

THE AUSTRALIAN ASSOCIATION FOR
COMPUTATIONAL MECHANICS (AACM)

PRESENTS THE

1ST AUSTRALASIAN
CONFERENCE ON
COMPUTATIONAL
MECHANICS
(ACCM2013)

3-4 October, 2013

Sydney, Australia

SPONSORS

ACCM2013 is proudly sponsored by the following organisations:



Faculty of Engineering & Information
Technologies



FOREWORD

Welcome to the 1st Australasian Conference on Computational Mechanics. Thank you for participating in this exciting meeting in computational mechanics under the umbrella of the AACM.

This inaugural conference aims to bring together researchers and users of computational mechanics (CM) in the Australasian region. Academics, practising users of CM, and undergraduate and postgraduate students have been invited to present their work. The wide range of participants at the conference is expected to facilitate the exchange of novel ideas and the broadening of networks for all in attendance.

The conference is intended to cover all aspects of CM for a wide range of disciplines in engineering and physics. Parallel sessions will be held, with each focusing on a particular topic area, such as computational fluid dynamics, geomechanics, biomechanics, structures or materials. All the abstract and papers have been peer reviewed rigorously to the Australian Research Council standard and the accepted full length papers will be published in a special issue of “Applied Mechanics and Materials” (ISSN: 1660-9336) after the conference.

The conference registration fee includes two years of membership to the AACM.

Thank you for attending ACCM2013. We hope you enjoy your time at the conference and in Sydney.

Grant Steven and Qing Li

Conference Chair and Co-Chair

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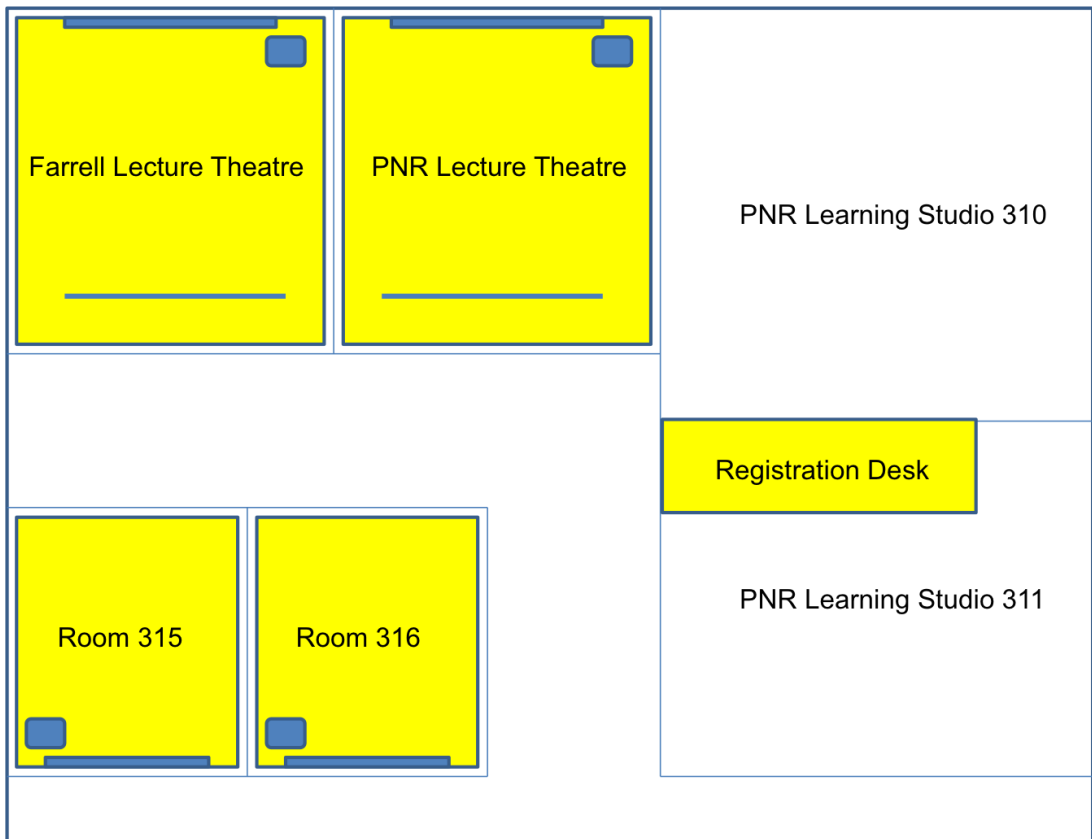
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CONFERENCE VENUE

ACCM2013 will be held on level 2 of the Peter Nicol Russell (PNR) Building, which is located in the Engineering Precinct on the Darlington Campus at the University of Sydney. The main entrance is on the north end of the footbridge connecting the PNR and Chemical Engineering buildings.

The conference rooms are shown in the map below:



Registration

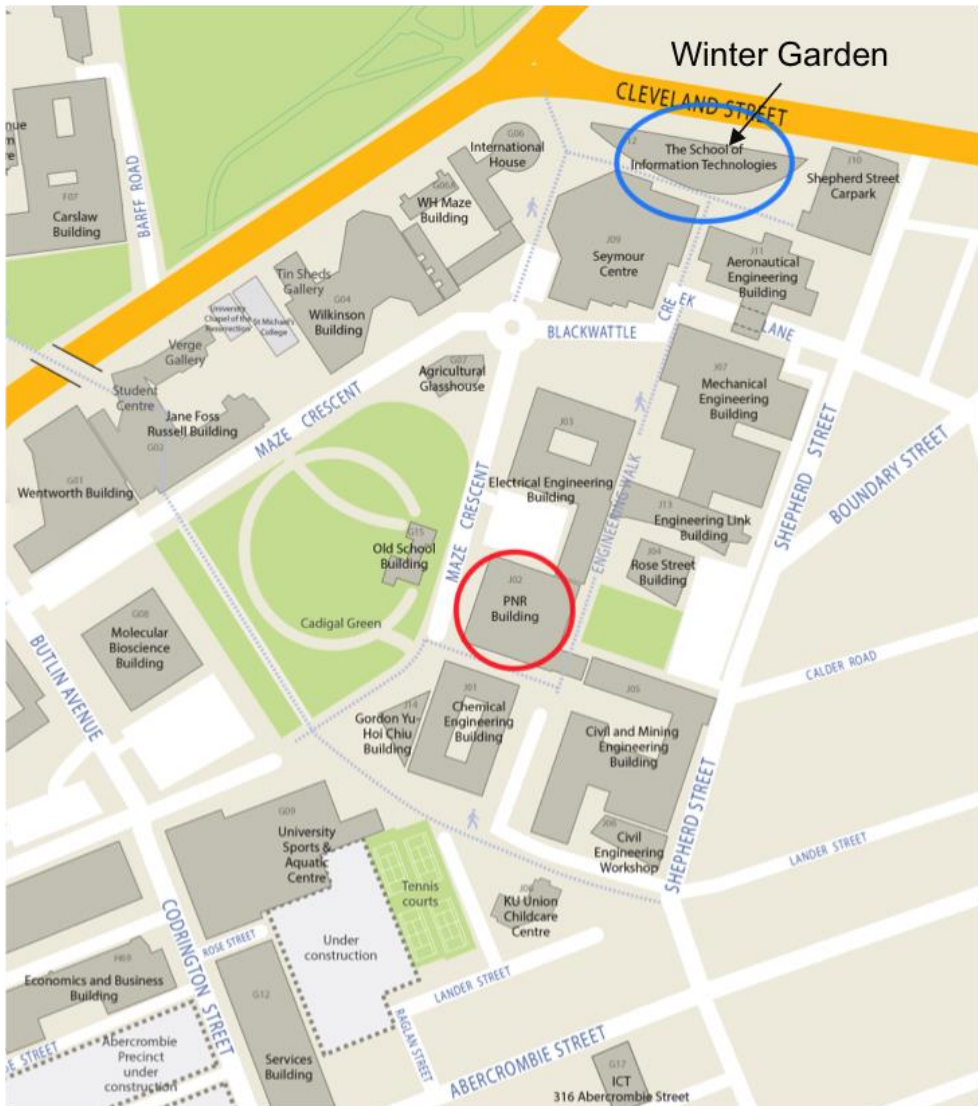
An early-bird registration desk will be open from 3-6pm on Wednesday 2nd October, located in Room 315 of the PNR Building. The registration desk will be moved into PNR Learning Studio 311 from 8am Thursday onwards.

Please feel free to visit the registration desk at any time if assistance is required.

CAMPUS MAP

Engineering Precinct

The Engineering Precinct is comprised of the eastern-most buildings of the Darlington campus. The PNR Building is circled in red and The Winter Garden is circled in blue.



INTERNET ACCESS

Wireless internet access is available for university guests whilst on campus.

Connecting to the Network

To connect to the “UniSydney-Guest” network, follow these steps:

1. Enable Wi-Fi on your device.
2. Connect to “UniSydney-Guest” wireless.
3. Open your web browser*. You should now be asked for a username and password. If you are not prompted, visit:
<https://auth.wireless.sydney.edu.au/guest/guest.php>.
4. Use the username and password details provided to you upon registration. They will expire at the end of the conference.

* Compatible web browsers include: Internet Explorer, Firefox, Safari. Issues may exist with Google Chrome.

PRESENTATIONS

Schedule

The technical program consists of four parallel sessions each day. Only registered abstracts and papers have been included. A full list of abstracts is provided on the USB drive included in your conference bag. The program schedule is provided starting on page 15.

Timing

You should aim to complete your talk within 15 minutes and allow 5 minutes for questions and comments afterwards.

To facilitate smooth running through the program, please bring a soft copy of your PowerPoint presentations to the registration desk before your session. These will be loaded onto the university computers prior to each session. You may also choose to use your own laptop (see below).

AV Equipment

All lecture theatres and rooms have a desktop computer with internet access and connection ports for laptops (VGA, 3.5mm audio, Ethernet). If you have already submitted your presentation, they will be available on the desktop computer. If instead you wish to use your own laptop, please ensure that you are familiar with the system in your allocated room sometime before your session begins. Volunteers will be available during the preceding breaks to assist you with setting up the system.

Publications

All abstracts and full length papers were reviewed rigorously by at least two experts in the field (with a considerably high rejection rate). All accepted full length papers will be published in a special issue of “Applied Mechanics and Materials” by TTP after the conference, under the condition of “one registration, one paper”. If your paper has not been registered specifically, it will be removed from the publication.

ADDITIONAL INFORMATION

Lunch & Dinner

Lunch will be provided for all registered attendees on both days of the conference. Networking drinks and a dinner have also been organised for Thursday night in the Winter Garden (6-8pm), located on the ground floor of the School of IT Building. Please follow the conference volunteers at the end of the Thursday afternoon session.

Snacks will be provided during the morning and afternoon tea breaks.

Lab Tours

The following lunchtime lab tours have been organised for conference attendees:

- Thursday 1-2pm: Structures Laboratory.
- Friday 1-2pm: Aerospace labs (flight simulator, Jabiru aircraft built by first year undergraduate students); Clean Combustion lab.

If you are interested in a tour but were not asked during registration, please visit the registration desk for more information.

Best Paper Competition

Competition participants are reminded that only applied, registered and presented papers will be considered by the judging panel. The panel will look at both scientific quality and presentation competence.

There will be four different award categories:

- Undergraduate students
- Postgraduate students (Masters and PhD candidates)
- Early-career researchers (less than five years since obtaining a PhD)
- All Categories (more than 5 years since obtaining a PhD)

PROGRAM OVERVIEW

Abbreviations

CGM	Computational Geomechanics
CSM	Computational Aspects of Smart Structures and Materials
CDM	Computational Aspects in Damage and Failure Mechanics
CFD	Computational Fluid Dynamics
CBB	Computational Bioengineering and Biomechanics
CCM	Computational Mechanics of Composite Materials
MCM	Multi-scale Computational Modelling
DTO	Design Optimisation and Topology Optimisation
CAD	Computational Aerodynamics
CMA	Computational Mechanics in Mechanical Applications

3 October, 2013 (Thursday)

Time	Event
10:00	Conference welcome – Grant Steven
10:10	Opening remarks – Roger Tanner
10:30	Invited speaker – Andrew Sims, Senior Simulation Engineer, ResMed
11:00	Morning tea
11:20	Parallel sessions – CGM-I, CSM-I, CDM-I, CFD-I
13:00	Lunch / Lab tours
14:20	Parallel sessions – CGM-II, CSM-II, CDM-II, CFD-II
15:40	Afternoon tea
16:00	Parallel sessions – CGM-III, CSM-III, CDM-III, CBB-I
18:00-19:30	Networking drinks / Conference dinner

4 October, 2013 (Friday)

Time	Event
8:30	Parallel sessions – CGM-IV, CSM-IV, CCM-I, CBB-II
10:30	Morning tea
10:50	Parallel sessions – MCM-I, DTO-I, CCM-II, CFD-III
12:50	Lunch
13:30	Poster session / Lab tours
14:00	Parallel sessions – MCM-II, CMA-I, CAD-I, CFD-IV
15:40	Afternoon tea
16:00	Parallel sessions – CGM-V, DTO-II, CAD-II, CBB-III
17:30-18:00	Closing ceremony

DETAILED SCHEDULE

3 October, 2013 (Thursday)

Time	Farrell LT	Room 315	Room 316	PNR LT
MORNING SESSION I				
10:00	Grant STEVEN Welcome			
10:10	Roger TANNER Opening remarks			
10:30	Andrew SIMS Invited speaker			
11:00	MORNING TEA			

Time	Farrell LT	Room 315	Room 316	PNR LT
MORNING SESSION II				
Session	CGM-I	CSM-I	CDM-I	CFD-I
Chairs	Daichao SHENG & George KOURETZIS	Mike XIE & Andrew CHAN	Jeffrey LOUGHRAN & Yuantong GU	Wenxian LIN & Nicholas WILLIAMS
11:20	Jinsong HUANG* , D.V. Griffiths, A.V. Lyamin, K. Krabbenhoft, S.W. Sloan: <i>Discretization errors of random fields in finite element analysis</i>	Chen ZHU* , Kim Rasmussen, Hao Zhang: <i>Generalised component based beam to column joint model for prediction of full range moment-rotation behaviour</i>	Maddegedara Lalith Lakshman WIJERATHNE* , M. Hori, T. Okinaka, Hide Sakaguchi: <i>Application of PDS-FEM for simulating 3D wing crack growth</i>	Suvash C. Saha, Emilie SAURET* , Yuantong Gu: <i>Magnetic convection heat transfer in an open ended enclosure filled with paramagnetic fluids</i>
11:40	Benjamin MARUSSIG* , Gernot Beer, Christian Duenser: <i>Isogeometric boundary element method for the simulation in tunneling</i>	Nengguang LIU* , Wei Gao, Chongmin Song, Nong Zhang: <i>A hybrid probabilistic and non-probabilistic dynamic analysis of vehicle-bridge interaction system with uncertainties</i>	Morsaleen Shehzad CHOWDHURY* , Chongmin Song, Wei Gao: <i>Sensitivity of stress intensity factors with respect to the crack geometry by the scaled boundary finite element method</i>	Hung Quoc NGUYEN* , CD Tran, N Pham-Sy, T Tran-Cong: <i>A numerical solution based on the Fokker-Planck Equation for dilute polymer solutions using high order RBF methods</i>

Time	Farrell LT	Room 315	Room 316	PNR LT
MORNING SESSION II				
Session	CGM-I	CSM-I	CDM-I	CFD-I
Chairs	Daichao SHENG & George KOURETZIS	Mike XIE & Andrew CHAN	Jeffrey LOUGHRAN & Yuantong GU	Wenxian LIN & Nicholas WILLIAMS
12:00	Saumyasuchi DAS* , Brendon Bradley, Misko Cubrinovski: <i>A three dimensional plasticity model for sands based on state concept</i>	James M. DE BURGH* , Hamid R. Valipour, Stephen J. Foster: <i>Hygro-thermal modelling of concrete exposed to high temperatures</i>	Baocheng ZHANG* , Tong Li, Haifei Zhan, Yuantong Gu: <i>Impact of the piston secondary motion on its slap Force</i>	Lauren WALKER* , Wijitha Senadeera: <i>A variable diffusivity model for the drying of spherical food particulates</i>
12:20	Saeed Hosseinzadeh, Ebrahim Fathi SALMI* : <i>A further study on the mechanism of pre-splitting in mining engineering</i>	Sawekchai TANGARAMVONG* , Francis Tin-Loi: <i>Optimal retrofitting of structures using braces</i>	Giang D. NGUYEN* : <i>An enriched constitutive model for fracture propagation analysis using the material point method</i>	Ryan Scott PAWELL* , Robert A. Taylor, David W. Inglis, Tracie J. Barber: <i>Jet Formation in Micro Post Arrays</i>
12:40	George P. KOURETZIS* , Daichao Sheng, Dong Wang: <i>Numerical simulation of CPT cone penetration in sand</i>	Nima KHORSANDNIA* , Hamid R. Valipour, Keith Crews: <i>Nonlinear long-term analysis of timber-concrete composite structures with finite element-finite difference scheme</i>	Emmanuel A. FLORES-JOHNSON* , L. Shen, R.K. Annabattula, P.R. Onck, Y.G. Shen, Z. Chen: <i>Finite element modelling of stress-induced fracture in Ti-Si-N films</i>	Cam Minh Tri TIEN* , N. Thai-Quang, N. Mai-Duy, C.-D. Tran, T. Tran-Cong: <i>A fully coupled scheme for viscous flows in regular and irregular domains using compact integrated RBF approximation</i>
13:00	LUNCH			

Time	Farrell LT	Room 315	Room 316	PNR LT
AFTERNOON SESSION I				
Session	CGM-II	CSM-II	CDM-II	CFD-II
Chairs	Jinsong HUANG & Giang NGUYEN	Shiwei ZHOU & Ali AKBARNEZHAD	Yixia ZHANG & Sergio Galindo TORRES	David HOLMES & Tracie BARBER
14:20	Wojciech SOLOWSKI* , Scott William Sloan: <i>Material point method modelling of granular flow in inclined channels</i>	Ying WANG* , Hong Hao: <i>Modelling of guided wave propagation with spectral element: application in structural engineering</i>	Xudong Chen, Andrew Hin Cheong CHAN* , Jian Yang: <i>FEM/DEM modelling of hard body impact on the laminated glass</i>	Gholamreza KESHAVARZI* , Ryan Pawell, Tracie J. Barber: <i>Transient analysis of rising bubble using image analysis</i>
14:40	Sergio TORRES, Dorival PEDROSO* , D. J. Williams, H. B. Muhlhaus: <i>An analysis of the strength of anisotropic granular assemblies via discrete methods</i>	Gerard TAIG* , Gianluca Ranzi: <i>Generalised Beam Theory (GBT) for shear deformable stiffened sections</i>	Hu CHEN* , Yixia Zhang, Mengyan Zang, Paul J Hazell: <i>An explicit lagrange constraint method for finite element analysis of frictionless 3D contact/impact problems</i>	Maziar GHOLAMI KORZANI* , Sergio Galindo Torres, David Williams, Alexander Scheuermann: <i>Numerical simulation of tank discharge using smoothed particle hydrodynamics</i>
15:00	Hassan KARAMPOUR* , Albermani Faris: <i>Interaction between upheaval/lateral and propagation buckling in subsea pipelines</i>	Saleh Mohammad Ebrahimzadeh Sepasgozar, Morteza Naghipour, Ali AKBARNEZHAD* : <i>Seismic Behaviour of RBS and AW-RBS Moment Resistant Connections in Double I-beams</i>	Ean Tat OOI* , Chongmin Song, Francis Tin-Loi: <i>Crack Propagation Modeling with Scaled Boundary Polygons</i>	Wenxian LIN* , Tao Liu, Wenfeng Gao, Steven W. Armfield: Three-dimensional direct numerical simulation of unsteady transitional round fountains in a homogeneous fluid
15:20	To Huu DUC* , Sergio Andres Galindo-Torres, Alexander Scheuermann: <i>A numerical approach for the determination of the primary fabric of granular soils</i>	Duy Minh DO* , Wei Gao, Chengwei Yang, Chongmin Song: <i>Dynamic analysis of structures with interval parameters under stochastic process excitation</i>	Seyed Komeil HASHEMI* , M.A. Bradford: <i>Numerical Simulation of Free-Air Explosion using LS-DYNA</i>	David William HOLMES* , John R. Williams, Peter Tilke, Christopher R. Leonardi: <i>A finite difference flow-flied initialization for smooth particle hydrodynamics simulations of porous media</i>
15:40	AFTERNOON TEA			

Time	Farrell LT	Room 315	Room 316	PNR LT
AFTERNOON SESSION II				
Session	CGM-III	CSM-III	CDM-III	CBB-I
Chairs	Kristian KRABBENHOFT & Vincent LEMIALE	Chunhui YANG & Emilie SAURET	Emmanuel FLORES JOHNSON & Helen WU	Hong GUAN & Gareth VIO
16:00	Abdolreza Ataei * , Mark A. Bradford: <i>FE modelling of sustainable and deconstructable semi-rigid flush end plate composite joints</i>	Chengwei YANG* , Francis Tin-Loi, Sawekchai Tangaramvong, Wei Gao: <i>A complementarity approach for elastoplastic analysis of frames with uncertainties</i>	Emmanuel A. FLORES-JOHNSON* , J.G. Carrillo, R.A. Gamboa, L. Shen: <i>Finite-element modelling of ballistic impact of plain-woven aramid fabric</i>	Patrick Henry PEACOCK* , David W. Holmes: <i>Comparison and development of equation of state laws in smoothed particle hydrodynamics</i>
16:20	Sergio Galindo TORRES* , Alexander Scheuermann, David Williams, Hans Muhlhaus: <i>Micro-mechanics of contact erosion</i>	Xue SHI* , W. GAO, Y.L. Pi, M.A. Bradford: <i>Uncertainty in long-term behavior and buckling of concrete-filled steel tubular column</i>	Mehrisadat MAKKI ALAMDARI* , Jianchun Li, Bijan Samali: <i>A novel frf-based damage localisation method using random vibration</i>	Aike QIAO* , Zhanzhu Zhang: <i>Solid and fluid simulations of vertebral artery stenosis treated with stents with different shapes of link</i>
16:40	Xiaoshan Lin, Yixia ZHANG* , Paul J. Hazell: <i>Modeling of steel-reinforced concrete panels under blast loads</i>	Chin-Long LEE* , Filip C. Filippou: <i>Evaluation of mixed formulation for modelling rc columns with bond slip</i>	Gaofeng ZHAO* , Nasser Khalili: <i>An overview and recent developments of Distinct Lattice Spring Model on dynamic fracturing of rock</i>	Saeed Miramini, Lihai Zhang, Martin Richardson, Priyan MENDIS* : <i>Computational simulation of mechanical microenvironment of early stage of bone</i>
17:00	Vincent LEMIALE* , Laura Karantgis, Philip Broadbridge: <i>Smoothed Particle Hydrodynamics applied to the modelling of landslides</i>	Francisco SENA CARDOSO* , Kim J. R. Rasmussen: <i>FE modelling of storage rack frames</i>	Phuong TRAN* , Tuan Ngo, Priyan Mendis: <i>Underwater impulsive loading-induced dynamic failures of monolithic composite panel</i>	Zewei ZHANG* , Hui Wang, Qinghua Qin: <i>Simulation of transient bioheat transfer in the human eye by hybrid finite element model</i>
17:20	Darren L. Lincoln, Terry BENNETT* : <i>Coupled two component fluid flow in deformable porous media – towards a numerical model for geological carbon storage</i>	Daniela CIANCIO* , Giovanni Castellazzi: <i>Fictitious elastic stiffness parameters of zero-thickness finite elements at bi-material interfaces</i>	Cheng-Chou (Eric) YANG* , Phuong Tran, Tuan Ngo, Priyan Mendis, Bill Humphries: <i>Effect of textile architecture on energy absorption of woven fabrics subjected to ballistic impact</i>	Caleb Christos IOANNIDIS* , Danè Dabirrahmani, Qing Li, Zhongpu Zhang, Junning Chen, Richard Appleyard: <i>Impact loads resulting in intraoperative periprosthetic femoral fracture: a finite element study</i>
18:00	CONFERENCE DINNER			

4 October, 2013 (Friday)

Time	Farrell LT	Room 315	Room 316	PNR LT
MORNING SESSION I				
Session	CGM-IV	CSM-IV	CCM-I	CBB-II
Chairs	Adrian RUSSELL & Gaofeng ZHAO	Ben THORNER & Arman KHOSHGHALB	Chin-Long LEE & Garth PEARCE	Danè TURNER & Julia KAR
8:30	Xue ZHANG* , Kristian Krabbenhoft, Daichao Sheng: <i>Particle finite element simulation of granular media</i>	Xingjian GAO* , Zhengyi Jiang, Dongbin Wei, Sihai Jiao, Jingtao Han: <i>Computational analysis of compressive strain hardening exponents of bimetal with pearlitic steel and low carbon steel</i>	Garth M PEARCE* , Shen-Hin Lim, Jung Hoon Sul, B Gangadhara Prusty, Don W Kelly: <i>Atoms to assemblies: a physics-based hierarchical modelling approach for polymer composite components</i>	Julia KAR* , Andrew K. Knutsen, Brain P. Cupps, Michael K. Pasque: <i>A nearest neighbor finite element method for validating left-ventricular regional strain from displacement encoding with stimulated echoes MRI, compared to tagged MRI</i>
8:50	Mohammad Pournaghiazar, Adrian R. RUSSELL* , Nasser Khalili: <i>Cavity expansion in soil of finite radial extent subjected to two boundary conditions</i>	Yongning LIU* , Yiqing Chen, Bernard F. Rolfe, Chunhui Yang: <i>Finite element analysis of residual stresses in metallic coatings through a compound casting</i>	Robert S PIERCE* , Brian G Falzon, Mark C Thompson, Romain Boman: <i>Implementation of a non-orthogonal constitutive model for the finite element simulation of textile composite draping</i>	Willy THEODORE* , J. Pierrepont, Q. Li, B. Miles: <i>A Finite Element Investigation into the effects of head size and trunnion design on the micromotion at the head-neck interface in THR</i>
9:10	Shah Neyamat ULLAH* , Yuxia Hu, David White, Samuel Stanier: <i>Lateral boundary effect in centrifuge tests for spudcan penetration in uniform clay</i>	Tianwei WANG* , Chunhui Yang: <i>Effective models of PZT actuators for numerical simulation of elastic wave propagation</i>	Yuguo YU* , Yixia Zhang, Yansheng Huang: <i>Investigation of bond strength of frp-to-concrete interface</i>	Haifei ZHAN* , Ye Wei, Yuanrong Gu: <i>Tuneable resonance properties of graphene by nitrogen-dopant</i>
9:30	Jun Li, Xilin Cui, Andrew Hin Cheong CHAN* , John Bridgeman: <i>Parallelisation of DEM-LBM using domain decomposition</i>	Sen Lin, Shiwei ZHOU* , Yi Min Xie, Xiaodong Huang, Qing Li: <i>Buckling-induced retraction of structured spherical shell under pressure</i>	Kai LUO* , Yong-Lin Pi, Wei Gao, Mark Andrew Bradford: <i>Finite element model for analysis of time-dependent behaviour of concrete-filled steel tubular arches</i>	Mauricio GONZALEZ* , B.P. Gilbert, H. Bailleres, H. Guan: <i>Senile coconut palm hierarchical structure as foundation for biomimetic applications</i>

Time	Farrell LT	Room 315	Room 316	PNR LT
MORNING SESSION I				
Session	CGM-IV	CSM-IV	CCM-I	CBB-II
Chairs	Adrian RUSSELL & Gaofeng ZHAO	Ben THORNER & Arman KHOSHGHALB	Chin-Long LEE & Garth PEARCE	Danè TURNER & Julia KAR
9:50	Irene GUIAMATSIA* , Giang D. Nguyen: <i>Coupling friction and surface debonding in an interface cohesive model</i>	Erin BURKE* , Chunhui Yang: <i>A theoretical study on bending behaviour of conducting polymer actuator</i>	Menghua XU* , Baolin Wang, Aibing Yu: <i>Influence of surface energy on mechanical properties of laminated nanoplates</i>	Michael BAYFIELD* , Lauren Kark, Tracie Barber: <i>Development of a kinematic model of a proto-wing</i>
10:10	Yousef Ansari, George P. Kouretzis, Daichao SHENG* : <i>Coupled finite element analysis of partially embedded offshore pipelines during vertical penetration</i>	Gengbo CHEN* , Hao Zhang, Kim J.R. Rasmussen, Feng Fan: <i>Modelling geometric imperfections of spatial latticed structures considering correlations of node imperfections</i>	Oswaldo VALLATI* , Fabrizio Gara, Gianluca Ranzi, Graziano Leoni: <i>A comparative study on the time-dependent analysis of composite beams using available modelling techniques</i>	Chang-Joon LEE* , Y Zhang, H Takao, Y Murayama, Y Qian: <i>A Fluid-Structure Interaction Study using Patient-Specific Ruptured and Unruptured Intracranial Aneurysms</i>
10:30	MORNING TEA			

Time	Farrell LT	Room 315	Room 316	PNR LT
MORNING SESSION II				
Session	MCM-I	DTO-I	CCM-II	CFD-III
Chairs	Weifu SUN & Gwenaëlle PROUST	Grant STEVEN & Mike XIE	Ying WANG & Majidreza NAZEM	Bernard ROLFE & Helen Wu
10:50	Ling LI* , Luming Shen, Gwénaëlle Proust: <i>Crystal plasticity simulation of the Bauschinger effect of polycrystalline AA7075 through a texture-based representative volume element model</i>	Errol Alasdair MERTEN* : <i>Application of evolutionary structural optimisation reinventing the (bicycle) wheel</i>	Daniel John LOWE* , Raj Das, Charles Clifton, Namasivayam Navaranjan: <i>Characterisation of the shear stud-concrete connection using finite element analysis</i>	Gholamreza KESHAVARZI* , Tracie J. Barber, Guan Yeoh, Anne Simmons: <i>Investigation of the 3D flow in hemodialysis venous air traps</i>
11:10	Feng LIN* , Yang Xiang: <i>Vibration analysis of carbon nanotube reinforced composite plates</i>	Srinivas VASISTA* , Liyong Tong: <i>Topology optimisation of 3D structures using the moving iso-surface threshold method</i>	Xiaoshan Lin, Yixia ZHANG* : <i>Finite element analysis of frp-reinforced concrete beams with bond-slip effect</i>	Sergio Galindo TORRES* : <i>A coupled Lattice Boltzmann Discrete Element Method for the simulation of solid fluid interaction</i>

Time	Farrell LT	Room 315	Room 316	PNR LT
MORNING SESSION II				
Session	MCM-I	DTO-I	CCM-II	CFD-III
Chairs	Weifu SUN & Gwenaelle PROUST	Grant STEVEN & Mike XIE	Ying WANG & Majidreza NAZEM	Bernard ROLFE & Helen Wu
11:30	Polwaththe Gallage Hasitha Nayanajith, Yuantong GU* , S. C. Saha, W. Senadeera, A. Oloyede: <i>Deformation of multiple Red Blood Cells in a microchannel</i>	Yiqiang WANG* , Zhen Luo, Nong Zhang: <i>Mesh-independent nodal density interpolation method for topology optimization</i>	Izzat THIYAHUDDIN* , Yuantong Gu, D.P. Thambiratnam: <i>Experimental and numerical study of water-filled road safety barriers</i>	David John FULKER* , Tracie Barber, Anne Simmons, Gholamreza Keshavarzi: <i>Investigation into the existence of cavitation within haemodialysis needles</i>
11:50	Nathaniel James BURBERY* , Raj Das, Giacomo Po, Nasr Ghoniem: <i>Effect of understanding the threshold conditions for dislocation transmission from tilt grain boundaries in fcc metals under uniaxial loading</i>	Yaseen Unnisa, Danh TRAN* , Fuchun Huang: <i>Statistical independence and independent component analysis</i>	Abdolreza ATA EI* , M.A. Bradford: <i>Parametric studies of semi-rigid flush end plate joints with concrete-filled steel tubular columns</i>	Kaavya KARUNANITHI* , Chang Joon Lee, Winston Chong, Yi Qian: <i>Effect of angle of curvature of flow diverter on the hemodynamics of cerebral aneurysms-A CFD study</i>
12:10	Leyla RAMIN* , Ahmad Jabbarzadeh: <i>Effect of pressure on dry and hydrated self assembled monolayers: a molecular dynamics simulation study</i>	Xuran Du, Mike XIE* , Xiaoying Yang, Zhihao Zuo: <i>Topology optimisation of composites containing base materials of distinct poisson's ratios</i>	Hamid SHEIKH* , Liang Huang: <i>An Efficient Finite Element Modeling of Composite Stiffened Shells</i>	Wijitha SENADEERA* , G. Adiletta, M. Di Matteo, P. Russo: <i>Drying kinetics, quality changes and shrinkage of two grape varieties of Italy</i>
12:30	Weifu SUN* , Qinghua Zeng, Aibing Yu: <i>Interaction forces between parallel silicon nanoellipsoids: A molecular dynamics study</i>	Daniel STOJANOV* , Brian G. Falzon, Xinhua Wu, Wenyi Yan: <i>An application of bi-directional evolutionary structural optimisation for optimising energy absorbing structures using a material damage model</i>	Jinglai WU* , Zhen Luo, Nong Zhang: <i>A new method for building high order polynomial regression model</i>	Fuzhong QI* , Erwan Bertevas, Roger Tanner: <i>Computing the Viscometric Functions for Suspensions of Spheres in a Newtonian Matrix</i>
12:50	LUNCH			

PNR Learning Studio 311				
POSTER SESSION				
13:30	<p>Chengjun LIU*, Yixia Zhang, Qing H. Qin, Rikard Heslehurst: <i>High velocity impact modelling of sandwich panels with aluminium foam core and aluminium sheet skins</i></p>	<p>Asiful ISLAM*, Graham Doig: <i>Fundamental studies of vortical flows induced by a vortex-generator for automotive applications</i></p>	<p>Nicholas Joseph STEWART*, David Holmes, Wenxian Lin, Steven W. Armfield and Michael P. Kirkpatrick: <i>Comparison of semi-implicit and explicit finite difference algorithms on highly parallel processing architectures</i></p>	<p>Kaichung Wong*, Tony Chen, David E. Connor, Masud Behnia, Kurosh Parsi: <i>Computational fluid dynamics of liquid and foam sclerosant injection in a vein model</i></p>
	<p>Qun NAN*, Xuemei Guo; Fei Zhai: <i>The constrast of two kinds of microwave antenna SAR simulation</i></p>	<p>Changyan LIN*, Xiuqian Liu, Yuyang Liu, Chuangye Xu, Guanghui Wu: <i>Risk forecast of in-stent restenosis by CFD method</i></p>	<p>Hongyu QIN*, Wei Dong Guo: <i>Limiting force profile and laterally loaded rigid piles in sand</i></p>	<p>Nathan Carl PODLICH*, Andrei Lyamin, Scott Sloan: <i>A comparison of conic programming software for finite element limit analysis</i></p>
	<p>Shengbing YU*: <i>Upper bound limit analysis of inclined strip anchor in sand</i></p>	<p>Matthew CRUICKSHANK*, Graham Doig: <i>Applications of kriging to motorsport aerodynamic analysis</i></p>	<p>Hongwei YANG*, Adrian R. Russell: <i>Abounding surface plasticity model considering hydraulic hysteresis</i></p>	

Time	Farrell LT	Room 315	Room 316	PNR LT
AFTERNOON SESSION I				
Session	MCM-II	CMA-I	CAD-I	CFD-IV
Chairs	Haifei ZHAN & Gwenaëlle PROUST	Sawekchai TANGARAMVONG & Helen WU	Ben THORNER & Douglass J AULD	Wijitha SENADEERA & Wenxian LIN
14:00	<p>Katherine MCDONELL*, Gwénaëlle Proust, Luming Shen: <i>Morphology of irradiated adjacent single-walled carbon nanotubes</i></p>	<p>Leiting LI*, Yongcheng Lin, Ling Li, Luming Shen: <i>Finite element simulation of the high-temperature deformation behavior of aluminium alloy 7075 using a coupled thermo-mechanical crystal plasticity constitutive model</i></p>	<p>Phil Close, Tracie BARBER*: <i>Explaining ground effect aerodynamics via a real-life reference frame</i></p>	<p>Abouzar MOSHFEGH*, Ahmad Jabbarzadeh, Roger I. Tanner: <i>Analysis of dissipative particle dynamics fluid in sheared regimes</i></p>

Time	Farrell LT	Room 315	Room 316	PNR LT
AFTERNOON SESSION I				
Session	MCM-II	CMA-I	CAD-I	CFD-IV
Chairs	Haifei ZHAN & Gwenaelle PROUST	Sawekchai TANGARAMVONG & Helen WU	Ben THORNBUR & Douglass J AULD	Wijitha SENADEERA & Wenxian LIN
14:20	Zhi FANG* , Zhengyi Jiang, Dongbin Wei: <i>Modeling of grained heterogeneity with voronoi tessellation in microforming process</i>	Babak FAKHIM* , Faraz Rind Baloch, Srinarayana Nagarathinam, Masud Behnia, Steve Armfield: <i>Thermal Management of Data Centres-Effect of CRAC Location and Flow Rate on the Performance of Data Centres</i>	Viktor ŠAJN* , Igor Petrović, Franc Kosel: <i>Aerodynamic characteristics of a deformable membrane aerofoil</i>	Azadeh LOTFI* , Tracie J. Barber: <i>Optimization of CFD meshing for stented vessel geometries</i>
14:40	Emre ERKMEN* : <i>Multi-scale overlapping domain decomposition to consider local deformations in the analysis of thin-walled members</i>	Akbar ABVABI* , Joseba Mendigoren, Bernard Rolfe, Matthias Weiss: <i>Springback investigation in roll forming of a V-section</i>	Iain Robertson, Adrien Becot, Adrian Gaylard, Ben THORNBUR* : <i>Automotive drag reduction through distributed base roughness elements</i>	Andrew BAGLIN* , Tracie Barber, Gary Rosengarten: <i>Development of an effective FVLBM code for the study of turbulent and multiphase flows</i>
15:00	Yunhui CHEN* , H. Huang, M.Y. Lu, Y.Q. Wu, F.Z. Fang, X.T. Hu: <i>Molecular dynamics simulation of the deformation of single crystal gallium arsenide</i>	Seyed Pezhman Payami, Masud BEHNIA* , Barry Dixon, John Santamaria, Mehrdad Behnia: <i>Numerical simulation of flow, heat and moisture transfer in Heat and Moisture Exchanger (HME) devices</i>	Benjamin J. Morrell, David J. MUNK* , Gareth A. Vio, Dries Verstraete: <i>Development of a hypersonic aircraft design optimization tool</i>	Kyll Adam SCHOMBERG* , Graham Doig, John Olsen: <i>Computational simulation of an altitude adaptive nozzle concept</i>
15:20	Tong LI* , YuanTong Gu, Baocheng Zhang: <i>Mechanics of microfilaments networks: a cross-scales study</i>	Helen WU* : <i>Effect of bearing dynamic properties on the lateral vibration of a flexible rotor</i>	Joy-Della EL TOM* , Gareth A. Vio: <i>Novel wing box design</i>	Kambiz SHOJAE* , Alejandro Montoya, Brian S. Haynes: <i>Unlocking the reasons for the activity of metal oxides in surface reaction process: The case of ammonia decomposition on Co3O4</i>
15:40	AFTERNOON TEA			

Time	Farrell LT	Room 315	Room 316	PNR LT
AFTERNOON SESSION II				
Session	CGM-V	DTO-II	CAD-II	CBB-III
Chair	Paul WONG & Marco ZHENG	Shiwei ZHOU & Bryant CHANG	Phillip TRAN & Babak GHANBARZADEH	Andrian SUE & Sriram TAMMAREDDI
16:00	Majidreza NAZEM* , John P Carter, Mina Kardani: <i>Analysis of soil penetration problems by high-order elements</i>	Liyong Tong, Quantian LUO* : <i>Selection of integral functions for normal mode analysis in topology optimization</i>	James KEOGH* , Graham Doig, Tracie Barber, Sam Diasinos: <i>The aerodynamics of a cornering inverted wing in ground effect</i>	Ashkan Javadzadegan* , Babak Fakhim, Rahman T. Nakkas, Masud Behnia: <i>Fluid-structure interaction analysis on the effects of bifurcation angle asymmetry and stenosis eccentricity in a left main coronary artery model</i>
16:20	Zeinab Aliabadian, Mansour SHARAFISAF* : <i>Three dimensional analyses of tunnel collapse and slope stability assessment under different filling material loadings: A case study</i>	Chunhui Yang* , Yang AN, Marine Tort, Peter Hodgson: <i>Digital Material Representation and Testing of Metal Foams</i>	Nicholas Frank GIANNELIS* , Gareth A. Vio, Dries Verstraete, Johan Steelant: <i>Temperature effect on the structural design of a mach 8 vehicle</i>	Moyin Zhao, Tracie BARBER* , Peter A. Cistulli, Kate Sutherland, Gary Rosengarten: <i>Using two-way fluid-structure interaction to study the collapse of the upper airway of OSA patients</i>
16:40	Jiaxiang ZHAN* , Ilie Katherine: <i>Static shear strength calculation of plastic helical gears mating with steel worm</i>	Xiaodong HUANG* , S.W. Zhou, Y.M. Xie, Q. Li: <i>Topology optimization of photonic band gap crystals</i>	Mohammad Shakil Ahmmed*	
17:00	CLOSING CEREMONY			

FULL LIST OF ACCEPTED PAPERS

Paper ID	Authors	Institution	Paper Title
AFN-001	Xinpei LIU* ¹ , Mark A. Bradford, R. Emre Erkmen	¹ The University of New South Wales, Australia	Non-linear FE analysis of curved steel-concrete composite beams
AFN-003	R. Emre Erkmen* ¹	¹ University of Technology, Sydney, Australia	Multi-scale overlapping domain decomposition to consider local deformations in the analysis of thin-walled members
AFN-004	Yuguo YU* ^{1,2} , Yixia Zhang ¹ , Yansheng Huang ²	¹ University of New South Wales, Canberra, Australia ² South China University of Technology, Guangzhou, China	Investigation of bond strength of FRP-to-concrete interface
AFN-006	Joy-Della EL TOM* ¹ , Gareth A. Vio ¹	¹ University of Sydney, Australia	Novel wing box design
AFN-007	Nicholas Frank GIANNELIS* ¹ , Gareth A. Vio ¹ , Dries Verstraete ¹ , Johan Steelant ²	¹ University of Sydney, Australia ² ESTEC-ESA, Keplerlaan, The Netherlands	Temperature effect on the structural design of a Mach 8 vehicle
AFN-008	Jackson KONG* ¹	¹ City University of Hong Kong, Hong Kong	Convergence and Exact solutions of the Finite Strip Method using a unitary transformation approach
AFN-009	Xiaoshan Lin ¹ , Yixia ZHANG* ¹	¹ University of New South Wales at the Australian Defence Force Academy, Australia	Finite element analysis of FRP-reinforced concrete beams with bond-slip effect
AFN-010	Xiaoshan Lin ¹ , Yixia Zhang* ¹ , Paul J. Hazell ¹	¹ University of New South Wales at the Australian Defence Force Academy, Australia	Modeling of steel-reinforced concrete panels under blast loads
AFN-012	Saumyasuchi Das* ¹ , Brendon Bradley ¹ , Misko Cubrinovski ¹	¹ University of Canterbury, New Zealand	A three dimensional plasticity model for sands based on state concept
AFN-013	Shanyong Wang* ¹ , Scott Sloan ¹ , Daichao Sheng ¹ , Chun'an Tang ²	¹ The University of Newcastle, Australia ² Dalian University of Technology, PR China	3D Numerical simulation of failure behaviour of pre-cracked rock specimens under conventional triaxial compression
AFN-014	Fuzhong QI* ¹ , Erwan Bertevas ¹ , Roger Tanner ¹	¹ University of Sydney, Australia	Computing the viscometric functions for suspensions of spheres in a newtonian matrix
AFN-015	Majidreza NAZEM* ¹ , John P Carter ¹ , Mina Kardani ¹	¹ The University of Newcastle, Australia	Analysis of soil penetration problems by high-order elements
AFN-016	Christian DUENSER* ¹ , Gernot Beer ²	¹ The University of Newcastle, Australia ² Graz University of Technology, Austria	Recent advances in the simulation of underground excavation with the Boundary Element Method
AFN-017	Benjamin MARUSSIG* ¹ , Gernot Beer ² , Christian Duenser ¹	¹ Graz University of Technology, Austria ² The University of Newcastle, Australia	Isogeometric boundary element method for the simulation in tunneling
AFN-018	Mehrisadat MAKKI ALAMDARI* ¹ , Jianchun Li ¹ , Bijan Samali ¹	¹ University of Technology, Sydney, Australia	A novel FRF-based damage localisation method using random vibration

Paper ID	Authors	Institution	Paper Title
AFN-019	Saeed Miramini ¹ , Lihai Zhang ¹ , Martin Richardson ² , Priyan MENDIS ¹	¹ University of Melbourne, Australia ² The Epworth Richmond Hospital, Victoria	Computational simulation of mechanical microenvironment of early stage of bone healing under locking compression plate with dynamic locking screws
AFN-020	Chengjun Liu ^{*1} , Yixia ZHANG ¹ , Qing H. Qin ² , Rikard Heslehurst ¹	¹ University of New South Wales at the Australian Defence Force Academy, Australia ² Australian National University, Canberra, Australia	High velocity impact modelling of sandwich panels with aluminium foam core and aluminium sheet skins
AFN-021	Suvash C. Saha ¹ , Emilie SAURET ^{*1} , Yuantong Gu ¹	¹ Queensland University of Technology, Brisbane, Australia	Magnetic convection heat transfer in an open ended enclosure filled with paramagnetic fluids
AFN-023	Mohammad Pournaghiazar ¹ , Adrian R. RUSSELL ^{*2} , Nasser Khalili ²	¹ Pells Sullivan Meynink, Sydney, North Ryde, Australia ² The University of New South Wales, Australia	Cavity expansion in soil of finite radial extent subjected to two boundary conditions
AFN-024	Hung Quoc NGUYEN ^{*1} , CD Tran ¹ , N Pham-Sy ¹ , T Tran-Cong ¹	¹ University of Southern Queensland, Australia	A numerical solution based on the Fokker-Planck Equation for dilute polymer solutions using high order RBF methods
AFN-025	Cam Minh Tri TIEN ^{*1} , N. Thai-Quang ¹ , N. Mai-Duy ¹ , C.-D. Tran ¹ , T. Tran-Cong ¹	¹ University of Southern Queensland, Australia	A fully coupled scheme for viscous flows in regular and irregular domains using compact integrated RBF approximation
AFN-026	Morsaleen Shehzad CHOWDHURY ^{*1} , Chongmin Song ¹ , Wei Gao ¹	¹ The University of New South Wales, Australia	Sensitivity of stress intensity factors with respect to the crack geometry by the scaled boundary finite element method
AFN-027	Aike QIAO ^{*1} , Zhanzhu Zhang ¹	¹ Beijing University of Technology, China	Solid and fluid simulations of vertebral artery stenosis treated with stents with different shapes of link
AFN-028	Asiful ISLAM ^{*1} , Graham Doig ¹	¹ University of New South Wales, Australia	Fundamental studies of vortical flows induced by a vortex-generator for automotive applications
AFN-029	Hongwei YANG ^{*1} , Adrian R. Russell ¹	¹ The University of New South Wales, Australia	Abounding surface plasticity model considering hydraulic hysteresis
AFN-030	Arixin BO ^{*1} , Zhanfeng Zheng ¹ , Huaiyong Zhu ¹ , Yuantong Gu ¹	¹ Queensland University of Technology, Australia	Selective capturing of chicken egg white lysozyme by dye grafted γ -alumina nanowires
AFN-031	Qun NAN ^{*1} , Xuemei Guo ¹ , Fei Zhai ¹	¹ Beijing University of Technology, China	The contrast of two kinds of microwave antenna SAR simulation
AFN-032	Abdolreza ATAEI ^{*1} , M.A. Bradford ¹	¹ The University of New South Wales, Australia	Parametric studies of semi-rigid flush end plate joints with concrete-filled steel tubular columns
AFN-034	Ryan Scott PAWELL ^{*1} , Robert A. Taylor ¹ , David W. Inglis ² , Tracie J. Barber ¹	¹ University of New South Wales, Australia ² Macquarie University, Australia	Jet formation in micro post arrays

Paper ID	Authors	Institution	Paper Title
AFN-035	Chang-Joon LEE* ¹ , Y Zhang ¹ , H Takao ² , Y Murayama ² , Y Qian ¹	¹ Macquarie University, Sydney, Australia ² Jikei University School of Medicine, Tokyo, Japan	A fluid-structure interaction study using patient-specific ruptured and unruptured intracranial aneurysms
AFN-036	Jinsong HUANG* ¹ , D.V. Griffiths ^{1,2} , A.V. Lyamin ¹ , K. Krabbenhoft ¹ , S.W. Sloan ¹	¹ The University of Newcastle, Australia ² Colorado School of Mines, Golden, Colorado, USA	Discretization errors of random fields in finite element analysis
AFN-037	Xiaodong HUANG* ¹ , S.W. Zhou ¹ , Y.M. Xie ¹ , Q. Li ²	¹ RMIT University, Australia ² University of Sydney, Australia	Topology optimization of photonic band gap crystals
AFN-039	Chen WANG* ¹ , Wei Gao ¹ , Chongmin Song ¹	¹ The University of New South Wales, Australia	Stochastic interval dynamic analysis of structures using a combined perturbation and optimization method
AFN-040	Xue ZHANG* ¹ , Kristian Krabbenhoft ¹ , Daichao Sheng ¹	¹ The University of Newcastle, Australia	Particle finite element simulation of granular media
AFN-041	Mauricio GONZALEZ* ¹ , B.P. Gilbert ¹ , H. Bailleres ² , H. Guan ¹	¹ Griffith University, Australia ² Department of Agriculture, Fisheries and Forestry, Queensland Government, Australia	Senile coconut palm hierarchical structure as foundation for biomimetic applications
AFN-042	Matthew CRUICKSHANK* ¹ , Graham Doig ¹	¹ The University of New South Wales, Australia	Applications of kriging to motorsport aerodynamic analysis
AFN-043	Chin-Long LEE* ¹ , Filip C. Filippou ²	¹ University of Canterbury, New Zealand ² University of California, Berkeley, USA	Evaluation of mixed formulation for modelling RC columns with bond slip
AFN-044	Julia KAR* ¹ , Andrew K. Knutsen ² , Brain P. Cupps ¹ , Michael K. Pasque ¹	¹ Washington University School of Medicine in St. Louis, USA ² The Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, USA	A nearest neighbor finite element method (NNFEM) for validating left-ventricular regional strain from displacement encoding with stimulated echoes (DENSE) MRI, compared to tagged MRI
AFN-045	Haifei ZHAN* ¹ , Ye Wei ¹ , Yuantong Gu ¹	¹ Queensland University of Technology, Australia	Tuneable resonance properties of graphene by nitrogen-dopant
AFN-046	Abouzar MOSHFEGH* ¹ , Ahmad Jabbarzadeh ¹ , Roger I. Tanner ¹	¹ University of Sydney, Australia	Analysis of dissipative particle dynamics fluid in sheared regimes
AFN-047	Lauren WALKER* ¹ , Wijitha Senadeera ¹	¹ Queensland University of Technology, Australia	A Variable Diffusivity Model for the Drying of Spherical Food Particulates
AFN-048	Kaavya KARUNANITHI* ¹ , Chang Joon Lee ¹ , Winston Chong ² , Yi Qian ¹	¹ Macquarie University, Sydney, Australia ² Monash Medical Center, Melbourne, Australia	Effect of angle of curvature of flow diverter on the hemodynamics of cerebral aneurysms-A CFD study
AFN-049	Kyll Adam SCHOMBERG* ¹ , Graham Doig ¹ , John Olsen ¹	¹ The University of New South Wales, Australia	Computational simulation of an altitude adaptive nozzle concept
AFN-050	Zewei ZHANG* ¹ , Hui Wang ² , Qinghua Qin ¹	¹ Australian National University, Australia ² Henan University of Technology, PR China	Simulation of transient bioheat transfer in the human eye by hybrid finite element model

Paper ID	Authors	Institution	Paper Title
AFN-051	Sawekchai TANGARAMVONG* ¹ , Francis Tin-Loi ¹	¹ The University of New South Wales, Australia	Optimal retrofitting of structures using braces
AFN-052	Wijitha SENADEERA* ¹ , G. Adiletta ² , M. Di Matteo ² , P. Russo ³	¹ Queensland University of Technology, Australia ² University of Salerno, Italy ³ University of Rome "La Sapienza" Rome, Italy	Drying kinetics, quality changes and shrinkage of two grape varieties of Italy
AFN-053	Patrick Henry PEACOCK* ¹ , David W. Holmes ¹	¹ James Cook University, Australia	Comparison and development of equation of state laws in smoothed particle hydrodynamics
AFN-054	Duy Minh DO* ¹ , Wei Gao ¹ , Chengwei Yang ¹ , Chongmin Song ¹	¹ The University of New South Wales, Australia	Dynamic analysis of structures with interval parameters under stochastic process excitation
AFN-055	Chengwei YANG* ¹ , Francis Tin-Loi ¹ , Sawekchai Tangaramvong ¹ , Wei Gao ¹	¹ The University of New South Wales, Australia	A complementarity approach for elastoplastic analysis of frames with uncertainties
AFN-056	Wenxian LIN* ^{1,2} , Tao Liu ² , Wenfeng Gao ² , Steven W. Armfield ³	¹ James Cook University, Australia ² Yunnan Normal University, China ³ University of Sydney, Australia	Three-dimensional direct numerical simulation of unsteady transitional round fountains in a homogeneous fluid
AFN-057	Gerard TAIG* ¹ , Gianluca Ranzi ¹	¹ University of Sydney, Australia	Generalised Beam Theory (GBT) for shear deformable stiffened sections
AFN-058	Xuran Du ¹ , Mike XIE* ¹ , Xiaoying Yang ¹ , Zhihao Zuo ¹	¹ RMIT University, Australia	Topology optimisation of composites containing base materials of distinct poisson's ratios
AFN-059	Michael BAYFIELD* ¹ , Lauren Kark ¹ , Tracie Barber ²	¹ Graduate School of Biomedical Engineering, The University of New South Wales, Australia ² School of Mechanical and Manufacturing Engineering, The University of New South Wales, Australia	Development of a kinematic model of a proto-wing
AFN-060	Saeed Hosseinzadeh ¹ , Ebrahim Fathi SALMI* ²	¹ Delft University of Technology, the Netherlands ² The University of Newcastle, Australia	A further study on the mechanism of pre-splitting in mining engineering
AFN-061	Hu CHEN* ¹ , Yixia Zhang ¹ , Mengyan Zang ¹ , Paul J Hazell ¹	¹ The University of New South Wales, Canberra, Australia ² South China University of Technology, China	An explicit lagrange constraint method for finite element analysis of frictionless 3D contact/impact problems
AFN-062	Ean Tat OOI* ¹ , Chongmin Song ¹ , Francis Tin-Loi ¹	¹ The University of New South Wales, Sydney, Australia	Crack propagation modeling with scaled boundary polygons
AFN-063	Errol Alasdair MERTEN* ¹	¹ University of Sydney, Australia	Application of evolutionary structural optimisation reinventing the (bicycle) wheel

Paper ID	Authors	Institution	Paper Title
AFN-064	Nengguang LIU* , Wei Gao ¹ , ChongMin Song ¹ , Nong Zhang ²	¹ The University of New South Wales, Sydney, Australia ² University of Technology, Sydney, Australia	Hybrid probabilistic and non-probabilistic dynamic analysis of vehicle-bridge interaction system with uncertainties
AFN-065	David John FULKER* , Tracie Barber ¹ , Anne Simmons ¹ , Gholamreza Keshavarzi ¹	¹ The University of New South Wales, Sydney, Australia	Investigation into the existence of cavitation within haemodialysis needles
AFN-066	Maddegedara Lalith Lakshman WIJERATHNE* , M. Hori, T. Okinaka ² , Hide Sakaguchi ³	¹ The University of Tokyo, Japan ² Kinki University, Japan ³ IFREE, Japan Agency for Marine-Earth Science and Technology, Japan	Application of PDS-FEM for simulating 3D wing crack growth
AFN-067	David William HOLMES* , John R. Williams ² , Peter Tilke ³ , Christopher R. Leonardi ²	¹ James Cook University, Australia ² Massachusetts Institute of Technology ³ Schlumberger-Doll Research Center	A Finite Difference flow-flied initialization for Smooth Particle Hydrodynamics simulations of porous media
AFN-068	Benjamin J. Morrell ¹ , David J. Munk* , Gareth A. Vio ¹ , Dries Verstraete ¹	¹ University of Sydney, Australia	Development of a hypersonic aircraft design optimization tool
AFN-069	Mojtaba E. KAN* , Hossein A. Taiebat ¹	¹ The University of New South Wales, Sydney, Australia	Application and implementation of bounding surface plasticity models in solving boundary value problems
AFN-070	Emmanuel A. FLORES-JOHNSON* , L. Shen ¹ , R.K. Annabattula ² , P.R. Onck ³ , Y.G. Shen ⁴ , Z. Chen ^{5,6}	¹ University of Sydney, Australia ² Indian Institute of Technology Madras, India ³ University of Groningen, The Netherlands ⁴ City University of Hong Kong, Hong Kong ⁵ University of Missouri, USA ⁶ Dalian University of Technology, China	Finite element modelling of stress-induced fracture in Ti-Si-N films
AFN-071	Daniela CIANCIO* , Giovanni Castellazzi ²	¹ University of Western Australia, Australia ² University of Bologna, Italy	Fictitious elastic stiffness parameters of zero-thickness finite elements at bi-material interfaces
AFN-072	Irene GUIAMATSI* , Giang D. Nguyen ²	¹ University of Sydney, Australia ² University of Adelaide, Australia	Coupling friction and surface debonding in an interface cohesive model
AFN-074	Feng Lin ¹ , Yang XIANG*	¹ University of Western Sydney, Australia	Vibration analysis of carbon nanotube reinforced composite plates
AFN-075	Kai LUO* , Yong-Lin Pi ¹ , Wei Gao ¹ , Mark Andrew Bradford ¹	¹ The University of New South Wales, Sydney, Australia	Finite element model for analysis of time-dependent behaviour of concrete-filled steel tubular arches
AFN-076	Xue SHI* , W. GAO ¹ , Y.L. Pi ¹ , M.A. Bradford ¹	¹ The University of New South Wales, Sydney, Australia	Uncertainty in long-term behavior and buckling of concrete-filled steel tubular column

Paper ID	Authors	Institution	Paper Title
AFN-077	Polwaththe Gallage Hasitha Nayanajith ¹ , Yuantong Gu ^{1*} , S. C. Saha ¹ , W. Senadeera ¹ , A. Oloyede ¹	¹ Queensland University of Technology, Australia	Deformation of multiple Red Blood Cells in a microchannel
AFN-078	Gholamreza KESHAVARZI ^{1*} , Tracie J. Barber ¹ , Guan Yeoh ¹ , Anne Simmons ¹	¹ The University of New South Wales, Sydney, Australia	Investigation of the 3D flow in hemodialysis venous air traps
AFN-079	Gholamreza KESHAVARZI ^{1*} , Ryan Pawell ¹ , Tracie J. Barber ¹	¹ The University of New South Wales, Sydney, Australia	Transient analysis of rising bubble using image analysis
AFN-080	Erin BURKE ^{1*} , Chunhui Yang ¹	¹ University of Western Australia, Australia	A theoretical study on bending behaviour of conducting polymer actuator
AFN-081	Tianwei WANG ^{1*} , Chunhui Yang ¹	¹ University of Western Sydney, Australia	Effective models of PZT actuators for numerical simulation of Elastic wave propagation
AFN-082	Saleh Mohammad Ebrahimzadeh Sepasgozar ¹ , Morteza Naghipour ¹ , Ali AKBARNEZHAD ^{1*}	¹ Babol Noshirvani University of Technology, Iran ² The University of New South Wales, Sydney, Australia	Seismic behaviour of RBS and AW-RBS moment resistant connections in double I-beams
AFN-083	Ali Akbarnezhad ¹ , Saleh Mohammad Ebrahimzadeh Sepasgozar ^{1*} , Samad M E Sepasgozar ¹	¹ The University of New South Wales, Sydney, Australia ² Babol Noshirvani University of Technology, Iran	A computational framework for selection of structural connections based on structural performance, economic and environmental indicators
AFN-084	James KEOGH ^{1*} , Graham Doig ¹ , Tracie Barber ¹ , Sam Diasinos ²	¹ The University of New South Wales, Sydney, Australia ² Macquarie University, Australia	The aerodynamics of a cornering inverted wing in ground effect
AFN-085	George P. KOURETZIS ^{1*} , Daichao Sheng ¹ , Dong Wang ²	¹ The University of Newcastle, Australia ² University of Western Australia, Australia	Numerical simulation of CPT cone penetration in sand
AFN-086	Ling LI ^{1*} , Luming Shen ¹ , Gwénaëlle Proust ¹	¹ University of Sydney, Australia	Crystal plasticity simulation of the Bauschinger effect of polycrystalline AA7075 through a texture-based representative volume element model
AFN-087	Nima KHORSANDNIA ^{1*} , Hamid R. Valipour ² , Keith Crews ¹	¹ University of Technology, Sydney, Australia ² The University of New South Wales, Sydney, Australia	Nonlinear long-term analysis of timber-concrete composite structures with finite element-finite difference scheme
AFN-088	Oswaldo VALLATI ^{1*} , Fabrizio Gara ² , Gianluca Ranzi ¹ , Graziano Leoni ³	¹ University of Sydney, Australia ² Universita' Politecnica delle Marche, Italy ³ University of Camerino, Italy	A comparative study on the time-dependent analysis of composite beams using available modelling techniques

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AFN-089	Phil Close ¹ , Tracie BARBER ^{*1}	¹ The University of New South Wales, Sydney, Australia	Explaining ground effect aerodynamics via a real-life reference frame
AFN-090	Shengbing YU ^{*1} , J. P. Hambleton ¹ , S. W. Sloan ¹	¹ The University of Newcastle, Australia	Upper bound limit analysis of inclined strip anchor in sand
AFN-091	Sen Lin ¹ , Shiwei ZHOU ^{*1} , Yi Min Xie ¹ , Xiaodong Huang ¹ , Qing Li ²	¹ RMIT University, Australia ² University of Sydney, Australia	Buckling-induced retraction of structured spherical shell under pressure
AFN-092	Andrew BAGLIN ^{*1} , Tracie Barber ¹ , Gary Rosengarten ²	¹ The University of New South Wales, Sydney, Australia ² RMIT University, Australia	Development of an effective FVLBM code for the study of turbulent and multiphase flows
AFN-093	Mehmet Zülfü Aşık ^{*1} , Ebru Dural	¹ Middle East Technical University, Turkey ² Adnan Menderes University, Turkey	Effect of delamination on the strength of laminated glass plate structures
AFN-094	Abdolreza ATAEIF ^{*1} , M.A. Bradford	¹ The University of New South Wales, Sydney, Australia	FE modelling of sustainable semi-rigid flush end plate composite joints with deconstructable bolted shear connectors
AFN-095	Emmanuel A. FLORES-JOHNSON ^{*1} , J.G. Carrillo ² , R.A. Gamboa ² , L. Shen ¹	¹ University of Sydney, Australia ² Unidad de Materiales, México	Finite-element modelling of ballistic impact of plain-woven aramid fabric
AFN-097	Yaseen Unnisa ¹ , Danh TRAN ^{*1} , Fuchun Huang ¹	¹ Victoria University, Australia	Statistical independence and independent component analysis
AFN-098	Yongning LIU ^{*1} , Yiqing Chen ¹ , Bernard F. Rolfe ² , Chunhui Yang ³	¹ Hefei University of Technology, China ² Deakin University, Australia ³ University of Western Sydney, Australia	Finite element analysis of residual stresses in metallic coatings through a compound casting
AFN-099	Chunhui Yang ¹ , Yang AN ^{*2} , Marine Tort ¹ , Peter Hodgson ²	¹ University of Western Sydney, Australia ² Deakin University, Australia ³ École Normale Supérieure de Cachan, France	Digital material representation and testing of metal foams
AFN-100	Leiting LI ^{*1,2,3} , Yongcheng Lin ^{1,2} , Ling Li ³ , Luming Shen ³	¹ Central South University, China ² State Key Laboratory of High Performance Complex Manufacturing, China ³ University of Sydney, Australia	Finite element simulation of the high-temperature deformation behavior of aluminium alloy 7075 using a coupled thermo-mechanical crystal plasticity constitutive model
AFN-101	Gaofeng ZHAO ^{*1} , Nasser Khalili ¹	¹ The University of New South Wales, Sydney, Australia	An overview and recent developments of Distinct Lattice Spring Model on dynamic fracturing of rock
AFN-102	Akbar ABVABI ^{*1} , Joseba Mendigoren ² , Bernard Rolfe ¹ , Matthias Weiss ²	¹ School of Engineering, Deakin University, Australia ² Institute for Frontier Materials, Deakin University, Australia	Springback investigation in roll forming of a V-section

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AFN-104	Jun LI* ¹ , Hong Hao ¹	¹ University of Western Australia, Australia	Numerical and theoretical study of concrete spall damage under blast loads
AFN-105	Seyed Komeil HASHEMI* ¹ , M.A. Bradford ¹	¹ The University of New South Wales, Sydney, Australia	Numerical simulation of free-air explosion using LS-DYNA
AFN-106	Katherine McDonell* ¹ , Gwénaëlle Proust ¹ , Luming Shen ¹	¹ University of Sydney, Australia	Morphology of irradiated adjacent single-walled carbon nanotubes
AFN-107	Klaus THOEN* ¹ , Gernot Beer ²	¹ The University of Newcastle, Australia ² Graz University of Technology, Austria	Accurate evaluation of regular integrals in the BEM
AFN-108	K. L. VERMA* ¹	¹ NSCBM Govt Post Graduate College Hamirpur (HP), INDIA	On the slowness surface in generalized thermoelasticity
AFN-109	Yiqiang WANG* ¹ , Zhen Luo ¹ , Nong Zhang ¹	¹ University of Technology, Sydney, Australia	Mesh-independent nodal density interpolation method for topology optimization
AFN-111	James M. DE BURGH* ¹ , Hamid R. Valipour ¹ , Stephen J. Foster ¹	¹ The University of New South Wales, Sydney, Australia	Hygro-thermal modelling of concrete exposed to high temperatures
AFN-112	Wojciech Tomasz SOLOWSKI* ¹ , Scott William Sloan ¹	¹ The University of Newcastle, Australia	Material point method modelling of granular flow in inclined channels
AFN-113	Daniel STOJANOV* ¹ , Brian G. Falzon ² , Xinhua Wu ³ , Wenyi Yan ¹	¹ Department of Mechanical and Aerospace Engineering, Monash University, Australia ² Queen's University Belfast, UK ³ ARC Centre of Excellence for Design in Light Metals, Monash University, Australia	An application of bi-directional evolutionary structural optimisation for optimising energy absorbing structures using a material damage model
AFN-114	Yousef Ansari ¹ , George P. Kouretzis ¹ , Daichao SHENG* ¹	¹ The University of Newcastle, Australia	Coupled finite element analysis of partially embedded offshore pipelines during vertical penetration
AFN-115	Hassan KARAMPOUR* ¹ , Albermani Faris ¹	¹ The University of Queensland, Australia	Interaction between upheaval/lateral and propagation buckling in subsea pipelines
AFN-116	Andrew John ABBO* ¹ , James P. Hambleton ¹ , Daniel W. Wilson ¹	¹ The University of Newcastle, Australia	Stability of a pillar and its application to the undrained collapse of dual square tunnels
AFN-117	Nathan Carl PODLICH* ¹ , Andrei Lyamin ¹ , Scott Sloan ¹	¹ The University of Newcastle, Australia	A comparison of conic programming software for finite element limit analysis
AFN-118	Robert S PIERCE* ¹ , Brian G Falzon ² , Mark C Thompson ¹ , Romain Boman ³	¹ Monash University, Australia ² Queen's University, Belfast, United Kingdom ³ University of Liege, Belgium	Implementation of a non-orthogonal constitutive model for the finite element simulation of textile composite draping

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AFN-120	Ying WANG ^{*1} , Hong Hao ²	¹ Deakin University, Australia ² University of Western Australia	Modelling of guided wave propagation with spectral element: application in structural engineering
AFN-121	Laiguo LIU ^{*1} , Xiaojun Zhang ¹ , Songlin Nie ¹	¹ Beijing University of Technology, China	CFD flow model and its effects on the calculations of high pressure sprays
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AFN-123	Tristan James SHELLEY ^{*1} , Martin Veidt, Xiaolin Liu, Rowan Paton	¹ University of Queensland, Australia	Investigation into the Effects of Mass Scaling and Load Factoring on the Squeeze Flow of Viscous Materials
AFN-124	Daniel John LOWE ^{*1} , Raj Das ¹ , Charles Clifton ¹ , Namasivayam Navaranjan ¹	¹ The University of Auckland, New Zealand	Characterisation of the shear stud-concrete connection using finite element analysis
AFN-125	To Huu DUC ^{*1} , Sergio Andres Galindo-Torres ¹ , Alexander Scheuermann ¹	¹ The University of Queensland, Australia	A numerical approach for the determination of the primary fabric of granular soils
AFN-126	Jinglai WU ^{*1} , Zhen Luo ¹ , Nong Zhang ¹	¹ University of Technology, Sydney, Australia	A new method for building high order polynomial regression model
AFN-128	Zeinab ALIABADIAN ^{*1} , Mansour Sharafisafa ²	¹ Amirkabir University of Tehcnology, Iran ² The University of Newcastle, Australia	Distinct element modeling of the effect of joint persistence on dynamic fracturing of jointed rock masses
AFN-129	Zeinab Aliabadian ¹ , Mansour SHARAFISAF ^{*2}	¹ Amirkabir University of Technology, Iran ² The University of Newcastle, Australia	Three dimensional analyses of tunnel collapse and slope stability assessment under different filling material loadings: A case study
AFN-131	Maziar GHOLAMI KORZANI ^{*1} , Sergio Galindo Torres ¹ , David Williams ¹ , Alexander Scheuermann ¹	¹ The University of Queensland, Australia	Numerical simulation of tank discharge using smoothed particle hydrodynamics
AFN-133	Kambiz SHOJAEI ^{*1} , Alejandro Montoya ¹ , Brian S. Haynes ¹	¹ University of Sydney, Australia	Unlocking the reasons for the activity of metal oxides in surface reaction process: The case of ammonia decomposition on Co3O4
AFN-134	Changyan LIN ^{*1,2} , Xiujian Liu ^{1,2} , Yuyang Liu ¹ , Chuangye Xu ^{1,2} , Guanghui Wu ^{1,2}	¹ Capital Medical University, China ² Beijing Institute of Heart Lung & Blood Vessel Diseases, China	Risk forecast of in-stent restenosis by CFD method
AFN-135	Francisco SENA CARDOSO ^{*1} , Kim J. R. Rasmussen ¹	¹ University of Sydney, Australia	FE modelling of storage rack frames
AFN-136	Nicholas Joseph STEWART ^{*1} , David Holmes ¹ , Wenxian Lin ¹ , Steven W. Armfield ² , Michael P. Kirkpatrick ²	¹ James Cook University, Australia ² University of Sydney, Australia	Comparison of semi-implicit and explicit finite difference algorithms on highly parallel processing architectures
AFN-137	Vincent LEMIALE ^{*1} , Laura Karantgis ^{1,2} , Philip Broadbridge ²	¹ CSIRO, Australia ² La Trobe University, Australia	Smoothed Particle Hydrodynamics applied to the modelling of landslides

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AFN-139	Xudong Chen ¹ , Andrew Hin Cheong CHAN ² , Jian Yang ^{1,3}	¹ University of Birmingham, UK ² University of Ballarat, Australia ³ Shanghai Jiaotong University, PR China	FEM/DEM modelling of hard body impact on the laminated glass
AFN-140	Nathaniel James BURBERY ¹ , Raj Das ¹ , Giacomo Po ² , Nasr Ghoniem ²	¹ The University of Auckland, New Zealand ² University of California, USA	Understanding the threshold conditions for dislocation transmission from tilt grain boundaries in FCC metals under uniaxial loading
AFN-142	Cheng-Chou (Eric) YANG ¹ , Phuong Tran ¹ , Tuan Ngo ¹ , Priyan Mendis ² , Bill Humphries ²	¹ University of Melbourne, Australia ² CSIRO Material Science and Engineering, Australia	Effect of textile architecture on energy absorption of woven fabrics subjected to ballistic impact
AFN-143	Jalal ZADHESH ¹ , Houshang Dabbagh ¹	¹ University of Kurdistan	Finite element analysis of CFRP-strengthened RC slender columns under biaxial bending
AFN-144	Sergio Galindo TORRES ¹ , D. M. Pedroso ¹ , D. J. Williams ¹ , H. B. Muhlhaus ¹	¹ The University of Queensland, Australia	An analysis of the strength of anisotropic granular assemblies via discrete methods
AFN-145	Sergio Galindo TORRES ¹	The University of Queensland, Australia	A coupled Lattice Boltzmann Discrete Element Method for the simulation of solid fluid interaction
AFN-146	Sergio Galindo TORRES ¹ , Alexander Scheuermann ¹ , David Williams ¹ , Hans Muhlhaus ²	¹ School of Civil Engineering, The University of Queensland, Australia ² Earth System Science Computational Centre, University of Queensland, Australia	Micro-mechanics of contact erosion
AFN-147	Moyin ZHAO ¹ , Tracie Barber ¹ , Peter A. Cistulli ^{2,3} , Kate Sutherland ^{2,3} , Gary Rosengarten ^{1,4}	¹ The University of New South Wales, Sydney, Australia ² Royal North Shore Hospital, and University of Sydney, Australia ³ University of Sydney and Woolcock Institute of Medical Research, Australia ⁴ RMIT University, Australia	Using two-way fluid-structure interaction to study the collapse of the upper airway of OSA patients
AFN-148	Hongyu QIN ¹ , Wei Dong Guo ²	¹ Griffith University, Australia ² University of Wollongong, Australia	Limiting force profile and laterally loaded rigid piles in sand

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AFN-149	Wenyu LIU* ¹ , Kim J.R. Rasmussen ¹ , Hao Zhang ¹	¹ University of Sydney, Australia	Modelling of initial geometrical imperfections in three dimensional advanced analysis of steel frames
AFN-150	Gengbo CHEN* ^{1,2} , Hao Zhang ² , Kim J.R. Rasmussen ² , Feng Fan ¹	¹ Harbin Institute of Technology, PR China ² University of Sydney, Australia	Modelling geometric imperfections of spatial latticed structures considering correlations of node imperfections
AFN-151	Darren L. Lincoln ¹ , Terry BENNETT* ^{1,2}	¹ The University of Sheffield, UK ² University of Adelaide, Australia	Coupled two component fluid flow in deformable porous media – towards a numerical model for geological carbon storage
AFN-152	Phuong Tran* ¹ , Tuan Ngo ¹ , Priyan Mendis ¹	¹ University of Melbourne, Australia	Underwater impulsive loading-induced dynamic failures of monolithic composite panel
AFN-154	Liyong Tong* ¹ , Quantian Luo ¹	¹ University of Sydney, Australia	Selection of integral functions for normal mode analysis in topology optimization
AFN-155	Srinivas Vasista* ¹ , Liyong Tong ¹	¹ University of Sydney, Australia	Topology optimisation of 3D structures using the moving iso-surface threshold method
AFN-156	Viktor Šajn* ¹ , Igor Petrović ¹ , Franc Kosel ¹	¹ University of Ljubljana, Slovenia	Aerodynamic characteristics of a deformable membrane aerofoil
AFN-157	Shah Neyamat Ullah* ¹ , Yuxia Hu ² , David White ¹ , Samuel Stanier ¹	¹ Centre for Offshore Foundation Systems, University of Western Australia, Australia ² School of Civil & Resource Engineering, University of Western Australia, Australia	Lateral boundary effect in centrifuge tests for spudcan penetration in uniform clay
AFN-158	Baocheng Zhang* ^{1,2} , Tong Li ² , Haifei Zhan ² , Yuantong Gu ²	¹ North University of China, China ² Queensland University of Technology, Australia	Impact of the piston secondary motion on its slap force
AFN-159	Chen ZHU* ¹ , Kim Rasmussen ¹ , Hao Zhang ¹	¹ University of Sydney, Australia	Generalised component based beam to column joint model for prediction of full range moment-rotation behaviour
AFN-160	Dean HU* ¹ , Yuantong Gu ¹ , Haifei Zhan ¹ , Xu Han ¹	¹ Queensland University of Technology, Australia	Comparison of ISPH and WCSPH coupling with FEM models for FSI problems
AFN-161	Helen WU* ¹	¹ University of Western Australia, Australia	Effect of bearing dynamic properties on the lateral vibration of a flexible rotor
AFN-163	Zhipeng LIAO* ¹ , Junning Chen ¹ , Wei Li ¹ , Michael Swain ² , Ali Darendeliler ² , Qing Li ¹	¹ School of Aerospace, Mechanical and Mechatronic Engineering, University of Sydney, Australia ² Faculty of Dentistry, University of Sydney, Australia	Vibratory Characteristics of Maxillary Periodontal Structure and Its Effects on Orthodontic Tooth Movement: An Finite Element Study
AFN-164	Leyla Ramin* ¹ , Ahmad Jabbarzadeh ¹	¹ University of Sydney, Australia	Effect of pressure on dry and hydrated self assembled monolayers: a molecular dynamics simulation study

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AFN-165	Iain Robertson ¹ , Adrien Becot ² , Adrian Gaylard ³ , Ben Thorber ⁴	¹ Exa Corporation, Warwick, UK ² Moulin à Vent Ouest, France ³ Jaguar Land Rover, UK ⁴ University of Sydney, Australia	Automotive drag reduction through distributed base roughness elements
AFN-166	Mohammad Shakil Ahmmed *		
AFN-167	Mehrnoosh Johnstone *	¹ The University of New South Wales, Sydney, Australia	Atoms to Assemblies: A Physics-Based Hierarchical Modelling Approach for Polymer Composite Components
AFN-168	Garth M Pearce * ¹ , Shen-Hin Lim ¹ , Jung Hoon Sul ¹ , B Gangadhara Prusty ¹ , Don W Kelly ¹	¹ The University of New South Wales, Sydney, Australia	Atoms to assemblies: a physics-based hierarchical modelling approach for polymer composite components
AFN-169	Tong LI ¹ , YuanTong Gu ¹ , Baocheng Zhang ^{1,2}	¹ Queensland University of Technology-Brisbane, Australia ² North University of China, China	Mechanics of microfilaments networks: a cross-scales study
AFN-170	Willy THEODORE * ¹ , J. Pierrepont ^{1,2} , Q. Li ² , B. Miles ¹	¹ Optimized Ortho, Sydney, Australia ² University of Sydney, Australia	A finite element investigation into the effects of head size and trunnion design on the micromotion at the head-neck interface in THR
AFN-171	Izzat Thiyahuddin * ¹ , Yuantong Gu ¹ , D.P. Thambiratnam ²	¹ School of Physics, Chemistry and Mechanical Engineering, Queensland University of Technology-Brisbane, Australia ² School of Civil Engineering and Built Environment, Queensland University of Technology-Brisbane, Australia	Experimental and numerical study of water-filled road safety barriers
AFN-172	Kaichung Wong * ^{1,2} , Tony Chen ¹ , David E. Connor ^{2,3} , Masud Behnia ^{1,2} , Kurosh Parsi ^{1,2,3}	¹ University of Sydney, Australia ² St Vincent's Centre for Applied Medical Research Australia ³ The University of New South Wales, Sydney, Australia	Computational fluid dynamics of liquid and foam sclerosant injection in a vein model
AFN-173	Giang D. Nguyen * ¹	¹ University of Adelaide, Australia	An enriched constitutive model for fracture propagation analysis using the material point method
AFN-174	Ashkan Javadzadegan * ¹ , Babak Fakhim ¹ , Rahman T. Nakkas ¹ , Masud Behnia ¹	¹ University of Sydney, Australia	Fluid-structure interaction analysis on the effects of bifurcation angle asymmetry and stenosis eccentricity in a left main coronary artery model

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AFN-175	Junning Chen* ¹ , Rohana Ahmad ² , Qing Li ¹ , Michael V. Swain ³	¹ Aerospace, Mechanical and Mechatronic Engineering, University of Sydney, Australia ² Universiti Teknologi MARA, Malaysia ³ Faculty of Dentistry, University of Sydney, Australia	Compare contact pressure induced by conventional complete denture and implant-retained overdenture
AFN-176	Zhi Fang* ¹ , Zhengyi Jiang ¹ , Dongbin Wei ²	¹ University of Wollongong, Australia ² University of Technology, Sydney, Australia	Modeling of grained heterogeneity with voronoi tessellation in microforming process
AFN-177	Weifu SUN* ¹ , Qinghua Zeng ² , Aibing Yu ¹	¹ University of New South Wales, Sydney, Australia ² University of Western Sydney, Australia	Interaction forces between parallel silicon nanoellipsoids: A molecular dynamics study
AFN-178	Hamid Sheikh* ¹ , Liang Huang ¹	¹ University of Adelaide, Australia	An efficient finite element modeling of composite stiffened shells
AFN-179	Menghua Xu* ¹ , Baolin Wang ¹ , Aibing Yu ¹	¹ University of New South Wales, Sydney, Australia	Influence of surface energy on mechanical properties of laminated nanoplates
AFN-180	Seyed Pezhman Payami ¹ , Masud Behnia* ¹ , Barry Dixon ² , John Santamaria ² , Mehrdad Behnia ¹	¹ University of Sydney, Australia ² St Vincent Hospital, Australia	Numerical simulation of flow, heat and moisture transfer in Heat and Moisture Exchanger (HME) devices
AFN-181	Caleb Christos Ioannidis* ¹ , Danè Dabirrahmani ² , Qing Li ¹ , Zhongpu Zhang ¹ , Junning Chen ¹ , Richard Appleyard ²	¹ University of Sydney, Australia ² Macquarie University, Australia	Impaction loads resulting in intraoperative periprosthetic femoral fracture: a finite element study
AFN-182	Xingjian GAO* ¹ , Zhengyi Jiang ¹ , Dongbin Wei ² , Sihai Jiao ³ , Jingtao Han ⁴	¹ University of Wollongong, Australia ² University of Technology, Sydney, Australia ³ Baoshan Iron & Steel Co., Ltd., China ⁴ University of Science & Technology Beijing, China	Computational analysis of compressive strain hardening exponents of bimetal with pearlitic steel and low carbon steel
AFN-183	Babak Fakhim* ¹ , Faraz Rind Baloch ¹ , Srinarayana Nagarathinam ¹ , Masud Behnia ¹ , Steve Armfield ¹	¹ University of Sydney, Australia	Thermal management of data centres-effect of CRAC location and flow rate on the performance of data centres

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AFN-184	Hanako SUENAGA* ¹ , Junning Chen ² , Wei Li ² , Keiichiro Yamaguchi ³ , Keiichi Sasaki ⁴ , Zhongpu Zhang ⁵ , Qing Li ⁶ , Michael Swain ⁶	¹ Division of Preventive Dentistry, Tohoku University Graduate School of Dentistry, Japan ² School of Aerospace, Mechanical and Mechatronic Engineering, University of Sydney, Australia ³ Department of Radiology, Sendai Kousei Hospital, Japan ⁴ Division of Advanced Prosthetic Dentistry, Tohoku University Graduate School of Dentistry, Japan ⁵ Faculty of Dentistry, University of Sydney, Australia	Validate mandible finite element model under Removable Partial Denture (RPD) with in vivo pressure measurement
AFN-185	Che-Cheng (Bryant) Chang* ¹ , Shiwei Zhou ² , Qing Li ¹	¹ University of Sydney, Australia ² RMIT University, Australia	Automated high quality isosurface modelling for iterative two-phase problems
AFN-186	Zhongpu Zhang* ¹ , Shiwei Zhou ² , Wei Li ¹ , Michael Swain ³ , Qing Li ¹	¹ School of Aerospace, Mechanical and Mechatronic Engineering, University of Sydney, Australia ² RMIT University, Australia ³ Faculty of Dentistry, University of Sydney, Australia	Topology optimisation for ceramic prostheses