3rd International Workshop on High Entropy Materials (IWHEM 2020)
7-8 March, 2020
Department of Materials Science and Engineering
Indian Institute of Technology Kanpur

Technical Programme

Oral Presentation

7th March, 2020 (Saturday)

08:15 -08:40	**Registration (Conference Venue: Outreach Auditorium)**
08:30:09:00	**Inauguration**
09:00 – 09:15	Session 1: Chair: **Monica Katiyar, IIT Kanpur** Inaugural Talk: *High-Entropy Materials Technology* **Jien-Wei Yeh**, NTHU, Taiwan **(Skype)**
09:15 –09:30	**N.K. Mukhopadhyay**, IIT BHU *Phase evolution and their stability in equi-atomic and non-equiatomic high entropy alloys of transition metals and aluminum: some case studies*
09:30 – 9:45	**D.B. Miracle**, US, Air Force Base, USA *Refractory complex concentrated alloys (RCCAs) for high temperature structural applications*
9:45 – 10:15	**Session Discussion**
10:15 – 11:45	**Photography & Tea Break**
10:45 – 11:00	Session 2: Chair: **Sandeep Sangal**, IIT Kanpur **R.S. Mishra**, UNT, USA/**Subhasis Sinha**, IIT BHU *Transformative Complex Concentrated Alloys*
11:00 – 11:15	**Dan Sathiaraj,** IIT Indore *Effect of laser shot peening on the microstructure and mechanical properties of CrMnFeCoNi high-entropy alloy*
11:15 – 11:30	**Karsten Durst,** TU, Darmstadt, Germany *Solid solution Strengthening Effects in CrMnFeCoNi-based High Entropy Alloy systems: Diffusion Couples, Nanoindentation and High pressure Torsion Experiments*
11:30 – 11:45	**Ravi Sankar Kottada**, IIT Madras *Influence of processing route on the microstructural evolution and deformation behavior of CrMoNbTiW refractory high entropy alloy*
11:45-12:00	**J. Basu,** IIT BHU *Distinguishable Twins of Multi-component Family: BMGs and HEAs*
12:00 – 12:30	**Session Discussion**
12:30 – 13:45	**Lunch**
13:45 –15:15	**Poster Session A (Hall of Fame, Outreach Building), Chair: N.K.Mukhopadhyay, IIT BHU**
15:15 – 15:30	Session 3: Chair: **Amit Bhattachrajee**, DMRL, Hyderabad **P.P. Bhattacharjee**, IIT Hyderabad *Possibilities of Tailoring Heterogeneities for Enhancing Mechanical*

	Properties in High Entropy Alloys
15:30 – 15:45	**Ho Jin Ryu, KAIST, Korea** (Video/Skype) A Systematic Approach of Medium and High Entropy Alloys for Biomdical Applications
15:45 – 16:00	**Gandham Phanikumar/M.R.Rahul**, IIT Madras *Design and development of high entropy alloys using solidification studies*
16:00– 16:15	**Sumanta Samal,** IIT Indore *Phase equilibria and hot deformation behaviour of Fe-Co-Ni-Cr-Zr bimodal eutectic high entropy alloy*
16:15 – 16:45	**Session Discussion**
16:45 – 17:00	**Tea Break**
17:00 – 17:15	Session 4: Chair: **Dipak Das, DMRL, Hyderabad** Chris Berndt, Australia (Video) *Development of Plasma Sprayed Coating Low Oxide Content High Entropy Alloy Coatings: How Processing Conditions Influence Microstructure*
17:15 – 17:30	**Jayanta Das,** IIT Kharagpur *Nanoeutectic high entropy alloys: A new class of superstrong and multifunctional alloys*
17:30 -17:45	**N.P. Gurao,** IIT Kanpur *Elucidating the micro-mechanisms of deformation in CoCuFeMnNi high entropy alloy using crystallographic texture*
17:45- 18:00	**Bharat B. Panigrahi**, IIT Hyderabad *Competing driving forces during sintering of mechanically alloyed high entropy alloy powders*
18:00 – 18:30	**Session Discussion**
20:00 – 22:00	**Banquet Dinner**

8th March, 2020 (Sunday)

08:30 – 09:00	Registration (Conference Venue: Outreach Building)
09:15 – 09:30	**Session 5: Chair : Kallol Mondal, IIT Kanpur** **B.S. Murty**, IIT Hyderabad and IIT Madras *Development of High Entropy Alloys for High Temperature Applications*
09:30 –09:45	**Chinmoy Chattopadhyay,** NIFFT Ranchi *High entropy - high viscosity effect: stable amorphisation of Ni-Ti binary intermetallic compound by equiatomic substitution*
09:45– 10:00	**K.G. Pradeep,** IIT Madras *Combinatorial assessment of ferromagnetic phase formation in FeMnCoCrAl HEA*
10:00 – 10:15	**Jatin Bhatt/** K.S.N Satish Idury**,** VNIT Nagpur *Crystallization in Zr-Ti-Cu-Ni-Al High Entropy Metallic Glass: Atomic cluster bond energy approach*
10:15 – 10:45	**Session Discussion**
10:45– 11:00	**Tea Break**
11:00 – 11:15	Session 6: **Chair: Dan Miracle, AFRL, USA**

	Tanmoy Maiti, IIT Kanpur *High Entropy Perovskites: New Class of Materials for Oxide Electronics*
11:15 – 11:30	**R. Tewari,** BARC Mumbai *High Entropy Alloys for Nuclear Applications: New Concepts in Alloy Designing*
11:30 – 11:45	**K.Biswas,** IIT Kanpur *Development of Components using High Entropy Materials*
11:45-12:00	**T. P. Yadav,** BHU *Hydrogen Storage High Entropy Materials*
11:00– 12:30	**Session Discussion**
12:30– 13:45	**Lunch**
13:45 – 15:15	**Poster Session B (Hall of Fame, Outreach Building), Chair: Karsten Durst, TU Darmstadt, Germany**
15:15 – 15:30	Session 7: **A. K. Singh, IIT Kanpur** **Chandra Sekhar Tiwary,** IIT Kharagpur *High-Entropy Alloys for green energy and environment applications*
15:30 – 15:45	**M. Kakati,** Centre of Plasma Physics-Institute for Plasma Research, Assam *Fusion research relevant plasma surface interaction studies in the CPP-IPR CIMPLE-PSI Device, proposed exposure experiments with high entropy alloys*
15:45 – 16:00	**K. Kulkarni,** IIT Kanpur *Interdiffusion in High Entropy Alloys: Experimental Determination of Complete sets of Quinary and Quaternary Interdiffusion Coefficients*
16:00 –16:30	**Session Discussion**
16:40 – 17:00	**Valedictory, Award Distribution**
17:00 –17:15	**Tea Break**
20:00– 22:00	**Dinner (Lawn, Outreach Auditorium)**