



ISTS 2014

2. ULUSLARARASI YÜZEY İŞLEMLERİ SEMPOZYUMU
2nd INTERNATIONAL SURFACE TREATMENT SYMPOSIUM

25-27 Haziran/June 2014

Istanbul Technical University - Taşkışla Campus - Istanbul

www.metalurji.org.tr/ISTS2014

SEMPOZYUM PROGRAMI SYMPOSIUM PROGRAMME



TMMOB Metalurji Mühendisleri Odası
UCTEA Chamber of Metallurgical Engineers



TMMOB Kimya Mühendisleri Odası
UCTEA Chamber of Chemical Engineers



KUYTAM
KOÇ ÜNİVERSİTESİ



YÜZEY TEKNOLOJİLERİ ARAŞTIRMA MERKEZİ

Analiz Hizmetleri

Kaplama, korozyon, aşınma, yapışma, yüzey, ara-yüzey ve ara-kesit analizleri

Sertlik, çizilme, aşınma ve indentasyon testleri

Toz, film, kaplama, seramik, metal, fiber malzemede kristal yapı ve kalıntı stres tayini

Katı, sıvı, toz, ince film, dispersiyon, fiber örneklerde hassas elementel analizler

Termal, saçtırmalı metal ve dielektrik ince film kaplama

Nanoparçacık, emülsiyon, dispersiyon, macun, kompozit analizleri, akışkanlık tayini

Optik özellikler, lazerle malzeme ve yüzey işleme, doğrusal olmayan optik deneyler



Altyapı

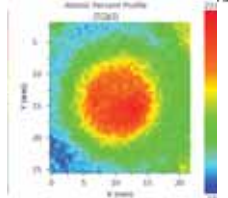
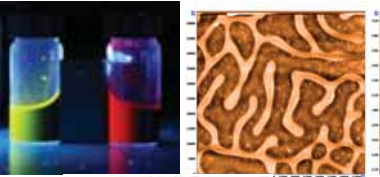
X-Işını Fotoelektron Spekt., XPS
X-Işını Difraktometresi, XRD
X-Işını Floresans Spekt., XRF

Taramalı Elektron Mikros., SEM
Arakesit Hazırlama Sistemleri
Atomik Güç Mikroskobu, AFM
Nanoindentasyon, Triboloji Testleri

Laser Ablasyonlu Endüktif Eşleşmiş
Plazma Kütle Spekt., LA-ICP-MS
CHNS/O Organik Analiz

Raman Mikroskobu
Fourier Dönüşümlü IR Spekt., FTIR
UV-Görünür-Yakın Kızılaltı Spekt.
Femtosaniye laser sistemi

Fiziksel/Saçtırmalı Buhar Biriktirme
Kontak Açısı Ölçümü
Zeta-sizer
Reometre



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Onursal Başkan // Honorary Chair

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Metin Yılmaz	Çuhadaroğlu Metal Sanayi, TR

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2014SEMPOZYUM DANIŞMA KURULU
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TMMOB KİMYA MÜHENDİSLERİ ODASI

Kimya Mühendisleri Odası (KMO) 1954 yılında 7303 sayılı yasa ve 66 ile 85 sayılı Kanun Hükmünde Kararnameler ile değişik 6235 sayılı Türk Mühendis ve Mimar Odaları Birliği (TMMOB) yasasının yürürlüğe girmesiyle kurulan ilk beş Odadan birisi olup kamu kurumu niteliğinde bir meslek örgütüdür. KMO'nun kurulmasıyla birlikte İstanbul Şubesi de çalışmalarına başlamıştır (19 Ocak 1954).

Merkezi Ankara'da bulunan KMO'nun 23.000'e yakın üyesi bulunmaktadır. KMO'nun 6.000'i aşkın üyesi olan Ankara ve İstanbul Şubeleri dışında Bursa, Ege Bölge, Güney Bölge, Samsun, Trakya Bölge ve Kocaeli Şubeleri; ve Trabzon Bölge, Denizli Bölge, Eskişehir Bölge, Güneydoğu Anadolu Bölge Temsilcilikleri ile 31 il Temsilcilikleri vardır.

İlgili yasa uyarınca KMO; Kimya Mühendislerinin örgütlülüğünün geliştirilmesi, meslek ve ülke sorunlarının bütünlüğü içerisinde ülke çıkarlarının, Kimya Mühendislerinin özlük haklarının savunulması, mesleki birikimlerinin geliştirilmesi, Oda'nın işyerleri ile ilişkilerinin sağlanması amacı ile ayrıca işyeri temsilcilikleri de kurabilmektedir.

TMMOB'ye bağlı tüm Odalarda olduğu gibi KMO'da da Genel Kurul toplantıları ve seçimler iki yılda bir yapılır. Üyelerinin ve diğer meslek disiplinlerinin hizmet içi eğitimlerine yönelik etkinlikler düzenleyen KMO; teknik kongreler, kısa süreli okullar, kurslar, paneller ve sergiler gerçekleştirmektedir.

KMO'da üye katılımını sağlama ve bilgi üretme aracı olarak Yönetim Kuruluna bağlı yarkurullar oluşturulmaktadır. Yarkurullar Odanın üyeleri ile ilişkisini sağlayan ve konunun uzmanı üyelerin katılımıyla Oda görüşlerinin ortaya çıkarıldığı, çeşitli etkinliklerin üretildiği çalışma birimleridir.

Örgütlülüğün nitel ve nicel olarak geliştirilmesi, üyelerinin mesleki, ekonomik ve demokratik çıkarlarının toplumun çıkarlarıyla bütünlleştirilerek savunulması KMO'nun görevleri arasındadır.

KMO; Kimya Mühendislerinin tek yasal mesleki kuruluşu olarak üyelerinin hak ve çıkarlarının temsilcisi, meslek alanında ulusal çıkarların uzman sesidir.



UCTEA CHAMBER OF CHEMICAL ENGINEERS

The Chamber of Chemical Engineers (CCE) was one of the first five Chambers established in 1954 after the enactment of Law No. 6235 (7303) on the Union of Chambers of Turkish Engineers And Architects (UCTEA). It is a Turkish public sector entity. Immediately following CCE's establishment, its Istanbul Branch began its operation on January 19, 1954.

Headquartered in Ankara the CCE has approximately 23.000 members. Its Istanbul Branch has more than 6.000 members. CCE also has Branches in the Aegean Region, Ankara, Bursa, Samsun, Trakya Region, Kocaeli and the Trabzon Region, Denizli Region, Eskişehir Region, Southern Anatolia Regional Representatives and as well as representatives in other 31 cities.

In accordance with the pertinent law, the CCE's functions include; development of an organizational structure for chemical engineers, protection of chemical engineers rights and benefits within the context of national and professional interests; enhancement of professional resources; promotion of business relationships between its members and other related organizations; and establishment of business representative offices.

CCE's general assembly and elections are held every two years, similar to all Chambers under the UCTEA. CCE organizes vocational training for its members in various professional disciplines, including technical conferences, short-term courses, panels, exhibits and similar events.

CCE establishes various committees under the guidance of its Board of Directors, to facilitate membership participation in various events and to collect information on issues of concern. These committees are working units connecting the Chamber to its members, and incorporating its members' expertise in formulating the Chamber's policies and decisions.

These units also undertake the organization of various promotional events Among CCE's duties is enhancement of its organizational quality and size, and protection of their members' professional, economic and democratic welfare within the context of social development.

CCE is the only legal professional association of chemical engineers in Turkey, and continues to be a highly effective tool in promoting its members' personal and national interests.



TMMOB METALURJİ MÜHENDİSLERİ ODASI

Mühendis ve Mimar Odaları Birliği'ne bağlı olarak ilgili yasa hükümlerine uygun şekilde 1970 yılında kurulan Metalurji Mühendisleri Odası, kamu kurumu niteliğinde bir meslek kuruluşudur. Halen 4500 olan Metalurji Mühendisleri Odası üye sayısı, her yıl metalurji dalında mühendislik eğitimi veren yurtiçi ve yurtdışı üniversitelerinden mezun olanlarla artmaktadır.

Ülke ve Oda üyelerinin hak ve yararları gözetilerek, metal ve metal dışı malzemelerin üretimi, şekillendirilmesi, özelliklerinin geliştirilmesi, hasarlı ve hasarsız kontrolleri vb. alanlarda, ihtiyaç duyulan ve gerek görülen etkinliklerin organizasyonu ve çalışmaların yapılması, sektörümüzde yapılan çalışmaların, yeni teknolojilerin ve bilgi birikiminin çeşitli araçlarla meslektaşlarımıza ve sektör mensuplarına duyurulması, üyelerin durumlarının iyileştirilmesi, oda amaçlarının temelini oluşturmaktadır.

Bu amaçlar doğrultusunda Metalurji Mühendisleri Odası iki ayda bir "METALURJİ" dergisini ve Oda faaliyetlerinin, sektörel haberlerin güncel şekilde aktarıldığı "BÜLTEN"i yayınlamakta ve seminer, sempozyum, panel, forum, kongre, fuar gibi etkinlikler organize etmektedir.

İki yılda bir yapılan ve Odaya kayıtlı üyelerin katılımıyla gerçekleştirilen Genel Kurullarda oluşan Oda Yönetim Kurulu yukarıda bahsedilen çalışmaların yürütülmesinden sorumludur. Ayrıca, Oda Yönetim Kurulunca oluşturulan ve üniversite, araştırma kuruluşları ve sanayiden uzmanların yer aldığı çalışma gruplarınca belli konularda ayrıntılı çalışmalar yapılmaktadır.



UCTEA CHAMBER OF METALLURGICAL ENGINEERS

The Chamber of Metallurgical Engineers (CME) is a non-profit public organization founded in 1970 and is one of twenty-three Chambers, which constitute the Union of Chambers of Turkish Engineers and Architects. The CME membership is currently 4500 and increasing each year with new graduates from national and foreign universities.

The main functions of CME are to organize required and necessary activities and conduct studies in broad fields of production, shaping, improving properties, destructive and non-destructive testing of metallic and nonmetallic materials, and also introducing the new technologies and the knowledges for the use and benefits of the members of CME and the country.

Within this context CME publishes a bimonthly journal entitled "METALURJİ" and a bulletin called "BULTEN" in which news related to metallurgy and materials science appear. CME also organizes seminars, symposiums, panels, forums, congresses and fairs.

The supreme governing body of CME is the General Assembly which consists of the Chamber members and is elected biannually. Board of Directors elected at the General Assembly is responsible from the execution of the functions mentioned above. Additionally, detailed studies on certain specific subjects are conducted by "work groups" that consist of specialists from universities, research institutions and the industry and established by the Board of Directors.

ISTS
2014

2. ULUSLARARASI YÜZEY İŞLEMLERİ SEMPOZYUMU

2. Uluslararası Yüzey İşlemler Sempozyumu (ISTS) 25-27 Haziran 2014 tarihleri arasında TMMOB Metalurji Mühendisleri Odası ve TMMOB Kimya Mühendisleri Odası ortaklığı ile düzenlenecektir.

Türkiye'nin iki öncü mühendislik meslek odası sinerjik bir yaklaşımla dünyanın değişik yerlerindeki bilim adamlarının, mühendislerin ve üreticilerin katkısıyla "Yüzey İşlemler Teknolojilerini" değerlendirmek ve geliştirmek üzere işbirliğini bu etkinlikte de sürdürecektir.

Sempozyumun Ana Hedefleri

1. İlki 2011 yılında düzenlenen, 16 farklı ülkeden 115 bildirinin sunulduğu, 3'ü yurtdışından olmak üzere 20 firmanın sempozyuma paralel yürütülen sergide yer aldığı, yoğun katılımı 1. ISTS sempozyumunda atılan temellerin daha da güçlendirilmesi.
2. Yüzey işlem süreçlerindeki bilimsel ve teknolojik gelişmeler konusunda, endüstri ve akademik dünya arasında yapıcı bir iletişim ortamının yaratılmasıdır.

Günümüzde yükselen ekonomik, teknolojik, sosyal ve etik baskılar tüm sanayii sektörlerini etkilediği gibi yüzey işlemler sektörünü de etkilemektedir. Sempozyumda, aşağıda tanımlanan odak konular aracılığı ile yüzey işlemleri alanındaki bilimsel ve teknolojik gelişmelerin, güncel mühendislik uygulamalarına aktarılması hedeflenmektedir.

Odak Konular

- Çevreye duyarlı ön işlemler, kaplamalar ve anodizasyon işlemleri
- Vakum temelli kaplama teknikleri
- Isıl Püskürtme teknikleri
- Elektrokimyasal, kimyasal ve sol-jel kaplama işlemleri
- Difüzyona dayalı yüzey işlemleri ve sıcak daldırma kaplamalar
- Nano-biyo teknolojik uygulamalarda yüzey işlemlerinin rolü

Sempozyum kapsamında ayrıca konularında uzman kişiler tarafından kısa ders ve teknik sunumlara da yer verilecektir.

Sempozyumumuz ile eş zamanlı 500 m²'lik bir alanda düzenlenecek olan sergi ile de sektör firmaları ürünlerini ve hizmetlerini katılımcılara tanıtmaya fırsatı da bulacaklardır.

ISTS
2014

2nd INTERNATIONAL SURFACE TREATMENT SYMPOSIUM

The 2nd International Surface Treatment Symposium (ISTS) will be held on June 25-27, 2014 in Istanbul with the cooperation of UCTEA Chamber of Chemical Engineers and UCTEA Chamber of Metallurgical Engineers.

Main Objectives are:

1. To promote a constructive dialog between industry and academia on process development and manufacturing issues in the treatment of surfaces.
2. To maintain the success gained in the 1st ISTS Symposium held in 2011 in which 115 paper were presented from 16 different countries and the participation of 20 companies for the exhibition .

In recognition of current pressing economic, environmental, social, and ethical demands, the UCTEA Chamber of Chemical Engineers and UCTEA Chamber of Metallurgical Engineers are jointly organizing this symposium to promote the application of up-to-date scientific and engineering knowledge to current engineering practices through the following **main themes**:

- Environmentally friendly surface pre-treatments, coatings and anodization processes
- Vacuum deposition techniques
- Thermal spray coating techniques
- Electrolytic, chemical, sol-gel deposition techniques
- Diffusion-based surface treatments and hot-dip coatings
- Role of surface technologies in nano-bio technological applications

Several technical short courses will be offered in conjunction with the symposium.

The symposium exhibition will be held concurrently in a 500 m² area, in which the surface treatment industry will have the opportunity to promote their products and services to participants.

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KAPSAM

• Çevreye Duyarlı Dönüşüm Kaplamalar ve Anodizasyon İşlemleri

6 Değerlikli Kromla Yapılan Dönüşüm Kaplama İşlemlerinin Alternatifleri, Kromik Asit Anodizasyonuna Alternatifler, Sıcak Sülfürik ve Fosforik Asit Anodizasyonu, Mikro Ark Oksidasyonu, Fosfatlama ve Alternatifleri

• Vakum Kaplama Teknikleri

Fiziksel Buhar Biriktirme, Kimyasal Buhar Biriktirme, Sert Kaplamalar, Dekoratif Kaplamalar, Otomotiv Endüstrisine Yönelik Kaplamalar, Elmas Benzeri Karbon Kaplamalar, Elmas Kaplamalar, Katı Yağlayıcılar, Nanokompozit Kaplamalar

• Isıl Püskürtme Teknikleri

Isıl Püskürtme, Plazma Püskürtme, HVOF, Patlamalı Tabanca, Isıl Yalıtım Kaplamaları, Aşınma ve Sürtünme Özelliklerini Geliştirmeye Yönelik Kaplamalar, Biyomalzemelere Yönelik Kaplamalar

• Elektrokimyasal, Kimyasal ve Sol-Jel Kaplama İşlemleri

Elektrolitik Kaplamalar, Akımsız Kaplamalar, Sol-Jel Kaplamalar, Kompozit Kaplamalar, Hibrit Kaplama Yöntemleri, Ön İşlemler

• Yayındırma Esaslı Yüzey İşlemleri ve Sıcak Daldırma Kaplamalar

Yüzey Alaşımlama, Intermetalikler, Nitrüleme, Borlama, Elektrokimyasal Borlama Sıcak Daldırma Çinko, Alüminyum vb. Kaplamalar

• Nano-Biyolojik Uygulamalara Yönelik Yüzey İşlemleri

Anodik Oksit Temelli Şablonlar ve Nanoişlevsel Yüzeyler, Katalitik Yüzeyler, Biyo-İşlevsel Yüzeyler, Algılayıcılar, Soğutucular

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TOPICS

• Environment Sensitive Conversion Coatings and Anodization

Alternatives of 6 Valent Chromium Conversion Coatings and Chromic Acid Anodization, Hot Sulfuric Acid and Phosphoric Acid Anodization, Micro Arc Oxidation, Alternatives to Phosphating

• Vacuum Coating Techniques

Physical Vapor Deposition, Chemical Vapor Deposition, Hard Coatings, Decorative Coatings, Coatings for Automotive Industry, Diamond Like Carbon Coatings, Diamond Coatings, Solid Lubricants, Nano Composite Coatings

• Thermal Spray Techniques

Thermal Spray, Plasma Spray, HVOF, Detonation Gun, Thermal Barrier Coatings, Coatings for Wear and Friction, Coatings for Biomaterials

• Electrochemical, Chemical and Sol-Gel Coatings

Electrolytic Coatings, Electroless Coatings, Sol-Gel Coatings, Composite Coatings, Hybrid Deposition Techniques, Pre-treatments

• Diffusion-based Surface Treatments and Hot-dip Coatings

Surface Alloying, Intermetallics, Nitriding, Boriding, Carburizing, Electrochemical Boriding Hot-dip galvanizing, Aluminizing

• Surface Technologies in Nano-Bio Technological Applications

Anodic Oxide Based Templates and Nanofunctional Surfaces, Catalytic Surfaces, Bio-Functional Surfaces, Sensors, Absorbers

ISTS
2014DAVETLİ KONUŞMACILAR
INVITED TALKS

Novel Applications of Carbon based Coatings in Automotive Powertrains and Manufacturing Processes

**Prof. Dr. Ahmet T. ALPAS**

University of Windsor, Canada

Dr. Ahmet T. Alpas, professor of Materials Science and Engineering at the University of Windsor (Ontario, Canada), has joined the Department of Mechanical Automotive and Materials Engineering in 1989 following a post doctoral fellowship appointment at the McMaster University. Dr. Alpas has B.Sc. (1980) and M.Sc. (1983) degrees from the Metallurgical Engineering Department of the Middle East Technical University and a Ph.D. (1987) in Materials Science and Engineering from the Open University, U.K. Since 2002, Dr. Alpas has been holding the position of NSERC Senior Industrial Research Chair supported by General Motors of Canada. He is the founder of the Tribology Research Centre at the University of Windsor. He has participated actively in several industry-university research consortia and has published more than one hundred fifty articles in peer reviewed journals and transactions in the areas of microstructure-property relationships of the materials in particular on mechanical and surface properties of automotive alloys and surface coatings. With his research focused on the automotive and manufacturing sectors, Dr. Alpas leads research areas in these key Canadian industries. He currently serves on the editorial board of the international journal of Wear.

In March 2010, Dr. Alpas was awarded General Motors' Campbell Award for contributions to "Fundamentals of Interfacial Tribology" and "Most Valuable Colleague Award". Dr. Alpas' contributions to science and engineering were also acknowledged by the University of Windsor's Excellence in Research and Scholarship Awards (2003, 2007 and 2010). In 2011, Dr. Alpas received Canada's prestigious NSERC Synergy Award from the Governor General of Canada for his research contributions to lightweight automotive products and manufacturing processes

ISTS 2014

2. ULUSLARARASI YÜZEY İŞLEMLERİ SEMPOZYUMU
2nd INTERNATIONAL SURFACE TREATMENT SYMPOSIUMDAVETLİ KONUŞMACILAR
INVITED TALKS

ISTS
2014

DAVETLİ KONUŞMACILAR

INVITED TALKS

Sol-Gel Derived Functional Metal Oxide Thin Films on Glass



Assoc. Prof. Dr. Caner DURUCAN

Middle East Technical University, Turkey

Dr. Caner Durucan, working as Associate Professor at Department of Metallurgical and Materials Engineering at Middle East Technical University, Ankara, Turkey. He received PhD in Materials Science and Engineering from Pennsylvania State University (2003). He had worked as a Post-Doctoral Research Fellow (2003-2005) at the Center for Nanoscale Science, National Science Foundation-Materials Research and Engineering Center at PSU. Prior to this he had worked as a researcher at the Materials Research Laboratory at PSU on synthesis of calcium-phosphates for potential bone/dental implant applications and development of hydroxyapatite-biodegradable polymer composites as bone cement applications.

His current research activities of include ceramic powder synthesis, bioceramics, glass surfaces, interfaces and coatings, processing of functional thin-films by wet chemical routes. He is a member of American Ceramic Society, Materials Research Society.

ISTS
2014

DAVETLİ KONUŞMACILAR

INVITED TALKS

High-Speed Deposition of Thick Films by Laser Chemical Vapor Deposition



Prof. Dr. Takashi GOTO

Tohoku University, Japan

Takashi Goto, Graduated from the Department of Materials Science, Tohoku University, Japan in 1975; received Master of Engineering in 1977 and Doctor of Engineering in 1984 from Tohoku University. Academic staff member at Tohoku University from 1979 to the present time. Currently, professor in Institute for Material Research, Fellow of the American Ceramic Society, Academician of the World Academy of Ceramics and Academician of the Asia Pacific Academy of Materials. Associate editor of Materials Letters, General editor/Editor-in-Chief of Journal of Asian Ceramic Societies.

Research fields: Materials Synthesis, Laser Plasma Chemical Vapor Deposition, Spark Plasma Sintering, Floating Zone, High temperature oxidation

ISTS
2014

DAVETLİ KONUŞMACILAR INVITED TALKS

Electrochemical Surface Treatment of Titanium at the Micro/Nano Scale: Fundamentals and Bio-Medical Applications



Prof. Dr. Dieter LANDOLT

Swiss Federal Institute of Technology Lausanne, Switzerland

Dieter Landolt is Professor emeritus at the Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland. He got his Ph.D. degree from the Swiss Federal Institute of Technology in Zurich in 1965. After two years as postdoctoral researcher at the University of California Berkeley he joined the University of California Los Angeles (UCLA) as Assistant Professor. In 1972 he was appointed Professor of Materials Science and head the Laboratory of Metallurgical Chemistry at EPFL, position he held until 2003.

Dieter Landolt published some three hundred papers in the areas of applied electrochemistry, surface chemistry and corrosion and a textbook "Corrosion and Surface Chemistry of Metals". He received a number of international awards. He served as president of the International Society of Electrochemistry (ISE) and chairman of the International Corrosion Council (ICC).

ISTS
2014

DAVETLİ KONUŞMACILAR INVITED TALKS

Metal Oxide Nanosurfaces and Hetero-interfaces for Sensing and Energy Harvesting Applications



Prof. Dr. Sanjay MATHUR

University of Cologne, Germany

Sanjay Mathur is the Director of the Institute of Inorganic Chemistry at the University of Cologne, Cologne, Germany. His research interests focus on various facets of chemical nanotechnologies. He holds five patents and has authored/ coauthored over 250 original research publications and has edited several books. He is a Titular Member of the Inorganic Chemistry Division of International Union of Pure and Applied Chemists (IUPAC) and serves as the Chair of Engineering Ceramics Division of the American Ceramic Society.

A member of the Advisory Board of the Federation of German Materials Science (DGM) and also serves on the Advisory Committees of a number of international societies, and research institutions, he also serves on the Board of the German Chemical Industries Network CHEMCOLOGNE and an appointed member of the Technical Advisory Board of the global company Henkel.

ISTS
2014

DAVETLİ KONUŞMACILAR INVITED TALKS

Optimising Surfaces to Meet the Needs of Different Tribological Contact Types



Prof. Dr. Allan MATTHEWS

University of Sheffield, UK

Allan Matthews is presently holding post of Professor of Surface Engineering in the Department of Materials Science and Engineering at the University of Sheffield. He is also Executive Director of the Leonardo Centre for Tribology and Surface Technology and Director of the Research Centre in Surface Engineering in the same University. He joined the Department at the beginning of 2003, having spent the previous 21 years at Hull University, where he was Director of the Research Centre in Surface Engineering. He spent his early career in the UK aerospace industry. He is co-author of Coatings Tribology (Elsevier) and several other books. He has also published over 300 refereed papers, and is listed as a 'Highly Cited' researcher on the ISI Web of KnowledgeSM on-line platform. He currently holds eleven patents (eight granted and three pending). He is Editor of the journal Surface and Coatings Technology.

His main interests are in plasma-based surface engineering processes for coatings and treatments. Coatings studied include metals, ceramics and nanocomposites of combined phases. Applications range from tribological (friction and wear) to thermal barriers and high temperature corrosion-control layers. The processes under investigation are also used to produce coatings for a wide range of functional uses, including biomedical and optical. The research is therefore wide ranging, and includes:

Surface Engineering processes – especially plasma-based coating and treatment methods, including process diagnostics and modelling. Computer-based coating selection systems. Test and evaluation methods for coatings – especially for friction, wear, adhesion and corrosion behaviour. Modelling of coating properties and deformation behaviour.

ISTS
2014

DAVETLİ KONUŞMACILAR INVITED TALKS

Advances in Ti-Al-N and other Nanocomposite Coatings for Severe Applications



Prof. Dr. Paul MAYRHOFER

University of Wien, Austria

Paul H. Mayrhofer studied Materials Science at Montanuniversität Leoben, Austria. After his PhD in 2001 he worked as University Assistant and Associate Professor at Montanuniversität Leoben and Post-Doc at the Center for Microanalysis of Materials and the University of Illinois at Urbana-Champaign, USA. He habilitated in 2005 within the field of Materials Science at the Montanuniversität Leoben and spent his Erwin-Schrödinger-Fellowship in the years 2005 and 2006 at Materials Chemistry, RTWH Aachen University, Germany, and Thin Film Physics Division, Linköping University, Sweden. In 2007, he received the Austrian Science Fund START Award for Materials Science. Paul was Program and General Chair of the International Conference on Metallurgical Coatings and Thin Films (ICMCTF), San Diego, in the years 2012 and 2013.

In 2012 he has been appointed Full Professor of Materials Science at the Vienna University of Technology, Austria. His research activities focus on the development and characterization of vapour phase deposited materials by a combination of computational and experimental material science.

ISTS
2014

DAVETLİ KONUŞMACILAR INVITED TALKS

Pulse Electrodeposition of Ni- Based Composite Coatings and Nanostructures: Structure, Mechanical and Photoinduced Properties



Prof. Dr. Evangelia (Litsa) PAVLATOU

National Technical University of Athens, Greece

Evangelia A. Pavlatou is an Associate Professor in the School of Chemical Engineering of National Technical University of Athens. She has received her diploma (in 1989) and PhD (in 1995) in Chemical Engineering from the University of Patras in Greece. She worked as a post-doc researcher at the Physical Chemical Department of Oxford University in UK during 1995-96. Her research activities are mainly classified in the field of surface science and technology. Specifically, her research work is focused in the production and characterization (structure, physical-chemical and mechanical properties) of metallic and composite coatings and films, as well as, of nano-structured materials (e.g. nanoparticles, nanowires, nanotubes).

Her expertise is oriented through the optimization of electrochemical production process in order to achieve coatings, films and nanostructured materials with enhanced properties such as improved microhardness, corrosion and wear resistance, as well as controllable hydrophilic and photocatalytic properties.

She has published more than forty papers in international peer reviewed journals and more than ninety contributions in international scientific conferences. Her published work has received more than 600 citations and has participated in above 25 National and European funded research projects. She is member of the European Board of «European Academy of Surface Technology (EAST)» representing Greece as a leading specialist in Surface Technology.

ISTS
2014

DAVETLİ KONUŞMACILAR INVITED TALKS

Composition Depth Profile of Electrodeposited Alloy and Multilayer Films



Dr. László PÉTER

Hungarian Academy of Sciences

Laszlo Peter was born in 1967. He graduated at the Eötvös University of Budapest as a teacher of physics and chemistry. He obtained the Ph.D. degree in chemistry at the same university in 1995. After spending two years in the USA as a postdoctoral fellow (at the University of Texas at Austin) and one year in Japan as a visitor scientist (at the Hitachi Research Laboratory), in 1998 he joined a national laboratory operated by the Hungarian Academy of Sciences (now called Wigner Research Centre for Physics). Here, he started working on electrodeposition of magnetic/non-magnetic multilayers and magnetoresistance of these materials. Later, his research profile was completed with electrochemical hydrogen permeation experiments and with the study of the composition depth profile of electrodeposited materials.

He is the head of the Electrodeposited Nanostructures Group of his institute since 2009. He is the co-author of more than 60 scientific papers and two book chapters. He has been working as the electrochemistry editor of the Central European Journal of Chemistry since 2009. At the end of 2013, he acquired the Doctor of Science title of the Hungarian Academy of Sciences.

ISTS
2014

DAVETLİ KONUŞMACILAR INVITED TALKS

Cathodic-Arc Plasma Sources for Composite Coatings Deposition



Dr. Vladimir E. STREL'NITSKIJ

Kharkov Institute of Physics and Technology, Ukraine

Vladimir Evgeniyevich Strel'nitskij is a noted scientist in the field of physics and technology of diamond like carbon (DLC) films synthesis. He graduated from Kharkov State University (Ukraine) in 1970. After military service in the Soviet Army (1970-1972) he works in the National Science Centre "Kharkov Institute of Physics and Technology" (NSC KIPT) since 1972 up to now. He received the Candidate (PhD) and Doctor Science

degrees in physics and mathematics from Kharkov State University in 1980 and 2003, respectively. At present Dr. Strel'nitskij acts as the head of the Superhard Carbon Films Laboratory. He is the author of series of pioneer works on vacuum arc synthesis of diamond-like carbon films.

He was at the head of R&D in growth of hydrogenated amorphous carbon films and polycrystalline diamond layers by the high current DC glow discharge method. He is coauthor of the new theoretical model of growth of superhard nanocomposite materials including DLC. The new setups equipped with filtered vacuum-arc plasma sources for deposition of DLC and composite nanostructured TiN based films were developed and applied in industry under direction of Dr. Strel'nitskij.

He is the Laureate of the USSR State Prize for service in physics and technology for 1987. Dr. Strel'nitskij is author and coauthor more than 200 science published works and patents

ISTS
2014

DAVETLİ KONUŞMACILAR INVITED TALKS

New Environmentally-Friendly Technologies in Coating of Metal Borides



Dr. Güldem KARTAL ŞİRELİ

Istanbul Technical University, Turkey

Dr. Güldem KARTAL SİRELİ is working as a research associate in Metallurgical and Material Engineering Department of Istanbul Technical University (I.T.U.). She received her B.Sc. in Metallurgical and Materials Engineering Program of I.T.U. with an honor award in 2002 and her M.Sc. and Ph.D. degrees in the same program of I.T.U. in 2004 and 2012 respectively. She worked as a visiting scholar in Argonne National Laboratory between 2008 and 2010.

Dr. Kartal Sireli's research interests include: chemical and electrochemical metallurgy- molten salts electrolysis, electroplating, recovery and refining of metals; surface modification techniques- diffusion based surface hardening processes and development of green technologies.

In recognition of her innovative research, she received R&D-100 Awards in process science with the design of Ultra-Fast and Large-Scale Boriding in 2012. She has acted as referee in many international journals, and taken part in many industrial projects. Dr. Kartal Sireli authored / co-authored more than 35 papers (10 in peer-reviewed international journals, 4 in national journals and 22 in conference books) and gave several invited talks at international conferences. She holds 2 patents.

ISTS
2014DAVETLİ KONUŞMACILAR
INVITED TALKS

Interface Engineering in Organic Optoelectronics

**Dr. Ayşe TURAK**

McMaster University, Canada

Dr. Ayşe Turak is an assistant professor in the Department of Engineering Physics at McMaster University (Canada) and a member of the NSERC CREATE Program in Photovoltaics. She was a DAAD (2007) and Marie Curie (2008-2010) Fellow at the Max-Planck-Institute for Metals Research as project leader on organic solar cells (OPVs).

She was a visiting professor at Sabanci University (Istanbul, Turkey) with a European Reintegration Grant. She received her doctorate from the Department of Materials Science and Engineering at the University of Toronto (Canada) in 2006, where she was a Canada Graduate Scholar working on organic light emitting diodes (OLEDs).

Her research is focused on interfacial engineering in organic optoelectronic devices (OLED, OPVs). She tunes the morphology, chemistry, electronic states, and structure at electrode and donor-acceptor interfaces, and studies order disorder transitions in semiconducting organic thin films.

ISTS
2014DAVETLİ KONUŞMACILAR
INVITED TALKS

Nanostructured Surfaces for Advanced Optoelectronic Devices

**Assoc. Prof. Dr. Emrah ÜNALAN**

Middle East Technical University, Turkey

H. Emrah Unalan received the BS degree in Metallurgical and Materials Engineering from Middle East Technical University, Turkey in 2002 and the MS and PhD degree in Materials Science and Engineering at Rutgers University, USA in 2004 and 2006, respectively. From 2006 to 2008, he was a Research Associate in Electrical Engineering Division in Engineering Department at University of Cambridge, UK. During his time at Cambridge he worked on two projects entitled "Enhanced energy and power density for mobile devices" and "Development of novel nanoscale materials for electronics" funded by Nokia Research Center and Samsung Electronics, respectively. In 2008, he joined Department of Metallurgical and Materials Engineering, Middle East Technical University, where he is currently an Associate Professor. His research interests include synthesis of nanotubes/nanowires and their utilization in flexible and transparent electronics and energy harvesting devices. The aim of his research is not only the utilization of nanomaterials for unforeseen applications through the fabrication of novel devices but also seeking possibilities for new device concepts and form factors.

He is a member of Materials Research Society (MRS), American Chemical Society (ACS) and a recipient of the MRS Graduate Student Silver Award in 2005, Turkish Academy of Sciences Young Scientist Award in 2009, Parlar Foundation Incentive Award in 2011 and Feyzi Akkaya Foundation Incentive Award in 2013.

ISTS
2014DAVETLİ KONUŞMACILAR
INVITED TALKS

Controlled Wetting of Polymer Surfaces: From Superhydrophilic to Superhydrophobic

**Prof. Dr. İskender YILGÖR**

Koç University, Turkey

İskender Yilgör received his BS, MS and Ph. D. Degrees in Chemistry, at Middle East Technical University, Ankara, Turkey. He then went to US and worked at Virginia Tech for 5 years. Then he joined industry and served as Vice President of R&D for two different firms. In 1994 Dr. Yilgör joined Koç University, as the founding member of the Chemistry Department, where he is currently a Professor and Dean of the Graduate School of Health Sciences. He was instrumental in establishing the Koç

University Surface Science and Technology Center (KUYTAM).

Prof. Yilgör has published about 100 refereed articles in polymer science. He is also a co-inventor in 10 US and European patents. Prof. Yilgör is the recipient of numerous awards for his contributions to Polymer Science, including 2003 TUBITAK Science Award.

ISTS²⁰¹⁴2. ULUSLARARASI YÜZEY İŞLEMLERİ SEMPOZYUMU
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INVITED CONTRIBUTIONS FROM THE INDUSTRY

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2014**ENDÜSTRİDEN DAVETLİ KATKILAR**
INVITED CONTRIBUTIONS FROM THE INDUSTRY**New Surface Treatment Trends for Aluminum Alloys in Aerospace Industry****Aysun DOĞANGÜN AKIN**

TAI, TUSAŞ - Türk Havacılık ve Uzay Sanayii A.Ş., Turkey

Aysun DOĞANGÜN AKIN has graduated from Chemistry Department, Middle East Technical University in 1996, has got her MSc degree from the same department/university in 2000.

She has been with TAI since 1999. Specialist in surface treatment of metallic structures for corrosion prevention, paints, sealants and composite materials.

ISTS
2014**ENDÜSTRİDEN DAVETLİ KATKILAR**
INVITED CONTRIBUTIONS FROM THE INDUSTRY**New Generation of Hot Dip Coatings****Dr. Beril ÇORLU**

ArcelorMittal Global R&D Gent, Belgium

Beril Corlu is working as a research engineer in ArcelorMittal Global R&D Gent, Belgium. Her current interest includes development of durable, environmentally-friendly and cost-effective metallic coatings produced by hot dipping.

Beril earned her BSc and MSc from Middle East Technical University and her PhD from Istanbul Technical University for her dissertation on "Alloying of Aluminum Surfaces with Cathodic Arc Copper and Copper Surfaces with Cathodic Arc Aluminum Plasma". Prior to working for steel industry, she worked for 6 years in aluminum industry (Assan Aluminum, Turkey) as a researcher responsible for leading the projects aiming to optimize and improve the casting and rolling processes, to develop new products and alloys.

Beril is the author of scientific publications and conference papers in the field of aluminum and surface science.

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2014

ENDÜSTRİDEN DAVETLİ KATKILAR

INVITED CONTRIBUTIONS FROM THE INDUSTRY

Vacuum Brazing Systems



Prof. Dr. H. Zafer DURUSOY
NANOVAK, HÜ Technopark, TURKEY

Prof. Dr. H. Zafer Durusoy was born in 1953 in Ankara. After completing his BS at Hacettepe University Physics Department, he studied at California University for the PhD degree.

Later he took up a faculty position at Hacettepe Physics department and studied magnetic thin films, optical coatings and high Tc superconducting thin films during his academic life. In the years, 1993-1994 he was a visiting scholar at Stanford University Applied physics department.

In 2006, he was one of the founders of NANOVAK Arge Ltd. Dr. Durusoy has been managing this start-up company where various evaporation systems, space simulators and vacuum brazing system are designed and manufactured.

ISTS
2014

ENDÜSTRİDEN DAVETLİ KATKILAR

INVITED CONTRIBUTIONS FROM THE INDUSTRY

From Fundamental to Applied Electrochemistry, Electrochemically Nanocoated Selective Surfaces



Prof. Dr. Figen KADIRGAN

Selektif Teknoloji San. Tic. Ltd. Company, Istanbul Technical University, Turkey

Dr. Figen Kadirgan is a professor at the Chemistry Department of Istanbul Technical University, since 1988. Her research areas include Fuel Cells, Electrochemically prepared thin films for the application in solar energy area (spectrally selective surfaces and solar cells) and corrosion. She has been carrying out research on electrochemistry for over 30 and on solar technologies for almost 10 years. She is the author of more than 60 publications, including articles in scientific journals, technical reports, and patents. She has received her Bachelor's Degree from the Chemistry Department of Istanbul University and her M.S. and Ph.D. degrees from University of Poitiers, France. She has worked as a researcher in the University of Poitiers, as a faculty member at University of Oujda, Morocco, University of Colorado in USA, Uppsala University in Sweden, Ecole Polytechnique de Montreal in Canada and as Consultant in the Energy Department of Marmara Research Institute (Turkish Scientific Council) and in some companies. She has received Turkish Scientific and Technical Research Council Encouragement Award for works in Electrochemistry, Turkish Scientific and Technical Research Council Award, for the Technology Development Oriented Researches, to produce Spectrally Selective High Efficiency Solar Collectors, Turkish Chemical Foundation Award for the work in Applied Chemistry, IUPAC Fellow for the service made on 35th IUPAC Meeting and IUPAC body. She was dean of Faculty of Sciences and Letters in Istanbul Technical University between 2006 and 2010. She is one of the founder board members of Association for Evaluation and Accreditation of Sciences and Letters Programs in Turkey. Actually, she is also founder and Head of Executive Board of Selektif Technology Ltd. Company (<http://www.selektif.com.tr>). She has received 2011- Elginkan Foundation Technology Award Foundation for work on Roll to Roll Nano-Coating Selective Surfaces developed in Selektif Technology Co. Inc. Ltd.

Selektif Teknoloji Co. Inc. is honored in 2012 by the Technology Award of the Scientific and Technological Research Council of Turkey (TÜBİTAK), Technology Development Foundation of Turkey (TTGV) and Turkish Industry and Business Association (TÜSİAD). Selektif Teknoloji has won the Technology Award for the Development of Roll to Roll Process in the Micro, Small and Medium Enterprises category.

ISTS
2014

ENDÜSTRİDEN DAVETLİ KATKILAR

INVITED CONTRIBUTIONS FROM THE INDUSTRY

Nanostructured TiAlN Coating by Moderate Temperature Low Pressure CVD



Dr. Reinhard PİTONAK

Böhlerit GmbH & Co, Austria

Dr. Reinhard Pitonak is working as a senior researcher in the R&D section of Böhlerit GmbH since 1985. He acquired his MSc and PhD degrees from Graz and Vienna Technical Universities in 1980 and 2011.

He has been conducting R&D activities on wear resistant hard coatings, CVD technology, application oriented design of CVD coated hard metals.

Dr. Pitonak, holds 16 patents and has authored/ coauthored original research publications and has given several invited talks.

ISTS
2014

ENDÜSTRİDEN DAVETLİ KATKILAR

INVITED CONTRIBUTIONS FROM THE INDUSTRY

Surface Modification Technologies from the Point View of White Goods Industry



Dr. Mustafa SEZER

Arcelik A.S. Research & Development Center, Turkey

Dr. Mustafa Sezer has been working in Arcelik A.S. since 1991. After serving in different facilities of Arcelik as specialist and team leader, he is appointed as Material Technologies manager in the R&D center of Arcelik A.S. In 2013. Dr. Sezer acquired his MSc and PhD degrees on mechanical engineering from Istanbul Technical University in 1989 and 2000. He is a master black belt in Six Sigma quality management.

He has several publications and presentations on mechanical analysis and fatigue behavior of materials. Dr. Sezer received best paper award from Society of Plastic Engineers in 2000 for the study he conducted on fatigue behavior of fiber reinforced plastics

ISTS
2014

ENDÜSTRİDEN DAVETLİ KATKILAR

INVITED CONTRIBUTIONS FROM THE INDUSTRY

Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS): A Powerful Tool in the Study and Characterisation of Thin Layer Materials and Coatings



Dr. Peter WINSHIP

Teledyne CETAC Technologies

Peter Winship is currently the Technical Specialist for Teledyne CETAC Technologies in the Europe, Middle East and Africa region. He joined Teledyne CETAC Technologies in September of 2011 following five years as the Senior Analyst of a biominerals research group at the Human Nutrition Research Unit of the Medical Research Council (MRC) in Cambridge in the United Kingdom. He has a B.Sc. degree in Applied Chemistry from the Nottingham Trent University (2001), an M.Sc.

degree in Analytical and Pharmaceutical Science from Loughborough University (2002) and a Ph.D. in Inorganic Analytical Chemistry from Loughborough University (2006).

Dr. Winship's main scientific interest is in analytical chemistry and particularly inorganic analysis, most notably analysis via inductively coupled plasma based spectroscopy and spectrometry. He is interested in the applications of this type of analysis across the scientific disciplines, and their spectrum of associated sample types and the challenges they pose, and pushing the limits of what is possible with ICP based instrumentation.

ISTS
2014

ENDÜSTRİDEN DAVETLİ KATKILAR

INVITED CONTRIBUTIONS FROM THE INDUSTRY

X-ray Photoelectron Spectroscopy for Coatings Analysis



Dr. Andrew (Andy) WRIGHT

University of Southampton, UK

Dr. Andy Wright gained his PhD in electron spectroscopy from the University of Southampton in the UK. His work involved the study of short-lived gas-phase molecules using ultraviolet photoelectron spectroscopy (UPS), and the development of an instrument to perform these studies at a synchrotron facility in the UK. This was followed by a postdoctoral position studying optical emission from the thermal dissociation of energetic molecules.

Andy joined Thermo Fisher Scientific in 1998 as an engineer, and moved to the applications team three years later. He has worked on all of Thermo Fisher's surface analysis equipment, specialising on the Escalab family of research instruments. Andy's roles include sample analysis, demonstrations, training, applications support, marketing and product development.

When not at work, Andy enjoys photography and genealogy.

ISTS
2014ÖZEL DERS
TUTORIALISTS
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2nd INTERNATIONAL SURFACE TREATMENT SYMPOSIUMÖZEL DERS
TUTORIAL

Electrolytic Metal Coatings: Principles, Technology and Control

**Prof. Dr. Ali Fuat ÇAKIR**

Istanbul Technical University, Turkey

After graduating from the Lycee de Galatasaray he received Masters and Dr. Eng. Sc. degrees from the Istanbul Technical University (ITU, 1962) and The Columbia University (1971) in New York, USA, respectively. He served also as preceptor at the later institution. He started again teaching at ITU in 1972.

He was co-founder of the Faculty of Metallurgy, founder and Chairman of the Electrometallurgy and Corrosion Chair. He served as Chair of the Metallurgy and Materials Engineering Department, Dean of the Faculty of Chemical and Metallurgical Engineering, University Senator and Interuniversity Board Member representing ITU. He retired in 2005.

His fields of interests are: corrosion and corrosion protection, surface treatment, electrolytic processes, physical vapor deposition, electro and hydrometallurgy, chemical characterisation and historical metallurgy.

In national and international journals or congresses he published or presented over 170 papers. He received Science Award of the Corrosion Association (Turkey, 1994), Kape Memorial Medal from the Institute of Metal Finishing (UK, 1998). He was elected to European Academy of Surface Technology (1989) and to Board of Administrators of European Federation of Corrosion (2010).

ISTS
2014ÖZEL DERS
TUTORIAL

Introduction to Transmission Electron Microscopy

**Dr. Clewa W. OW-YANG**

Sabanci University, Turkey

Dr. Clewa W. OW-YANG graduated from the Massachusetts Institute of Technology Department of Materials Science and Engineering (Cambridge, Massachusetts, USA) and completed her Ph.D. studies in Materials Science and Engineering at Brown University (Providence, Rhode Island, USA) in 1997. After a stint as a Chateaubriand Fellow at Thomson-CSF (now Thales, Orsay, France) and as an Alexander von Humboldt Fellow at the Max-Planck-Institut fuer Metallforschung (Stuttgart, Germany), she developed the failure analysis program for the semiconductor diode laser R&D department of SDL, Inc./JDS Uniphase. Since 2003 she has been a faculty member in the Materials Science and Engineering Program at Sabanci University, in addition to joining the research staff at the Sabanci University Nanotechnology Research and Application Center, SUNUM, in 2012. During the 2009-2010 academic year, Dr. Ow-Yang was also a Visiting Professor at MIT.

Dr. Ow-Yang's research interests include mechanisms of persistence in ceramic phosphors, nanoscale engineering of interlayers in organic photovoltaics for work function tuning, cooperative behavior between nanoparticles, transparent conductive oxides, and materials characterization with an emphasis on imaging and spectroscopy in the transmission electron microscope.

ISTS
2014ÖZEL DERS
TUTORIAL

Introduction and Applications of Thermal Spray Technologies

**Prof. Dr. Fatih ÜSTEL**

Sakarya University, Turkey

Dr. Fatih Üstel was born in Kahramanmaraş / TURKEY in 1965 and after he had completed his education in Eskişehir / TURKEY, He graduated from Istanbul Technical University Metallurgical and Material Engineering Department in 1987. He graduated in Master in Science program from ITU Graduated School of Science Engineering and Technology with a master in science thesis titled "Plasma Spray Coating Technology". He completed "Production and Characterization of Titanium Based coatings" titled PhD thesis in Sakarya University Institute of Natural Science in 2004.

Dr. Üstel had been invited as a guest researcher for several institutes from several foreign countries. He studied thin film coatings and high temperature coatings for aviation gas turbines.

Dr. Üstel has found an advanced thermal spray research and application laboratory (TESLAB) with several projects supported by national DPT and TUBITAK organizations. Dr. Üstel is manager of TESLAB and giving graduated lectures for surface engineering area.

ISTS
2014ÖZEL DERS
TUTORIAL

Surface Analysis with Electron Spectroscopy

**Assoc. Prof. Dr. Özgür BİRER**

Koç University, Turkey

Dr. Özgür Birer graduated from Bilkent University Chemistry Department (Ankara, Turkey) and completed his Ph.D. studies in physical chemistry at Princeton University (Princeton, USA) in 2007. After a post-doc appointment in Ruhr Universitaet (Bochum, Germany), he joined the Chemistry Department at Koç University in 2009. Since 2012, he has been the director of Koç University Surface Science and Technology Research Center, KUYTAM.

Dr. Birer's research areas are materials characterization, surface properties, ultrasound assisted/sonochemical reactions and plasma modifications.

ISTS
2014ÖZEL DERS
TUTORIAL

Sempozyumda yer alacak özel ders başlık ve eğitimci isimleri aşağıdaki listede yer almaktadır.

Tutorials, topics and names of the tutors are listed below.

Özel Ders-1 / Tutorial-1 : Prof. Dr. Ali Fuat ÇAKIR

Electrolytic Metal Coatings: Principles, Technology and Control

25 June/Haziran 2014 Time/Saat : 16.00 – 18.00

Özel Ders-2 / Tutorial-2: Assoc. Prof. Dr. Özgür BİRER

Surface Analysis with Electron Spectroscopy

26 June/Haziran 2014 Time/Saat : 16.00 – 18.00

Özel Ders-3 / Tutorial-3 : Dr. Clewa W. OW-YANG

Introduction to Transmission Electron Microscopy

27 June/Haziran 2014 Time/Saat : 16.00 – 18.00

Özel Ders-4 / Tutorial-4 : Prof. Dr. Fatih ÜSTEL

Introduction and Applications of Thermal Spray Technologies

27 June/Haziran 2014 Time/Saat : 16.00 – 18.00

**Özel derslere kayıt olmak için lütfen,
<http://www.metalurji.org.tr/ISTS2014> web adresini kullanınız.**

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25 Haziran/June 2014

AÇILIŞ / OPENING

09:00	Kayıt Registration
10:00 10:30	Açılış Konuşmaları Opening Ceremony
10:30 10:45	Plaket Töreni Plaquet Presentation

SALON / HALL 1

Industrial Perspectives of Surface Treatments Yüzey İşlemlerine Endüstriyel Bakış

Session Chairman / Oturum Başkanı:

ALİ FUAT ÇAKIR

11.00 Novel Applications of Carbon Based Coatings in Automotive 11.35 Powertrains and Manufacturing Processes

Otomotiv Aktarma Organlarında ve İmalat Süreçlerinde
Karbon Temelli Kaplamaların Yeni Uygulamaları

Ahmet Alpas

University of Windsor

Canada

(Invited)

11.35 Surface Modification Technologies from the Point View of 12.05 White Goods Industry

Beyaz Eşya Endüstrisi Açısından Yüzey İşlem Teknolojileri

Mustafa Sezer

Arçelik R&D Center

Turkey

(Invited Contribution from the Industry)

ISTS²⁰¹⁴

2. ULUSLARARASI YÜZEY İŞLEMLERİ SEMPOZYUMU
2nd INTERNATIONAL SURFACE TREATMENT SYMPOSIUM

SEMPOZYUM PROGRAMI SYMPOSIUM PROGRAMME

PVD and CVD Coatings/ FBB ve KBB Kaplamlar

Session Chairman / Oturum Başkanı:

AHMET ALPAS

13.30 - 14.05 Advances in Ti-Al-N and Related Nanocomposite Coatings for Severe Applications

Ti-Al-N Esaslı Kaplamaların Zorlu Koşullarda Kullanımına Yönelik Gelişmeler

Paul Mayrhofer

Vienna University of Technology

Austria
(Invited)

14.05 - 14.35 Nanostructured TiAlN Coatings by Moderate Temperature Low Pressure CVD

Orta Sıcaklık Düşük Basınç KBB Yöntemi ile Nanoyapılı TiAlN Kaplamaların Üretimi

Reinhard Pitonak

Boehlerit GmbH&Co

Austria

(Invited Contribution from the Industry)

PVD and CVD Coatings/ FBB ve KBB Kaplamlar

Session Chairman / Oturum Başkanı:

PAUL MAYRHOFFER

14.50 - 15.25 Cathodic-Arc Plasma Sources for Composite Coatings Deposition

Kompozit Kaplamalar için Katodik Ark Plazma Kaynakları

Vladimir E. Strel'nitskiy

KIPT

Ukraine

(Invited)

15.25 - 15.45 Effects of EDM Process on Surface Integrity of WC-10 Co Alloy

EDM İşleminin WC-10 Co Bileşimindeki Sert Metallerin Yüzeyi Üzerindeki Etkisi

Nilüfer Orhon, Erdem Şireli

Böhler Sert Maden Takım San.

Turkey

15.45 - 16.05 Effects of Ar/N₂ Gas Flow Ratio on TiN Coatings Produced by Cathodic Arc PVD Technique Using High Voltage Pulse Bias

Ar/N₂ Gaz Oranının Yüksek Voltaj Darbeli Bias Voltajı Kullanılarak Yapılan TiN Kaplamaların Özelliklerine Etkisi

Sinan Akkaya¹, Bahadır Yıldız¹, Vladimir Strel'nitskiy², Mustafa Ürgen¹

¹Istanbul Technical University, ²KIPT

Turkey, Ukraine

Alternative Conversion Coatings and Surface Preparation Processes/ Alternatif Dönüşüm Kaplamalar ve Yüzey Hazırlama İşlemleri

Session Chairman / Oturum Başkanı:

SERVET TİMUR

16.20 **New Surface Treatment Trends For Aluminum Alloys in Aerospace Industry**
16.50 Havacılık Endüstrisinde Kullanılan Alüminyum Alaşımlarına Yönelik Yeni Yüzey İşlemler

Aysun Doğangün Akın

TAI, Turkish Aerospace Industry

Turkey

(Invited Contribution from the Industry)

16.50 **Green Process for Plating on Plastics and Decorative Plating**
17.10 Plastikler Üzerine Kaplama Yapmaya ve Dekoratif Kaplamalara Yönelik Yeşil Prosesler

Mariola Brandes, Rolf Pofalla

Enthone GmbH

Germany

17.10 **Investigation of an Alternative Vapor Degreaser used in Aerospace Applications**
17.30 Havacılık Uygulamalarına Yönelik Yeni Bir Buhar Fazı Yağ Gidericinin Araştırılması

Başak Başarır, Aysun Doğangün Akın

TAI, Turkish Aerospace Industry,

Turkey

Boriding/ Borlama

Session Chairman / Oturum Başkanı:

GÖKHAN ORHAN

09.30 **New Environmentally-Friendly Technologies in Coating of Metal Borides**
10.05 Metal Borür Kaplamalar için Çevreye Duyarlı Yeni Teknolojiler

Güldem Kartal Şireli, Perim Özkalafat, Servet Timur

Istanbul Technical University

Turkey

(Invited)

10.05 **Boriding of Ferritic GGG40.3 Ductile Iron**
10.25 Ferritik GGG40.3 Düktil Dökme Demir'in Borlanması

Fatma Ünal, Ahmet Topuz

Yıldız Technical University

Turkey

10.25 **Growth of TiB₂ on AISI 1040 Steel via Combined Dual Process: PVD and CRTD-Bor**
10.45 Bileşik Proses (FBB, KRTD-Bor) Yöntemi ile AISI 1040 Çelikleri Üzerinde TiB₂ Büyütülmesi

Çağatay Yelkarası, Güldem Kartal Şireli, Servet Timur, Mustafa Ürgen

Istanbul Technical University

Turkey

Nitriding / Nitritleme

Session Chairman / Oturum Başkanı:

AHMET TOPUZ

- 11.00 Low Pressure Carburizing (LPC) and Low Pressure
11.20 Nitriding (LPN) of Fuel Injection Nozzles Made of Tool Steel
Yüksek Hız Çeliğinden Mamul Yakıt Enjektör Memelerinin
Düşük Basınç altında Karbürlenmesi ve Nitritlenmesi

**Maciej Korecki¹, Piotr Kula³, Emilia Wolowiec³, Michal Bazel²,
Michal Sut²**

¹Seco/Warwick S.A., ²Seco/Warwick Europe Sp. Zo,
³Lodz University of Technology
Poland

- 11.20 The Effects of Vanadium and Chromium Content on the
11.40 Microstructure of Powder Metallurgical Steels after
Nitriding Process
Vanadyum ve Krom İçeriğinin Toz Metalurjik Çeliklerin
Nitirasyon Isıl İşlemi Sonrasında Mikroyapıya Etkisi

**Aydın Şelte^{1,2}, Burak Özkal¹, Koray Arslan², İsmail Gezici²,
Sakine Ülker², Aziz Hatman²**

¹Istanbul Technical University, ²Böhler Uddeholm
Turkey

- 11.40 Residual Stress Profile Analysis of Gas Nitrided Engine
12.00 Components as a Function of Depth
Gas Nitritlenmiş Motor Parçalarının Derinliğe Bağlı Kalıntı
Gerilme Analizi

**Ahmet F. Yayla¹, Rıdvan Gecü¹, Asuman Koç², Nuri Solak¹, Kürşat
Kazmanlı¹, Mustafa Ürgen¹**

¹Istanbul Technical University, ²Robert Bosch
Turkey

**Diffusion Based Coatings /
Yayınma Temelli Kaplamalar**

Session Chairman / Oturum Başkanı:

NURİ SOLAK

- 13.30 New Generation of Hot Dip Coatings
14.00 Yeni Nesil Sıcak Daldırma Kaplamalar

Beril Çorlu

ArcelorMittal Global R&D Ghent

Belgium

(Invited Contribution from the Industry)

- 14.00 Vacuum Brazing Systems
14.30 Vakum Lehimleme Sistemleri

H. Zafer Durusoy

NANOVAK

Turkey

(Invited Contribution from the Industry)

- 14.30 Cathodic Arc Electron-Metal Ion Treatment- A New
14.50 Technique for Producing Diffusion Based Coatings in
Cathodic Arc Vacuum Systems

Katodik Ark Elektron-Metal Üyonu İşlemi-Katodik Ark Sistemi
Kullanılarak Difüzyon Temelli Kaplama Üretimi için Yeni bir
Yaklaşım

Semih Öncel

Öncel İleri Malzemeler ve Yüzey Teknolojileri

Turkey

Thermal Spray/ Isıl Püskürtme Coatings Tribology/ Kaplama Tribolojisi

Session Chairman / Oturum Başkanı:

GÜLTEKİN GÖLLER

15.05 - 15.40 **Optimising Surfaces to Meet the Needs of Different Tribological Contact Types**
Yüzeylerin Değişik Tribolojik Kontak Türlerine Göre Optimize Edilmesi

Allan Matthews, Adrian Leyland
The University of Sheffield
United Kingdom
(Invited)

15.40 - 16.00 **Processing and Characterization of CYSZ/Al₂O₃ and CYSZ/Al₂O₃+YSZ Multilayered Thermal Barrier Coatings**
CYSZ/Al₂O₃ ve CYSZ/Al₂O₃+YSZ Esaslı Çok Katlı Isıl Bariyer Kaplamaların Üretimi ve Tanımlanması

Mehmet M. Dokur, Gültekin Göller
Istanbul Technical University
Turkey

16.00 - 16.20 **An Investigation on Abrasive Wear Behaviour of Wear Resistant HVOF Coatings and Hardfacing Overlay Steels**
HVOF ve Sert Yüzeyleme Yolu ile Üretilen Aşınmaya Dayanıklı Kaplamaların Abrasiv Aşınma Davranışı

Ekrem Altuncu, Fatih Üstel
Sakarya University
Turkey

16.20 - 16.40 **Fine Powder Coating**
İnce Toz Kaplama
Werner Kremmel
FPC-Fine Powder Coating, PlasmaTreat GmbH
Germany

Laser and Plasma Enhanced CVD Coatings / Lazer ve Plazma Destekli KBB Kaplamalar

Session Chairman / Oturum Başkanı:

CLEVA OW-YANG

16.55 - 17.30 **High-Speed Deposition of Thick Films by Laser Chemical Vapor Deposition**
Lazer Destekli Yüksek Hızlı Kimyasal Buhar Biriktirme ile Kalın Filmlerin Kaplanması

Takashi Goto
Tohoku University
Japan
(Invited)

17.30 - 17.50 **Fabrication of Thermoresponsive Polymer Nanotubes using Initiated Chemical Vapor Deposition (ICVD)**
IKBB Yöntemi Kullanılarak Termoduyarlı Polimer Nanotüplerin Üretimi

Parvin Qureshi, Gözde İnce
Sabancı University
Turkey

17.50 - 18.10 **Production and Characterization of Metal Doped-DLC Films by PE-CVD / Magnetron Sputtering PVD Hybrid Coating Technique**

Metal Katkılı Elmas Benzeri Karbon Filmlerin Plazma Destekli KBB/ Manyetik Alanda Sıçratma FBB Hibrid Tekniği ile Üretimi ve Karakterizasyonu

N. Münevver Doğduaslan, Kürşat Kazmanlı, Mustafa Ürgen
Istanbul Technical University
Turkey

Surface Treatment Of Biomaterials / Biyomalzemelere Uygulanan Yüzey İşlemleri

Session Chairman / Oturum Başkanı:

SANJAY MATHUR

09.30
-
10.05

Electrochemical Surface Treatment of Titanium at the Micro/Nano Scale: Fundamentals and Bio-Medical Applications

Titanyumun Mikro ve Nano Ölçekte Elektrokimyasal Yüzey
İşlemi: Temelleri ve Biyo-medikal Uygulamaları

Dieter Landolt

Swiss Federal Institute of Technology

Switzerland

(Invited)

10.05
-
10.25

Investigation of Duty Cycle Effect on Corrosion Properties of Calcium Phosphate Coatings

Kalsiyum Fosfat Kaplamaların Korozyon Özellikleri Üzerinde
Darbeli Kaplama Periyodunun Etkisi

Tülay Koç Delice, Güler Urgan, Funda Ak Azem, Ahmet Çakır

Dokuz Eylül University

Turkey

10.25
-
10.45

Effect of Electrophoretic Deposition Process Parameters of Nano Hydroxyapatite

Nano Boyutlu Hidroksiapatitin Elektroforetik Yöntemle
Kaplanması Üzerinde Proses parametrelerinin Etkisi

Merve Geçgin¹, Zeynep Aslantürk¹, Göncü Yapıncak², Nuran Ay¹

¹Anadolu University, ²Bortek Bor Teknolojileri ve Mekatronik A.Ş.

Turkey

Surface Characterization/ Yüzey Tanımlama

Session Chairman / Oturum Başkanı:

ÖZGÜR BİRER

11.00
-
11.30

X-ray Photoelectron Spectroscopy for Coatings Analysis

Kaplama Tanımlamasında X-Işınları Foto Elektron
Spektroskopisi Kullanımı

Andrew Wright

Thermo Fisher Scientific

United Kingdom

(Invited Contribution from the Industry)

11.30
-
12.00

Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS): A Powerful Tool in the Study and Characterisation of Thin Layer Materials and Coatings

Lazer Buharlaştırılmalı İndükleme ile Eşlenmiş Plazma Kütle
Spektrometresi (LA-ICP-MS): İnce Katmanlı Malzeme ve
Katmanlarının Tanımlanmasında Güçlü bir Araç

Peter Winship

Teledyne CETAC Technologies

United Kingdom

(Invited Contribution from the Industry)

12.00
-
12.20

Nanomechanical Characterization and Scratch Testing of Abrasion Resistant Anti-Reflective Sol-Gel Coatings for Concentrating Photovoltaic Applications

Sol-Jel Yöntemi ile Fotovoltaik Uygulamalar için Üretilen
Aşınmaya Dayançlı, Yansıtmayan Kaplamaların Nanomekanik
Tanımlanması ve Çizik Testi

**Jiri Nohava¹, Cecilia Agustin², Jaroslav Cech¹, Philippe Kempe¹, Marta
Brizuela²**

¹Anton Paar, ²Tecnalia

Switzerland, Spain

12.20
-
12.40

The UMS: A New Tool For Multi-Angle UV-VIS-NIR Photometric Spectroscopy

UMS: Çok Açılı UV-VIS-NIR Fotometrik Spektroskopi için Yeni
Bir Araç

**David L. Deat, Robert J. Francis, Cameron Bricker, Travis Burt,
Jan Wuelfken**

Agilent Technologie

Australia

Sensing and Energy Harvesting / Algılama ve Enerji Toplama

Session Chairman / Oturum Başkanı:

MACİT ÖZENBAŞ

13.30 - 14.05 **Metal Oxide Nanosurfaces and Hetero-interfaces for Sensing and Energy Harvesting Applications**

Algılama ve Enerji Toplamasına Yönelik Metal Oksit Nanoyüzeyler ve Hetero-Arayüzeyler

Sanjay Mathur, Thomas Fischer, Raquel Fiz, Yakup Gönüllü
University of Cologne
Germany
(Invited)

14.05 - 14.25 **Combinatorial Development of Thin Film Membranes for Hydrogen Separation**

Hidrojen Ayırmaya Yönelik İnce Film Membranların Kombinatorial Yöntemle Geliştirilmesi

Tayfur Öztürk¹, Fatih Pişkin¹, Hakan Akyıldız²
¹Middle East Technical University, ²Selçuk University
Turkey

14.25 - 14.45 **Use of Multilayered Si Based Films as Anodes for Rechargeable Lithium-Ion Batteries**

Çok Katmanlı Si Esaslı Filmlerin Tekrar Şarj Edilebilen Li-İyon Pillerinde Anot Olarak Kullanılması

B. Deniz Polat^{1,2}, O. Levent Eryılmaz², Özgül Keleş¹, Ali Erdemir²
¹Istanbul Technical University, ²Argonne National Laboratories
Turkey, USA

Optoelectronic Materials / Optoelektronik Malzemeler

Session Chairman / Oturum Başkanı:

KÜRŞAT KAZMANLI

15.00 - 15.35 **Nanostructured Surfaces for Advanced Optoelectronic Devices**

İleri Optoelektronik Aygıtlar için Nanoyapılı Yüzeyler

H. Emrah Ünal
Middle East Technical University
Turkey
(Invited)

15.35 - 16.10 **Interface Engineering in Organic Optoelectronics**

Organik Optoelektroniklerde Arayüzey Mühendisliği

Ayşe Turak
McMaster University
Canada
(Invited)

16.10 - 16.30 **Plasma-Enhanced CVD of Visible-light Active Metal Oxide Nanostructures: Growth, Modification and Device Applications**

Plazma Destekli KBB ile Üretilen Görünür Işığa Duyarlı Metal Oksit Nano Yapılar: Büyüme, Modifikasyon ve Aygıt Üretimi

Andreas Mettenboerger, Thomas Fischer, Ashish Lepcha, Yakup Gönüllü, Sanjay Mathur
University of Cologne
Germany

Energy Materials / Enerji Malzemeleri

Session Chairman / Oturum Başkanı:

ÖZGÜL KELEŞ

- 16.45
17.15
- From Fundamental to Applied Electrochemistry, Electrochemically Nanocoated Selective Surfaces**
Temel Elektrokimyadan Uygulamalı Elektrokimyaya, Elektrokimyasal Olarak Kaplanmış Seçici Nano Yüzeyler

Figen Kadirgan

Selektif Teknoloji San. Tic. Ltd. Company

Turkey

(Invited Contribution from the Industry)

- 17.15
17.35
- Production and Characterization of High Performance FTO and ITO Thin Films Using Ultrasonic Spray Deposition For Dye Sensitized Solar Cell**
Boyar Maddeli Güneş Pilleri için Ultrasonik Püskürtme Biriktirme Kullanılarak Kaplanan Yüksek Performanslı FTO ve ITO İnce Filmlerin Üretimi ve Tanımlanması

K. Çağatay İçli, Macit Özenbaş

Middle East Technical University

Turkey

- 17.35
17.55
- Growth of Organic Semiconductor CuPc Nanostructured Thin Films via CSP Technique**
Organik Yarı İletken CuPC Nanoyapılı Filmlerin KSP Yöntemi ile Büyütülmesi

Dilek Demiroğlu¹, Beyhan Tatar², Mustafa Ürgen¹

¹Namık Kemal University, ²Istanbul Technical University

Turkey

Electrolytic and Electroless Coatings / Elektrolitik ve Akımsız Kaplamalar

Session Chairman / Oturum Başkanı:

LASZLO PETER

- 09.30
10.05
- Pulse Electrodeposition of Ni- Based Composite Coatings and Nanostructures: Structure, Mechanical and Photoinduced Properties**

Nikel Esaslı Kompozit ve Nanoyapılı Kaplamaların Darbeli Elektrolitik Yöntemle Biriktirilmesi: Yapısal, Mekanik ve Foto Uyarılma Özellikleri

Evangelia (Litsa) Pavlatou

National Technical University of Athens

Greece

(Invited)

- 10.05
10.25
- Statistical Studies of Zn-Ni Alloy Coatings using Non-Cyanide Alkaline Baths Containing Polyethyleneimine Complexing Agents**

Polietilenimin Kompleks Yapıcıları İçeren Siyanürsüz Alkali Banyolar ile Kaplanan Zn-Ni alaşımlarının İstatistiksel Analizi

Ramazan Katırcı¹, Uğur Yılmaz²

¹ASR Electrochemical Energy Sys. Co., ²UK Ugur Metal Coating Co.

Turkey

- 10.25
10.45
- The Electrodeposition of Silver and Gold from Cyanide Electrolytes**
Siyanürlü Elektrolitlerden Gümüş ve Altının Elektrolitik Kaplanması

Kübra Yumakgil, Servet Timur

Istanbul Technical University

Turkey

Electrolytic and Electroless Coatings / Elektrolitik ve Akımsız Kaplamalar

Session Chairman / Oturum Başkanı:

EVANGELIA PAVLATOU

11.00 - 11.35 Composition Depth Profile of Electrodeposited Alloy and Multilayer Films

Elektrolitik Alaşım ve Çok Katlı Kaplamaların
Bileşim –Derinlik Profili

László Péter, Kálmán Vad, Attila Csik, Katalin Neuróhr, Imre Bakonyi, György Molnár

Wigner Research Centre for Physics, Hungarian Academy of Sciences
Hungary
(Invited)

11.35 - 11.55 Industrialisation of Surface Treatment with Electrodeposition Processes from Ionic Liquids

İyonik Sıvılardan Elektrobiriktirme Prosesinin
Endüstriyelştirilmesi

Philippe Verpoort, Ansbert De Cleene, Eva Diaz Gonzales

Krista Van Den Bergh, Johan Verlee, Joost De Strycker, Rob Van De Coevering
OCAS N.V.
Belgium

11.55 - 12.15 High Temperature Oxidation Behavior of Electroless Ni-P, Ni-B and Ni-W-B Coatings

Akımsız Ni-P, Ni-B ve Ni-W-B Kaplamaların Yüksek Sıcaklık
Oksidasyon Davranışı

Sinem Eraslan, Mustafa Ürgen

Istanbul Technical University
Turkey

Surface Modifications for Tuning Wetting Properties & Sol-Gel Coatings Yüzey Gerilimini Değiştirmeye Yönelik Yüzey İşlemleri ve Sol-Jel Kaplamalar

Session Chairman / Oturum Başkanı:

MUSTAFA ÜRGEN

13.30 - 14.05 Controlled Wetting of Polymer Surfaces: From Superhydrophilic to Superhydrophobic

Polimer Yüzeylerin İslanma Özelliklerinin Kontrolü:
Süperhidrofilik Yüzeylerden Süperhidrofobik Yüzeylere

İskender Yılğör

Surface Science and Technology Center (KUYTAM), Koç University
Turkey
(Invited)

14.05 - 14.25 Surface Treatment with Atmospheric Pressure Cold Plasma Systems

Atmosferik Basınç Soğuk Plazma Sistemleri Kullanılarak
Yapılan Yüzey İşlemleri

Erhan Acar, Özgür Birer

Koç University
Turkey

14.25 - 15.00 Sol-Gel Derived Functional Metal Oxide Thin Films on Glass

Sol-Jel Yöntemi ile Cam Üzerine İşlevsel Metal Oksit İnce
Filmlerin Kaplanması

Caner Durucan

Middle East Technical University
Turkey
(Invited)

15.00 - 15.20 The Effect of Withdrawal Speed on the Characteristic Properties of CIGS Thin Films Derived by Sol-Gel Process

Sol-Jel ile Üretilen CIGS İnce Filmlerin Karakteristik
Özelliklerine Çekme Hızının Etkisi

Utku C. Matur^{1,2}, Nilgün Baydoğan¹

¹Energy Institute, Istanbul Technical University, ²Gedik University
Turkey

27 Haziran/June 2014

SALON / HALL 1

Anodik Oksidasyon / Anodic Oxidation

Session Chairman / Oturum Başkanı:

MESUT AKKAYA

15.35 - 15.55 **Micro Arc Oxidation of AZ91 Mg Alloy in Silicate Electrolyte – Effect of Electrical Parameters**
AZ91 Magnezyum Alaşımının Silikatlı Elektrolitlerde Mikro Ark Oksidasyonuna Etki Eden Elektriksel Parametreler

Murat Baydoğan, Deniz Kılıç, Faiz Muhaffel
Istanbul Technical University
Turkey

15.55 - 16.15 **The Effect of Acid Etch Pretreatment on Aluminum Extrusion Streaks**
Asit Dağlama Ön İşleminin Alüminyum Yüzeyindeki Ekstrüzyon Kusurları Üzerindeki Etkisi

Can Akyıl¹, Sümbüle Sağdıç², Mustafa Ürgen³, Özgül Keleş³
¹Politeknik Metal San. ve Tic. A.Ş., ²ASAŞ Alüminum A.Ş.,
³Istanbul Technical University
Turkey

16.15 - 16.35 **Structural and Dissolution Characteristics of MAO Produced Films On Ti6Al4V Alloy**
Ti6Al4V Alaşımı üzerinde MAO ile Oluşturulan Filmlerin Yapısal ve Çözünme Davranışları

Güler Ungan, Ahmet Çakır
Dokuz Eylül University
Turkey

ISTS²⁰¹⁴

2. ULUSLARARASI YÜZEY İŞLEMLERİ SEMPOZYUMU
2nd INTERNATIONAL SURFACE TREATMENT SYMPOSIUM

POSTER SUNUMLARI / POSTER SESSION

27 Haziran/June 2014

12:00
13:30

Poster Oturumu

Posterlerin Sempozyumun ilk gününden itibaren posterler için ayrılan bölgedeki panolara asılmaları ve poster oturumu sırasında poster sahiplerinin posterlerinin başında olmaları beklenmektedir.

Poster Session

Poster are expected to be hanged on the first day of the Symposium on the panes in the region allocated to posters. During the poster session the presenter of the posters should be present by their posters.

PS-01 Improvement of the ZnSe Substrate Surfaces with Plasma Cleaning

ZnSe Altta Yüzeylerinin Plazma Temizliği Yoluyla İyileştirilmesi

Hacı Batman¹, Gülgün Hamide Aydoğdu¹, Alp Eren Sinan Özhan^{1,2}

¹Aselsan A.Ş. MGEO Grubu, ²Atılım Üniversitesi
Turkey

PS-02 The Investigation of Microstructure and Surface Roughness of Oxide Layers Coated on Surface of the Engine Piston (AlSi12CuNi) by Using Plasma Spray Method

Plazma Püskürtme ile Oksit Kaplanan Motor Pistonlarının Mikroyapı ve Yüzey Özelliklerinin İncelenmesi

Erdinç Vural¹, Serkan Özel¹, Bülent Özdayan²

¹Bitlis Eren University, ²Karabük University
Turkey

PS-03 Effect of Zn Substitution to Corrosion Behaviour of CaP Coatings on Ti6Al4V Substrates

Ti6AlV Alaşımı Üzerine Biriktirilen CaP Kaplaması İçerisine Zn Katkısının Korozyon Özellikleri Üzerindeki Etkisi

Bensu Bakın¹, Utku Tırıc, Tülay Koç, Işıl Birlik, Funda Ak Azem

Dokuz Eylül University
Turkey

PS-04 Characterization of the Coating Applied Using Arc Spray Alloying Method on AISI 4140 Steel Substrate

Ark Püskürtme Alaşımlama Yöntemi ile 4140 Çeliğinin Üzerine Uygulanan Kaplamaların Karakterizasyonu

Özgür Çınar¹, İnan Geçmen², Burcu Nilgün Çetiner¹

¹University of Marmara,

²İmkosan Metal, İmalat ve Röntgen Kontrol San. ve Tic. Ltd. Şti.

Turkey

PS-05 Characterization of Duplex Thermal Spray Coating Application on AISI4140 Steel Substrate

Dupleks Termal Püskürtme Yöntemi ile 4140 Çeliği Üzerine Uygulanan Kaplamaların Karakterizasyonu

Özgür Çınar¹, İnan Geçmen², Burcu Nilgün Çetiner¹

¹University of Marmara,

²İmkosan Metal, İmalat ve Röntgen Kontrol San. ve Tic. Ltd. Şti.

Turkey

PS-06 Electrochemical Etching of An Fe-Ni-Co Alloy

Fe-Ni-Co Alaşımının Elektrokimyasal Dağlanması

Yasemin Dündar¹, Gökhan Demirci², Metehan Erdoğan³

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PS-07 Characterization of Nano Particle Reinforced PTFE Coatings

Nano Parçacık Takviyeli PTFE Kaplamaların Karakterizasyonu

Utku Bozan, Ekrem Altuncu, Fatih Üstel

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Turkey

PS-08 Influence of SiC Nanopowders on the Mechanical Properties and Microstructure of IF Steel Welded via Friction Stir Spot Welding

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Manyetik Alanda Sıçratma Parametrelerinin Demir ve Alüminyum Kaplamaların Kalınlığı Üzerindeki Etkisi

Furkan Soysal, Berrak Erkmen, Burhanettin Çiçek

Ankara University

Turkey

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Yavuz Gökçe, Emine Yağmur, Zeki Aktaş

Ankara University

Turkey

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Beyza Yeşilbağ^{1,2}, Koray Turbalıoğlu¹, Nuri Solak²
¹Teknik Alüminyum, ²Istanbul Technical University
Turkey
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¹Istanbul Technical University, ²Arçelik A.Ş. R&D Center
Turkey
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Istanbul Technical University
Turkey
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Turkey
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Istanbul Technical University
Turkey
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Atatürk University
Turkey
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Çınar Laloğlu, İhsan Efeoğlu, Yaşar Totik, Ersin Arslan, K. Vefa Ezirmik, Ebru Emine Şüküroğlu, Ayşenur Keleş
Atatürk University
Turkey
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Plazma Elektrolitik Oksidasyon Yöntemiyle Kaplanmış Magnezyum Alaşımlarının Adezyon Özelliklerinin Araştırılması
Ebru Emine Şüküroğlu, Ersin Arslan, Yaşar Totik, İhsan Efeoğlu, Süleyman Şüküroğlu
Atatürk University
Turkey
- PS-20** Novel Method for the Production of Self-Standing Ag Nanowires
Kendi Kendini Taşıyabilen Gümüş Nanotellerin Üretimi için Yeni Bir Yöntem
B. Deniz Polat, Özgül Keleş, Mustafa Ürgen
Istanbul Technical University
Turkey

PS-21 Production of Al-Cu-Fe Quasicrystalline Layers on Steel by Cathodic Arc- Electron Metal Ion Treatment

Çelik Yüzeyler Üzerinde Katodik Ark-Elektron-Metal İyon İşlemi ile Al-Cu-Fe Esaslı Kuasikristal Katmanların Üretimi

Seda Arpacı, Erkan Kaçar, Mustafa Ürgen

Istanbul Technical University
Turkey

PS-22 Investigation of the Potential of TiN Coatings for Combating Wear Problems in Olive Oil Extraction

Zeytinyağı Üretim Süreçlerinde Aşınma Problemlerinin Çözümüne Yönelik Olarak TiN Kaplamaların Potansiyelinin Araştırılması

Amir Bahri¹, Sinan Akkaya², Bahadır Yıldız², Khaled Elleuch¹, Musfata Ürgen²

¹ENIS, ²Istanbul Technical University
Tunisia, Turkey

PS-23 Fabrication of Superhydrophobic PDMS-Silica Nanocomposite Coatings

Süperhidrofobik PDMS-Silika Nanokompozit Kaplamaların Üretimi

Gülen Büyükolca, Ayfer Saraç, Sennur Deniz

Yıldız Technical University
Turkey

PS-24 Modified Silica Coatings for Glass Surfaces by Single Step Sol-Gel Process

Cam Yüzeylerin Tek Adım Sol Jel İşlemi ile Değiştirilmiş Silika Kaplanması

Sennur Deniz, Gülen Büyükolca

Yıldız Technical University
Turkey

ISTS²⁰¹⁴

2. ULUSLARARASI YÜZEY İŞLEMLERİ SEMPOZYUMU
2nd INTERNATIONAL SURFACE TREATMENT SYMPOSIUM

TAŞKIŞLA KAMPUS
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ISTS 2014

İSTANBUL TEKNİK ÜNİVERSİTESİ TAŞKİŞLA KAMPÜSÜ

İstanbul Teknik Üniversitesi Taşkışla Kampüsü

İngiliz mimar Williams James Smith ve yardımcısı Osmanlı kalfa İstefan tarafından 1846 ve 1852 arasında, Mek-teb-i Tıbbiye-i Şahane (Askeri Tıbbiye) için hastane olarak yapıldı. Kırım Savaşı (1853-56) sırasında Osmanlıların müttefiki Fransızların yaralıları burada tedavi edildi. Savaşın sonra uzun süre boş kaldığı için harap olan yapı 1860'ta onarıldıktan sonra kışla olarak kullanılmaya başladı.

31 Mart Olayı sırasında içinde kalan Ava Taburu askerleriyle Hareket Ordusu birlikleri arasındaki çarpışmalara sahne oldu. Cumhuriyet'ten sonra Maarif Vekâleti'ne verildi; 1943-50 arasında büyük bir onarımdan geçirilip yeniden düzenlenen yapıya İTÜ Rektörlüğü ile Mimarlık ve İnşaat fakülteleri yerleştirildi (1950).

1983'te Gayrimenkul Eski Eserler ve Anıtlar Yüksek Kurulu tarafından aynen korunması gerekli 1. sınıf tarihsel anıt olduğu kararı alındı. Doğu ve Batının geleneksel boyutlarını harmanlayan İTÜ Taşkışla büyüğü şehir İstanbul'un ruhunu ve kültürünü yansıtır. Modern İstanbul'un merkezi, Taksim Meydanı ve İstiklal Caddesi'ne ve otellere çok yakındır.



İTÜ Taşkışla, Ayasofya, Sultanahmet Camii ve Topkapı Sarayını da içeren eski şehrin tarihi sınırlarına çok yakındır.

İTÜ Taşkışla'ya Uzaklıklar

Atatürk Hava Limanı – 20 km
Sabiha Gökçen Hava Limanı – 40 km
Boğaziçi – 1 km
Taksim Meydanı - 1 km
Dolmabahçe Sarayı - 1 km
Pera Müzesi - 1 km
İstiklal Caddesi – 1 km
Galata Kulesi - 2 km
İstanbul Arkeoloji Müzesi - 2 km
İstanbul Modern Müzesi - 3 km
Beyoğlu – 1.5 km
Kapalı Çarşı - 4 km
Sultanahmet Camii - 5 km
Aya Sofya - 5 km
Topkapı Sarayı - 6 km
Kanyon Alışveriş Merkezi - 8 km
Akmerkez Alışveriş Merkezi - 10 km
Sabancı Müzesi - 20 km



İstanbul

Coğrafi Konum ve Stratejik Önem

Denizler ve karalar dantel gibi işlenmiş İstanbul coğrafyasını 4 bölüme ayırmıştır. Haliç'in kıyılarında Eski İstanbul ve Galata, Boğazın iki yakasında, eskiden her biri ayrı köyler olan, artık birleşmiş yerleşim alanları yer alırlar. Dünyanın en küçük denizi olan Marmara Denizi kıyıları boyunca uzanan meskun yerler, şehrin ulaştığı boyutların büyüklüğünü gösterir. Eski Şehir 22 km surların çevrelediği üçgen bir yarımada'nın 7 tepesi üzerine yayılmıştır.



Mısır Çarşısı



Rumeli Hisarı



İstanbul Boğazi



Kız Kulesi

Eski Dünyanın merkezinde yer alan İstanbul, tarihi abideleri ve şahane tabii manzaraları ile çok önemli bir megapoldür. Asya ile Avrupa Kıtaları'nın dar bir deniz geçidi ile ayrıldığı yerde, iki kıta üzerinde kurulu ve dünya üzerinde içinden deniz geçen tek şehirdir. 2500 yılı aşan bir tarihe sahip olan İstanbul, deniz ve karaların kucaklaştığı bu stratejik bölgede kuruluşunu takiben önemli bir ticaret merkezi olmuştur.

Tarihi İstanbul şehri üç tarafını Marmara Denizi, Boğaziçi ve Haliç'in sardığı bir yarım ada üzerinde yer alır. Ana yolların denize ulaştığı kavşak noktasında yer alması, kolay savunulur bir yarım ada, ideal iklim, zengin ve cömert tabiat, stratejik Boğaziçi'nin kontrolü gibi özellikler ve coğrafi konumunun dünyanın merkezinde bulunması İstanbul'un kismetidir. İstanbul, iki kıtanın birleştiği noktada yer alması, sıcak iklimlere ve okyanuslara açılan bir kapı olması, tarihi İpek yolu'nun Avrupa'ya uzanan kapısı olması gibi sebeplerle tarih boyunca çok önemli bir stratejik öneme sahip olmuştur.

Şehir 3 dünya imparatorluğuna, yani Roma, Bizans ve Osmanlı Türklerine başkent olmuş, 1600 yılı aşan bir süre boyunca 120 den fazla imparator ve sultan burada hüküm sürmüştür. İstanbul, dünyada bu özelliklere sahip tek şehirdir. Gelişim sürecinde surlar her defasında daha batıya inşa edilerek şehir 4 defa genişletilmişti. 5.yy Roma devri surları ile çevrili, 7 tepe üzerine kurulu İstanbul vardı.

Ama bugünkü İstanbul'un temelleri M.Ö. 7. yüzyılda atılmıştır. M.S. 4. yüzyılda İmparator Constantin tarafından yeniden inşa edilip, başkent yapılmış; o günden sonra da yaklaşık 16 asır boyunca Roma, Bizans ve Osmanlı dönemlerinde başkentlik sıfatını sürdürmüştür. Aynı zamanda, İmparator Constantis ile birlikte Hristiyanlık'ın merkezlerinden biri olan İstanbul, 1453'te Osmanlılar tarafından fethedildikten sonra İslam dininin en önemli şehirlerinden biri sayılmıştır.



Ortaköy Camii

İmparatorluklar başkenti olduğu sıralarda, devlet ile birlikte dinlere de idari merkez olmuş, Doğu Hristiyanlığı Patrikliği kurulduğu zamanlardan günümüze kadar bu şehirde üslenmiş, Hristiyan dünyasının en büyük ilk kilise ve manastırları buradaki pagan mabetlerinin üzerinde yükselmisti.

İstanbul'un fethini takiben yüz yıl gibi bir sürede sanat eserleri camiler, saraylar, okul, hamam, ve diğer tesisler şehri donatıp İslam karakterine kavuşturmuş, harap halde mevcut kiliselerin bazıları da tamir ve tadil edilerek camiye çevrilmişlerdi.

İklim

İstanbul'da Haziran ayı ortalama sıcaklığı : 21-26 OC / 70-79 OF

Kültür & Sanat

İstanbul... Üç büyük medeniyetle beraber sevgi ve hoşgörü kültürüne de başkentlik yapan şehir... İstanbul... Dinlerin, dillerin ve ırkların yüzyıllardır aynı sokaklarda, bitişik nizamlı evlerde barış içinde yaşadığı diyalog şehri...

Sadece İstanbul'daki camilerin, kiliselerin, havraların, müzelerin, çeşmelerin, külliyelerin ve eski binaların sanatla yoğrulmuş motiflerini ele alsak bile, şehrin sanatsal mimari ile hat, ebru, oymacılık, boyama ve işleme gibi diğer tarihi sanatlarda zirvede olduğunu görürüz.

Tiyatro, Sinema, Konser, Sergi, Söyleşi, Şiir Dinletisi gibi etkinlikler ve dünyaca ünlü sanatçıların eserlerinin yer aldığı Sanat Galerileri, İstanbul'da sanatın yerini ve önemini göstermesi açısından ayrıca önem taşır.

In The Taşkişla Campus of Istanbul Technical University

The Taşkişla Campus of Istanbul Technical University (ITU)

This immense building has been constructed all in structural masonry between 1848 and 1853 as a military medicine academy for the Ottoman Army under the rule of Sultan Abdülmecid. However during construction, the plans drawn by W. James Smith were modified and the building's function was changed to the military barracks in 1849. This modification was part of a construction plan that included several arsenals and military barracks that were to ensure the safety of the imperial domain around the Dolmabahçe Palace.

The building sustained some damage in the earthquake of 10 July 1894, and was restored by architect Raimondo D'Aronco. In 1909, the rebellious troops were based in the building, thus it has become the scene of long fighting. Some results are visible in the façade, as few of the gun shells are still embedded in the stone columns of the entrance. In 1944 the building was handed over to the I.T.U. and restored by architects Paul Bonatz and Emin Onat. Teaching started in the building in 1950, with the civil engineering and architecture faculties.



In 1983 it has been classified as a first degree historical monument. In 1996 the World Habitat Congress was organized partly in the Faculty. Ever since, it is a natural part of the congress valley of Istanbul. The plan scheme of Taskisla is classical: four equal sides marked with four corner edifices and a vast courtyard. The west façade is crowned with a monumental entrance. (Prof.Dr. Afife Batur)

Blending the traditional dimensions of East and West, İTÜ Taşkişla reflects the spirit and culture of the magical city of Istanbul. Located in the new centre of modern Istanbul, next to Taksim Square and Istiklal Street and hotels. İTÜ Taşkişla is just minutes away from the historic landmarks of the Old City, including Hagia Sophia, the Blue Mosque and Topkapi Palace.

Distances to İTÜ Taşkişla

Atatürk International Airport – 20 km
Sabiha Gökçen International Airport – 40 km
Bosphorus - 1 km
Taksim Square - 1 km
Dolmabahçe Palace - 1km
The Pera Museum - 1 km
Istiklal Pedestrian Street – 1 km
Galata Tower - 2 km
Archeological Museum - 2 km
Istanbul Modern Art Museum - 3 km
Beyoğlu district – 1.5 km
Grand Bazaar - 4 km
Blue Mosque - 5 km
Hagia Sophia - 5 km
Topkapi Palace - 6 km
Kanyon Shopping Mall - 8 km
Akmerkez Shopping Mall - 10 km
Sabancı Museum - 20 km



Istanbul

Geographic Location And Strategic Importance

The seas and the lands have divided the lacework geography of Istanbul into four regions. Old Istanbul City and Galata in the shores of Golden Horn (Haliç) and previously different village now united residential districts are located along the straits of Bosphorus. As the smallest sea of the world, inhabited places along the shores of Marmara Sea shows the magnitude that the city has reached. The Old City is spread over the seven hills of the triangular peninsular surrounded by 22 km of city walls.

Having been in the center of Old World, Istanbul is an important megapole with its historical monuments and wonderful natural scenery. Established where Asian and European Continents were split with a narrow strait, built on two continents, it is the only city that the sea goes through.

With its history of over 2500 years, Istanbul had become an important commerce center because of its establishment in this strategic location where land meets sea. Historical city of Istanbul is located on a peninsular, surrounded by Marmara Sea, Bosphorus Straits and Golden Horn.



Spice Bazaar



Rumeli Fortress



The Bosphorus



Maiden's Tower

Being in the junction where all the roads reach sea, easily defendable peninsular, ideal climate, very rich and generous nature, strategic control of the Straits and strategic location of being in the center of world are all fortune of Istanbul. Istanbul has been of much significance throughout history because of being in the joining point of two continents, being the gateway to the hot climates and oceans and being outer reach of Silk Road extending to Europe.



Ortaköy Mosque

The city had become the capital city of three great empires, namely Roman, Byzantine and Ottoman Turks; and, was ruled by more than 120 emperor and sultans over 1600 years. Istanbul is the only city that has all these features. During its development, the city underwent expansion for four times, which all of them were westward. In the 5th century, there was an Istanbul which was surrounded by city walls of Romans and built over 7 hills. But, the foundation of today's Istanbul was grounded in 7th century B.C. Rebuilt by Emperor Constantine in 4th century A.D., the city had been transformed to capital city; since then, it had preserved that title for almost 16 centuries by hosting the capital cities of Rome, Byzantine and Ottomans. Being one of the centers of Christianity starting with Emperor Constantine, Istanbul was considered as one of the most important cities of Islamic World, after its conquest in 1453 by Ottomans.

During these periods of Empires' reign, it was also the administrative center of the religions, undertaking the Patriarchy of Eastern Christianity till today, rising the first biggest church and monasteries of Christian World on top of pagan temples. Istanbul had assumed its Islamic character with decoration of artifacts, mosques, palaces, schools, baths and other facilities; and current ruins of churches had been repaired, restored and converted to mosques in almost a century after its conquest.

Climate

Weather average for Istanbul in June : 21-26 OC / 70-79 OF

Art & Culture

Istanbul is the city which has held the title of capital city for three great civilizations with a deep culture of love and tolerance. Istanbul... The city of dialogue where religions, languages, and races have lived side by side in the same streets in peace and harmony.

Even if we deal with only the artistic contents of the structure motifs including the mosques, churches, synagogues, museums, fountains, complexes and old buildings, we realize that the city remains at the top of the list in the field of artistic architecture with its Islamic calligraphy, marbling art, carving, colouring, and craftsmanship.

On the other hand, activities, such as theaters, cinemas, live concerts, exhibitions, communion, poetic concerts, art galleries, in which works of internationally famous artists are exhibited, show the meaning and importance of art in Istanbul.

2. ULUSLARARASI YÜZEY İŞLEMLERİ SEMPOZYUMU

2nd INTERNATIONAL SURFACE TREATMENT SYMPOSIUM

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