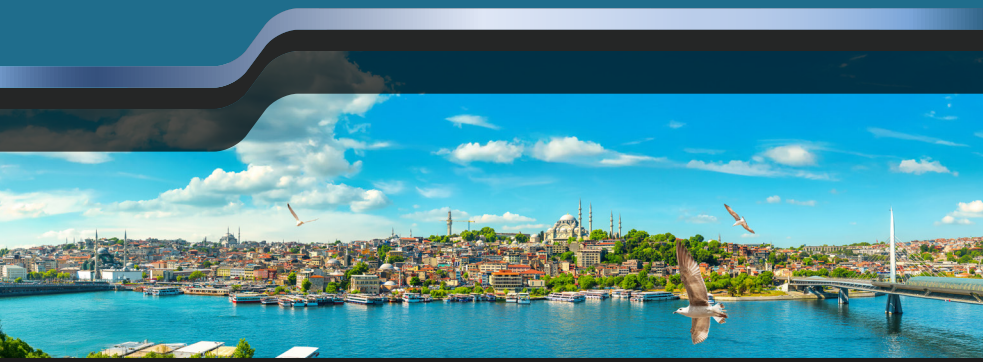

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3rd Bosphorus International Heat Treatment Symposium
3. Boğaziçi Uluslararası Isıl İşlem Sempozyumu

16-17 April/Nisan 2026
Sabancı Üniversitesi Gösteri Merkezi, İstanbul

HOT IDEAS

SYMPOSIUM PROGRAMME
SEMPOZYUM PROGRAMI

MISAD | METEM

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HEAT TREATMENT INDUSTRIALISTS ASSOCIATION (MISAD)

Founded in 2008, the Metal Heat Treatment Industrialists Association (MISAD) is today a respected non-governmental organization that brings together the leading and strong companies of the heat treatment sector under a single umbrella. MISAD unites heat treatment industrialists with companies that receive heat treatment services, shaping the future of the profession and the sector through its activities, strategic collaborations, and industry-focused initiatives.

Representing all industrialists operating in the heat treatment sector as well as those providing services to it, MISAD strengthens cooperation, solidarity, and knowledge sharing among its members on professional, technical, commercial, legal, cultural, and administrative matters. In addition to enhancing coordination among its members, the association conducts studies aimed at identifying and solving the problems of the heat treatment sector; it serves as an effective communication bridge with industry chambers, public institutions, non-governmental organizations, and universities, with ongoing collaborations particularly in the defense industry.

Currently operating with 85 national and international member companies, MISAD supports sectoral development and solidarity by organizing factory visits, overseas technical tours, training programs, conferences, visits to public institutions, and social events for its members.

Especially through its close cooperation with the Istanbul Chamber of Industry and the Ankara Chamber of Industry, the association undertakes joint initiatives to address sectoral challenges and contributes to policy-making processes.

Acting with the mission of being the common voice of the sector, the Metal Heat Treatment Industrialists Association continues to contribute to the development of a reliable, innovative, and competitive industrial structure.

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METAL ISIL İŞLEM SANAYİCİLERİ DERNEĞİ (MISAD)

2008 yılında kurulan Metal Isıl İşlem Sanayicileri Derneği (MISAD), bugün ısıl işlem sektörünün öncü ve güçlü firmalarını aynı çatı altında buluşturan saygın bir sivil toplum kuruluşudur. Isıl işlem sanayicileri ile ısıl işlem hizmeti alan firmaları bir araya getiren MISAD, gerçekleştirdiği faaliyetler, stratejik iş birlikleri ve sektörel çalışmalarıyla mesleğin ve sektörün geleceğine yön vermektedir.

Isıl işlem sektöründe faaliyet gösteren ve sektöre hizmet sağlayan tüm sanayicileri temsil eden MISAD; mesleki, teknik, ticari, hukuki, kültürel ve idari konularda üyeleri arasında iş birliği, dayanışma ve bilgi paylaşımını güçlendirmektedir. Dernek, üyeleri arasında koordinasyonu artırmanın yanı sıra, ısıl işlem sektörünün sorunlarının tespiti ve çözümüne yönelik çalışmalar yürütmekte; sanayi odaları, kamu kurumları, sivil toplum kuruluşları ve üniversiteler ile etkin bir iletişim köprüsü görevi üstlenmektedir; özellikle savunma sanayi ile iş birliklerimiz devam etmektedir.

Bugün 85 ulusal ve uluslararası üye firması ile faaliyetlerini sürdüren MISAD, üyelerine yönelik sektörel fabrika gezileri, yurt dışı teknik geziler, eğitimler, konferanslar, kamu kurumları ziyaretleri ve sosyal organizasyonlar düzenleyerek sektörel gelişimi ve dayanışmayı desteklemektedir. Özellikle İstanbul Sanayi Odası ve Ankara Sanayi Odası ile kurduğu yakın iş birliği sayesinde, sektörün sorunlarının çözümüne yönelik ortak çalışmalar gerçekleştirmekte ve politika geliştirme süreçlerine katkı sunmaktadır.

Sektörün ortak sesi olma misyonuyla hareket eden Metal Isıl İşlem Sanayicileri Derneği, güvenilir, yenilikçi ve rekabetçi bir sanayi yapısının oluşmasına katkı sağlamaya devam etmektedir.

METEM
UCTEA CHAMBER of METALLURGICAL and MATERIALS ENGINEERS'S TRAINING CENTER

UCTEA CHAMBER OF METALLURGICAL AND MATERIAL ENGINEERS' TRAINING CENTER

METEM (UCTEA Chamber of Metallurgical and Materials Engineers' Training Center), works to bring together all stakeholders of the sector and to contribute to its development and transformation. Bringing together the qualified expertise of industry, academia, and fellow professionals, METEM has now completed its 10th year;"

- Aims to be integrated to the world, with national and international symposiums, congresses, conferences, seminars,
- Provides highly qualified trainings and consultancy with scientific, technical and practical approach,
- Support sectoral and social developments with own projects,
- Acts as an powerful and active center by providing information, new aspects, relationships, and cooperation to create new opportunities.

METEM organizes many activities in order to reach the increasing knowledge accumulation, to share the experiences and to evaluate them in production processes.

Many congress and symposium organizations such as the ALUS International Aluminum Symposium, BHTS Bosphorus International Heat Treatment Symposium, EFRS International Iron and Steel Symposium, ESWS Employee Safety and Wellbeing Symposium in Metallurgy Sector, IMMC International Metallurgy and Materials Congress and ISRS International Steel Rolling Symposium, carries out.

In addition, it provides in-house training and consultancy services open to general participation. engineers, scientists, researchers and production managers; in order to review and discuss new challenges, recent developments and issues.

For that purpose, by bringing together highly qualified and experienced experts from the university and industry, we are able to; technical, managerial and engineering knowledge to refresh, making business development related to the sector's problems, occupational health and safety in problem solving, quality and to increase awareness and thus aim to provide value-added training and events planning, engages.

METEM also demonstrates "researches of Turkish metallurgy industry and universities" to the world, by organizing "international congresses, conferences and symposiums".

METEM is at the service of our sector with its trust, diligence, beliefs and values for improvement.

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METEM
TMMOB METALURJİ VE MALZEME MÜHENDİSLERİ ODASI EĞİTİM MERKEZİ

TMMOB METALURJİ VE MALZEME MÜHENDİSLERİ ODASI EĞİTİM MERKEZİ

METEM (TMMOB Metalurji ve Malzeme Mühendisleri Odası Eğitim Merkezi) tüm sektörü bir araya getirerek sektörün gelişimi ve dönüşümü için çalışmaktadır. Sanayi, üniversite ve meslektaşlarının nitelikli birikimlerini birleştiren ve 10. yaşını geride bırakan METEM;

- Geliştirdiği ve planladığı tüm ulusal ve uluslararası sempozyum, kongre, konferans, seminer gibi organizasyonlarıyla dünyaya entegre olabilmek üzere çalışan,
- Bilimsel, teknik ve uygulamaya yönelik nitelikli eğitim ve danışmanlık hizmetleri veren,
- Sektörel ve toplumsal gelişimi planladığı projelerle destekleyen,
- Bilgi, yeni açılımlar, ilişkiler, fırsatlar yaratma konusunda işbirlikleri sağlama üzerinden hareket eden güçlü bir etkinlik merkezidir.

Artan bilgi birikimine hızla ulaşmak, edinilen deneyimleri paylaşmak ve bunları üretim süreçlerinde değerlendirmek üzere, METEM bünyesinde birçok etkinlik düzenlenmektedir.

ALUS Uluslararası Alüminyum Sempozyumu, BHTS Boğaziçi Uluslararası Isıl İşlem Sempozyumu, EFRS Uluslararası Demir Çelik Sempozyumu, ESWS Metalurji Sektöründe Çalışan Güvenliği ve Esenliği Sempozyumu, IMMC Uluslararası Metalurji ve Malzeme Kongresi, ISRS Uluslararası Hadde Sempozyumu gibi birçok kongre ve sempozyum organizasyonlarını gerçekleştirmektedir.

Bunun yanı sıra genel katılıma açık, şirket içi eğitimler ve danışmanlık hizmetleri vermektedir. Mühendislere, bilim adamlarına, araştırmacılara ve üretim yöneticilerine; alanlarında yeni zorlukları, son gelişmeleri ve ortaya çıkan konuları gözden geçirip tartışabilecekleri ortamlar hazırlamaktadır.

Yine bu amaçla, üniversite ve sanayide yer alan, yüksek bilgi ve deneyime sahip uzmanları bir araya getirerek, sektöre ve sektör çalışanlarına yönelik; teknik, yönetsel ve mühendislik bilgilerini tazelemeyi, sektörün sorunlarına ilişkin iş geliştirmeler yapmayı, çalışan sağlığı ve güvenliğinde sorun çözmeyi, nitelik ve farkındalık kazandırmayı ve böylece katma değer sağlamayı hedefleyen, eğitimler ve etkinlikler planlayıp yürütmektedir.

METEM gerçekleştirdiği uluslararası etkinlikler ile Türkiye metalurji sektörünün ve akademik araştırmalarının dünyaya tanıtılmasına katkı sağlamaktadır.

METEM, güven, çalışkanlık, iyiye ve değişime olan inanç ve değerleriyle sektörümüzün hizmetindedir.

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YÜRÜTME KURULU

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MISAD

Murat ÇELİK
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INVITED SPEAKERS

DAVETLİ KONUŞMACILAR

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Dr.-Ing. Alexander GRAMLICH

RWTH Aachen University
Germany

Dr.-Ing. Alexander Gramlich is working as a research fellow and chief engineer at the Steel Institute (IEHK) at RWTH Aachen University. His doctorate degree was obtained on the development of new high performance forging steels (in 2022), which have been recently commercialized. For his achievements for the German forging industry as well as for the Steel Institute, he was awarded with the Otto Kienzle Award in 2021 and the VAEH Award in 2025, respectively. From 2021 he is heading the research group for sustainable material design, which focusses on the improvement of the environmental impact and the circularity of metallic materials along the process chain. In 2023 he was appointed co-speaker of the technical committee for circular materials of the German Materials Society (DGM), as well as guest lecturer at the University of Science and Technology Beijing. His latest research focusses on the transformation of classical alloy design into a holistic process. His teaching covers fundamental aspects of physical metallurgy of steels as well as interdisciplinary topics including circularity and environmental impact of construction metals.

ADJUSTING HEAT TREATMENTS OF RECYCLING STEELS – UNDERSTANDING THE EFFECTS OF HIGHER TRAMP ELEMENT CONCENTRATIONS

The global steel industry is facing disruptive change due to the increasing interest in green steel products. Growing demand for recycled steels, as well as for steels produced via DRI, especially in the European market, will affect future steel products, as higher recycling rates will result in increasing tramp element concentrations across a wide range of steel grades.

The observable effects of tramp elements cover a broad range, including reduced hot deformability, influences on phase stability, as well as changes in the final mechanical properties. In particular, complex heat treatments used to produce advanced steel grades are affected by tramp element concentrations, as phase transformation temperatures are altered while nucleation and growth kinetics are simultaneously influenced.

This study presents the effects of elevated tramp element concentrations on a variety of industrially produced steel grades, namely DD11, DC04, S355, and 42CrMo4. These steels are compared with reference steel grades produced via primary production and therefore exhibiting lower tramp element contents. Alterations along the process chain, including different heat treatments such as annealing or nitriding, are discussed in order to recommend a set of actions for adjusting heat treatment processes to higher tramp element concentrations.

Dr. Stefan HOCK

IFHTSE
Germany

Stefan Hock graduated in mechanical engineering with specialization in materials science and engineering, and finished the thesis of Dr. rer. nat. (Ph.D.) at the Max-Planck-Institute, Stuttgart, Germany, in 1988. He worked first with amorphous metals, then with sintered permanent magnets.

From 1991 he was in charge of the Corporate Materials Technology department of ZF Friedrichshafen AG, responsible for R&D projects, lab services, and the coordination of procedures and standards across the sites of that company.

He was a member of boards and committees of research institutes and technical associations and served as President of the German Heat Treatment association AWT. Now he is Secretary General of IFHTSE and takes care of communication and documentation, being the hub for members, officers, event organisers, media and the authorities.

SLIDES – A HELP OR A NUISANCE?

All too often, the presentation of a new development, process, or product, fails to reach and convince the audience, and so the success of so much R&D work is by far not what it deserves.

Among the various reasons why this can happen, we concentrate here one essential: the slides. They should help the audience

- to listen to and understand the speaker and
- not distract the audience from the speaker.

The attendees should not have to decide whether to listen to the speaker or read the slides but they should hear and see the same thing at the same time.

From my experience, I have collected many tools and tricks to create such slides, and in this talk I open my personal toolbox. My basic principle is that

I show not more than what I am talking about right now.

In the chapters

- Feeding the brain teaspoon by teaspoon - like a baby“
- „When a picture says less than a hundred words“
- „Supporting the spoken word with the written word“,

the talk covers many details on how to choose, arrange, combine, shape, label, etc, the objects which appear on the slides. And how to explain and comment them. The examples given may sometimes seem small things, but they are each a drop of lubricant to let the information slide easily into people's minds.

On the way to a good presentation, there are quite a few traps and pitfalls. The talk will show how to avoid them and do better.

Dr. -Ing. Bora ÖZKAN

IPSEN
Germany

Dr.-Ing. Bora ÖZKAN is Chief Technology Officer at Ipsen International GmbH, Germany, a global manufacturer of industrial heat treatment furnaces. Since 2019, he has held senior technical leadership roles within the company and has been serving as CTO since 2023. In this position, he leads an interdisciplinary R&D and engineering team and is responsible for product development, process engineering, modular platform strategy, and software-related innovation.

His work focuses on modular furnace architectures that reduce project-specific engineering effort and shorten realization time, hybrid heating systems (electric/gas/hydrogen-ready), and energy-flexible operating concepts. A central element of his current activities is the application of physics-based energy demand models and digital tools to improve productivity, energy transparency, and operational efficiency in industrial heat treatment.

Prior to joining Ipsen, Dr. Özkan spent nearly a decade at LOI Thermprocess, contributing to the development and realization of large-scale international heat treatment facilities.

He received his PhD in materials engineering from Ruhr University Bochum in 2010 and combines academic expertise with extensive experience in global industrial plant engineering. He is married and has three children.

CERTAINTY IN AN AGE OF UNCERTAINTY: ENERGY FLEXIBILITY, MODULARITY, AND STRATEGIC TRANSFORMATION IN HEAT TREATMENT

European industry is facing prolonged economic stagnation, volatile energy prices, tightening environmental regulation, and structural shifts toward electrification and hydrogen. For furnace manufacturers, success and growth increasingly depend on redefining the value proposition: from equipment supplier to productivity and flexibility partner.

This talk presents recent developments based on a modular platform architecture that significantly reduces project-specific engineering effort and shortens realization time. The concept integrates hybrid energy input (electric/gas/hydrogen), and long-term adaptability. Engineering-based energy demand models and digital twin approaches enable economically optimized scheduling of the heating phase. Power-demand forecasting and tariff-aware operation allow heat treatment plants to act as flexible industrial assets within modern energy systems.

A further development is AI-assisted load characterization. Using camera-based image analysis, relevant batch parameters are identified automatically. Together with measured batch weight, these parameters serve as structured input variables for a physics-based energy demand model. The AI component supports automated parameter acquisition, while the thermodynamic model remains the core of the calculation framework.

In parallel, regulatory frameworks are becoming more demanding. The presentation therefore addresses the implications of the upcoming EU Machinery Regulation as well as emission requirements under the MCP Directive (Medium Combustion Plant Directive) and their impact on burner concepts, hybrid architectures, and retrofit strategies. External drivers such as defense-related capacity requirements, hydrogen infrastructure development, and long-term energy price dynamics are also discussed.

The central question: How can furnace OEMs create measurable customer value—through modularity, energy intelligence, regulatory foresight, and productivity gains—in a stagnating industrial environment?

Prof. Dr. Reinhold SCHNEIDER

University of Applied Sciences Upper Austria
Austria

Former head of R&D at Böhler Edelstahl GmbH & Co KG (now voestalpine group)

- Prof. for Metallurgy at the Univ. of Appl. Sciences Upper Austria and Hon. Prof. at Montanuniversität Leoben.
- Chairman of the Heat Treatment Committee of ASMET (The Austrian Society for Metallurgy and Materials) since 2000.
- Member of the Executive Committee of IFHTSE since more than 15 years and President of IFHTSE in 2014 and 2015.
- Main areas of research: Electro-Slag-Remelting, Alloy development in Tool Steels and Advanced High Strength Steels, Heat Treatment of Steels (Physical Metallurgy, Nitriding, Q&T, Q&P, ...)

PARTITIONING EFFECTS DURING TEMPERING OF STEELS AND ITS CONSEQUENCES

The presentation gives and overview of the mechanisms and differences between quenching & tempering and quenching & partitioning.

Corresponding heat treatment cycles and effects of process parameters on the microstructure will be explained on the example of Medium-Mn-Steels (3rd Gen. AHSS) and martensitic stainless steels. Finally, the presentation will show the effects of increased amounts of retained austenite on materials properties such as strength, ductility and toughness.

BHTS 2026 BOSPHORUS
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3. Boğaziçi Uluslararası Isıl İşlem Sempozyumu

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KAPSAM
SCOPE

1. Mikroyapı Dönüşümleri
2. Mekanik, Fiziksel ve Tribolojik Özellikler
3. İleri Isıl İşlem Süreçleri
4. Vakum Isıl İşlem
5. Kriyojenik İşlem ve Temperleme İşlemi
6. Östemperleme ve Martemperleme
7. İndüksiyon ve Düşük Enerji Manyetik Isıtma
8. Takım Ve Kalıpların Isıl İşlem ve Yüzey Mühendisliği
9. Isıl İşlem Ekipmanları
10. Nanoteknoloji Uygulamaları
11. Matematiksel Modelleme ve Süreç Simülasyonu
12. Yeşil Enerji ve Karbon Ayak İzi
13. Termokimyasal Isıl İşlem
14. Demir Dışı Metallerin Isıl İşlemi
15. Süper Alaşımların Isıl İşlemleri
16. Dijitalizasyon – Endüstri 4.0, Yapay Zeka

1. Microstructure Transformations
2. Mechanical, Physical and Tribological Properties
3. Advanced Heat Treatment Processes
4. Vacuum Heat Treatment
5. Cryogenic Treatment and Tempering Process
6. Austempering and Martempering
7. Induction and Low Energy Magnetic Heating
8. Quenchants and Quenching Technology
9. Heat Treating Equipment
10. Nanotechnology Applications
11. Mathematical Modelling and Process Simulation
12. Green Energy and Carbon Footprint
13. Thermochemical Heat Treatment
14. Heat Treatment of Non-Ferrous Metals
15. Heat Treatment of Super Alloys
16. Digitalization – Industry 4.0, Artificial Intelligence

PROGRAM AT A GLANCE
BİR BAKIŞTA PROGRAM

16 April / Nisan, **Thursday** / Perşembe

09.00	Registration / *Kayıt*
09.55 - 10.30	Opening Statements / *Açılış Konuşmaları*
10.30 - 10.50	Plaque Ceremony / *Plaket Töreni*
11.10 - 12.10	Plenary Session / *Özel Oturum-1*
12.10 - 13.30	Lunch / *Öğle Yemeği*
13.30 - 14.30	Plenary Session / *Özel Oturum-2*
14.30-14.50	Coffee Break / *Çay-Kahve Arası*
14.50-16.10	Session 1 / *Oturum-1*
16.10-16.30	Coffee Break / *Çay-Kahve Arası*
16.30-17.50	Session 2 / *Oturum-2*
18.00	Stand Closing / *Stand Kapanışı*
19.00	Gala Dinner with Termosan Isıl İşlem *Gala Yemeği Termosan Isıl İşlem Sponsorluğunda*

17 April / Nisan, **Friday** / Cuma

10.00 - 11.00	Session 3 / *Oturum-3*
11.00- 11.20	Coffee Break / *Çay-Kahve Arası*
11.20 - 12.20	Session 4 / *Oturum-4*
12.30 - 13.30	Lunch / Öğle Yemeği
13:30 - 14.30	Session 5 / *Oturum-5*
14.30 - 14.50	Coffee Break / *Çay-Kahve Arası*
14.50 - 15.50	Session 6 / *Oturum-6*
15.50 - 16.10	Coffee Break / *Çay-Kahve Arası*
16.10 - 17.10	Session 7 / *Oturum-7*
18.00	Symposium Closing / *Sempozyum Kapanışı*

SYMPOSIUM PROGRAMME 1st DAY
(16th April 2026, Thursday)

SEMPOZYUM PROGRAMI 1. GÜN
(16 Nisan 2026, Perşembe)

BHTS 2026 BOSPHORUS

Opening Ceremony / Açılış Töreni

16 April / Nisan, **Thursday** / Perşembe

09.55-10.30

Opening Statements / Açılış Konuşmaları

Bülent YILDIRIM
METEM Executive Board Vice Chair
METEM Yürütme Kurulu Başkan Vekili

Nuri KIZILTAN
MISAD Chair of Executive Board
MISAD Yönetim Kurulu Başkanı
BHTS 2026 Chair of the Organization Committee
BHTS 2026 Sempozyum Yürütme Kurulu Başkanı

Lesley FRAME
IFHTSE President
IFHTSE Başkanı
University of Connecticut

10.30-10.50

Plaque Ceremony / Plaket Töreni

BHTS 2026 BOSPHORUS
3rd Bosphorus International Heat Treatment Symposium
3. Boğaziçi Uluslararası Isıl İşlem Sempozyumu

16 April / Nisan 2026

Conference Hall - Konferans Salonu

Plenary Session 1
Özel Oturum 1

Session Chairman / Oturum Başkanı
Utku İNAN - MISAD

11:10 - 11:40

Slides – A Help or a Nuisance?

Stefan HOCK
IFHTSE
Germany

(Invited Speaker)

11:40 - 12:10

Certainty in an Age of Uncertainty: Energy Flexibility, Modularity, and Strategic Transformation in Heat Treatment

Bora ÖZKAN
IPSEN
Germany

(Invited Speaker)

16 April / Nisan 2026

Conference Hall - Konferans Salonu

Plenary Session 2
Özel Oturum 2

Session Chairman / Oturum Başkanı
Arda ÖNER - Önerler Çelik ve Isıl İşlem

13:30 - 14:00

Partitioning Effects During Tempering of Steels and Its Consequences

Reinhold SCHNEIDER
University of Applied Sciences Upper Austria
Austria

(Invited Speaker)

14:00 - 14:30

Adjusting Heat Treatments of Recycling Steels – Understanding the Effects of Higher Tramp Element Concentrations

Alexander GRAMLICH
RWTH Aachen University
Germany

(Invited Speaker)

BHTS 2026 BOSPHORUS
3rd Bosphorus International Heat Treatment Symposium
3. Boğaziçi Uluslararası Isıl İşlem Sempozyumu

16 April / Nisan 2026

Session / Oturum 1

Conference Hall - Konferans Salonu

Carburizing, Quenching, Cryogenic Treatment
Sementasyon, Su Verme ve Kriyojenik İşlem

Session Chairman / Oturum Başkanı
Yılmaz TÜRE - Nil Isıl İşlem

14:50 - 15:10

Low Pressure Carburizing Distortion Data Comparing Oil & High Pressure Gas Quenching

Vincent LELONG
ECM Technologies
USA

15:10 - 15:30

Düşük Basınçlı Karbürleme Isıl İşleminin AISI 8620 Çeliğinin Aşınma Direnci Üzerine Etkisi
The Effect of Low-Pressure Carburizing Heat Treatment on the Wear Resistance of AISI 8620 Steel

Tacettin KOPARAN[1], Aleyna Zeynep YAMANER[1], Ömer ŞAHİN[1], Ümmihan T. YILMAZ[2,3], Gökhan SAĞLAM[2], Volkan KILIÇLI[1]
[1]Gazi Üniversitesi,[2]Döksan Isıl İşlem,
[3]Ankara Hacı Bayram Veli Üniversitesi
Türkiye

15:30 - 15:50

Effect of Post-Carburizing Cryogenic Treatments on Residual Stress and Hardness Evolution in AISI 9310 Steel
AISI 9310 Çeliğinde Karbürleme Sonrası Uygulanan Kriyojenik İşlemin Kalıntı Gerilim ve Sertlik Ölçümleri Üzerine Etkisi

Zafer YILDIRIM[1], C. Hakan GÜR[2]
[1]Turkish Aerospace Industry, [2]Middle East Technical University
Türkiye

15:50 - 16:10

Low Pressure Carbonitriding – Heat Treatment Suited for the Future

Łukasz CHWIAŁKOWSKI
Seco/Warwick
Poland

16 April / Nisan 2026

Session / Oturum 2

Conference Hall - Konferans Salonu

Integrated Control and Advanced Processing in Modern Heat Treatment

Modern Isıl İşlemde Entegre Kontrol ve İleri Proses Uygulamaları

Session Chairman / Oturum Başkanı

Hakan GAŞAN - Eskişehir Osmangazi University

16:30 - 16:50

The Critical Role of Heat Treatment and Grade Selection in Knife Steels

Marta INVERNIZZI
Alleima StripTech AB
Sweden

16:50 - 17:10

İndüksiyon Isıl İşlemde Devrim -IFP (Bağımsız Frekans ve Güç)
Revolution in Induction Heat Treatment – IFP (Independent Frequency and Power)

Uğur ŞENOL
Inductotherm
Türkiye

17:10 - 17:30

Protective Atmosphere Management and Multi-Gas Analysis in Heat Treatment Furnaces
Isıl İşlem Fırınlarında Koruyucu Atmosfer Yönetimi ve Çoklu Gaz Analizi

Yağmur LALECİ GİTMEZ[1], Yiğit KURTTEPELİ[2], Edward FENG[2]
[1]Linde Gaz, [2]Linde Technology
Türkiye, Germany

17:30 - 17:50

Microstructure and Mechanical Properties of PM and Conventionally Produced Tool Steels After Different Heat-Treatment Routes with Integrated Machine Learning
Farklı Isıl İşlem Rotaları Sonrasında Toz Metalurjisi ve Geleneksel Ergitme Yöntemiyle Üretilmiş Takım Çeliklerinin Mikroyapı ve Mekanik Özellikleri: Makine Öğrenmesi Destekli Yaklaşım

Betül BEZCİ, Oğuz GÜLBAY, Alexander GRAMLICH, Ulrich KRUPP
Steel Institute of RWTH Aachen University / Germany

SYMPOSIUM PROGRAMME 2nd DAY

(17th April 2026, Friday)

SEMPOZYUM PROGRAMI 2. GÜN

(17 Nisan 2026, Cuma)

BHTS 2026 BOSPHORUS

17 April / Nisan 2026

Session / Oturum 3

Conference Hall - Konferans Salonu

Advanced Steel Design, Phase Transformations

İleri Çelik Tasarımı ve Faz Dönüşümleri

Session Chairman / Oturum Başkanı

Arcan DERİCİOĞLU - Middle East Technical University

10:00 - 10:20

Nitriding Performance of Air-Hardening Ductile Steels

Sıtkı Can AKKUS[1], Silvia RICHTER[2], Nelli GORIN,[2] Ulrich KRUPP[1], Alexander. GRAMLICH[1]

[1]Steel Institute of RWTH Aachen University, [2]Central Facility for Electron Microscopy
Germany

10:20 - 10:40

Engineering Extraordinary Strength-Ductility Synergy in Nanostructured Bainitic Steels Through Precise Heat Treatment Design

Behzad AVISHAN
Başkent University
Türkiye

10:40 - 11:00

Microstructural Optimization in Air-Hardening 4 WT% Medium Manganese Steels by Double Soaking

Havada Sertleşen %4 Orta Manganlı Çeliklerde Çift Aşamalı Tavlama Yöntemiyle Mikroyapısal Optimizasyon

Ersoy ERİŞİR[1], S. Can AKKUŞ[2], Ulrich KRUPP[2], Alexander GRAMLICH[2]

[1]Kocaeli University, [2]RWTH Aachen University
Türkiye, Germany

BHTS 2026 BOSPHORUS
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3. Boğaziçi Uluslararası Isıl İşlem Sempozyumu

17 April / Nisan 2026

Session / Oturum 4

Conference Hall - Konferans Salonu

Thermo-Chemical Surface Treatments and Characterization

Termokimyasal Yüzey İşlemleri ve Karakterizasyon

Session Chairman / Oturum Başkanı

Stefan HOCK - IFHTSE

11:20 - 11:40

Low Temperature Plasma Nitriding of an Austenitic Stainless Steel

Östenitik Paslanmaz Çeliğin Düşük Sıcaklıklarda Plazma Nitrasyonu

Beyza KARAMAN[1], Mertcan KABA[1], Soydan KENEŞ[2], Hüseyin ÇİMENOĞLU[1]

[1]Istanbul Technical University, [2]İstanbul Isıl İşlem
Türkiye

11:40 - 12:00

Diffusion and Dechromization of Chromium in Stainless Steels: Metallurgical, Operational and Regulatory Implications in Industrial Thermal Processes

Filippo ANGELINI[1], Roberto MARCHIORI[2], Nicola MARCHIORI[2]

[1]Scame Forni Industriali Srl, [2]MWS Srl
Italy

12:00 - 12:20

Non-Destructive Evaluation of Layers After Thermo-Chemical Treatment

Klára TESÀRKOVÀ
Bodycote HT
Czech Republic

17 April / Nisan 2026

Session / Oturum 5

Conference Hall - Konferans Salonu

Sustainable Infrastructure, Digital Transformation

Sürdürülebilir Altyapı ve Dijital Dönüşüm

Session Chairman / Oturum Başkanı

C. Hakan GÜR - Middle East Technical University

13:30 - 13:50

New Possibilities for Energy Efficient Heat Treatment in Batch Type Furnaces

Dirk JORITZ, Matthias RINK
Ipsen
Germany

13:50 - 14:10

Rethinking Heat Treatment Signal Monitoring Through Artificial Intelligence: A Spatio-Temporal Deep Learning Framework for Anomaly Detection

Karl-Michael WINTER, Mike LOPKE
Nitrex – UPC Marathon
Germany

14:10 - 14:30

Leveraging Renewable Energy in Heat Treatment - Predictive Models for Cost and CO_2 Reduction

Martin HELLWIG, Bora ÖZKAN
Ipsen
Germany

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17 April / Nisan 2026

Session / Oturum 6

Conference Hall - Konferans Salonu

Surface Engineering

Yüzey Mühendisliği

Session Chairman / Oturum Başkanı

Hüseyin ÇİMENOĞLU - İstanbul Technical University

14:50 - 15:10

AISI H13 Sıcak İş Takım Çeliğine Nitrasyon İşleminin Ardından TiAlN Film Kaplamasının Aşınma Davranışı ve Morfolojik Özelliklere Etkisinin İncelenmesi

Investigation of the Effect of TiAlN Film Coating on the Wear Behavior and Morphological Properties of AISI H13 Hot Work Tool Steel After Nitriding

Nurcan DÜZEN[1], Cem KAHRUMAN[2]
[1]Alpha Metalurji, [2]Bursa Teknik Üniversitesi
Türkiye

15:10 - 15:30

Assessment of the Tribological Performance of Diamond-Like-Carbon Coatings for Differential Shafts for Electric Vehicles

Johnny DUFILS, Etienne MACRON, Christophe HÉAU
HEF Group
France

15:30 - 15:50

The Effect of Heat Treatment on Microstructure and Properties of a High-Hardness and High-Corrosion Resistant Ni-Based Alloy "DSA ®760"

Yutaro OKI, Yoshihiko KOYANAGI
Daido Steel
Japan

17 April / Nisan 2026

Session / Oturum 7

Conference Hall - Konferans Salonu

Thermal Processing of Lightweight Alloys

Hafif Alaşımların Isıl İşlem Prosesleri

Session Chairman / Oturum Başkanı

Bilgi ÇENGELLİ - Bodycote Istaş

16:10 - 16:30

Homogenization of 7XXX Series Aluminum Alloys: An Approach for Microstructural Assessment

7XXX Serisi Alüminyum Alaşımlarının Homojenizasyonu: Mikroyapı Değerlendirmesine Yönelik Bir Yaklaşım

Aleyna GÜMÜŞSOY, Işık KAYA, Aybars GÜVEN, Emrah Fahri ÖZDOĞRU
TRI Metalurji
Türkiye

16:30 - 16:50

Kaynak Sonrası Yapay Yaşlandırma İşleminin AA6063 Alüminyum Alaşımında Mikroyapı ve Mekanik Özelliklere Etkisi

Effect of Post-Weld Artificial Aging Treatment on the Microstructure and Mechanical Properties of AA6063 Aluminum Alloy

Halil ULUPINAR,Yiğit GÜLLER
Çuhadaroğlu Metal Sanayi ve Pazarlama
Türkiye

16:50 - 17:10

Improving Surface Properties of Porous Titanium by Thermal Oxidation

Termal Oksidasyon ile Poroz Titanyumun Yüzey Özelliklerinin İyileştirilmesi

Sena Burcu HAYIRCI[1], Faiz MUHAFFEL[1], Mertcan KABA[1], Batuhan SORUŞBAY[2], Hamit Özkan GÜLSOY[2], Hüseyin ÇİMENOĞLU[1]
[1]İstanbul Technical University, [2]Marmara University
Türkiye

POSTER PRESENTATIONS

POSTER SUNUMLARI

BHTS 2026 BOSPHORUS

Posters / Poster Sunumlar

BHTS-P1

Design of a Boronizing Paste with a Novel Chemical Formulation and Its Effects on Steel Surfaces

Yeni Bir Kimyasal Formülasyon ile Borlama Macunu Tasarımı ve Çelik Yüzeylere Etkisi

Şerife HELVACIOĞLU[1,2], Ali İsmet DURAN[1], Musa SEKÜ[1], Ümmihan T. YILMAZ[2]
[1]Döksan Heat Treatment, [2]Ankara Hacı Bayram Veli University
Türkiye

BHTS-P2

Development and Domestic Production of Chemical Materials Used in the Heat Treatment Industry

Isıl İşlem Sanayisinde Kullanılan Kimyasal Malzemelerin Geliştirilmesi ve Yerli Olarak Üretilmesi

Ümmihan T. YILMAZ[1], Şerife HELVACIOĞLU[1,2], Ali İsmet DURAN[2], Zeynep KOSER[2]
[1]Ankara Hacı Bayram Veli University, [2]Döksan Heat Treatment
Türkiye

BHTS-P3

Effect of Hot Deformation Rate on Dislocation Density and Aging Kinetics of AA2014 Alloy

Sıcak Deformasyon Hızının AA2014 Alaşımının Dislokasyon Yoğunluğu ve Yaşlandırma Kinetiği Üzerine Etkisi

Öncü AKYILDIZ[1], Barış. ÇETİN[2], Müslüm ERBEKTAŞ[2]
[1]Hitit University, [2]FNSS Savunma Sistemleri
Türkiye

BHTS-P4

A Comparative Study on the Wear Performance of M2 and K340 Grade Tool Steels for Thread Rolling Dies

Afshin ZOHDI[1,2], Mertcan KABA[1], Mesut ÇİFTÇİ[2], Hüseyin ÇİMENOĞLU[1]
[1]Istanbul Technical University, [2]Çetin Cıvata
Türkiye

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3. Boğaziçi Uluslararası Isıl İşlem Sempozyumu

Posters / Poster Sunumlar

BHTS-P5

Temperleme Sıcaklığının 42CrMo4 Çeliğinin Mikroyapı ve Mekanik Özelliklere Etkisinin İncelenmesi

Effect of Tempering Temperature on the Microstructural Evolution and Mechanical Properties of 42CrMo4 Steel

Caner TUNA[1], Gürkan GÜMÜŞ[1], Hakan ERÇAY[1], Tuncay DİKİCİ[2]
[1]Özkan Demir Çelik, [2]Dokuz Eylül Üniversitesi
Türkiye

BHTS-P6

How It's Done and Why: Transitioning Parts from Atmosphere Carburizing to Low Pressure Vacuum Carburizing

Vincent LELONG

ECM Technologies
USA

BHTS-P7

Santrifüj Rotorlarında Kullanılan Martenzitik ve Dubleks Paslanmaz Çeliklerin Mikroyapı ve Mekanik Özelliklerinin Karşılaştırılması

Comparison of the Microstructure and Mechanical Properties of Martensitic and Duplex Stainless Steels Used in Centrifuge

Ahmet ÖZBEY
HAUS Santrifüj Teknolojileri
Türkiye

BHTS-P8

EN 1.4419 (X38CrMo14) Martenzitik Paslanmaz Çelikte Sub-Zero İşlem ve Düşük Sıcaklık Temperlemenin Sertlik ve Mikroyapıya Etkilerinin Ön Değerlendirilmesi

A Preliminary Evaluation of the Effects of Sub-Zero Treatment and Low-Temperature Tempering on Hardness and Microstructure IN EN 1.4419 (X38CrMo14) Martensitic Stainless Steel

Ece KUŞCU PAMUK[1], Cem KAHRUMAN[2]
[1]Yeşilyayla Kesici Aletler, [2]Bursa Teknik Üniversitesi
Türkiye

Posters / Poster Sunumlar

BHTS-P9

The Effect of Annealing Time on the Coating Characteristics of Medium Phosphorus Electroless Nickel Plating

Orta Fosforlu Akımsız Nikel Kaplamada Temperleme Zamanının Kaplama Karakteristiğine Etkisi

Ahmet Oktay DEVECİLİ, Halime NALBANT DEMİR, Ömer Faruk BİLGİN, Bayram DEMİR, Buğra KIRALIOĞLU
Sarsılmaz Silah Sanayi
Türkiye

BHTS-P10

Krank Millerine Uygulanacak Östemperleme Isıl İşlemi Prosesinin Geliştirilmesi

Name of the Project: Austempering of Nodular Cast Iron

Ayşe ERKAN
Metalurji ve Malzeme Mühendisi
Türkiye

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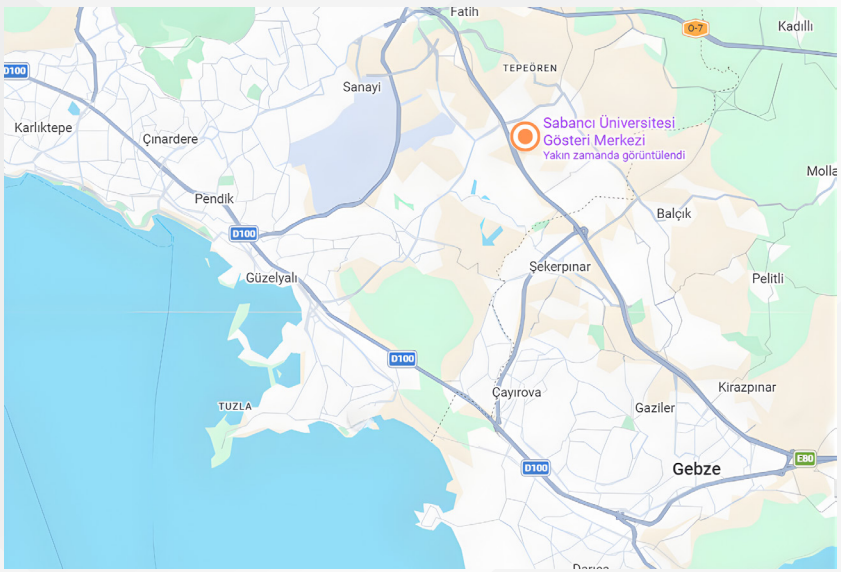

GALA DINNER
GALA YEMEĞİ

Gala Dinner / Gala Yemeği

Our Symposium Gala Dinner will be held at Adli Restaurant on Thursday, April 16th, starting at 7:00 PM, with our delegates in attendance.

16 Nisan Perşembe günü akşam 19:00'dan itibaren delegelerimizle birlikte Sempozyum Gala Yemeğimiz Adli Restaurant'da gerçekleştirilecektir.

Note: Only delegates of symposium can attend to this event.

Not: *Sadece delegelerimiz bu etkinliğe katılabileceklerdir.*

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16-17 April/Nisan 2026 Sabancı University Performing Arts Center, İstanbul

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This fee includes; lunches and symposium gala dinner and also symposium bag and refreshments.

Sempozyuma katılmak için Başvuru Formunun ve katılım ücreti ödeme makbuzunun Sempozyum Koordinatörlüğüne gönderilmesi gereklidir.
The participants should submit the application form and the bank receipt of the registration fee on time.

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