

# The 6<sup>th</sup> International Conference on ThermoMechanical Processing

July 5-7, 2021 Shenyang, China

## First Announcement / Call for Papers

### Organized by

The Chinese Society for Metals (CSM)  
Northeastern University (NEU)

### Co-organized by

The State Laboratory of Rolling and Automation (RAL)

### Co-sponsored by

Associaçao Brasileira de Metalurgia e Materiais (ABM), Brazil  
Associazione Italiana di Metallurgia (AIM), Italy  
Association for Iron and Steel Technology (AIST), USA  
Czech Metallurgical Society, Czech Republic  
Steel Institute VDEh, Germany  
The Austrian Society for Metallurgy and Materials (ASMET), Austria  
The Indian Institute of Metals (IIM), India  
The Iron and Steel Institute of Japan (ISIJ), Japan  
The Korean Institute of Metals and Materials (KIM), Korea  
The Nonferrous Metals Society of China (Nfsoc), China

Conference Website: [www.tmp2020.com](http://www.tmp2020.com)

## Invitation to TMP2021

ThermoMechanical Processing (TMP) is an established and vital part of the production method for increasing and tailoring the mechanical properties not only for steels, but also expanding to various non-ferrous alloys. The TMP allows improving the microstructural features in order to realize the metal products fitting the requirement imposed by the modern mechanical and structural engineering.

With a scope that ranges from the latest process and product developments to associating physical metallurgy in the thermomechanical processing of steels and non-ferrous alloys, TMP 2021 Conference aims at examining the key aspects involved in TMP: phase transformations, complex microstructures evolution, applications in CSP/ESP, in-line heat treatments, measurement techniques and the technological forming operations (rolling, forging, extrusion etc.).

We invite you to join us in Shenyang and look forward to hosting a successful and inspiring conference!



Prof. Guodong Wang

Conference Chairman of TMP2021

Northeastern University

## History of TMP Conferences

The International Conference on ThermoMechanical Processing (TMP), held every 4 years, is organized in a way to maximize the interaction and discussion between researchers in the field. The 6<sup>th</sup> TMP Conference will be held in China for the first time, the previous conferences being held in:

1<sup>st</sup> TMP 2000: London, United Kingdom

2<sup>nd</sup> TMP 2004: Liege, Belgium

3<sup>rd</sup> TMP 2008: Padua, Italy

4<sup>th</sup> TMP 2012: Sheffield, United Kingdom

5<sup>th</sup> TMP 2016: Milan, Italy

## Topics

The Conference will cover topics concerning the following issues:

### 1. Technology and Product Development in ThermoMechanical Processing

➤ Steel:

- Hot strips and hot plates refer to the control of rolling and cooling
- Compact Strip Production (CSP)/Endless Strip Production (ESP)
- Continuous strip casting and related short process technology
- Hot stamping and forging
- Non-Ferrous alloys (Al, Cu, Mg, Ti and other alloys):
- Rolling, forging, extrusion and drawing

## **2. Physical Metallurgy of ThermoMechanical Processing**

- Computation and modelling
- Microstructure and property
- Recrystallization, precipitation and phase transformation
- Solidification mechanism of continuous casting
- On-line heat treatment
- Oxidation of steel
- Hot rolling based on the control of oxidation behavior

## **3. Intelligent Manufacturing**

- Industrial big data analytics based on ThermoMechanical Processing
- Establishment of industrial internet platform and cyber-physical system
- Development of digital twin system on key processes
- In process quality control and intelligent optimization decision of ThermoMechanical Processing

## **Honorary Chairman**

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## Plenary Speakers

 (The following speakers are updated on Feb. 3, 2020)

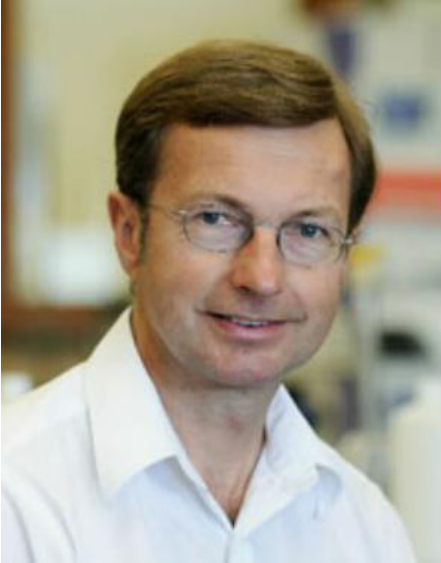
- Guodong Wang, Northeastern University, China



- Harry Bhadeshia, Cambridge University, United Kingdom



- Matthias Militzer, University of British Columbia, Canada



Matthias Militzer is the ArcelorMittal Dofasco Chair in Advanced Steel Processing and the Director of the Centre for Metallurgical Process Engineering at the University of British Columbia in Vancouver. He received a Diploma in Physics from the University of Technology in Dresden, Germany in 1983 and a Ph.D. in Metal Physics from the Academy of Sciences in East Germany in 1987. He moved to Canada in 1990 where he was first a Postdoctoral Fellow at McGill University before joining the University of British Columbia in 1993. He has published more than 200 papers in refereed journals and conference proceedings. His primary field of research is modelling the microstructure evolution during thermo-mechanical processing of steels and other metals. Currently, his major research activities include multi-scale modelling of phase transformations in steels, accelerated cooling of steels and in-situ measurements of microstructures using laser ultrasonics for metallurgy. He is a Fellow of the Canadian Institute for Mining, Metallurgy and Petroleum (CIM) and received the ASM Henry Marion Howe Medal 2010 and the Canadian Metal Physics Award in 2014.

- Peter Hodgson, Deakin University, Australia





- Andrey Alexandrov, Interstate Association Titan, CIS (Commonwealth of Independent States), Russia



Andrey Alexandrov has been the General Director of the Interstate Association "Titan" since 2001. After graduating from the Moscow Institute of Steel and Alloys worked as a Researcher at the All-Russian Institute of light alloys (VILS). Later he worked in trading companies specializing in the production and international trade of titanium products. In 1997, he returned to VILS as Head of the Titanium Department. The main scientific works are related to melting of titanium and its alloys, production of alloys with shape memory, development of new equipment, engineering, marketing. Scientific degree is Ph.D Engineering. Have a big international trade experience, management and organizational work in titanium industry. While heading Interstate Association Titan, number of members has increased from 19 to 61. Association has developed into authoritative industry organization with wide business and information contacts in CIS countries and more than 15 countries abroad. Association is full CIS representative in worldwide titanium organizations. Since 2002 he is the editor-in-Chief of the scientific and technical journal «Titanium».

- Sedon Choo, POSCO, Korea



## **Presentation Title: Property Prediction Model and Its Application to the Manufacturing of Steel Plates**

Sedon Choo has been the Executive Vice President of POSCO since 2016 and is currently the head of Steel Solution Research Lab. After graduating from Seoul National University(Metallurgy, BS) and Korea Advanced Institute of Science and Technology(Mat Sci. & Eng., MS & PhD) began working as a researcher at POSLAB(POSCO Technical Research Lab) in 1993. In 2003, he led the Thick-plate Design team in Marketing Division and in 2009 became Group Leader of Technical Planning Group.

In 2011, he returned to POSLAB in Gwangyang as a Group Leader of Thin-plate Research Group and became the Head of Gwangyang Research Lab(Senior Vice President) in 2015. Later, he also served as the Head of Pohang Research Lab and became the Head(Executive Vice President) of Energy and Shipbuilding Steel Marketing Office in 2016. After working as the Head of Steel Solution Marketing Office in 2018 he is currently the Head of Steel Solution Research Lab in Incheon.

He was awarded the official commendation from the Minister of Commerce, Industry and Energy in 2007. He was also awarded the Steel Technical Creative Award by POSCO in 2012 and Steel Technical Innovation Award in 2013. In 2014, he won the Technical Award from the Korean Institute of Metals and Materials.

## **Keynote Speakers** (The following speakers are updated on Feb. 3, 2020)

**Ronaldo Barbosa**, Universidade Federal de Minas Gerais, Brazil

**Weilin Gao**, Tongling Gao-Tong Technology Co. ,Ltd., Japan

**Carlos Garcia-Mateo**, National Centre for Metallurgical Research (CENIM), Spain

**Hélio Goldenstein**, Cidade Universitária, Brazil

**Zhanli Guo**, Sente Software Ltd., UK

**Heung-Nam Han**, Seoul National University, Korea

**Zhengyi Jiang**, University of Wollongong, Australia

**Chang-Hoon Lee**, Korea Institute of Materials Science (KIMS), Korea

**David San Martin Fernandez**, National Centre for Metallurgical Research (CENIM) / Spanish National Research Council (CSIC), Spain

**Pedro Rivera Diaz Del Castillo**, Lancaster University, UK

**Tony Rollett**, Carnegie Mellon University, USA

**Dong-Woo Suh**, Pohang University of Science and Technology (POSTECH), Korea

**Sybrand van der Zwaag**, Delft University, The Netherlands

## Abstract Submission

All contributions on the theme of the conference as described previously are welcome. The official language of the conference is English. Prospective authors are invited to submit an abstract of 300 words (in English) by **January 31, 2021** through the conference website: [www.tmp2020.com](http://www.tmp2020.com). The abstract should provide sufficient information for a fair assessment.

## Extended Abstract

The extended abstracts are requested to submit through the conference website before **April 15, 2021**. All the accepted extended abstracts will be published in the conference proceedings which will be released to the public by Metallurgical Industry Press Co.,Ltd. and will be available at the conference beginning on July 4, 2021.

Please kindly download the authors guide, sample format and copyright transfer form from the conference website ([www.tmp2020.com](http://www.tmp2020.com)).

## Manuscript

Participants are also welcome to submit the full manuscript, even though the full manuscript is not necessarily required for the attendance of this conference.

If you would like to submit the manuscript for TMP2021, please kindly send your full paper via the conference email: [tmp2020@csm.org.cn](mailto:tmp2020@csm.org.cn) before **May 1, 2021**. The full manuscript submitted will be made available in PDF format for participants. Please kindly download the sample format of manuscript for TMP2021 from the conference website ([www.tmp2020.com](http://www.tmp2020.com)).

## Official Language

Official language for the conference is English.

## Exhibition, Workshop & Sponsorship Opportunities

As the integral elements of the event, TMP2021 will feature the exhibition and workshop that will enable excellent exposure for company products, technologies, innovative solutions or services. The exhibition and workshop will be organized near the meeting room during TMP2021. The conference will offer an excellent opportunity for companies to do business and maintain key contacts with customers and suppliers. It is also a unique platform for them to promote new products, outline services and highlight key achievements.

Companies will be able to reinforce their participation and enhance their corporate identification by taking advantage of the benefits offered to them as sponsors of the conference.

If you would like to join the exhibition, workshop or sponsorship, please contact with the Conference Secretariat .

## **Conference Secretariat**

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