



INTERNATIONAL MATERIALS TECHNOLOGIES AND METALLURGY CONFERENCE 2019

OCTOBER 31-NOVEMBER 1, 2019

ITU SULEYMAN DEMIREL CONFERENCE CENTER • ISTANBUL - TURKEY

PROGRAM

OCTOBER 31, THURSDAY 2019

Ana Salon

- 8:30-9:30 Registration
- 9:30-9:40 **Prof. Dr. Gultekin Goller**
Conference Chair Istanbul Technical University
- 9:40-9:50 **Prof. Dr. Suheyla Aydin**
Istanbul Technical University
- 9:50-10:00 **Prof. Dr. Kelami Sesen**
Istanbul Technical University
- 10:00-10:20 **Assoc. Prof. Dr. Ali Erçin Ersundu**
Yıldız Technical University
Rare-Earth / Quantum-Dot Glass Nanocomposites For White Light Emitting Diodes
- 10:20-10:40 **Dr. Alper Yesilcubuk**
Arcelik A. S.
Experimental investigation of semi-solid casting parameters on tribological behaviour of aluminum
- 10:40-10:55 Break (Family Photo)**
- 10:55-11:15 **Prof. Dr. C. Hakan Gur**
Middle East Technical University
Materials Characterization using Nondestructive Methods
- 11:15-11:35 **Dr. Csaba Balazsi**
Centre for Energy Research of Hungarian Academy of Sciences
Multifunctional Ceramic Thick Coatings for Industrial Applications
- 11:35-11:55 **Assoc. Prof. Dr. Rachman Chaim**
Israel Institute of Technology
Electric field assisted sintering of ceramics: Underlying mechanisms and future technological prospects
- 11:55-12:15 **Dr. Hajo Dieringa**
Helmholtz-Zentrum Geesthacht
Influence of ceramic nanoparticles on strength and creep properties of magnesium alloys

12:15-13:15 Lunch

Salon-1

Biomaterials

Session chairs: Prof. Dr. Antonaic Vasile Iulian, Prof. Dr. Munteanu Corneliu

- 13:15-13:35 **Prof. Dr. Antonaic Iulian**
University Politehnica of Bucharest
Current Trends in Metallic Orthopedic Biomaterials: From Failure Analysis to Resorbable Metals “



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PROGRAM

- 13:35-13:55 **Prof. Dr. Munteanu Corneliu**
Gheorghe Asachi Technical University of Iasi
Biodegradable alloys from system Mg-Ca-Zr/Y/Mn/Gd for medical applications
- 13:55-14:15 **Dr. Corrado Piconi**
Institute of Science and Technology for Ceramics, Italian National Research Council (ISTEC-CNR), Faenza, Italy
Ceramic Joint Replacements in 2020: Beyond the Hip
- 14:15-14:35 **Assoc. Prof. Dr. Deon Bezidenhout**
University of Cape Town
Materials in Cardiovascular Device Development
- 14:35-14:50 **Fabrication of Nanofiber Scaffolds Doped with Nanoscaled Bioactive Glasses**
*Aysen Akturk*¹, Taner Yildiz¹, Funda Karbancioğlu Güler², Melek Erol Taygun¹, Sadriye Küçükbayrak Oskay¹
Istanbul Technical University, Chemical Engineering Department, Istanbul-Turkey¹
Istanbul Technical University, Food Engineering Department, Istanbul-Turkey²

14:50-15:05 Coffee Break

Salon-2

Advanced Ceramics & Glass and Glass-Ceramics

Session chairs: Prof. Dr. Figen Kaya, Prof. Dr. Ebru Menseure Alkoy

- 13:15-13:35 **Prof. Dr. Hasan Göçmez**
Dumlupınar University
The processing of TiO₂-based perovskite solar cells
- 13:35-13:50 **Fabrication of Nuclear Grade Boron Carbide (B₄C) Powders by Modified Sol Gel Technique**
*Suna Avcioglu*¹, Figen Kaya², Cengiz Kaya³
Ondokuz Mayıs University, Metallurgical And Materials Engineering, Samsun-Turkey¹ Yildiz Technical University, Metallurgical And Materials Engineering, Istanbul-Turkey² Sabanci University, Materials Science And Nano Engineering, Istanbul-Turkey³
- 13:50-14:05 **Lead Free Modified KNN Composition for a New Transducer Design**
*Havva Bayindir*¹, Ayse Berksoy-yavuz¹, M. Yunus Kaya¹, Sedat Alkoy¹, Ebru Menseure-alkoy¹
Gebze Technical University, Material Science Engineering, Kocaeli-Turkey¹
- 14:05-14:20 **Characterization of Blue Ingots From the Van Fortress Using Non-Destructive Complementary Techniques**
Özden Ormanci^{1,2}, Büşra İpek¹, Meriç Bakiler^{1,2}
¹ Mimar Sinan Fine Arts University, Material Research Center for Cultural Property and Artworks, Cumhuriyet Mahallesi Silahşör Caddesi 34380 Şişli Istanbul, Turkey
² Mimar Sinan Fine Arts University, The School of Conservation and Restoration of Movable Cultural Property, Istanbul, Turkey



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PROGRAM

14:20-14:35 **Preparation and Characterization of Microstructurally Engineered Textured 0.9Pmn 0.1Pt Piezoelectric Ceramics**

Yusuf Kilic¹, Ayşe Berksoy-yavuz², Ebru Mensur-alkoy³

Material Science And Engineering, Material Science And Engineering, Kocaeli-Turkey¹ Gedik University, Material Science And Engineering, Istanbul-Turkey² Gebze Technical University, Material Science And Engineering, Kocaeli-³

14:35-14:50 **Production and Characterization of Spark Plasma Sintered B4C-HEA Composites**

Burak Cagri Ocak¹, Gultekin Goller¹

¹Istanbul Technical University, Department of Metallurgical and Materials Engineering, 34469 Maslak, Istanbul, Turkey

14:50-15:05 Coffee Break

Salon-3

Metallurgy

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

13:15-13:35 **Prof. Dr. Ali Arslan Kaya**

Mugla Sitki Kocman University

Dilute Alloys in Magnesium Based Systems

13:35-13:50 **Determination of Adsorption Capacity of Titanium Carbide Type Adsorbent**

Buket Gulen^{1*}, Pelin Demircivi¹, Ahmet Turan¹, Mehmet Bugdayci¹

¹ Department of Chemical and Process Engineering, Faculty of Engineering, Yalova University, 77100 Yalova, Turkey

13:50-14:05 **304 Grade Stainless Steel Heat Shield Material Salt Spray Test Corrosion Failure**

Zeynep Begüm KURT¹, A. Arslan KAYA²

¹Toksan Yedek Parça İmalat Ticaret ve Sanayi A.Ş., R&D Center, 16140, Bursa

² Metallurgy and Materials Eng. Dept, Engineering Faculty, MSKU, Mugla

14:05-14:20 **A Pyro Hydrometallurgical Process for the Valorisation of Aluminium Black Dross**

Umay Çinarlı¹, Ahmet Turan²

Yalova University, Institute Of Science, Yalova-Turkey¹ Yalova University, Chemical And Process Engineering Department, Yalova-Turkey²

14:20-14:35 **Investigation of the Microstructure and the Mechanical Properties of Alsi10mnmg Alloy**

Ayşenur Özdemir¹, Süleyman Can Kurnaz¹

Sakarya Universty, Metallurgy And Materials, Sakarya-Turkey¹

14:35-14:50 **Production of SiC Filters for Metal Casting via Replica Method**

Gizem Baran¹, Mehmet Buğdayci²

Yalova University, Institute Of Science, Yalova-Turkey¹ Yalova University, Chemical And Process Engineering Department, Yalova-Turkey²

14:50-15:05 Coffee Break



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Salon-1

Sintering and Advanced Sintering

Session chair: Assoc. Prof. Dr. Rachaman Chaim

PROGRAM

- 15:05-15:20 **Improving High Temperature Properties of TZM by Novel Boriding Techniques**
Baris Yavas¹, Gultekin Goller¹
1Istanbul Technical University, Department of Metallurgical and Materials Engineering, 34469 Maslak, Istanbul, Turkey
- 15:20-15:35 **Reactive Spesd Alon Ceramics with MGO Addition**
Demet Aydogmus¹, Alp Eren Gurbuz¹, Busra Kilinc¹, Dilara Yilmaz¹, Gultekin Goller¹, Onuralp Yucel¹, Filiz Sahin¹
Itu, Metallurgical And Materials Eng., Istanbul-Turkey¹
- 15:35-15:50 **Dielectric and Piezoelectric Response of Textured Lead Free 0.94NBT 0.06BT System**
Ayse Berksoy-yavuz¹, Ayse Berksoy-yavuz², M. Yunus Kaya¹, Sinan Dursun¹, Ebru Mensur-alkoy¹, Sedat Alkoy¹
Gebze Technical University, Material Science And Engineering, Kocaeli-Turkey¹
¹ Istanbul Gedik University, Metallurgical And Materials Science, Istanbul-Turkey²
- 15:50-16:05 **Microstructure of VC Added Ti6Al4V Prepared By Spark Plasma Sintering**
Busra Guney¹, Leyla Yanmaz¹, Gultekin Goller¹, Onuralp Yucel¹, Filiz Sahin¹
Istanbul Technical University, Metallurgical And Materials Eng., Istanbul-Turkey¹
- 16:05-16:20 **Investigation of Microstructure and Mechanical Properties of Ni Reinforced Cu Al Mn Alloys Produced by Hot Pressing Method**
Tayfun Çetin¹, Mehmet Akkaş², Mustafa Güven Gök³
Hakkari University, Yüksekova Vocational School Of Higher Education, Kastamonu-Turkey¹ Kastamonu University, Mechanical Engineering, Kastamonu-Turkey²
Hakkari University, Materials Science And Engineering, Hakkari-Turkey³
- 16:20-16:35 **Fabrication & Characterization of Antiferroelectric Pznt Bulk Ceramics**
Hüseyin Alptekin Sari¹, Ebru Mensur-alkoy¹, Sedat Alkoy¹
Gebze Technical University, Material Science And Engineering, Kocaeli-Turkey¹
- 16:35-16:50 **Microstructure Evoluation of Spark Plasma Sintered B4C Added Ti6Al4V**
Rojda Sara¹, Demet Aydogmus¹, Gultekin Goller¹, Onuralp Yucel¹, Filiz Sahin¹
ITU, Metallurgical And Materials Eng., Istanbul-Turkey¹



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Salon-2

Advanced Ceramics & Glass and Glass-Ceramics

Session chair: Dr. Csaba Balazsi

PROGRAM

- 15:05-15:20 **Electrical Properties of Random and Textured 0.8BA(ZR0.15TI0.85)O3 0.2(BA0.8CA0.2)TIO3 Piezoelectric Ceramics Near the Triple Point**
Gözde Toprak¹, Ömer Cakmak¹, Sedat Alkoy¹, Ebru Mensur-alkoy¹
Gebze Technical University, Material Science And Engineering, Kocaeli-Turkey¹
- 15:20-15:35 **Production and Characterization of ZrC-TiC-1%CNT Composites with Additional Varying Amounts of GNP Prepared By Spark Plasma Sintering Method**
Mustafa Yildiz¹, Onuralp Yucel¹, Ipek Akin¹, Filiz Sahin¹, Gultekin Goller¹
¹Istanbul Technical University, Department of Metallurgical and Materials Engineering, 34469 Maslak, Istanbul, Turkey
- 15:35-15:50 **The Effect of Titanium Addition on the Production of Titanium Diboride (TiB₂) by Spark Plasma Sintering**
Tugce Dedeagacli¹, Leyla Yanmaz¹, Gultekin Goller¹, Onuralp Yucel¹, Filiz Sahin¹
Istanbul Technical University, Metallurgical And Materials Eng., Istanbul-Turkey¹
- 15:50-16:05 **Formation Mechanism of Strontium Cobaltite from Srco₃ and Co₃o₄**
Cemal Aslan¹, Cem Kahruman¹, Ibrahim Yusufoglu¹
Istanbul University - Cerrahpasa, Faculty Of Engineering, Istanbul-Turkey¹
- 16:05-16:20 **Production and Characterization of Solid Solution (Zr,Ti)B₂ Ceramics by Spark Plasma Sintering**
Melis Kaplan Akarsu¹, Ipek Akin¹, Onuralp Yucel¹, Filiz Şahin¹, Gültekin Goller¹
¹Istanbul Technical University, Department of Metallurgical and Materials Engineering, Maslak, 34469 Istanbul, Turkey
- 16:20-16:35 **Structural and Electrical Properties of 0.65Pnn 0.35Pzt Ceramic Composition**
Mustafa Yunus Kaya¹, Hüseyin Alptekin Sari¹, Ebru Menşur-alkoy¹, Sedat Alkoy¹
Gebze Technical University, Materials Science And Engineering, Kocaeli-Turkey¹
- 16:35-16:50 **Production and Characterization of Boron Carbide-3.5% Carbon Nanotube Composites with Additional Varying Amounts of Graphene Nanoplatelet Prepared by SPS**
Erdem Balci¹, Onuralp Yucel¹, Ipek Akin¹, Filiz Sahin¹, Gultekin Goller¹
¹Istanbul Technical University, Department of Metallurgical and Materials Engineering, 34469 Maslak, Istanbul, Turkey



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Salon-3

Metallurgy

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

- 15:15-15:30 **Mechanochemical Leaching of Spent NI MO V HDS Catalyst in H2so4 Solution**
*Berkan Oksuz*¹, Can Albayrak¹, Mert Zoraga¹, Sedat Ilhan¹, Ahmet Orkun Kalpakli¹
Istanbul University-cerrahpasa, Engineering Faculty, Metallurgical And Materials Engineering Department, Istanbul-Turkey¹
- 15:30-15:45 **In2o3 Recovery from Scrap Liquid Crystal Displays**
*Doğaç Tari*¹, Burçak Ebin², Sebahattin Gürmen¹
Istanbul Technical University, Metallurgical And Materials Engineering, Istanbul-Turkey¹ Chalmers University Of Technology, Industrial Materials Recycling, Gothenburg-Sweden²
- 15:45-16:00 **Surface Morphology in Tramp Element Containing Steel; Introduction to Hot Shortness**
*Selçuk Yeşiltepe*¹, Mustafa Kelami Şeşen¹
Istanbul Technical University, Metallurgical And Materials Engineering, Istanbul-Turkey¹
- 16:00-16:15 **The Effects of Alloying Elements and Tempering Processes on the Temper Embrittlement of Cast Steel**
*Ersel Aydin*¹, Cevat Fahir Arisoy¹, Mustafa Kelami Şeşen¹
Istanbul Technical University, Metallurgical And Materials Engineering, Istanbul-Turkey¹
- 16:15-16:30 **Eu Doped SrAl2o4 Production via Volume Combustion Synthesis for Antibiotic Adsorption Applications**
*Pelin Demircivi*¹, Kagan Benzesik², Mehmet Bugdayci¹
Yalova University, Chemical And Process Engineering, Yalova-Turkey¹ Istanbul Technical University, Metallurgical And Materials Engineering, Istanbul-Turkey²
- 16:30-16:45 **Mechanochemical Leaching of Spent NI W HDS Catalyst in HNO3 Solutions**
*Berkay Tufanc*¹, Mert Zoraga¹, Sedat Ilhan¹, Ahmet Orkun Kalpakli¹
Engineering Faculty, Metallurgical And Materials Engineering Department, Istanbul-Turkey¹
- 16:45-17:00 **Microstructure and High Temperature Oxidation Behavior of Ti6Al4V Alloy**
Aysun Ayday¹, *Süleyman Can Kurnaz*¹
Sakarya University, Metallurgy And Materials, Sakarya-Turkey¹
- 17:00-17:30 Coffee Break**
- 17:00-18:30 **Poster Session**



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PROGRAM

NOVEMBER 1, FRIDAY 2019

Salon-1

Biomaterials

Session chairs: Prof. Dr. Julietta V Rau, Prof. Dr. Catalin Popa

- 10:00-10:20 **Prof. Dr. Julietta V. Rau**
ISM-CNR Istituto di Struttura della Materia
Bioactive Materials for Regenerative Medicine
- 10:20-10:40 **Prof. Dr. Catalin Popa**
Technical University of Cluj-Napoca
Titanium implants: from quasi – bioinert to 3rd generation biomaterials
- 10:40-11:00 **3D Printed Bio-Scaffolds on Biomedical Titanium: Mechanical Properties and Biocompatibility**
D.V. Portan, V. Kostopoulos, C. Ntoulis, G. Mantzouranis, G. Sotiriadis, P. Yiallouro
1Department of Mechanical Engineering and Aeronautics, University of Patras, Patras 265 00, Greece
- 11:00-11:20 **Fabrication and Characterization of Biopolymer Salicylic Acid ZNO Nanoparticle Multi Functional Nanofiber Material**
Gozde C. Efe^{1,2}*, Elif Bayhan³, Ibrahim Altinsoy³, Tuba Yener³, Mediha İpek³, Cuma Bindal
Istanbul Technical University, Chemical Engineering Department, Istanbul-Turkey ¹
Istanbul Technical University, Food Engineering Department, Istanbul-Turkey ²
- 11:20-11:35 **UHMWPE Hap Composites for Hip Joint Acetabular Liner Material**
Gözde Çelebi Efe ¹, Ibrahim Altinsoy ², Tuba Yener ², *Elif Bayhan* ², Mediha İpek ², Cuma Bindal ²
Sakarya Applied Science University, Metallurgy And Materials, Sakarya-Turkey ¹
Sakarya University, Metallurgy And Materials, Sakarya-Turkey ²

11:35-11:50 Coffee Break

Salon-2

Coating

Session chair: Assist. Prof. Dr. Mustafa Guven Gok

- 10:00-10:20 **Applying of New Generation Thermal Barrier Coatings on Diesel Engine**
Mustafa Guven Gok ¹, Omer Cihan ², Ilker Temizer ³
Hakkari University Material Science and Engineering Hakkari-Turkey ¹ Hakkari University Mechanical Engineering Hakkari-Turkey ² Sivas Cumhuriyet University Mechanical Engineering Hakkari-Turkey ³



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- 10:20-10:35 **Tribological Behavior of Cu Graphene Oxide Composite Coating Produced by Electroless Coating Method**
Yaren Ay¹, Mert Aydin¹, Abdulkadir Akyol¹, Hasan Algül¹, Hatem Akbulut¹, Ahmet Alp¹, Mehmet Uysal¹
Sakarya University, Metallurgy And Materials Engineering, Sakarya-Turkey¹
- 10:35-10:50 **Determination of Laser Surface Modification Parameters for Functionally Graded Alumina/CYSZ Thermal Barrier Coating**
Fatih Kirbiyik¹, Gultekin Goller¹
¹Istanbul Technical University, Department of Metallurgical and Materials Engineering, 34469 Maslak, Istanbul, Turkey
- 10:50-11:05 **TiO₂ Reinforced Electrolytic Ni P Composite Coating and Their Properties**
Mert Aydin¹, Mesut Deniz¹, Sezer Tan¹, Abdulkadir Akyol¹, Hasan Algül¹, Harun Gul², Mehmet Uysal¹, Ahmet Alp¹
Sakarya University, Metallurgy And Materials Engineering, Sakarya-Turkey¹ Sakarya University Of Applied Sciences, Metallurgy And Materials Engineering, Sakarya-Turkey²
- 11:05-11:20 **Preparation of Thermochromic Pigment Added Coatings by Sol Gel Method**
Lale Civan¹, Semra Kurama¹, Erhan Ayas¹, Yasemin Cimen Mutlu²
Eskisehir Technical University, Department Of Materials Science And Engineering, Eskisehir-Turkey¹ Eskisehir Technical University, Department Of Chemistry, Eskisehir-Turkey²
- 11:20-11:35 **Wear Behaviour of Pulse Electrodeposited Ni B Al₂O₃ Nanocomposite Coatings**
Seyma Ürdem¹, Erhan Düru¹, Mehmet Uysal¹, Hatem Akbulut¹
Sakarya University, Department Of Metallurgical And Materials Engineering, Sakarya-Turkey¹

11:35-11:50 Coffee Break

Salon-3

Nanomaterials

Session chair: Prof. Dr. Sebahattin Gürmen

- 10:00-10:15 **A Novel Electrochemical Approach for the Preparation of Nitrogen Doped Graphene**
Hürmüs GÜRSU¹, Metin Gençten², Yücel Şahin¹
¹ Faculty of Arts&Science, Department of Chemistry, Yildiz Technical University, 34220 Istanbul, Turkey
² Faculty of Chemical and Metallurgical Engineering, Department of Metallurgical and Materials Engineering, Yildiz Technical University, 34210 Istanbul, Turkey
- 10:15-10:30 **Production of Nano Iron from Mill Scales**
Öyküm Başgöz¹, Ömer Güler¹, Ertan Evin²
Mersin University, Metallurgy And Material Eng., Mersin-Turkey¹ Firat University, Metallurgy And Material Eng., Elazığ-²



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- 10:30-10:45 **Fabrication of PVA Alginate Nanofibers Doped with ZN And AG Nanoparticles for Wound Dressing Applications**
Ayşen Aktürk¹, Dilara Nur Dikmetaş², Hacer Gök¹, Funda Karbancıoğlu Güler², Melek Erol Taygun¹, Sadriye Küçükbayrak¹
Istanbul Technical University, Chemical Engineering, Istanbul-Turkey¹ Istanbul Technical University, Food Engineering, Istanbul-Turkey²
- 10:45-11:00 **Characterization and Production of MN Doped TIO2 Nanofibers via Electrospinning Method**
Fatma Nur Parin¹, Büşra Bulut², Gökçe Borand², Şeyma Duman², Deniz Uzunsoy², Kenan Yildirim¹
Bursa Technical University, Fiber And Polymer Engineering, Bursa-Turkey¹ Bursa Technical University, Metallurgical And Materials Engineering, Bursa-Turkey²
- 11:00-11:15 **Effect of Carbon Nanotubes on Maize Seed Germination and Development**
Ayten Kübra Yağız¹, Mehmet Emin Çalışkan¹
¹ Nigde Omer Halisdemir University, Agricultural Genetic Engineering, 51216 Merkez, Nigde, Turkey
- 11:15-11:30 **Fabrication and Characterization of CR Doped ZNO Nanofibers**
Gökçe Borand¹, Fatma Nur Parin², Şeyma Duman¹, Deniz Uzunsoy¹, Kenan Yildirim²
Bursa Technical University, Metallurgical And Materials Engineering, Bursa-Turkey¹ Bursa Technical University, Fiber And Polymer Engineering, Bursa-Turkey²
- 11:30-11:50 Coffee Break**
- Salon-1**
- Electronic, Magnetic and Optical Materials&Energy**
Session chairs: Prof. Dr. Servet Turan, Dr. Burcak Ebin
- 11:50-12:10 **Prof. Dr. Servet Turan**
Eskisehir Technical University
Past, Present and Future of Solid Electrolytes for Lithium Ion Batteries
- 12:10-12:25 **Challenges in Sustainable Photovoltaic Solar Panels**
Burcak Ebin¹, Meng Tao², Britt-Marie Steenari¹
¹Chemistry and Chemical Engineering Department, Chalmers University of Technology, Kemivägen⁴, SE 412 96, Gothenburg, Sweden
²School of Electrical, Computer and Energy Engineering, Arizona State University, 875706, Tempe, AZ, USA
- 12:25-12:40 **Electroless Ni Plating on UHMWPE**
Gozde C. Efe^{1,2}, Ayşe Betül Demir³, Kübra Koyuncu³, Elif Yağcı³, Tuba Yener³, Ibrahim Altinsoy³, Cuma Bindal^{2,3}
Sakarya Applied Science University, Metallurgy And Materials Engineering, Sakarya- Turkey¹ Sakarya University, Metallurgy And Materials Engineering, Sakarya-Turkey²



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PROGRAM

Salon-2

Coating

Session chairs: Assist. Prof. Dr. Mustafa Guven Gok

- 11:50-12:05 **The Effect of B4C Amount on Morphology and Wear Resistance of Electrodeposited Ni P Composite Coatings**
*Sezer Tan*¹, Mesut Deniz¹, Mert Aydin¹, Abdulkadir Akyol¹, Hasan Algul¹, Harun Gul², Mehmet Uysal¹, Ahmet Alp¹
Sakarya University, Metallurgy And Materials Engineering, Sakarya-Turkey¹ Sakarya University Of Applied Sciences, Metallurgy And Materials Engineering, Sakarya-Turkey²
- 12:05-12:20 **Effect of AL2O3 Concentration on Wear Properties and Microstructure of Niw Al2o3 Composite Coatings Produced by Pulse Electrodeposition**
*Mesut Deniz*¹, Mert Aydin¹, Sezer Tan¹, Abdulkadir Akyol¹, Hasan Algul¹, Ahmet Alp¹, Hatem Akbulut¹, Mehmet Uysal¹
Sakarya University, Metallurgy And Material Engineer, Sakarya-Turkey¹

12:20-12:35 Salon-3

Nanomaterials

Session chair: Prof. Dr. Sebahattin Gürmen

- 11:50-12:05 **Production of IN2O3 ZNO (IZO) Nanocomposite Paricles by Sol Gel Method**
*Duygu Yeşiltepe Özçelik*¹, Sebahattin Gürmen¹
Istanbul Technical University, Metallurgical And Materials Engineering, Istanbul-Turkey¹
- 12:05-12:20 **Production of Skin Mask Containing Vitamin a And Silver Nanoparticles**
Tuğçe Kadakal¹, *Aysen Akturk*¹, Funda Karbancıoğlu Güler², Melek Erol Taygun¹, Sadriye Küçükbayrak¹
Istanbul Technical University, Chemical Engineering Department, Istanbul-Turkey¹ Istanbul Technical University, Food Engineering Department, Istanbul-Turkey²
- 12:20-12:35 **Development of High Performance Sers Active Substrates with a Low Cost**
*Yasemin Çelik*¹, Ayşe Kurt²
Eskisehir Technical University, Materials Science And Engineering, Eskisehir-Turkey¹ Eskisehir Technical University, Graduate School Of Sciences, Nanotechnology Program, Eskisehir-²

12:35-13:45 Lunch



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Salon-1

Electronic, Magnetic and Optical Materials&Energy

Session chair: Dr. Burcak Ebin

- 13:45-14:00 **Lafesi Based Magnetocaloric Production by Hydrogen Reduction Method from Their Oxalate Powders and Production Optimization**
Semih Ateş¹, Öznur Karaağaç², Hakan Köçkar², Sebahattin Gürmen¹
Istanbul Technical University, Metallurgical And Materials Engineering, Istanbul-Turkey¹ Balikesir University, Physics, Balikesir-Turkey²
- 14:00-14:15 **Performances of Coatings of Various Zeolites for Heating Cooling Applications**
Melkon Tatlier¹, Çiğdem Atalay-oral¹
Istanbul Technical University, Chemical Engineering, Istanbul-Turkey¹
- 14:15-14:30 **Fabrication of Metal Oxalate as Anode Material for Lithium Ion Batteries**
M. Feryat Gülcan¹, B. Deniz Karahan^{2}*
¹Istanbul Technical University, Department of Metallurgical and Materials Engineering, 34469 Maslak, Istanbul, Turkey ²Istanbul Medipol University, Department of Civil Engineering, 34810 Beykoz, Istanbul, Turkey¹
- 14:30-14:45 **A Facile Synthesis of LIMN2O4 Based Cathode Production via Solution Combustion Synthesis for Lithium Ion Batteries**
Ganjnakhon Irgasheva¹, Aykut Koç¹, Emre Fişek¹, G. Deniz Serttaş¹, Dila Sivlin¹, Samet Kaplan¹, C. Bora Derin¹, M. Şeref Sönmez¹, Özgül Keleş^{1}*
Istanbul Technical University, Metallurgy And Material Engineering, Istanbul-Turkey¹

14:45-15:00 Salon-2

Powder Metallurgy

Session chair: Prof. Dr. M. Lütfi Öveçoğlu

- 13:45-14:05 **Mechanochemical Synthesis of AL TI SI Boride Nitride Composite Powders**
Siddika Mertdinç¹, Duygu Ağaoğulları¹, M. Lütfi Öveçoğlu¹
Istanbul Technical University, Department Of Metallurgical And Materials Engineering, Particulate Materials Laboratories (pml), 34469 Maslak, Department Of Metallurgical And Materials Engineering, Istanbul-Turkey¹
- 14:05-14:20 **Powder Metallurgical Processing and Characterization of Al XNi (X=6 10 15 20 Wt.%) Alloys**
Berk Şenyurt¹, Duygu Ağaoğulları², Nazli Akçamlı¹
Bursa Technical University, Metallurgy And Materials Engineering, Bursa-Turkey¹
Istanbul Technical University, Metallurgy And Materials Engineering, Istanbul-Turkey²
- 14:20-14:35 **Fabrication and Properties of N Al Intermetallics Reinforced Fe Based Composite**
Ömer Güler¹, Öyküm Başgöz¹, Ertan Evin²
Mersin University, Metallurgy And Material Engineering, Mersin-Turkey¹ Firat University, Metallurgy And Material Engineering, Elazığ-Turkey²



INTERNATIONAL MATERIALS TECHNOLOGIES AND METALLURGY CONFERENCE 2019

OCTOBER 31-NOVEMBER 1, 2019

ITU SULEYMAN DEMIREL CONFERENCE CENTER • ISTANBUL - TURKEY

PROGRAM

14:35-14:50 **Production and Characterization of Open Cell 6061 Aluminum Foam by Induction Sintering**

*Dila Sivlin*¹, Baycu Ongunyurt¹, Ozgul Keles¹
ITU, Metallurgical And Materials Engineering, Istanbul-Turkey¹

14:50-15:05 **Effect of Semi Batch Reactor Design on the Precipitation Process**

*Baris Cem Alpay*¹, Ozgul Keles²
Graduate School Of Science Engineering Andtechnology, Materials Science And Engineering, Istanbul-Turkey¹ Chemical And Metallurgical Engineering Faculty, Metallurgical And Materials Engineering, Istanbul-Turkey²

14:45-15:00 **Salon-3**

Special Topics

Session chair: Assist. Prof. Dr. Mustafa Güven Gök

13:45-14:00 **For Mass Production Exfoliation of Graphite with Melamine Under Ball-Milling Conditions**

*Öyküm BAŞGÖZ*¹, Ömer GÜLER¹, Ertan EVİN²
Mersin University Metallurgy and Material Eng. Mersin-Turkey¹ Firat University Metallurgy and Material Eng. Elazığ-Turkey²

14:00-14:15 **Effect of Acetone Vapor on Surface and Mechanical Properties of 3D Printed ABS in Different Layer Thicknesses**

*Kutay Çava*¹, Mustafa ASLAN¹, Ümit ALVER¹
KTU Metallurgical and Materials Engineering Trabzon-Turkey¹

14:15-14:30 **Investigation of Impact Behavior of Sandwich Materials with 3D Printed Auxetic and Cellular Core Geometries**

İsmail Özen¹, *Kutay Çava*², Hasan Gedikli¹, Ümit Alver², Mustafa Aslan²
Karadeniz Technical University Mechanical Eng Trabzon-Turkey¹ Karadeniz Technical University Metallurgical and Materials Eng Trabzon-Turkey²

14:30-14:45 **Comparison of Mechanical Properties of 3D Printed Sandwich Materials in Cellular and Auxetic Pattern**

*Mustafa Aslan*¹, Kutay Çava¹, Ümit Alver¹, Hasan Gedikli²
KTU Metallurgical and materials engineering Trabzon-Turkey¹ KTU Mechanical Engineering Trabzon-Turkey²

15:15 Closing Ceremony