

**PROGRAM OF THE TENTH JAPANESE-MEDITERRANEAN WORKSHOP
ON APPLIED ELECTROMAGNETIC ENGINEERING FOR MAGNETIC,
SUPERCONDUCTING, MULTIFUNCTIONAL AND NANO MATERIALS (JAPMED'10)**

TUESDAY, JULY 4th

16:00 – 19:00 **Registration**
19:00 – 21:00 **Welcome Cocktail**

WEDNESDAY, JULY 5th

08:00 – 09:00 **Registration**

09:00 – 10:00 Opening Session

Chair: M. Guden, M. Demir

09:00 – 09:30 Welcome address by the Honorary Chairman of JAPMED'10, Prof. A.G. Mamalis
Welcome address by the Chairman of JAPMED'10, Prof. M. Enokizono
Welcome address by the Co-Chairman of JAPMED'10, Prof. M. Guden, Rector of the IYTE

09:30 – 10:00 **Plenary Presentation (111): Advanced Manufacturing under Shock**
A.G. Mamalis
PC-NAE, NCSR "Demokritos", Greece

10:00 – 10:30 Coffee Break

10:30 – 12:40 Oral Session A: Electromagnetic Engineering

Chair: U. Adem

10:30 – 11:00 **Keynote Presentation (25): Technical Problems for Core Loss Reduction of High-Speed Motor**
M. Enokizono
Oita University, Japan

11:00 – 11:20
11:20 – 11:40 **A2 (33): Changes in the Resistance Force of a Magneto-Rheological Shock Absorber Induced by a Magnetic Field**
T. Sawada, T. Endo, Y. Shimizu, H. Nishida
Keio University, Japan

11:40 – 12:00 **A3 (61): Building Factor Evaluation of the Stator Core Made of Ultrathin Electrical Steel Sheet for a High Speed Motor**
M. Oka, M. Enokizono, Y. Mori, K. Yamazaki
Oita National College of Technology, Japan

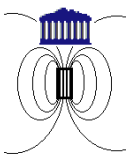
12:00 – 12:20 **A4 (92): Reduction of Two-dimensional Magnetostriction and Iron Loss of Grain-oriented Electrical Steel Sheet depend on Vector Magnetic Characteristic Control**
D. Wakabayashi, M. Enokizono
Nippon Bunri University, Japan

12:20 – 14:00 Lunch Break

14:00 – 16:10 Oral Session B: Applications in Energy and Transportation

Chair: T. Sawada

14:00 – 14:30 **Keynote Presentation (72): Structure and Properties of Magnesium Diboride Effect of Additions**
T. Prikhna, M. Eisterer, A.G. Mamalis
National Academy of Sciences of Ukraine, Ukraine



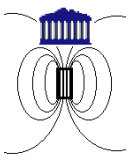
JAPMED'10

Izmir Institute of Technology
July 4-8, 2017, Izmir, Turkey

**Tenth Japanese-Mediterranean
Workshop on Applied
Electromagnetic Engineering
for Magnetic, Superconducting,
Multifunctional and Nano
Materials**



- 14:30 – 14:50 **B1 (26): Geometric Study of Space Motor and Power Assist Leg Motor**
Y. Okada, R. Kondo, M. Otsuki, M. Enokizono
Ibaraki University, Japan
- 14:50 – 15:10 **B2 (73): Electrical Characterizations of p-Type Cu₂ZnSnS₄ Absorber Layer for Thin Film Solar Cells**
F.G. Akca, F. Turkoğlu, A. Cantas, D.G. Buldu, E. Meriç, H. Kçseoğlu, M. Özdemir, L. Ozyüzer, G. Aygün
Izmir Institute of Technology, Turkey
- 15:10 – 15:30 **B3 (115): Ka Band Front-End Design**
H. Mecidoğlu, H. Torpi
Yildiz Technical University, Turkey
- 15:30 – 15:50 **B4 (24): Study on Structure for Increase of a Transmit Torque on Magnetic Harmonic Gear with Stackable Structure**
K. Chigira, Y. Ando, I. Murakami, T. Kurahashi
Gunma University, Japan
- 15:50 – 16:10
- 16:10 – 16:40 **Coffee Break**
- 16:40 – 19:00 Poster Session (P)**
- P1 (22): Structural and Magnetic Characterization of Al-Cd Ferrite Fabricated by Co-Precipitation Method**
T. Sasmaz Kuru
Okan University, Turkey
- P2 (23): Fabrication and Characterization of Permanent Magnetic SmCo₅ Thin Films by SQUID Magnetometer**
M. Kuru, E. Ogun, A. Özmetin, M. Hançer, A.E. Özmetin
Ondokuz Mayıs University, Turkey
- P3 (29): Size Controllable Synthesis and Characterization of CuO Nanostructure**
D. Candemir, F. Boran
Hitit University, Turkey
- P5 (41): Nonlinear dynamics of quantum dot light-emitting diode with filtered optical feedback**
K.A.M. Al Naimee, H.B Al Hussein, A. Al-Khursan, S. Abdalah, R. Meucci
Istituto Nazionale di Ottica- CNR, Italy
- P6 (42): A Novel Magnetic Geared Superconducting Generator Design for Direct-Drive Wind Turbines**
R. Zeinali, O. Keysan
Orta Doğu Teknik University, Turkey
- P7 (44): Investigation of Titanium Substitution in Li_{0.5}La_{0.5}Ti_{1-x}Al_xO₃ Thin Film Electrolyte Layer for Li-Ion Batteries**
S. Ulusoy, S. Gulen, M. Ozdemir, G. Aygun, L. Ozyuzer
Izmir Institute of Technology, Turkey
- P9 (47): Hydrophobic Coatings from Photochemically-Prepared Hydrophilic Polymethacrylates via Electrospraying**
T. Isık, M.M. Demir, C. Aydoğan, M. Çiftçi, Y. Yağcı
Izmir Institute of Technology, Turkey
- P10 (37): HTSC Bulk Magnetizing Control System for Cryogenic Alternators**
S. Timofeyev, L. Chubraeva
Institute of electrophysics and power energy of RAS, Russia
- P11 (48): Coating Performance of Alpha-Silicene**
A. Kandemir, F. İyikanat, C. Bacaksız, H. Şahin
Izmir Institute of Technology, Turkey



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P12 (50): Polar / Antipolar – Antiparallel β -Sheets of Bombyx Mori Silk Nano Crystallites Solvated In Different Type of Water

C. Uğuz, Ç. Taşseven, S. D. Günay, Ü. Akdere
Yıldız Technical University, Turkey

P13 (51): Use of SWCNT Functionalized Electrospun Fiber Mats for the Sorption of Lithium Ion from the Hypersaline Geothermal Brine

A. Çelik, M. M. Demir
Izmir Institute of Technology, Turkey

P14 (52): Designing Efficient PDMS/Phosphor Composite Films for White Light Generation

T. Güner, M M. Demir
Izmir Institute of Technology, Turkey

P15 (53): Tunable Structural Color Formed by Monodisperse Quasi-Arranged SiO₂ Colloids

G. Topçu, M M. Demir
Izmir Institute of Technology, Turkey

P16 (57): Nickel ferrite nanoparticles for simultaneous use in magnetic resonance imaging (MRI) and magnetic fluid hyperthermia (MFH)

E. Umut, Ö. B. Mergen
Dokuz Eylül University, Turkey

P17 (89): Frequency Response Comparison of Photo-Detectors for Visible Light Communication Systems

M. Sönmez
Osmaniye Korkut Ata University

P18 (62): Spontaneous Adhesion of PEG-DOPA4 to Spin Labeled Polystyrene and Silica Nanobeads

Y. Akdoğan, Y. Göksel
Izmir Institute of Technology, Turkey

P19 (65): Electrical and Optical Percolations of Graphene Nanoplatelet-Poly (methylmethacrylate) Composite Films

Ö. B. Mergen, E. Arda
Dokuz Eylül University, Turkey

P20 (66): Control of Thermal Flux in Molecular Junctions by Isomeric Switching

G. Kurt, H. Sevinçli
Izmir Institute of Technology, Turkey

P21 (38): HTSC Synchronous Condenser for Wind Power Plant

L. Chubraeva, S. Timofeyev
Institute of Silicate Chemistry of Russian Academy of Sciences, Russian Federation

THURSDAY, JULY 6th

09:00 – 11:40 Oral Session C: Material Measurements and Characterization

Chair: M. Enokizono

09:00 – 09:30 **Keynote Presentation (86): Advances in Stress Tensor Monitoring in Steels**

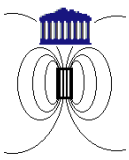
E. Hristoforou, A.G. Mamalis
National Technical University of Athens, Greece

09:30 – 09:50 **C1 (79): Piezoelectricity in the $\{A_xA^{(1-x)}\}BO_3$ and $A\{B_xB^{(1-x)}\}O_3$ Ceramic Alloys**

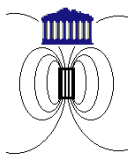
B. Akgenc, C. Tasseven, T. Cagin
Kirklareli University, Turkey

09:50 – 10:10 **C2 (91): Synthesis Features of Iron Oxide Nanopowders with High Magnetic and Sorption Properties**

S.N. Lavrynenko, A.G. Mamalis, D. Sofronov, A. Odnovolova, V. Starikov
National Technical University "Kharkov Polytechnic Institute", Ukraine



- 10:10 – 10:30 **C3 (60): Effects of Dielectric Spacer on Absorbance Characteristics of a Dual-Band Nanoaperture Based Perfect Absorber**
A. Onur, M. Turkmen
Erciyes University, Turkey
- 10:30 – 10:50 **C4 (101): Influence of H-Content on Thermo-Mechanical Properties of NiAl Alloys Form**
U. Aslan, T. Cagin
Texas A&M University, USA
- 10:50 – 11:10 **C5 (85): The Effect of Heat-Treatment of Nano-structured Diatom Frustules on the Compression Strength of Diatom- Frustule-Filled Epox Composites**
D. Zeren, M. Guden
Izmir Institute of Technology, Turkey
- 11:10 – 11:40 Coffee Break**
- 11:40 – 14:10 Oral Session D: Multifunctional Materials and Biotechnology**
Chair: PW Chen
- 11:40 – 12:10 **Keynote Presentation (88): Self-Regulation of Comfort Level and Threshold in Living Spaces through Design of Multifunctional Material Systems**
T. Cagin
Texas A&M University, USA
- 12:10 – 12:30 **D1 (76): Nano and Nanostructured Hybrid Materials Systems for Multifunctional Applications**
F.D.S. Marquis,
San Diego State University, USA
- 12:30 – 12:50 **D2 (46): Production of Bone Tissue Engineering Nanofiber Scaffold by Electro-Spinning Method**
A. Özcan, G. Ugar, A. Topsakal, E. Altun, F. N. Oktar, S. Salman, N. Ekren, O. Gündüz,
Marmara University, Turkey
- 12:50 – 13:10 **D3 (100): Micromechanical Modeling of Precipitation Hardened NiTiHf**
J. Joy, A. Solomou, T. Baxevanis, I. Karaman, D. Lagoudas
Texas A&M University, USA
- 13:10 – 13:30 **D4 (77): SnO₂/Graphene Nanocomposites with Enhanced Gas Sensing Performance**
F. Boran, S. Çetinkaya
Hitit University, Turkey
- 13:30 – 13:50 **D5 (75): Development of Non-Cadmium I-III-VI Quantum Dots and Their Surface Modification for Biomedical Applications**
X. Zhu, V.G. Demillo, S. Chen, A.G. Mamalis
University of Nevada Reno, USA
- 13:50 – 14:10 **D6 (69): Dually Actuated Atomic Force Microscope with Miniaturized Magnetic Bead-Actuators for Single-Molecule Force Measurements**
S. Ozer, H. Torun, S. Sevim, L. Feng,
T.C. Yenyuzyl University, Turkey
- 14:10 – 15:40 Lunch Break**
- 15:40 – 17:10 Oral Session E: Nanocomposites and Magnetic Nanomaterials**
Chair: T. Prikhna
- 15:40 – 16:10 **Keynote Presentation (106): Polymer Nanofiber-Carbon Nanotube Network Generating Circuits**
U. H. Yıldız
Izmir Institute of Technology, Turkey



- 16:10 – 16:40 **Keynote Presentation (116): Blast Response of an Energy-Absorber Biomimetic Armor System**
F. Tuzgel, E. Guzel, F. Akbulut, S. Sahin, A. Yucesoy, M. Guden, A. Taşdemirci
Izmir Institute of Technology, Turkey
- 16:40 – 17:00 **E1 (94): Desalination of brackish water / seawater via selective magnetic separation**
M. E. Kouli, A. Ferraro, E. Hristoforou
National Technical University of Athens Zografou Campus, Greece
- 17:00 – 17:20 **Coffee Break**

17:20 – 19:30 Poster Session (Q)

Q1 (70): Molybdenum Doped CdTe Sigma3 (111) Grain Boundary

M. Caliskan, A. Oztoprak, C. Tasseven, S.D. Günay, T. Cagin
Yıldız Technical University, Turkey

Q2 (71): A Case Study on Metal-Ceramic Interfaces: Wetting of Alumina by Molten Aluminum

A. Tıgh, T. Cagin
Texas A&M University, Turkey

Q3 (68): Controlling thermal transport on graphene via molecular functionalization

K. Sevim, H. Sevinçli
Izmir Institute of Technology, Turkey

Q4 (74): A computational database for the electronic, thermal and thermoelectric properties of group III-VI monolayers

M. N. Çınar, G. Özbal, G. Kurt, M. Gençoğlu, K. Sevim, B. Özdamar, H. Sevinçli
Izmir Institute of Technology, Turkey

Q7 (82): Anderson Localization in Graphene Antidot Lattices

M. N. Çınar, H. Sevinçli
Izmir Institute of Technology, Turkey

Q9 (87): Formation of Hydrogen Lines on Graphene

G. Özbal, J. T. Falkenberg, M. Brandbyge, T. Senger, H. Sevinçli
Izmir Institute of Technology, Turkey

Q12 (99): Electromagnetic Compatibility Issues in Electric Vehicle Applications

T. Damatopoulou, V. Lazaris, A. Kladas, A. Mamalis
National Technical University of Athens, Greece

Q13 (103): BaTiO₃ Based Ferroelectric Materials for Electrocaloric Cooling Applications

T. Demirtay, K. Şanlı, U. Adem
Izmir Institute of Technology, Turkey

Q14 (105): Thermoelectric Properties of Two-Dimensional Transition Metal Dichalcogenides/Oxides

G. Özbal, T. Senger, H. Sevinçli
Izmir Institute of Technology, Turkey

Q15 (107): A Study on the Solvent Vapor Induced Film Formation of PS/AgNPs Composites

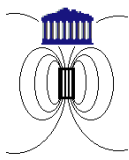
C. Akaoğlu, Ş. Uğur
Istanbul Technical University, Turkey

Q16 (108): Film Forming and Magnetic Properties of PS Latex/Mnps Composites

N.C. Dağyar, E. Dylmishi, Ş. Uğur
Istanbul Technical University, Turkey

Q17 (40): Silver Nanoparticles Size Control and Stability

S.S. Ahmed, R. Ibrahim
University of Baghdad, Iraq



Q19 (30): Magnetic Hysteresis Loss Calculations of HTS Coil under Rotating Magnetic Fields

S. Tunc, M. Erdogan, F. Inanir
Yildiz Technical University, Turkey

20:30 – 23:00 Conference Dinner

FRIDAY, JULY 7th

09:00 – 10:50 Oral Session F: Nanoparticles, Nanoscale Material Synthesis

Chair: T. Çağın

09:00 – 09:20 F1 (28): Synthesis and Characterization of Modified Diatomite-Leaf-Like CuO Nanosheet Composites

F. Boran
Hitit University, Turkey

09:20 – 09:50 F2 (93): Magnetic Microalgae: An Innovative Application of Super-Paramagnetic Iron Oxide Nanoparticles

G. Banis, A. Ferraro, E. Hristoforou
National Technical University of Athens, Greece

09:50 – 10:10 F3 (36): Composite Nanoparticle Synthesis for Enhanced Photocatalytic Activity of Textiles

A. Cerhan, G. Bahar Basim
Ozyegin University University, Turkey

10:10 – 10:30 F4 (96): The Size Effect of Polystyrene (PS) latexes on Film Formation Process and Electrical Properties of Multi-Walled Carbon Nanotube Doped (MWCNT) PS/MWCNT Nanocomposite Films

B. Demirbay, Ş. Uğur
İstanbul Technical University, Turkey

10:30 – 10:50 F5 (43): The Influence of the Different Sintering Time on the Structural, Electrical and the Magnetic Properties of La_{0.80}Ag_{0.20}MnO₃

B. Altanr, A. Tokkaya, A. Coskun, E. Tasarkuyu
Mugla Sıtkı Kocman University, Turkey

10:50 – 11:20 Coffee Break

11:40 – 14:10 Oral Session G: Particular Advanced Materials

Chair: F.D.S. Marquis

11:40 – 12:10 Keynote Presentation (90): Features of Consolidation of Nanoceramics for Aerospace Industry

S.N. Lavrynenko, A.G. Mamalis, E.S. Gevorkyan
National Technical University "Kharkov Polytechnic Institute", Ukraine

12:10 – 12:30 G1 (59): Efficient and Accurate Analysis of Three-Dimensional Nano-Optical Structures: Frequency-selective Surfaces, Metamaterials, Nanoantennas, Nanowires, and Photonic Crystals

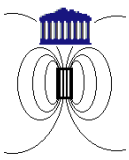
C.G. Sur, B. Solak, O. Eroğlu, S. Yazar, A. Altınoklu, S. Güler, U.M. Gür, B. Karaosmanoğlu, Ö. Ergül
Middle East Technical University, Turkey

12:30 – 12:50 G2 (39): Dynamics of a Water Droplet Subjected to Forced Vibration by Surface Acoustic Wave Device

Seiichi Sudo
Akita Prefectural University, Japan

12:50 – 13:10 G3 (112): Laser Induced Ferromagnetism on FeAl Thin Films

E. Duman
Ankara University, Turkey



- 13:10 – 13:30 **G4 (63): SiOC Ceramics with Aligned Porosity**
C. Vakifahmetoğlu, D. Zeydanli
Istanbul Kemerburgaz University, Turkey
- 13:30 – 13:50 **G5 (104): Electrocaloric and Piezoelectric Functionality in Pb-Free Ferroelectric Materials**
U. Adem
Izmir Institute of Technology, Turkey
- 13:50 – 15:20 Lunch Break**
- 15:20 – 17:00 Shockwaves Cluster Session: Shock Loading and Defense**
Chair: A.G. Mamalis
- 15:20 – 15:30 **Introductory Remarks on Shockwaves Cluster**
A.G. Mamalis
PC-NAE, NCSR “Demokritos”, Greece
- 15:30 – 16:00 **Keynote Presentation (109): Shock Formation in a Ductile and Layered Cellular Core**
İ.K. Odacı, M. Sarıkaya, A. Taşdemirci, M. Güden
Izmir Institute of Technology, Turkey
- 16:00 – 16:30 **Keynote Presentation (78): Synthesis and Densification of Heterogeneous Ultrafine and Nanostructured Materials by High Rate Energy Processes**
F.D.S. Marquis,
San Diego State University, USA
- 16:30 – 17:00 **Keynote Presentation (113): Explosive welding of 1100Al/AZ31/1100Al composite plates**
PW Chen, Q. Zhou, Jianrui Feng
Beijing Institute of Technology, PR of China
- 17:00 – 17:20 Coffee Break**
- 17:20 – 18:00 Closing Session**
Chair: A.G. Mamalis, M. Enokizono, M. Güden, T. Savada
- Concluding Remarks**
Poster Award
Euro-Mediterranean Academy of Arts and Sciences (EMAAS) Ceremony

SATURDAY, JULY 8th

- 10:00 – 17:00 **Excursion to Ephesus**