MME-2024

PROGRAM

SCIENTIFIC PROGRAM

Mechanics **Materials** **Energy**

20/05/2024

Morning					Break	Afternoon				
09:00 10:30	10:30 10:50	10:50 11:40	11:40 11:50	11:50 12:40	12:40 14:00	Sections	14:00 14:40	14:40-16:20	16:20 16:40	16:40-18:20
Opening ceremony	**Coffee break**	**Plenary-1** S. succi	**Plenary-2** CPE: M. Bouya	**Plenary-3** Dassault/Visiativ	**Lunch break**	**Mechanics Section**	**Speaker-1** S. Gouda	**MEC-1:** Manufacturing Processes	**Coffee break**	**MEC-2**: Material characterization
						Materials Section	**Speaker-1** W. Zaki	**MAT-1 :** Mechanics of Materials		**MAT-2 :** Composites and Bio-inspired Materials
						Energy Section	**Speaker-1** J.C. Batsale	**ENR-1**: Building thermal		**ENR-3**: Heat exchanger
								ENR-2: Solar Energy		**ENR-4 :** Materials physics for energy

21/05/2024

Morning				Break	Afternoon				
09:00 10:00	10:00 10:20	10:20 11:20	11:20 12:30	12:30 14:00	Sections	14:00 14:40	14:40-16:20	16:20 16:40	16:40- 18:00
Plenary-4 T. EL-Ghazawi	**Coffee break**	**Plenary-5** A.M. Hamouda (online)	**Plenary-6** Dassault/Visiativ	**Lunch break**	**Mechanics Section**	**Speaker-2** J. Rech	**MEC-3**: Modeling of Vibrational Systems	**Coffee break**	**Poster Session**
							MEC-4: Material behavior and modelling		
					Materials Section	**Seapker-2** M. Boutaous	**MAT-3 :** Materials Characterization		
							MAT-4 : Physics and Energy Materials		
					Energy Section	**Speaker-2** E. Ghorbel	**ENR-5**: Vehicles and engines		
							ENR-6: AI and cellular automata		
Workshop PLM: Training on Additive Manufacturing with NX (**Groupe A**)									

22/05/2024

Morning					Break	Afternoon		
09:00 10:00	10:00 10:20	Sections	10:20 11:00	11:00-12:40	12:40 14:00	14:00- 15:30	15:30 15:50	16:00-18:00
Plenary-7 A. Chamkha (online)	**Coffee break**	**Mechanics Section**	**Speaker-3** A. Omar	**MEC-5**: Modeling in Biomechanics	**Lunch break**	Closing ceremony	**Coffee break**	**Rabat Tour**
				MEC-6: Complex Fluid Dynamics				
		Materials Section	**Speaker-3** M. Tlemcani	**MAT-5 :** Multi-physical Behavior of Materials				
				MAT-6 : Materials Synthesis and Processing				
		Energy Section	**Speaker-3** M. El Ganaoui	**ENR-7**: Management and control				
				ENR-8: Wind power and fluid-solid interaction				
Workshop PLM: Training on Additive Manufacturing with NX (**Groupe B**)								
Workshop IRESEN : Dissémination des projets - HOLSYS/SECRETS								

PLENARY SESSIONS

Sauro SUCCI
IIT@La Sapienza.
Harvard University

Tarek El-Ghazawi
George Washington University

Abdel Magid HAMOUDA
Qatar University

Ali J. CHAMKHA
Kuwait College of Science and Technology

SPECIAL SESSIONS

MME-2024/ Day 1: 20/05/2024		
09:00-10:30 Auditorium	Opening ceremony	- M. Noureddine MOUADDIB President of the International University of Rabat
		- M. Az Eddine AZIM, President of the Chouaib Doukkali University
		- M. Abdellatif MOUKRIM President of the Hassan premier university
		- M. Mohamed BOULMALEF, Dean of college I&A-UIR
		- M. Alain DEGIOVANNI, LERMA director, UIR
		- Conference Chairs
		- Honorary guests
Coffee break		
10:50- 11:40 Auditorium	**Plenary-1**: **Sauro SUCCI** **Title**: Computer simulation of soft flowing matter	
11:40- 11:50 Auditorium	**Plenary-2**: **Mohsine BOUYA** **Conference title**: Presentation of center of Innovation and Entrepreneurship	
11:50- 12:40 Auditorium	**Plenary-3**: **Reda ATSOULI, Dassault Systemes** **Title**: 3DEXPERIENCE Virtual Twin at the service of Model Based System Engineering	
Lunch break		
MME-2024/ Day 2: 21/05/2024		
09:00-10:00 Auditorium	**Plenary-4**:**Tarek EL-GHAZAWI** **Title:** The Future of Physical Simulations in the Next Era of Computing Technologies	
Coffee break		
10:40- 11:30 Auditorium	**Plenary-5**: **Abdel Magid HAMOUDA** **Title**: Functionally Graded Materials: Advancements, Opportunities and Challenges	
11:30- 12:30 Auditorium	**Plenary-6**: **Visiativ** **Conference title**: Industrie 4.0	
Lunch break		
MME-2024/ Day 3: 22/05/2024		
09:00-10:00 Auditorium	**Plenary-7**: **Ali J. CHAMKHA** **Title**: Transport of Nanofluids with Applications	
Coffee break		

PLENARY SPEAKERS

Prof. Sauro SUCCI

Italian Institute of Technology, @ La Sapienza, Rome
Physics Department, Harvard University, Cambridge USA

Sauro Succi serves as Senior Research Executive and Principal Investigator at the Center for Life NanoNeuro Sciences at la Sapienza of the Italian Institute of Technology and a Research Associate of the Physics Department of Harvard University since 2000. He has been a Research Director at the Institute for Applied Computing of the Italian national Research Council (1995-2018), a senior research staff at the IBM Europena Center for Scientific and Engineering Computing (1986-1995) and an Euratom research fellow at the MaxPlanck Institut for Plasmaphysics in Garching (1981-82). He holds a degree in nuclear engineering from the University of Bologna and a PhD in physics from the Swiss Polytechnic in Lausanne. His research activity covers a broad range of topics related to the mathematical modeling and computer simulation of complex states of flowing matter, such as thermonuclear plasmas, fluid turbulence, soft-bio matter, as well as quantum and subnuclear fluids. He is best known for his contributions to the early inception, development and application of the Lattice Boltzmann method, for which he has received a number of international awards, including the APS Fellowship (1998), the Alexander von Humboldt Award in Physics (2002), the Raman Chair of the Indian Academy of Sciences (2012), the American Physical Society Aneesur Rahman Prize in Computational Physics (2017), and the CECAM Berni Alder Prize (2019) for exceptional contributions to the microscopic simulation of matter. He is also a European Research Council awardee (2017,2022), an elected member of Academia Europaea (2015) and a Honorary Professor at University College London (2022). He ranks in the upper one-two per thousand of the Stanford database of the most cited physicists worldwide.

Prof. Ali J. CHAMKHA

Kuwait College of Science and Technology
Distinguished Professor and Dean of Engineering

Ali J. Chamkha is a Distinguished Professor of Mechanical Engineering and Dean of Engineering at Kuwait College of Science and Technology. He earned his Ph.D. in Mechanical Engineering from Tennessee Technological University, USA, in 1989. His research interests include multiphase fluid-particle dynamics, nanofluids dynamics, fluid flow in porous media, heat and mass transfer, magnetohydrodynamics and fluid-particle separation. He is currently the Editor-in-Chief for the Journal of Nanofluids and has served as an Editor, Associate Editor or a member of the editorial board for many journals such as ASME Journal of Thermal Science and Engineering Applications, ASME Journal of Nuclear Engineering and Radiation Science, International Journal of Numerical Method for Heat and Fluid Flow, Journal of Thermal Analysis and Calorimetry, Thermal Science journal, Scientia Iranica, Special Topics & Reviews in Porous Media, Journal of Porous Media, Journal of Thermal Engineering, Recent Patents on Mechanical Engineering, Journal of Applied Fluid Mechanics, International Journal of Fluids and Thermal Sciences, Journal of Heat and Mass Transfer Research, International Journal for Microscale and Nanoscale Thermal and Fluid Transport Phenomena, International Journal of Industrial Mathematics and many others. He has authored and co-authored over 1100 publications in archival international journals and conferences. His current h-index is 125 and total citations is 50,191. Professor Chamkha was included in the World's Top 2% Scientists 2020, 2021 and 2022 lists (by Stanford University) with a Global Rank #21, #20 and #23 out of a total of 92,645, 109,724, and 121,447, respectively and Rank #1 at the Arab World level in Mechanical Engineering and Transports category for all these years.

Prof. Tarek EL-GHAZAWI

IEEE Fellow, Professor and Chair, ECE Department
George Washington University

Tarek El-Ghazawi is Professor and Chair of the Department of Electrical and Computer Engineering at The George Washington University, where he led the university-wide Strategic Academic Program in High-Performance Computing. His research interests include high-performance computing, computer architectures, reconfigurable and embedded computing, and nanophontonic based computing. El-Ghazawi has over 300 refereed research publications and his work was funded extensively by such government organizations like DARPA, NSF, AFOSR, NASA, DoD and industrial organizations such as Intel, AMD, HP, SGI. Dr. ElGhazawi has served in many editorial roles including an Associate Editor for the IEEE Transactions Parallel and Distributed Computing and the IEEE Transaction on Computers. Professor El-Ghazawi is a Fellow of the IEEE and was selected as a Research Faculty Fellow of the IBM Center for Advanced Studies, Toronto. He was also awarded the Alexander von Humboldt Research Award, the Alexander Schwarzkopf Prize for Technical Innovation, The IEEE Outstanding Leadership Award by the IEEE Technical Committee on Scalable Computing, and the GW SEAS Distinguished Researcher Award. El-Ghazawi had served as a senior U.S. Fulbright Scholar, was selected an IEEE Computer Society Distinguished Visitors Program Speaker and a Distinguished Visiting Fellow by the U.K. Royal Academy of Engineering.

Prof. Abdel Magid HAMOUDA

Qatar University
Professor in Mechanical and Inustrial Engineering, College of Engineering

Abdel Magid Hamouda is the Professor in Mechanical and Inustrial Engineering, College of Engineering, Qatar University. He was Head of Mechanical and Industrial Engineering Department, Associate Dean for Research and Graduate Studies, Associate Dean for Academics, and Dean of College of Engineering, Qatar University. He is a member of the American Society of Mechanical Engineering (ASME), senior member of Institute of Industrial Engineering (IIE), USA, and Member of the Institute of Highway Transportation, UK and member of American Society for Engineering Education, ASEE, USA. He has published over 400 articles, of which over 250 are in well-reputed international journals and has edited several conference proceedings. He is regularly invited as keynote and invited speaker for various conferences, seminars and workshops. He hold multiple US and Malaysian patents, during last five years, he and his team were granted five US Patents. His research focuses on engineering materials and design, quality and reliability engineering, artificial intelligence and process optimization as well as engineering education. He is currently managing research fund worth over US$ 1,000,000. His research has been funded by the Qatar National Research Fund, Qatar University, Shell Company, ExxonMobil, Maersk, Marubeni, UPM, among others. Dr. Hamouda was the recipient of the (Silver award) 2nd place at the Arab Business Plan competition (by Intel Company) in Amman, Jordan. He and his team won Outstanding Paper Award in the Emerald Literati Awards for Excellence 2019 and 2020 for their papers published in Journal of Applied Research in Higher Education. He was honored with the prestige's Takreem Scientific and Technological Achievement Award in 2010, this is highest award for scientific and technological achievement for Arab scientist globally. He won the Qatar University Merit Award for the years 2010, 2014 and 2020. Also, he was winner for QU Research Excellence Award in 2016 and QU Service Award 2021. Most recently, Dr. Hamouda was listed in Top 2% highly cited researcher in the world by Stanford University and Elsevier, USA (2020, 2021, 2022). In recent ranking by Research.Com, Dr. Hamouda is ranked number 1 nationally in Qatar and among Top 600 globally in Mechanical and Aerospace Engineering Discipline.

GUEST SPEAKERS

Prof. Joël RECH

Centrale Lyon – ENISE

. Joël Rech is a professor at Ecole Centrale de Lyon - ENISE. He heads a 25-strong research group working on the characterization and modeling of physical phenomena at the tool/material interface in cutting and superfinishing operations. He has made remarkable advances in the numerical modeling of surface integrity induced by cutting and polishing processes (residual stresses, roughness, microstructure) and in the modeling of tribological phenomena (friction, wear, etc.) of cutting tools. He has supervised 40 doctoral theses and published over 250 articles, which have been cited more than 8,000 times. He has an H-index of 50, is a member of CIRP and is on the editorial board of 6 international journals. He has been a member of over 50 scientific committees at international conferences. From 2014 to 2020, he was also Vice-President for Research at ENISE. Since 2022, he has been on Stanford University's list of the world top 2% of scientists. He is also CEO and founder of the MISUTECH company, which publishes MISULAB, the first industrial software to predict the state of residual stresses induced by cutting operations.

Prof. Wael ZAKI

Khalifa University

Wael Zaki is Professor and Associate Chair of Mechanical Engineering at Khalifa University in Abu Dhabi, UAE. He received his MSc and PhD degrees in solid mechanics from Ecole Polytechnique in 2003 and 2006, respectively, before completing a habilitation degree (HDR) at Pierre & Marie Curie University in 2014. Prior to joining Khalifa University, professor Zaki was a postdoctoral fellow and adjunct faculty at ENSTA-ParisTech (2006-2007) and an R&D Engineering in Luxembourg (2007-2010). His research focuses on modeling, simulation and experimental characterization of inelastic materials and structures, with emphasis on shape memory alloys. His recent work deals with the development, characterization and additive manufacturing of architected shape memory alloys and their composites. Professor Zaki is the recipient of Khalifa University's Excellence in Research award and is recognized on Stanford's list of top 2% scientists in the world for the years 2019, 2020 and 2021.

Prof. Jean-Christophe BATSALE

Arts et Métiers ParisTech

Jean-Christophe BATSALE was born in 1959 in Bordeaux (France). He obtained a PhD in Mechanical Engineering at the University of Bordeaux in 1984 and a Capacitation to Steer Researches (Habilitation à Diriger des Recherches) at the Institut National Polytechnique de Lorraine, Nancy, (France) in 1992. He became Senior Scientist (Chargé de recherche), in 1985, at the french center for research : « Centre National de la Recherche Scientifique »(CNRS) at the Laboratoire d'Energétique et de Mécanique Théorique et Appliquée, in Nancy. He returned to Bordeaux in 1995 as Senior Scientist at the Laboratoire Energétique et Phénomènes de Transfert. Since 1998, he is Professor in the Bordeaux Campus at the school of engineering: "Arts et Métiers Paris-Tech" (In charge for pedagogy of the "heat and mass transfer" department and affected at the I2M-Institute of Mechanics and Mechanical engineering, Joint Research Unit CNRS 5295, head of the "transfer and fluids" research department).

Prof. Mouhaydine TLEMCANI

University of Evora

Mouhaydine Tlemçani was born in Azrou, Morocco, in 1966. He received the M.Sc. degree in electrical engineering from Slovak Technical University, Bratislava, Slovak Republic, in 1992 and the Ph.D. degree from the Universidade de Évora, Évora, Portugal, in 2007.,He is currently an Assistant Professor of instrumentation and control theory with the Department of Physics, Universidade de Évora. He is also a Full Member of the Centro de Geofisica de Évora and a Collaborator with the Instituto de Telecomunicações, Lisbon, Portugal. His current research interests include electrical measurements, signal processing, and nonlinear dynamics

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Prof. Ashraf A OMAR

International University of Rabat

Ashraf A. Omar serves as a professor in the School of Aerospace and Automotive Engineering at the International University of Rabat (UIR). Before his current position, he held faculty roles at the International Islamic University Malaysia (IIUM), the University Putra Malaysia (UPM), and the University of Tripoli (UOT). In 1988, he completed his B.Sc. in aeronautical engineering at the University of Tripoli. Following this, he obtained his MSc in 1994 and PhD in 1999 from the aerospace engineering department at Seoul National University (SNU). Professor Ashraf's research focuses on various areas such as computational fluid dynamics, aerodynamics, road vehicle aerodynamics, flow control, experimental aerodynamics, wind turbine aerodynamics, bio-aerodynamics, UAVs, and MAVs. He has authored over 170 articles in peer-reviewed journals and conference papers. He received several research grants as a primary/co-investigator.

Prof. Elhem GHORBEL

CY Cergy Paris University

Elhem GHORBEL has completed his PhD at the age of 27 years in materials science and engineering from the National High Engineering School of Mines - Paris. She is Full Professor at CY Cergy Paris Université in the department of Civil Engineering (IUT) since 2003. She has several institutional activities and scientific responsibilities at the national and international levels. She has managed several research projects. She is ranked among the top 2% scientists in Civil Engineering in accordance to the global database produced by Stanford University since 2020. Her research interests cover the mix design, the mechanical and fracture behavior of materials (self-compacting, bituminous and resin concretes, composites, polymers), valorization of inert and industrial wastes in concrete, the repairing and strengthening of concrete by composites, the durability of heterogeneous materials (aging, Chemical attacks, biodegradation and freezing thawing resistance), LCA.

Prof. Sherif GOUDA

Nazarbayev University

Dr. Sherif Araby Gouda has a wide range of expertise spanning mechanical engineering, manufacturing and polymer processing since 2006. He started his research on investigating and optimising non-traditional machining process parameters including electrochemical and electro-discharge machining processes using design of experiment (DoE) approach. Since 2011, he has substantially contributed in the development of functional polymer nanocomposites, including the fabrication and characterization of graphene platelets, and their polymer nanocomposites as well as the investigations of the structure-property of these composites. He developed a three-phase elastomer/graphene/carbon nanotube nanocomposite using an industry attractive route. This nanocomposite has substantial mechanical performance combined with high thermal and electrical conductivity. He also developed elastomer composites with high flame retardancy and durability using graphene platelets. Dr. Sherif worked on other polymers, specifically, epoxy to improve their high brittleness and low fatigue resistance limitations.

Prof. M'hamed BOUTAOUS

CETHIL/INSA Lyon

M'hamed BOUTAOUS has a rich academic background with a strong focus on thermodynamics, polymer science, and numerical modeling. Their research interests span a wide range of topics, including the analysis and modeling of thermophysical properties, microinjection molding of polymers, and the development of advanced thermal techniques. His work has been significantly associated with the Centre d'Energétique et de Thermique de Lyon, CNRS Centre National de la Recherche Scientifique, INSA Lyon, and Université de Lyon, among others. These affiliations suggest a deep involvement in the French scientific community and a commitment to collaborative research. Their research on the crystallization and melting behavior of PLA with talc, as well as the morphology and flow effect of microinjection-molded plastic microgears, indicates a keen interest in polymer science. This is further supported by their work on the numerical simulation of flow and thermal behavior of polymers under the microinjection molding process.

Mohammed EL GANAOUI

University of Lorraine

Mr. El Ganaoui is a Professor at the University of Lorraine and a researcher at the Jacques Villermaux Federation for Mechanics, Energy, and Processes (FR 2863/LERMAB). He leads research in Energy at the Henri Poincaré University Institute in Longwy. An expert in doctoral training, he has co-supervised more than twenty-five doctoral and HDR theses and participated in over sixty doctoral and HDR thesis committees. His research aims at understanding heat and mass transfer through modeling and numerical simulation, with a specific focus on solid/liquid/vapor phase change. Applications include materials and energy, benefiting from the analysis of fine phenomena in energy systems, especially for sustainable buildings (Eco-materials). Mr. El Ganaoui teaches continuum mechanics, fluid mechanics, heat transfer, and numerical methods in various training cycles at the University of Lorraine (Longwy, Nancy, and Metz), as well as internationally.

SECTIONS AND MAIN TOPICS

MECHANICS SECTION		MATERIALS SECTION		ENERGY SECTION	
MEC-1	Manufacturing Processes	MAT-1	Mechanics of Materials	ENR-1	Building thermal
MEC-2	Material characterization	MAT-2	Composites and Bio-inspired Materials	ENR-2	Solar Energy
MEC-3	Modeling of Vibrational Systems	MAT-3	Physics and Energy Materials	ENR-3	Heat exchanger
MEC-4	Material behavior and modelling	MAT-4	Multi-physical Behavior of Materials	ENR-4	Materials physics for energy
MEC-5	Modeling in Biomechanics	MAT-5	Materials Characterization	ENR-4	Vehicles and engines
MEC-6	Complex Fluid Dynamics	MAT-6	Materials Synthesis and Processing	ENR-6	AI and cellular automata
				ENR-7	Management and control
				ENR-8	Wind power and fluid-solid interaction

MECHANICS SECTION

Chair
Tarek MABROUKI
University of Tunis El Manar

Co-chair
Fethi ABBASSI
American University of the Middle East

MME-2024/ Day 1: 20/05/2024				
14:00-14:40 Hall B	**Prof. Sherif Araby Gouda, Nazarbayev University** Recent Approaches of Interface Strengthening in Fiber Metal Laminates			
14:40-16:20	**MEC-1:** Manufacturing Processes **Chair: El Hachmi ESSADIQI, (UIR), Asma BELHADJ, University of Tunis El Manar**	Hall B	**MEC-2:** Material characterization **Chair: Sherif Araby GOUDA, Nazarbayev University**	Hall D
14:40-14:55	A Literature review of 3d Printing of Composite Materials: Design and Technologies *Authors:* ***Ksiouar Mohamed****, Boujmal Radouane, Garziad Mouad, Saka Abdelmjid*		A comparative study of the oxide layer scratch resistance on the 2017A and 7075-aluminum alloy substrates *Authors:* ***Abid Mohamed***	
14:55-15:10	An improved modeling of the cutting geometry in ball end milling with tilt inclination *Authors:* ***Belguith Rami****, Regaieg Amine, Maaloul Makram, Amrouche Abdelwaheb, Sai Lotfi*		Evaluation of the Elbow CPVC Material Damage Mechanisms *Authors:* ***Ouaziz Houria,*** *Sadek El Mostafa, Wahid Achraf, Mouhib Nadia, Lahlou Mohammed*	
15:10-15:25	Effect Of Temperature On The Mechanical Behavior Of Part In Fused Deposition Modeling Fdm Via Comsol: Crystallization And Mechanical Proprietes *Authors:* ***Khalil Chihabeddine****, Lahlou Mohammed, Kandoussi Khalid, Ben Ayad Anass, Daya Abdelmajid*		Enhanced Mechanical and Thermal Properties of Epoxy Nanocomposites with Chemically Modified Bismuthene Nanosheets *Authors: Gouda Araby Sherif, Bakhbergen Umut,* ***Abbassi Fethi****, Shehab Essam*	
15:25-15:40	Experimental study of the effect of support structure on the properties of FDM printed parts *Authors:* ***Antar Intissar,*** *B.B.M.A. Al Nahari, Khalid Zarbane, Mouhamed El Oumami, Beidouri Zitouni*		Influence of localized defects on buckling strength of stiffened panels *Authors:* ***Feddal Ikram****, Zniker Houcine, El Kouifat Mohammed Khalil*	
15:40-15:55	J-Integral Analysis of Raster Width Influence in Printed PLA CT Specimens: Experimental and Numerical Study *Authors:* ***Aouri Oumaima****, Chouaf Abdelkrim, Saadouki Bouchra*		Modified Field-Backofen Superplastic Constitutive Model Parameters Identification of AA8090 Al-Li Alloy *Authors:* ***Lahbari Abdellah****, Bouchaala Kenza, Faqir Mustapha, Essadiqi Elhachmi*	

15:55-16:10		Study of the influence of temperature on chlorinated polyvinyl chloride (CPVC) using static tests. *Authors:* ***Bennis hind****, Sandabad sara, Hachim abdelilah, El Had khalid, El Maliki anas*
MME-2024/ Day 2: 21/05/2024		
14:00-14:40 **Hall B**	**Prof. Joël RECH, LTDS/ENISE, France** Influence of Machining on Surface Integrity and Durability of Structural and Strategic Components	
14:40-16:20	**MEC-3:** Modeling of Vibrational Systems **Chair: Abdelmajid DAYA, University of Moulay Ismail** **Hall B**	**MEC-4:** Material behavior and modelling **Chair: Joel RECH , Centrale Lyon/ENISE** **Hall D**
14:40-14:55	Computational Modeling and Analysis of Transverse Vibration in an Equivalent Plate System. *Authors:* ***Majid Abdelfattah****, Abdeddine El Mehdi , Beidouri Zitouni, Zarbane Khalid*	Multiscale Damage Analysis of Carbon Woven-PPS Laminates Subjected to Uniaxial and Biaxial Loading *Authors:* ***Abbassi Fethi****, Ahmad Furqan, Araby Sherif*
14:55-15:10	Numerical Study of the Equivalence of Non-linear Longitudinal Vibrations of a Discrete System *Authors:* ***Abdeddine El Mehdi****, Majid Abdelfattah, Zarbane Khalid, Beidouri Zitouni*	Numerical modeling of the compression of a Intersected curved honeycomb reinforced-rhombus core with single and double diagonal lines *Authors:* ***Bouakka Kaoutar****, Abbadi Ahmed, Capelle Julien, Abbadi Mohammed*
15:10-15:25	Shannon Wavelet Analysis of S0 Lamb Mode in Trilayered Structures. Comparison with GUIGUW *Authors:* ***Yacoubi Abdelali****, Jabiri Ayoub, El Allami Mohammed, Mandry Rachid*	Numerical modeling of metal fibre laminates disbanding with tapered edge *Authors:* ***Hamdaoui Alghalia****, Abbadi Ahmed, Capelle Julien, Abbadi Mohammed*
15:25-15:40	The effect of temperature change on the transverse vibration frequencies of a carbon nanotube *Authors:* ***Echouai El Kouchi***	Numerical modeling of the impacted structure with star honeycomb shape. *Authors:* ***Hamdaoui Ahmed****, Abbadi Ahmed, Capelle Julien, Abbadi Mohammed*
15:40-15:55	Modeling of an horizontal axis wind turbine blade based on local radial basis function method *Authors:* ***Mnebhi-Loudyi Asmae****, Ouazar Driss, Boudi El Mostapha*	Brownian Motion and Thermophoresis Coupling in Solid-Liquid Nano-Phase Change Materials *Authors:* ***Lahsen-Cherif Ayoub****, El Qarnia Hamid, El Afif Ali*
15:55-16:10	Integration of an experimental transducer signal for the control of cylindrical pipe *Authors:* ***Zitouni Ismaine****, Rhimini Hassan, Chouaf Abdelkerim*	Surrogate modelling based approach for the design of a BWB UAV *Authors:* ***Hakim Mohamed****, Choukri Saad, Ait Ali Mohamed El Amine*
15:10-16:25	Prediction of the optimal insertion depth of individual noise protection devices (INPD) in the human ear. *Authors:* ***Rich Mohamed****, Assif Safaa, Faiz Adil, Hajjaji Abdelowahed*	Advances of Multiscale Modelling (MM) for construction materials using Machine Learning (ML) *Authors:* ***Malki Mounia***
16:25-16:40	FE Numerical evaluation of the failure mechanical of a vehicle's engine mount under dynamic impact *Authors:* ***El Alami Mohammed****, Laazizi Abdellah*	Numerical study of the evolution of stress intensity factor in pressure equipment *Authors:* ***Fatima Amiouar,*** *Abdelilah Hachim, Anas El Maliki*
MME-2024/ Day 3: 22/05/2024		
10:20-11:00 **Hall B**	**Prof. Ashraf Omar, International University of Rabat** Bio-Inspired Aerodynamics: A Research Perspective	
11:00-12:40	**MEC-5**: Modeling in Biomechanics **Chair: Taysir REZGUI (Carthage University) , Moncef GHISS (Sousse University)** **Hall B**	**MEC-6:** Complex Fluid Dynamics **Chair: Soufiene BETTAIBI, International University of Rabat** **Hall D**
11:00-11:15	Finite Element Modeling of Bone Remodeling Disrupted by Cancer and its Treatment *Authors:* ***Ait Omghya Imane****, Barkaoui Abdelwahed*	Fluid-Structure Interaction of two-leaflet valves dynamics under flow *Authors:* ***Bou Orm Alaa****, Kaoui Badr*
11:15-11:30	Did the squat effectively strengthen the gluteal muscles? Musculoskeletal Modeling contribution *Authors:* ***Rezgui Taysir,*** *M. Khedima, M.B. Ben Othman*	Influence of Dimensionless Control Parameters on the Stability of Complex Fluids *Authors:* ***Madi Mohamed****, Khalid Souhar, Hamid Zidouh, Abdessamade Rafiki*
11:30-11:45	Geometric reconstruction of the external human ear from radiological images: a precise and realistic approach *Authors:* ***Elghanaoui Souad****, Assif Safaa, Faiz Adil, Hajjaji Abdelowahed*	Magnetohydrodynamic blood flow study in bifurcated artery using Lattice Boltzmann approach *Authors:* ***Neflas Fatima Zahra****, Bettaibi Soufiene, Barkaoui Abdelwahed, Kuznik Frederic*

11:45-12:00	Modeling Guided Waves Propagating in Bones with a Bilayer Tubular Model *Authors: Drissi azdine*	Numerical Modeling of the Enhancement of Nanofluid in Mixed Convection *Authors: **El Hadoui Bilal**, Kaddiri Mourad*
12:00-12:15	Numerical modeling and study of the Achilles tendon undergoing a plantarflexion *Authors: **Moncef Ghiss**, I. Mohsni, M. Laroussi, L. Allègue, K.Farina,A.Chebbi And M. Hahn*	Numerical study of the effect of magnetic field on blood flow: Lattice Boltzmann approach *Authors: **Cherkaoui Ikram**, Bettaibi Soufiene, Barkaoui Abdelwahed, Kuznik Frederic*
12:15-12:30	Running Speed Classification based on Ground Reaction forces and Machine Learning Approaches *Authors: Gabsi Firas**, Rezgui Taysir,** Chebbi A. Chaker A., Bennour S., Hahn M.*	Utilisation de la Méthode Spectrale pour l'Analyse des Problèmes du Réservoir à Vagues Instationnaire *Authors: **M. Drissi**, M. Mansouri, S. Mesmoudi*
12:30-12:45	Prognostics of Knee Osteoarthritis Induced by Cyclic Loading Activities: A Model-Based Analysis *Authors: **Mekrane Fatima Zahra**, Ouladsine Radouane, Barkaoui Abdelwahed*	Magnetohydrodynamic double diffusive mixed convection with Soret and Dufour effects using hybrid Lattice Boltzmann Finite Difference model *Authors: **Bouthayna mhamdi**, Bettaibi soufiene, Chafra moez*

Poster session

MME-2024/Day 2 : 21/05/2024

16:00-18:00 **Atrium**	Effect of Flow on the Crystallization Kinetics of Polymers in the Micro-Injection Molding Process *Authors: **Quebret Salah Eddine***
	Numerical simulation of laser heat treatment of AISI 4340 Steel *Authors: **Slama Salma***
	Numerical study of the TIG welding of die-casting Mg-Al-Mn Magnesium Alloy *Authors: **Belhadj Asma***
	Propagation properties of Bessel-sinh-Gauss beam in a paraxial ABCD optical system *Authors: **Iraoui Fatima***
	Predicting knee OA: A comprehensive exploration using combination of mathematical modeling and Machine learning *Authors: **Mekrane Fatima Zahra***
	Propeller-Propeller Aerodynamic Interactions in Tilt Configuration during Transition Phase *Authors: **Combey Kangni***
	Selection of Patterns in Rayleigh-BÃ©nard Convection Using Nonlinear Viscoelastic Fluids *Authors: **Abdelkarim Ez-Ziraiy***
	The Improvement Of The Dynamic Behavior Of No-Till Seeder Tine *Authors: **Bouaicha Mohammed***
	The process of Fused Deposition Modeling: a literature review *Authors: **Ilboudo Johnanthan Fabrice***
	Understanding the Dynamics of Respiratory Droplet Migration in Buoyancy-Driven Flow: A Lagrangian-Eulerian Perspective *Authors: **Hairch Youssef***
	Additive Manufacturing of Integrated Honeycomb Sandwich Structure Using Al-Fe-Zr Aluminum alloy grade *Authors: **Haifa Sallem***
	Automated Detection of Aircraft Surface Findings Using Image Processing Techniques *Authors: **Mesbahi Oumaima***
	Mechanical Properties and Crack Propagation in 3D-Printed ABS Polymers: A Simulation Study *Authors: **Taoufik Hachimi***
	3D Finite Element modeling of Mineralized Collagen Fibril, the ultrastructure of the bone multiscale arrangement *Authors: **Kraiem Tesnim,***
	Detection and monitoring of defects in rolling element bearings using sound signatures *Authors: **Yassine Elhjouji***

MATERIALS SECTION

Chair
Tarak BEN ZINEB
University of Lorraine

Co-chair
Mohamed OULD MOUSSA
International University of Rabat

MME-2024/ Day 1: 20/05/2024				
14:00-14:40 Hall A	**Prof. Wael ZAKI, Khalifa University** Influence of Process Parameters on the Mechanical and Functional Properties of Additively Manufactured Nitinol			
14:40-16:20	**MAT-1 :** Mechanics of Materials **Chair: Wael ZAKI, Khalifa University**	**Hall E**	**MAT-2 :** Composites and Bio-inspired Materials **Chair: Mohamed OULD MOUSSA International University of Rabat**	**Hall F**
14:40-14:55	Enhancing the Strength and Thermal Performance of Raw Earth Bricks: The Role of Kaolin-Based Geopolymerization *Authors: **Char Mohamed**, Tilioua Amine, Khrissi Youssef*		Enhancing Composite Layer Performance through Innovative Metaheuristic Optimization *Authors: **Bibridne Youssef**, Ait El Fqih Mohammed, Aqil Said*	
14:55-15:10	Breakthrough in the manufacture of 316L stainless steel by laser powder bed melting: an approach based on simulation and experimental analysis *Authors: **Fri kaoutar**, Laazizi abdellah, Akhrif iatimad, El Jai mostapha, Bensada mouad*		Mesoscopic Modeling of Sorption of Water in (Clay / Vinyl Ester) Nanocomposite Membranes *Authors: **El Rhali youness**, El Afif ali, El Qarnia Hamid*	
15:10-15:25	Influence of plasticizer introduction on PLA mechanical properties. *Authors: **Morano Chiara**, Coppola Leonard, Candamano Leonardo, Pagnotta Leonardo*		Performance Evaluation of LDPE-RCA Paver Block Composite through Combined Destructive and Non-Destructive Testing *Authors: **Saraswat Pranav**, Singh Bhupendra*	
15:25-15:40	Mechanical and thermal characterization of local building materials stabilized by geopolymer synthesis of kaolin and alkaline solution mixture *Authors: **Char Mohamed**, Tilioua Amine*		Biopolymeric Composite Coatings for Controlled Degradation and Mechanical Behavior of AZ31 as Temporary Biodegradable Implants. *Authors: Atallah mohamed Salah, Khlifi akila, **Kaouther khlifi**, Barhoumi najoua, Masoud atapour, Sima Nkele mariejonas, Ayoub hadj Said*	
15:40-15:55	Identification of combined hardening model parameters in low cyclic fatigue of AA2024-T351 aluminum alloy *Authors: Khadimallah Aymen, **Hfaiedh Naila**, Petit Johann , Znaidi Amna*		Comprehensive Review of Ti–6Al–4V Alloy: Diverse Biomedical Applications *Authors: Anaya achref, Hentati Fatma, **Znaidi Amna***	
15:55-16:10	Rheological and mechanical optimization of self-compacting concrete: Taguchi TOPSIS approach. *Authors: **Hamdouni Samir***		Effect of Thermal and Chemical Treatment of Bamboo Fibers on the Mechanical Properties of Polypropylene Random *Authors: **Chakir Afaf**, Alami Mohammed, Assouag Mohamed, Nourredine Othmane, Elamarty Fahed*	
16:10-16:25	Tailoring MgTiO3-CaTiO3 Ceramic Properties through Composition Optimization and Uniaxial Pressure *Authors: **Jebri Zaineb**, Taleb Ali Mahfoudh*		Experimental analysis of the improvement of the properties of local clay materials unstabilized and stabilized by date palm fiber *Authors: **Khrissi Youssef**, Tilioua Amine*	
MME-2024/ Day 2: 21/05/2024				
14:00-14:40 Hall A	**Prof; M'hamed BOUTAOUS, CETHIL/INSA Lyon** Modeling heat transfer, transcrystalisation and visco-hyperelastic coupling for semicrystalline thermoplastic composites during thermoforming process			
14:40-16:20	**MAT-3** : Physics and Energy Materials **Chair: Mohammed BALLI,**	**Hall E**	**MAT-4 :** Multi-physical Behavior of Materials	**Hall F**

	International University of Rabat		**Chair: Tarak BEN ZINEB, University of Lorraine**	
14:40-14:55	DFT study of the structural, electronic and optical properties of binary compounds based on InX (X=P, As, Sb) *Authors: **Imtki Hamza***		Numerical and analytical investigation of Shape Memory Alloy helical springs response under axial forces *Authors: **El Khaddaji Hamza**, Ould Moussa Mohamed, Khay Ismail, Ben Zineb Tarak*	
14:55-15:10	Study of the effect of layer thickness on the photocatalytic activity of TiO2 *Authors: **Sadek Otmane**, Touhtouh Samira, Hajjaji Abdelowahed*		Optimizing KNN-Based Piezoelectric Ceramics Synthesis: A Comparative Study between WAB Milling and Agate Mortar Mixing *Authors: **Misski Bouabid**, Belkoufa Ikram, Alaoui Belghiti amine, Mouyane Mohammed, Hajjaji Abdelowahed, Bernard Jaame, Houivet David, Belhora Fouad*	
15:10-15:25	Assessment of Thermal Performance of Novel Insulation Materials for Building Envelopes Utilizing Vegetable Waste *Authors: **Ajabli Houda**, Zoubir Amine, Elotmani rabie, Kandoussi Khalid, Louzazni Mohamed, Daya Abdelmajid*		Energy harvesting with various shapes of micro piezoelectric generators *Authors: **Cherkaoui Jaouad Nada,** Belhora Fouad, Alaoui Belghiti Amine*	
15:25-15:40	Theoretical investigation of structural, electronic and optical properties of barium stannate *Authors: **Ouazik Brahim**, Ait Lhaj Abderrahim, El Hasnaoui Mohamed, Chaib Hassan*		Dielectric and electric properties as a tool to investigate the Filtration of Hexavalent Chromium through an Ultra-Filtration Ceramic Membrane *Authors: **Chahid el Ghaouti**, Mortadi Abdelhadi, El Hafidi el Mokhtar, Mnaouer Khaled, Mghaiouini Redouane, Elmelouky Abderrahmane*	
15:40-15:55	Theoretical study of structural and electronic properties of tin dioxide *Authors: **Ait Lhaj Abderrahim**, Hassan Chaib, El Hasnaoui Mohamed*		First-principles calculations of structural, electronic, and optical properties of Se-doped Sb2S3 using density functional theory *Authors: **Madi Mustapha***	
15:55-16:10	Impact of environmental aging on the chemical composition of high-density polyethylene material: examining the influence of solar radiation and exposure to sulfated solution. *Authors: **Zhouri Oumaima**, Mouallif ilias, Ibrahim Haddouch*		Study of the Pseudoelastic Damping Behavior of the Fe-30Mn-6Si-5Cr Shape Memory Alloy under bending *Authors: Megdiche Malek, **Bouraoui Tarak***	
MME-2024/ Day 3: 22/05/2024				
10:20-11:00 **Hall A**	**Prof. Mouhaydine TLEMCANI, University of Evora** Innovative Fracture Pattern Synthesis in Idealized Material Blocks: Unveiling 1D Insights through Deterministic and Probabilistic Cellular Automata with Emphasis on a Novel Interpolation Method			
11:00-12:40	**MAT-5 :** Materials Characterization **Chair: Tarak BOURAOUI, University of Monastir**	**Hall E**	**MAT-6 :** Materials Synthesis and Processing **Chair: Brigitte JAMART, International University of Rabat**	**Hall F**
11:00-11:15	Approximating Phase Velocity Dispersion and Estimating Thickness and Lame Constants Using Cubic Spline Data Interpolation (CSDI) *Authors: **Azkour Mustapha**, Rhimini Hassan, El Allami Mhammed*		Study of an apatitic calcium phosphate cement: in vitro and in preclinical evaluation *Authors: **Khairoun ibrahim**, Fellah borhane, Khairoun Khalid*	
11:15-11:30	Design and manufacturing of a tool for evaluating formability in sheet metal forming *Authors: **Bouziane khalid**, Aalouch Taoufik, El Mrabti iliass, El Hakimi Abdelhadi, Chamat Abderrahim, Touache Abdelhamid*		Cu2ZnSn(S, Se)4 thin films prepared by post selenization of Cu2ZnSnS4 deposited by ultrasonic spray pyrolysis: Effect of the deposition temperature on the structural, electrical and optical properties *Authors: **El Otmani Rkia**, El Kanouny Abdessamad, El Manouni Ahmed, Hamady Sidi Ould Saad, Almaggoussi Abdelmajid*	
11:30-11:45	Numerical Study of Lamb Wave Modes in Thin Plates: Excitation Techniques and Modal Analysis at High and Low Frequencies *Authors: **Laaz houssine**, Mekkaoui Moussa, Nissabouri Salah, Rhimini Hassan*		Development of a new anti-clogging solution based on UHMWPE *Authors: **Aouadi Khalil**, Eljersifi Adnane, Aggadi Hicham, Naamane Sanae*	

11:45-12:00	Decrease of the apparent Young's modulus of Dual Phase (DP) Steel: A consequence of microstructural heterogeneities *Authors: **Issack moustapha**, Tabourot laurent, Charleux Ludovic, Balland Pascale, Roux Emile*	The impact of a novel phosphonate derivative on carbon steel's resistance to corrosion in 1N H2SO4 medium *Authors: **Jafil Hayat**, Bouanis Marya, Nyassi Abdelhamid Jama Charafeddine, Bentiss Fouad*
12:00-12:15	Effect Of Temperature On The Mechanical And Crystallization Behavior Of Fused Deposition Modeling (Fdm) Part Via Comsol Multiphysics *Authors: **Khalil chihabeddine**, Elotmani Rabie, Lahlou Mohammed, Kandoussi Khalid, Ben Ayad Anass*	Synthesis and characterization of a new copper coordination polymer based on ligand 2,5-bis(pyridine-4-yl)-1,3,4-oxadiazole and thiocyanate as coligand: Structural study, Hirshfeld surface analysis, thermal and magnetic property. *Authors: **El Marhraoui Khalid***
12:15-12:30	Adhesion enhancement of 7075-T6 aluminium alloy for structural bonding using AF191U adhesive *Authors: **Taleb Ali mahfoudh,** Z. Jebri, J. Jumel*	Synthesis of PBMA-g-PCL graft copolymers: comparison of experimental and theoretical data *Authors: **Said jihane**, Touhtouh Samira, Hlil El-Kebir, Belhora Fouad, Laasri Said, Hajjaji Abdelowahed*
12:30-12:45	Influence of annealing on the mechanical and metallurgical behavior of HC260Y IF steel *Authors: Arfaoui Latifa, **Samet Amel,** Znaidi Amna*	Experimental analysis of friction welding process of thermoplastic *Authors: Hidri Chaima, **Allègue Lamis,** Hajjeji Imed*

Poster session **MME-2024/Day 2 : 21/05/2024**	
16:00-18:00 **Atrium**	Zinc-oxide nanocoating for improvement of the antibacterial and mechanical behavior of 316L SS for biomedical applications. *Authors: **Kaouther Khlifi***
	Predicting effective elastic properties of carbon nanotube reinforced Poly(methyl methacrylate) Nanocomposites *Authors: **Ibrahim Haddouch***
	Enhanced antibacterial and mechanical properties of PMMA-Based Dental Materials via Nanoparticles Incorporation *Authors: **Barhoumi Najoua***
	Electrochemical characterization of anode-supported solid oxide fuel cells prepared using screen-printed thin YSZ electrolyte *Authors: **Ettalibi Oumaima***
	Effective and Recent Electrochemical Methods for Ammonia Synthesis: Short Review *Authors: **Tnifasse Khadija***
	Mechanical and Vibrational Behavior of Aircraft Parts Made of Aluminum Alloys Subjected to Specific Loads *Authors: **Imen Harbaoui***
	Exploring the Impact of Moroccan Sands on Mortar Quality: A Comprehensive Study of Physical and Chemical Properties in Construction Materials *Authors: **Redouane Mghaiouini***
	Simulation of CdTe thin film based solar cell using SCAPS-1D *Authors: **Rachidy Chaymaa***
	Crash Testing Evaluation of 6005-Aluminum Alloy in Extruded Double Chamber Specimen *Authors: **Elhakimi Hiba***
	DFT study on the electronic, structure, magnetic and optical properties of TiO2 anatase *Authors: **Sadek otmane***
	Analyse de la triaxialité des contraintes pour la détermination de la zone de rupture en mode II *Authors: **Elhadim brahim***
	Specific application of ferrofluids in natural thermal convection in electronic devices and simulation with COMSOL Multiphysis *Authors: **Bougmoum driss***
	Reliability analysis of steel wire rope in a boat elevator *Authors: **Hamza Ikhtyari***

ENERGY SECTION

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International University of Rabat

Co-chair
Soufiene BETTAIBI
International University of Rabat

MME-2024/ Day 1: 20/05/2024				
14:00-14:40 **Hall C**	**Prof. Jean-Christophe BATSALE, Arts et Métiers ParisTech** Multiscale thermal characterization of heterogeneous materials and systems. Applications of IR thermography in response to a flying laser spot			
14:40-16:00	**ENR-1**: Building thermal **Chair**: **Mohamed LOUZAZNI** **Chouaib Doukkali University**	**Hall C**	**ENR-2:** Solar Energy **Chair: Khalid BOUZIANE** **International University of Rabat**	**Hall G**
14:40-14:55	Energy optimization and indoor temperature control for residential building using model predictive control strategy. *Authors: **Boutahri Youssef**, Tilioua Amine, Ait Mansour Abdellatif*		Analysis of the degradation of photovoltaic modules based on crystalline silicon and thin film technologies operating long-term outdoors in two distinct climatic zones in the United States of America *Authors: **Bouasria Youssef**, Zaimi Mhammed, Assaid El Mahdi*	
14:55-15:10	The impact and control of heat and mass transfer in walls built with earth blocks *Authors: **Bouhiyadi Samir**, Souinida Laidi, El Hassouani Youssef*		Bio-Inspired approach for MPPT optimization in Solar PV Systems *Authors: **Elyaakouby Yassine**, Tilioua Amine, Sabiri Issa*	
15:10-15:25	Hybrid Energy System Simulation for a residential building: Integrating PV and PEM Fuel Cell *Authors: **Elmamoun Saad**, El Maakoul Anas, Bouhssine Zineb, Degiovani Alain*		Combining the methodologies of internal heating, optical absorption and finite difference to determine the temperature profile within a photovoltaic module operating under specific conditions *Authors: **Ibaararen Khadija**, Zaimi Mhammed, Assaid El Mahdi*	
15:25-15:40	Quadrupole-Based Analysis and CFD Simulation of a Double-Skin Solar Collector Wall for Sustainable Building Design. *Authors: **Lahayrech Safaa**, El Maakoul Anas, Khay Ismail, Siroux Monica, Degiovanni Alain*		Comparative modeling of photovoltaic thermal (PV/T) collector performance using two different heat transfer fluids *Authors: **Ahliouati Mohamed**, Elotmani Rabie Kandoussi Khalid*	
15:40-15:55	Sustainability versus Rebound effect considering Building Refurbishment *Authors: **Bataille Alain**, Antczak Emmanuel*		Enhancing photovoltaic system performance using an innovative MPPT tactic with an adjustable PID controller *Authors: **Belghiti Hamid**, Kandoussi Khalid, El-Otmani Rabie, Chellakhi Abdelkhalek, Mchaouar Youssef, Sadek El Mostafa*	
15:55-16:10			Optimizing Solar Still Efficiency with Film Cooling and Flat Plate Collector Integration: A Numerical Study *Authors: **Aftiss Reda**, Najim Monssif*	
16:40-18:00	**ENR-3**: Heat exchanger **Chair: Anas EL MAAKOUL,** **International University of Rabat**	**Hall C**	**ENR-4 :** Materials physics for energy **Chair: Mohammed BALLI,** **International University of Rabat**	**Hall G**
16:40-16-55	A CFD Analysis of the thermal- hydraulic performance of a sinusoidal solar air heater equipped with artificial roughness *Authors: **Arkam Youssef**, Merroun Ossama*		Balancing maintenance cost and energy loss to improve wind turbine production *Authors: **Yassine Eddouh**, Daya Abdelmajid, Elotmani Rabie*	
16:55-17-10	Energy analysis and modeling of a solar assisted heat pump system to satisfy residential building's heating / cooling demands and domestic hot water for different climate in Morocco.		Design and Performance Exploration of a Lead-Free Inorganic Layered Double Perovskite Rb2SnBr4I2 Solar Cell by Combined DFT and Numerical Investigation SCAPS-1D.	

	Authors: ***Ougazzou Mouad****, El Maakoul Anas, Khay Ismail, Degiovanni Alain, Bakhouya Mohamed*	*Authors:* ***El Rharib abdelkhalek****, Amine abdelaziz, Zazoui mimoun, Mir yamina*
17:10-17-25	Numerical investigation and performance optimization of heat sink *Authors: Bouchra Saad,* ***Malki Mounia*** *, Laknizi Azzeddine*	Dual-gated bilayer graphene with layer mismatch *Authors:* ***El Mouhafid Abderrahim***
17:25-17-40	Parametric identification of a new skeletons finned heat exchanger *Authors:* ***Nimbona Fabrice****, El Jai Mostapha, Akhrif Iatimad, El Fahime Benaissa, Radouani Mohamme*	Enhanced thermodynamic properties of NaBH4 by substitution with transition metals *Authors:* ***Belkoufa Ikram****, Assila Abdelmajid, Alaoui Belghiti Amine, Laasri Said, Mouyane Mohamed, Houivet David, Hlil El Kebir, Hajjaji Abdelowahed*
17:40-17-55	Parametric Study of the Coupling of Cryo-concentration and Freeze-drying for Milk Powder Production *Authors:* ***Alla Fadwa****, Gagniere Emilie, Perez-Rodriguez Maria, Rich Anouar, Siniti Mostapha, Congé Claudia*	Experimental Investigation using DFT of novel materials for NH3-SCR in Diesel Engine De-NOx systems. *Authors:* ***Bakhchin Dikra****, Ravi Rajesh, Essadiqi Elhachmi, Faqir Mustapha*
17:55-18:10		Optimization of lead free LiNbO3 Bimorph Beam for Frequency-Selective Energy Harvesting *Authors:* ***Bakhtaoui Hatim****, Ouhabaz Merieme, Margueron Samuel, Chevallier Gaél, Sthal Fabrice, Bartasyte Ausrine*
MME-2024/ Day 2: 21/05/2024		
14:00-14:40 **Hall C**	**Prof. Elhem GHORBEL , CY Cergy Paris University** What future for end-of-life solar panels in a Net Zero Emission scenario: the case of North Africa	
14:40-16:20	**ENR-5**: Vehicles and engines **Chair: Rajesh RAVI, International University of Rabat** **Hall C**	**ENR-6:** AI and cellular automata **Chair: Mohammed BAKHOUYA, International University of Rabat** **Hall G**
14:40-14:55	Estimation of power recovery by half-vehicle suspension with numerical simulation method *Authors:* ***Maziane Youssef****, Ennawaoui Chouaib, Assif Safa, Hajjaji Abdelowahed*	Comparison Of Application Domains For Neural-Network-Based Cellular Automata Models In Urban Growth Modeling *Authors:* ***Amrani Hicham****, El Ghazi Abdellatif, Ferrahi Bouchaib, Omar Jellouli*
14:55-15:10	Modeling and analysis of the Performance of an Electric Vehicle Considering Various Driving Cycles *Authors:* ***Garziad Mouad****, Abdelmjid Saka, Moustabchir Hassan, El Khalfi Ahmed*	Deep learning-based prognostics for lithium-ion battery management systems *Authors:* ***Zraibi Brahim****, Mansouri Mohamed*
15:10-15:25	Optimizing Solar Energy Management for Electric Vehicle Charging in Residential Neighbourhoods *Authors:* ***Nefraoui Amal****, Kandoussi Khalid, Elotmani Rabie, Louzazni Mohamed, Hairch Youssef, Boutahar Abderrahim*	LSTM Neural Networks and Weighted Linear Regression Data-Driven Models for Photovoltaic Power Forecasting *Authors:* ***Ouzouhou Itto****, Laazizi Abdellah, Kandoussi Khalid*
15:25-15:40	Theoretical Modelling and Finite Element Analysis of Scraper Rings in Automotive Gasoline Internal Combustion Engine *Authors:* ***Sophia Fatihi****, Ouabida Elhoussaine, Mharzi Hassan*	One-step ahead forecasting of solar radiation based on Bi-LSTM and GRU *Authors:* ***Ait Mansour Abdellatif****, Tilioua Amine, Touzani Mohammed, Boutahri Youssef*
15:40-15:55	Thermodynamic evaluation of diesel exhaust heat recovery using Low-GWP organic working fluids *Authors:* ***Douadi Oumaima****, Ravi Rajesh, Bakhchin Dikra, Faqir Mustapha, Essadiqi Elhachmi*	Real time prediction of protective bank profile inside an electric arc smelter using inverse artificial neural networks *Authors:* ***El-Hassnaoui Ahmed***
15:55-16:10	Literature Review on Planning and Optimizing EV Charging Infrastructures *Authors:* ***Meriem Belaid****, Said El Bei, Anas Hatim*	AI-Powered Solutions for Sustainable Freight Transportation: Navigating Environmental Challenges *Authors:* ***Moumni Hajar ,*** *Bannari Rachid, Oufaska Kenza*
16:10-16:25		ANN-Based Biomass higher heating value Prediction For Efficient thermochemical conversion *Authors:* ***Fendaoui Aissam,*** *Yatim Fatima ezzahra, Ngadi Zakia , M'hamdi Alaoui Fatima ezzahra*
MME-2024/ Day 3: 22/05/2024		
10:20-11:00 **Hall C**	**Prof. Mohammed EL GANAOUI , University of Lorraine** Some insight on PCM research applied to Energy and Buildings	

11:00-12:45	**ENR-7**: Management and control **Chair: Ouladsine Radouane, International University of Rabat**	Hall C	**ENR-8:** Wind power and fluid-solid interaction **Chair: Omar Ashraf, International University of Rabat**	Hall G
11:00-11:15	Integrating EAHX and Ventilation Systems through a Decision-Making Algorithm for Enhanced Energy Efficiency and Thermal Comfort in Smart Buildings *Authors: **Wakil Marouane**, Idrissi Kaitouni Samir, Mghazli Mohamed Oualid, El Mghari Hichame, Bakhouya Mohamed*		An Experimental Study of the Aerodynamic Performance of a Vertical Axis Wind Turbine in an Unconfined Environment *Authors: **Marwa Ennouri**, Zgolli Ridha, Kanfoudi Hatem*	
11:15-11:30	Towards an Advanced Control Approach for Energy Management in Distributed Micro-Grid Systems *Authors: **Elouadoud Houda**, Bakhouya Mohamed, Ouladsine Radouane, Naji El Idrissi Rajaa*		Analysis of offshore wind energy potential: Study of ten key maritime locations worldwide *Authors: **Badr El Kihel,** Nacer Eddine El Kadri Elyamani, Abdelhakim Chillali*	
11:30-11:45	Enhancing Stability in Renewable Energy Microgrids: A Combined Centralized and Droop Control Strategy *Authors: **Boukaibat achraf**, Krami nissrine , Rochdi youssef, El Bakkali yassir*		Analysis of Turbulence Modeling in Two-phase Particle-Laden Jet Flows *Authors: **Belghith Amira**, Chahed Jamel, Bellakhal Ghazi, Aouadi Aroua*	
11:45-12:00	Modeling and Design of a Three-Phase Bidirectional AC-DC Inverter with Adaptive PI Controller *Authors: **Boukaibat Achraf**, Krami Nissrine, Rochdi Youssef, Sayouti Yassine, El Bakkali Yassir*		Bird-Inspired Airfoils for Enhanced Aeroacoustic Performance and Noise Reduction in Wind Turbines *Authors: **El Qamch Yassine,** Ashraf Ali Omar*	
12:00-12:15	Intelligent Energy Management Systems for Microgrid Operations, an AIS-inspired T-Cell Algorithm *Authors: **El Bakkali Yassir**, Krami Nissrine, Rochdi Youssef , Boukaibat Achraf*		Experimental Investigations on the Energy Harvesting from Vortex Induced Vibrations of a Circular Cylinder *Authors: Bin Mohd Yusri Muhammad Eizzat Hakimi, Asrar Waqar, **Omar Ashraf***	
12:15-12:30	Distributed Control of DC Microgrids *Authors: **Alidrissi Youssef**, Ouladsine Radouane, Bakhouya Mohamed*		Numerical study of turbulent particle-laden gas jet flows *Authors: **Aouadi Aroua**, Bellakhal Ghazi, Chahed Jamel*	

Poster session **MME-2024/Day 2 : 21/05/2024**	
16:00-18:00 **Atrium**	2D heat transfer modelling in a photovoltaic panel exposed to solar irradiation *Authors: **Fadil Kamal***
	Advancements in Roadside Energy Harvesting Technologies *Authors: **Zouine Ihssane***
	Characterizing the Mechanical and Electrical Properties of Dielectric Relaxation and AC Conductivity in Layered Double Hydroxides *Authors: **Elmelouky Abderrahmane***
	Conducting a study on the optical and electrical material properties of CIGS solar cells within the fields of renewable energy. *Authors: **Elmelouky abderrahmane***
	Energy harvesting with various shapes of micro piezoelectric generators *Authors: **Cherkaoui Jaouad Nada***
	Investigation of hybrid energy systems designed to minimize carbon dioxide emissions across various Moroccan regions *Authors: **Aissi Tarik***
	Laser tool speed effect on machining quality and amount of energy lost during deep machining. *Authors: **Neila Jebbari***
	Le dessalement par procédé hydro-magnétodynamique-électromagnétique couplé à la centrifugation pour la production d'eau douce et la valorisation de la saumure *Authors: **Abdelbast Karbal***
	Récupération de l'énergie thermique par le cycle organique de Rankine *Authors: **Sadni Fatima Ezzahra***
	Simulation and analysis of high-performance HTL- SrZrS3 based perovskite solar cells: Comparative study *Authors: **Chawki Najwa***
	The Energy Signature of Building in Arid Climate *Authors: **Ajabli Houda***

	Thermal and thermodynamic study of solid-liquid equilibrium: application to olive oil mill wastewater *Authors:* ***El Haimer Youness***
	Integrated Simulation of a PV-Battery-Fuel Cell Microgrid with Hydrogen Storage and Energy Management System in Farming *Authors:* ***Chahi Sarah***
	Advanced Cooperative smart farms based on Game Theory approach *Authors:* ***Najiel Idrissi Rajaa***
	Three-dimensional Numerical simulation with Lattice Boltzmann Method of Natural convection in a cubic cavity *Authors:* ***Karim Choukrallah***

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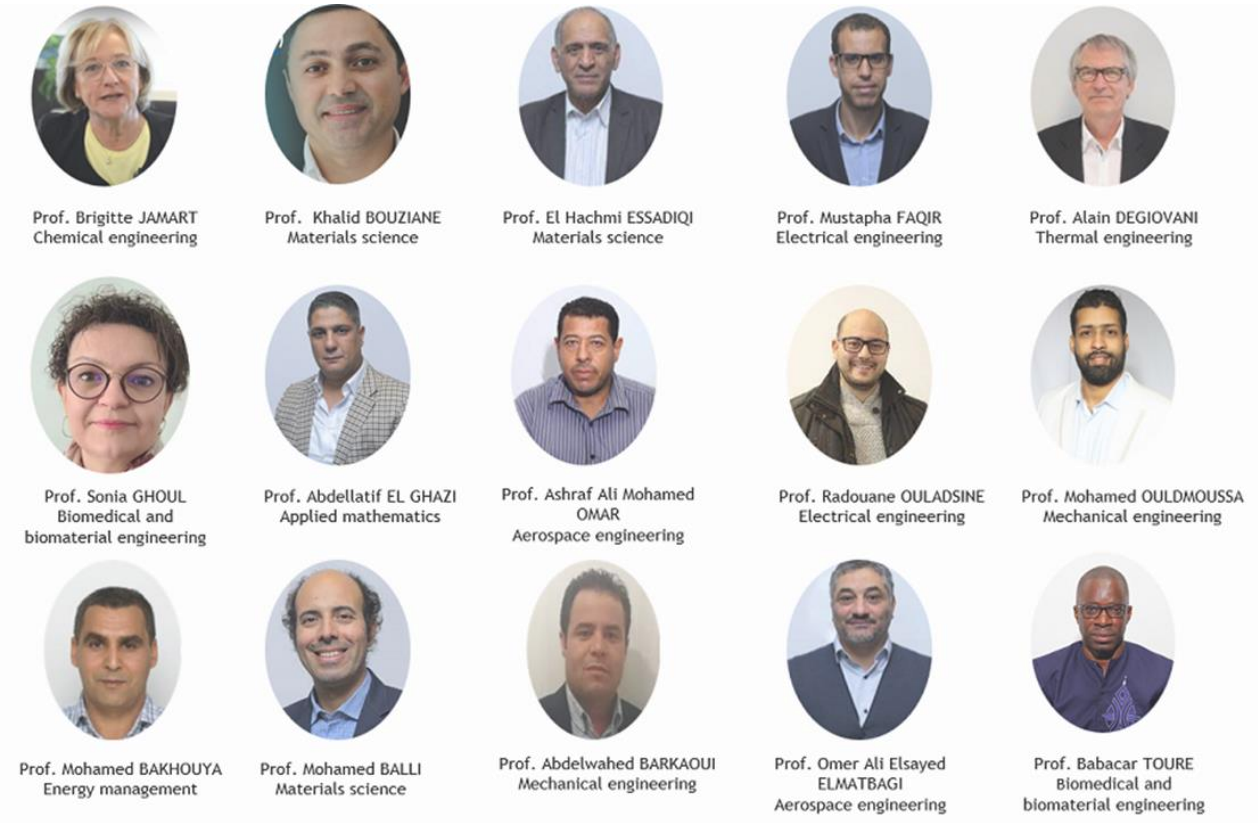

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