

# Technical Program

## Sunday 11<sup>th</sup> of March

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| 9:00 -13:00 pm   | <b>Registration</b>  |
| 9:00 -10:00 am   | <b>Coffee and Tea at Reception Hall -2<sup>nd</sup> Floor</b>  |
| 10:00 -11:00 am  | <b>Opening Ceremony Session</b>  |
| [11:15 -13:00 pm]  | <b>Keynotes I</b>  |
| <b>Venue:</b> Main Hall  |  |
| <b>Chairs:</b>   |  |
| <ul style="list-style-type: none"> <li> Prof. Venice Gouda: Ex-minister of Scientific Research and Technology.</li> <li> Prof. Masaki Suzuki, E-JUST Vice President for International Affairs</li> </ul> |  |
| <b>Coordinator:</b>  |  |
| 11:15 -11:45 am  | ICMSE-93: <b>Prof. Koji Hashimoto:</b> Tohoku Institute of Technology, Sendai, Japan<br>“For Sustainable Development of the Whole World by Renewable Energy”         |
| 11:45 - 12:15  | ICMSE-205: <b>Prof. Shunichi Fukuzumi:</b> Meijo University, Nagoya, Japan<br>“Production and Utilization of Liquid Solar Fuels”                                     |
| 12:15 - 12:45  | ICMSE-350: <b>Prof. Mamoun Muhammed:</b> Royal Institute of Technology (KTH), Stockholm<br>“Nanomaterials for Green Energy: Low Temperature Solid Oxide Fuel Cells.” |
| 12:45 - 13:00  | ICMSE-422: <b>Prof. Yoshihisa Matsushita:</b> EJUST, Egypt<br>“Advanced Research Equipment and Technology Management in E-JUST”                                      |

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| 13:00 - 14:00   | <b>Light Lunch</b>  |
| [14:00-15:30]   | <b>Keynotes II</b>  |
| <b>Venue:</b> Main Hall<br><b>Chairs:</b><br><ul style="list-style-type: none"> <li>✚ Prof. Osamu Tabata: Kyoto University, Japan.</li> <li>✚ Prof. Sherif Sedki: Zewail City Provost, Egypt</li> </ul> <b>Coordinator:</b> |   |
| 14:00 - 14:30pm   | ICMSE-267: <b>Prof. Jan G. Korvink:</b> Karlsruhe Institute of Technology, Germany.<br>“Microscale Magnetic Resonance Detectors: a Technology Roadmap for in Vivo Metabolomics” |
| 14:30 - 15:00   | ICMSE-300: <b>Prof. Wonwoo Nam:</b> Ewha Womans University, Seoul, Korea.<br>“Biomimetic Metal-Oxygen Intermediates in Dioxygen Activation Chemistry”                           |
| 15:00 - 15:30   | ICMSE-266: <b>Prof. Wolfgang Heiss:</b> Friedrich-Alexander-Universität Erlangen, Germany.<br>“Hydrogen Bonded Organic Pigment Colloidal Nanocrystals”                          |
| 15:30 - 16:00   | <b>Coffee Break</b>   |

[16:00 -17:30 pm] **Session I -1: Sensors and Devices**

**Venue:** Main Hall

**Chairs:**

- ✚ Prof. Jan G. Korvink: Karlsruhe Institute of Technology, Germany
- ✚ Prof. Samy El-Shall: VCU, USA

**Coordinator:**

16:00 - 16:20 pm **Invited** ICMSE-406: **Prof. Hidetoshi Kotera**, Kyoto University, Japan  
“Advancement of Micro Total Analysis System for Regenerative Medicine”

16:20 - 16:40 **Invited** ICMSE-392: **Prof. Ulrike Wallrabe**, Freiberg University, Germany  
“Non-Mainstream Approaches to Wireless Energy Transfer”

16:40 - 17:00 **Invited** ICMSE-393: **Prof. Mohamed Omer**, Assuit University, Egypt  
“Mechanical Properties of Biological Cells as a Biomarker for Diagnostics”

17:00 -17:15 ICMSE-319: **Dr. A. S. Atlam**, Tanata University, Egypt  
“A New Microcontroller Based System for Resistance Measurements of Gas Sensing Materials”

17:15 -17:30 ICMSE- 047: **Dr. Elsayed Mostafa**, CMRDI, Egypt  
“Electrochemical-anodization Synthesis of Spinel Cobalt Ferrite Films on Various Substrates from Aqueous Medium for Toxic Petrochemical Gas sensing and Pharmaceutical Applications”

[16:00 - 17:30 pm] **Session I-2: Nanomaterials**

**Venue:** Hall A

**Chairs:**

- ✚ Prof. Tarek Abdel-Fattah: Newport University, USA
- ✚ Prof. Afaf Al-Oufy: Alexandria University, Egypt

**Coordinator:**

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| 16:00 - 16:20<br><b>Invited</b>  | ICMSE-407: <b>Prof. Shinsuki Mori</b> : Tokyo Institute of Technology, Japan<br>"Synthesis of Carbon Nanomaterials by Plasma-Enhanced CVD and their Nanostructure Control"                    |
| 16:20 - 16:40<br><b>Invited</b>  | ICMSE-025: <b>Prof. Ahmed Abd El-Aziz</b> : German University, Egypt.<br>"Materials Structure Development from Micro- to Nano: processes, Properties and Applications"                        |
| 16:40 - 17:00<br><b>Invited</b>  | ICMSE-218: <b>Dr. Islam Shyha</b> : North Umbria University, Newcastle, UK<br>"Environmental Impact of the Nano-Particle Release When Machining Nanostructured Composite Materials"           |
| 17:00 - 17:15<br><b>Invited</b>  | ICMSE-148: <b>Dr. Hani Nasser Abdel Hamid</b> : Stockholm University, Sweden.<br>"Metal-organic Frameworks: Recent Advances and Challenges"   |
| 17:15 - 17:30  | ICMSE-321: Eng. <b>Al-Hassan M. Nasser</b> : EJUST, Egypt<br>"Study of the Reduction of Fe on Reduced Graphene Oxide as a Catalyst for Carbon Monoxide Reduction"                             |
| <b>[16:00 -17:30 pm] Session I-3: Materials for High Performance Mechanical Applications I</b>   |   |
| <b>Venue:</b> Hall B   |   |
| <b>Chairs:</b>   |   |
| <ul style="list-style-type: none"> <li> Prof. Adel Nofal: CMRDI, Egypt</li> <li> Prof. Ehab El-Danaf: Cairo University, Egypt</li> </ul> |   |
| <b>Coordinator:</b>  |   |
| 16:00 - 16:20<br><b>Invited</b>  | ICMSE-022: <b>Prof. Abdel-Hamid Hussein</b> : Cairo University, Egypt<br>"Prominent Achievements of Laser Surface Treatment of Martensitic Stainless Steel and Alpha-Beta 6/4 Titanium Alloy" |

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| 16:20 - 16:40<br><b>Invited</b>  | ICMSE-197: <b>Prof. Taher A. El-Bitar</b> : CMRDI, Egypt<br>“Thermo-mechanical Processing – A Value Added Process in Steel Industry”  |
| 16:40 - 16:55  | ICMSE-073: <b>Dr. Eman Hassan El-Shenawy</b> : CMRDI, Egypt<br>“Effect of Hot Deformation Strategy on the Flow Characteristics of Low Carbon Steel”                               |
| 16:55 - 17:10  | ICMSE-211: <b>Dr. M. Kananen</b> , University of Oulu, Finland<br>“Mechanical Properties of a “Simple Panel Structure” Manufactured from Extremely High Strength Stainless Steel” |
| 17:10 - 17:25  | ICMSE-195: <b>Dr. Mikko Hietala</b> , University of Oulu, Finland<br>“Bending Strength of Laser Welded Corrugated Steel Panels of Ultrahigh Strength Steel”                       |
| 17:25 - 17:40  | ICMSE-247: <b>Dr. Saeed Ghali</b> , CMRDI, Egypt<br>“Influence of Molybdenum Replacement by Tungsten in Cr-Mo-V Steel   |
| 17:40 – 17:55  | ICMSE-203: <b>Dr. Matias Jaskari</b> , University of Oulu, Finland<br>“The Effect of Heating Rate on Texture and Formability of Ti-Nb Stabilized Ferritic Stainless Steel”        |
| [15:45 - 17:40 pm] <b>Session I-4: Mechanics of Materials, Material Modeling and Simulation Techniques</b>   |   |
| <b>Venue:</b> Hall C   |   |
| <b>Chairs:</b>   |   |
| <ul style="list-style-type: none"> <li> Prof. Taiji Adachi, Kyoto University, Japan</li> <li> Prof. Mohsen Hassan, EJUST, Egypt</li> </ul> |   |
| <b>Coordinator:</b>  |   |
| 15:45 - 16:05<br><b>Invited</b>  | ICMSE-408: <b>Prof. Kazuaki Sanada</b> : Toyama University, Japan<br>“Microstructural Design and Evaluation of Self-Healing Polymer Composites”                                   |
| 16:05 - 16:25  | ICMSE-024: <b>Dr. Ahmad Mohammad Bahgat</b> : CMRDI, Egypt  |

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|                | “Finite Element Analysis of Tail Gate of the First Saudi Car GAZAL1   |
| 16:25 - 16:40  | ICMSE-137: <b>Eng. Peter Nyanor:</b> EJUST, Egypt.<br>“Ballistic Impact Simulation of Proposed Bullet Proof Vest Made of TWIP Steel, Water and Polymer Sandwich Composite Using FE-SPH Coupled Technique” |
| 16:40 - 16:55  | ICMSE-225: <b>Eng. Dina Fouad:</b> AUC, Egypt.<br>“Multi-Channel Spiral Twist Extrusion (MCSTE) - A Novel Severe Plastic Deformation Method: A Numerical and Experimental Study”                          |
| 16:55 - 17:10  | ICMSE-303: <b>Eng. Mahmoud Hisham:</b> EJUST, Egypt.<br>“Energy Absorption for Different Shapes Made of Ultrafine-grained TWIP Steel Under Axial Impact Loading”  |
| 17:10 – 17:25  | ICMSE-076: <b>Eng. Ahmed El-Saied Said Refaee:</b> (EZDK), Egypt<br>“On Study of: Ductile-Brittle Transition Temperature (DBTT) & Impact Toughness of Low Carbon Flat Steel Alloyed with Mn, Nb & B”      |
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| 18:00-19:00 pm | <b>Dinner with Invitation</b>   |

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## Monday 12<sup>th</sup> March

[9:00-11:00 am]

### Keynotes III

**Venue:** Main Hall

**Chairs:**

🇯🇵 Prof. Hidetoshi Kotera, Kyoto University, Japan

🇸🇪 Prof. Mamoun Muhammed: KTH, Sweden

**Coordinator:**

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9:00 - 9:30 am

ICMSE-383: **Prof. Adel Nofal:** CMRDI, Egypt  
“Cast Iron, a New Material”

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9:30 - 10:00

ICMSE-224: **Prof. M. Samy El-Shall:** VCU, USA  
“Graphene-based Materials for Applications in Heterogeneous Catalysis, Water Treatment and Solar Water Desalination”

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10:00 - 10:30

ICMSE-229: **Prof. Tarek Abdel-Fattah:** Newport University, USA  
“The World of Nanostructured Materials: Synthesis of Nested Coaxial Multiple-Walled Nanotubes”

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10:30 - 11:00

ICMSE-420: **Prof. Timo Jacob:** Ulm University, Germany.  
“Measuring an Electrocatalyst’s Vital Signs: the Need for in Operando Studies”

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11:00 - 11:30 am

**Coffee Break**

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[11:30 - 13:00]

**Session II-1: Surface Science and Coating Technology**

**Venue:** Main Hall

**Chairs:**

✚ Prof. Koji Hashimoto, TIT, Japan

✚ Prof. Timo Jacob: Ulm University, Germany

**Coordinator:**

11:30 - 11:50 am

**Invited**

ICMSE-409: **Prof. Motofumi Suzuki**, Kyoto University, Japan

“Perfect Absorbers Structured by Glancing Angle Deposition”

11:50 - 12:10

**Invited**

ICMSE-036: **Prof. Jean Ebothé**, Université de Reims

Champagne Ardenne, France

“Real Surface Feature and Physical Properties of Nano-structured Thin Films”

12:10 - 12:30

**Invited**

ICMSE-410: **Prof. Hiroyuki Sugimura**, Kyoto university,

Japan

“UV Photo-reduction of Graphene Oxide and Its Micro-Structural Analysis”

12:30 - 12:45

**Invited**

ICMSE-052: **Prof. Piotr Zabanski**, AGH University of Science and Technology, Poland





“Magnetic Field Assisted Electrodeposition of Co-Ru Nanorods for Water Splitting Reaction”

12:45 - 13:00

ICMSE-411: **Prof. Salah Salman**: Al-Azhar University, Egypt

Characterization and Structure Analysis of the Anodic Film Formed on AZ3 Mg Alloy in KOH Alkaline Solution with Various Additives



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| <b>[11:30 - 12:55] Session II-2: Electronic, Optical and Magnetic Materials</b>  |   |
| <b>Venue:</b> Hall A   |   |
| <b>Chairs:</b>   |   |
| <ul style="list-style-type: none"> <li> Prof. Ulrike Wallrabe: Freiberg University, Germany</li> <li> Prof. Mohamed Rashad: CMRDI, Egypt.</li> </ul> |   |
| <b>Coordinator:</b>  |   |
| <b>11:30 - 11:50</b><br><b>Invited</b>   | ICMSE-412: <b>Prof. Hiroyuki Nakamura</b> , Kyoto University, Japan<br>"Origin of Magnetic Anisotropy Enhancement in Ferrite Magnet"  |
| <b>11:50 - 12:10</b><br><b>Invited</b>   | ICMSE-369: <b>Prof. Abd El-Hady Kashyout</b> : SRTA, Egypt<br>"Synthesis and Characterization of In <sub>x</sub> Ga <sub>1-x</sub> N Active Layers Optoelectronic Devices"  |
| <b>12:10 - 12:25</b>   | ICMSE-370: <b>Dr. Mohamed A. Kassem</b> : Assuit University, Egypt<br>"Thermoelectric Performance and Anisotropic Electronic Transport in Co <sub>3</sub> Sn <sub>2-x</sub> In <sub>x</sub> S <sub>2</sub> Single Crystals"           |
| <b>12:25 - 12:40</b>   | ICMSE-112: <b>Dr. Diao A. Rayan</b> : CMRDI, Egypt<br>"Remarkable Impact of Synthesis Strategy on the Structural and Magnetic Properties of Hexaferrite Ba <sub>2</sub> Co <sub>2</sub> Fe <sub>12</sub> O <sub>22</sub> Nanopowders" |
| <b>12:40 - 12:55</b>   | ICMSE-081: <b>Dr. Maha Ayman</b> : GUC, Egypt<br>"Synthesis and Characterization of Perovskite BiSrFeO <sub>3</sub> Nanomaterial Doped Rare Earth ions"   |
| <b>[11:30 - 12:40] Session II-3: Materials for High Performance Mechanical Applications II</b>   |   |
| <b>Venue:</b> Hall B   |   |
| <b>Chairs:</b>   |   |
| <ul style="list-style-type: none"> <li> Prof. Hanadi Salem, AUC, Egypt</li> <li> Prof. Iman El-Mallawai, Cairo University, Egypt</li> </ul>      |   |
| <b>Coordinator:</b>  |   |

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| 11:30 - 11:50<br><b>Invited</b>  | ICMSE-223: <b>Prof. Ehab El-Danaf</b> : Cairo University, Egypt<br>“Severe Plastic Deformation: An Effective Approach for Grain Refinement and Strength Enhancement”                   |
| 11:50 -12:10<br><b>Invited</b>   | ICMSE-023: <b>Prof. khaled M. Ibrahim</b> : Taibah University, KSA<br>“Fatigue Behavior of Heat Treated Ti-6.3Al-4.1V Alloy”   |
| 12:10 - 12:25  | ICMSE-219: <b>Dr. A. Järvenpää</b> , University of Oulu, Finland<br>“Cyclic Behavior of a Eeversion-Treated Structures After Different Cold-rolling Reductions in an AISI 301LN Steel” |
| 12:25 - 12:40  | ICMSE-150: <b>Dr. Islam M. El-Galy</b> , Alexandria University, Egypt<br>“Empirical Model for Dry Sliding Wear Behavior of Centrifugally Cast Functionally Graded Al/SiCp Composite”   |
| 12:40 - 12:55  | ICMSE-124: <b>Dr. Terho Iso-Junno</b> , University of Oulu, Finland<br>“Design Process of Durable and Lightweight Rally Car Frame from Ultra High Strength Stainless Steel”            |
| [11:30 - 12:45]  | <b>Session II-4: Recent Trends in Materials Testing, Characterization and Coding</b>   |
| <b>Venue:</b> Hall C   |  |
| <b>Chairs:</b>   |  |
| <ul style="list-style-type: none"> <li>✚ Prof. Abdel-Hamid Hussein: Cairo University, Egypt</li> <li>✚ Prof. Rashad Ramadan, Suez University, Egypt</li> </ul> |  |
| <b>Coordinator:</b>  |  |
| 11:30 - 11:45  | ICMSE-233: <b>Prof. Mohamed Mosalam Ghanem</b> , CMRDI, Egypt.<br>“Failure Analysis of Condensate Pump Shaft in Power Plant”   |
| 11:45 - 12:00  | ICMSE-204: <b>Dr. Mohamed Zaky Ahmed</b> , British University, Egypt<br>“EBSD Investigation of Similar and Dissimilar Friction Stir Welded Aluminum Alloys”                            |

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| 12:00 - 12:15   | ICMSE-198: <b>Dr. Tero Jokelainen</b> , University of Oulu, Finland.<br>“Buckling Tests for Laser-welded Single Corrugated Core”   |
| 12:15 - 12:30   | ICMSE-110: <b>Dr. Ahmed Ibrahim</b> , Fayoum University, Egypt<br>“Effect of Friction Stir Processing on the Microstructure and Mechanical Properties of A384 Aluminum Alloy”      |
| 12:30 - 12:45   | ICMSE-353: <b>Dr. Mohamed Galal</b> , EZDK, Egypt<br>“Utilize EZDK Quenching and Tempering Box to Economical Produce Big Sizes Ee-bars “D20 ~ D25” mm with High Productivity”      |
| [13:00 - 14:00 pm]  | <b>Light Lunch</b>   |
| [14:00 - 15:00 pm]  | <b>Poster Session I</b>  |
| [15:00 - 16:35 pm]  | <b>Session III-1: Solar Cell I</b>   |
| <b>Venue:</b> Main Hall<br><b>Chairs:</b> <ul style="list-style-type: none"> <li>✚ Prof. Ahmed A. El-Shafei: North Carolina State University, USA</li> <li>✚ Prof. Moatz Soliman, Alexandria University, Egypt</li> </ul> <b>Coordinator:</b> |  |
| 15:00 - 15:20<br><b>Invited</b>   | ICMSE-140: <b>Prof. Nageh Allam</b> , AUC, Egypt.<br>“Earth-Abundant Nanostructured Materials for Efficient Solar Energy Conversion”   |
| 15:20 - 15:35   | ICMSE-244: <b>Dr. Amr Hessein Hassan</b> , Benha University, Egypt<br>“Two-step Synthesis of Copper Sulfide-Graphene Counter Electrode for CdS Quantum Dot Sensitized Solar Cells” |
| 15:50 - 16:05   | ICMSE-094: <b>Dr. Walid Sharmoukh</b> , NRC, Egypt<br>“Molecular Engineering of D-D- $\pi$ -A Based Organic Sensitizers for Enhanced Dye-Sensitized Solar Cell Performance”        |

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| 16:05 - 16:20  | ICMSE-176: <b>Prof. Shaaban Noseir</b> , Alexandria University/Faculty of Engineering.<br>“Dye-Sensitized Solar Cells: A Promising, Simple and Cost-Effective Solution to the Depleting Fossil Fuels for Production of Electrical Energy”                                  |
| 16:20 - 16:35  | ICMSE-320: <b>Dr. Basant A. Ali</b> , AUC, Egypt.<br>“TD-DFT Investigation of Optical and Electronic Properties of Photo-Sensitizers with Different $\pi$ -Spacers”  |
| [15:00 - 16:35 pm]   | <b>Session III-2: Modeling and Simulation in Materials Science</b>   |
| <b>Venue:</b> Hall B   |  |
| <b>Chairs:</b>   |  |
| <ul style="list-style-type: none"> <li> Prof. Kazuaki Sanada: Toyama University, Japan</li> <li> Prof. Jean Ebothé: Université de Reims Champagne Ardenne, France</li> </ul> |  |
| <b>Coordinator:</b>  |  |
| 15:00 - 15:20<br><b>Invited</b>  | ICMSE-001: <b>Prof. Mahmoud Abdel-Aty</b> : Bahrain University, Bahrain<br>“Engineering of Multi-Qubit Entanglement”   |
| 15:20 - 15:40<br><b>Invited</b>  | ICMSE-419: <b>Prof. Mohamed Sabry Abdel-Mottaleb</b> : Ain Sham University, Egypt<br>“Applications of Computational Chemistry in Flexible Molecules and Complexes of Technological, Medicinal and Renewable Energy Potentials: Bridging the Rift Between Dry and Wet Labs” |
| 15:40 - 16:00<br><b>Invited</b>  | ICMSE-373: <b>Prof. Medhat A. Ibrahim</b> : NRC, Egypt<br>“Microsphere from Aquatic Plants for Removal of Pollutants from Aquatic Environment”   |
| 16:00 - 16:20<br><b>Invited</b>  | ICMSE 369: <b>Prof. Koichi Nakamura</b> : Kyoto Uni.,Japan<br>“First-Principles Approach to Phonon Diffusion for Thermoelectric Nanomaterials”   |

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16:20 - 16:35 ICMSE-064: **Dr. Hussein Ammar:** Najran University, KSA  
“CH<sub>2</sub>O Adsorption on M (M = Li, Na and Al) Atom Deposited  
ZnO Nano-Cage; DFT Study”

[ 15:00 - 16:35 pm] **Session III-3: Additive Manufacturing**

**Venue:** Hall B

**Chairs:**

✚ Prof. Hassan El Hofy: E-JUST, Egypt

✚ Prof. Kazunari Shinagawa, Kyushu University, Japan

**Coordinator:**

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15:00 - 15:20 ICMSE-264: **Prof. Hanadi Salem:** AUC, Egypt.  
**Invited** “Integrated Additive Manufacturing System: A Novel  
Technology for Manufacturing/Repair and Maintenance of  
Industrial Parts at Low Cost”

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15:20 - 15:35 ICMSE-067: **Dr. Kimmo K. Mäkelä:** University of Oulu, Finland  
“Implementation of a Metal 3D AM Machine”

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15:35 - 15:50 ICMSE-121: **Dr. Kari Kutuniva:** University of Oulu, Finland.  
“DFAM Based Multi-material 3D Printing Using Conductive and  
Flexible Filaments”

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15:50 - 16:05 ICMSE-125: **Dr. Kari Mäntyjärvi:** University of Oulu, Finland  
“Design for Additive Manufacturing in Extended DFMA Process”

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16:05 - 16:20 ICMSE-028: **Dr. Kimmo K. Mäkelä:** University of Oulu, Finland  
“A Short Glance on Metal 3D AM”

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16:20 - 16:35 ICMSE-263: **Mohamed Abdulhameed Kerish:** AUC, Egypt  
“Wire Arc Additive Manufacturing/Repair (WAAM/R) of a  
Prismatic Steel Part”

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| [15:00 - 16:40 pm] <b>Session III-4: Advances in Metals and Alloys I</b>  |   |
| <b>Venue:</b> Hall C<br><b>Chairs:</b><br>✚ Prof. Saad El-Raghee, Cairo University.<br>✚ Prof. Sengo Kobayashi, Ehme University, Japan<br><b>Coordinator:</b> |   |
| 15:00 - 15:20<br><b>Invited</b>   | ICMSE-413: <b>Prof. Akihiko Chiba:</b> Tohoku University, Japan<br>“Effect of Post-processing on Fatigue Strength of Ti-6Al-4V Alloy Fabricated by Electron Additive Manufacturing”   |
| 15:20 - 15:40<br><b>Invited</b>   | ICMSE-351: <b>Prof. Eiji Akiyama:</b> Tohoku University, Japan<br>“Hydrogen Embrittlement Characteristics of High Strength Steels in Atmospheric Corrosion Environment”   |
| 15:40 - 16:00<br><b>Invited</b>   | ICMSE-417: <b>Prof. Sengo Kobayashi:</b> Ehme University, Japan<br>“Development of Ti Alloys for Biomedical Applications”   |
| 16:00 - 16:15   | ICMSE-102: <b>Prof. Ahmed Ismail Zaky:</b> CMRDI, Egypt<br>“Effect of Chemistry Modification, Hot Forging and Partitioning on Low Alloy Grade Tool Steel”   |
| 16:10 - 16:25   | ICMSE-158: <b>Dr. Shimaa El-Hadad:</b> CMRDI, Egypt<br>“Effect of Heat Treatment and Titanium Addition on the Microstructure and Mechanical Properties of Fe <sub>36</sub> Ni <sub>18</sub> Mn <sub>33</sub> Al <sub>x</sub> High Entropy Alloys” |
| 16:25 - 16:40   | ICMSE-213: <b>Dr. Maha El-Meligy:</b> CMRDI, Egypt<br>“Dynamic Grain Refining Numerical Model of Martensitic Stainless-Steel Grade 420J1 (X <sub>20</sub> Cr <sub>13</sub> ) During Compact Slab Thermo-mechanical Processing”                    |
| 16:40 - 17:00 pm  | <b>Coffee Break</b>   |
| [17:00 - 18:20 pm] <b>Session IV-1: Photochemistry</b>  |   |

**Venue:** Main Hall

**Chairs:**

✚ Prof. Shunichi Fukuzumi: Meijo University, Nagoya, Japan

✚ Prof. Mohamed Sabry Abdel-Mottaleb: Ain Shams University, Egypt

**Coordinator:**

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17:00 - 17:20  
**Invited** ICMSE-323: **Prof. Shinichi OOKAWARA:** TIT, Japan  
"Optimization of Quantum-Dot-Sensitization for Photocatalytic Synthesis of Anisaldehyde"

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17:20 - 17:40  
**Invited** ICMSE-207: **Prof. Mohsen Ghali:** EJUST, Egypt  
"Semiconductor Quantum Dots: Physics and Photonic applications"

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17:40 - 18:00  
**Invited** ICMSE-271: **Prof. Waleed Ahmed El-Said:** Assuit Univ., Egypt  
"Silver Nanostructures/Graphene nanosheets modified ITO substrate for direct sensing of GABA and Glutamate neurotransmitters based on Surface-Enhanced Raman Spectroscopy"

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17:40 - 18:20  
**Invited** ICMSE-089: **Prof. Mohamed El-Khouly:** Kafrelsheikh University, Egypt  
"Photosynthetic Antenna-Reaction Center Mimicry using the Light Harvesting Boron Dipyrromethene Sensitizers: Laser Photolysis Studies"

[17:00 - 18:15 pm] **Session IV-2: Nanofibers and Polymer Composites I**

**Venue:** Hall A

**Chairs:**

✚ Prof. Sherif Kandil, Alexandria University, Egypt

✚ Dr. Ahmed Hassanin, Alexandria University, Egypt

**Coordinator:**

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| 17:00 - 17:15 | ICMSE 358: <b>Dr. Mohamed El-Aassar</b> , SRTA-City, Egypt<br>"Surface-Functionalization of Novel Poly (Acrylonitrile -co- Styrene/ Pyrrole) Copolymer Electrospun Nanofibers for using as High-performance Carrier for Laccase Immobilization" |
| 17:15 - 17:30 | ICMSE-316: <b>Marwa Madany</b> : Alexandria University, Egypt<br>"The Natural polymer (ulvan): extraction and nanofibers blend fabrication"   |
| 17:30 - 17:45 | ICMSE-171: <b>Dr. Sarah Yahia Mohamed</b> , NRC, Egypt<br>"The Effect of Different Materials of Protective Sport's Textile on Comfort Properties"   |
| 17:45 - 18:00 | ICMSE-272: <b>Eman Mohamed Swielam</b> , Egypt<br>"Impact of the Fabrication Parameters on the Performance of Embroidered E-clothes"  |
| 18:00 - 18:15 | ICMSE-216: <b>Ahmed El-basyoni</b> : Alexandria University, Egypt<br>"Potential of using sandwich panels of pulled wool fibers from leather tanneries wastes in thermal insulation and other applications"                                      |

[17:00 - 18:15 pm] **Session IV-3: Advances in Steel Industry and Materials Processing**

**Venue:** Hall B

**Chairs:**

✚ Prof. Akihiko Chiba: Tohoku University, Japan

✚ Prof. Eiji Akiyama: Tohoku University, Japan

**Coordinator:**



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| 17:00 - 17:15                                      | ICMSE-068: <b>Prof. Adel Nofal</b> , CMRDI, Egypt.<br>"Solidification Path of Cast Iron Containing 9-10% AL as Affected by Inoculation and Dynamic Solidification"  |
| 17:15 - 17:30                                      | ICMSE-390: <b>Prof. Taha Mattar</b> , CMRDI, Egypt<br>"Developing High Strength-high Toughness Low Carbon steel using Combined V-Ti-Micro-alloying and Different Thermo-mechanical Treatments"                      |
| 17:30 - 17:45                                      | ICMSE-268: <b>Dr. Aly Saeed</b> : Egyptian-Russian University, Egypt.<br>"Microstructure, Hardness, and Attenuation Properties of Devolved Stainless-Steel Alloys for In-Core of Nuclear Reactor"                   |
| 17:45 - 18:00                                      | ICMSE-038: <b>Dr. Mohammed Salah</b> : Univ., of Oulu, Finland.<br>"Effect of Electroslag Refining on Cleanness, Microstructure and Mechanical Properties of a newly developed CrNiMoWMnV Ultrahigh-Strength Steel" |
| 18:00 - 18:15                                      | ICMSE-381: <b>Dr. Hany Elqosair</b> : EZDK, Egypt.<br>"Improving of Steel Cleanliness by Controlling the NMI and Inert Gases of Flat Steel"   |
| <b>[17:00 - 18:15 pm] Session IV-4: Ceramics</b>   |   |
| <b>Venue:</b> Hall B                               |   |
| <b>Chairs:</b>                                     |   |
| ✚ Prof. Prof. Mohamed Zoura: NRC, Egypt            |   |
| ✚ Prof. Hiroyuki Sugimura, Kyoto university, Japan |   |
| <b>Coordinator:</b>                                |   |
| 17:00 - 17:15                                      | ICMSE-302: <b>Dr. Doaa Elgohary Hanafy</b> : NRC, Egypt.<br>"Investigating the Behavior of Manufactured Rocket Propelled Grenade (RPG) Armour Net Screens from Different Types of High Performance Fibers"          |
| 17:15 - 17:30                                      | ICMSE-135: <b>Dr. Mai Hassan Roushdy</b> : British Univ., Egypt<br>"Recycling of Ceramic Tiles Sludge Waste for the Preparation of Ceramic Membranes"   |

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| 17:30 - 17:45 | ICMSE-242: <b>Dr. Hytham Abdelghany</b> : Benha University, Egypt<br>“Physical and Optical Investigations of Cadmium Doped Copper Containing Phosphate Glass” |
| 17:45 - 18:00 | ICMSE-212: <b>Dr. Mahmoud Abuelsoud</b> : Beni-Suef Univ., Egypt.<br>“Nano Titania Reinforced Limestone Pozzolan Cement: Physico-mechanical Investigation”    |
| 18:00 - 18:15 | ICMSE-051: <b>Dr. Yasmine El-Taybany</b> : EJUST, Egypt.<br>“Experimental Study of Tool Wear in Ultrasonic-Assisted Milling of Soda-Lime Glass”               |
| 19:00 – 21:00 | Gala Dinner   |

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## Tuesday 13<sup>th</sup> March

[9:00 - 11:00 pm]      Keynotes IV

**Venue:** Main Hall

**Chairs:**

✚ Prof. Mohamed Ayad: E-JUST, Japan

✚ Prof. Mamoun Muhammed

**Coordinator:**

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9:00 - 9:30      ICMSE-380: **Prof. Sherif Kandil**, Alexandria Univ., Egypt  
“Reverse Osmosis Membranes for Water Desalination”

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9:30 - 10:00      ICMSE-194: **Prof. Ahmed El-Shafei**, North Carolina State University, USA  
“Molecular Engineering, Molecular Modeling, Synthesis and Characterization of Novel Photosensitizers Toward High Efficiency Dye-sensitized Solar Cells”

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10:00 - 10:30      ICMSE-248: **Prof. Hassan El-Banna**, EJUST, Egypt  
“Water from Sun: The Need of Material Development in Solar Desalination”

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10:30 - 11:00      **Elsevier:** Eng. Ahmed Helmy

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11:00 - 11:30      **Coffee Break**

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[11:30 - 13:00 pm]      **Session V-1: Photocatalytic Water Splitting**

**Venue:** Main Hall

**Chairs:**

✚ Prof. Nagih Allam: AUC, Egypt.

✚ Prof. Ahmed El-Shazly: E-JUST, Egypt

**Coordinator:**

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11:30 - 12:00      ICMSE-414: **Prof. Ryu Abe**, Kyoto University, Japan  
**Invited**      “Development of Visible Light Responsive Photocatalysts toward Solar Hydrogen Production”

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| 12:00 - 12:15   | ICMSE-415: <b>Dr. Haytheam El-Bery:</b> Assuit University, Egypt<br>“Efficient Visible Light Responsive Photocatalysts for Solar Hydrogen Generation”  |
| 12:15 - 12:30   | ICMSE-360: <b>Dr. Nashaat Ahmed:</b> AUC, Egypt.<br>“Enhanced Photo Electrochemical Water Splitting Characteristics of TiO <sub>2</sub> Hollow Porous Spheres by Embedding Graphene as an Electron Transfer Channel” |
| 12:30 - 12:45   | ICMSE-385: <b>Dr. Ramadan Geioushy:</b> CMRDI, Egypt.<br>“Graphene-Based Material for Photo-/Electro-Catalytic Applications”   |
| 12:45 - 13:00   | ICMSE-329: <b>Dr. Menna Hassan:</b> AUC, Egypt.<br>“Nanofiber Composite Films for High Performance Visible Light Photocatalytic Water Splitting”   |
| [11:30 - 13:00 pm]  | <b>Session V-2: Nanofibers and Polymer Composites II</b>   |
| <b>Venue:</b> Main Hall<br><b>Chairs:</b><br> Prof. xxxx, Egypt.<br> Prof. Mohamed Nabil Sabry: Mansoura University, Egypt<br><b>Coordinator:</b> |  |
| 11:30 - 11:45   | ICMSE-217: <b>Dr. Islam Shyha:</b> North Umbria University, UK<br>“Micro-machining of Nano-polymer Composites Reinforced with Graphene and Nano-clay Fillers”  |
| 11:45 - 12:00   | ICMSE-058: <b>Dr. Mohamad Midani:</b> GUC, Egypt<br>“The Effect of the Structural Parameters of 3D Orthogonal Woven Composites on their Impact Responses Under Different Modes of Impact”                            |

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| 12:00 - 12:15                         | ICMSE-220: <b>Dr. Chaib sihem:</b> Frère Mentouri Constantine Algeria<br>“Concreting Sequences Contribution on Mechanicals Strengths in Flexion of Self-Consolidating Concrete Reinforced with Various Kinds of Fibers” |
| 12:15 -12:30                          | ICMSE-299: <b>Dr. Mohamed G.A. Nassef:</b> Alexandria University, Egypt.<br>“Dynamic Characterization of Bio-Based Composite Panels using Modal Analysis Technique”   |
| 12:30 - 12:45                         | ICMSE-131: <b>Eng. Safaa Muhamad,</b> Alexandria Univ., Egypt<br>“The Potential of Manuka Honey with Polymeric Nanofibers for Dermal Rash Protection”   |
| 12:45 - 13:00                         | ICMSE-274: <b>Dr. Dina Mohamed Hamoda:</b> NRC, Egypt.<br>“Investigate the performance of polyester microfiber bags with different pore size on in-situ degradability of some dairy feedstuffs”                         |
| [11:30 - 13:15 pm]                    | <b>Session V-3: Welding and Powder Metallurgy</b>   |
| <b>Venue:</b> Main Hall               |   |
| <b>Chairs:</b>                        |   |
| ✚ Prof. Bahaa Zaghlool: CMRDI, Egypt. |   |
| ✚ Dr: Ayman El-Sayed: CMRDI, Egypt    |   |
| <b>Coordinator:</b>                   |   |
| 11:30 - 11:50<br><b>Invited</b>       | ICMSE-416: <b>Prof. Kazunari Shinagawa,</b> Kyushu Univ., Japan<br>“Analysis of Sintering Process and Its Application to Materials”   |
| 11:50 -12:05                          | ICMSE-306: <b>Prof. Abd El-Moneim El Batahgy,</b> CMRDI, Egypt<br>“Shielded Metal Arc Welding of 9%Ni Steel using Non-Conventional Welding Electrode for LNG Facilities”  |

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| 12:05 - 12:20                          | ICMSE-120: <b>Prof. Markku Keskkitalo:</b> Univ., of Oulu, Finland<br>"The Influence of Shielding Gas on Strength of the Laser Welded Thin Sheet Lap Welds"                                       |
| 12:20 - 12:35                          | ICMSE-060: <b>Prof. Morsy Amin Morsy:</b> CMRDI, Egypt<br>"Nanostructure Plasma Spray Coating of Cr <sub>3</sub> C <sub>2</sub> -Ni <sub>20</sub> Cr Powder Compared with the Microstructure One" |
| 12:35 - 12:45                          | ICMSE-082: <b>Prof. Emad El Kashif:</b> CMRDI, Egypt<br>"Effect of Double Cycle on Haz Microstructure for HSLA Steels"  |
| 12:45 - 13:00                          | ICMSE-345: <b>Dr. Hamed Ahmed Abdel-Aleem:</b> CMRDI, Egypt<br>"Effect of FCAW Shielding Gases on 316L Stainless Steel Weldment Properties"   |
| 13:00 - 13:15                          | ICMSE-342: <b>Dr. Ali Nasser:</b> Al-Azhar University, Egypt<br>"Segregation Treatment and Enhancement of WC-Co Composites Using Field Assisted Sintering Technique (FAST)"                       |
| [11:30 -12:55 pm]                      | <b>Session (V-4): Biomaterials I</b>  |
| <b>Venue:</b> Main Hall                |   |
| <b>Chairs:</b>                         |   |
| ✚ Prof. Maha El-Demellawy: SRTA, Egypt |   |
| ✚ Prof. Nour El Gendy: EPRI, Egypt     |   |
| <b>Coordinator:</b>                    |   |
| 11:30-11:50<br><b>Invited</b>          | ICMSE-222: <b>Prof. Mona K. Marei:</b> Alexandria University, Egypt.<br>"Tissue Engineering: A Decade of Challenges"  |
| 11:50-12:10<br><b>Invited</b>          | ICMSE-331: <b>Prof. T. Adachi:</b> Kyoto University, Japan<br>"In-silico Modeling of Bone Metabolism and Remodeling"  |

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| 12:10-12:25        | ICMSE-177: <b>Dr. Micheal E.G. Tawadrous</b> : Alexandria University, Egypt<br>“Innovative Biocompatible and Biodegradable Scaffolds for the Formation of New Bone Tissues” |
| 12:25-12:40        | ICMSE-178: <b>Eng. Manal Nada</b> : Alexandria university, Egypt<br>“Innovative Biocompatible and Biodegradable Scaffolds for Skin Tissue Repair”                           |
| 12:40-12:55        | ICMSE-281: <b>Dr. Dawlat Mostafa</b> : Alexandria Univ., Egypt<br>“Cementing Line Configuration of Bioactive Engineered Zirconia Implants (In Vivo Histological Study)”     |
| [13:00 - 14:00 pm] | <b>Light Lunch</b>  |
| [14:00 - 15:00]    | <b>Poster Session II</b>  |

[15:00- 16:20 pm]

**Session (VI-1): Solar Cell II**

**Venue:** Main Hall

**Chairs:**

✚ Prof. Wolfgang Heiss: Friedrich-Alexander-Universität Erlangen, Germany

✚ Dr. Nagih Shallan: E-JUST, Egypt

**Coordinator:**

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| 15:00 - 15:20<br><b>Invited</b> | ICMSE-379: <b>Prof. Moatz Soliman:</b> Alexandria University, Egypt.<br>“Optimizing the Parameters of Mesoscopic Perovskite Solar Cells Structure”   |
| 15:20 - 15:35                   | ICMSE-230: <b>Dr. Yousaf Hameed Khattak:</b> Universitat Politècnica de València, Spain.<br>“Effect of Band Offset and Temperature on the Performance of $Zn_xCd_{1-x}S/SnS$ Solar Cell”                                     |
| 15:35 - 15:50                   | ICMSE-033: <b>Dr. Atef Youssef Shenouda:</b> CMRDI, Egypt<br>“Synthesis, Characterization and Electrochemical Performance of $Sb_2SnS_4$ Using Different Sources of S for Solar Cell Application”                            |
| 15:50 – 16:05                   | ICMSE-228: <b>Dr. Yousaf Hameed Khattak:</b> Universitat Politècnica de València, Spain<br>“Numerical Analysis of Multijunction CdTe/CGS/CdS/ZnO Thin Film Solar Cell”   |
| 16:05-16:20                     | ICMSE-384: <b>Eng. Mohamed Samir,</b> E-JUST, Egypt<br>“Preparation and Characterization of $Cu_2SnS_3$ Nanoparticles Synthesized by Solvothermal Technique based on Dimethyl Sulfoxide Solvent for Solar Cell Applications” |



[15:00 - 16:30 pm]

**Session VI-2: Surface Science and Materials Extraction**

**Venue:** Hall A

**Chairs:**

✚ Prof. Hesham Soliman: SRTA, Egypt.

✚ Dr. Mohsen Farahat: CMRDI, Egypt

**Coordinator:**

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| 15:00 - 15:15 | ICMSE-091: <b>Prof. Ibrahim Ghayad</b> : CMRDI, Egypt<br>“Direct Current Electrophoretic Deposition of Hydroxyapatite Composite Coating on Mg-0.8wt.%Ca-3wt.%Zn alloy”                         |
| 15:15 - 15:30 | ICMSE-335: <b>Dr. Mohamed Ibrahim</b> , GUC, Egypt.<br>“Corrosion Behavior of Polymer Coated Magnesium in Simulated Body Fluid”  |
| 15:30-15:45   | ICMSE-066: <b>Dr. Tarek Abdel Wahab</b> , CMRDI, Egypt<br>“Solubilization of Phosphate by Bioleaching of Nile Valley – Sebaiya West Ore by ThiobacillusThiooxidans”                            |
| 15:45 -16:00  | ICMSE-270: <b>Dr. Seroni Anyona</b> : Jumo Kenyatta University, Kenya.<br>“Kenya’s New Mining Act (2016): Identification of Gaps in the Conflict Resolution Mechanizms for Small Scale Miners” |
| 16:00 -16:15  | ICMSE-352: <b>Mathew N. Kyalo</b> : Jumo Kenyatta University, Kenya<br>“A Review on Extraction and Processing of Kenyan Gold Ore and Opportunities for Small Scale and Artisanal Miners”       |
| 16:15 -16:30  | ICMSE-109: <b>Rana Adel Bayoumi</b> : British University in Egypt<br>“Production of Nano Calcium Carbonate Utilizing Carbon Dioxide and Solvay-Process Industrial Wastewater”                  |

| [15:00 - 16:30 pm] <b>Session VI- 3: Metals and Alloys II</b>  |   |
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| <b>Venue:</b> Hall A<br><b>Chairs:</b><br>✚ Prof. Taha Mattar: CMRDI, Egypt<br>✚ Prof. Salah Salman: Al Azhar University, Egypt<br><b>Coordinator:</b> |   |
| 15:00 - 15:15  | ICMSE-061: <b>Dr. Sameh Khafagym:</b> TIMS, Cairo, Egypt<br>“Effect of Thermal Cycle on Microstructure and Corrosion Behavior of Duplex Stainless Steel SAF 2205 Electron Beam Welded Joint”                    |
| 15:15 - 15:30  | ICMSE-356: <b>Prof. Fawzi A. Elrefaie:</b> Cairo University, Egypt<br>“Oxidation Characteristics of Porous Nickel Low-Chromium Binary Alloys in Air at 1273K for 100 h”   |
| 15:30 -15:45   | ICMSE-288: <b>Eng. Sally Elkatatny:</b> E-JUST, Egypt<br>“Molecular Dynamics Modeling of Al <sub>5</sub> Cr <sub>12</sub> Fe <sub>35</sub> Mn <sub>28</sub> Ni <sub>20</sub> High-Entropy Alloy”                |
| 15:45 - 16:00  | ICMSE-276: <b>Eng. Walaa Abd El-Azzim:</b> E-JUST, Egypt<br>“Investigating the Microstructure and Mechanical Properties of Al-1%Cu Alloy Processed by a Proposed Simple Cyclic Extrusion Compression Technique” |
| 16:00 – 16:15  | ICMSE-294: <b>Eng. Alaa Keshtta:</b> E-JUST, Egypt<br>“Effect of Mechanical Training on the Super Elastic Properties of New Ti-17Nb-6Ta Shape Memory Alloy”   |
| 16:15 – 16:30  | ICMSE-212: <b>Dr. Mohamed Abuelsoud:</b> Beni-Suef University / Faculty of Postgraduate studies for Advanced Sciences<br>Nano Titania reinforced limestone pozzolania cement:Physico-mechanical Investigation   |

[15:00-16:15 pm] **Session VI-4: Biomaterials II**

**Venue:**

**Chairs:**

✚ Prof. Mona Marie: Alexandria University, Egypt

✚ Dr. Mohamed Gepreel: E-JUST, Egypt

**Coordinator:**

15:00 -15:15 ICMSE-314: **Dr. Mohammed Gouda:** Al-Azhar Univ., Egypt  
“Cold-Workability and Microstructure Change with  $\beta$ -Cold-Workability and Microstructure Change with  $\beta$ -Phase Stability in High Strength Ti-Mn Binary Alloys”

15:15-15:30 ICMSE-206: **Dr. Yasser Abdelrahman:** Assiut University, Egypt  
“Biocompatibility of Self-organized TiO<sub>2</sub> Nanotubes with Different Topographies”

15:30-15:45 ICMSE-105: **Dr. Haytham Elgazzar:** CMRDI, Egypt  
“Experimental Investigation of Laser Surface Melted 316L Stainless Steel castings for Biomedical Applications”

15:45 - 16:00 ICMSE-347: **Dr. Marwa Mostafa:** Helwan Univ., Egypt.  
“Titanium Foam for Dental Implant Applications”

16:00-16:15 ICMSE-202: **Eng. Kudakwashe:** E-JUST, Egypt  
“Studying the Effect of Zirconium (Zr) Addition on the Structure and Properties of the Biomedical Ti-Nb-Ta Alloy”

16:30 -17:00 pm

**Closing and Notes**

**Monday 12<sup>th</sup> of March, Poster Session I**

**[14:00 – 15:00]**

**Venue: Hall A - Main**

**1. Nanomaterials and Applications**

ICMSE-389: **\_Shrouq. H. Ali**, Alexandria University, Egypt

“Pyrolysis of Sugarcane Bagasse Catalyzed by Nanocomposites of Co, Ni, and Cu Mixed Oxides”

ICMSE-397: **Shrouq. H. Ali**, Alexandria University, Egypt

“Nanoparticles of Co, Ni, and Cu Single and Mixed Oxides: Their Adsorption and Photocatalytic Activities towards Congo Red”

ICMSE-201: **Mohammed Gamil**, Benha University, Egypt

“Tribological Characteristics of Epoxy/MWCNTs and Epoxy/Al<sub>2</sub>O<sub>3</sub> Nanocomposites under Dry Sliding Conditions”

ICMSE-295: **Basma Ahmed Ali Omran**, Egyptian Petroleum Research Institute, Egypt

“Bio-inspired Synthesis, Optimization and Characterization of Silver Nanoparticles by *Trichoderma Longibrachiatum* DSM 16517 for SRB Mitigation”

ICMSE-297: **Islam Kamel Basha El-sayed Shady**, EJUST

“Catalytic Performance of Iron and Cobalt Nanoparticles Supported on Graphene for Production of Liquid Hydrocarbon Fuels via Fisher-Tropsch Synthesis”

ICMSE-404: **H. Shokry Hassan**: City of Scientific Research and Technology Application, Egypt.

“Role of Preparation Technique in the Morphological Structures of Innovative Nano-Cation Exchange”

ICMSE-399: **A. I. Abd El-hamid**: City of Scientific Research and Technology Applications. Alexandria, Egypt.

“Modification of Silica Nanoparticles with Sodium phosphate and Application as Dye Adsorbent. Parameters Affecting and Kinetics Study”

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ICMSE-400: **A. I. Abd El-hamid**: City of Scientific Research and Technology Applications. Alexandria, Egypt.

“Green Activation of Activated Carbon by Milling Process for the clean in an artificially colored water with methylene blue and crystal violet cationic dyes”.

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## 2. Materials for High Performance Mechanical Applications

ICMSE-016: **Atef Hamada**, E-JUST, Egypt

“Processing of two Cr-Mn austenitic stainless steels with attractive combinations of ultra-high strength and ductility through the martensitic reversion”

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ICMSE-071: **Noha Elbanna**, Cairo University, Egypt

“Austempered Ductile Iron Thin Wall Castings”

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ICMSE-035: **Mohamed Salah Mohamed Newishy**, CMRDI, Egypt

“Surface Treatment of Aisi M2 Tool Steel by Laser Melting”

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ICMSE-418: **A. O. Abdel-Mawla**, CMRDI, Egypt

“Effect of Compaction and Sintering Temperatures on Mechanical Properties of Course Grained WC-TiC-TaC-NbC-Co Cemented Carbides”

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## 3. Mechanics of Materials, Material Modeling and Simulation Techniques

ICMSE-275: **Hesham Mohamed**, E-JUST, Egypt

“Crack Width Estimation Using Feed and Cascade Forward Back Propagation Artificial Neural Networks”

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ICMSE-376: **Osama Osman**, National Research Centre

“Effect of Nano Metal Oxide on Heme Molecule: Modeling Approach”

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ICMSE-278: **Shimaa Helal El-sayed Helal**, Alexandria University, Egypt

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“Modelling of an Industrial Reactor for Ammonia Oxidation”

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ICMSE-026: **Ahmed Mohamed Ali Abo Helwa**, EZDK, Egypt

“Effect of Steel Chemistry and Rolling Parameters on Picklability”

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#### 4. Recent Trends in Surface Science and Coating Technologies

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ICMSE-214: **Rania Assem**, Pharos University, Egypt

“Some Anionic Surfactants as Corrosion Inhibitors for Carbon Steel in Hydrochloric Acid Solution”

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ICMSE-317: **Mohamed El-Shnawie Hussain**, Institute of Graduate Studies & Research, Alexandria University

“Preparation and Characterization of an Emulsion Paint Based on Arghel Extract as an Eco-friendly Corrosion Inhibitor”

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ICMSE-106: **Mohamed Ahmed Abd El-Kawy Hammad**, E-JUST-CMRDI

“K-M Reactor, New Technology for Core Shell Materials”

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ICMSE-362: **Peter M. Weramwanja**, Jomo Kenyatta, Kenya

“Rheology of Modified Water Based Isinya and Amboseli Clays: Effect of Sodium Carbonate and Sodium Carboxymethylcellulose.”

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#### 5. Materials for Electronic, Magnetic and Optical Applications

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ICMSE-153: **Diea Fathy Abd El-Latif Emam**, Institute of Graduate Studies & Research, Alexandria University, Egypt

“Controlling the Thermal Expansion of Cu-22.82Zn-3.5Al Alloy”

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ICMSE-394: **Shrouk. E. Zaki**, National Research Centre, Egypt

“Studying the Phonic Band Gaps in Perfect, Defect and Quasi-Periodic 1D Phononic Crystals”

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ICMSE-046: **Sabah M. Abdelbasir Foda**, CMRDI, Egypt

“Facile Synthesis of Nanostuctured Cuprous Oxide from Waste Electric Cables”

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## 6. Recent Trends in Materials Testing, Characterization and Coding

ICMSE-063: **Ahmed Abd Elfatah El-Houshy**, Alexandria University, Egypt

“Use of Gamma Ray Back Scattering Method for Corrosion Assessment in Insulated Pipes”

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ICMSE-199: **Mohammed Gamil**, Benha University, Egypt

“Design and Manufacturing of a Non-Standard Chain Parts for a Scraper Chain Conveyor: A Case Study”

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ICMSE-209: **Amira Labib Shafik**, Mansoura university, Egypt

“Fabrication and Characterization of azo-functionalized Ni (II) Ionimprinted resin; Eliminating? Toxicity from Aqueous Water”

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ICMSE-280: **Mona Mohamed Shawky Ragab**, NRC, Egypt

“Reliance of Physical Mechanical Properties of Cotton and Viscose Single Jersey Fabrics on their Construction”

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ICMSE-402: **Somnath Bhattacharyya**, Indian Institute of Technology Madras

“Atomic Scale Study of Defects and Metastable Phases in Cold Rolled Ti-Mn Alloy Using Inline Holography”

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## 7. Additive Manufacturing

ICMSE-263: **Mohamed Abdulhameed Kerish**, AUC, Egypt

“Wire Arc Additive Manufacturing/Repair (WAAM/R) of a Prismatic Steel Part”

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## 8. Advances in Metals and Alloys

ICMSE-387: **Ahmed. I. Abdel-aziz**, Fayoum University, Egypt

“Effect of Friction Stir Processing on Fe-rich Intermetallic of A384 Aluminum Alloy”

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ICMSE-151: **Shogo Saeki**, Sengo Kobayashi and Satoshi Okano, Ehime Univ., Japan  
“Effect of Oxygen Addition on the Spinodal Decomposition of Ti-4at%Mo Alloy”

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ICMSE-092: **Ibrahim Mohamed Ghayad**, CMRDI, Egypt  
“Effect of Substitution of Molybdenum by Tungsten on the Corrosion Resistance of AISI 316 Stainless Steel in Sea Water”

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ICMSE-401: **Ghalia A. Gaber**, Azhar University, Egypt  
“Evaluation of the Inhibition Efficiency of Green Inhibitor on the electrochemical Behavior of Cu-Ni Alloys in Marine Application”

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### 9. Advances in Steel Industry and Materials Processing

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ICMSE-334: **Ahmed Esmat Abd El-Aziz**, EAF and LF Engineer, EZDK, Egypt  
“Effect of MgO Content in EZDK Electric Arc Furnaces' Slag on Refractory Consumption”

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ICMSE-341: **Islam M. El-Galy**, Alexandria University, Egypt  
“Investigation of Tailor-Welded Blanks Formability using Experimental Testing and Numerical Simulation”

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ICMSE-241: **Mohamed Salah Mohamed Newishy**, CMRDI, Egypt  
“Optimizing of Process Parameters in Plasma Arc Cutting of Brass Thin Sheets”

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### 10. Ceramics

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ICMSE-242: **Hytham Abdelghany**, Benha University, Egypt  
“Physical and Optical Investigations of Cadmium Doped Copper Containing Phosphate Glass”

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ICMSE-015: **Nada Hussien Amin Mohamed**, CMRDI, Egypt  
“Tailoring of Magnesium Aluminum Titanate Based Ceramics from Aluminum Dross”

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## 11. Fiber Reinforced Polymer and Plastics

ICMSE-027: **Mohamed Mahmoud Adawy Mohamed**, Assiut, Egypt

“Lateral Stiffness-Based Stress-Strain Model of FRP-Confined Concrete Rectangular Columns”

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ICMSE-328: **Lobna Elseify**, GUC, Egypt

“Review on Fibers Extracted From Date Palm Trees”

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ICMSE-318: **Karim Ahmed Saad Kassem**, Ezz Dekheila Steel Company, Egypt

“HDPE material for piping networks inside EZDK”

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ICMSE-348: **Sherien El-Kateb**, Alexandria university, Egypt

“Effect of Knitted Fabric Design and Fiber Type on Fabric Pilling Resistance”

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ICMSE-368: **Mervette El-Batouti**, Alexandria University, Egypt

“Recent Advances in Metal Organic Framework (MOF) Materials – An Overview”

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ICMSE-371: **Hanady M. Hussein**, GUC, Egypt

“Mechanical and Calorimetric Characterization of Injection Molded High-Impact-Polystyrene”

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## Tuesday, 13<sup>th</sup> of March- Poster Session II,

[14:00 – 15:00]

Venue: Hall A -Main

### 1. Materials for Energy and Sensing Applications

ICMSE-126: **Ehssan Nassef**, Pharos University, Egypt

“Shale for the Removal of Heavy metals from Aqueous Solutions Using of Activated Oil

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ICMSE-136: **Fatma Ismail**, Zewail City of Science and Technology, Egypt

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“Ferrites/Reduced Graphene Oxide (RGO) in Supercapacitors: MnZnFe<sub>2</sub>O<sub>4</sub>/RGO- Based Supercapacitors with Superior Performance and High Stability”

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ICMSE-243: **Mohamed S. El-Asfoury**, Port-Said University, Egypt

“A Comparison Study of Spark Plasma and Hot Isostatic Pressing Sintering Techniques on Bi<sub>85</sub>Sb<sub>15</sub> Thermoelectric Performance”

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ICMSE-245: **Mariam Kassim Ali**, EJUST, Egypt

“Pani Nanocomposites For Thermoelectric Materials”

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ICMSE-315: **Y. Reda**, Higher Institute of Engineering and Technology, New Damiatte

“Production of Nano Porous Metallic Foams for Catalysts in Chemical and Energy Systems”

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ICMSE-357: **Ibrahim Abdullah**, AUC, Egypt

“Non-Enzymatic, Reusable Platform for Selective Determination of Ultra-Trace Amounts of Mercury in Real Samples”

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ICMSE-363: **Micheal E.G. Tawadrous**, Alexandria University, Egypt

“Dye-Sensitized Solar Cells: A Promising, Simple and Cost-Effective Solution to Depleting Fossil Fuels for Production of Electrical Energy”

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ICMSE-374: **Mohamed Morsy**, National Research Center, Egypt

“MWCNTs/ZnO Composite as Sensor for Ethanol Vapor”

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ICMSE-375: **Sherif A. El-Khodary**, Housing& Building National Research Center (HBRC), Egypt

“Application of Iron Doped Polyaniline/ Sulfonated Carbon Nanotubes as Supercapacitor”

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ICMSE-354: **Mostafa Omar**, Ain Shams university, Egypt

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“Multipodal Ti-Nb-Zr-O Nanotubes for Efficient Water Splitting: Unraveling their Growth Kinetics”

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ICMSE-190: **Hanan Alzahrani**, King Abdullaziz University, Saudia Arabia  
“Photo Catalytic Activity of LTA-TiO<sub>2</sub> Composite Towards Degradation of Methylene Blue”

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ICMSE-163: **Mostafa Shwky**, CMRDI, Egypt  
“Synthesis of Ag<sub>8</sub>SnS<sub>6</sub> by Hydrothermal and Solid-State Methods for Solar Cell Applications”

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ICMSE-116: **Ahmed Abdel Aziz Soliman**, CMRDI, Egypt  
“A Study on the Physicochemical Properties of Vanadium and Chromium Phosphate and Pyrophosphate Compounds”

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ICMSE-398: **Gehad M. Abd El-Gelil**, Alexandria University, Egypt  
“Effect of Electrodes Material on the Performance of Batch Reactor Using Plasma Enhanced Technique for Wastewater Treatment”

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ICMSE-396: **Heba R. Abd El-aaty**, Cairo University, Egypt  
“Effect of Gas Dilution Ratios and Substrate Temperature on the Structural Transition of a-Si/ $\mu$ c-Si Thin-Film Solar Cell using PECVD”

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ICMSE-388: **Talaat A. Hameed**, NRC, Egypt  
“Characterization of CuInGeSe<sub>4</sub> thin films and Al/n-Si/p-CuInGeSe<sub>4</sub>/Au heterojunction device”

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ICMSE-372: **Medhat A. Ibrahim**, NRC, Egypt  
“Molecular Modeling Analyses for Metal Oxide/Graphene”

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ICMSE-403: **E. Salama**, City of Scientific Research and Technology Applications, Egypt

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“Fabrication of Zinc Oxide Nanotubes for Gas Sensor Applications”

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ICMSE-032: **Atef Youssef Shenouda**, CMRDI, Egypt

“Characterization and Electrochemical Performance of Manganese Oxide with Carbon Nano Tubes as Negative Electrode for Lithium Batteries”

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ICMSE-405: **Enas Moustafa**, Beni-Suef University, Egypt.

“The Effect of Hot Solvents and Annealing Rate on the Perovskite Morphology”

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## 2. Micro/Nanofabrication of New materials

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ICMSE-003: **Mohamed Ahmed Hammad**, EJUST, Egypt

“K-M reactor, New Trend in Applied Chemistry”

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ICMSE-109: **Rana Adel Bayoumi**, British University, Egypt

“Production of Nano Calcium Carbonate Utilizing Carbon Dioxide and Solvay-Process Industrial Wastewater”

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## 3. Machining of Hard to Cut Materials

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ICMSE-049: **Abdallah Abdelakwy**, EJUST, Egypt

“Cutting Forces and Surface Roughness in Ultrasonic-Assisted Drilling of Soda Glass”

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ICMSE-200: **Mostafa Okasha**, Helwan University, Egypt

“Optimization of Surface Integrity Characteristics in ECG of AISI M4 Using Taguchi Method and Grey Relation Analysis”

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## 4. Welding and Powder Metallurgy

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ICMSE-382: **Sanaa .S Abdelmomen**, Tabbin Institute for Metallurgical Studies

“Manganese Distribution between Slag and Metal in the Egyptian in the Blast Furnaces”

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ICMSE-391: **Ayman Elsayed**, CMRDI, Egypt

“Synthesis of Cu-Ni-Al Shape Memory Alloy by Powder Metallurgy”

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ICMSE-346: **Hamed Ahmed Abdel-Aleem**, CMRDI, Egypt  
“Comparative Study of Spot Welding and Friction Stir Spot Welding of Al 2024-T3 Alloy”

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ICMSE-234: **Mohamed Mosalam** Ghanem, CMRDI, Egypt  
“Failure Analysis of Electric Resistance Welded (ERW) Heat Exchanger Tube”

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ICMSE-235: **Mohamed Salah Mohamed Newishy**, CMRDI, Egypt  
“Friction Stir Powder Processing of Low Carbon Steel”

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ICMSE-215: **Mohamed Mosalam Ghanem**, CMRDI, Egypt  
“Performance of Welded Incoloy 825 Ni-Based Alloy Control and Wire Gauge Lines Tubing”

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ICMSE-098: **Morsy Amin Morsy**, CMRDI, Egypt  
“Evaluation of Microstructure and Mechanical Properties of Low Carbon Steel After Friction Stir Powder Processing”

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## 5. Building and Structural Materials

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ICMSE-041: **Atef Hamada**, EJUST, Egypt  
“Air Cured Geopolymer Concrete Columns Reinforced with GFRP Bars and Stirrups Under Concentric and Eccentric Loading”

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ICMSE-386: **Mohamed. E. Sultan**, Al-Azhar University, Egypt  
“Incorporation of Cement Kiln Dust in Fly Ash and Blast Furnace Slag Based Geopolymer”

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## 6. Biomaterials

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ICMSE-313: **Mohamed I. Badwai**, Pharos University, Egypt.  
“Metamaterial lens for Early Detection of Tumors in a Realistic Breast Model”

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ICMSE-364: **Mervette El-Batouti**, Alexandria University, Egypt

“Fabrication of Biodegradable and Biocompatible Scaffolds suitable for Skin-Tissue Repair by an Innovated Technique”

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ICMSE-367: **Micheal E.G. Tawadrous**, Alexandria University, Egypt

“Innovative Biocompatible High-Flux Hemodialysis Membranes From Cellulose Acetate-Chitosan Blends”

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ICMSE-377: **Diaa Atta**, National Research Centre, Egypt

“Fluorescence Correlation Spectroscopy (FCS) as a Tool to Measure the Protein Dynamics on Single Molecule Level”

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ICMSE-378: **Diaa Atta**, National Research Centre, Egypt

“Time Resolved Spectroscopy as a Tool in Culture Heritage Investigation”

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ICMSE-249: **Saad Mohamed Ibrahim Ebied**, EJUST, Egypt

“Studying the Deformation Temperature Effect on the Hot Deformation Behavior of Ti-10 Mn Alloy at Low and High Strain Rate”

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ICMSE-250: **Mahmoud Elewa**, AASTMT, Egypt

“Innovative Biocompatible and Biodegradable Scaffolds for Skin Tissue Repair”

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ICMSE-308: **Amira Moustafa Mohamed Amin**, CMRDI, Egypt

“Bioactivity and Mechanical Properties of the Developed Bioceramics based Calcium Silicate”

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## 7. Mining and Materials Extraction

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ICMSE-097: **Salma Tarek**, CMRDI, Egypt

“Kinetics of Formation of Aluminum Fluoride by the Action of Hydrofluosilicic Acid on Un-calcined Kaolin”

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ICMSE-227: **Saeed** , CMRDI

“Production of Ferrosilicoaluminium from Aluminum Slag and Local Ore via Carbothermic Reduction”

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ICMSE-039: **Adel Kamal Ismail**, CMRDI, Egypt

“Production of Value Added Aluminum Compounds from Aluminum Surface Cleaning Effluents”

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## 8. Technical Textiles

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ICMSE-322: **Sarah Yehia**, NRC, Egypt

“Investigation of Performance Properties for Sportswear by Using Different Types of Polyester Yarns”

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ICMSE-164: **Manar Yahia Ismail Abd-El-Aziz**, NRC, Egypt

“Review article: Textile Products for Reinforcing Mortars and Concrete”

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