

7th SYMPOSIUM ON DAMAGE MECHANICS OF MATERIALS AND STRUCTURES (SDMMS2023)

19 September 2023
8.30am Registration
8.40am Safety briefing National Anthem & Varsiti Kita Doa Recital
8.50am Welcoming Speech Chair of 7 th Symposium on Damage Mechanics of Materials and Structures (SDMMS2023) Dr. Salvinder Singh Karam Singh
9.00am Welcoming Remarks by Co-Chair of 7 th Symposium on Damage Mechanics of Materials and Structures (SDMMS2023) Ir. M Zaid Kamardin
9.10am Official Opening of SDMMS2023 Dean for Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia
9.20am – 9.25am Exchange of token of appreciation between Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia & GTS PETRONAS
9.25 – 9.55am Keynote 1 Ir. Ts. Hambali Chik <i>Harnessing Industry – Academia Synergy to Deliver Breakthrough Innovation in Asset Integrity Management</i> <i>Session Chair: Dr. Salvinder Singh Karam Singh</i>
9.55 – 10.15am Industrial Talk by DOSH - Dr. Ramuna Mohamed <i>Harnessing Asset Integrity and PSM : DOSH Perspective</i> <i>Session Chair: Dr. Salvinder Singh Karam Singh</i>
10.15 – 10.40am Photo session Tea break

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Parallel Session 1 (Melati 1) Session Chair: Dr. Azli Arifin		Parallel Session 2 (Melati 3) Session Chair: Dr. Abdul Hadi Azman	
10.40am	<p>ID 54: <i>Development of Electromagnetic Piping Inspection (EMPI) Technology for more effective Preferential Weld Corrosion (PWC) Inspection</i> Shuhaily Yusoff, Wan Abdullah Wan Hamat, M Afiq Mansor, Norzaila Nordin, Hendra Luthfi</p>	<p>ID 5: <i>A 3D Mesh-less Method for Simulating Fluid Structure Interaction Involving Solid Fracture</i> Khai Ching Ng</p>	
11.00am	<p>ID 20: <i>Application of Machine Learning in Fatigue Assessment of Edge Crack Semi-Infinite Elastic Plate</i> Saeed Hossein Moghtaderi, Muhamad Alias Md Jedi, Ahmad Kamal Ariffin Mohd Ihsan, Prakash Thamburaja</p>	<p>ID 2: <i>Analysis of Strain and Displacement Calcaneus Bone Plate Using 2D Digital Image Correlation, Strain Gaging and Finite Element Models</i> Irwansyah</p>	
11.20am	<p>ID 3: <i>Investigation of Impact Properties under Instrumented Charpy Test</i> Hikmah Zainuddin, Mohd Basri Ali, Kamarul Arifin Zakaria</p>	<p>ID 7: <i>Delamination Resistance Enhancement for Metal Laminated Panel under the Effect of Constant Cyclic Load</i> Mohd Khairul Faidzi, Shahrum Abdullah, Salvinder Singh Karam Singh, Mohamad Faizal Abdullah, Abdul Hadi Azman</p>	
11.40am	<p>ID 4: <i>Investigate the Fatigue Life of R260 Rail Profile for Urban Light Rail Transit</i> Muhammad Nur Tawfik Badruddin, Mahfodzah Md Padzi, Shahrum Abdullah</p>	<p>ID 48: <i>Control of Ferrite Content during Welding of Stainless Steel Materials</i> Azhani Zulkifli, M Hafiz Azlam, Amir Asyraf Janorin</p>	
Parallel Session 3 (Melati 1) Session Chair: Dr. Shazwan Ahmad Shah		Parallel Session 4 (Melati 3) Session Chair: Ahmad Fadhlam Saleh	
12.05pm	<p>ID 15: <i>Optimise Water Efficiency in Non-Residential Buildings Through Water Fittings Assessment For Green Building Certification (A Case Study of Heritage Boutique Hotel in Penang, Malaysia)</i> Siti Isma Hani Ismail, Siti Ismahani Ismail</p>	<p>ID 38: <i>Slmed 316L Morphology and Tensile Properties for Different Build Directions</i> Mohammad Azlan Mr. Aripin, Zainuddin Sajuri, Nashrah Hani Jamadon, Intan Fadhlina Mohamed, Junaidi Syarif, Ahmad Muhammad, Mohd Rhafiq</p>	
12.25pm	<p>ID 10: <i>On Fatigue Crack Propagation Analysis of Additive Manufactured Material through Interval Field XFEM</i> Syahiir Kamil, Mohamad Syazwan Zafwan Mohamad Suffian, Ahmad Kamal Ariffin Mohd Ihsan, Abdul Hadi Azman</p>	<p>ID 14: <i>Effective Landscape Irrigation to Optimize Water Efficiency of A Non-Residential Building In Achieving Sustainability Through Green Building Certification (A Case Study Of Heritage Boutique Hotels In Penang, Malaysia)</i> Siti Isma Hani Ismail, Siti Ismahani Ismail</p>	

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12.45 – 2.30pm Lunch	
Parallel Session 5 (Melati 1) <i>Session Chair: Dr. Sharafiz Abdul Rahim</i>	Parallel Session 6 (Melati 3) <i>Session Chair: Assoc. Prof. Dr. Mohamad Faizal Bin Abdullah</i>
2.30pm	ID 9: <i>Nanoindentation Investigation on Thin Film SAC305 Solder Prepared by Microwave Hybrid Heating Approach</i> Ezzatul Farhain Azmi, Abdullah Aziz Saad
2.50pm	ID 17: <i>Numerical Simulation Analysis of Mechanical Properties of Banana and E-glass Fibers</i> Mohd Rozaiman Aziz, Mustafa Nordin, Rozaini Bin Othman
3.10pm	ID 18: <i>Dual Functionality Coatings for Oil and Gas Pipelines</i> Daniel Jeffry, AP Dr Puteri Sri Melor Megat Yusoff, Dr Syed Zulfiqar Hussain Sha, Dr Faiz Ahmad, Shahruzaman Shahrudin, Siti Haslina Mohd Ramli
3.30pm	ID 19: <i>Identification of Piping Critical Area for Corrosion Under Insulation Damage Contributors based on Non-destructive Test Data</i> Seuk Fei Yeow
	ID 32: <i>Non-Probabilistic Uncertainty Method on Single Edge Crack Plate by Considering a Fuzzy Variable</i> Yusmye Nur Abu Yusuf
	ID 21: <i>Effect of Graphene on Wear behaviour of Thixoformed GNP/A356 Composite</i> Nur Farah Bazilah Wakhi Anuar, Mohd Zaidi Omar
	ID 22: <i>Fatigue Life Assessment of An Automobile's Lower Arm Using Strain Signals from Different Type Of Roads</i> Muhammad Ashraf Adam, Salvinder Singh Karam Singh, Shahrum Abdullah, Muhamad Alias Md Jedi
	ID 23: <i>Fatigue Behaviour of Additively Manufactured ALS110Mg Alloy using Finite Element Modelling</i> Ananthi Jeyaraju, Salvinder Singh Karam Singh, Shahrum Abdullah, Zaliha Wahid
3.50 – 4.00pm Tea break	

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Parallel Session 7 (Melati 1) <i>Session Chair: Hashim Othman</i>		Parallel Session 8 (Melati 3) <i>Session Chair: Dr. Mahfodzah Md Padzi</i>	
4.00pm	ID 26: <i>Structural Assessment of Silver Conductive Ink using Nanoindentation</i> Zuraihana Bachok, Abdullah Aziz Saad, Sana Zulfiqar, Aizat Abas, Mohamad Danial Shafiq		ID 24: <i>The influence of Graphene on the Tensile Properties and Fracture Behavior of Thixoformed A356/GNP composite</i> Afifah Md Ali, Mohd Zaidi Omar
4.20pm	ID 16: <i>Methanol Stress Cracking Failure: Myth or Real?</i> Noor Syamiza binti Abdul Malik, Rohana Jaafar, M Yusri Mat Lani, M Hawari Hasan		ID 49: <i>Seismic Performance of Existing Reinforced Concrete Buildings in Southeast Sabah</i> Samnursidah Samir
4.40pm	ID 57: <i>Fracture Behavior of Plain Concrete: Influence of Aggregate Size and Notch Depth Ratios under Quasi-Static Loading</i> Kai Fung Tan, Mohamad Shazwan Ahmad Shah; Sarehati Umar; Nurul 'Azizah Mukhlas ; Chiew Teng Ng; Nordin Yahaya; Chee Long Chin; Norhazilan Md Noor		ID 58 <i>Data Driven Fault Detection and Damage Classification of an Electric Motor using Machine Learning</i> Sharafiz A Rahim
4.50 – 5.00pm Networking session between SDMMS participants			
5.00 – 5.30pm Keynote 2 Prof. Dr. Ing. Michael Beer <i>Structural Dynamics Analysis with Uncertainties</i> <i>Session Chair: Prof. Ir. Dr. Ahmad Kamal Ariffin</i>			
5.35pm End of day 1			

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8.50 – 9.20am Keynote 3 Assoc. Prof Dr. Wong King Jye <i>Effects of Moisture Absorption on the Different Modes of Carbon/Epoxy Composites Delamination: Experiments and Mode 1 Fibre Bridging Modelling</i> Session Chair: Dr. Muhamad Alias Md. Jedi	
9.20 – 9.40am Industry Talk by Petronas - Wan Abdullah Wan Hamat <i>Revolutionize Inspection & Maintenance Philosophy</i> Session Chair: Dr. Muhamad Alias Md. Jedi	
9.40 – 10.00am Tea break	
Parallel Session 9 (Melati 1) Session Chair: Assoc. Prof. Dr. Wong King Jye	Parallel Session 10 (Melati 3) Session Chair: M Arif B Zainal
10.00am	ID 1: <i>Assessment of Intermetallic Phase Embrittlement in Stainless Steel and Duplex Stainless-Steel Weldments</i> Wan M Syazwan W Othman
10.20am	ID 27: <i>Investigation Of FBG Bolts for Flange Health Monitoring</i> Mohd Hafizi Zohari
10.40am	ID 28: <i>Analysis of Cyclic and Dynamic Behavior of Silver-based Conductive Ink for Stretchable Electronics</i> Sana Zulfiqar, Abdullah Aziz Saad, Mohamad Danial Shafiq, Zuraihana Bachok
11.00am	ID 56: <i>Failure Analysis of the Main Steam Pipe</i> Robiah Ghazali, Zaidi Omar
	ID 11: <i>Uncertainty Prediction Output of a Finite Element Model using Surrogate Modelling Approach</i> Mohamad Syazwan Zafwan Mohamad Suffian, Syahiir Kamil, Ahmad Kamal Ariffin Mohd Ihsan, Israr B M Ibrahim, Kazuhiro Suga
	ID 31: <i>Seismic Performance of Building with Different Position of Shear Wall</i> Yulita Rahmi
	ID 8: <i>Fitness for Service for Dented Pipeline End Manifold (PLEM) by Means of Finite Elements Analysis</i> Muhammad Shamil Zulkipli, Ahmad Rafiuddin Ab Ghani
	ID 37: <i>Potential Use of Magnetic Flux Leakage Signal and Acoustic Emission to Detect Damage in Reinforced Concrete Beam</i> Noorsuhada Md Nor, Shahrum Abdullah, Amar Saahal, Azli Arifin

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Parallel Session 11 (Melati 1) Session Chair: Assoc. Prof. Dr. Abdullah Aziz Saad		Parallel Session 12 (Melati 3) Session Chair: Zaid Kamardin	
11.25am	<p>ID 35: <i>Comparison of the Mechanical Properties of the HPT and HPS Process using A5052</i> Ahmad Muhammad Aziz, Intan Fadhlina Mohamed, Mohd Zaidi Omar, Zainuddin Sajuri, Norinsan K Othman, Mohammad Azlan Aripin, Mohd Rhafiq, Nor Kamaliana Khamis, Nashrah Hani Jamadon, Wan Fathul Hakim W. Zamri</p>		<p>ID 12: <i>Practical Approach in Assessing and Managing HTHA Risk of In-service Asset</i> Nurul Hana Kamaruzaman, Hashim Othman, Hambali Chik</p>
11.45am	<p>ID 43: <i>Effect Of Temperature Variation For Entropy Characterisation of Fatigue Crack Growth For Magnesium Alloy</i> Mohd 'Akashah Fauthan, Shahrum Abdullah, Mohamad Faizal Abdullah, Intan Fadhlina Mohamed, Azli Ariffin, Noorsuhada Md Nor</p>		<p>ID 44: <i>Wave Force on a Breakwater with Multiangle Oblique Waves during Monsoon Season</i> Mohd Amin Hakim Ramli</p>
12.05pm	<p>ID 51: <i>Evaluating Resistance of Stainless Steel Type 316 to Preferential Weld Corrosion in CO₂ and Acetic Acid Rich Environment</i> Azniza Azmy, Muhammad Arif Zainal, Abdullah Din Suhaimi, Noraina Suyanti M Aris</p>		<p>ID 52: <i>Revolutionary Lightweight Mortar Empowered by Recycled Concrete Aggregate and Expanded Perlite</i> Ahmad Syauqi Md Hasan, Noorsuhada Md Nor, Amir Khomeiny Ruslan, Amril Hadri Jamaludin, Mohd Azrizal Fauzi, Soffian Noor Mat Saliah, Jia Wen Thong, Nur Masyitah Osman</p>
12.25pm	<p>ID 6: <i>A 3D Numerical Study of Mixed Mode (I And II) Notch Tip Fields in Shape Memory Alloys</i> Tinku Kumar Mahato</p>		<p>ID 45: <i>A Brief Review on Failure of Steam Turbine Blades and Preventative Measures</i> Nur Syahirah Zainuddin, Nur Syahirah Zainuddin, Wan Fathul Hakim W. Zamri</p>
12.45pm	Industrial Talk by InnoMatrix Tech Sdn Bhd		Industrial Talk by Active Acoustic Engineering Sdn Bhd
1.00 – 2.30pm Lunch			
Parallel Session 13 (Melati 1) Session Chair: Shuhaily Yusoff (GTS/PD&T)		Parallel Session 14 (Melati 3) Session Chair: Rehan Ahmed	
2.30pm	<p>ID 41: <i>Inspect vs. Maintain: Achieving Best Life Cycle Cost (LCC) of Heat Exchanger Tube Bundles with Cost of Corrosion Model</i> Muhammad Zaid Kamardin, Muhammad Afiq Mansor</p>		<p>ID 46: <i>The Impact of Variables on Ground-Borne Vibration Induced by Railway Traffic</i> Mohd Khairul Afzan Mohd Lazi, Muhammad Akram Adnan, Norliana Sulaiman, Mohd Khairul Idham Mohd Satar, Siti Nur Naqibah Kamarudin, Sitti Asmah Hassan, Mohd Zul Hanif Mahmud, Muhammad Naquiddin Mohd Warid, Azman Mohamed</p>

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2.50pm	<p>ID 42: <i>Simplified Modeling of Building Seismic Response using Finite Element Analysis on the West Coast of Sabah</i> Nur Izzati Husna Hassan, Noor Sheena Harith</p>	<p>ID 47: <i>Eddy Current Array (ECA) Tube Inspection, Field Application and Challenges</i> Shuhaily Yusoff</p>
3.10pm	<p>ID 39: <i>Significant Reduction of Excessive Corrosion Scale and Debris Buildup from Unidentified Concerned Area at NHT2</i> Zarina Hamid Ghul, M Zaini Zakaria</p>	<p>ID 50: <i>Stress Concentration Determination in Carbon Steel Pipe using Metal Magnetic Memory Technique</i> Nur Akmal Hakim Jasni, Mohamed Azlan Suhot, Mohd Hisham Abu Bakar, Aishah Mastura Supian</p>
3.30pm	<p>ID 25: <i>Influence of imperfection on nonlinear vibration response of saturated functionally graded porous plates reinforced with GNP</i> Mohammed Shakir, Mohammad Talha, Shahrum Abdullah</p>	<p>ID 29: <i>On the Needs of Enhancement of Energy Absorption at Various Oblique Angle under High Speed Impact</i> Mohamad Faizal Abdullah, Mohd Khairul Faidzi</p>
3.30 – 3.50pm Tea break		
Parallel Session 15 (Melati 1) Session Chair: Assoc. Prof. Dr. Noorsuhada Md Nor		Parallel Session 16 (Melati 3) Session Chair: Dr. Mahfodzah Md Padzi
3.50pm	<p>ID 53: <i>A three-dimensional progressive damage model to predict the damage response in unidirectional fibre-reinforced composites</i> Syed Muhammad Hussnain, Syed Zulfiqar Hussain Shah, P.S.M. Megat-Yusoff, Mirza Zahid Hussain</p>	<p>ID 40: <i>Successful Metal Loss Simulation & Prediction – Case Study of Synergy between Hardware and Software</i> Rehan Ahmed, Ariff M. Wahid, Abhishek Gupta, Vinnavadi Babu C. Sivakumar, Robert Phillips</p>
4.10pm	<p>ID 55: <i>The Impact of Variables on Ground-Borne Vibration Induced by Railway Traffic Towards Human Annoyance</i> Mohd Khairul Afzan Mohd Lazi, Mohd Khairul Idham Mohd Satar, Nurul Aliah Amirah Mazalan</p>	<p>ID 36: <i>The Effect of Recycled Concrete Aggregate and Expanded-Perlite in the Mortar</i> Noorsuhada Md Nor, Ahmad Syauqi Md Hassan, Nurul Hana Hassan Mohd Habibullah Hassan, Soffian Noor Mat Saliah, Amir Khomeiny Ruslan, Amril Hadri Jamaludin, Mohd Azrizal Fauzi, Nor Azian Aziz</p>

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4.30pm	<p>ID 59: <i>Life Estimation of HP Alloy 35Ni-25Cr Based on Carbide and Cavities Morphologies</i> Suraya Mohd Nadzir, Ng Guat Peng, Badrol Ahmad, Hashim Othman, Juliana Abdul Kadir, Siti Syazwani Samiri, Ahmad Hassan Abdul Hamid, Shairul Nizam Abdul Karim</p>	<p>ID 33: <i>Bonding Behaviour of Fibre-Reinforced Polymer (FRP) Externally Bonded to Timber using Structural Adhesives</i> Nor Izzah Mokhtar, Shukur Abu Hassan, Yusof Ahmad</p>
<p>4.50 – 5.00pm Networking session between SDMMS participants</p>		
<p>5.00 – 5.30pm Keynote 4 Prof. Dr. Jose A.F.O. Correia <i>A Methodology Based on the Non-Linear Accumulation and Probabilistic Modelling for Stress-Life Prediction at Variable Amplitude Loading</i> Session Chair: Prof. Ir. Dr. Shahrudin Abdullah</p>		
<p>5.35pm Closing</p>		