



# **THERMEC'2020**

*International Conference on*

## **PROCESSING & MANUFACTURING OF ADVANCED MATERIALS**

*Processing, Fabrication, Properties, Applications*

*May 31 - June 5, 2020*

**Austria Center, Vienna, Austria**



### **Important Dates**

<b>October 4, 2019</b>	Abstracts due (on-line submission)
<b>October 22, 2019</b>	Notification to authors: abstract acceptance
<b>January 22, 2020</b>	Manuscripts due (online submission)
<b>January 22, 2020</b>	Advance registration compulsory for speakers (strict due date)
<b>March 22, 2020</b>	Final Program on Conference Website
<b>May 31, 2020</b>	THERMEC'2020 in Vienna

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**THERMEC'2020** is the eleventh international conference on the advanced materials series built upon the proven concept and continues the tradition of its ten predecessors: Japan (1988), Australia (1997), USA (2000), Spain (2003), Vancouver-Canada (2006), Berlin-Germany (2009), Quebec City-Canada (2011), Las Vegas-USA (2013), Graz-Austria (2016) and the last THERMEC (2018) in Paris, France.

THERMEC conference provides a forum that connects professionals (engineers, technologists, researchers) working in industry, academia and government research labs in various countries in Europe, USA, Canada, Japan, Korea, PR China, India, Brazil, Southeast Asia and Russia and allows them to present their research findings in the overall field of science and technology of processing, fabrication and manufacturing of advanced materials.

### **Scope**

The Conference will cover all aspects of processing, fabrication, structure/property evaluation and applications of both ferrous and non-ferrous materials, composites including biomaterials, high temperature materials, fuel cells/hydrogen storage technologies, batteries, super capacitors, thermoelectric materials, nanomaterials for energy and structural applications, aerospace structural metallic materials, bulk metallic glasses, UFGM, TMP of fission materials (fuel cladding, structural), high entropy alloys, materials & technologies in fusion reactors, additive manufacturing, smart/intelligent materials, modeling & simulation, welding/Joining- FSW-P, interfaces/Grain boundaries & neutron scattering /X rays studies and materials performance of advanced materials.

Oral and poster presentations dealing with the range of topics listed in this circular will be included in the conference program. In addition to the contributed presentations, the conference committee has invited eminent internationally known researchers in key areas of advanced materials processing/manufacturing from various countries to deliver state-of-the-art Plenary/Keynote lectures at THERMEC'2020.

### **Venue**

THERMEC'2020 will be held at the AUSTRIA CENTER VIENNA ([www.acv.at](http://www.acv.at)) situated along the enchanting Danube river in Vienna not far from the center of this beautiful city.

**Abstracts: on line submission by October 4, 2019**

The instructions for the abstract submission are given on the conference website <http://thermec2020.tugraz.at>. You will be guided through the step-by-step procedure to submit your abstracts successfully. Kindly submit your abstracts online ONLY before October 4, 2019. Please contact us at [secretary2020thermec@tugraz.at](mailto:secretary2020thermec@tugraz.at) or [thermec2020@tugraz.at](mailto:thermec2020@tugraz.at) in case you have any difficulty submitting your abstract ON LINE.

**TOPICS & COORDINATORS:**

Topics	Co-ordinators
Additive Manufacturing	Juergen Stampfl, Takayoshi Nakano, Peter Mayr Olaf Andersen, Wei Liu, Aude Simar, Kee Ahn Lee
Advanced Materials & Surface Treatments for Bioengineering Applications	Thierry Gloriant, Mitsuo Niinomi, Paolo Falcano, Diego Mantovani, Guangyin Yuan
Advanced Protective Coatings/Surface Engineering & Plasma Processing of Materials (Metallic, non-Metallic, Oxidation Resistant, Thermal Barrier, Refractory, Composites & Polymer Coatings)	Paul Mayrhofer, Yuichi Setsuhara, Michael Tatoulian, Lidong Sun, Ho Won Jang, Veronique Vitry, Hongbo Guo
Advanced Steels (HSLA/AHSS/ IF/TRIP/HNS/Stainless) & TMP Microalloyed Steels: (Prof. Setsuo Takaki Honor Symposium)	Yoshitaka Adachi, Toshihiro Tsuchiyama, Dong Woo Suh, Wenqua Cao, Ronald Schnitzer, Philippe Maugis, Ulrich Krupp, Beatrix Lopez, Christian Klinkenberg, Andrea Di Schino, Yun Peng
Al Alloys	Stefan Pogatscher, Knut Marthinsen, Kenji Matsuda, Zhihong Jia, Hyoung Wook Kim
Biomimetic Materials, Nanostructured Biomaterials, Medical Devices & Regenerative Medicine	Takao Hanawa, Gabriele Candiani, Ke Yang, Seung-Kyun Kang, Christele Combes, Yufeng Zheng
Cold Spraying & Thermal Spraying Processes	Kazuhiro Ogawa, Christian Widener, Yuji Ichikawa, Thomas Klassen, Changhee Lee, Changjiu Li, Mario Guagliano
Composites (MMC, CMC) /Nanocomposites/Syntactic & Foams	Jean – François Silvain, Elisabetta Gariboldi, Hansang Kwon, Guohua Fan, Michal Basista, Gen Sasaki
Fuel Cells, Hydrogen Storage Technologies, Batteries, Super capacitors & Thermoelectric Materials	Maria Di Vona, Ludgar Blum, Caroline Richard, Yoshisugu Kojima, Philippe Knauth
High & Ultra High Temperature Materials (Intermetallics, Super alloys & Refractory Metals)	Haruyuki Inui, Christof Sommitsch, Yizhou Zhou, Hyun Uk Hong, Martin Stockinger
High Entropy Alloys & Related Materials	An-Chou Yeh, Martin Heilmaier, Stephane Gorsse, Hideyuki Murakami, B.S. Murty, Hyoung Seop Kim, Raj Banerjee
Integrated Computational Grain Boundary Engineering (ICGBE)	Vsevolod Razumovskiy, Pavel Lejcek, Chad Sinclair, Wilfried Wunderlich, Lorenz Romanar, Christopher Schuh
Interfaces / Grain Boundaries, & Structural Characterization Techniques	Dmitri Molodov, Seiichi Miyazaki, Douglas Medlin, Olivier Hardouin-Duparc, Sadahiro Tsurekawa
LPSO/MFS Material: Microstructure & Kink Strengthening	Yoshihito Kawamura, Kwang Seon Shin, Eiji Abe, Xiaohong Shao, Alexei Vinogradov, Kristian Mathis
Materials & Technologies in Fusion Reactors	Francesco Romanelli, Stephen Zinkle, Bong Sang Lee Christian Linsmeier, Guangnan Luo, Takeo Muroga,
Materials Performance/Functional & Structural Properties (Mechanical Behaviour, Damage, Texture/Anisotropy, Fatigue, Fracture, Environmentally Assisted Fracture, Failure Analysis &	Roberto Montanari, Goroh Itoh, Werner Skrotzki Fumiyoshi Minami; Rajasekhara Shabadi Rongshan Qin, Jilt Sietsma, Claude Esling
Applications of Neutrons in Engineering	Michael Hofmann, Weimin Gan, Yudong Zhang
Solid State Processing of Materials: Innovative Manufacturing Process	Jorge Dos Santos, Benjamin Klusemann, Glenn Grant
Materials Under Extreme Environments & Characterization	Sven Vogel, Akinori Hoshikawa, Kyle James Ramos, Masashi Hasegawa, Eda A. Gungor
Metallic Glasses/ Bulk Metallic Amorphous Materials (Prof Akihisa Inoue Honor Symposium)	Hidemi Kato, Mariana Calin, Junji Saida, Zhaoping Lu, Eun Soo Park, Juergen Eckert
Mg Alloys	Karl U. Kainer, Norbert Hort, Shihoon Choi Liming Peng

Modelling & Simulation	Frank Montheillet, Bernhard Sonderegger, Byeong Joo Lee, Ke Huang, Charles-Andre Gandin, Xingqiu Chen
Nanomaterials for Structural & Energy Applications	Mineo Hiramatsu, Patrick Da Costa, Lei Lu, Claude Estournes
Neutron Scattering & X-Ray Studies of Advanced Materials	Klaus D. Liss, Shinji Kohara, Yandong Wang, Andreas Stark
Smart/Intelligent Materials & Processes	Yoko Yamabe- Mitarai, Jean- Marc Raulot, Hisashi Serizawa, Loredana Santo, Hideki Hosoda
Nano/Micro Materials and Technologies for Medicine and Health Care Applications	Mariolina Richetta, Sengo Kobayashi, Young Keun Kim, Andreas Foitzik, Enrico Staderini
Thermomechanical Treatment of Reactor Materials (Fuel & Cladding)	Peter Hosemann, Yasuyoshi Nagai, Bong Sang Lee, Peng Dou, Sven Vogel
Ti Alloys/Aerospace Structural Metallic Materials	Cecilia Poletti, Jong Taek Yeom, Sergio Amancio, Yulin Hao, Masahiko Ikeda
Ultra Fine Grained Materials	Megumi Kawasaki, Terence G. Langdon, Guilin Wu, Kei Ameyama, Reinhard Pippan
Welding & Joining of Advanced and Specialty Materials/Friction Stir Welding and Processing	Kazuyoshi Saida, Joel Alexis, Norbert Enzinger, Haiyan Zhao, Namhyun Kang, Zongyi Ma

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Jong Taek Yeom, Korea  
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### Co-operating Organizations :

- Austrian Society for Metallurgy & Materials (ASMET), Austria
- International Federation for Heat Treatment and Surface Engineering (IFHTSE)
- Société Française de Métallurgie et Matériaux (SF2M), France
- The Iron & Steel Institute of Japan (ISIJ), Japan
- The Japan Institute of Light Metals (JILM), Japan
- The Society of Materials Science, Japan (JSMS), Japan
- Indian Institute of Metals (IIM), India
- The Korean Institute of Metals & Materials (KIMM), Korea
- Metallurgy & Materials Society (MetSoc of CIM), Canada
- Deutsche Gesellschaft für Materialkunde (DGM), Germany
- Bond voor Materialenkennis, The Netherlands
- Associazione Italiana di Metallurgia (AIM), Italy
- Associação Brasileira de Metalurgia, Materiais e

- The Japan Society for Technology for Plasticity (JSTP), Japan

### **Distinguished Plenary Speaker:**

Professor T.G. Langdon: University of Southampton/University of Southern California USA

### **Keynote Speakers:**

Eiji Abe, Japan	Shinji Kohara, Japan	Jose M. Rodriguez-Ibabe, Spain
Yoshitaka Adachi, Japan	Ernst Kozeschnik, Austria	Kazuyoshi Saida, Japan
Sergio Amancio, Austria	Ulrich Krupp, Germany	Gen Sasaki, Japan
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Graz University of Technology

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Università di Roma 2

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Prof. Terence. G. Langdon  
University of Southern California

#### **Korea**

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Prof. Hyoung Seop Kim  
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#### **Japan**

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Prof. Haruyuki Inui  
Kyoto University

#### **Southeast Asia/ Australia**

Prof. Mihail Ionescu  
ANSTO-Australia

Prof. Tara Chandra  
TCS - Australia

## Local Organizers

Prof. Christof Sommitsch  
General Chair  
TU Graz, Austria

Prof. Cecilia Poletti  
Program Chair  
TU Graz, Austria

## Student Participation & Student Grants :

Students are encouraged to submit abstracts for inclusion in poster/oral sessions at THERMEC'2020. The THERMEC committee is hoping to offer grants to selected students, expected to be funded by the Austrian Education/Cultural Ministry and Austrian industrial organizations. The student grants ( 20 female and 20 male) are available to the students from European countries, Japan, Korea, India, PR China, Russia, Brazil, Australia, USA and Canada to the students participating and making presentations at THERMEC'2020 in Vienna.

Please contact Prof. T. Chandra [thermec2020@tugraz.at](mailto:thermec2020@tugraz.at) for student grants after January 25, 2020. The procedure /details /conditions for grant are on the conference website [www.thermec2020.tugraz.at](http://www.thermec2020.tugraz.at)

Students can apply for a grant after their abstract has been submitted for inclusion in the program before the due date: Oct. 4, 2019. However, *only the registered students (after student has paid registration fee before January 22, 2020) will be considered for the student grants (20 female & 20 male) awarded on the first come first serve basis and on merit to deserving students. The grant is expected to cover hotel accommodation in Vienna during THERMEC2020 period including cash grant amount to the student recipient at registration desk in Vienna.*

## Supporting Organizations:

THERMEC'2020 is proudly associated with the following organizations.



## Social Program

Spouse/accompanying persons' program may be available at THERMEC 2020. Please contact us before January 28, 2020 if you are interested in it.

## Further Information

Conference Secretariat  
Institute of Materials Science, Joining & Forming  
Graz University of Technology (TU Graz)  
Kopernikusgasse 24/I  
8010 Graz, AUSTRIA  
Website: [www.thermec2020.tugraz.at](http://www.thermec2020.tugraz.at)  
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Welcome to Vienna, Austria!