



Third International Conference on High Entropy Materials

ICHEM 2020

27 September - 1 October 2020

Berlin, Germany



國立清華大學
National Tsing Hua University
高熵材料研發中心
High Entropy Materials Center



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27 September - 1 October 2020 // Berlin, Germany



**The Local Organizing Committee welcomes all participants to the ICHEM 2020
(Third International Conference on High Entropy Materials).**

Bayreuth, September 2020

The Organizing Committee will spare no effort to ensure that you will enjoy the next days in Berlin, of course by ensuring all necessary hygienic standards of today. Additional instructions regarding Corona virus affecting this conference will be provided throughout the conference.

We hope that everybody will experience a very good conference with stimulating meetings and discussions. The initial response (before Corona) was overwhelming with more than 200 contributions from over 21 countries. Unfortunately, the Corona pandemic changed this considerably. Due to travel restrictions, participants are mostly from Europe. Nevertheless, I think, we are able to present a rich program of high quality.

The concept is to have a meeting in the vital city of Berlin with its vibrant cultural life. We do our best to prepare an interesting and enjoyable on-site and social program and we hope that the ICHEM 2020 will help to strengthen the communication and relationships between materials researchers in the field of high entropy materials.

A conference like this requires the dedicated efforts of many people and I would like to thank all of them. Also, I would like to thank the International Scientific Committee of ICHEM 2020, who were very insightfully with respect to the very special circumstances in organizing this event.

I would like to acknowledge financial support by the Deutsche Forschungsgemeinschaft (DFG) and our industrial sponsors Netzsch, Nanoval, TCA (Taiwan) and HEMC (Taiwan). This support helps a lot to organize an attractive program.

With this, I wish all participants fruitful and enjoyable days in Berlin. The ICHEM 2020 staff and all members of the Local Organizing Committee will help you in case you need assistance.

With best regards

A handwritten signature in blue ink that reads 'Uwe Glatzel'.

Prof. Dr.-Ing. Uwe Glatzel



Conference Chairperson

Prof. Dr.-Ing. Uwe Glatzel
(Metals and Alloys, Univ. Bayreuth, Germany)

Local Organizing Committee

Easo P. George (ORNL, USA)
Uwe Glatzel (Univ. Bayreuth, Germany)
Michael Feuerbacher (FZ Jülich, Germany)
Anna Manzoni (BAM Berlin, Germany)
Dierk Raabe (MPIE Düsseldorf, Germany)

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Wei-Hua Wang (CAS, China)
Jien-Wei Yeh (Nat. Tsing Hua)
Yong Zhang (USTB, China)

Venue

The Third International Conference on High Entropy Materials takes place at the Steigenberger Hotel Berlin.

It is located nearby the Gedächtniskirche and Bahnhof Zoo.



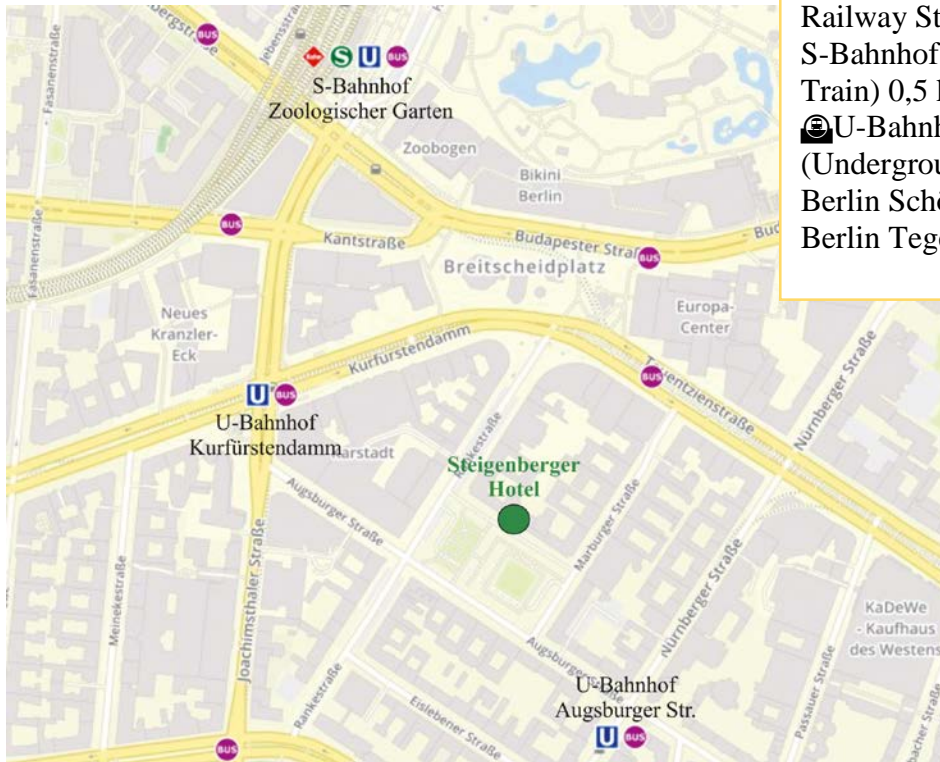
Steigenberger Hotel Berlin
Los-Angeles-Platz 1
10789 Berlin
Germany

Tel.: +49 (0)30 21 27 -702

Fax: +49 (0)30 21 27-799

Check In: after 15:00

Check Out: until 12:00 (noon)



✈ Berlin Hauptbahnhof (Central Railway Station) 4 km
S-Bahnhof Zoologischer Garten (City Train) 0,5 km
🚇 U-Bahnhof Augsburger Straße (Underground) 0,3 km
Berlin Schönefeld 23 km
Berlin Tegel 9 km

Keynotes



Prof. Dr.-Ing. Dierk Raabe

Max-Planck-Institut für Eisenforschung, Germany

Thermodynamics and symmetry effects in high entropy alloys



Dr.-Ing. Christian H. Liebscher

Max-Planck-Institut für Eisenforschung, Germany

Precipitation at twin boundaries and reverse phase transformation in high-entropy alloys studied by in situ STEM/HRTEM



Prof. Dr. Werner Skrotzki

Technical University Dresden

Characteristics of the FCC to HCP phase transformation in CrMnFeCoNi high-entropy alloy



Dr. M. Jean-Philippe Couzinié

Université Paris Est Creteil, France

Mechanical properties and underlying deformation mechanisms of a BCC+B2 refractory complex concentrated alloy // Thermally-activated deformation of the HfNbTaTiZr solid solution: a multi-scale study

Social Program on Sunday, 27 September 2020

18.00 - 21.00

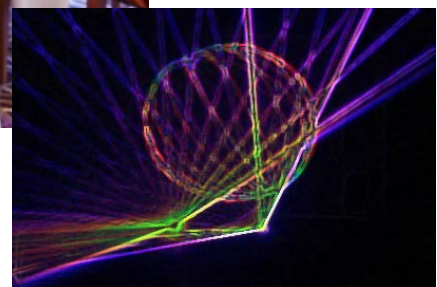
Welcome Reception and Dinner at the Steigenberger Hotel Berlin



Social Program on Tuesday, 29 September 2020

19.00 - 22.00

Dinner with Lasershow, Ballroom Hotel Steigenberger



Social Program on Wednesday, 30 September 2020

18.00 - 21.00

Boat trip with “MS Spreekrone”.

Meeting point: 17.45 at Schloßbrücke (Charlottenburger Ufer 1, 10587 Berlin)

Departure: 18.00

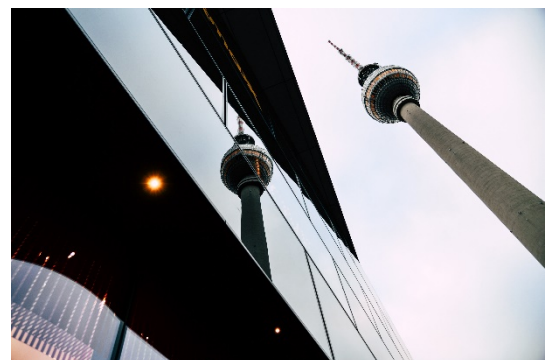
Route: City tour through historic and modern Berlin

(The trip starts at the Schloßbrücke in Charlottenburg and crosses the Spree through the government quarter and Nikolai quarter, through the Mühlendammshleuse to the Oberbaumbrücke and the Molekulemen and back again. The route is shown on the route plan in orange)



Menu with three courses including drinks will be served on-board

Impressions of boat trip:



Industrial Partners



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NETZSCH-Gerätebau GmbH
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Industrial Partners

意鑫合金工業股份有限公司

TCA (Transcrystal Alloy Industrial Corp.)

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Tel : +886 2 2367-8811

Factory: NO296, SHENGLI ROAD, HOU LUNG CHEN, MIAO-LI TAIWAN, R.O.C

Tel : +886 37 776-088

Founded in 1984, Transcrystal Alloy Industrial Corp (TCA) is specialized in alloy and super alloy castings in East Asia.

TCA's products are mainly made of high performance materials such as nickel-base, iron-nickel base and cobalt base alloys.

All of these alloys are excellent in corrosion resistance, wear resistance, oxidation, sulfurization, nitridation and carburization resistance. With their superior characteristics, these materials are suitable for industrial application where corrosive, abrasive and high temperature applications are applied.



1. Process

Induction furnace
(3 metric ton)

Vacuum induction
melting (200 kg)

Laser sintering 3D printer



2. Material analysis and inspection

Sparker atomic emission
spectrometer

Universal testing
machine

Optical microscope

Hardness tester



Handheld XRF spectrometer



3. Products

Valve



Pump Parts



Mechanical Parts



Tube & Tube support

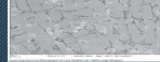


Aerospace Parts

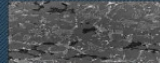


4. New type alloys research

Cobalt alloy No.6



New cobalt alloy



Cobalt alloy No.21



Corrosion rate
(3.5 wt% NaCl)



Hygienic Measures:



- Ballroom has a capacity of 480 people in non-Corona times. We are now limited to 66.
- Ventilation of rooms is maximized by hotel.
- Disinfection will take place on a regular basis. Hand disinfection are plenty available.
- Catering stations during coffee break will ensure the possibility to keep the necessary distances.
- Service personal will be using appropriate face masks.
- Please feel free to make suggestions to conference and/or hotel staff in case you think hygienic measures can be improved.



General:

Due to possible last minute changes under the current circumstances of Corona pandemic, the program may deviate from what is outlined here. The final program is updated regularly on www.ichem2020.de. For each session the information on speakers, titles and schedule are provided at the entrance.

The presentations can be provided as PowerPoint documents (alternatively: ADOBE PDF documents) which run on regular Windows computer. A CD or memory stick for file transfer is fine. You can also bring your personal laptop with you. If you need any other equipment, please contact the IChem 2020 organizers well before the start of your session. When the previous session has started, we may not be able to adjust to specific individual requirements.

Speakers are requested to contact the chairman of their sessions at least 20 minutes prior to the start of their sessions. The session chairmen are responsible for keeping IChem 2020 in time. The session chairman is allowed (and advised to) stop talks which take up too much time.

Presenting authors should be in their lecture room at least 20 minutes prior to the start of session. They should make sure that their presentation runs smoothly.

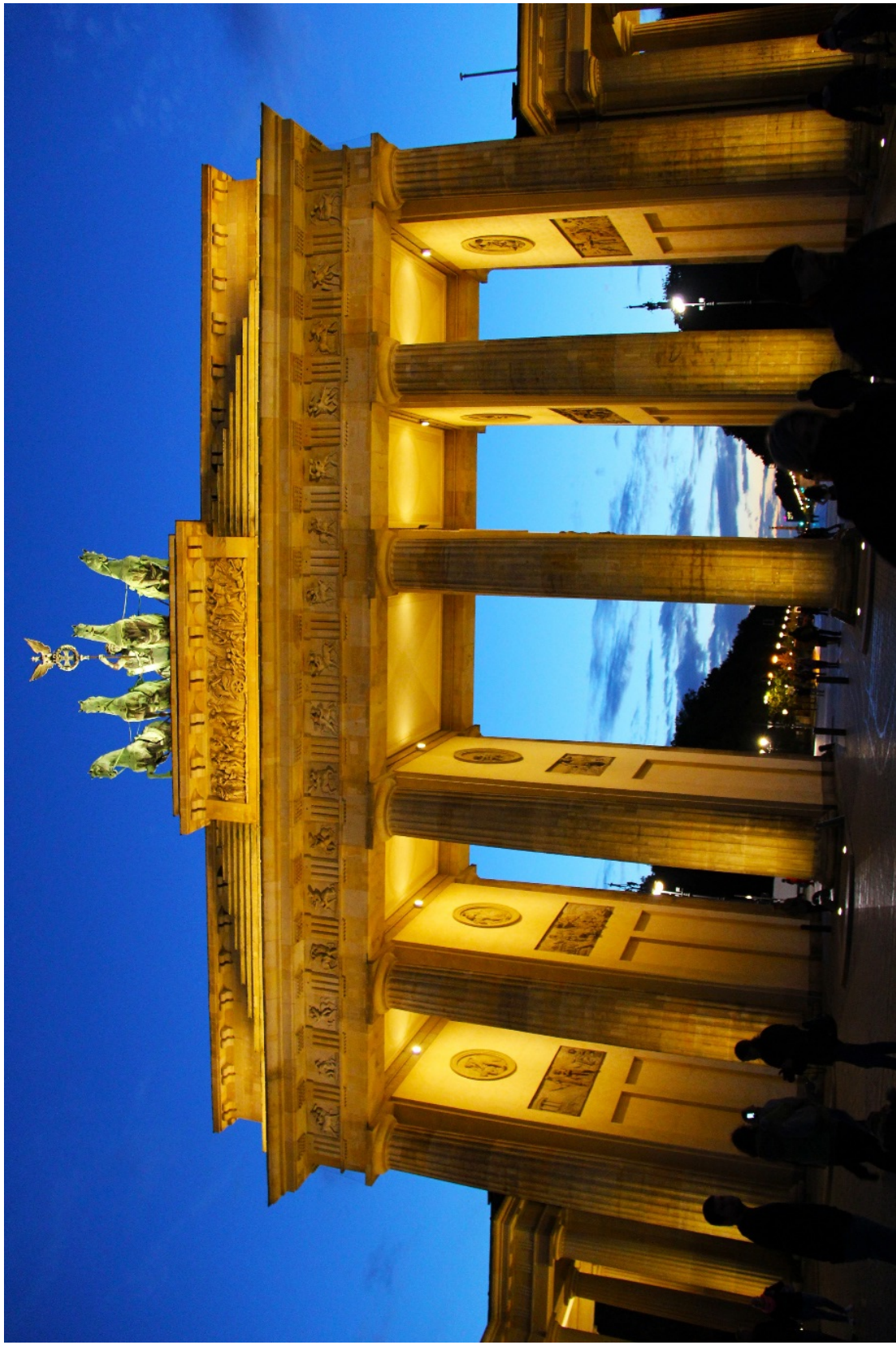
The total duration of an oral presentation is 20 minutes (keynote 40 min). Therefore, the actual presentation should take 15 minutes (keynote 30 min) which leaves 5 (keynote 10) minutes for discussion.

Dress code:

Dress code throughout the conference is casual (a tie is not necessary).

On Tuesday evening dress code is slightly more formal (again, a tie is not necessary).

On Wednesday evening (boat trip): Weather predictions in Berlin for end of September is very unpredictable. Everything in-between 5°C and 23°C is possible at daytime of the boat trip. Also chilly winds are possible. Therefore, please be prepared for cold weather. If the weather is fine, we will have a close to full moon on 30 September 2020.



ICHEM 2020

27 Sep – 01 Oct 2020

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