



INTERNATIONAL MATERIALS TECHNOLOGIES AND METALLURGY CONFERENCE 2017

OCTOBER 26-27, 2017

ITU SULEYMAN DEMIREL CONFERENCE CENTER • ISTANBUL - TURKEY



26.10.2017 - Thursday

PROGRAM

08:30 - 09:30 Registration

Hall-1

09:30 - 09:40

Prof. Dr. Gultekin Goller

Conference Chair

09:40 - 09:50

Prof. Dr. Mehmet Karaca

Rector of Istanbul Technical University

09:50 - 10:00

Prof. Dr. Erdem Demirkesen

10:00 - 10:20

Ozgur Guneri

Board Member & CEO, QNB Finansinvest

10:20 - 10:35

Coffee Break

Hall-1

10:35 - 10:55

Hayrettin Cayci

Sarkuysan A.S. Board Chair

10:55 - 11:15

Gökhan Haymana

Hasparlak General Manager

"Dijitalleşmenin Vasıflı Çeliğe Etkisi"

11:15 - 11:35

Prof. Dr. Eda Tahir Turanlı

Istanbul Technical University

"Gene Hunting and Mapping Strategies for Rare Disorders: Examples from Inflammatory Disorders"

11:35 - 11:55

Dr. Ulrich Roger

German Glass Industry, HVG

"Thermal Impact of the Feeder System and the Transport Characteristics on the Glass Gob at the Container Glass Production - Measurement and Modelling"

11:55 - 12:15

Dr. Ali Abouimrane

Hamad Bin Khalifa University

"New Approach for High Energy Density Lithium Ion System"

12:15 - 13:15

Lunch

Hall-1

Advanced Ceramics & Glass and Glass-Ceramics

Session Chairs: Prof. Dr. Simion Simon, Prof. Dr. Servet Turan

13:15 - 13:35

High Fraction of Penta-Coordinated Aluminum in Amorphous and Crystalline Lanthanum-Aluminum-Borate Systems

S. Simon

Babes-Bolyai University, Faculty of Physics & Interdisciplinary Research Institute on Bio- Nano-Sciences

13:35 - 13:55

A Success Story of an Advanced Ceramic from Turkey: Science and Applications of SiAlON in Automotive and Aviation Industries

S. Turan¹, F. Kara¹, A. Kara¹, H. Mandal²

¹Anadolu University, Faculty of Engineering, Materials Science and Engineering, 26555, Eskisehir, Turkey

²Sabancı University, Faculty of Engineering and Natural Sciences, 34956 Tuzla, Istanbul, Turkey



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PROGRAM

- 13:55 - 14:10 **Low Temperature Co-Fired Ceramic for Capacitive Micromachined Ultrasonic Transducer Fabrication**
F. Yildiz¹, T. Matsunaga ², Y. Haga²
¹Hakkari University, Faculty of Engineering, Electric-Electronic Eng. Dep., 3000, Hakkari, Turkey
²Tohoku University, Department of Biomedical Engineering, Sendai, Japan
- 14:10 - 14:25 **Effect of Different Production Methods on Properties of Mullite-Zirconia Composites**
H. Aydin
Dumlupınar University, Faculty of Engineering, Materials Science and Eng. Dep., 43270, Kutahya, Turkey
- 14:25 - 14:40 **Evaluation of the Factors Influencing the Resultant Diameter of the Electrospun Glass Nanofibers for Thermal Insulation Applications**
A. Unal, M.E. Taygun, S. Kucukbayrak
Istanbul Technical University, Chemical and Metallurgical Engineering Faculty, Department of Chemical Engineering, Maslak, 34469, Istanbul, Turkey
- 14:40 - 14:55 **Oxidation Behavior of TZM Alloy in Case of Boride Formation on Surface**
B. Yavas, G. Goller
Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and Materials Eng. Dep., 34469, İstanbul, Turkey

Hall-2

Nanomaterials

Session Chairs: Prof. Dr. Simona Cavalu, Prof. Dr. Figen Kaya

- 13:15 - 13:35 **Selenium and Gold Nanoparticles: Novel Biological and Medical Applications**
S. Cavalu¹, L. Fritea¹, T. Costea², V. Laslo³, S. Vicas³
¹University of Oradea, Faculty of Medicine and Pharmacy, P-ta 1 Decembrie 10, 410087, Oradea, Romania
²University of Oradea, Industrial Engineering Doctoral School, 410087, Oradea, Romania
³University of Oradea, Faculty of Environmental Protection, 26 Gen. Magheru, 410048, Oradea, Romania
- 13:35 - 13:50 **Synthesis and Characterization of Titanium Dioxide Nanostructures**
M. Ozcan¹, C. Noberi¹, C. Kaya¹, F. Kaya¹
¹Yildiz Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and Materials Eng. Dep., 34210, Istanbul, Turkey
- 13:50 - 14:05 **A Green Approach for the Reduction of Graphene Oxide Thin Films Using Vitamin-C**
M. Tas ^{1,2}, Y. Altin ², A Bedeloglu ²
¹Cukurova University, Textile Engineering Department, 01130, Adana, Turkey
²Bursa Technical University, Fiber and Polymer Engineering Department, 16310, Bursa, Turkey



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- 14:05 - 14:20 **Synthesize and Characterization of Aligned TiO₂ Nanotubes Coated onto ITO Glasses**
C. Bakkaloglu¹, C. Nober¹, C. Kaya², F. Kaya¹
¹Yildiz Technical University, Faculty of Chemistry and Metallurgy, Metallurgical and Materials Eng. Dep., 34210, Istanbul, Turkey
²Sabanci University, Faculty of Engineering and Natural Sciences, Department of Materials Science and Nanoengineering, Istanbul, Turkey
- 14:20 - 14:35 **Synthesis of ZnO Nanoparticles Using Microwave Irradiation**
A. Akbas, M. Erol Taygun, S. Kucukbayrak
Istanbul Technical University, Faculty of Chemical & Metallurgy, Chemical Engineering Dep., 34469, Istanbul, Turkey
- 14:35 - 14:50 **Controlled Releasing Of Vanillin from Electrospayed Starch Nanoparticles**
A.T. Inan¹, Z.R. Ege², C. Kalkandelen², F.N. Oktar³, A. Akan⁴, O. Gunduz⁵
Marmara University Mechanical Eng. Istanbul-Turkey¹
Istanbul University Biomedical Eng. Istanbul-Turkey²
Marmara University Bio Eng. Istanbul-Turkey³
Katip Celebi University Electric-Electronic Eng. İzmir-Turkey⁴
Marmara University Metallurgical and materials eng. Istanbul-Turkey⁵
- 14:50 - 15:15 Coffee Break

Hall-1

Advanced Ceramics & Glass and Glass-Ceramics

Session Chairs: Dr. Csaba Balazsi, Prof. Dr. Volkan Gunay

- 15:15 - 15:35 **Study of Si₃N₄/Graphene for Tribological Applications**
K. Balázs¹, Z. Fogarassy¹, C. Schroder², A. Kailer¹, C. Balázs¹
¹Centre for Energy Research, Konkoly-Thege M. út 29-33, H-1121 Budapest, Hungary
²Fraunhofer IWM, Wohlerstraße 11, 79108 Freiburg, Germany
- 15:35 - 15:55 **Prof. Dr. Volkan Gunay**
Yeditepe University
“Current position, trend, needs and opportunities in glass and glass-ceramic research in Turkey”
- 15:55 - 16:15 **Hikmet Yumurtaci**
Termo Cam San. Ve Tic. Ltd. Sti. Board Chair
“Camin Kisa Tarihi ve Turkiye’de Camcilik”
- 16:15 - 16:30 **Production of Strontium Cobaltite from the Equimolar Mixture of Strontium Oxalate Hydrate and Cobalt Oxalate Hydrate and Characterization**
C. Aslan¹, A.O. Kalpakli¹, S. Ilhan¹, C. Kahruman¹, I. Yusufoglu¹
¹Istanbul University, Engineering Faculty, Metallurgical and Materials Engineering Department, 34320, Avcilar, Istanbul, Turkey
- 16:30 - 16:45 **Development of Cordierite Mullite and Mullite Filters for Metal Casting Industry from Sanitaryware Kiln Wastes**
E. Casin¹, I. Isik², M. Yaman¹
¹Ece Banyo Gerecleri San. ve Tic. A.S., 19100, Corum, Turkey
²Dumlupinar University, Faculty of Engineering, Materials Science & Engineering. Dep., 43100, Kutahya, Turkey



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PROGRAM

16:45 - 17:00 **Synthesis of Nitride Powders by Dynamic Carbothermal Reduction**
N. Mutlu, B. Ozdemir, F. Dogrul, N. Canikoglu, A.S. Demirkiran, Y. Yarali Ozbek,
A.O. Kurt
Sakarya University, Engineering Faculty, Department of Metallurgy and Materials
Engineering
54187, Sakarya / Turkey

17:00 - 17:15 **BaTiO₃ Powder Synthesis by Citrate Gel Method**
S. Aksan¹, H. Gocmez¹, C. Duran¹, M. Tuncer¹,
Engineering Department Material Science and Engineering Department Kutahya-
Turkey¹

Hall-2

Metallurgy

Session Chairs: Assoc. Prof. Dr. C. Bora Derin, Asst. Prof. Dr. Seref Sonmez

- 15:15 - 15:30 **Recent Computational Modeling Studies on High Temperature Processes at Istanbul Technical University**
B. Derin
Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and
Materials Eng. Dep., 34469, Istanbul, Turkey
- 15:30 - 15:45 **Recent Studies on Metal Oxide Production by Solution Combustion Synthesis at Istanbul Technical University**
M.S. Sonmez
Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and
Materials Eng. Dep., 34469, Istanbul, Turkey
- 15:45 - 16:00 **Production and Purification of MoO₃**
K. Benzesik¹, S. Sonmez¹, O. Yucel¹
¹Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical
and Materials Eng. Dep., 34469, Istanbul, Turkey
- 16:00 - 16:15 **Investigation of Microstructure, Mechanical Properties and Wear Resistance of Automotive Valve Guide and Seat Steels**
E.A. Meric¹, S. Yildirim²
¹Istanbul University, Institute of Graduate Studies in Sci. and Eng., Metallurgical
and Materials Eng. Dep., 34452, Istanbul, Turkey
²Istanbul University, Faculty of Engineering, Metallurgical and Materials Eng.
Dep., 34320, Istanbul, Turkey
- 16:15 - 16:30 **Time-Dependent Valuable Metalrecovery from Anode Slime by Using BmimHSO₄ Ionic Liquid**
M.A. Topcu¹, A. Rusen¹
¹Karamanoglu Mehmetbey University, Faculty of Engineering, Metallurgical and
Materials Eng. Dept., 70100, Karaman, Turkey
- 16:30 - 16:45 **Effect of Color Properties of Deoxidant Elements in 14-Carat Yellow Gold Alloys**
M. Manazoglu¹, C. Alyanak¹, G. Orhan²
¹Alfa Metal Alasim San. ve Tic. Ltd. Sti. Istanbul Vizyon Park Merkez Plaza C1,
34197, Istanbul, Turkey
²Istanbul University, Faculty of Engineering, Metallurgical and Materials Eng. Dep.,
34320 Istanbul, Turkey



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- 16:45 - 17:00 **An Investigation on Austenite Grain Growth in 100Cr6 Bearing Steel Microalloyed with Niobium**
E. Erisir¹, O.G Bilir¹, O. Ararat¹
¹Kocaeli University, Metallurgical and Materials Eng. Dep., 41380, Kocaeli, Turkey
- 17:00 - 17:30 Coffee Break
- 17:00 - 18:30 Poster Session

PROGRAM

27.10.2017 - Friday

Hall-1

- 09:30 - 09:50 **Ali Kibar**
Chairman of TALSAD
Yarım Asrı Birakirken Türkiye’de Alüminyum Sektörü ve Global Trendler”

Hall-1

Biomaterials

Session Chairs: Dr. Julietta V. Rau, Prof. Dr. Viorica Simon

- 10:00 - 10:20 **Innovative Nanostructured Biomaterials for Bone and Dental Implants**
M. Curcio², . Fosca¹, R. Teghil², G. Goller³, A. De Bonis², and J.V. Rau*¹
¹Istituto di Struttura della Materia, Consiglio Nazionale delle Ricerche, via del Fosso del Cavaliere 100 - 00133 Rome, Italy
²Dipartimento di Scienze, Università della Basilicata, Viale dell’Ateneo Lucano, 10, 85100 Potenza, Italy
³Istanbul Technical University, Metallurgical and Materials Engineering Department, 34469 Maslak, Istanbul, Turkey
- 10:20 - 10:35 **Nanocomposite Scaffolds Containing Metal Nanoparticles**
A. Akturk, C. Alemdar, E. Ekmen, M. Erol Taygun, S. Kucukbayrak
Istanbul Technical University, Faculty of Chemical & Metallurgical Engineering, Chemical Eng. Dep., 34469, Istanbul, Turkey
- 10:35 - 10:50 **Essential Ceramics in Medicine: A General View**
A. Yelten¹, S. Yilmaz¹
¹Istanbul University, Faculty of Engineering, Metallurgical and Materials Eng. Dep., 34320, Istanbul, Turkey
- 10:50 - 11:05 **Effect of Silane Treatment on Mechanical Properties and Bioactivity Behaviour of Alumina Doped Bioactive Glass Containing Experimental Dental Composites**
Y. Basaran Elalmis¹, B. Karakuzu Ikizler¹, S. Yucel¹, I. Aydin²
¹Yildiz Technical University, Faculty of Chemical and Metallurgical Engineering, Bioengineering Dep., 34210, Istanbul, Turkey
²Istanbul University, Faculty of Engineering, Chemical Engineering Dep., Rheology Lab., 34320, Istanbul, Turkey



- 11:05 - 11:20 **Production of Biocompatible Poly (ϵ -CAPROLACTONE) / Tri-Calcium Phosphate/ Hexagonal Boron Nitride Fibrous Composites**
B. Ozbek^{1,2}, N. Mekki Ergul^{1,2}, N. Ekren^{2,3}, F.N. Oktar^{2,4}, A. Mergen⁵, C. Kalkandelen⁶, S. Erdem Kuruca⁷, M. Suleymanoglu⁷, O. Gunduz^{1,8}
¹Marmara University, Institute of Pure and Appl. Scien., Metallurgical and Materials Eng. Dep., 34722, Istanbul, Turkey
²Marmara University, Advance Nano Mater. Research Lab., Faculty of Technology, 34722, Istanbul, Turkey
³Marmara University, Faculty of Technology, Electrical and Electronic Eng. Dep., 34722, Istanbul, Turkey
⁴Marmara University, Faculty of Engineering, Bioengineering Dep., 34722, Istanbul, Turkey
⁵Marmara University, Faculty of Engineering, Metallurgical and Materials Eng. Dep., 34722, Istanbul, Turkey
⁶Istanbul University, Vocational School of Techn. Scien., Biomedical Devices Tech. Dep., 34320, Istanbul, Turkey
⁷Istanbul University, Faculty of Medicine, Physiology Dep., 34093, Istanbul, Turkey
⁸Marmara University, Faculty of Technology, Metallurgical and Materials Eng. Dep., 34722, Istanbul, Turkey

- 11:20 - 11:35 **Study on Alginate and Soluble Starch Capped Silver Nanoparticles Obtained by Using Green Synthesis**
A. Akturk, M. Erol Taygun, G. Goller, S. Kucukbayrak
Istanbul Technical University, Faculty of Chemical & Metallurgical Engineering, Chemical Eng. Dep., 34469, Istanbul, Turkey

Hall-2

Coatings

Session Chairs: Prof. Dr. Kursat Kazmanli, Asst. Prof. Dr. Mustafa Guven Gok

- 10:00 - 10:15 **Mechanical Properties and Phase Structure of Laser Surface Modified Gadolinium Zirconate Based Thermal Barrier Coating**
M.G. Gok¹, G. Goller²
¹Hakkari University, Faculty of Engineering, Materials Science and Eng. Dept., 30000, Hakkari, Turkey
²Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and Materials Eng. Dep., 34469, Istanbul, Turkey
- 10:15 - 10:30 **Production of Hard Titanium Carbide Thick Films on Steel Substrate via CAPVD Based Novel Approach**
E. Kacar¹, C. Yelkarasi¹, M. Urgan¹
Istanbul Technical University Metallurgical and Material Engineering Istanbul-Turkey¹
- 10:30 - 10:45 **Laser Surface Modification of Lanthanum-Ytterbium Zirconate Based Thermal Barrier Coatings**
M. Karabas¹, E. Bal², Y. Taptik³
¹Hakkari University, Faculty of Engineering, Materials Science and Eng. Dep., 30000, Hakkari, Turkey
²Akdeniz University, Vocational School of Technical Science, 34469, Antalya, Turkey
³Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and Materials Eng. Dep., 34469, Istanbul, Turkey



- 10:45 - 11:00 **Thermal Shock Behaviour of Atmospheric Plasma Spray Thermal Barrier Coatings**
A. Avcı¹, A. Akdoğan Eker¹, A. Yasar¹
¹Yıldız Technical University, Department of Mechanical Engineering, 34349 Besiktas, Istanbul, Turkey
- 11:00 - 11:15 **Isothermal Oxidation Behavior of Atmospheric Plasma Sprayed Thermal Barrier Coatings At 1050 °C**
A. Akdoğan Eker¹, A. Avcı¹, A. Akilolu¹
¹Yıldız Technical University Mechanical Engineering Faculty, Department of Mechanical Engineering, 34349 Besiktas, Istanbul, Turkey
- 11:15 - 11:30 **Electrochemical Deposition and Characterization of NiCu Coatings for Hydrogen Evolution Reaction**
O. Oztop¹, G. Hapci Agaoglu¹, G. Orhan¹
Istanbul University, Faculty of Engineering, Metallurgical and Materials Eng. Dep., 34320 Istanbul, Turkey
- 11:30 - 11:45 **Copper-Graphene Composite Coating with Different Amount of Graphene on Low Carbon Steel by Electrodeposition**
F. Tastekin, R. Karşlıoğlu, H. Okuyucu, A. İnan, H.H. Yuce, E. Gurcan
Ankara Yıldırım Beyazıt University, Faculty of Engineering & Natural Sciences, Metallurgical and Materials Eng. Dep., 06010, Ankara, Turkey
- 11:35 - 11:50 Coffee Break
- Hall-1**
- Biomaterials**
Session Chairs: Dr. Julietta V. Rau, Prof. Dr. Viorica Simon
- 11:50 - 12:05 **Advanced Metallic Biomaterials and Processing Techniques for Medical Devices**
A. Iulian¹, D. Lavinia¹, A. Aurora¹
¹University Politehnica of Bucharest, Faculty Materials Science and Engineering Street Splaiul Independentei, no 313, sector 6, Bucharest, Romania
- 12:05 - 12:20 **Production of 3D Composite Scaffolds Containing Strontium Doped Bioactive Glass by Foam Replication Technique**
A. Ozyuguran¹, E. Sonmez¹, A. Aktürk¹, S. Kucukbayrak¹
¹Istanbul Technical University, Faculty of Chemistry & Metallurgy, Chemical Eng. Dep., 34469, Istanbul, Turkey
- 12:20 - 12:35 **Bioactive Behavior of the Strontium and Copper Doped Glass-Ceramics for Bone Tissue Engineering Applications**
Melek Erol Taygun, Vahide Hocaoglu, Aysen Aktürk, Nuray Yerli, Sadriye Kucukbayrak
Istanbul Technical University, Faculty of Chemical & Metallurgical Engineering, Chemical Eng. Dep., 34469, Istanbul, Turkey



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PROGRAM

Hall-2

Composites

Session Chairs: Dr. Ali Abouimrane, Prof. Dr. Suat Yilmaz

- 11:50 - 12:05 **Fabrication of Nanocomposite Scaffolds Including Metal Nanoparticles for Tissue Engineering Applications**
A. Akturk, N. Tunca, I. Keskin, M. Erol Taygun, S. Kucukbayrak
Istanbul Technical University, Faculty of Chemical & Metallurgical Engineering, Chemical Eng. Dep., 34469, Istanbul, Turkey
- 12:05 - 12:20 **Dielectric and Mechanical Properties of Conductive Polymer Functionalized Graphene/PDMS Nanocomposites**
O.F. Unsal¹, Y. Altin¹, A. Bedeloglu¹
¹Bursa Technical University, Fiber and Polymer Engineering Department, 16310, Bursa, Turkey
- 12:20 - 12:35 **Nano Size Al₂O₃ Reinforcement Ni-Co Nanocomposite by Electrodeposition**
R. Karslioglu, H. Okuyucu
Ankara Yildirim Beyazit University, Faculty of Engineering & Natural Sciences, Metallurgical and Materials Eng. Dep., 06010, Ankara, Turkey
- 12:35 - 13:45 Lunch

Hall-1

Materials Characterization and Computational Modeling

Session Chairs: Prof. Dr. Ali Arslan Kaya, Prof. Dr. Suleyman Can Kurnaz

- 13:45 - 14:05 **New Magnesium Alloys With High Elastic Modules**
A.A. Kaya¹, C. Celik¹, Y. Ture², A. Ataman², E. Arkin³, P. Guglielmi⁴, G. Palumbo^{4,6}, D. Sorgente^{5,6}, D. Turan⁷
¹Metallurgy and Materials Eng. Dept., Engineering Faculty, Mugla Sitki Kocman University
²Faculty of Engineering, Seyh Edabali University, Bilecik
³ASSAN-HANIL Co., Izmit
⁴Department of Mechanics, Mathematics and Management, Politecnico di Bari, Italy
⁵School of Eng., Universita degli Studi della Basilicata, Potenza, Italy
⁶CNR-IFN UOS Bari, Bari, Italy
⁷Space and Aviation Faculty, Anadolu University, Eskisehir
- 14:05 - 14:20 **The Effect of Ti, Si and Sn Elements on Tensile Properties of Mg₆Al Alloy**
S.C. Kurnaz¹, A. Ayday¹, S. Acikgoz²
¹Sakarya University, Faculty of Engineering, Metallurgical and Materials Eng. Dep., Sakarya, Turkey
²Mersin University, Faculty of Engineering, Metallurgical and Materials Eng. Dep., Mersin, Turkey
- 14:20 - 14:35 **Carbide Dissolution Kinetics in 100Cr6 Steel Using Thermodynamical and Kinetic Calculations**
E. Erisir¹, O.G. Bilir¹, A.E. Gezmisoglu¹
¹Kocaeli University Metallurgical and Materials Engineering Kocaeli-Turkey



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14:35 - 14:50 **The Relationship between Casting Quality and Wear Behavior in Al-12Si Alloy**
M. Uludag¹, M. Kocabas², I. Kucuk¹, D. Dispinar³
¹Bursa Technical University, Faculty of Natural Science, Architecture and Engineering, Metallurgical and Materials Eng. Dep., 16330, Bursa, Turkey
²Selcuk University, Engineering Faculty, Metallurgical and Materials Eng. Dep., 42075, Konya, Turkey
³Istanbul University, Engineering Faculty, Metallurgical and Materials Eng. Dep., 34320, Istanbul, Turkey

14:50 - 15:05 **The Effects of Aging Time and Mg Content on the Properties of Al-Si Alloy**
H. Eren, A. Gungor
Karabuk University, Faculty of Engineering, Metallurgical and Materials Eng. Dep., 78050, Karabuk, Turkey

Hall-2

Powder Metallurgy

Session Chair: Prof. Dr. M. Lutfi Ovecoglu

13:45 - 14:00 **Microstructural and Mechanical Investigation of LaB₆ Reinforced Al_{12.6}Si Mmcs Syntesized by Mechanical Alloying**
E. Tekoglu¹, S. Mertdinc¹, D. Agaogullari¹, M.L. Ovecoglu¹
¹Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and Materials Eng. Dep., 34469, Istanbul, Turkey

14:00 - 14:15 **Investigation of Dry Sliding Wear Behaviour of Graphene Nano Platelets Reinforced Aluminum Composites**
N. Akcamli^{1,2*}, H. Gokce², B. Kucukelyas¹, C. Kaykilarli¹, D. Uzunsoy¹
¹Bursa Technical University, Faculty of Natural Sciences, Architecture and Engineering, Metallurgical and Materials Eng. Dep., 16310, Bursa, Turkey
²Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and Materials Eng. Dep., 34469, Istanbul, Turkey

Hall-2

Electronic, Magnetic and Optical Materials

Session Chairs: Prof. Dr. M. Lutfi Ovecoglu

14:15 - 14:30 **Electromechanical Properties of the [Pb(Zn_{1/3}Nb_{2/3}O₃)_x[Pb(Zr_{0.48}Ti_{0.52})O₃]_(1-x) Piezoceramic Compositions**
M.Y. Kaya, A. Gurbuz, E. Mensur-Alkoy, S. Alkoy
Gebze Technical University, Dept. of Materials Sci. & Eng., 41400 Gebze, Kocaeli, Turkey

14:30 - 14:45 **Processing of <001> Textured 0.675Pb(Mg_{1/3}Nb_{2/3})O₃-0.325PbTiO₃**
A. Berksoy-Yavuz, E. Mensur-Alkoy and S. Alkoy
Gebze Technical University, Dept. of Materials Sci.& Eng., 41400, Gebze, Kocaeli, Turkey

15:15 **Closing Ceremony**

POSTERS



Dielectric Properties of Polymer- Particle Nanocomposites

Doc. Dr. Ahmet Lutfi Ugur^{1,2,3}, Prof. Dr. Thomas Schuman² and Prof. Dr. Fatih Dogan³

¹ Canakkale 18 March University, Faculty of Engineering, Materials Science and Eng. Dep., Canakkale, Turkey

² Chemistry Department, Missouri University of Science and Technology, Rolla, Missouri 65409, United States

³ Materials Science and Engineering Department, Missouri University of Science and Technology, Rolla, Missouri 65409, United States

Effects of Lustre Paste Compositions on the Formation of Silver Nanoparticles in Thin Lustre Layers on a Lead Alkali Glaze Developed by Ion-Exchange Mechanism

Ceren Imer¹, Meryem Sariguzel², Yusuf Ozturk², Esin Gunay², M.Lutfi Ovecoglu¹

¹ Istanbul Technical University, Faculty of Chemical and Metallurgical Engineering, Department of Metallurgical and Materials Engineering, Particulate Materials Laboratories (PML), 34469, Maslak, Istanbul, Turkey

² Scientific and Technological Research Council of Turkey, Marmara Research Center, Materials Institute, Gebze, Kocaeli, Turkey

Compositionally-Graded Matchstick Shaped Thin Film Anodes for Lithium Ion Batteries

Billur Deniz Karahan¹, Ozgul Keles²

¹ Istanbul Medipol University, School of Engineering and Natural Sciences, 34810, Istanbul, Turkey

² Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and Materials Eng. Dep., 34469, Istanbul, Turkey

Self-Healing Ability of Al₂O₃ Based Ceramics Reinforced by Graphene

Mustafa Guven Gok¹, Baris Yavas², Gultekin Goller²

¹ Hakkari University, Faculty of Engineering, Materials Science and Eng. Dept., 30000, Hakkari, Turkey

² Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and Materials Eng. Dep., 34469, Istanbul, Turkey

Production and Characterization of MgSnZn Alloy With Nd

Suleyman Can Kurnaz¹, Aysun Ayday¹, Sehzat Acikgoz²

¹ Sakarya University, Faculty of Engineering, Metallurgical and Materials Eng. Dep., Sakarya, Turkey

² Mersin University, Faculty of Engineering, Metallurgical and Materials Eng. Dep., Mersin, Turkey

Characterization and Corrosion Behavior of Plasma Sprayed HA, HA+TiSZ Coatings on Magnesium Substrate

Ayşe ERGEN¹, Muhammet KARABAŞ², Yusuf KAYALI¹, Yılmaz TAPTIK³

¹ Afyon Kocatepe University, Faculty of Technology, Metallurgical and Materials Eng. Dep., 3100, Afyonkarahisar, Turkey

² Hakkari University, Faculty of Engineering, Materials Science and Eng. Dep., 30000, Hakkari, Turkey

³ Istanbul Technical University, Faculty of Chemistry & Metallurgy, Metallurgical and Materials Eng. Dep., 34469, Istanbul, Turkey

Effect of the Phosphorous Amount on the Wear and Chemical Properties on Ni-P Coatings

Abdulkadir Akyol¹, Seda Ulu¹, Hasan Algul¹, Oguzhan Bilac¹, Muhammet Kartal¹, Harun Gul², Mehmet Uysal¹, Ahmet Alp¹

¹ Sakarya University, Faculty of Engineering, Department of Metallurgy and Materials Engineering, 54187, Sakarya, Turkey.

² Duzce University, Gumusova Vocational School, 85850, Duzce, Turkey.



Structural and Tribological Properties of Ni-B-P Coating by Electroless Plating on Aluminum Substrate

Oguzhan Bilac¹, Abdulkadir Akyol¹, Seda Ulu¹, Hasan Algul¹, Muhammet Kartal¹, Harun Gul², Mehmet Uysal¹, Ahmet Alp¹

¹Sakarya University, Faculty of Engineering & Metallurgy, Metallurgical and Materials Eng. Dep., 54187, Sakarya, Turkey

²Duzce University, Gumuosva Vocational School, 81850, Duzce, Turkey

Effect of Bath Temperature on the Electroless Ni-B Deposition

Ismail Buyukbayram¹, Muhammet Kartal¹, Ahmet Alp¹, Serdar Aslan¹

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Characteristics of Nickel Boron Coatings Prepared by Electroless Plating on Aluminum Substrate

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Comparison of CAS Based Ceramics and Glass-Ceramics Produced by Pure, Raw and Waste Materials

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Electroless Nickel-Boron Coating on AiSi 4140 Steel: Effect of Deposition Time

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Production and *In Vitro* Cell Study of Sr-Cu Doped Bioactive Glass Based on Biosilica

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Graphene Based Supercapacitor for Smart Textile Application

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Determination of Ideal High Power Diode Laser Parameters to Improve Rail Steels

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Modeling and Simulation of Residual Stresses in Vertical DC Cast AA 5083 SLABS

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Performance Comparison of FeNiCo and FeNiCoCu Alloy Particles as Different Catalyst Materials for Polymer Electrolyte Membrane Fuel Cells

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Production of $\text{SRC}_2\text{O}_4 \cdot \text{H}_2\text{O}$ from SRSO_4 in $(\text{NH}_4)_2\text{C}_2\text{O}_4$ SOLUTION

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Method and Device for Producing Metallic Powders by the Method of Hydro-Vacuum Dispersion of Melts

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Improving Service Performance Of Gear Steels Via Crtd-Bor

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Deposition and Characterization of Electroless Ni-P and Ni-W-P Coatings on Stainless Steel

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Deposition of Electroless Nip and NiPZn Coatings on Stainless Steel and Their Corrosion Behavior

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Deposition of Electroless Nip and NiPZn Coatings on Stainless Steel and Their Corrosion Behavior

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Characterization of Defects in Hexagonal Boron Nitride by Means Of Conventional Hrtm Imaging and Advanced Electron Diffraction Methods in Tem

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Synthesis of Cobalt(II) Phthalocyanine-Tio2 Nanocomposite

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Synthesis and Characterization of Nanoporous Sio2 Coatings

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Surface Modification of Micro Alloyed Steel via Pack Boriding Method

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Fabrication and in Vitro Mineralization of Electrospun Polycaprolactone Nanofibers Containing Hydroxyapatite and Bioactive Glass Particles

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Graphene and Mwcnt-Containing Porous Hydroxyapatite Scaffolds for Bone Tissue Engineering Applicatons

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Thermodynamic Modelling of Metallothermic Strontium Production Processes

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Flow Behaviour of Injectable Pluronic F-127 Gels Containing Borate Based Bioactive Glass Particles

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Shape Memory Implant Materials for in Vivo Applications

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Utilization of Hydroxyapatite-Chitosan Biomaterials in the Removal of Zinc From Aqueous Solution

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Investigation of Austenitizing, Tempering Temperature and Holding Time Effect on The Microstructure And Hardness of 51CrV4 Spring Steel Using Taguchi Method

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Synthesis and Preliminary Characterization of a Novel 5-Fluorouracil Solid Form

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Hydroxyapatite Based Ceramics From Fish Bones

Pınar Terzioğlu^{1,2}, Hamdi Oğut³, M. Türkay Aytekin Aydın⁴, Ayşe Kalemtaş²

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Graphene Reinforcement of Copper Metal Matrix Nanocomposite Coatings on Low Carbon Steel by Different Electrodeposition Methods

Ece Gürçan, Ramazan Karslıoğlu, Hasan Okuyucu, Aynur Inan, Hale Hazal Yüce, Fatma Taştekin Ankara Yıldırım Beyazıt University, Faculty of Engineering and Natural Sciences, Metallurgical and Materials Engineering, Ankara, Turkey

LiNiMnCoO₂ (NMC) Cathode Material For Li-Ion Batteries

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Surface Modified Limn₂o₄ For Lithium Ion Batteries

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Preparation And Characterization of Bioactive Glass/TiO₂ Composites for Biomedical Applications

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Direct Write Assembly of Graphene-Containing Grid-Like Bioactive Glass Scaffolds

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Experimental Phase Studies In The Ca-X-Co-O (X= Na, La, Sr, Ba) System for Thermoelectric Applications

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Synthesis of Nanostructured Silver Particles by Technical Scale Aerosol Route

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Improvement of Optical Glass Surface by Spin Chemical Polishing

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Effect of Surface Finish and Storage Conditions on Adhesion Power

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The Effect of Zirconium as An Inoculant in Sae 4330 Cast Steel

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Synthesis of Nanostructured Silver Particles by Technical Scale Aerosol Route

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Investigation of The Wall Painting Samples from the *Mekteb-I Tibbiye-I Şahane* Building: Preliminary Results

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Investigation of the Properties of Carbon Nanotube Reinforced Zrc-Zrb₂ Composites

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3-(Aminopropyl) Trietoxysilane Modification of Silica Nanoparticles for 5-Fluorouracil Delivery

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Bioactive Behavior of the Strontium and Copper Doped Glass-Ceramics for Bone Tissue Engineering Applications

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