



7
3

rd

CIRP

GENERAL ASSEMBLY

www.cirp2024.org



18-24

AUGUST

2024

THESSALONIKI, GREECE

CONCERT HALL

PROGRAM



CONTENTS

Welcome Address	3	Accompanying Persons Program	48
Acknowledgements	4	Venue Transfers	58
Boards & Committees	6	Accompanying Program Transfers	60
Organising Committee	9	Bus Stops Map	62
The Host Institution	10	Company Profiles	64
The Conference Venue	11	About Thessaloniki	70
General Assembly Program Part I & II	12	General Information	72
Program	16	Venue Floor Plan	78
Social Program	39	Sponsors	79
Invited Speaker	42		

Welcome Address

Dear Colleagues,
Dear Guests,

Welcome to the 73rd CIRP General Assembly in Thessaloniki, Greece, to be held from August 18 to August 24, 2024!

We cordially invite you to this distinguished event, which is annually attended by approximately 700 leading international experts from Academia and Industry in the field of production engineering. The CIRP General Assembly is organized by the CIRP (International Academy for Production Engineering) and this year's event is proudly hosted by the esteemed Aristotelous University of Thessaloniki.

The General Assembly encompasses various aspects of production engineering through its Scientific Technical Committees, ranging from design methodologies and tools to machines, production processes, life cycle engineering and assembly, precision and metrology, surfaces, and production systems and organizations.

We sincerely hope you will join us at the 73rd CIRP General Assembly and we eagerly anticipate the opportunity to meet you in Thessaloniki in August 2024.

On behalf of the Organizing Committee,
Nikolaos Michailidis, Prof. Dr.-Eng.
*Mechanical Engineering Department
School of Engineering
Aristotelous University of Thessaloniki, Greece*

Acknowledgements

The Organising Committee extends its heartfelt gratitude to the CIRP community for selecting the city of Thessaloniki and the Aristotelous University of Thessaloniki as the host for the 73rd CIRP General Assembly. We are delighted to welcome you to this prestigious event!

We would like to express our sincere thanks to the CIRP President and the CIRP Office for their invaluable guidance and assistance throughout the preparation of this event:



CIRP President:
Professor **Fengzhou Fang**

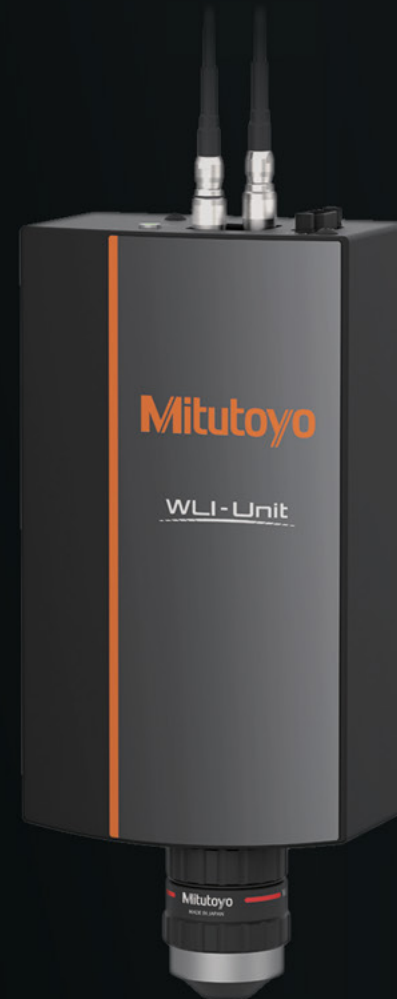
CIRP Office:
Mrs. **Chantal Timar-Schubert** (Assistant Secretary General)
Ms. **Agnes Chelet** (CIRP Accountant)

Our deepest appreciation goes to all members of the organising committee for their unwavering commitment and support during the preparation of the General Assembly. Special thanks are due to all CIRP colleagues and authors of technical papers and keynotes, whose contributions exemplify world-class research. We also acknowledge the efforts of our Research Affiliates and Corporate Members for their participation and contributions to the GA.

We deeply appreciate our sponsors for their financial support and for presenting exciting research, ideas, and products. Additionally, we extend our profound thanks to the organizations that have endorsed our General Assembly. We would also like to express our heartfelt gratitude to Global Events for their efficient and fruitful collaboration in organizing this event, as well as to our dedicated volunteers for their invaluable support.

WLI Unit

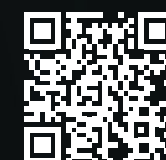
Non-contact 3D Profile Measurement



**PROFILE AND
ROUGHNESS
DOWN TO THE
NANOMETER**

COMING SOON

Mitutoyo



Contact Us _____

Boards & Committees

CIRP Council (Board Members)



President
Professor F. Fang



CIRP Past President
Professor B. Lauwers



Vice President
Professor B. Denkena



Secretary General Treasurer
Professor D. Dumur



Vice President Elect
Dr. A. Balsamo



Technical Secretary
Professor K. Erkorkmaz

CIRP Council (Council Members)

Prof. D. Biermann
Prof. M. Hauschild
Prof. A. Matsubara

Prof. J. Sutherland
Prof. T. Tolio
Prof. J. Vancza

Boards & Committees

Editorial Committee

Professor J. Aurich
Professor P. Bartolo
Professor J. Cao
Professor M. Davies
Professor K. Erkorkmaz
Professor X. Jiang
Professor S. Kara (Chair)
Professor I. Lazoglu
Professor D. Lucca
Professor P. Martins
Professor N. Michailidis
Professor R. M'Saoubi
Professor S. Newman
Professor J. Vancza (Vice Chair)

Finance Committee

Prof. H. Hansen
Prof. J.-M. Linares
Prof. D. Lucca (Chair)

Membership Committee

Prof. B. Denkena (Chair)

- **Credentials Subcommittee**
Prof. P. Arrazola
Prof. M. Merklein
Prof. N. Michailidis
Prof. J. Sutherland
Prof. Y. Takaya
- **Nominations Subcommittee**
Prof. D. Biermann
Prof. S. Bruschi
Prof. J. Duflou
Prof. A. Matsubara
Prof. S. Smith

Boards & Committees

F.W. Taylor Medal Award Committee

Prof. H. Hansen
Prof. J.-M. Linares
Prof. D. Lucca (Chair)

General Pierre Nicolau Award Committee

Profs. D. Dumur (Chair)
Prof. M. Mitsuishi
Prof. H. Hansen

Liaison Committee

STC	Chairman	Vice Chairman	Secretary
STC A	Y. Umeda	L. Wang	S. Thiede
STC C	S. Melkote	P. Arrazola	V. Schulze
STC Dn	T. Tomiyama	N. Anwer	A. Liu
STC E	F. Pfefferkorn	A. Clare	W. Wits
STC F	J. Yanagimoto	S. Bruschi	B. Kinsey
STC G	H. Yamaguchi	C. Heinzl	E. Da Silva
STC M	A. Matsubara	M. Zaeh	K. Erkorkmaz
STC O	T. Tolio	A. Nassehi	T. Kaihara
STC P	A. Archenti	Y. Takaya	E. Morse
STC S	H. Haitjema	G. Tosello	D. Meyer
Cross-STC	D. Biermann J. Sutherland		
Terminology Committee	R. Schmitt	M. Urgo	F. Laroche
CMAG	Y. Murtezaoglu	K. Erkorkmaz L. Uriarte	Y. Nonaka
CIRP Annals	S. Kara	J. Vancza	
CIRP Journal of Manufacturing Science & Technology (JMST)	Y. Altintas (Editor-in-Chief)		
CIRP Encyclopedia of Production Engineering / Novel Topics	T. Tolio (Editor-in-Chief)		

Organising Committee

73rd CIRP GENERAL ASSEMBLY ORGANIZING COMMITTEE



Chair
Prof. Nikolaos Michailidis
Aristotelous University
of Thessaloniki



Honorary Chair
Em. Prof. Konstantinos Bouzakis
Aristotelous University of
Thessaloniki



Honorary Chair
Em. Prof. George Chryssolouris
University of Patras

COMMITTEE MEMBERS



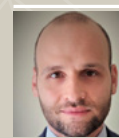
Assoc. Prof. **Emmanouil Bouzakis**
University of
Thessaly



Dr. **Sotirios Makris**
University of
Patras



Prof. **George Malliaris**
International
Hellenic
University



Dr. **George Michalos**
University of
Patras



Prof. **Dimitrios Mourtzis**
University of
Patras



Dr. **George Papanikolopoulos**
CASP S.A.



Prof. **Zhijian (ZJ) Pei**
Texas A&M
University
College of
Engineering



Prof. **George Skordaris**
Aristotelous
University of
Thessaloniki



Assoc. Prof. **Fani Stergioudi**
Aristotelous
University of
Thessaloniki



Asst. Prof. **Nikolaos Tapoglou**
International
Hellenic
University

ACCOMPANYING PERSONS PROGRAM

Katerina Bitskitzi Michailidis

Elena Routsai

The Host Institution



The Aristotelous University of Thessaloniki (A.U.Th), established in 1925 and named after the famous philosopher Aristotelous, is the largest university in Greece, featuring about 88.000 students, 77.000 in undergraduate programmes and 7.000 in postgraduate programmes. There are also 4.000 Doctoral researchers. Located in the heart of Thessaloniki, it spans a sprawling campus of 230,000 square meters and offers a wide range of programs through its 10 faculties and 40 schools. The university provides various programs in all disciplines, with instruction available in Greek, English, French, German, and Italian to accommodate international students.

The School of Engineering at A.U.Th is renowned for its comprehensive and innovative approach to engineering education and research. It emphasizes sustainable solutions and cutting-edge research in various engineering fields. Within the school, the Department of Mechanical Engineering stands out for its focus on combining theoretical analysis with practical design and hands-on discovery.

The Department is involved in advanced research areas like advanced manufacturing, materials, mechanics, transportation, aeronautics, robotics, energy, sustainability and business administration, aiming to equip students with the skills and knowledge needed to tackle global challenges and contribute to societal benefits in sustainability, mobility, and human health.

The Conference Venue



The Thessaloniki Concert Hall is a renowned Conference and Cultural Center situated on Thessaloniki's waterfront. It stands as a prominent landmark and offers an exceptional venue for various events. Comprising two buildings, M1 and M2, each possesses a distinct architectural style.

M1, or Building 1, combines local architectural traditions with a modern perspective, reflecting Thessaloniki's Byzantine heritage. This blend creates a contemporary ambiance, highlighting the city's cultural environment.

In contrast, M2, or Building 2, showcases modern architecture with its geometric lines, extensive glass surfaces, and steel elements. It stands as a striking complement to M1, adding a touch of simplicity and grandeur to the surroundings.

The Thessaloniki Concert Hall warmly invites visitors to partake in a diverse range of experiences. With its versatile spaces, it will accommodate the CIRP General Assembly, aiming to provide an inviting and memorable atmosphere for all.

General Assembly Program Part I

General Assembly
Program Part I

PART I															
Sunday, Aug. 18, 2024		Monday, Aug. 19, 2024				Tuesday, Aug. 20, 2024				Wednesday, Aug. 21, 2024					
Time		SALTIEL 1	SALTIEL 2	CR1	MOUSIO	SALTIEL 1	SALTIEL 2	CR1	MOUSIO	SALTIEL 1	SALTIEL 2	SALTIEL 3	MOUSIO	CR1	
08:00 - 08:30		Registration				Registration				Registration					
08:30 - 09:00		Opening Session [Friends of Music Hall M1]				C-1	Dn Kn	P-5	ITP	M-4	F-1	G-7	E Kn	S-1	
09:00 - 09:30						C-2	Dn-5	P-6	ITP	M-5	F-2	G-8	E-13	S-2	
09:30 - 10:00						C-3	Dn-6	P-7	ITP	M-6	F-3	G-9	E-14	S-3	
10:00 - 10:30	Board meeting [LIBRARY]	Coffee break				Coffee break				Coffee break					
10:30 - 11:00		Cross STC Industrial symbiosis Kn [RIADIS]				C Kn	O-1	P-8	CMAG	M-7	F-4	A Kn	E-15	S-4	
11:00 - 11:30		Cross STC AI in manufacturing Kn [RIADIS]				C-4	O-2	P-9	CMAG	M-8	F-5	A-1	E-16	S-5	
11:30 - 12:00		Lunch [Foyer 1 + 3 M1]				C-5	O-3	P-10	CMAG	M-9	F-6	A-2	E-17	S-6	
12:00 - 12:30	Lunch [Foyer 1 + 3 M1]					CMAG lunch		Lunch [Foyer 1 + 3 M1]							
12:30 - 13:00															
13:00 - 13:30															
13:30 - 14:00															
14:00 - 14:30	Membership Committees (Credentials & Nominations) [LIBRARY]	STC F Kn [RIADIS]				C-6	O-4	G Kn	E-5	M-10	F-7	A-3	E-18	S-7	
14:30 - 15:00		STC P Kn [RIADIS]				C-7	O-5	G-1	E-6	M-11	F-8	A-4	E-19	S-8	
15:00 - 15:30		STC S Kn [RIADIS]				C-8	O-6	G-2	E-7	M-12	F-9	A-5	E-20	S-9	
15:30 - 16:00		Coffee break				Coffee break				Coffee break					
16:00 - 16:30	Registration	M Kn	Dn-1	P-1	E-1	C-9	O-7	G-3	E-8	M-13	F-10	A-6	E-21	S-10	
16:30 - 17:00		Council Meeting [LIBRARY]	M-1	Dn-2	P-2	E-2	C-10	O-8	G-4	E-9		F-11	A-7	E-22	S-11
17:00 - 17:30			M-2	Dn-3	P-3	E-3	C-11	O-9	G-5	E-10			A-8	E-23	S-12
17:30 - 18:00			M-3	Dn-4	P-4	E-4	C-12		G-6	E-11					
18:00 - 18:30		Presentation 74th CIRP General Assembly in Stockholm [RIADIS]				C-13			E-12						
18:30 - 19:00															
19:00 - 19:30		Welcome reception [PLATEIA]													
19:30 - 20:00															
20:00 - 20:30															

Assembly Dinner
[PORTO PALACE] **Mitutoyo**

General Assembly Program Part II

General Assembly
Program Part II

PART II											
	Thursday, Aug. 22, 2024				Friday, Aug. 23, 2024				Saturday, Aug. 24, 2024		
Time	SALTIEL 1-2	CR1	MOUSIO	LIBRARY	SALTIEL 1-2	SALTIEL 3	MOUSIO	CR1	LIBRARY	SALTIEL 1-2	
08:30 - 09:00	STC S	STC Dn	STC G	Terminology Committee (Dictionaries, Novel Topics)	STC C	STC F	STC P	STC O	LIAISON COMMITTEE Meeting [SALTIEL 1-2]		
09:00 - 09:30											
09:30 - 09:45											
09:45 - 10:00											
10:00 - 10:30	Coffee break				Coffee break				Coffee break		
10:30 - 11:00	STC S	STC Dn	STC G	Communication Committee	STC C	STC F	STC P	STC O	COUNCIL Meeting	Research Affiliates Meeting	
11:00 - 11:30											
11:30 - 12:00											
12:00 - 12:30											
12:30 - 13:00	Lunch [Foyer 1 + 3 M1]				Lunch [Foyer 1 + 3 M1]				Lunch [Foyer 1 M1]		
13:00 - 13:30											
13:30 - 14:00											
14:00 - 14:30	Manufacturing for Sustainability CWG	Semiconductor and Microelectronic Manufacturing CWG	Ethics in Manufacturing CWG		STC E	STC M	STC A		GENERAL ASSEMBLY MEETING PART I 14:00-14:45 (for Fellows / Honorary / Emeritus) [SALTIEL 1-2]		
14:30 - 14:15											
14:15 - 14:30											
14:30 - 15:00											
15:00 - 15:30									GENERAL ASSEMBLY MEETING PART II 14:45-16:15 (for CIRP Members only) [SALTIEL 1-2]		
15:30 - 16:00											
16:00 - 16:30	Coffee break				Coffee break						
16:30 - 17:00	Cross STC Meeting (for CIRP members only) [SALTIEL 1-2]				STC E	STC M	STC A				
17:00 - 17:30											
17:30 - 18:00											
20:00									Farewell Dinner [MAKEDONIA PALACE]		
23:30											

Program

Monday 19th August, 2024

Friends of Music Hall

Building M1

09:00-10:30 Opening Session
The detailed program of the opening session is available on **pages 40-41**

10:30-11:00 Coffee Break

Riadis Hall

Building M2

11:00-11:30 **Cross STC** Keynote - Efficiently preserving material resources in manufacturing: Industrial symbiosis revisited
J.R. Duflou (1), K. Wegener (1), A.E. Tekkaya (1), M. Hauschild (1), F. Bleicher (1), J. Yan (2), B. Hendrickx

11:30-12:00 **Cross STC** Keynote - Artificial Intelligence in manufacturing: state of the art, perspectives, and future directions
Robert X. Gao (1), Jörg Krüger (1), Marion Merklein (1), Hans-Christian Möhring (2), Jozsef Vancza (1)

12:00-14:00 Lunch Break

Program

Monday 19th August, 2024

Riadis Hall

Building M2

14:00-14:30 **STC F** Keynote - Artificial intelligence in metal forming
Jian Cao (1), Markus Bambach (2), Marion Merklein (1), Mojtaba Mozaffar, Tianju Xue

14:30-15:00 **STC P** Keynote - Integrated metrology for advanced manufacturing
Andreas Archenti (2), Wei Gao (1), Alkan Donmez (1), Enrico Savio (1), Naruhiro Irino (2)

15:00-15:30 **STC S** Keynote - Surface conditioning in cutting and abrasive processes
Volker Schulze (2), Jan Aurich (1), I.S. Jawahir (1), Bernhard Karpuschewski (1), Jiwang Yan (2)

15:30-16:00 Coffee Break

Saltiel 1 Hall

Building M2

16:00-16:30 **STC M** Keynote - Hybrid metal additive/ subtractive machine tools and applications
Scott Smith (1), Tony Schmitz (2), Thomas Feldhausen, Michael Sealy (2)

16:30-17:00 **M1** - Flexure-based torque and thrust force drilling dynamometer with Hall effect sensor displacement measurement.
Ross Zamoski, Christoph Ramsauer, Christoph Habersohn, Friedrich Bleicher (2), Tony Schmitz (2)

17:00-17:30 **M2** - Sensory chuck jaw for enhancing accuracy in turning thin-walled parts
Hans-Christian Moehring (2), Daniel Gutsche

17:30-18:00 **M3** - «L-stock method» - High-efficiency high-chatter-stability high-precision thin-wall milling strategy with aggressive use of plunge milling
Takehiro Hayasaka (2), Keigo Miyagawa, Kyungki Lee, Akira Saito, Eiji Shamoto (1)

Program **Monday 19th August, 2024**
Saltiel 2 Hall
Building M2

- 16:00-16:30** **Dn1** - Synthesis of design prompts for large language models in conceptual design
Yu Tian, Ang Liu (2), Yun Dai, Keisuke Nagato (2), Masayuki Nakao (1)
- 16:30-17:00** **Dn2** - Optimizing lightweight lattice structures through integrated parameterized design and fiber-reinforced additive manufacturing
Ke Xu, Yingguang Li (2), Lufeng Chen, Paul Maropoulos (1)
- 17:00-17:30** **Dn3** - A generative design method based on spline scanning for additive manufacturing
Shujie Tan, Yicha Zhang (2)
- 17:30-18:00** **Dn4** - Finite manufacturing primitives: a representation scheme for additive manufacturing quality assurance
Weizhi Lin, Yuanxiang Wang, Stephen Lu (1), Qiang Huang

CR1 Hall
Building M2

- 16:00-16:30** **P1** - Influence of rotary axis angular positioning error motions on robotic probing
Soichi Ibaraki (2), Keisuke Masamine, Minoru Hamamura, Osamu Takahara
- 16:30-17:00** **P2** - Estimation of kinematic errors of rotary axis with wide indexing range
Kotaro Mori (2), Daisuke Iwabuchi, Keinosuke Yoshinaga, Masahiro Shimoike, A. Matsubara (1)
- 17:00-17:30** **P3** - Predictive digital twin-driven dynamic error control for slow-tool-servo ultraprecision diamond turning
Xichun Luo, Qi Liu, Abhilash Puthanveetil Madathil, Wenkun Xie / W.B. Rowe (1)
- 17:30-18:00** **P4** - Deep learning reconstruction of few-view X-ray CT measurements of mono- material objects with validation in additive manufacturing
Simon Bellens, Patricio Guerrero, Michel Janssens, Patrick Vandewalle, Wim Dewulf (1)

Program **Monday 19th August, 2024**
Mousio Hall
Building M2

- 16:00-16:30** **E1** - Wire EDM roughing and Wire ECM finishing of 316L stainless steel on a single platform - an investigation of the combined strategy on surface quality and precision
Thomas Van Riel, Jun Qian, Bert Lauwers (1)
- 16:30-17:00** **E2** - Improving machining characteristics of electrical discharge machining by superimposing impulse current
Qi Li, Xiaodong Yang, Masanori Kunieda (1)
- 17:00-17:30** **E3** Submerged electrochemical jet machining with in-situ gas assistance
Yonghua Zhao, Zhaozhi Lyu, Weidong Liu, Bi Zhang (1), Adam T. Clare (1)
- 17:30-18:00** **E4** - Fast ED-milling of high-volume fraction Al/SiCp metal matrix composites
Jian Wang, Qiang Gao, Juncheng Lu, Qian Zheng, Xuecheng Xi, Yaou Zhang, Wansheng Zhao (2)

Riadis Hall
Building M2

- 18:00-19:00** Presentation 74th General Assembly in Stockholm

Program

Tuesday 20th August, 2024

Saltiel 1 Hall

Building M2

- 09:00-09:30** **C1** - Nanometric cutting of plasma modified polycrystalline tin
Peng Lyu, Fengzhou Fang (1), Daniel Meyer (2)
- 09:30-10:00** **C2** - Effects of single-crystalline diamond quality on tool wear resistance and cutting performance
Hirofumi Suzuki (1), Tatsuya Furuki, Akinori Yui, Hisamitsu Awaki, Toshiyuki Moriizumi
- 10:00-10:30** **C3** - Study of the effect of oxygen level on tool wear in machining Ti-6Al-4V
Benjamin Bergmann (2), Florian Schaper
- 10:30-11:00** Coffee Break
- 11:00-11:30** **STC C** Keynote - Sustainable machining: Recent Technological advances
A. Shokrani (2), P.J. Arrazola (1), D. Biermann (1), P. Mativenga (2), I.S. Jawahir (1)
- 11:30-12:00** **C4** - Effect of ageing on machining performance of grey cast iron and its compensation by cutting speed management
Volodymyr Bushlya, Rebecka Lindvall, Filip Lenrick, Lena Magnusson Aberg, Rachid M'Saoubi (1), Jan-Eric Stahl
- 12:00-12:30** **C5** - An analytical power-based approach to predict orthogonal cutting force for sintered Al₂O₃/SiC metal matrix composite
Hassan Ghadbeigi, Saeid Taghizadeh, Sabino Ayvar-Soberanis, Will Baines / D.J. Williams (1)
- 12:30-14:00** Lunch Break & CMAG Lunch

Program

Tuesday 20th August, 2024

- 14:00-14:30** **C6** - Machining SiC fibre reinforced metal matrix composites - How do different matrix materials affect the cutting performance?
Shusong Zan, Zhirong Liao (2), Omkar Myapati, Dragos Axinte (1), Rachid M'Saoubi (1), Mark Walsh, Jose A. Robles-Linares
- 14:30-15:00** **C7** - Modeling of process-induced geometrical deviation in broaching for fir-tree slots
Thomas Bergs (2), Tobias Seelbach, Christoph Zachert, Markus Meurer
- 15:00-15:30** **C8** - Non-Circular-Rotary-Turning process for manufacturing parts with non-circular contours
Tassilo Arndt, Volker Schulze (2)
- 15:30-16:00** Coffee Break
- 16:00-16:30** **C9** - Laser powder bed fusion of WC-Co form turning tools with integrated cooling features: Design, printing, and test machining of Ti6Al4V
Mahmoud Seyam, Philip Koshy (1), Mohamed Elbestawi (1)
- 16:30-17:00** **C10** - Impact of directionality and heat treatment on machining of additively manufactured Inconel 718
Joseph Betts, Sarah Glanvill, Alborz Shokrani (2)
- 17:00-17:30** **C11** - Recycling of Ti-6Al-4V chips for closed-loop manufacturing
Berend Denkena (1), Marc-André Dittrich (3), Vino Suntharakumaran, Simon Kettelmann
- 17:30-18:00** **C12** - The impact of airborne emissions from coolants and lubricants on machining costs
Inigo Rodriguez, Pedro J. Arrazola (1), Franci Pusavec (2)
- 18:00-18:30** **C13** In-process self-configuring approach to develop intelligent tool condition monitoring systems
Mahmoud Hassan, Ahmad Sadek (2), Helmi Attia (1)

Program **Tuesday 20th August, 2024**
Saltiel Hall 2
Building M2

- 09:00-09:30** **STC Dn** Keynote - Advancing product design through data science methods: pathways toward datadriven design (D3)
Ang Liu (2), Stephen Lu (1), Fei Tao (2), Nabil Anwer (1)
- 09:30-10:00** **Dn5** - Bio-inspired non-assembly joints: design, fabrication and wear performance
Santiago Arroyave-Tobon, David Hernandez-Aristizabal, Julien Diperi, Jean-Marc Linares (1)
- 10:00-10:30** **Dn6** - Functional specification of complex assemblies using projective geometric algebra
Yifan Qie, Bertrand Nicquevert, Nabil Anwer (1)
- 10:30-11:00** Coffee Break
- 11:00-11:30** **O1** - Dual-perspective capacity planning in interconnected multi-product production networks using stochastic optimization
Martin Benfer, Niklas Steinkühler, Gisela Lanza (1)
- 11:30-12:00** **O2** - Self-organization in open and very large and complex design and manufacturing networks through entropy and power law distribution
Goran D. Putnik (2), Pedro Pinheiro, Leonilde Varela, Catia Alves
- 12:00-12:30** **O3** - A vision-language-guided and deep reinforcement learning-enabled approach for unstructured human-robot collaborative manufacturing task fulfilment
Pai Zheng, Chengxi Li, Junming Fan, Lihui Wang (1)
- 12:30-14:00** Lunch Break & CMAG Lunch

Program **Tuesday 20th August, 2024**

- 14:00-14:30** **O4** - Human-centric integrated safety and quality assurance in collaborative robotic manufacturing systems
Yuhao Zhong, Adithyaa Karthikeyan, Prabhakar Pagilla, Ranjana Mehta, Satish Bukkapatnam (2)
- 14:30-15:00** **O5** - Performance evaluation of multi-stage manufacturing systems operating under feedback and feedforward quality control loops
Maria Chiara Magnanini, Ozan Demir, Marcello Colledani (1), Tullio Tolio (1)
- 15:00-15:30** **O6** - Dynamic task planning for autonomous reconfigurable manufacturing systems by knowledge-based multi-agent reinforcement learning
Haochen Hu, Amin Ghadami, Bogdan I. Epureanu (2)
- 15:30-16:00** Coffee Break
- 16:00-16:30** **O7** - Bi-objective scheduling for energy-efficient distributed assembly blocking flow shop
Song-Lin Du, Wenju Zhou, Minrui Fei, A. Y. C. Nee (1), S.K. Ong (1)
- 16:30-17:00** **O8** - Ontology-integrated tuning of large language model for intelligent maintenance
Peng Wang, John Karigiannis, Robert X. Gao (1)
- 17:00-17:30** **O9** - Integration of multimodal data and explainable artificial intelligence for root cause analysis in manufacturing processes
Matteo Calaon, Tingting Chen, Guido Tosello (2)

Program **Tuesday 20th August, 2024**

CR1 Hall

Building M2

- 09:00-09:30** **P5** - The measurand in ISO GPS verification
Roberto Frizza, Alessandro Balsamo (1)
- 09:30-10:00** **P6** - Measurability of quality characteristics identified in latent spaces of Generative AI Models
Robert H. Schmitt (2), Dominik Wolfschläger, Jan-Henrik Woltersmann, Lennart Stohrer
- 10:00-10:30** **P7** - Development of residual stress evaluation method for polymer products using THz polarization measurement
Yusuke Kajihara (2), Atsushi Tanaka, Weiyan Chen, Shuohan Wang, Kosaku Tao, Fuminobu Kimura /H. Shinno (1)
- 10:30-11:00** **Coffee Break**
- 11:00-11:30** **P8** - A novel dynamic interferometric measurement method based on liquid level reference
Yufeng Yuan, S.K. Ong (1), Yuehong Yin (1), Yueqi He, Junyang Qiu
- 11:30-12:00** **P9** - Surface asymmetry measurements by single shot-cyclic azimuthal shearing interferometry
Ki-Nam Joo, Hyo Mi Park / S.W. Kim (1)
- 12:00-12:30** **P10** - In-situ measurement of thickness distribution of fluid at the interface of tool and workpiece via fluorescence
Masaki Michihata, Saeko Fujii, Motoya Yoshikawa, Shotaro Kadoya, Tatsuya Sugihara, Satoru Takahashi (1)
- 12:30-14:00** **Lunch Break & CMAG Lunch**

Program **Tuesday 20th August, 2024**

- 14:00-14:30** **STC G** Keynote - Advances in modelling of fixed abrasive processes
Peter Krajnik (2), Konrad Wegener (1), Thomas Bergs (2), Albert J. Shih (1)
- 14:30-15:00** **G1** - A unified approach to traverse dressing with radiused diamond tools
Jeffrey Badger (3), Hastings Wyman / F. Hashimoto (1)
- 15:00-15:30** **G2** - Rotary dressing and cylindrical grinding simulation for lead pattern prediction
Maria Garcia, Jorge Alvarez, Iñigo Pombo, David Barrenetxea (1)
- 15:30-16:00** **Coffee Break**
- 16:00-16:30** **G3** - Effect of alloy-specific case-hardening layers on the grindability of gears
Tobias Hüsemann, Nikolai Guba, Holger Surm, Carsten Heinzel (2)
- 16:30-17:00** **G4** - An investigation into the grindability of additively manufactured 42CrMo4 steel
Philipp Hoier, Deepa Kareepadath Santhosh, Eduard Hryha, Peter Krajnik (2)
- 17:00-17:30** **G5** - Abrasive finishing of surface structures with diamond-coated foams
Monika Kipp, Jan Peters, Timo Platt, Dirk Biermann (1)
- 17:30-18:00** **G6** - A new internal surface polishing method for sub-millimeter slender tube with varying diameters
Jiang Guo, Qikai Li, Zhen Tong, Wansheng Zhao (2), Lin Li (1)

Program **Tuesday 20th August, 2024**

Mousio Hall

Building M2

- 09:00-10:30** Industrial Technical Papers (ITP)
- 10:30-11:00** Coffee Break
- 11:00-12:30** CMAG Meeting
- 12:30-14:00** Lunch Break & CMAG Lunch
- 14:00-14:30** **E5** - Multi-task deep learning-empowered digital twin for functional composite materials fabricated by laser additive remanufacturing
Haihong Huang, Hongmeng Xu, Zhifeng Liu / D. Dauw (1)
- 14:30-15:00** **E6** - Addressing the challenge of process stability control in wire DED-LB/M process
Panagiotis Stavropoulos, George Pastras, Konstantinos Tzimanis, Nikos Bourlesas / G. Chryssolouris (1)
- 15:00-15:30** **E7** - Investigation on influence of thermal history on quality of workpiece created by directed energy deposition
Yoko Hirono, Takanori Mori, Shogo Sugimoto, Yuichiro Miyata / T. Aoyama (1)
- 15:30-16:00** Coffee Break
- 16:00-16:30** **E8** - In-situ blended 316L-Si and PH48S via laser directed energy deposition for functionally graded applications
Rujing Zha, Nhung Thi-Cam Nguyen, Gregory B. Olson, Jian Cao (1)
- 16:30-17:00** **E9** - Laser powder bed fusion of planar bi-metallic thermally auxetic lattice structures
Markus Bambach (2), Michael R. Tucker
- 17:00-17:30** **E10** - Interfacial characteristics in multi-material laser powder bed fusion of CuZr/316L stainless steel
Yuan-Hui Chueh, Bing-Yen Hsieh, Albert J. Shih (1)

Program **Tuesday 20th August, 2024**

- 17:30-18:00** **E11** - Machine learning guided adaptive laser power control in selective laser melting for pore reduction
Fred M. Carter III (3), Conor Porter, Dominik Kozjek, Kento Shimoyoshi, Makoto Fujishima (3), Naruhiro Irino (2), Jian Cao (1)
- 18:00-18:30** **E12** - Effect of NiO nanoparticles on duplex stainless steel processed via DED-LB and PBF-LB
Florian Nahr, Boyuan Li, Dominic Bartels, Kun Zhou, Paulo Jorge Da Silva Bartolo (1), Michael Schmidt (1)

Program

Wednesday 21st August, 2024

Saltiel Hall 1

Building M2

- 09:00-09:30** **M4** - Optimal stock removal to reduce chatter and deflection errors for five-axis ball-end milling of thin-walled blades
Behnam Karimi, Yusuf Altintas (1)
- 09:30-10:00** **M5** - Machine learning based substructure coupling of machine tool dynamics and chatter stability
Simon S. Park (2), Soheil Amani, Dong Yoon Lee, Jihyun Lee, Eunseok Nam
- 10:00-10:30** **M6** - Reduction of experimental efforts for predicting milling stability affected by concept drift using transfer learning on multiple machine tools
Petra Wiederkehr (2), Felix Finkeldey, Tobias Siebrecht
- 10:30-11:00** Coffee Break
- 11:00-11:30** **M7** - Improvement of surface quality in simultaneous machining of multiple workpieces on a single machine
Yuta Shinba, Naruhiro Irino (2), Yasuhiro Imabeppu, Erhan Budak (1), Norikazu Suzuki (2), Atsuo Kishimoto
- 11:30-12:00** **M8** - Accuracy evaluation of squareness identification by vision-based circular tests for machine tools
Daisuke Kono (2), Soma Kondo
- 12:00-12:30** **M9** - Dual motor position feedback control for electrically preloaded rack-and-pinion drive systems to increase accuracy
Alexander Verl (2), Valentin Leipe
- 12:30-14:00** Lunch Break
- 14:00-14:30** **M10** - Data-driven feedforward control of inertial dampers for accuracy improvement
Kaan Bahtiyar, Burak Sencer (2), Xavier Beudaert (2)

Program

Wednesday 21st August, 2024

- 14:30-15:00** **M11** - Feedforward compensation of the pose-dependent vibration of a silicon wafer handling robot
Cheng-Hao Chou, Chen Qian, Yung-Chun Lin, Shorya Awtar, Chinedum E. Okwudire (2)
- 15:00-15:30** **M12** - Milling process monitoring based on intelligent real-time parameter identification for unmanned manufacturing
Arash Ebrahimi Araghizad, Faraz Tehranizadeh, Farzad Pashmforoush, Erhan Budak (1)
- 15:30-16:00** Coffee Break
- 16:00-16:30** **M13** - Investigation of cutting force in gear skiving by measurement and simulation
Haythem Boujnah, Yuki Yamada, Kengo Kawai, Masahiko Mori (1)

Saltiel Hall 2

Building M2

- 09:00-09:30** **F1** - Mechanical and thermal processing of wire-arc additively deposited stainless steel
Carlos M.A. Silva, Joao P.M. Pragana, Ivo M.F. Bragança, Paulo A. F. Martins (1)
- 09:30-10:00** **F2** - Thin-film sensors for data-driven concentricity prediction in cup backward extrusion
Martin Rekowski, Karl C. Grötzinger, Anna Schott, Mathias Liewald (2)
- 10:00-10:30** **F3** - Transfer mechanism of printed patterns on a soft film to metal surface in compression
Yasuharu Yoshikawa, Tomoyuki Hakoyama, Zhigang Wang (2)
- 10:30-11:00** Coffee Break

Program **Wednesday 21th August, 2024**

- 11:00-11:30** **F4** - Sequentially tailored profiles with adjustable transition zones by roll-slide-drawing
Niklas Hoenen, Joshua Grodotzki, Patrik Bieker, Marlon Hahn, Yannis P. Korkolis, A. Erman Tekkaya (1)
- 11:30-12:00** **F5** - Kinematical study on bonding criterion in cold roll bonding
Hiroshi Utsunomiya (2), Takash Jinnouchi, Takao Kitagawa, Ryo Matsumoto
- 12:00-12:30** **F6** - Creasing and folding of paper-based sandwich material - phenomena and modelling
Enrico Simonetto, Praveen Singh, Andrea Ghiotti (1), Stefania Bruschi (1), Nicola Jessen, Peter Groche (1)
- 12:30-14:00** **Lunch Break**
- 14:00-14:30** **F7** - Characterization of layered anisotropic properties for Li-ion battery pouch film and its application to forming
Taek Jin Jang, Sagong Cheol, Taegyun Ahn, Jeong Whan Yoon / D.Y. Yang (1)
- 14:30-15:00** **F8** - Novel prediction model for microforming limit curves considering material inhomogeneity based on surface roughening
Tatsuyuki Inoue, Tsuyoshi Furushima (2)
- 15:00-15:30** **F9** - Identification of Yld2000-2d anisotropic yield function parameters from single hole expansion test using machine learning
Jinjae Kim, Abrar S. Ebrahim, Brad L. Kinsey (2), Jinjin Ha
- 15:30-16:00** **Coffee Break**
- 16:00-16:30** **F10** - Reliable determination of interfacial heat transfer coefficients for hot sheet metal forming
Lukas Schell, Erik Sellner, Benjamin Heller, Timo Wenzel, Peter Groche (1)
- 16:30-17:00** **F11** - Forming of ultra-thin titanium sheets with intermediate electropulsing treatment
Junying Min, Xianglu Zhang, Xiaolong Ma, Bo Chen / D. Banabic (1)

Program **Wednesday 21th August, 2024**

Saltiel 3 Hall

Building M2

- 09:00-09:30** **G7** - Real-Time Prediction of material removal rate for advanced process control of chemical mechanical polishing
Kodai Hirano, Takumi Sato, Norikazu Suzuki (2)
- 09:30-10:00** **G8** - Changes in edge shape during silicon wafer polishing: Roll-off and roll-up formation
Urara Satake, Toshiyuki Enomoto (2)
- 10:00-10:30** **G9** - Oxidation mechanism of 4H-SiC in slurry-less ECMP with weak alkaline electrolyte
Rongyan Sun, Ryosuke Kinoshita, Kazufumi Aoki, Shota Hayakawa, Kantaro Hori, Koichiro Yasuda, Yuji Ohkubo, Kazuya Yamamura (2)
- 10:30-11:00** **Coffee Break**
- 11:00-11:30** **STC A** Keynote - Implementing circular economy activities in manufacturing for environmental sustainability
Tomohiko Sakao (2), Nancy Bocken, Nabil Nasr, Yasushi Umeda (1)
- 11:30-12:00** **A1** - A stepwise approach for determining absolute environmental sustainability targets for an electric vehicle battery
Abdur-Rahman Ali, Mauricio Schlösser Castillo, Felipe Cerdas, Christoph Herrmann (2)
- 12:00-12:30** **A2** - Inclusive manufacturing: a contribution to assembly processes with human-machine reciprocal learning
Alessandro Simeone, Yuchen Fan, Dario Antonelli, Angioletta R. Catalano, Paolo C. Priarone (2), Luca Settineri (1)
- 12:30-14:00** **Lunch Break**

Program **Wednesday 21th August, 2024**

- 14:00-14:30** **A3** - An LLM-based approach for enabling seamless Human-Robot collaboration in assembly
Christos Gkournelos, Christos Konstantinou, Sotiris Makris (2)
- 14:30-15:00** **A4** - Vision AI-based human-robot collaborative assembly driven by autonomous robots
Sichao Liu, Jianjing Zhang, Lihui Wang (1), Robert X. Gao (1)
- 15:00-15:30** **A5** - A hand-interaction model for augmented reality enhanced human-robot collaboration
Sebastian Blankemeyer, David Wendorff, Annika Raatz / H.K. Toenshoff (1)
- 15:30-16:00** **Coffee Break**
- 16:00-16:30** **A6** - Generative AI and Neural Networks towards advanced robot cognition
Christoforos Aristeidou, Nikos Dimitropoulos, George Michalos (2)
- 16:30-17:00** **A7** - Precision optimized process design for highly repeatable handling with articulated industrial robots
Philip Gumbel, Klaus Dröder (2)
- 17:00-17:30** **A8** - Dynamic characterization and control of a back-support exoskeleton 3D-printed cycloidal actuator
Charbel Barsomian, Narayana Babu Paulsamy Eswaran, Mattia Pesenti, Marta Gandolla, Francesco Braghin, Emanuele Carpanzano (1), Loris Roveda

Program **Wednesday 21th August, 2024**

Mousio Hall

Building M2

- 09:00-09:30** **STC E** Keynote - Dynamic Beam Shaping - Improving Laser Materials Processing via Feature Synchronous Energy Coupling
M. Schmidt (1), K. Cvecek, J. Duflou (1), F. Vollertsen (1), C.B. Arnold, M.J. Matthews
- 09:30-10:00** **E13** - Toward efficient fabrication of microstructures on SiC with nanometric surface quality
Jinshi Wang, Fengzhou Fang (1)
- 10:00-10:30** **E14** Formation mechanism of optical waveguide in α -quartz by ultrashort pulse laser
Reina Yoshizaki, Tomohiro Fukui, Masayuki Nakao (1)
- 10:30-11:00** **Coffee Break**
- 11:00-11:30** **E15** - Laser-induced fabrication of doped-graphene based on collagen for bone tissue engineering scaffold applications
Weiguang Wang, Yihe Huang, Yanhao Hou, Duo Meng, Kewen Pan, Paulo Bartolo (1), Lin Li (1)
- 11:30-12:00** **E16** - Cryo-FIB machining of group III-V semiconductors suppresses surface nanodroplets
Jining Sun, Yi Zhang, Qianhao Xiao, Yunlong Han, Lei Zhang / H.C. Zhang (1)
- 12:00-12:30** **E17** - Metal Additive manufacturing using Powder Sheets (MAPS) of HEA CoNiCrFeMn: the effect of the polymer content on microstructure and mechanical properties
Arnoldas Sasnauskas, Asli Coban, Wenyou Zhang, William M. Abbot, Ramesh Padamati Babu, Minh-Son Pham, Rocco Lupoi (2)
- 12:30-14:00** **Lunch Break**

Program	Wednesday 21 th August, 2024
---------	---

- 14:00-14:30** **E18** - Throughput scaling and thermomechanical behaviour in Multiplexed Fused Filament Fabrication
Rajiv Malhotra, Jeremy Cleeman, Adrian Jackson, Anandkumar Patel, Assimina A. Pelegri / A. Donmez (1)
- 14:30-15:00** **E19** - Upflow mitigation strategy for nested printing
Yunxia Chen, Steven Chase Allo, Bing Ren, Yuetong Wu, Hitomi Yamaguchi (1), Yong Huang
- 15:00-15:30** **E20** - Pre-programing the glass transition temperature and transformation strain of shape memory polymers in fused deposition modeling process
Apostolis Argyros, Andreas K. Lianos, Dimitris Lagoudas, Nikolaos Michailidis (1), Satish Bukkapatnam (2)
- 15:30-16:00** Coffee Break
- 16:00-16:30** **E21** - Additive manufacturing of polyethylene-based composites sourced from industrial waste
Ayman Karaki, Apostolos Argyros, Vasileios Stratiotou-Efstratiadis, Marwan Khraisheh (2), Eyad Masad, Nikolaos Michailidis (1)
- 16:30-17:00** **E22** - Effect of recycled swarf and spherical Ti-6Al-4V feedstocks on laser directed energy deposition additive manufacturing
Sarah Wolff, Marwan Haddad, Jianyue Zhang, Alan Luo / F. Pfefferkorn (1)
- 17:00-17:30** **E23** - Analytical modeling of residual stress formation in hybrid additive manufacturing
Rakeshkumar Karunakaran, George H. Klein, Michael P. Sealy (2)

Program	Wednesday 21 th August, 2024
---------	---

CR1 Hall

Building M2

- 09:00-09:30** **S1** - Thin coatings thickness measurement by augmented nanoindentation data fusion
Gianfranco Genta, Giacomo Maculotti / R. Levi (1)
- 09:30-10:00** **S2** - Highly efficient figuring of Si mirrors using an atmosphere plasma jet with concentrated electric field
Hui Deng, Bing Wu, Junqi Zhang, Zhe Zhang, XinQuan Zhang (2)
- 10:00-10:30** **S3** - Active control of surface integrity in thin film scratching and finishing
Wu-Le Zhu, Wei Gao, Fang Han, Qi Sun, Bingchun Jia, Peipei Jing, Bing-Feng Ju, Anthony Beaucamp (2)
- 10:30-11:00** Coffee Break
- 11:00-11:30** **S4** - Exploring scanning strategies for enhanced surface integrity in thin-walled nozzles
Michele Abruzzo, Giuseppe Macoretta, Luca Romoli (2)
- 11:30-12:00** **S5** - Parallel tool servo turning of microstructured surfaces
Hao Wu, XinQuan Zhang (2), LiMin Zhu, MingJun Ren, Mustafizur Rahman (1)
- 12:00-12:30** **S6** - High-frequency diamond imprinting of fine-crystallized micro-structured surfaces
Zhanwen Sun, Suet To (2), Jie Jiao, Waisze Yip, Sujuan Wang, Haiqing Wu
- 12:30-14:00** Lunch Break

Program

Wednesday 21th August, 2024

- 14:00-14:30** **S7** - On machine frequency analysis of diamond turned surfaces with surface intrinsic mode decomposition
Maomao Wang, Wenbin Zhong, Wenhan Zeng, Xiangqian Jiang (1)
- 14:30-15:00** **S8** - On the role of metal surface modification and polymer matrix characteristics when drilling thermoplastic fibre metal laminates
Rachele Bertolini, Andrea Stramare, Marco Sorgato, Enrico Savio (1), Andrea Ghiotti (1), Stefania Bruschi (1)
- 15:00-15:30** **S9** - Static friction of magneto-rheological elastomer pads in wall-climbing robots
Seounghee Yun, Yong Um, Hae-Won Park, Sanha Kim (2)
- 15:30-16:00** Coffee Break
- 16:00-16:30** **S10** - One-shot acquisition of intermediate feature values for in-process parameter exploration in PBF-LB of ultrafine porous metallic structure
Keisuke Nagato (2), Ryo Okawara, Hiroshi Yoshizaki, Masahiko Sairaiji, Moju Zhao
- 16:30-17:00** **S11** - Reducing rubber-plastic friction in syringes through microstructured surface design and manufacturing
Marco Sorgato, Kristal Bornillo, Giovanni Lucchetta (2)
- 17:00-17:30** **S12** - Surface functionalization of titanium screws for orthopaedic implant applications
Giovanna Rotella, Chiara Morano, Maria Rosaria Saffioti, Domenico Umbrello (1)



EIT MANUFACTURING

A European Partnership, co-funded and supported by the European Institute of Innovation and Technology since 2019

Our Purpose is to improve people's lives through sustainable manufacturing

Our Vision is to be the leading European innovation community for manufacturing

Our Mission is to connect manufacturing players by promoting talent and entrepreneurship to accelerate sustainable innovation in Europe

OUR SERVICES

- Broadening Network and Collaboration
- Boosting Viable Innovation via Funding
- Expanding Skills and Competences (upskilling/reskilling)
- Accelerating Sustainable Growth



CONTACT US NOW!

+30 210 775 2671

southeast@eitmanufacturing.eu
<https://www.eitmanufacturing.eu>

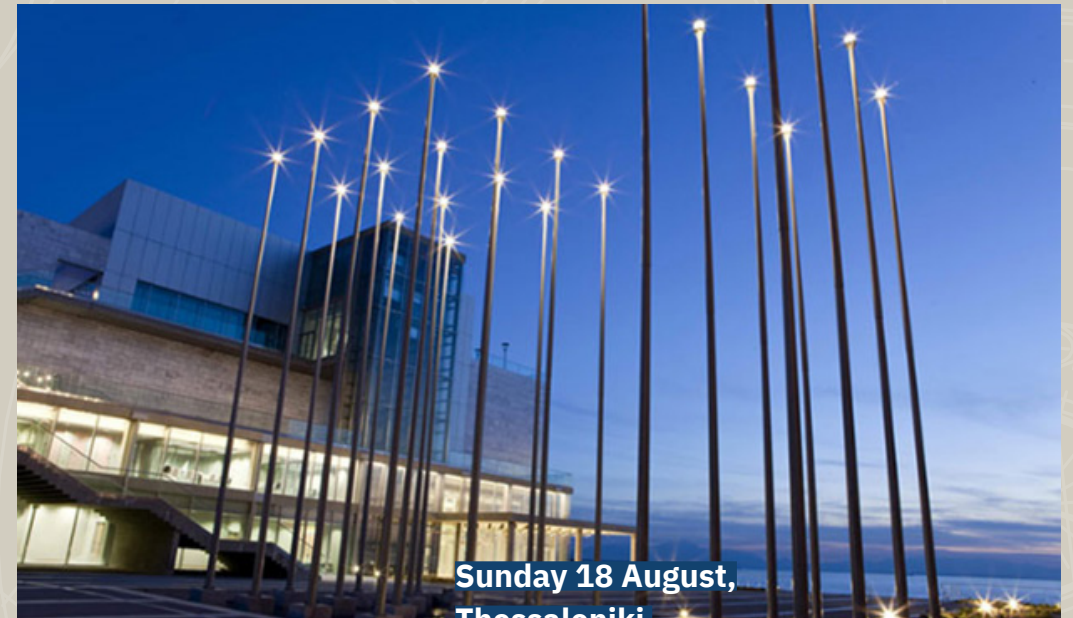


Co-funded by the European Union



Social Program

Welcome Reception



**Sunday 18 August,
Thessaloniki
Concert Hall**

In a warm and friendly environment with a spectacular view of of the Thermaic Gulf, Thessaloniki's Concert Hall (TCH) offers its open-air space as a venue for events and as a setting for a memorable welcome reception.



Thessaloniki Concert Hall, open space "Plateia"



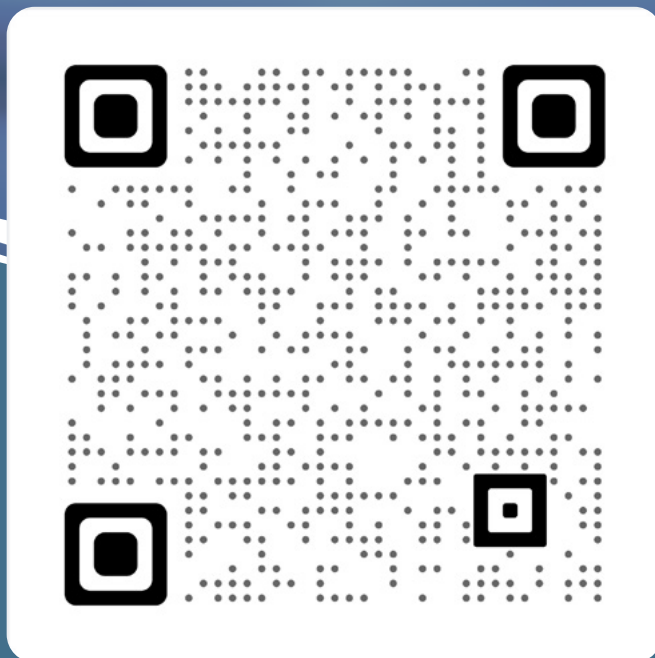
19:00-20:30



Informal



Co-funded by the
European Union



+30 210 775 2671



<https://www.eitmanufacturing.eu>



southeast@eitmanufacturing.eu

Social Program

Opening Session



**Monday 19 August,
Thessaloniki
Concert Hall**

The Friends of Music Hall at the Thessaloniki Concert Hall is characterized by austere luxury and designed to accommodate large-scale productions and gatherings. The TCH, itself a hub for performing arts, culture, and science in Thessaloniki, serves as the ideal venue for hosting the Opening Session of the 73rd CIRP General Assembly.



Thessaloniki Concert Hall,
"The Friends of Music" Hall,
M1 Building



09:00-10:30



Formal

Social Program

Opening Session

PROGRAM

Musical Opening

Quartet from the National Orchestra performing pieces by famous Greek composers

Welcome by the Chair of the Organizing Committee

Prof. **Nikolaos Michailidis**, Chair of the Organizing Committee, Aristotelous University of Thessaloniki (AUTH)-Greece

Welcome addresses by Authorities

- **Konstantinos Gkioulekas**, Deputy Minister of the Interior, sector of Macedonia & Thrace
- **Apostolos Tzitzikostas**, Governor of Central Macedonia
- **Stelios Aggeloudis**, Mayor of Thessaloniki
- Prof. **Kyriakos Yakinthos**, Vice-Rector of Research and Innovation AUTH

CIRP Presidential Address

Prof. **Fengzhou Fang**, President of CIRP, Tianjin University-China & University College Dublin-Ireland

Invited Technical Talk

A Robotics-driven Multimodal Imaging System for Quality Inspection

Dr. **George Papaioannou**, CTO and Founder, ATLAS ROBOTICS S.A. / KINEMAGINE LTD

Taylor Medal Ceremony

Invited Speaker



Dr. George Papaioannou
ATLAS ROBOTICS S.A. / KINEMAGINE LTD

Chief Technology Officer and Founder
Thessaloniki, Greece / Boston-New York, USA

Abstract

Testing, inspection, and certification (TIC) processes are vital in manufacturing, requiring accurate and expedited reports from both laboratory and on-site testing.

Current methods like destructive testing (DT) and nondestructive testing (NDT) include visual, thermographic, ultrasonic, optical, electromagnetic, and radiographic testing, but face challenges such as laboriousness, long scanning durations, suboptimal accuracy, limited field of view, inefficiency in scanning large structures and high costs. This presentation introduces a novel robotic multimodal imaging system with the ability to record beyond a target's static structural morphology both externally but mainly internally while applying motion compensation imaging metrology techniques designed to overcome these challenges in the laboratory, on-site or at the manufacturing facility. By integrating multiple imaging modalities and automation, the system enhances the evaluation of structural integrity for various materials/composites. Significant improvements have been demonstrated in scan times, accuracy, dosage, and the ability to inspect large structures without disassembly. These advancements achieve up to a 90% reduction in scan time and provide high-resolution imaging with minimal motion artifacts. This positions the system as a transformative tool in the TIC landscape, offering robust solutions for industries ranging from aerospace to medical device manufacturing.

Invited Speaker

Brief Biography

Dr. George Papaioannou has been a pioneer in Biomechanics, Precision Imaging, and Automated Instrumentation-Testing since 1992.

He received his Masters and PhD in Bioengineering from Strathclyde University (UK) and degrees in Physiology and Exercise Science at Loughborough University (UK) and Dimokriteio University (Greece). He also completed two postdoctoral resident posts, one at the Henry Ford Hospital/Wayne State University Michigan, US studying robotic imaging and three dimensional modelling and the other at Katholieke Universiteit Leuven in Belgium where he studied Robotics and Mechatronics and their application in Rehabilitation and mobility. His specific area of expertise is Imaging, Biomechanics, Rehabilitation, Inspection Technology and in particular motion studies using robotics-driven imaging, precision metrology with specialized cameras, 3D and 4D image reconstruction, and mathematical modeling. He has spent 25 years as a professor and researcher in institutions on both sides of the Atlantic (University of Wisconsin, Wayne State University, Catholic University of America in the US and KUL, Oxford University (UK) and University of Austria in Europe) where he participated in the development of automated imaging tools for advanced robotic wheelchairs and crash homologated vehicle seating systems for people with mobility problems, and aerospace and food inspection technologies. He established and directed the MOVE center of Excellence and headed a multimillion project with TATRC- Department of Defense/US ARMY in the US and Meat and Livestock Australia (in Milwaukee, New York, and Sydney). His team expanded its reach in 2016 by establishing a company in robotics driven imaging and is currently ascertaining its presence in Greece in close collaboration with AUTH and local/International investors. He has more than 200 peer review papers, book chapters and conference proceedings, along with two Marie Curie awards, several other awards as part of his participation in international research consortia. He holds 15 patents and has participated in 40+ painting exhibitions (Municipality of Ipiros Museum of Art and "the Mount" Scottish Gallery of Modern Art, Zeitgeist millennium Show Michigan among others), and has received painting awards from Paisley and Maryland Fine art Museums Portraiture competitions.

Social Program

General Assembly Dinner



**Wednesday,
21 August,**

Porto Palace Hotel

With picturesque views of the Thermaic Gulf, the Porto Palace rooftop offers a delightful atmosphere for a welcome drink. Meanwhile, in the Grand Pietra Hall on the ground floor will be hosted a splendid dinner, blending elegance with industrial charm.



Porto Palace Hotel
Welcome Drink: Rooftop, Ursa Major Hall
Dinner: Grand Pietra Hall



19:30-23:30



Formal

Dinner Sponsored by:

Mitutoyo

Social Program

Farewell Dinner



**Saturday,
24 August,**

Makedonia Palace Hotel

Guests will be greeted with a welcome drink served in the charming outdoor patio of Makedonia Palace Hotel, setting the perfect tone of the evening. Afterwards, you will step inside the elegant Ballroom Hall for a delightful dinner experience from the hotel's Executive Chef Sotiris Evaggelou that has been awarded with the prestigious "Golden Chef Hat".



Makedonia Palace Hotel,
Welcome Drink: Outdoor patio
Dinner: Ballroom Hall



20:00-23:30



Formal

EXPLORE THE WORLD OF

MX

MACHINING
TRANSFORMATION

Machining Transformation (MX):
Holistic approach for manufacturing technology.



PROCESS INTEGRATION

Combine multiple processes in a single machine tool to achieve greater productivity and efficiency.



AUTOMATION

Increase productivity, quality and 24/7 operations.



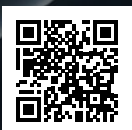
DX – DIGITAL TRANSFORMATION

Revolutionize your workflow, discover endless possibilities, increase efficiency and promote sustainability by reducing energy usage, while gaining the same time a strong competitive advantage.



GX – GREEN TRANSFORMATION

Integrated processes increase productivity, reduce minimize energy usage and maximize profitability.



Find out more about
Machining Transformation:
transform.dmgmori.com

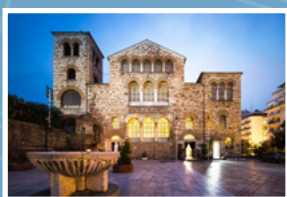
DMG MORI

Accompanying Persons Program

Day 1
Monday, 19 August 2024


Rotunda

The Rotunda, built in the early 4th century AD as Emperor Galerius's mausoleum, was later converted into a church, famed for its stunning mosaics and historical importance.



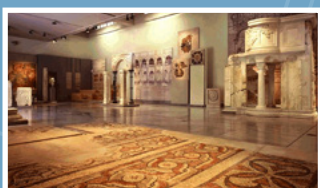
St. Demetrius Church

Saint Demetrius Church, is a 5th-century basilica dedicated to the city's patron saint. It is renowned for its impressive mosaics and historical significance.



Roman Forum

The Roman Forum is an ancient public square dating back to the 2nd century AD. It features well-preserved ruins and offers insight into the city's Roman past.



Byzantine Museum

The Byzantine Museum of Thessaloniki, showcases artifacts from the Byzantine era, highlighting the city's rich historical and cultural heritage. It is renowned for its extensive collection of mosaics, icons, and frescoes.

Accompanying Persons Program


Thessaloniki City Tour - Segment A

Detailed Program

*	Transfer to the Conference Venue "Thessaloniki Concert Hall"
09:00	Participation in the CIRP GA Opening Ceremony
10:00	Coffee break
10:30	Departure from Thessaloniki Concert Hall
10:50	Guided Tour <ul style="list-style-type: none"> • Saint Demetrius Church • Roman Forum • Rotunda
13:15	Lunch at "Kitchen Bar" restaurant
15:00	Guided visit at the Byzantine Museum
16:25	Drop off Thessaloniki Concert Hall
16:30	Drop off Makedonia Palace Hotel
16:35	Drop off Archaeological Museum
16:45	Drop off Aristotelous Square
16:55	Drop off The MET Hotel
17:00	Drop off Porto Palace Hotel

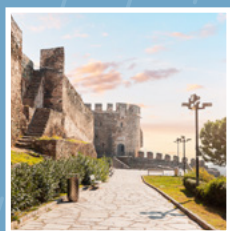
* The detailed time-table of the bus transfers is available on **page 58** and the Conference APP.

Useful tips: Comfortable walking shoes, lightweight and breathable clothing, sunglasses, sun hat and sun screen.

Accompanying Persons Program

Day 2

Tuesday, 20 August 2024

**Tower of Trigonion - City Walls**

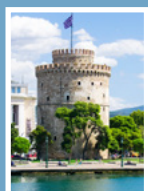
Built in the 15th century, this medieval masterpiece served as an armory and artillery tower, strategically placed to defend the walls, offering a stunning view of the city.

**Vlatadon Monastery**

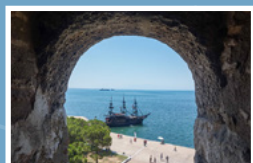
Moni Vlatadon is a 14th-century monastery. Its preserved Byzantine architecture, highlights the area's monastic heritage.

**Galerius Arch & Palace**

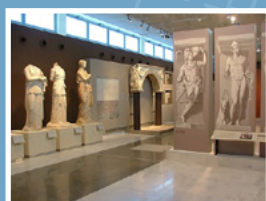
The Galerius Palace, dating to the early 4th century AD, features impressive ruins, including baths and mosaics, and complements the nearby Arch of Galerius.

**The White Tower**

The White Tower is a 15th-century Ottoman structure that originally served as a Byzantine watchtower. Today, it functions as a museum.

**Archaeological Museum**

Enjoy a coffee break on board while taking in scenic views of the city.

**Coffee break by boat**

The Archaeological Museum of Thessaloniki features a rich collection of Macedonian artifacts, including sculptures and mosaics, providing a comprehensive glimpse into ancient Greek history and culture.

Accompanying Persons Program



Thessaloniki City Tour - Segment B

Detailed Program

* Kindly arrive at the bus stop **10 minutes** ahead of the scheduled time.

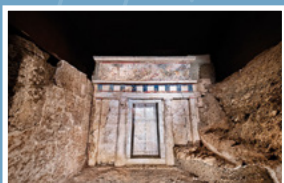
08:20	Pick up The Met Hotel
08:25	Pick up Porto Palace Hotel
08:30	Pick up Port - Hellenic Red Cross
08:35	Pick up White Tower
08:40	Pick up Makedonia Palace Hotel
08:45	Pick up Thessaloniki Concert Hall
09:00	Guided Tour <ul style="list-style-type: none"> • Tower of Trigonion - City Walls • Vlatadon Monastery • Galerius Arch & Palace • White Tower
11:30	Coffee Break by boat
12:45	Guided visit at the Archaeological Museum
13:45	Lunch at "Halaro" restaurant
15:15	Traditional Greek dance class at Makedonia Palace Hotel
16:25	Drop off Thessaloniki Concert Hall
16:35	Drop off Archaeological Museum
16:45	Drop off Aristotelous Square
16:50	Drop off The MET Hotel
17:00	Drop off Porto Palace Hotel

Useful tips: Comfortable walking shoes, lightweight and breathable clothing, sunglasses, sun hat and sun screen.

Accompanying Persons Program

Day 3

Wednesday, 21 August 2024

**Royal Tombs of Vergina**

A marvelous guided visit to the Royal Tombs of Vergina, immersing the guests in the captivating history of Macedonia. The site includes the tomb of King Philip II of Macedon, father of Alexander the Great. It contained a golden larnax with his remains, showcasing opulence and power. The site's exceptional architecture and historical significance have earned it a place on the UNESCO World Heritage List.

**Aigai Museum**

The Museum of the Royal Tombs of Aigai is situated 75 km west of Thessaloniki. It revolves around the ancient Kingdom of Macedon's royal tombs at Aigai. Inaugurated in 1997, it features exhibits of unprecedented value related to the palace, burial clusters, and sculptures.

Accompanying Persons Program



Vergina - Royal Tombs & Museum of Aigai

Detailed Program

* Kindly arrive at the bus stop **10 minutes** ahead of the scheduled time.

08:00	Pick up Thessaloniki Concert Hall
08:10	Pick up Makedonia Palace Hotel
08:15	Pick up Archaeological Museum
08:25	Pick up Aristotelous Square
08:35	Pick up The Met Hotel
08:40	Pick up Porto Palace Hotel
09:50	Guided visit to the Royal Tombs of Vergina
11:10	Guided visit to the Aigai Museum
13:00	Lunch at "Ekeímeros" restaurant
16:20	Drop off Porto Palace Hotel
16:25	Drop off The MET Hotel
16:35	Drop off Port-Hellenic Red Cross
16:45	Drop off White Tower
16:50	Drop off Makedonia Palace Hotel
17:00	Drop off Thessaloniki Concert Hall

Useful tips: Comfortable walking shoes, lightweight and breathable clothing, sunglasses, sun hat and sun screen.

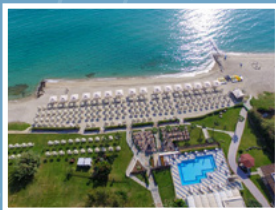
Accompanying Persons Program

Accompanying Persons Program

Day 4

Thursday, 22 August 2024

Halkidiki - Petralona Cave



Aegean Melathron Hotel 5*

The Aegean Melathron Thalasso Spa Hotel is a modern 5-star resort situated in Kassandra, Halkidiki, approximately 90 km from Thessaloniki. The hotel features a 200-meter-long sandy beach, nine pools, restaurants, bars, and high-standard spa amenities. Guests will have the opportunity to relax on the beach under the shade of umbrellas, enjoy the sea and swim, and then have lunch at one of the hotel's restaurants.



Petralona Cave

The Petralona Cave, located in Halkidiki, Greece, is a remarkable karst formation discovered accidentally in 1959. It features impressive stalactite and stalagmite formations and gained fame for the "Petralona Skull", an archaic human fossil found within. The cave covers an area of approximately 10,400 square meters and houses a captivating underground landscape. It has earned a place on the UNESCO World Heritage.



Detailed Program

* Kindly arrive at the bus stop **10 minutes** ahead of the scheduled time.

08:20	Pick up The Met Hotel
08:25	Pick up Porto Palace Hotel
08:35	Pick up Port-Hellenic Red Cross
08:40	Pick up White Tower
08:45	Pick up Makedonia Palace Hotel
08:50	Pick up Thessaloniki Concert Hall
10:00	Relax by the beach at Aegean Melathron Hotel
13:00	Lunch at Aegean Melathron Hotel
15:15	Guided visit at Petralona Cave
16:20	Drop off Thessaloniki Concert Hall
16:30	Drop off Makedonia Palace Hotel
16:35	Drop off Archaeological Museum
16:45	Drop off Aristotelous Square
16:55	Drop off The MET Hotel
17:00	Drop off Porto Palace Hotel

Useful tips: Comfortable walking shoes, lightweight and breathable clothing, sunglasses, sun hat, sun screen, swimming suite and slippers. Towels will be offered at the Hotel. Dressing rooms are available.
Bring a change of clothes after swimming.

Accompanying Persons Program

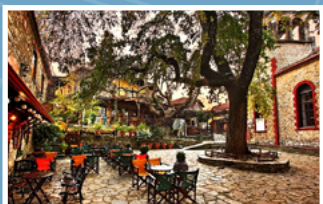
Day 5

Friday, 23 August 2024

**Dion**

The Dion Archaeological Site, located at the foothill of Mount Olympus, is an open-air museum featuring sanctuaries, Macedonian tombs, theaters, stadiums, ancient statues, and remnants of an ancient city.

The Archaeological Museum of Dion, inaugurated in 1983, offers a thorough picture of the daily life and culture of the inhabitants of ancient Dion, spanning from the Iron Age (1000-700 BC) to the early Christian centuries.

**Palaios Panteleimonas**

Palaios Panteleimonas, nestled on the slopes of Mount Olympus, offers stunning views of the Thermaikos Gulf. This charming village boasts rich fauna, including chestnut and oak forests. It has become a popular destination, with well-developed tourism infrastructure. Lunch will be offered at a traditional tavern with a spectacular view of Thessaloniki.

Accompanying Persons Program



Dion - Palaios Panteleimonas

Detailed Program

* Kindly arrive at the bus stop **10 minutes** ahead of the scheduled time.

08:00	Pick up Thessaloniki Concert Hall
08:10	Pick up Makedonia Palace Hotel
08:15	Pick up Archaeological Museum
08:25	Pick up Aristotelous Square
08:35	Pick up The Met Hotel
08:40	Pick up Porto Palace Hotel
10:00	Guided tour at Dion Archaeological site and Museum
13:00	Visit and Lunch at Palaios Panteleimonas "Olympos Tavern"
16:20	Drop off Porto Palace Hotel
16:25	Drop off The MET Hotel
16:35	Drop off Port-Hellenic Red Cross
16:45	Drop off White Tower
16:50	Drop off Makedonia Palace Hotel
17:00	Drop off Thessaloniki Concert Hall

Useful tips: Comfortable walking shoes, lightweight and breathable clothing, sunglasses, sun hat and sun screen.

Venue Transfers

Monday, August 19

Bus Stop	TO VENUE	RETURN
The Met Hotel	08:00	
Porto Palace Hotel	08:05	
Port - Hellenic Red Cross	08:10	
White Tower	08:15	
Macedonia Palace Hotel	08:15	
Thessaloniki Concert Hall		19:00

Tuesday, August 20

Bus Stop	TO VENUE	RETURN
The Met Hotel	08:00	
Porto Palace Hotel	08:05	
Port - Hellenic Red Cross	08:10	
White Tower	08:15	
Macedonia Palace Hotel	08:15	
Thessaloniki Concert Hall		18:40

Wednesday, August 21

Bus Stop	TO VENUE	RETURN
The Met Hotel	08:00	
Porto Palace Hotel	08:05	
Port - Hellenic Red Cross	08:10	
White Tower	08:15	
Macedonia Palace Hotel	08:15	
Thessaloniki Concert Hall		17:40

Venue Transfers

Thursday, August 22

Bus Stop	TO VENUE	RETURN
The Met Hotel	07:45	
Porto Palace Hotel	07:50	
Port - Hellenic Red Cross	07:55	
White Tower	08:00	
Macedonia Palace Hotel	07:55	
Thessaloniki Concert Hall		18:15

Friday, August 23

Bus Stop	TO VENUE	RETURN
The Met Hotel	07:45	
Porto Palace Hotel	07:50	
Port - Hellenic Red Cross	07:55	
White Tower	08:00	
Macedonia Palace Hotel	07:55	
Thessaloniki Concert Hall		18:15

Saturday, August 24

Bus Stop	TO VENUE	RETURN
The Met Hotel	07:45	
Porto Palace Hotel	07:50	
Port - Hellenic Red Cross	07:55	
White Tower	08:00	
Macedonia Palace Hotel	07:55	
Thessaloniki Concert Hall		16:45

Accompanying Program Transfers

Monday, August 19 | Thessaloniki City Tour - Segment A

Bus Stop	TO VENUE	RETURN
Thessaloniki Concert Hall	10:30	
Thessaloniki City Tour - Segment A		17:00

Tuesday, August 20 | Thessaloniki City Tour - Segment B

Bus Stop	TO VENUE	RETURN
The Met Hotel	08:20	
Porto Palace Hotel	08:25	
Port - Hellenic Red Cross	08:30	
White Tower	08:35	
Makedonia Palace Hotel	08:40	
Thessaloniki Concert Hall	08:45	
Thessaloniki City Tour - Segment B		17:00

Wednesday, August 21 | Vergina - Royal Tombs and Museum of Aigai

Bus Stop	TO VENUE	RETURN
Thessaloniki Concert Hall	08:00	
Makedonia Palace Hotel	08:10	
Archaeological Museum of Thessaloniki	08:15	
Aristotelous Square	08:25	
The Met Hotel	08:35	
Porto Palace Hotel	08:40	
Vergina - Royal Tombs and Museum of Aigai		17:00

Thursday, August 22 | Halkidiki – Petralona Cave

Bus Stop	TO VENUE	RETURN
The Met Hotel	08:20	
Porto Palace Hotel	08:25	
Port - Hellenic Red Cross	08:35	
White Tower	08:40	
Makedonia Palace Hotel	08:45	
Thessaloniki Concert Hall	08:50	
Halkidiki – Petralona Cave		17:00

Friday, August 23 | Dion - Palaios Panteleimonas

Bus Stop	TO VENUE	RETURN
Thessaloniki Concert Hall	08:00	
Makedonia Palace Hotel	08:10	
Archaeological Museum of Thessaloniki	08:15	
Aristotelous Square	08:25	
The Met Hotel	08:35	
Porto Palace Hotel	08:40	
Dion - Palaios Panteleimonas		17:00

Social Program Transfers

Sunday, August 18 | Welcome Reception | Thessaloniki Concert Hall

Bus Stop	TO VENUE	RETURN
The Met Hotel	18:20	
Porto Palace Hotel	18:25	
Port - Hellenic Red Cross	18:30	
White Tower	18:45	
Macedonia Palace Hotel	18:30	
Thessaloniki Concert Hall		20:30

Wednesday, August 21 | Assembly Dinner | Porto Palace Hotel

sponsored by: **Mitutoyo**

Bus Stop	TO VENUE	RETURN
Thessaloniki Concert Hall	18:55	
Makedonia Palace Hotel	19:05	
Archaeological Museum of Thessaloniki	19:10	
Port - Hellenic Red Cross	19:35	
The Met Hotel	19:40	
Porto Palace Hotel		23:00

Saturday, August 24 | Farewell Dinner | Makedonia Palace Hotel

Bus Stop	TO VENUE	RETURN
The Met Hotel	19:25	
Porto Palace Hotel	19:30	
Port - Hellenic Red Cross	19:35	
White Tower	19:40	
Thessaloniki Concert Hall	19:55	
Makedonia Palace Hotel		23:30

Taxis

Taxis can be booked with the FreeNow app downloadable from this site:
<https://www.free-now.com/gr-en/>
 Please note that you can set up your credit card to pay directly through the app.

The Uber app is also available in Thessaloniki and can be downloaded from:
<https://uber.com/gr/en>

Public transport

OASTH is a public transportation provider in Thessaloniki which operates bus routes.
<https://www.oasth.gr/en/>

Bus Stops Map



ALWAYS KEEP YOUR SAMPLE IN FOCUS



Learn More



TAGLENS

The breakthrough ultra-fast varifocal lens

Company Profiles

DIAMOND SPONSORS

DMG MORI is a leading global manufacturer of high-precision machine tools and is represented in 43 countries - with 116 sales and service locations, including 17 production plants. In the “Global One Company”, more than 13,000 employees are driving the development of holistic solutions in the manufacturing industry. Under the guiding principle of Machining Transformation (MX), DMG MORI combines four pillars for the efficient, sustainable production of the future: Process Integration, Automation, Digital Transformation (DX) and Green Transformation (GX).

DMG MORI stands for innovation, quality and precision. Our portfolio covers sustainable manufacturing solutions based on the technologies Turning, Milling, Grinding, Boring as well as Ultrasonic, Lasertec and Additive Manufacturing. With technology integration, end-to-end automation and digitization solutions we make it possible to increase productivity and resource efficiency at the same time.

At our production sites worldwide, we realize holistic turnkey solutions for the main sectors of aerospace, automotive, die & mold, medical and semiconductor. With the DMG MORI Qualified Products (DMQP) partner program, we offer perfectly matched peripheral products from a single source. Our customer-oriented services cover the entire life cycle of a machine tool - including training, repair, maintenance and spare parts service.

DMG MORI

Company Profiles

DIAMOND SPONSORS

EIT Manufacturing South East was legally established in Athens, Greece in April 2022 . It serves eight countries in South East Europe: Albania, Bulgaria, Cyprus, Greece, Moldova, North Macedonia, Romania, and Türkiye. EIT Manufacturing Region South East’s mission is to foster innovation and entrepreneurship in the regional manufacturing network by strengthening and creating cross-national synergies among the different manufacturing actors in South East Europe. The office’s vision is to make South East Europe a global hub for sustainable and innovative manufacturing.



Co-funded by the European Union



EIT Manufacturing Region South East is already having a positive impact on the region’s manufacturing sector. During 2023, the hub helped to create new partnerships and collaborations with large manufacturing companies and startups and has supported the development of several innovative manufacturing solutions. The hub is also working to promote the region’s manufacturing potential to a wider audience.

DIAMOND SPONSORS

Mitutoyo - at the top of the metrology industry worldwide



Our high-quality products can be classified under small hand tools, coordinate measuring machines, form measurement, optical measuring systems, sensor systems, material testing, digital scale and DRO systems, and various supportive metrology software. Together with the state-of-the-art calibration laboratory for measuring and testing instruments, and the comprehensive program of advanced technical and software-related training courses offered by the Information Center of Metrology (MIM), Mitutoyo completes this approach as the one-stop-shop in metrology.

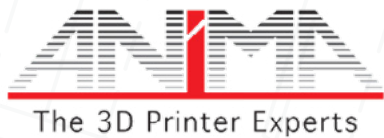
GOLD SPONSOR



BETA is an engineering simulation solutions provider, dedicated to the development of state of the art software systems. For more than 30 years, we have been developing software and delivering services for the front runners of numerous sectors, by listening to their needs and taking up even the most demanding challenges. Committed to our mission to enable engineers to deliver results of high value, we continue to offer state-of-the-art, high-performance software and best-in-class services. Our simulation solutions liberate low risk and high Return-On-Investment innovation. The ground-breaking technology, the excellent services and our high standards of business ethics are the three pillars on which BETA was founded and grows since then.

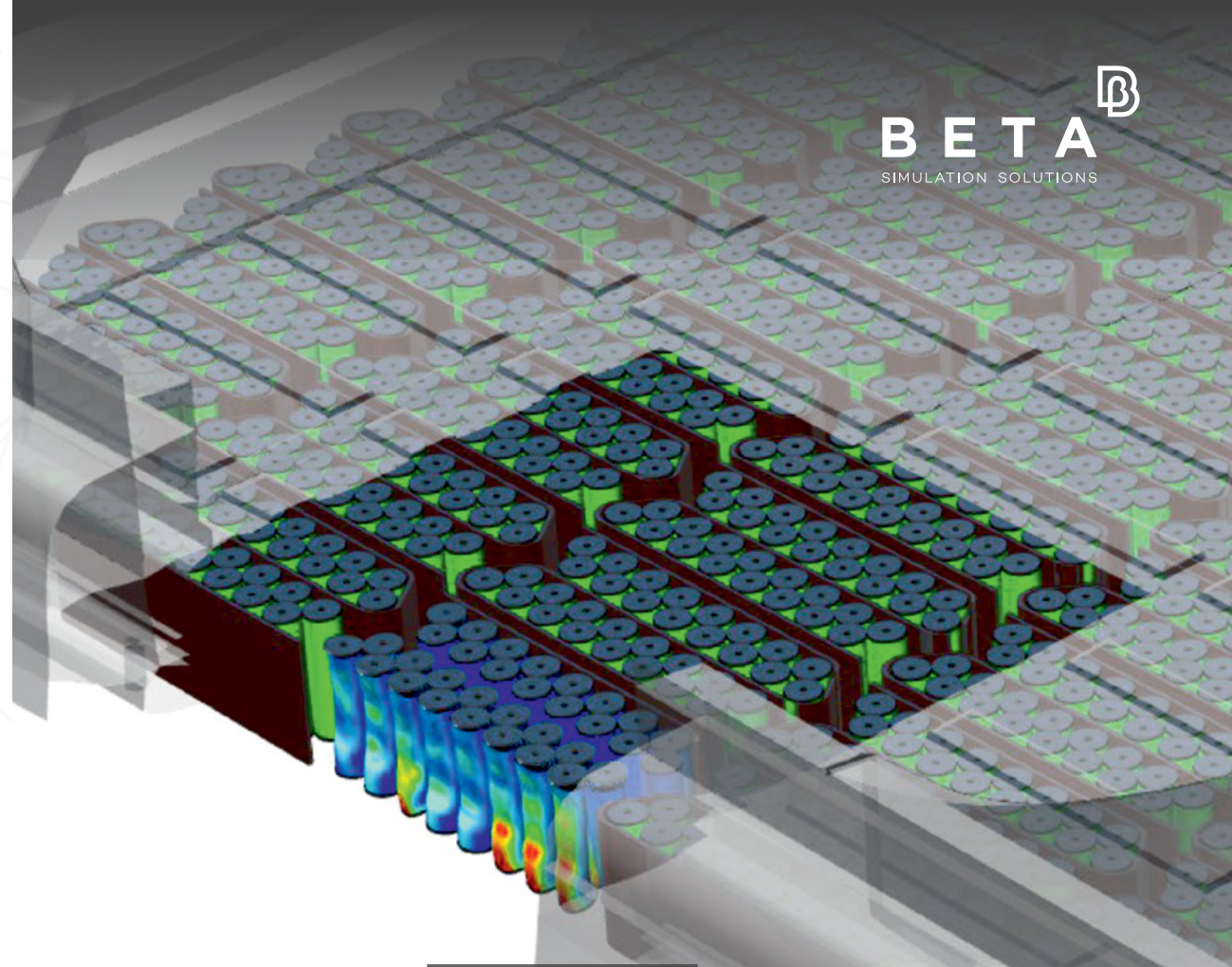
Company Profiles

SILVER SPONSOR



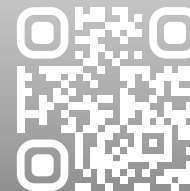
Founded in 1991, **ANiMA** is a Greek company advancing digital manufacturing through CAD and 3D printing technologies. We provide comprehensive industrial 3D printing solutions, ranging from design software to industrial 3D printers and parts production. Our expertise lies in integrating AM into traditional production lines, enhancing efficiency and innovation. We also offer extensive solutions for the research sector, supporting cutting-edge projects and exploring future technologies. Our R&D initiatives, including participation in the EU RoBetArme Project, drive technological advancements and explore new possibilities in additive manufacturing.

BRONZE SPONSOR



Reduce evolution risk

High quality Engineering Simulation opens the road to knowing your products' performance from the early design stages. It helps make sure that new ideas can be realized and meet the already existing high quality standards. We at BETA CAE Systems, offer you cutting-edge tools that broaden Engineering Simulation horizons and same time reduce innovation risk.



www.beta-cae.com

physics on screen

About Thessaloniki

About Thessaloniki

Thessaloniki, also known as Thessalonica or Saloniki, is the second-largest city in Greece and the capital of the region of Macedonia. It is known as “the co-capital,” due to its historical status as a co-reigning city of the Byzantine Empire alongside Constantinople.



Located on the Thermaic Gulf at the northwest corner of the Aegean Sea, Thessaloniki is a major economic, industrial, commercial, and political center for Greece and southeastern Europe. It is also a significant transportation hub, particularly through the Port of Thessaloniki. The city is renowned for its vibrant cultural life and hosts events such as the Thessaloniki International Fair and the Thessaloniki International Film Festival. In 2014, it was named the European Youth Capital.

The city was founded in 315 BC by Cassander, who named it after his wife Thessalonike, daughter of Philip II of Macedon and sister of Alexander the Great. Thessaloniki was an important metropolis during the Roman period and was the second largest and wealthiest city of the Byzantine Empire. Over the years, it remained a significant seaport and multi-ethnic metropolis, blending ancient Greek culture with Byzantine, Roman, Ottoman, and Jewish influences.



Thessaloniki became the European Capital of Culture in 1997 accompanied by a majestic project of renovation and rebuilding of historical monuments. Thessaloniki is known for its Byzantine architecture, including numerous Paleochristian, Byzantine, Roman and Ottoman monuments, which are recognized as a World Heritage Site. Briefly, Thessaloniki features:

- 1.1 million citizens
- 6 million international arrivals in 2022
- 30 Museums & 15 UNESCO world heritage sites
- hosts ~140,000 students
- is home to Aristotelous University of Thessaloniki
- 100+ Hotels
- 19 Conference & Exhibition Venues

The city is a popular tourist destination and was included in National Geographic Magazine's top tourist destinations worldwide in 2013. In 2014, Financial Times FDI magazine declared Thessaloniki as the best mid-sized European city of the future for human capital and lifestyle. In 2022, Thessaloniki was listed in the World's Greatest Places. Thessaloniki is one of the 50 Creative Cities of Gastronomy by UNESCO.



General Information

GENERAL ASSEMBLY DATES

18-24 August 2024

GENERAL ASSEMBLY VENUE

Thessaloniki Concert Hall, Building M2
Address: 25is Martiou, Thessaloniki 546 46

REGISTRATION DESK OPENING HOURS

The registration desk will be at the M2 building on the evening from the 18th of August until the 24th of August.

Please find below the working hours of the registration desk:

Sunday 18 August	16:30 - 20:30
Monday 19 August	08:00 - 19:00
Tuesday 20 August	08:00 - 18:30
Wednesday 21 August	08:00 - 17:30
Thursday 22 August	08:30 - 18:00
Friday 23 August	08:30 - 18:00
Saturday 24 August	08:30 - 16:30

General Information

REGISTRATION FEES

	Full Registration Part I & II (18-24 August 2024)	Part I (18-21 August 2024)	Part II (21-24 August 2024)
Early Rate*	990€	760€	650€
Regular Rate	1.150€	860€	750€
Onsite Rate	1.250€	960€	850€
Honorary/Emeritus	900€		

Part I & II Registration includes:

- Access to the scientific sessions
- Access to the exhibition area
- General Assembly material
- Coffee breaks, lunches & refreshments
- Certificate of attendance
- Welcome Reception on Sunday 18th of August
- General Assembly dinner on Wednesday 21st of August
- Farewell dinner on Saturday the 24th of August
- General Assembly Mobile App

Part I Registration includes:

- Access to the scientific sessions
- Access to the exhibition area
- General Assembly material
- Coffee breaks, lunches & refreshments
- Certificate of attendance
- Welcome Reception on Sunday 18th of August
- General Assembly dinner on Wednesday 21st of August
- General Assembly Mobile App

Part II Registration includes:

- Access to the scientific sessions
- Access to the exhibition area
- General Assembly material
- Coffee breaks, lunches & refreshments
- Certificate of attendance
- Farewell dinner on Saturday the 24th of August
- General Assembly Mobile App

General Information

ACCOMPANYING PERSONS REGISTRATION FEES

	Full Registration Part I & II (18-24 August 2024)	Part I (18-21 August 2024)	Part II (21-24 August 2024)
Early Rate*	650€	450€	370€
Regular Rate	700€	500€	420€
Onsite Rate	750€	550€	460€
Children (up to 12 years old)	300€	200€	150€

Part I & II Registration includes:

- Welcome reception on Sunday 18th of August
- Opening session on Monday 19th of August
- Participation in the planned tours with lunches included, from Monday 19th to Friday 23rd of August
- General Assembly dinner on Wednesday 21st of August
- Farewell dinner on Saturday 24th of August
- Final program
- Accompanying children receive the same inclusions
- General Assembly Mobile App

Part I Registration includes:

- Welcome reception on Sunday 18th of August
- Opening session on Monday 19th of August
- Participation in the planned tours with lunches included, from Monday 19th to Wednesday 21st of August
- General Assembly dinner on Wednesday 21st of August
- Final program
- Accompanying children receive the same inclusions
- General Assembly Mobile App

Part II Registration includes:

- Access to the scientific sessions
- Access to the exhibition area
- General Assembly material
- Coffee breaks, lunches & refreshments
- Certificate of attendance
- Farewell dinner on Saturday the 24th of August
- General Assembly Mobile App

General Information

BADGES

Name badges are color-coded to reflect your registration as follows:

Member	
Research Affiliate	
Honorary-Emeritus	
Accompanying Person	
Guest	
Organizing Committee	
Exhibitor	
Staff	
Volunteers	
CIRP Office	

COFFEE BREAKS & LUNCHES

Coffee breaks will be served at M2 building and lunches will be served at M1 building.

SPEAKERS' PRESENTATION

A speaker presentation desk is available near the registration desk area in the M2 building.

Direct plug-in of personal presentation equipment or laptops is not permitted in the meeting rooms.

COMPUTER ROOM

A computer room will be located in Hall CR2. This room is equipped with laptops and a printer, available for your use at any time. Feel free to utilize these resources to ensure your work is uninterrupted throughout the event.

General Information

ADDITIONAL TICKET PRICES

Additional tickets for the Social and the Accompanying Persons Programs will be available. Find the price list below:

Assembly Dinner (adult)	140€ (including VAT)
Farewell Dinner (adult)	120€ (including VAT)
Assembly Dinner (children)	70€ (including VAT)
Farewell Dinner (children)	70€ (including VAT)
Accompanying Persons (1 day)	190€ (including VAT)

INTERNET ACCESS

A WiFi network is available in the area for your convenience.

EMERGENCIES & MEDICAL ASSISTANCE

In case of emergencies or if you need medical assistance, please promptly contact the registration desk.

CLIMATE

Thessaloniki enjoys a Mediterranean climate characterized by mild, wet winters and hot, dry summers; in August, the city experiences peak summer conditions with abundant sunshine, low humidity, and average temperatures often exceeding 30°C (86°F), occasionally reaching up to 35°C (95°F).

TIME ZONE

Greece operates on Eastern European Time (EET), which is UTC+2 hours.

UNITS OF MEASUREMENT

In Greece, the metric system is widely used, encompassing kilograms (kg), grams (g), liters (l), kilometers (km), and other standard units. Temperature is indicated in Celsius (°C).

ELECTRICITY/POWER SUPPLY

Greece, primarily uses the Type C and Type F electrical plugs. Type C plugs are the standard European two-round-pin plugs, while Type F plugs add grounding with two additional earth clips on the sides. Travelers may need adapters for non-European appliances.

General Information

CURRENCY EXCHANGE & ATMs

The official currency in Greece, is the euro (EUR). Both cash and cards are widely accepted throughout the city. Currency exchange centers are available downtown for converting foreign currencies to euros. Additionally, ATMs are easily accessible for withdrawing cash in euros.

TIPPING

Tipping in Greece is generally appreciated but not obligatory. In restaurants, a tip of 5-10% of the bill is customary if you are satisfied with the service.

SMOKING

Smoking is strictly prohibited in indoor public spaces. This includes restaurants, bars, cafes, and other enclosed areas. Designated outdoor smoking areas may be available in some establishments.

CONTACTS & PHONE NUMBERS

Secretariat: (0030) 6931569153

Transfer Coordinator: (0030) 6931571215



Thessaloniki: Stadiou 50 A, Pylaia, 55534 Thessaloniki, Greece
T: (+30) 2310 247743, (+30) 2310 247745,
E: info@globalevents.gr
Athens: 2 Valestra str. & 168 A. Syngrou Av., 17671 Kallithea, Athens, Greece
T: (+30) 210 3250260, (+30) 211 1825814,
E: athens@globalevents.gr
www.globalevents.gr

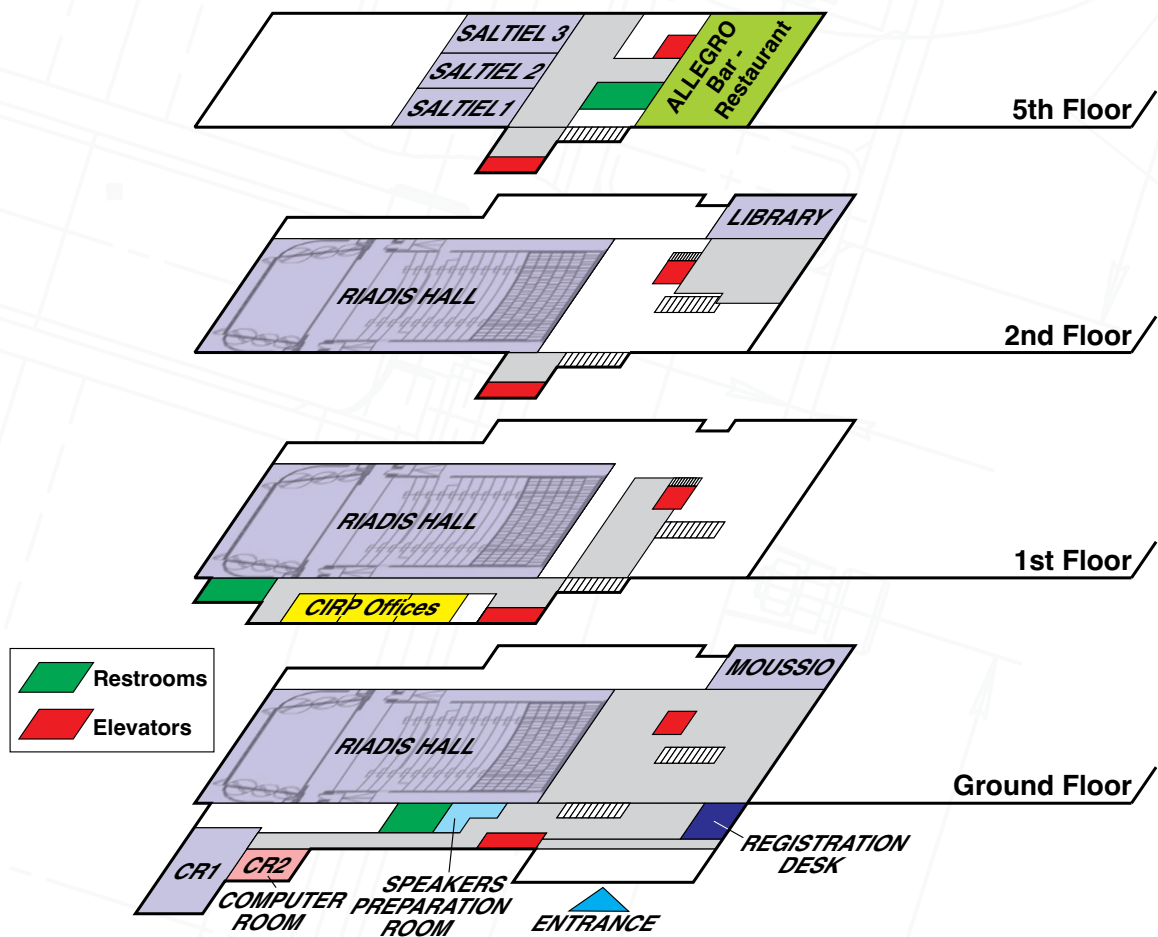


Aristotelous University of Thessaloniki,
 School of Engineering, Mechanical Engineering Department,
 Physical Metallurgy Laboratory, University Campus, 54124
 Thessaloniki, Greece
pml.meng.auth.gr



THE INTERNATIONAL ACADEMY
 FOR PRODUCTION ENGINEERING
www.cirp.net

Venue Floor Plan



Sponsors

DIAMOND

DMG MORI



Co-funded by the European Union

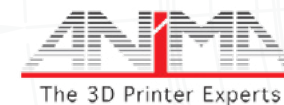


Mitutoyo

GOLD

SILVER

BRONZE



Auspices





73

rd

CIRP

GENERAL ASSEMBLY

www.cirp2024.org



**Organizing
Institution**



ARISTOTLE
UNIVERSITY
OF THESSALONIKI

Aristotle University of Thessaloniki
School of Engineering,
Mechanical Engineering Department,
Physical Metallurgy Laboratory,
University Campus,
54124 Thessaloniki, Greece
pml.meng.auth.gr

**Congress
Secretariat**



Global Events
...makes the difference!
Conference & Event Management

Thessaloniki:
50 A Stadiou Str., 55534,
Pylaia, Thessaloniki
Tel.: 2310 247734-43,
Email: info@globalevents.gr

Athens:
2 Valestra str. & 168 A. Syngrou Av.,
17671, Athens
Tel.: 210 3250260,
Email: athens@globalevents.gr