Programme overview

Day 1 Tuesday, September 5, 2023	
18:00–20:00	**Welcome reception & registration**

Day 2 Wednesday, September 6, 2023	
08:30–09:00	**Registration**
09:00–09:15	**Welcome and Opening**
09:15–10:00	**Plenary lecture** Dr. Marco Peroni
10:00–11:00	**Oral presentations**
11:00–11:30	**Coffee-break**
11:30–12:50	**Oral presentations**
12:50–14:00	**Lunch**
14:00–15:20	**Oral presentations**
15:20–15:50	**Coffee-break**
15:50-17:10	**Oral presentations**

Day 3 Thursday, September 7, 2023	
08:30–09:00	**Registration**
09:00–09:40	**Plenary lecture** Dr. Moji Moatamedi
09:40–11:00	**Special Multiphysics session** **Oral presentations**
11:00–11:30	**Coffee-break**
11:30–12:50	**Oral presentations**
12:50–14:00	**Lunch**
14:00–15:20	**Oral presentations**
15:20–16:00	**Coffee-break with poster session**
19:00	**Symposium Banquet**

Day 4 Friday, September 8, 2023	
9:30-13:00	**Maribor sightseeing and degustation**
13:00-15:00	**Free time for lunch**
15:00-17:00	**General assembly at University of Maribor to discuss the future of ESHP and related issues**
17:00-17:15	**Close of the symposium**

Symposium programme

	Day 1 - Tuesday, September 5, 2023
18:00-20:00	**Welcome reception & registration**

	Day 2 - Wednesday, September 6, 2023
08:30–09:00	**Registration**
09:00–09:15	**Welcome and Opening**
	Session 1
Chair	**Zoran Ren**
09:15–10:00	**Plenary lecture** **European laboratory for structural assessment of the joint research centre: facilities and activities** **Marco Peroni**, Joint Research Centre of European Commission, Ispra, Italy
10:00–10:20	**Impact loading of isotropic shell-based stochastic cellular materials** **Oraib Al-Ketan**, New York University Abu Dhabi, Abu Dhabi, United Arab Emirates
10:20–10:40	**Structural properties of interfacial layers of Ta/Cu multi-layer composites fabricated by single-shot explosive welding and accumulative roll-bonding** **Henryk Paul**, Polish Academy of Science, Institute of Metallurgy and Materials Science, Department of Plastic Deformation of Metals, Krakow, Poland
10:40–11:00	**Strain-rate response of architected polymer-based composite materials** **Nikolaos Karathanasopoulos**, New York University, New York, USA
11:00–11:30	**Coffee-break**

	Day 2 - Wednesday, September 6, 2023
	Session 2
Chair	**Kazuyuki Hokamoto**
11:30–11:50	**Development of converting pulsed large current explosions of metal foil or wire mesh containing explosives into driving force for metal plates (INVITED)** **Shigeru Tanaka**, Kumamoto University, Institute of Industrial Nanomaterials (IINa), Kumamoto, Japan
11:50–12:10	**Observation of the collision between metal jets** **Akihisa Mori**, Sojo University, Kumamoto, Japan
12:10–12:30	**Optimizing explosive welding conditions for joining aluminium alloys and cast iron** **Daisuke Inao**, Kumamoto University, Institute of Industrial Nanomaterials (IINa), Kumamoto, Japan
12:30–12:50	**Blast-wave mitigation by "blast-wave trap" installed on passageway of underground/subsurface explosive storage** **Tomotaka Homae**, National Institute of Technology, Toyama College, Department of Maritime Technology, Toyama, Japan
12:50–14:00	**Lunch**

	Day 2 - Wednesday, September 6, 2023
	Session 3
Chair	**Shigeru Tanaka**
14:00–14:20	**Detonation of hydrogen–oxygen mixtures in the long stainless steel pipe system (INVITED)** **Shiro Kubota**, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan
14:20–14:40	**Chemical reactions and materials engineering using shock waves** **Kevin Keller**, TU Bergakademie, Freiberg, Germany
14:40–15:00	**Electro-mechanical-optical ignition mechanisms of energetic materials (INVITED)** **Min Zhou**, Georgia Institute of Technology, George W. Woodruff School of Mechanical Engineering, Atlanta, Georgia, USA
15:00–15:20	**Experimental study of joining pure titanium and stainless steel using explosive welding process** **Bir Bahadur Sherpa**, Kumamoto University, Institute of Industrial Nanomaterials (IINa), Kumamoto, Japan
15:20–15:50	**Coffee-break**

	Day 2 - Wednesday, September 6, 2023
	Session 4
Chair	**Oraib Al-Ketan**
15:50–16:10	**The dynamic response of graphene aerogels** **Jing Xie**, Beijing Institute of Technology, School of Mechatronical Engineering, Beijing, PR China
16:10–16:30	**Numerical assessments of the additively produced Ti64 and 316L lattice-cored sandwiches for the gas turbine engine containment** **Hacer İrem Erten**, Izmir Institute of Technology, Izmir, Turkey
16:30–16:50	**Extension of submicron-order pattern imprinting using polymer molds to plate materials** **Kouki Hasegawa**, Graduate School of Science and Technology, Kumamoto University, Kumamoto, Japan
16:50–17:10	**Preparation of carbon nanomaterials through pulsed wire discharge** **Xin Gao**, Beijing Institute of Technology, School of Mechatronical Engineering, Beijing, PR China

	Day 3 - Thursday, September 7, 2023
08:30–09:00	**Registration**
	Session 5 - Multiphysics
Chair	**Hirofumi Iyama**
09:00–09:40	**Plenary lecture** **MULTIPHYSICS : A dream or reality?** **Moji Moatamedi**, The International Society of Multiphysics, UK
09:40–10:00	**Fundamental experiment for estimation of spalling phenomenon characteristics using underwater shock waves** **Ken Shimojima**, National Institute of Technology, Okinawa College, Okinawa, Japan
10:00–10:20	**Computational modeling and simulation of a spherical shell structures construction using moldless hydro-plastic forming** **Yoshikazu Higa**, National Institute of Technology, Okinawa College, Okinawa, Japan
10:20–10:40	**Numerical analysis of the shape of an apparatus for punching holes in thin metal sheets using underwater shock waves** **Itta Soma**, National Institute of Technology, Kumamoto College, Kumamoto, Japan
10:40–11:00	**Experimental and numerical evaluation of perforation threshold energy in polycarbonate panels for windshields** **Alessandro Airoldi**, Politecnico di Milano, Department of Aerospace Science and Technology, Milano, Italy
11:00–11:30	**Coffee-break**

	Day 3 - Thursday, September 7, 2023
	Session 6
Chair	**Lovre Krstulović-Opara**
11:30–11:50	**High strain rate behaviour of uniform and hybrid TPMS metamaterials** **Nejc Novak**, University of Maribor, Faculty of Mechanical Engineering, Maribor, Slovenia
11:50–12:10	**Investigating the strain rate dependency of metal-based cellgraded TPMS structures: insights for design and optimization** **Yunus Emre Yilmaz**, University of Maribor, Faculty of Mechanical Engineering, Maribor, Slovenia
12:10–12:30	**A new shock absorbing sandwich panel with unconnected trapezoidal corrugated layers** **Hasan Al-Rifaie**, Poznan University of Technology, Institute of Structural Analysis, Poznan, Poland
12:30–12:50	**Mechanical characterisation of advanced axisymmetric chiral auxetic structure** **Anja Mauko**, University of Maribor, Faculty of Mechanical Engineering, Maribor, Slovenia
12:50–14:00	**Lunch**

	Day 3 - Thursday, September 7, 2023
	Session 7
Chair	**Alessandro Airoldi**
14:00–14:20	**Characterisation of autoclaved aerated concrete under shock loading using high frequency X-Ray radiography** **Jeremie Tartiere**, École nationale supérieure de techniques avancées Bretagne, Brest, France
14:20–14:40	**High-velocity impact to ultra high-performance concrete and flash X-ray radiography** **Jan Šleichrt**, Czech Technical University in Prague, Faculty of Transportation Sciences, Prague, Czech Republic
14:40–15:00	**Dynamic density measurements with proton radiography at GSI** **Thomas Schlothauer**, TU Bergakademie, Freiberg High Pressure Research Center, Freiberg, Germany
15:00–15:20	**Experimental investigation of blast-loaded overpass columns** **Hrvoje Draganić**, Josip Juraj Strossmayer University of Osijek, Faculty of Civil Engineering and Architecture, Osijek, Croatia

Day 3 - Thursday, September 7, 2023

Poster session

Influence of impact angle on deformation of axaially compressed aluminum square tube

Itsuki Maruyama, National Institute of Technology, Nagano College, Nagano, Japan

Computational analysis of the compaction fabrication process of composite unidirectional cellular metals

Shun Nakayama, National Institute of Technology, Kumamoto College, Kumamoto, Japan

15:20–16:00

Fundamental study on the impact resistance of unidirectional cellular (UniPore) material using computational simulations

Koyo Nishida, National Institute of Technology, Kumamoto College, Kumamoto, Japan

Deformation of paper die on metal sheet forming using the underwater shock wave generated by thin metal wire electric discharge

Hirofumi Iyama, National Institute of Technology, Kumamoto College, Kumamoto, Japan

Accurate understanding toward explosive welding process by numerical analysis

Zhiyue Liu, Beijing Institute of Technology, School of Mechatronical Engineering, Beijing, PR China

Investigation of effects on wooden molds in shock wave molding

Ayumi Takemoto, National Institute of Technology, Okinawa College, Okinawa, Japan

19:00-22:00 **Symposium Banquet**

Day 4 -Friday, September 8, 2023

09:30–13:00	**Maribor sightseeing and visiting the oldest wine tree house**
13:00–15:00	**Free time for lunch**
15:00–17:00	**General assembly at University of Maribor to discuss the future of ESHP and related issues**
17:00–17:15	**Close of the symposium**