

Session Program

5-8 Sept 2022

**27th IFHTSE CONGRESS & EUROPEAN
CONFERENCE ON HEAT TREATMENT 2022**

SURFACE ENGINEERING

Wyndham Grand Salzburg Conference Center
Fanny-von-Lehnert-Straße 7, 5020 Salzburg, Austria

Tuesday 6 September

13:20

SURFACE ENGINEERING: Surface Hardening, Carburizing, Carbonitriding

Session | **Location:** Room 2 - WOLFGANGSEE | **Convener:** MASAHIRO OKUMIYA

13:20-13:45

Determination of machining parameters for a specific adjustment of the residual stress profile by induction hardening

Speaker

Friedhelm FRERICHS

13:45-14:10

Carbon penetration behavior of Cr-Mo steel specimen in carburizing above eutectic temperature

Speaker

Ryosuke YAMAMOTO

14:10-14:35

Martensitic Induction hardening of nitrided layers

Speaker

Stefanie HOJA

14:35-15:00

Impact of process parameters during multi-step carbo-austempering on the hardness and microstructure morphology

Speaker

Rainer FECHTE-HEINEN

15:00

15:20

SURFACE ENGINEERING: Surface Hardening, Carburizing, Carbonitriding

Session | **Location:** Room 2 - WOLFGANGSEE | **Convener:** Prof. Rainer Fechte-Heinen

15:20-15:45

Contact fatigue in carbonitrided steels and the influence of retained austenite

Speaker

Emil STÅLNACKE

15:45-16:10

Carbo-nitriding of CVT pushbelt components for further optimization of wear and fatigue properties

Speaker

Bert PENNINGIS

16:10-16:35

Influence of nitrogen enrichment on microstructure and mechanical properties of a carbonitrided low steel alloy

Speaker

Mr David Maréchal

16:35-17:00

Influence of shot peening on carbonitrided low alloy steel

17:00

Speaker
Mr David Maréchal

Wednesday 7 September

09:00

SURFACE ENGINEERING: Nitriding and Nitrocarburizing

Session | **Location:** Room 2 - WOLFGANGSEE | **Convener:** Peter Jurči

09:00–09:25

Impact of deep cryogenic treatment on nitridability and properties of nitrided hot work tool steel

Speaker

Bojan PODGORNIK

09:25–09:50

Improving the properties of K490MC tool steel after hardening accompanied with deep cryogenic treatment and plasma nitriding

Speaker

Darko LANDEK

09:50–10:15

Effects of Chromium and Nickel Screens on Plasma Nitriding with Screen

Speaker

Akio NISHIMOTO

10:15

11:10

SURFACE ENGINEERING: Nitriding and Nitrocarburizing

Session | **Location:** Room 2 - WOLFGANGSEE | **Convener:** Patrick Jacquot

11:10–11:35

High temperature solution nitriding and heat treatment of martensitic stainless steels for bearing applications

Speaker

Matteo VILLA

11:35–12:00

Solution nitriding of a Fe-0.13%C-1.2%Ni-13%Cr grade steel: a theoretical and experimental study

Speaker

Olivier SKIBA

12:00–12:25

Nitriding on as quenched steel 33CrMoV12-9

Speaker

Sébastien JÉGOU

12:25–12:50

Salt Bath Nitrocarburizing: Technology ready for future including environmental challenges

Speaker

Luc HERRMANN

12:50

14:20

SURFACE ENGINEERING: Advanced Surface Engineering and Coating

Session | **Location:** Room 2 - WOLFGANGSEE | **Convener:** Reinhold Schneider

14:20–14:45

Advances in thermochemical surface engineering and heat treatment of titanium and titanium alloys

Speaker

Thomas CHRISTIANSEN

14:45–15:10

PACVD- and nitriding processes as surface treatments to enhance corrosion- and wear resistance of piston rods for the hydraulic industry

Speaker

Dr Christian DIPOLT

15:10–15:35

Surface nitriding of aluminum using barrel and its applications

Speaker

Masahiro OKUMIYA

15:35

Thursday 8 September

09:00

SURFACE ENGINEERING: Induction Heating Symposium

Session | **Location:** Room 3 - ATTERSEE | **Convener:** Michele Forzan

09:00–09:25

Induction heating modelling for tempering of low alloy steels

Speaker

Xabier QUEREJETA IRIZAR

09:25–09:50

Neural Metamodels for the Identification of Driving Parameters of an Induction Heating Process

Speaker

Mr Matteo Ciofani

09:50–10:15

Inductive heat treatment of high-speed steels

Speaker

Harald LEITNER

10:15

09:00

SURFACE ENGINEERING: Low-Temperature Surface Engineering

Session | **Location:** Room 2 - WOLFGANGSEE | **Convener:** Marcel Somers

09:00–09:25

Influence of cold rolling and post annealing on low-temperature gaseous nitriding of meta-stable and nitrogen-stabilized 304 austenitic stainless steel

Speaker

Bo WANG

09:25–09:50

Active-Screen Plasma Nitriding and Carburizing of an Austenitic Stainless Steel Small-Diameter Thin Pipe

Speaker

Kenzo SUMIYA

09:50–10:15

Improved corrosion fatigue performance of stainless steels by low temperature surface hardening

Speaker

Alexandra BAUER

10:15–10:40

'Ultra-low' temperature nitriding of martensitic stainless steels

Speaker

Magnus Grüner

10:40

11:00

SURFACE ENGINEERING: Induction Heating Symposium

Session | **Location:** Room 3 - ATTERSEE | **Convener:** Robert Goldstein

11:00–11:25

Multi-physics finite element simulations for induction brazing

Speaker

Michele FORZAN

11:25–11:50

Lifetime Enhancement of Induction Heating Coils: A Complex Approach Based on Numerical Simulations and 3D-Printing

Speaker

Dmitry IVANOV

11:50–12:15

Calibration of model for hardening gear wheels

Speaker

Mr Debela DESISA

12:15