledermueller</u> UNSW Sydney</p> <p>A scaled boundary finite element based node-to-node scheme for 2D frictional contact problem <u>Weiwei Xing</u> UNSW Sydney</p> <p>The Simulation of Vibration at the Supine Patient's Body in HEMS <u>Zeinab Khaksar</u> UNSW Canberra</p> <p>Effect of nanoclay addition on the lap shear strength of epoxy adhesive bonded joints <u>Jojibabu Panta</u> UNSW Canberra</p>	
11:40-12:00	<p>Optimisation of proppant use in the application of the channel fracturing technique <u>Hao Luong</u> The University of Adelaide</p> <p>Left Ventricular Patient-Specific Fluid Dynamics Simulations for Artificial Mitral Valve Placement <u>Yousef Alharbi</u> UNSW Sydney</p> <p>A length offset based model for trajectory tracking of two-link planar robot arms <u>Sharmila Kayastha</u> UNSW Sydney</p> <p>Improvement in the cutting quality of metal products in compound dies <u>Wael Shaheen</u> UNSW Sydney</p>	



12:00-12:20	Invited Fatigue Damage Analysis of Power Engineering Materials Using ESPI Method <u>Zbigniew Kowalewski</u> Institute of Fundamental Technological Research	Invited Serial Impact Loading and the Design of Protective Structures to Resist Falling Objects <u>Allen Chhor</u> Pacific Esi	Non-contact measurement of nonlinear Rayleigh waves using the scanning laser vibrometer <u>John Howie</u> The University of Adelaide	Multifunctional rubber based composites for marine applications: A review <u>Yifeng Fu</u> UNSW Sydney
12:20-13:20	Lunch and UNSW Lab tour			Undergraduate Teaching Laboratory
12:50 -13:10	Industry Talk: Discover Thermo Scientific HeliScan™ micro CT <u>Dirk Laeveren</u> , Thermo Fisher Scientific			Room: Ainsworth, I01
	Fatigue, Fracture and Failure Analysis of Structures. Chair: <u>Hongtao Zhu</u> University of Wollongong	Computational and Experimental Mechanics and Micro/Nano-Mechanics Chair: <u>Michael Kaliske</u> Institute For Structural Analysis	Fibre Reinforced Composites Chair: <u>Garth Pearce</u> UNSW Sydney	Structural Health Monitoring and Structural Optimization Chair: <u>Hoon Sohn</u> Korea Advanced Institute of Science and Technology
	Concurrent Stream 5	Concurrent Stream 6	Concurrent Stream 7	Concurrent Stream 8
	Room: Ainsworth G01	Room: Ainsworth G02	Room: Ainsworth I01	Room: Ainsworth I02
13:20-13:50	Keynote Exploring the Mechanical Behaviour of Nanomaterials Using in-situ Straining Transmission Electron Microscopy <u>Xiaozhou Liao</u> University of Sydney	Keynote Influences of skewness, kurtosis and roughness on nanoindentation of lithium disilicate glass ceramic <u>Ling Yin</u> James Cook University	Keynote Developing new fibre composites technologies for high performance structures <u>Murray Scott</u> UNSW Sydney	Keynote Smart composite structures and their structural health monitoring: recent progress and future perspective <u>Jinsong Leng</u> Harbin Institute of Technology
13:50-14:10	Invited Effect of Build Condition and Direction on Fatigue Crack Growth Rates of Selective Laser Melted Ti-6Al-4V Specimens <u>Weiping Hu</u> DSTG	Invited Evaluating effect of radiation damage on mechanical properties of nuclear reactor candidate materials using in-situ micro-tensile <u>Alan Xu</u> ANSTO	Invited Tailoring Composites - Opening up the Design Space <u>Nigel St John</u> DSTG	Invited Structural Monitoring using Embedded in-fibre Bragg Grating Sensors <u>Edmon Chehura</u> Cranfield University
14:10-14:30	Influence of residual stresses on chipping resistance of veneered zirconia dental crowns <u>Carina Baptiston Tanaka</u> UNSW Sydney	Image-based evaluation of effective material properties for composites using scaled boundary finite element method <u>Albert Artha Saputra</u> UNSW Sydney	Modeling of Drilling Woven-fabric Composites Using a Dagger Drill <u>Kunkun Fu</u> University of Sydney	Numerical Simulation and Experimental Verification of Lamb Wave Scattering and Mode Conversion at Delamination's in Composite Laminates <u>Ching-Tai Ng</u> The University of Adelaide
14:30-14:50	Characterization of Mode I fracture behaviour of a shear thickening fluid using a cohesive zone model <u>Hamed Kalhori</u> University of Sydney	Bragg-edge Neutron Strain Tomography: A Review and Path Forward to General Tomographic Reconstruction <u>Alexander Gregg</u> University of Newcastle	Investigation on the Surface Treatment of Short S2-Glass Fibre for Dental Composites <u>Kiho Cho</u> UNSW Sydney	Experimental and Computational Investigations on the Scattering of Fundamental Symmetric Lamb Wave by Edge Crack at a Circular Hole in an Isotropic Plate <u>Benjamin Vien</u> Monash University
14:50-15:10	Invited Stress concentration factors for flat endcaps <u>Michael Law</u> ANSTO	Modelling of Grease Lubrication Decay <u>Matthew Pozzebon</u> University of Queensland	Invited Failure Behaviour of Thermoplastic Composites <u>S. Kalyanaundaram</u> ANU	Time Reversal invariance and contact acoustic nonlinearity: application for closed crack characterization <u>Philippe Blanloeuil</u> UNSW Sydney

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15:10-15:30	Afternoon tea				Undergraduate Teaching Laboratory
	Advanced Materials and Structures Chair: <u>Jamie Kruzic</u> UNSW Sydney	Fatigue, Fracture and Failure Analysis of Structures Chair: <u>William Daniel</u> University of Queensland	Fibre Reinforced Composites Chair: <u>Nigel St John</u> DSTG	Structural Health Monitoring and Structural Optimization. Chair: <u>Claire Davis</u> DSTG	
	Concurrent Stream 9	Concurrent Stream 10	Concurrent Stream 11	Concurrent Stream 12	
	Room: Ainsworth G01	Room: Ainsworth G02	Room: Ainsworth 101	Room: Ainsworth 102	
15:30-16:00	Keynote Non-Destructively Evaluating of Strength, Toughness and Residual stress using Instrumented Indentation Technique <u>Dongil Kwon</u> Seoul National University	Keynote Damage analysis of wheel/ rail contact and rail squat deterioration <u>Hongtao Zhu</u> University of Wollongong	Keynote Challenges and Opportunities for Advanced Marine Structures <u>Andrew Philips</u> DSTG	Keynote Sensing, Monitoring and Prognosis of Fatigue Crack <u>Hoon Sohn</u> Korea Advanced Institute of Science and Technology	
16:00-16:20	Invited Mechanics and Mechanisms of Interfacial Bonding of Cold Sprayed Aluminum Alloy Coating on an Aluminum Alloy Substrate <u>Wyman Zhuang</u> DSTG	Invited Optimal Shape Reworking for Effective Repair and Life Extension of Fatigue Damaged Aircraft Structures <u>Xiaobo Yu</u> DSTG	Invited Simulating discrete cracking in fibre reinforced composite structures using an integrated cohesive network <u>Mathew Joosten</u> Deakin University	Invited Nondestructive Evaluation of Composite Structures with Mechanics-Based Predictive Capabilities <u>Yuris Dzenis</u> University of Nebraska-Lincoln	
16:20-16:30	Close of Days Proceedings				
16:30-17:30	Official Opening of the ARC Centre of Automated Manufacture of Advanced Composites (AMAC) - all welcome!!!				Room: Ainsworth Lecture Theatre (G03)
17:30-18:00	Tour of Automated Composites Lab, UNSW - invitation only				
17:30-20:00	ACAM9 Opening reception - all welcome!!!				

DAY 2: TUESDAY 28TH OF NOVEMBER 2017

08:00-17:30	Registration open				Ainsworth theatre Foyer
09:00-09:05	Welcome and overview of day 1				Room
09:05-09:55	Scaling Effects in the Impact Response of Composite Structures Plenary Speaker <u>Professor Wesley Cantwell</u> Director, Aerospace Research and Innovation Center ARIC Associate Dean for Research Department of Aerospace Engineering, Khalifa University, Dubai Chair: <u>Ganga Prusty</u> UNSW Sydney				Ainsworth theatre G03
09:55-10:15	Morning tea				Undergraduate Teaching Laboratory
	Advanced Materials and Structures Chair: <u>Ondrej Muransky</u> ANSTO	Dynamics and Vibration Chair: <u>Raj Das</u> RMIT	Automated Composites & Fibre Reinforced Composites Chair: <u>Wesley Cantwell</u> Khalifa University of Science and Technology	Mechanics of Geomaterials and Concrete Chair: <u>Arcady Dyskin</u> University of Western Australia	Fatigue, and Failure Analysis of Structures Chair: <u>Wenyi Yan</u> Monash University



	Concurrent Stream 1	Concurrent Stream 2	Concurrent Stream 3	Concurrent Stream 4	Concurrent Stream 5
	Room: Ainsworth G01	Room: Ainsworth G02	Room: Ainsworth I01	Room: Ainsworth I02	Ainsworth theatre
10:15-10:45	Keynote Fabrication of microlattices additive manufacturing and study on their applications <u>Jun Ding</u> National University Singapore	Keynote Vibration Instabilities in Railways <u>Paul Meehan</u> University of Queensland	Keynote A comparison of thermoplastic materials prepared 3D printing and injection moulding <u>Richard Yang</u> Western Sydney University	Keynote An Influence of Pore Pressure Gradient on Hydraulic Fracture Propagation. <u>Sergey Turuntaev</u> Institute of Geosphere Dynamics Of Russian Academy Of Sciences	Keynote Application of Linear and Nonlinear Guided Waves Stress and Damage Evaluation <u>Andrei Kotousov</u> University of Adelaide
10:45-11:05	Invited High-resolution characterization of nickel-based alloy 718 <u>Sophie Primig</u> UNSW Sydney	Invited Evaluation of Blade Blending Induced Mistuning in an Integrally Bladed Disk <u>Guangxia Chen</u> DSTG	Invited Natural fibre composite channel sections of flax, jute and hemp for structural applications <u>Mike Bambach</u> University of Sydney	Invited The Properties of Fibre and their Influence on Post-Crack Behaviour of Fibrecrete <u>Phil Dight</u> Australian Centre for Geomechanics	Invited An effective Approach for Optimal hole shape with Evolutionary Structural Optimization <u>M.H. Abolbashari</u> Ferdowsi University of Mashhad
11:05-11:25	Numerical study on flexural behaviour of steel reinforced polyvinyl alcohol-engineered cementitious composite beams <u>Dan Meng</u> UNSW Canberra	Whipping analysis of a submerged free-free cylinder <u>Steven De Candia</u> Australian Maritime College	Modelling the Through Thickness Permeability of Automated Fibre Placed Dry Preforms <u>Rehan Umer</u> University of Southern Queensland	Invited Bivariate Population Balance Equations for Progressive Weakening and Fragmentation of Base-Metal Ores in Tumbling Mills <u>Dion Weatherley</u> The University of Queensland	Mechanical characterization of advanced welding processes applied to DH36 butt welds <u>Bruno Leveil</u> University of Wollongong
11:25-11:45	Neutron diffraction based non-destructive techniques for integrity studies on copper-stainless steel hybrid composites fabricated by friction stir forming <u>Yogita Ahuja</u> Monash University	A damage model based force feedback closed-loop control strategy for fracture prevention in Two-point incremental forming process <u>Chenhao Wang</u> University of Queensland	A Comparison of Meshing Techniques used for Modelling Composite Materials at the Meso-mechanical Level <u>Nayeem Chowdhury</u> UNSW Sydney	Constricting Effect of Bridges in Hydraulic Fracturing <u>Junxian He</u> University of Western Australia	Multi-Signal Quality Monitoring of Aluminium Resistance Spot Welding using Principal Component Analysis <u>Cameron Summerville</u> ANU
11:45-12:05	Numerical Simulation on Chain-die Forming U-channel made of Ultra-High Strength Steel <u>Raju Majji</u> Western Sydney University	Error Minimization in Bird Strike Test Simulation Using Taguchi Method <u>M.H. Abolbashari</u> Ferdowsi University of Mashhad	Hydrofoil Manufacture with Automated Fibre Placement <u>Joseph White</u> UNSW Sydney	Invited Neutron Imaging Application in Geomaterials and Concrete on DINGO at OPAL <u>Ulf Garbe</u> ANSTO	Fatigue Spectra Simplification Approaches for Accelerated testing in Composite Aircraft Structures <u>Nabil Chowdhury</u> Monash University
12:05-13:30	Lunch and UNSW Lab tour				Undergraduate Teaching Laboratory
13:00-14:00	Poster Session				Undergraduate Teaching Laboratory

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	Advanced Materials and Structures & Automated Composites Chair: Bernd Gludovatz UNSW Sydney	Computational and Experimental Mechanics Chair: Ling Yin James Cook University	Mechanics of Geomaterials and Concrete Chair: Phil Dight Australian Centre for Geomechanics	Structural Health Monitoring and Structural Optimization Chair: Jinsong Leng Harbin Institute Of Technology	Fatigue, Fracture and Failure Analysis of Structures. Chair: Philip Bendeich ANSTO
	Concurrent Stream 6 Room: Ainsworth G01	Concurrent Stream 7 Room: Ainsworth G02	Concurrent Stream 8 Room: Ainsworth I01	Concurrent Stream 9 Room: Ainsworth I02	Concurrent Stream 10 Ainsworth theatre
14:00-14:30	Keynote Upcycling Forestry By-Products: Manufacturing Wood-Plastic Composites Using Additive Manufacturing Gwenaelle Proust University of Sydney	Keynote Hybrid random and fuzzy analysis of structural response using mathematical programming approach Wei Gao UNSW Sydney	Keynote Fan-Structure of Extreme Shear Ruptures as a Transient Phenomenon Boris Tarasov University Of Western Australia	Keynote Optical Fibre based SHM - Recent developments and future directions Gerald Farrell Dublin Institute of Technology	Keynote Failure Analysis of Steel Concrete Composite Structures Brian Uy The University of Sydney
14:30-14:50	Invited Investigation of the effects of heating bias and placement head angle on the short beam strength of CF/PEEK laminates manufactured in a laser tape placement process Chris Stokes-Griffin ANU	Invited Exploiting Particle Methods to Investigate the Structural Integrity of Maritime Platforms Bruce Cartwright University Of Newcastle	Invited Emergence of Negative Stiffness and Stability of Geomaterials in Compression Elena Pasternak University of Western Australia	Invited Feasibility of Inflight Aircraft Loads Calibration Daniel Franke DSTG	Invited Realistic modelling of squat cracks William Daniel University of Queensland
14:50-15:10	Effect of Temperature on the Forming of Steel based Fiber Metal Laminate Systems Davood Rahiminejad ANU	Numerical simulation of size effect on rock fracture using SPH and a size-dependent constitutive model Yingnan Wang Monash University	Transitional Negative Stiffness and Numerical Modelling of Failure of Particulate Material Yuan Xu University of Western Australia	Rotating And Non-Rotating Sensors For Improving Condition Monitoring Of Wind Turbines Mohammed AL-Hadad Curtin University	Finite element analysis of thermal cycle in laser cladding for railway repair Quan Lai Monash University
15:10-15:30	Numerical Study on the Compressive Responses of BCC Hollow Truss Lattice Structures Guixiang Zhao Monsah University	Numerical Modelling of Shear Band Localisation in Biaxial Test with Smoothed Particle Hydrodynamics Method Shaohan Zhao Monash University	Slow waves in blocky rock mass Arcady Dyskin University of Western Australia	Strain Measurement in Unidirectional Carbon Fibre utilising Embedded Optical Strain Gauges Stuart Wildy Flinders University	Compressive deformation behaviour of high carbon steel at quasistatic strain rates Amorish Banerjee UNSW Sydney
15:30-15:50	Residual Stress Measurements in Laser Cladded Rails Using Neutron Diffraction Technique Taposh Roy Monash University	Numerical analysis of cavitation about a marine propeller using a compressible multiphase VOF fractional step method Hongjiang Yu Australian Maritime College	Dynamics of Fragmented Geomaterials with Rotations Maxim Khudyakov University of Western Australia	Stress monitoring using the change in velocity of Rayleigh waves James Hughes The University of Adelaide	Fatigue Crack Growth Rates and Mechanisms Assessment for Inconel 718 produced by Selective Laser Melting Halsey Ostergarad UNSW Sydney



15:50-16:10	Afternoon tea			Undergraduate Teaching Laboratory
	Advanced Materials and Structures Chair: Sophie Primig UNSW Sydney	Automated Composites & Fibre Reinforced Composites Chair: Paul Compston ANU	Mechanics of Geomaterials and Concrete Chair: Elena Pasternak University of Western Australia	Fatigue, Fracture and Failure Analysis of Structures. Chair: Cheng Yan Queensland University of Technology
	Concurrent Stream 9	Concurrent Stream 10	Concurrent Stream 11	Concurrent Stream 12
	Room: Ainsworth G01	Room: Ainsworth G02	Room: Ainsworth I01	Room: Ainsworth I02
16:10-16:40	Keynote The Role of porosity in the Controlling the Mechanical Properties of Tantalum Nitride-based Coatings Paul Munroe UNSW Sydney	Keynote Interfacial fracture behavior in nano carbon composites Cheng Yan Queensland University of Technology	Keynote Mathematical and Numerical Modelling of Porous Geomaterials Based on Generalized Rheological Approach Vladimir Sadvoskii Institute of Computational Modelling SB RAS	Keynote Modeling Multiple Damage Mechanisms via a Multi-fiber Multi-layer Representative Volume Element (M2RVE) Ramesh Singh Indian Institute of Technology Bombay
16:40-17:00	Invited On Development of NiMo-SiC Alloys via Powder Metallurgy for the Use in Molten Salt Environment Ondrej Muransk ANSTO	Invited Multi-scale Modelling for Textile Composites using an Efficient Hierarchical Framework Garth Pearce UNSW Sydney	Invited Signals in Transition from Deformation to Failure Hide Sakaguchi Japan Agency For Marine-earth Science And Technology Miki Y. Matsuo Japan Agency For Marine-earth Science And Technology	Invited Using Advanced Measurement Techniques to Improve Understanding of Fatigue Crack Behaviour in Aerospace Alloys Madeleine Burchill DSTG
17:00-18:00	Close of Days Proceedings/Evening Break			
18:00-22:00	18:00 - Coach pick up from UNSW Gate 14 and 2nd coach pick up from Crowne Plaza, Coojee Beach 19:00 - Conference Dinner on Sydney Showboat , King Street Wharf, Darling Harbour			

DAY 3: WEDNESDAY 29TH OF NOVEMBER 2017

08:00-17:30	Registration open			Room Ainsworth theatre Foyer
09:05-09:55	In vivo soft tissue mechanics: New methods for characterising nonlinear tissue properties in living humans Plenary Speaker Professor Lynne Bilson Senior Principal Research Scientist, NEURA NHMRC Senior Research Fellow, Conjoint Professor, UNSW Medicine Chair: Anna Paradowska , ANSTO			
09:55-10:15	Morning tea			Undergraduate Teaching Laboratory
	Bio-mechanics, Bio/sustainable-Composites Chair: Chun Wang UNSW Sydney	Computational and Experimental Mechanics Chair: Wei Gao UNSW Sydney	Dynamics and Vibration Chair: Paul Meehan University of Queensland	Mechanics of Geomaterials and Concrete Chair: Arcady Dyskin University of Western Australia
	Concurrent Stream 1	Concurrent Stream 2	Concurrent Stream 3	Concurrent Stream 4
	Room: Ainsworth G01	Room: Ainsworth G02	Room: Ainsworth I01	Room: Ainsworth I02

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10:15-10:45	Keynote Engineering Advanced Materials that Emulate the Smart Mechanical Properties of Nature's Living Textiles Melissa L. Knothe Tate UNSW Sydney	Keynote Towards Virtual Engineering: the Scaled Boundary Finite Element Approach Chongmin Song UNSW Sydney	Keynote Detecting Bondline Damage using Nonlinear Vibro-Ultrasonics Martin Veidt University of Queensland	Keynote Hydrodynamic derivation of effective stress of unsaturated Geomaterials Itai Einav University of Sydney
10:45-11:05	Invited Molecular Insights into the Mechanical Performance of Soft Materials from Scattering Techniques Christopher Garvey ANSTO	Invited An FEA Approach for Aluminum Pressure Diecast Product Design Nicholas Findanis Pentair	Invited U-joint flywheel to passively balance inertia variation in engines Carlo Peressini University of Western Australia	Invited A Single yield surface damage-plasticity model incorporating pressure and strain rate dependency Giang Nguyen The University of Adelaide
11:05-11:25	The impact of track related parameters on catastrophic injury rate of racing greyhounds Hasti Hayati University of Technology Sydney	Honeycomb Energy Absorbing Device for Improved Falling Object Protection System in Fire Fighting Tractors Nathan Woodall University of Queensland	Apex Seal Vibration Analysis of Limacon Positive Displacement Machines Truong Phung Federation University Australia	A Method for Modelling Grate Flow Characteristics in Autogenous and Semi-Autogenous Grinding Mills Damon Bordi Outotec
11:25-11:45	Tremor Suppression in Wrist Joint Using Active Force Control Method S. Hosseini University of Technology Sydney	Effects of Texture and Temperature on the Deformation of Magnesium Alloy AZ31: A Modelling Approach Kenneth Tam University of Sydney	Design considerations for a PIN-PMN-PT relaxor ferroelectric based vibration energy harvester for use on a helicopter main-transmission Timothy Doughney DSTG	A Constitutive Model for Clay Fabric Evolution Chris Wensrich University of Newcastle
11:45-12:05	In-vitro Investigation of S-2 Glass Fibre Aspect Ratio on Flexure Strength, Hardness and Wear Performance of Fibre Reinforced Flowable Dental Composites Raju R UNSW Sydney	Numerical analysis to determine critical height for multi layered laser cladding for die repair applications Chaitanya Vundru IITB - Monash Research Academy	Predictive Model of False Brinelling in Bearings O. Brinji The University of Queensland	Wave Propagation through Bimodular Geomaterial with Damping Maria Kuznetsova University of Western Australia
12:05-13:30	Lunch and UNSW Lab tour			Undergraduate Teaching Laboratory
	Advanced Materials and Structures Fatigue, Fracture and Failure Analysis of Structures. Chair: Jun Ding National University Singapore	Fatigue, Fracture and Failure Analysis of Structures Chair: Gwenaelle Proust The University of Sydney	Fibre Reinforced Composites Chair: Hamid Sheikh The University of Adelaide	Structural Health Monitoring and Structural Optimization. Chair: Gerald Farrell Dublin Institute of Technology
	Concurrent Stream 5 Room: Ainsworth G01	Concurrent Stream 6 Room: Ainsworth G02	Concurrent Stream 7 Room: Ainsworth I01	Concurrent Stream 8 Room: Ainsworth I02
13:30-14:00	Keynote Bragg-Edge Elastic Strain Tomography Chris Wensrich University of Newcastle	Keynote Disruptive New Analyses of the Buckling of Thin Shells that Satisfy All of the Requirements Instead of Only Some of Them John Hart-Smith	Keynote Effect of Fiber Orientation Control in Cellulose Nanofiber-reinforced Green Composites Hitoshi Takagi Tokushima University	Keynote Structural Health Monitoring of Australian Defense Platforms Claire Davis DSTG

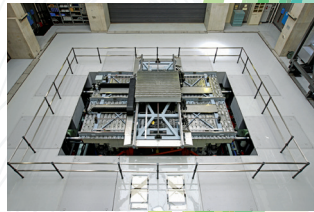
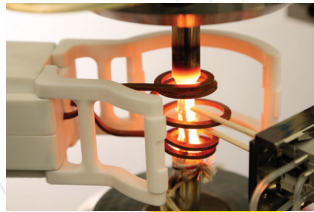
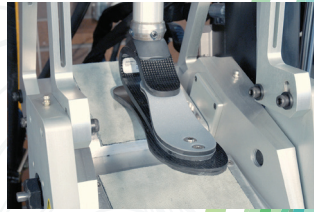
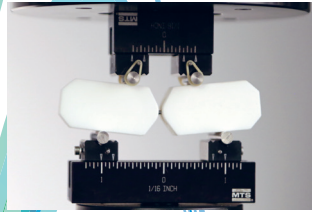
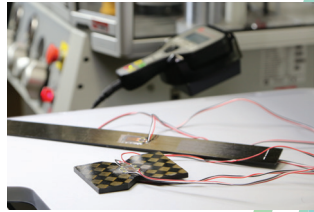


14:00-14:20	Invited Atom Probe Tomography: The Oxidation of Magnesium Alloys Ingrid McCarroll University of Sydney	Invited Development of a Predictive Tool for Managing Distortion in Electron Beam Additive Manufacturing Vu Nguyen CSIRO Manufacturing	Invited New Performance and Functionalities of Engineered Multi-materials Enabled Additive Manufacturing and Nanoengineering S Kumar Khalifa University of Science and Technology	Invited Use of FBG sensors for monitoring Mode I delamination damage propagation Jayantha Epaarachchi University of Southern Queensland
14:20-14:40	On Evaluation of Fatigue Crack Front Shapes Behnam Zakavi University of Adelaide	Computational modelling of multiple crack growth: a comparison between discrete and phase field models Phu Nguyen Monash University	Identification and Characterisation of Delamination Damage in Composites utilising Embedded Optical Strain Gauges Peter Cook Flinders University	Influence of tensile load on higher harmonic generation at fatigue cracks in isotropic plates Ching-Tai Ng The University of Adelaide
14:40-15:00	Modelling of high-porosity open-cell metal foams using a digital framework Yang An Western Sydney University	Distributed Strain Measurements on Defense Platforms using Continuous Fibre Bragg Gratings Peter Ziros DSTG	Progressive Failure Analysis of Dental Restorative Materials Sonam Kamboj UNSW Sydney	The development of Asset Management Relevant Good Practice for the UK Office for Nuclear Regulation ONR Stuart Taylor Frazer-Nash Consultancy
15:00-15:20	Fracture Toughness Measurement for Aluminium 6061-T6 using Notched Round Bars Alan Hellier University of Wollongong	Determination of Essential Work of Fracture of High Strength G450 Steel Using Digital Image Correlation Bac V. Mai University of Sydney	Rapid Inspection of Advanced Fibre-Composite Structures via Automated Line Scan Thermography James Moran DSTG	Wheel and Rail Damage and Detection - A Review Vu Phuong Pham Western Sydney University
15:20-15:40	Afternoon tea			Undergraduate Teaching Laboratory
	Fatigue, Fracture and Failure Analysis of Structures Chair: Xiaobo Yu DSTG	Computational and Experimental Mechanics Chair: Ramesh Singh Indian Institute of Technology Bombay	Fibre Reinforced Composites Chair: S Kumar Khalifa University of Science and Technology	Structural Health Monitoring and Structural Optimization Chair: Jayantha Epaarachchi University of Southern Queensland
	Concurrent Stream 9	Concurrent Stream 10	Concurrent Stream 11	Concurrent Stream 12
	Room: Ainsworth G01	Room: Ainsworth G02	Room: Ainsworth I01	Room: Ainsworth I01
15:40-16:10	Keynote A Comprehensive Approach to Predict Crack Initiation Life of Rolling Contact Fatigue of Rails under Service Loading Wenyi Yan Monash University	Keynote Experimental studies on the flexural behaviour of reinforced polyvinyl alcohol-engineered cementitious composite beams Sarah Zhang UNSW Canberra	Keynote Stiff and Soft Multifunctional Composites Chun Wang UNSW Sydney	Keynote Integrated wavelength-encoded sensing networks for railway infrastructure monitoring Haw-Yaw Tam The Hong Kong Polytechnic University
16:10-16:30	Invited Railway Turnout Failure Mode Analysis Alan Hellier University of Wollongong	Invited Modelling high-strain-rate phenomena and application to defence research Michael Saleh ANSTO	Invited Buckling of Thin-Walled Laminated Composite Beams having Open and Closed Sections subjected to Axial Load and End Moment Hamid Sheikh The University of Adelaide	Invited Reconstruction of Comprehensive Information Using Fully-Distributed FBG Sensors in Structural Health Monitoring Mengishi Zhu University of Tokyo
16:30-17:00	Conference Summary Student Paper Prize Announcement Conference closing			



Testing Solutions for

- » Aerospace Structural & Materials
- » Automotive
- » Biomedical
- » Civil Structural
- » Energy
- » Materials Science
- » Rail



VISIT US AT ACAM9
UNSW Sydney, Australia
27-29 November 2017