Final Programme

Conference venue: Rodos Place Hotel

Early Registration 17.00-18.00 on the 15th September (beat the queue and register early!)
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.

Ensure overhead projections / power point slides contain minimal information and are in print large enough to read from all parts of the room. Body text should be at least 26 points, in a clear font with a background, which contrasts with the print. Avoid highly patterned backgrounds or overcrowding of charts or photographs.

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.

On the desktop Folders are created for each session (i.e. Session 1, ...Session 7 etc.). Please copy your file on to the appropriate folder on the desktop.

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. **If a speaker is missing, please move on to the next paper.** In this case please allocate more time for questions.
- Thank each speaker at the conclusion of their speech.
- 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.
- Introduce yourself to each speaker.
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<td><strong>14.00</strong> Morphology Evolution of Strengthen Phase and Matrix Channel of Single Crystal Superalloy during Creep Rafting, Zixu Guo, Xiaoyu Qin, Dawei Huang, Xiaojun Yan</td>
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<td><strong>14.20</strong> SHM of Composite Mono-Stringer Elements Based on Guided Waves, D G Bekas, M Mora Mendias, Z Sharif Khodaei, Evangelos Karachalios, F. J. Chamorro Alonso, and M.H. Aliabadi</td>
<td><strong>14.20</strong> Damage evaluation of TBC by rapid thermal cycling test based on a laser irradiation, Yusuke Hayashi, Kento Suzuki1, Masayuki Arai, Kiyohiro Ito, Tsuyoshi Higuchi, Yuka Suzuki, and Tatsuo Suidzu</td>
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<td><strong>15.00</strong> Hierarchical Reinforcing Fibers for Energy Harvesting Applications- a strength study, George Karalis, Christos Ganev and V. Dimitriou</td>
<td><strong>15.00</strong> Fracture surface of a Ti-6Al-4V specimen with EDM notches tested under quasi-static loading in methanol, Sergio Baragetti, Emanuele Vincenzo Arcieri, Andrea Sellitto, Zdenko Tonković, Ante Jurčević, Jurica Sorić</td>
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<td><strong>15.20</strong> Numerical modelling of plasticity induced crack closure with rough fracture surfaces, Aleš Materna, Hynek Lauschmann, Jan Ondráček</td>
<td><strong>15.20</strong> Influence of Unsizing and Carbon Nanotube Grafting of Carbon Fibre on Fibre Matrix Interfacial Shear Strength of Carbon Fibre and Polyamide 6, Kazuto TANAKA, Kanako Yamada, Yoshitake Hinoue and Tsutao KATAYAMA</td>
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<td><strong>15.40</strong> Dynamic fracture analysis of plates loaded in tension and bending using the dual boundary element method, Jun Li, Zahra Sharif Khodaei, M. H. Aliabadi</td>
<td><strong>15.40</strong> Water effect on the deformation behavior of Nafion membrane, Isamu Rikua and Koji Mimura</td>
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<td>High-temperature creep tests of a 2r1%Nb alloy at constant stress and constant load, Václav Sklenička, Květka Kuchafiová, Marie Krapilová, Luboš Kloc, Jiří Dvořák and Petr Král</td>
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<td>Evaluation of fatigue resistance of laser welded high pressure vessels steel P355 considering fracture mechanics approach, Ivo Černý and Jan Ke</td>
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<td>Recovery of fracture toughness on self-healing epoxies using ternary nanomodified microcapsules: a parametric study, Maria Kosarli, Kyriaki Tsirka, Stella Chalari, Antigoni Palantza, Alkivias S. Paipetis</td>
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<td>Engineering Measurement Method of Behavior Characteristic Applying Laban Theory, Genji Hotta, Yoshifumi Ohtuchi, Hidetoshi Sakamoto</td>
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<td>An influence of cyclic loading on behaviour of a hysteretic interface, Roman Vodička</td>
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<td>11.20</td>
<td>The low cycle fatigue behavior of superalloy GH4169 in high temperature gas environment, Xin Ding, Dawei Huang, Xiaojun Yan</td>
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<td>MECHANICAL PROPERTIES AND FRACTURE SURFACE ANALYSIS OF VINYL ESTER RESINS REINFORCED WITH RECYCLED CARBON FIBRES, Giorgio Zattini, Laura Mazzocchetti, Tiziana Benelli, Emanuele Maccaferri, Gianluca Brancolin and Loris Giorgni</td>
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<td>12.20</td>
<td>On the crack quasi-static growth, Vitalijs Pavelko</td>
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<td>Effect of Resin Layer Thickness on Mode II Delamination Growth Property of CFRTP Laminates under Static Loadings, Kazuto TANAKA, Kosuke ISHIDA, Keisuke TAKEMOTO and Tsutao KATAYAMA</td>
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<td>13.20</td>
<td>Effect of Air Oxidation Treatment of CNT on Tensile Strength of CNT / Polyamide 6 Nanofibres and Their Dispersion, Kazuto TANAKA, Masaki KAMADA, Tsutao KATAYAMA</td>
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<td>A Comparison of the Fracture Behaviour of Various Concrete Grades under Mixed Mode I/II Loading, Petr Miarka, Robin Janssen, Stanislav Seitz and Wouter De Corte</td>
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<td>On the strength weakening effect of stiffening ribs in the design of machine components, Strozzi, A, Bertocchi, E and Mangeruga V</td>
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<td>Lifetime calculation of soil-loaded non-pressure polymer pipes, Jan Poudžka, Pavel Hutař, Andreas Frank, Gerald Pinter,</td>
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<td>Study on generalization of Lefort’s approach to critical crack length, Jana Horniková, Pavel Šandera, Stanislav Žák, Jaroslav Pokluda</td>
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<td>A Method for Calculating Stress Fields near Cavities for the Pyramidal Yield Criterion, Sergei Alexandrov</td>
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<td>PREDICTION of THE ceramic foam structure FAILURE using a DETAILED FE model, Oldřich Ševeček, Jiří Hanák, Zdeněk Majer, Daniel Drlík, Zdeněk Chlup, and Michal Kotoul</td>
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<td>Two-dimensional Stress Analysis of An Infinite Plate with Anisotropic Inclusions by BFM, Takuichiro Ino, Yohei Sonobe, Atsuhiro Koyama, and Akihide Saimoto</td>
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<td>15.20</td>
<td>Modelling the strength of cellulose nanofiber-filled rigid low-density PU foams, J. Andersons, M. Kirpluks and U. Cabulis</td>
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Luboš Náhlík

15.40 Material model development of sandwich composite: numerical-experimental investigation of head dummy impacting at vehicle interior components, A. Vettorello, G.A. Campo

15.40 Finite Element modelling of delamination onset in polymeric composite material, Andrea Ferrari, Sergio Fanelli, Matteo Parlamento

16.00 Coffee Break

Session A7: Posters


2. **Thermoelastic rolling contact problem of an FGM layered elastic solid**, Y. Alinia, A. Aali, M. A. Guler

3. **Hybrid equilibrium finite element formulation for cohesive crack propagation**, Francesco Parrinello

4. Experimental free vibration of damaged RC beam models, R.Capozucca, E.Magagnini, M.V. Vecchietti

5. **Utilization of Williams’ power series for estimation of crack behaviour under mixed-mode loading**, Lucie Malíková, Petr Miarka and Hana Šimonová

6. Study of the viscoelasticity of chopped aramid fiber reinforced rubber composite, Jianhong Gao, Xiaoxiang Yang

7. Ultrasonic damage detection of impacted long and short fibre composite specimens, Andrea Sellitto, Aniello Riccio, Angela Russo, Carmine Napolitano, Mauro Zarrelli, Michele Meo

8. Experimental investigation on the mechanical behaviour of natural fibre sandwich panels with Posidonia core, Andrea Sellitto, Vincenzo Iodice, Giuseppe Zampini, Mauro Zarrelli, Aniello Riccio, Raffaele Sansone, Antonio Caraviello


10. Thermoelastic rolling contact problem of an FGM layered elastic solid, Y. Alinia, A. Aali, M. A. Guler

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Wednesday 18th September
### Session A8 Chair: D Bekas

9.00 Damage analysis of thermal barrier coatings subjected to a high velocity impingement of a spherical ball, Kiyohiro Ito, Fei Gao and Masayuki Arai

9.20 Impact Detection on Composite Plates Based on Convolution Neural Network, I. Tabian, H. Fu and Z. Sharif Khodaei


10.00 Fibreglass reinforced polymer structure response under different impact scenarios, G. Lamanna, A. Greco, M. Manzo, E. Armentani, C. Opran

10.20 Nanofillers’ effects on fracture energy in composite aerospace structures, Andrea Sellitto, Aniello Riccio, Angela Russo, Antonio Garofano, Mauro Zarrelli

### Session B8 Chair: Roman Vodička

9.00 On the use of carbon nanotubes to develop durable structural electrodes for self-sensing applications, Sotiros Grammatikos, Morten Melby Dahl, Vegar Salin Brøndbo, Angela Daniela La Rosa

9.20 Electromagnetic shielding for buildings using hybrid polymer composites: a life cycle assessment study, Angela Daniela La Rosa, Sotirios A.Grammatikos, Romeo C. Ciobanu and Cristina M. Schreiner

9.40 Influence of Magnetite Dispersion on Tensile Properties of Magnetite/PLA Nanofiber Nonwoven Fabrics, Kazuto Tanaka, Yuta Ishii, Tsutao Katayama

10.00 3D DIC based residual stress estimation in hydrostatically extruded austenitic steel, Tomasz Brynk, Agnieszka Krawczynska

10.20 Damage of solid phase due to explosion effect using Uzawa’s algorithm, Petr P. Prochazka

### Coffee Break

10.40

### Session A9 Chair: Alkiviadis S. Paipetis

11.00 Fracture Toughness Evaluation of a Cracked Freestanding Au Thin Film by Applying a Finite element Analysis and Bulge Test, Hector A. Tinoco, Pavel Hutař, Benoit Merle, Mathias Göken, Tomas Kruml

11.20 A COMBINED NUMERICAL AND EXPERIMENTAL APPROACH TO EVALUATE THE HARDNESS OF AA ALUMINUM 6063 T6 WITH A NIP COATING, Juan S. León B, A. Pertuz, M. Martinez

11.40 Growth Rate of Small Surface-Cracks in Age Hardening Cu-Ni-Si Alloy under Cyclic Stressing, M. Goto, T. Yamamoto, J. Kitamura, S.Z. Han, R. Takanami, T. Yakuushi and J. Lee

12.00 Evaluation of quasi-static and dynamic fracture toughness on the low-alloy reactor pressure vessel steel JQK in the transition region, P. Spättig, V. Mazánová, S. Suman and H.-P. Seifert

12.20 The dominating role of carbon-enriched austenite with a filmy morphology for a combination of high strength and toughness in a low carbon steel, Xuejun Jin

### Session B9 Chair: Ferri Aliabadi

11.00 Numerical Simulation of Volcanic Ash Infiltration into TBC, Masayuki Arai, Yuta Fukushima and Kiyohiro Ito

11.20 ANALYSIS OF THE HEAT AFFECTED ZONE AND SURFACE ROUGHNESS DURING LASER MICROMACHINING OF METALS, E. Kaselouris1, a, A. Skoulakis, Y. Orphanos, K. Kosma, T. Papadoulis, I. Fitilis, E. Clark, A.P. Markopoulous, M. Bakarezosi, N.A. Papadogiannis, M. Tatarakis, and V. Dimitriou

11.40 TEM STUDY OF JUNCTIONS BETWEEN MARTENSITE PACKETS (LATH) AND CHANGES IN MICROSTRUCTURE OF LOW-CARBON CHROMIUM STEEL BEFORE LCF II, T. Eterashvili, M. Vardosanidze, T. Dzigrashvili

12.00 TEM STUDY OF JUNCTIONS BETWEEN MARTENSITE PACKETS (LATH) AND CHANGES IN MICROSTRUCTURE OF LOW-CARBON CHROMIUM STEEL AFTER LCF III, T. Eterashvili, T. Dzigrashvili, M. Vardosanidze

12.20 Stress Intensity Factor Sensitivities for Plate Bending Problems with the Dual Boundary Element Method, L Morse, Z Sharif Khodaei, M H Aliabadi

12.40 Lunch

End of the Conference