ICMMEN

7th International Conference on Manufacturing and Materials Engineering (ICMMEN)

Thessaloniki 2-3 July 2020

FINAL PROGRAM

(Greece time zone)

Thursday , July 2nd, 2020	

10^{00}-10^{10}	***OPENING CEREMONY,* WELCOME ADDRESSES**
10^{10}-10^{40}	***PLEN1: K.D. Bouzakis:*** "Advanced methods facilitating the prediction of coated tools' cutting performance in milling considering entry impact loads' duration"
10^{40}-11^{10}	***PLEN2: G.T. Virgil:*** "Complementary methods of profiling the tools that generate by enwrapping"
11^{10}-11^{40}	***PLEN3: P.J. Bartolo:*** "New trends on additive manufacturing"
11^{40}-12^{00}	**Break**

	ROOM A Chairman: P. Kyratsis Presentations Coordinator: G. Mansour	ROOM B Chairman: M. Placzek Presentations Coordinator: G. Skordaris
12^{00}-12^{20}	**SESSION 1** — **An Ad Hoc Decision Support Method over Additive vs. Conventional Manufacturing** *Stamatios Polydoras, Clio Vossou and Dimitrios Koulocheris*	**SESSION 2** — **Effect of the crystallinity of NCD and MLD diamond coatings characterized by same level of residual stresses after annealing on their fatigue strength and wear behavior in milling** *Georgios Skordaris, Tilemachos Kotsanis, Apostolos Boumpakis and Fani Stergioudi*
12^{20}-12^{40}	**Experimental Analysis and Soft Computing Modeling of Abrasive Waterjet Milling of Steel Workpieces** *Panagiotis Karmiris-Obratański, Nikolaos Karkalos, Anastasios Tzotzis, Panagiotis Kyratsis and Angelos Markopoulos*	**Influence of stiffness characteristics of a railway track on output parameters in a multibody model** (video presentation) *Ján Dižo and Miroslav Blatnický*
12^{40}-13^{00}	**Optimization of a novel external fixator for orthopedic applications** *Mohammed Alqahtani*	**The Influence of the AWJM Working Parameters on Manufactured Surfaces Microgeometry** *Iulian Patirnac, Razvan George Ripeanu and Eugen Laudacescu*
13^{00}-13^{20}	**A CPS platform oriented for Quality Assessment in welding** *Panagiotis Stavropoulos, Alexios Papacharalampopoulos and Kyriakos Sabatakakis*	**The Study of a Control Signal's Phase Shift Influence on the Efficiency of a System for Active Vibration Damping Based on MFC Piezoelectric Transducers** *Marek Płaczek*
13^{20}-14^{30}	**Break**	

	ROOM A Chairman: K. Salonitis Presentations Coordinator: D. Tzetzis	ROOM B Chairman: M. Banica Presentations Coordinator: A. Tsagaris
14^{30}-14^{50}	**SESSION 3** — **The mechanical performance of 3D printed hierarchical honeycombs using carbon fiber and carbon nanotube reinforced acrylonitrile butadiene styrene filaments** *Michel Theodor Mansour, Konstantinos Tsongas and Dimitrios Tzetzis*	**SESSION 4** — **A novel printing channel design for multi-material extrusion additive manufacturing** *Pinar Urhal*
14^{50}-15^{10}	**Vibration isolation performance of an elevator motor using Nitrile-Butadiene Rubber /Multi-Walled**	**Computer modelling and simulation of a novel printing head for complex tissue engineering constructs** *Gokhan Ates*

	Carbon Nanotube composite machine mounts *Konstantinos Tsongas and Gabriel Mansour*		
15^{10}-15^{30}	**Starch Sandstones in Building Bio-materials** *Gabriel Mansour, Maria Zoumaki and Dimitrios Tzetzis*		**An AM-oriented vehicle chassis' A-Pillar Design Approach** *Agisilaos Kyriazis, Stamatios Polydoras, Clio Vossou and Dimitrios Koulocheris*
15^{30}-15^{50}	**Electrospun PCL-Surgihoney meshes for skin wound healing applications** *Enes Aslan*		**Experimental study on noise reduction and performance enhancement for internal combustion engines** *Ioan Radu Şugar and Mihai Banica*
15^{50}-16^{10}	**Impact of process parameters on dimensional accuracy of PolyJet 3D printed parts using grey Taguchi method** *Kyriaki Evangelia Aslani, Apostolos Korlos, John Kechagias and Konstantinos Salonitis*		**Experimental Researches to Establish the Optimum Hardbanding Technology and Materials of the Heavy Weight Drill Pipe** *Mihaela Madalina Caltaru, Razvan George Ripeanu, Marius Badicioiu and Dragos Gabriel Zisopol*
16^{10}-16^{30}	**The virtual pole method applied for profiling the gear cutter tool for generating a K-type bore** *Georgiana Alexandra Costin and Virgil Gabriel Teodor*		**Prediction of the main cutting force in longitudinal turning of AISI D6 tool steel bars by applying full and fractional experimental design** *Kyriaki-E. Aslani, John D. Kechagias, Nikolaos A. Fountas, Nektarios Vidakis, Angelos Koutsomichalis, Dimitrios E. Manolakos and Nikolaos Vaxevanidis*
16^{30}-16^{50}	**Break**		
	ROOM A Chairman: A. Antoniadis Presentations Coordinator: G. Andreadis		**ROOM B** Chairman: A. Wróbel Presentations Coordinator: M. Mansour
16^{50}-17^{10}			**3D finite element analysis of Al7075-T6 drilling with coated solid tooling** *Anastasios Tzotzis, Angelos Markopoulos, Nikolaos Karkalos and Panagiotis Kyratsis*

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17^{10}-17^{30}	**SESSION 5**	**Modeling And Simulation Of The Nanosecond Pulsed Laser Engraving Process** *Evangelos Nikolidakis and Aristomenis Antoniadis*	**SESSION 6**	**Tribological Characterization of Some Elastomers Used at Progressive Cavity and Piston Pumps** *Mhd. Iylad Al Naboulsi, Niculae Napoleon Antonescu, Alin Dinita and Marius Morosanu*
17^{30}-17^{50}		**A Space-Time POD Basis Interpolation on Grassmann Manifolds for Parametric Simulations of Rigid-Viscoplastic FEM** *Orestis Friderikos, Marc Olive, Emmanuel Baranger, Dimitrios Sagris and Constantine N. David*		**Effect of machine hammer peening on the surface integrity of a ZnAl-based corrosion protective coating** *Alina Timmermann, Mohamed Abdulgader, Leif Hagen, Alexander Koch, Philipp Wittke, Dirk Biermann, Wolfgang Tillmann and Frank Walther*
17^{50}-18^{10}		**Prospective analysis of the impact of a pandemic in Industry 4.0** *Ana Isabel Quirós Gámez and Georgios Andreadis*		**Aluminum gas atomization through a Venturi nozzle** *Michail Tsirlis and Nikolaos Michailidis*
18^{10}-18^{30}		**Non-destructive testing of welded fatigue specimens** *Sofia Papanikolaou, Dimitrios Fasnakis, Andreas Maropoulos, Dimitrios Giagopoulos, Stergios Maropoulos and Theodoros Theodoulidis*		**Growth of hydrophobic membrane on copper surface and study of its corrosive behavior** *Fani Stergioudi, Aikaterini Baxevani, Azarias Mavropoulos and Nikolaos Michailidis*

Friday , July 3rd, 2020				
	ROOM A Chairman: M. Blatnický Presentations Coordinator: A. Tsagaris		**ROOM B** Chairman: O. Dodun Presentations Coordinator: S. Xanthos	
10^{00}-10^{20}	SESSION 1	**The design of mechatronic system for gel electrophoresis** *Apostolos Tsagaris, Konstantinos Theodoridis, Fotis Stergiopoulos, Dimitrios Bechtsis, Nikolaos Nikolaidis, Dimitrios Triantafillides, Asterios Papaoikonomou and Anastasios Filelis*	SESSION 2	**Safety Management of Hazardous Materials - Orphan Radioactive Sources: Contribution of STRASS Project** *Stelios Xanthos, Alexandros Clouvas, Fokion Leontaris and Nikolaos Liampas*
10^{20}-10^{40}		**A microcontroller-based software framework for controlling a mechatronic system** *Nikolaos Nikolaidis, Nikolaos Evgenidis, Dimitrios Bechtsis, Fotis Stergiopoulos, Apostolos Tsagaris, Dimitrios Triantafyllidis, Asterios Papaoikonomou and Anastasios Filelis*		**Functional Analysis Diagram of a Flux Modulated Magnetic Gear** *Gheorghe Galmadi and Oana Dodun*
10^{40}-11^{00}		**Design of Multiple Mailboxes** *Athina Baronos, Odysseus Manoliadis and Aristidis Pavlides*		**Model-based definition capabilities and its impact on industrial productivity** *Emmanouil Varitis, Konstantinos Rinos and Nikolaos Kostis*
11^{00}-11^{20}		**Design of a prototype of an engine mechanism with rotating cylinders** (video presentation) *Miroslav Blatnický and Ján Dižo*		**The influence of chromium as a diffusive additive in the boronizing treatment of AISI 4140 steel on the corrosion resistance of the coating evaluated by Electrochemical Impedance Spectroscopy (EIS)** *Dimitrios Zagkliveris, Azarias Mavropoulos and Efstathios Ntovinos*
11^{20}-11^{40}		**Code development for the implementation of the Part Conditional Scale Feature in 3D CAD software platforms** *Konstantinos Vogiatzis and Georgios Skordaris*		Presentation
11^{40}-12^{00}	Break			
	ROOM A Chairman: M. Botsaris Presentations Coordinator: A. Korlos		**ROOM B** Chairman: D. Karalekas Presentations Coordinator: K. Tsongas	
12^{00}-12^{20}	SESSION 3	**A Pedagogical Methodology for Introducing CAD Modeling Tools and 3D Printing Technologies to Adult Trainees** *Athanasios Manavis, Maria Chatzikyrkou, Prodromos Minaoglou and Nikolaos Efkolidis*	SESSION 4	**3D Printing Assisted Product Design Addressing Refugees Needs** *Antigoni Panagiotidou and Dimitris Karalekas*
12^{20}-12^{40}		**Usability evaluation of mechatronic system by primary school children** *Maria Chatzikyrkou*		**Design of 3D printed smart material compatible hand prosthesis** *Abdalla Omar and Mohamed Hassan*
12^{40}-13^{00}		**Research, Study, Design and Development of an Artificial Ear Splint Model by Using a 3D Printer** *Athanasios Argyropoulos and Pantelis Botsaris*		**Progress And Recent Trends In Generative Design** *Georgios Eleftherios Stavroulakis and Ioannis Ntintakis*
13^{00}-13^{20}		**Skills Requirements for the 4th Industrial Revolution: The Additive Manufacturing Case** *Panagiotis Stavropoulos, Andreas Lianos, Harry Bikas and Dimitris Mourtzis*		**3D-Printed Composite Bone Bricks For Large Bone Tissue Applications** *Evangelos Daskalakis, Liu Fengyuan, Anil Acar, Edera-Elena Dinea, Andrew*

		ROOM A		ROOM B
				Weightman, Glen Cooper, Koc Bahattin, Gordon Blunn and Paulo Bartolo
13²⁰-14³⁰		**Break**		
		ROOM A Chairman: E. Budak Presentations Coordinator: M. Zoumaki		**ROOM B** Chairman: P. Bartolo Presentations Coordinator: N. Michailidis
14³⁰-14⁵⁰	**SESSION 5**	**Design and Analysis of a 5 Axis Gantry CNC Machine Tool** *Esra YÜksel, Emre ÖzlÜ, Ahmet HamdİOral, Fulya Tosun, Osman Fatİh İĞrek and <u>Erhan Budak</u>*	**SESSION 6**	**Green Face of Packaging – Sustainability Issues of the Cosmetic Industry Packaging** *Jelena Drobac, <u>Vesna Alivojvodic</u>, Predrag Maksic and Marina Stamenovic*
14⁵⁰-15¹⁰		**Design of a spiral bevel gear acc. to ISO 23509:2006 standards** *Ioannis Tsiafis, <u>Polychronia Mamouri</u> and Kyriakos Kyriakidis*		**Circular Economy Framework for Sustainable Product Design Strategies** *Vesna Alivojvodic, Jelena Drobac, <u>Predrag Maksic</u> and Marina Stamenovic*
15¹⁰-15³⁰		**Advanced technologies for shoe sole production** *<u>Tatjana Spahiu</u>, Henrique Almeida, Rita Ascenso, Liliana Vitorino and Anabela Marto*		**Stop Wasting! A Plea for Maintenance** *<u>Felicia Veronica Banciu</u> and Eugen Pamintas*
15³⁰-15⁵⁰		Presentation		**Preliminary studies on the suitability of PETG for 4D printing applications** *<u>Mohamed Hassan</u>, Abdalla M. Omar, Evangelos Daskalakis, Fengyuan Liu and Paulo Bartolo.*