European CMetAC

ECMetAC Newsletter No. 5

April 2021

Dear colleagues of the ECMetAC network,

Spring is in the air!

In several countries, the current situation regarding the Covid-19 indicators remains very worrying. Until the situation improves, scientific exchanges will continue remotely. Several events are already planned these months. More details are given below.

Stay healthy and best wishes.

Julian Ledieu, Ronan McGrath, Marc Armbrüster, Jean-Pierre Celis and Émilie Gaudry

Creative Commons Attribution - spring flowers,Gjakove! - Burim Syla

ECMetAC EuroSchool 2021 – online

Chaired by Dr Hem Raj Sharma of the University of Liverpool

ECMetAC Euroschool 2021: Complex Intermetallic Compounds for Applications will be held online on 24-28 May 2021.

Registration is free for anyone from an ECMetAC member institution. Non-ECMetAC members may join upon payment of a registration fee of €100. The registration deadline is 30th April 2021.

The webpage for registration is here

ECMetAC Euroschool 2021 : speakers

- Prof Boštjan Markoli, University of Ljubljana, Slovenia
  Metallurgy and properties of Al-based alloys
- Dr Constantin Vahlas, National Centre for Scientific Research (CNRS), Toulouse, France
  Chemical vapor deposition and atomic layer deposition: principles and challenges towards the processing of complex intermetallic films
- Prof Émilie Gaudry, Université de Lorraine/CNRS, Nancy, France *An introduction to the atomic and electronic structures of complex metallic alloys*
- Dr Hari Dahal, American Physical Society, USA
  Scientific publication and peer-review process

- Dr Hem Raj Sharma and Prof Ronan McGrath, The University of Liverpool, UK
  Surface properties of complex metallic alloys
- Dr Iryna Antonyshyn, Max-Planck-Institute for Chemical Physics of Solids, Dresden, Germany
  Intermetallic compounds in (electro)catalysis and important features of solid catalyst
- Dr Jon Alaria, The University of Liverpool, UK
  Magnetocaloric properties of metallic alloys
- Prof Julia Dshemuchadse, Cornell University, New York, USA
  Career opportunities in academia
- Dr Kirsty Young, Nu Instruments, UK
  Career opportunities in industries
- Dr Magdalena Wencka, Polish Academy of Sciences, Poznań, Poland
  Communication and negotiation skills for researchers
- Dr Marc Heggen, Forschungszentrum Jülich, Germany
  Plastic deformation mechanisms in CMAs: Dislocations and metadislocations
- Prof Paul Canfield, Iowa State University, USA;
  Cooking, fishing and jogging through phase space: a practical guide to discovering and understanding new materials
- Dr. Sebastián Alarcón Villaseca, Osram Opto Semiconductors, Regensburg, Germany
  Career opportunities in research and development
- Prof Silke Bühler-Paschen, Vienna University of Technology, Austria
  Complex intermetallic compounds for thermoelectric applications
- Dr Vincent Fournée, Université de Lorraine/CNRS, Nancy, France
  Complex metallic alloys as new materials for additive manufacturing: current and future applications

ECMetAC Euroschool 2021 : program

Activities are tutorials
Learn by doing!

In a few cases, they require a specific software (see next section)

	05/24/2021 Monday	05/25/2021 Tuesday	05/26/2021 Wednesday	05/27/2021 Thursday	05/28/2021 Friday
09:50-10:00	Opening remarks				
10:00-11:00	**Lecture:** General introduction to CMA (Gaudry)	**Lecture:** Magnetocaloric materials (Alaria)	**Lecture:** Intermetallic compounds in (electro)catalysis (Antonyshyn)	**Lecture:** Thermoelectric (Bühler-Paschen)	**Lecture:** Thin films and Coatings (Vahlas)
11:00-11:15	Break				
11:15-12:30	**Activity:** Draw crystallographic structures (Gaudry)	**Activity:** Magnetocaloric materials (TBC)	**Activity:** *Important features of solid catalyst* Catalysis (Antonyshyn)	**Activity:** Thermoelectric (Bühler-Paschen)	**Activity:** Thin films and coatings (Vahlas)
12:30-13:00	Break				
13:00-14:00	**Lecture:** Surface properties of CMAs (McGrath/Sharma)	**Lecture:** Discovering and understanding new materials (Canfield)	**Workshop:** *Communication and negotiation skills for researchers* (Wencka)	**Lecture:** Additive manufacturing (Fournee)	**Lecture:** Metallurgy and properties of Al-based alloys (Markoli)
14:00-14:15	Break				
14:15-15:30	**Activity**: Analysis of surface atomic structure data of CMA (McGrath/Sharma)	**Lecture:** Scientific publication and peer-review process (Dahal)	**Workshop:** *Communication and negotiation skills for researchers* (Wencka)	**Lecture:** Career opportunities (Dshemuchadsem, Young & Villaseca)	**Lecture:** Mechanical properties (Heggen)
15:30-16:30			**Workshop:** *Communication and negotiation skills for researchers* (Wencka)		Closing remarks

Euroschool 2021 : required software (for sessions “Activity”)

Activity “Draw crystallographic structures” with VESTA

VESTA is a 3D visualization program for structural models, volumetric data such as electron/nuclear densities, and crystal morphologies. This software is distributed free of charge for academic, scientific, educational, and noncommercial users. The webpage for download is here.

Announcements

RAD "Materials for energy"

A meeting of the RAD "Materials for energy" will be held as a virtual satellite to the Euroschool, on Monday, Mai 31. It will feature short presentations on topics related to this RAD (interpreted in a broad sense to go from thermoelectrics to topological materials), followed by discussions on on-going and possible new joint work. Please announce your interest (ECMetAC members only) in
1) attending
2) presenting
by sending an email to: Silke Buehler-Paschen, paschen@ifp.tuwien.ac.at until April 30, so we have time to arrange a good program.

1st International School on Hypermaterials

The 1st school on Hypermaterials will be held jointly with the IRN Aperiodic and organised online from 21th-25th June 2021. "Hypermaterials" is the name of a research project that is being conducted in Japan from 2019 to 2023. This project aims at establishing a new concept of substances, "hypermaterial", which is a high-level concept that includes the existing concept for substances, and also at creating a new theory that incorporates the concept of hypermaterial. The targeted audience is clearly a non-specialist: Master and PhD students, young or experienced scientists working in the field of crystallography, chemistry, material science or solid state physic and willing to have a basic under-standing of hypermaterials.

For more details, visit the website here

Kick-off meeting IRN Aperiodic

The 1st on site meeting of the IRN Aperiodic will be held 3-7 October 2021 in Carry le Rouet.

More information on the website here

25th Congress of the IUCr

14th-22nd August 2021, Prague, Czech Republic

More information on the website here

Online conference by Denis Gratias

For those who want to practice French (conference held in French - 5th May 2021)

More information on the website here

Connection details (Zoom link)
https://ijclab.zoom.us/j/93369353021
Password : ConfSFP

Missing Content?

If you have any news items for circulation, either on our website or in this newsletter, please send them to Julian Ledieu.

Newsletter Subscription

If you are interested in receiving the ECMetAC newsletter on a regular basis, please go to https://ecmetac.eu/ and subscribe for the newsletter at the bottom of the webpage

Imprint

European Integrated Center for the Development of New Metallic Alloys and Compounds (ECMetAC)
NSU v.z.w. a non-Profit Organisation under Title I of the Belgian Law
Kasteelpark Arenberg
44 B-3001 Leuven (Belgium)