



**21st International Conference on
Fracture, Damage and Structural Health
Monitoring, 12-14 September 2023
Imperial College London, UK**

FDM2023

Conference Program

Conference Venue: Skempton Building, Imperial College London, Exhibition Road, South Kensington, London SW7 2AZ

<https://www.imperial.ac.uk/visit/campuses/south-kensington/>



Sponsors:

Structural Integrity and Health Monitoring Group, Aeronautics Dept., Imperial College.



SHERLOC, CleanSky Core Partnership



Instructions for Speakers

Speakers Guidelines

Each session will be allocated a Chairperson responsible for introducing the speaker, controlling the timing of the sessions and facilitating questions.

Prior to the Conference

Please ensure that you check the conference program carefully to confirm your presentation day and time.

Prior to your Presentation

10 minutes prior to your session commencing, we ask that you proceed to your allocated room to meet with your session Chairperson.

Audio Visual Setup

There will be a PC and Beamer in each room with Microsoft Powerpoint and Adobe Acrobat Reader.

During Your Presentation

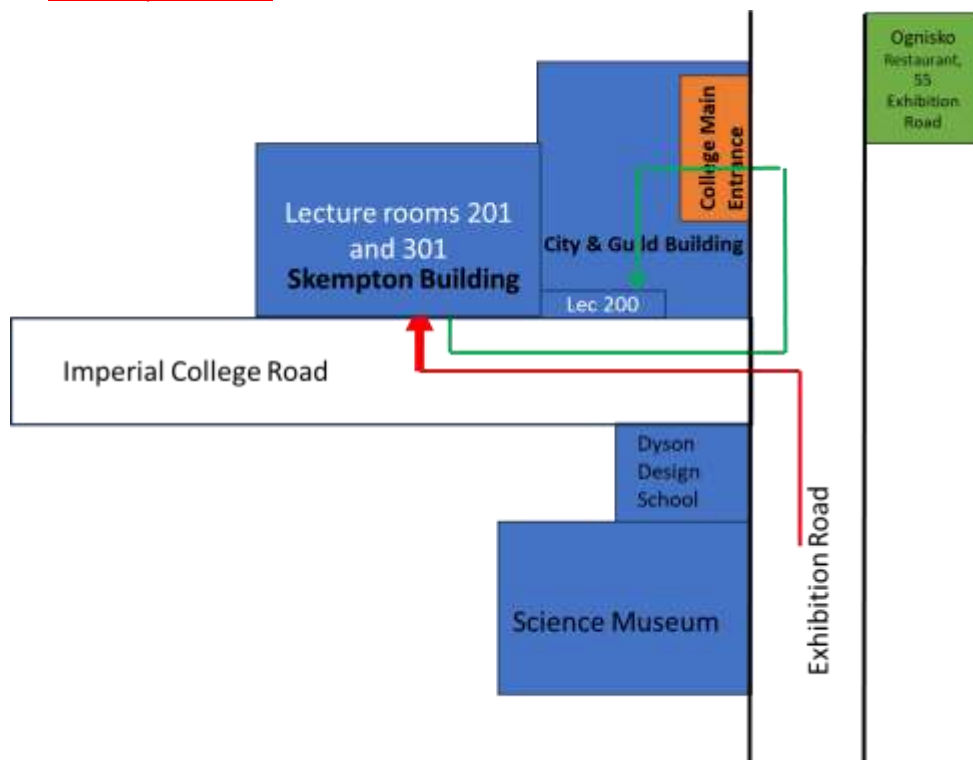
Presentations **are limited to 20 minutes** (which allows for 5 minutes for questions and answers). If your presentation exceeds the time limit you will be asked to stop because this will disrupt scheduling and encroach on the next speakers time slot (please be considerate).

Session Chairperson Guidelines

The Chairperson's role on the day is to:

- Meet each speaker in the room that you will be chairing 10 minutes prior to your session commencing.
- Introduce yourself to each speaker
- Keep a 'keen eye' on the agenda's timing and to keep the conference flowing and on schedule
- Invite questions to the speaker/s at the conclusion of their presentations (when time allows) and encourage discussion between audience and speaker/s. When necessary the Chairperson may exercise the 'Chairperson's prerogative' to ask questions.
- 'Field' questions in an orderly manner and repeat questions if necessary.

Please note that delegates can access Free Wi-Fi throughout the college estate via Sky Wi-Fi. Delegates can connect to The Cloud from the available network list by opening a browser and following the instructions to register on www.skywifi.cloud



Day 1: 12th September

Skempton (SKEM) Lecture theatre 201	
8.15	Registration
9.00	Opening Remarks: Ferri Aliabadi
Plenary Session Chair Zahra Sharif Khodaei	
9.20	Keynote lecture: Creep cavitation is old problem: thoughts on new characterisation approaches. Peter E J Flewitt , University of Bristol and University of Oxford
9.50	Keynote Lecture: Future challenges for polymer composite fractography for in-service failure analysis; Emile S. Greenhalgh , Department of Aeronautics, Imperial College London.
10.20 Coffee Break: Skempton Building (SKEM) level one lobby	
Skempton (SKEM) Lecture theatre 201	
Session A1: Chair: Ali Mehmanparast	
10.50	Demonstration of the avoidance of brittle fracture of a radioactive transport package during an impact event, A Cummings
11.10	Fatigue lifetime assessment and crack propagation of Ni-based VDM Alloy 699 XA produced by additive manufacturing; Tomáš Vražina , Ivo Šulák, Benedikt Nowak, Bhupesh Verma, Tomáš Kruml
11.30	High Cycle Fatigue Analysis with induced Residual stress based on Fracture Mechanics; Xuran Xiao , Volodymyr Okorokov, Donald Mackenzie
11.50	High-temperature fatigue and creep performance of additively manufactured NiCu-based alloy; Ivo Šulák , Alice Chlupová, Tomáš Zálezák, Ivo Kuběna, Jan-Philipp Roth, Katrin Jahns, Tomáš Kruml
12.10	Open-hole tensile fatigue behaviour of quasi-isotropic composite laminates with ultra thin plies; C. Sandino, R. Prieto-García, S. Sánchez-Carmona , M.L. Velasco and E. Correa
Skempton (SKEM) Lecture theatre 301	
Session B1: Chair: A.Saimoto	
10.50	Limits of applicability of LEFM: numerical investigation on the crack-tip-yielding in a hollow-cylindrical specimen; D. Amato , L. Federico
11.10	Numerical Simulation of Aluminium Plate Damage Subjected to Hydrodynamic Impact; Leonardo Gunawan , Raihan Hakim, Satrio Wicaksono , Annisa Jusuf , Tatacipta Dirgantara , Ditho Ardiansyah Pulungan
11.30	Meshless variational method applied to Mixed-mode dynamic stress intensity factors, J.C. Wen, L. Ning, C.G. Zhang, P.H. Wen , M.H. Aliabadi
11.50	Mixed mode fracture mechanics characterization of DCB-UBM sandwich specimen under dynamic loading Chen Zhou , Jian He, Yulin Wang
12.10	Crack propagation arrest by the Joule heating in micro/nano-sized structures; Jan Sladek , Vladimir Sladek, Miroslav Repka
City and Guild Building (CAGB) 200: SHERLOC Sponsored session	
Session C1: Chair: Hailing Fu	
10.50	Determination of mixed mode delamination crack initiation using acoustic emission measurements; Ruben I. Erives , Ashish K. Bangaru, Malcolm M. Guban
11.10	Mode I Fracture Toughness Behaviour of Recyclable Piezoelectric Composites; Miray Yasar , Vishnu Prasad , Yuan Hub Neal Murphy, Alojz Ivankovic
11.30	Damage Classification of a Bolted Connection using Guided Waves and Explainable Artificial Intelligence; Muping Hua , Nan Yue , Roger M. Groves
11.50	Effect of viscoelastic coating on Lamb wave propagation in plates; Carlos A. Galan Pinill, Jabid Eduardo Quiroga , Dario Yesid Pena Ballesteros, Carlos Andres Tobar Canas, Cesar Augusto Acosta Minoli
12.10	Some problems of reliability of structural health monitoring; Vitalijs Pavelko
12.30 Lunch: lobby, City and Guild Building (CAGB)	

Day 1: 12th September

Skempton (SKEM) Lecture theatre 201

Session A2: Chair: R. Vodicka

13.30	Numerical studies of crack propagation in composites reinforced by irregular particles; Thi Ngoc Diep Tran, Romana Piat
13.50	Analysis of mutual interference among line cracks in an orthotropic plate; Akihide Saimoto, Yohei Sonobe , Takuya Kitamura, Yuichirou Ambe
14.10	Low-velocity Impact Damage of Foam-core Sandwich T-joints: Numerical Study; Satrio Wicaksono , Lailatul Fitriyah, Annisa Jusuf, Muhammad Raihan Firdaus, Tatacipta Dirgantara, Hermawan Judawisastra, and Ditho Ardiansyah Pulungan
14.30	Wear and Subsurface Stress in Flat-Punch -Orthotropic- Frictional Contact Problems; Javier M. Juliá, Luis Rodríguez-Tembleque
14.50	Mechanical properties alteration on 3D-printed short carbon-fibre composite parts due to anisotropy and ageing effects; Luis Távara , Carmen Madrigal, María Teresa Aranda, and Jesús Justo

Skempton (SKEM) Lecture theatre 301

Session B2: Chair: Qianqian Li

13.30	Crack arrest toughness measurement using small specimens to evaluate the fracture behavior in the ductile-brittle transition region of “ferritic” steels; Puyi Gao, Philippe Spätig
13.50	Effects of Carbon Nanofibers on Flexural Properties of Hot-water Cured UHPFRC; Guo Qingyong , Zhao Yulei, Ngbangu S S Z, Mao Jize
14.10	Investigation on the low cycle thermal fatigue of a hybrid power unit transmission clutch; Saverio Giulio Barbieri , Valerio Mangeruga, Andrea Piergiacomi, Matteo Giacomini
14.30	Failure mechanisms and statistical methods for the fatigue life prediction of coke drums; Zihui Xia
14.50	Challenges and solutions for Nanoparticle reinforced lightweight metal composites: an overview; Qianqian Li, Zhuocheng Xu , Milo Shaffer, Michael Zaiser

City and Guild Building (CAGB) 200: SHERLOC Sponsored session

Session C2: Chair: Nan Yue

13.30	FE modelling techniques for the simulation of guided waves in plates with variable thickness; Donato Perfetto , Claudio Pezzella, Vincenzo Fierro, Nima Rezazadeh, Antonio Polverino, Giuseppe Lamanna
13.50	Barely visible impact damage detection and location on a real scale curved CFRP fuselage panel with optical fibre Bragg grating sensors; Sidney Goossens , Kirsu Muñoz, Miguel Jiménez, María Mora Mendíaz, Francis Berghmans
14.10	A parallel framework for the prediction of Lamb wave-based in composite structures; G. Guillaumet , I. N. Giannakeas, A. Gargallo-Peiró, Z. Sharif Khodaei, M.H. Aliabadi
14.30	Optimizing Sensor Paths for Enhanced Damage Detection in Large Composite Stiffened Panels - A Multi-Objective Approach; Llewellyn Morse , I. N. Giannakeas, V. Mallardo, Z. Sharif Khodaei, M.H. Aliabadi
14.50	Probabilistic Residual Strength Assessment of Smart Composite Aircraft Panels using Guided Waves; I. N. Giannakeas , F. Mazaheri, O. Bacarreza, Z. Sharif Khodaei, M.H. Aliabadi

15.10 Coffee Break: Skempton Building (SKEM) level one lobby

Day 1: 12th September

Skempton (SKEM) Lecture theatre 201

Session A3: Chair: **Andrea Sellitto**

15.30	Critical Analysis of MP-TP Wedge Connection Concept for Application in Offshore Wind Turbines; Alessandro Annoni and Ali Mehmanparast
15.50	Evaluation of Offshore Wind Turbine Leading Edge Protection Coating Failure Mode Under Rain Erosion; Quaiyum M. Ansari , Fernando Sánchez, Luis Doménech-Ballester, Trevor M. Young
16.10	Critical review of design S-N curves for welded offshore structures; G.Zorzi, A. Mehmanparast , M. Kelm
16.30	Damage Modelling and Analysis of Composite Blade for Wind Turbine; Haseung Lee, Hyunbum Park

Skempton (SKEM) Lecture theatre 301

Session B3: Chair: **Sami Holopainen**

15.30	Distress Diagnosis and Retrofitting of Twin Culvert Bridge; Sairam Neridu , Rakesh Katam, Govardhan Polepally, Ajay Kumar Sreerama, Venkata Dilip Kumar Pasupuleti, Prafulla Kalapatapu
15.50	Modelling Strategies to Simulate the Fluid-Structure Interaction of Amphibious Aircraft Float Structure; Muhammad Raihan Firdaus, Muhammad Rizki Mahalik, Annisa Jusuf , Satrio Wicaksono, Leonardo Gunawan, Tatacipta Dirgantara
16.10	Experimental and Numerical Investigation of Axial Load Capacity for Box-type Railway Bridges Govardhan Polepally , Sairam Neridu, Venkata Dilip Kumar Pasupuleti , Prafulla Kalapatapu
16.30-poster	Fatigue behaviour of high-strength steels under various levels of corrosion; Lucie Malíková , et al Fatigue life evaluation of tubular joints with or without hidden weld using 3D fatigue FE analysis; Shazia Muzaffer, Kyong-Ho Chang Energy absorption evaluation of multiple fabrics under hypervelocity impact loading; Huadong Xu, Jia Zhou, Xu Cao, Wenxiang Liu, Changqing Miao

City and Guild Building (CAGB) 200: SHERLOC Sponsored Event

Session C3: Chair: **Ferri Aliabadi**

15.30	Structural Health Monitoring, manufacturing and repair technologies for life management of composite fuselage; SHERLOC Cleansky 2 core partnership overview; Ferri Aliabadi
15.50	Novel technologies, materials and processes for manufacturing of composite demonstrators, Karachalios Evangelos
16.10	Mechanical Testing of sensorised composite structures through building block approach – Miguel Jimenz
16.30	Virtual testing of composite airframe structures with nonlinear FE; Gerard Guillamet
17.10	Structural Health Monitoring technologies and methodologies for smart composite fuselage following a novel building block approach; Zahra Sharif Khodaei ,

17.30 -19.00

SHERLOC Showcase and drink and buffet Reception (City and Guild Building, Lobby)

Day 2: 13th September

Skempton (SKEM) Lecture theatre 201

Session A4: Chair: Vincenzo Gulizzi

9.00	Damage onset in ultra-thin 90° ply block of cross-ply laminates under tension-compression cyclic loading; S. Sánchez-Carmona , M.L. Velasco, C. Sandino, E. Correa
9.20	Exploration of hybrid steel / fibre composite laminates for web-core sandwich panel footbridges Wouter De Corte , Jordi Uyttersprot, Wim Van Paepegem
9.40	Mechanical degradation and fatigue life of amorphous polymers; Thierry Barriere, Xavier Gabriona , Najimi Imanea , Sami Holopainen
10.00	Numerical simulation for time-dependent strength of short fiber reinforced composite materials based on entropy damage criterion; Hikaru Kagawa , Deng Huachao, Jun Koyanagi

Skempton (SKEM) Lecture theatre 301

Session B4: Chair: Tressa Aranda

9.00	Biaxial compression failure of brittle foams: A transfer learning based strategy; Vinit Vijay Deshpande , Romana Piat
9.20	Characterization and Modeling of Material and Damage Behavior of Selective Laser Sintered Polyamide 12 under Shear Loading using UMAT; Daniela Schob , Krzysztof Kotecki, Dariusz Kurpisz, Lukas Richter, Robert Roszak, Matthias Ziegenhorn
9.40	Stress-strain response and fatigue lifetime of EEQ-111 superalloy in cyclic loading at high temperatures; Ivo Šuláka , Karel Obrtlík
10.00	Study on robust loss function for Artificial Neural Networks Models in reliability analysis; Wu Zonghui , He Jian, Sun Xiaodan

City and Guild (CAGB) Lecture theatre 200: SHERLOC Sponsored Event

Session C4: Chair: Ilias Giannakeas

9.00	Health and Load Monitoring in an Aluminium Plate through Guided Waves; Alessandro De Luca , Aldo Minardo, Antonio Aversano, Raffaele Vallifuoco, Raffaele Sepe, Francesco Caputo
9.20	Development of an Innovative Extension for Fatigue Life Monitoring Using a Piezoelectric Sensor; Aliakbar Ghaderiaram , Reza Mohammadi, Erik Schlangen, and Mohammad Fotouhi
9.40	Smart Patch repair solution for cure monitoring of bonded repairs in composite aircraft structures; Francisco de Sa Rodrigues , Z. Sharif Khodaei and M.H. Aliabadi
10.00	Unsupervised damage localization in composite plates using Lamb waves and conditional generative adversarial networks; Marc Parziale , Luca Lomazzi, Zahra Rastin, Marco Giglio, Francesco Cadini

10.20 Coffee Break: Skempton Building (SKEM) level one lobby

Day 2: 13th September

Skempton (SKEM) Lecture theatre 201

Session A5: Chair: Luis Tavara

10.50	Coupled Criterion for predicting failure in hybrid composites with ultra-thin carbon/epoxy layer; Teresa Aranda , Dominique Leguillon
11.10	A model for polycrystalline microcracking induced by thermo-mechanical loads; Marco Lo Cascio , Vincenzo Gulizzi , Alberto Milazzo, Ivano Benedetti
11.30	Recovery of interlaminar tensile stresses in curved laminates subject to biaxial flexure: the case of an elastically induced curvature purposely misaligned with the principal directions of initial curvature; Lorenzo Marchignoli , Enrico Bertocchi, Matteo Giacomini Valerio
11.50	Parametric Investigation of Stiffened Panel Subjected to Compressive Loads: Influence of Initial Delamination Length on Damage Behaviour; Angela Russo, Andrea Sellitto , Concetta Palumbo, Rossana Castaldo, Aniello Riccio
12.10	Porous Sericin/PVA/Moringa oleifera Hydrogels: Physical Properties and Hyperelastic Model; Dita Puspitasari, Ahmad M. Anwar, Della S. G. Ananda, Ghullam Reza, Annisa Jusuf, Lia A. T. W. Asr

Skempton (SKEM) Lecture theatre 301

Session B5: Chair: Wouter De Corte

10.50	Molecular dynamics simulation considering covalent bond dissociation for lignin-based composite materials Mayu Morita , Yutaka Oya, Nobuhiko Katoc, Kazuki Mori, Jun Koyanagi
11.10	A simple and accurate prediction of axial compressive strength for CFRP based on response surface method; Honoka Yoshida , Jun Koyanagi, Ayuko Nakakura
11.30	Anisotropic Polycrystalline Material Assessment with Boundary Element Method, Massimiliano Marrazzo , Z. Sharif Khodaei and M.H. Aliabadi
11.50	On the determination of the reference temperature T_0 of the Master-Curve method using subsized compact tension specimens; Ding Zhou, Dongyang Jiang , Philippe Spätiga, Hans-Peter Siefert
12.10	Discussion of contributions of the direct flexoelectric effects and strain gradient effects to fracture criteria of flexoelectric solids; T. Profant, M. Kotoul , J. Sládek, V. Sládek, J. Pohluda

City and Guild (CAGB) Lecture theatre 200: SHERLOC Sponsored Event

Session C5: Chair: A. De Luca

10.50	Exploiting Global Digital Image Correlation for Crack Initiation; Sylvia Feld-Payet , Vincent Bonnard, Didier Pacou
11.10	Impact identification based on surrogate-assisted efficient global optimization; Dong Xiao , Z. Sharif Khodaei and M.H. Aliabadi
11.30	The Sensitivity Analysis of Group Velocity to Temperature Variations in Composite Structures; Feifei Ren , Z. Sharif Khodaei and M.H. Aliabadi
11.50	Investigation of Baseline-free Techniques for Damage Localisation on Anisotropic Composite Structures; Hongmin Zhu , Z. Sharif Khodaei and M.H. Aliabadi
12.10	Strain measurement consistency of distributed fiber optic sensors for monitoring composite structures under various loading; Yingwu Li , Zahra Sharif Khodaei

12.30 Lunch: City and Guild Building (CAGB) lobby

Day 2: 13th September

Skempton (SKEM) Lecture theatre 201

Session A6: Chair: Teresa Aranda

14.00	Simulation of mechanical effects of hydrogen in bicrystalline Cu using DFT and bond order potentials; Vasileios Fotopoulos , Alexander Shluge
14.20	Particle Shape Complexity Reduction for Estimation of Effective Elastic Properties of the Composite; Pascal Alexander Happ, Romana Piat
14.40	Quantifying The Influence of SEN(B) Sample Thickness and Constraint on The Fracture Toughness of Pressure Vessel Steel SA508 Ben; M B Sargeant , Paul A Hooper and Catrin M Davies
15.00	50 Years of controversy on fatigue crack closure; D. Kujawski , A.K. Vasudevan, R. E. Ricker and K. Sadanand

Skempton (SKEM) Lecture theatre 301

Session B6: Chair: Annisa J Jusuf

14.00	Comprehensive Evaluation method of Bond Strength in Ultrasonic Welding for CFRTP; Minori Isozaki , Maruri Takamura, Shinichi Takeda, and Jun Koyanagi
14.20	Identification of Internal Damage in CFRP Cross-Ply Laminates Subjected to Cyclic Loadings by Thermal Measurement Jun Koyanagia, Honoka Yoshida , Mayu Morita , and Minori Isozaki
14.40	Crack growth analysis of XH73M nickel alloy under fatigue, creep-fatigue interaction and thermo-mechanical conditions; Valery Shlyannikov , Aleksandr Sulamanidze, Dmitry Kosov
15.00	Determination of mixed mode delamination crack initiation using acoustic emission; measurements Ruben I. Erives Ashish K. Bangaru , Malcolm M. Guban

City and Guild (CAGB) Lecture theatre 200: SHERLOC Sponsored Event

Session C6: Chair: Luis Rodriguez-Tembleque

14.00	A hybrid method based on vibration and guided waves for damage detection and localization, Yuhang Pan , Z. Sharif Khodaei and M.H. Aliabadi
14.20	A statistical and reliability approach to vibration-based health monitoring in composite structures, Amin Salehzadeh Nobari and MH Aliabadi
14.40	Miniaturised Wireless Sensor Solution for Passive Sensing through Bluetooth LE; Fatih Dagever , Z Sharif Khodaei and MH Aliabadi
15.00	Model-driven structural health assessment of Masonry Bridge: A Preliminary Study Govardhan Polepallya, Venkata Dilip Kumar Pasupuleti , Prafulla Kalapatapu

15.20 Coffee Break: Skempton Building (SKEM) level one lobby

Day 2: 13th September

Skempton (SKEM) Lecture theatre 201

Session A7: Chair: Roman Vodicka

15.50	Numerical modelling of the cavitation damage in the conrod big end bearing of a high-performance internal combustion engine; Fabio Renso , Matteo Giacomini, Enrico Bertocchi, Daniele Dini
16.10	Evaluation of high-temperature creep behaviour in cast GTD 111 nickel-based superalloy; Marie Kvapilova , Petr Krala, Jiri Dvoraka, Pavel Hutara, Vaclav Sklenicka
16.30	Tough and damage tolerant composites for bi-axial loading; Drazen Brescakovic , Otmar Kolednik
16.50	Effect of Outdoor Exposure on Tensile Property of Synthetic Leather for Personal Mobility; Hideaki Katogi
17.10	Effect of aging on the low cycle fatigue performance of a low alloy steel; Long Jin , Shang-Lin Zhang, Xu-Xin Wang, Qi-Wei Yin, Ming-Liang Zhu, Fu-Zhen Xuan

Skempton (SKEM) Lecture theatre 301

Session B7: Chair: Michal Kotoul

15.50	Study of creep damage in P92 steel using acoustic emission; Jiri Dvorak , Petr Kral, Vaclav Sklenicka, Marie Kvapilova, Jan Sifner, Vaclav Koula, Marie Ohankovac
16.10	A Vibration-Based Study on the Efficacy of Two Restrengthening Methods in Concrete Columns; Gourishetty Venkataiah Vibudh , Sairam Neridu, Venkata Dilip Pasupuleti, and Prafulla Kalapatapu
16.30	Multi-scale Modelling and Micromechanical properties of Semi-crystalline polymers; Chenxu Jiang , Jia Zhou, Peng Jiang, Changqing Miao
16.50	Retrofitting and Strengthening of an RCC Building – A Case Study of Mixed Housing Typology; Rakesh Katam , Sairam Neridu, Ajay Kumar Sreerama, Venkata Dilip Kumar Pasupuleti, Prafulla Kalapata

City and Guild (CAGB) Lecture theatre 200

Session C7: Chair: Akihide Saimoto

15.50	Adhesive-free Carbon-based Strain Sensor: Establishing the Pattern Effect on the Piezoresistivity; Adel Alraia, Deniz Kökenb, Hülya Cebecia
16.10	Reliability-based Fracture Analysis for Shallow Shell Structure with the Dual Boundary Element Method; Mengke Zhuang , Llewellyn Morse, Z. Sharif Khodaei and M.H. Aliabadi
16.30	Strain measurements with Rayleigh Backscattering sensors in a turbulent crossflow of a cantilevered cylinder. Francisco di Oliveira , Zahra Sharif Khodaei, Oliver Buxton
16.50	Numerical simulation of Hyper-Velocity Impact using Adaptive FEM-SPH Method for space structures; Samet Ceri and Z Sharif Khodaei
17.10	Flexural Performance and High Temperature Resistance of Slurry-Infiltrated Fiber-Reinforced Cementitious Composite Materials; Cheolwoo Park , Yong Sik Kwon, Min Kyu Ju, Eunho Lee, Dong Jun Kim and Seungwon Kim

19.30 Conference Dinner: Ognisko Restaurant, 55 Exhibition Road, SW7 2PN (opposite the main entrance of Imperial College London).

Day 3: 14th September

Skempton Lecture theatre 201

Session A8: Chair: Tatacipta Dirgantara

9.00	A computational approach of dynamic quasi-brittle fracture using a phase-field model; Roman Vodicka
9.20	SPH method for crack growth modelling using particle deletion and interaction pair-based framework I ; Made Wiragunarsa , Lavi Rizki Zuhalb , Tatacipta Dirgantara, Ichsan Setya Putr
9.40	Constitutive Modelling of Sintered Steel by Phase-field Method Tomislav Polančec, Tomislav Lesičar , Jakov Rako
10.00	Creep Crack growth Testing of 316L Stainless Steel Manufactured by Laser Powder Bed Fusion, Amy Milne and Catrin Mair Davies

10.20 Coffee Break: Skempton Building (SKEM) level one lobby

Skempton Lecture theatre 201

Session A9: Chair: Ivano Benedetti

10.50	Numerical recipes of virtual element method for phase field modelling of brittle fracture; Tong-Rui Liu , Fadi Aldakheel, M. H. Aliabadi
11.10	Phase field modelling of corrosion damage: from pitting corrosion to stress corrosion cracking; Chuanjie Cui , Rujin Ma, Emilio Martínez-Pañeda
11.30	FFT-based homogenisation for Thin Plate Structures; Haolin Li , Zahra Sharif Khodaei, M.H. Aliabadi
11.50	A Numerical and Experimental Investigation on the Mechanical Response of Composite Specimens Subjected to Low Velocity Impacts; Valerio Acanfora , Andrea Sellitto , Francesco Di Caprio, Marco Mallardo, Aniello Riccio
12.10	Integration of X-Ray Microscopy and Phase Field Modelling to Understand Stress Corrosion Cracking Mechanisms in Nickel Superalloys; M. Elsherkisi , M. Kothari, F. Duarte Martinez, S. Gray, G. M. Castelluccio
12.30	Numerical Simulation of Aluminum Plate Damage Subjected to Hydrodynamic Impact; Leonardo Gunawan, Raihan Hakim, Satrio Wicaksono , Annisa Jusuf, Tatacipta Dirgantara, Ditho Ardiansyah Pulungan

12.50 Lunch: Skempton Building level (SKEM) one lobby

Skempton Lecture theatre 201

13.40 - poster	A Non-Linear Low-Cycle Fatigue Fracture Model for Quasi-Brittle Materials; Shangtong Yang Cohesive Crack Models: The issue of the intractable parameters; Jan G.M. van Mier Fatigue life evaluation of tubular joints with or without hidden weld using 3D fatigue FE analysis; Shazia Muzaffer, Kyong-Ho Chang
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15.30 Excursion: Thames River Sightseeing (Round trip from Westminster Pier to Greenwich –approx. 2 hours)

Boarding: Westminster Pier, Victoria Embankment, London, SW1A 2JH

Nearest tube: Westminster (Exit 1 for Westminster Pier): District Line, Circle Line, Jubilee Line

Boat will leave at 15.30 sharp. Please make sure you are there at least 15min before.

[Thames River Cruise - Book Online! \(thamesriversightseeing.com\)](http://thamesriversightseeing.com)

Westminster Pier is the most popular starting point for people travelling on Thames River Sightseeing's boat service on the River Thames.

Located next to the Houses of Parliament (also known as the Palace of Westminster), it's within a short walking distance of major tourist attractions such as Westminster Abbey and the Cabinet War Rooms north of the river, the London Eye, the London Aquarium, the London Dungeon and County Hall across Westminster Bridge on the south. The pier is overlooked by a beautiful bronze statue of Boudicca and her daughters in a chariot.