17th International Symposium on Biodegradable Metals

Biometal2025

Practical Information & Program

IMPORTANT CONTACTS TO NOTE OR SAVE IN YOUR PHONE BEFORE DEPARTURE

Hotel (for communicating travel delays, answer in English) +39 0982 91012

Diego – all others - Phone: +1 418 717 0828
(what's up, messenger, kakao talk, wechat, and more ☺)

17th Biometal
25-30 AUGUST, 2025
Grand Hôtel San Michele,
Cetraro, CS, Italy

Forward

This document includes Last Minute Essential Information, and the Program (as of Aug 20, 2025) of Biometal2025. We worked to prepare a genuine experience during this Biometal2025, merging the highest Science on Bioresorbable Metals with an all-included personal networking. Please read these few pages, we addressed some details for you to know before attending the conference. Note that Social Activities might demand to pack some specific items for enjoying the activities we propose in this part of Italy.

The spirit of the conference

Biometal is a proven conference, annually held since 2009. The symposium is designed to emphasize its academic-conference-style with **an openly-discursive format continuously all-along the conference**, rather than a lecture and question–answer format. Therefore, attendance of the full event, onsite staying, and full-time presence are what is required for a rewarding full-immersive experience. A large portion of our attendees are returning every year. This style will be completed by the traditional discussions and the unconventional daily free-time sessions. Consider the Biometal symposium as an Advanced Study Institute, where exchanges and discussions are privileged and stimulated by all the attendees staying in the same hotel, sharing the same dining rooms and social spaces/moments. It is a 5-day all-inclusive conference where attendees leave the conference becoming trusted colleagues. The spirit of this conference includes knowledge deepening in the field of bioresorbable metals for translating ideas into clinics. It is a shared environment between early career and established scientists, industrial and academic researchers, in a stimulating context.

Behind the presentations, this symposium aims to discuss open questions on the session topics, new approaches, background knowledge, and personal views among the participants. Furthermore, discussions at the poster session will focus on specific topics and will encourage the participants to raise critical questions or help each other advancing the field of biodegradable metals.

The location was especially selected for bringing the attendees in a charming, safe, culturally rich region to explore, know and be inspired from the culture, the weather, the lifestyle, and the surroundings.

For all, we hope this will be an enriching experience, as it was for us the time and the energies we dedicated to plan and prepare it!

Have a safe travel, and we will be happy to meet you again soon in Cetraro!

A presto 😊

Diego, Sofia, Frank, Chris and Yufeng

We wish each one and everyone a very enriching, fruitful and pleasant event!

Venue

The 17th Biometal 2025 venue is the:
Grand Hotel San Michele - Contrada Bosco,30
Cetraro, 87022 (Cosenza), Italy
Hotel Phone (for communicating travel delays, answer in English) +39 0982 91012

Plan to arrive Monday 25 August, the registration includes 5 nights the hotel from that night. Registration will be open since 16h30. Welcome Reception will start at 18h00 with the traditional cocktail offered by the Hotel to welcome the guests. The dinner will be served from 19h15.

We will be the only Guests in the Grand Hotel San Michele from Monday 25 to Saturday 30.

Additional nights or additional guests: Check on registration your leaving date and be assured that this concord with the number of nights you added to your registration package (5nights).

Cetraro, and especially the Mediterranean Coast of Calabria region, offer a safe, pleasant, touristic, typical Mediterranean-Italian-Calabrese environment for summer holidays. The coast is safe (but use prudence in the night) for walking, relaxing, enjoying the life, and feel out of your comfort zone, … this is a typical constant in Biometal serie conferences.

The conference dress code is casual sport. Feel comfortable to dress as you prefer, and what make you receptive, and open for scientific discussion, sharing and discussing your point of view in (and out) the field, meet old, and make new, friends!

Travel info

From Italy, by car (*Diego's choice*)

The Gran Hotel San Michele is on the road between Paola and Diamante, a very charming road that follows the Mediterranean coast. The gate of the entrance of the hotel is shortly after Cetraro on the road for Diamante, in a zone called "Bosco". You will see an entrance with few trees, and the magnificent hotel right at the top of the road. Pay attention to the speed radar, very efficient and always on, speed is limited to 50 km/h. Paola is the biggest city on the coast and is the biggest train terminal in Calabria. It is easily reachable from Cosenza through a high-speed highway, through the charming mountain of Calabria region. Diamante is a charming village, rich in murals, charming and very touristic. ice creams, restaurants, beaches, nice wines and all the alcoholic beverages of Calabria can be found here. If you plan to visit the region, a rental car, even from Rome or Naples, can be a good option. A good highway will bring you to Cosenza, and then in 45 to 60 minutes, you will be in Cetraro.

From International, by flight

The easiest way to fly from international is to fly on:

- Rome Fiumicino International Airport (code FCO)
- Naples Capodichino International Airport (code NAP)
- Lamezia Terme International Airport (code SUF)

All three airports offer car rentals from all major companies.

From **Rome** Fiumicino International and from **Naples** Capodichino International Airport we recommend you rent a car (if you are in a group or wish to visit the region, parking is available at the Hotel) **OR** pursue by train to Paola Train Station. Paola train station is the closest train station, at only 24 km from the Gran Hotel San Michele. After landing in Rome or Naples, you can reach Termini Train or Central Train stations in Roma or Naples, easily with a train or a bus in 30-35 (Rome) or 10-15 minutes (Naples). You can reach Paola train station from these stations with a high-speed train (see below, reservation is required, and a ticket must be booked and bought in advance). From Paola train station, a shuttle will bring you to the Gran Hotel San Michele, in Cetraro (30 min approx). Be sure to provide us with the time/number/and name of the train that is supposed to bring you to Paola.

If you land at **Lamezia Terme** International Airport, a shuttle will bring you to the Gran Hotel San Michele, in Cetraro (90 min approx). Lamezia Terme Intl Airport is 90 km from the Gran Hotel San Michele. Be sure to provide us with the company/flight number/and the time that you expect to land in Lamezia Terme.

Trains from Rome and Naples to Paola

Reservation is mandatory on high-speed trains.

Paola Train Station is where high train speed stop – close to Cetraro. There is also a stop in Cetraro, but only regional train stop there (often delays are unpredictable and might be long). We organized the shuttle waiting for you, contact Pierre, at pierre.bolduc@conferium.com or Diego (+1-418-717-0828) in case you did not do yet.

SHUTTLE: In Lamezia Terme Airport ans in Paola Train Station, we organized the shuttle waiting for you, contact Pierre, at pierre.bolduc@conferium.com or Diego (+1-418-717-0828) in case you did not do yet. Once you exit the train station/airport main entrance, wait the shuttle. You might wait for a moment in order the shuttle be back for you (we regrouped few people arriving in the same hour). The shuttle is identified by a cartoon with "Biometal2025 Shuttle" written on it. The driver name is Eddy (or someone of his family). If you find waiting too long, remember that a coffee (*caffé*, synonym of expresso) or *cappuccino* with a *sfogliatella napoletana* (*riccia* of course) are simple, effective and affordable (2-3 Euro) to forget you are waiting, and think to be in paradise (*paradiso*) for few moments.

IMPORTANT to remember

- Flight to Naples, Rome, or Lamezia Terme international airports, wherever it is more convenient for you.
- From Naples and from Rome you will need to take a train to Paola train station, where in 30min a shuttle will bring you to the Biometal2025;
- From Lamezia Terme, a shuttle will bring you in 90min to the Biometal 2025;
- The shuttle cost (either from Paola train station or Lamezia Terme Intl Airport) will be asked of you at the conference registration desk (see Pierre) when your conference badge will be remitted to you. Please bring it in cash, no atm close or credit card payment, a receipt will be waiting for you.

Some facts about Cetraro and the Calabria region

- This is one of the less explored regions in Italy by foreign tourists, while is widely frequented by Italians and Italians leaving outside Italy;
- It is a coastal region, with mountains up to 2200 mt, pure and deep water, and beautiful beaches;
- This region is bathed by the Tyrrhenian and Ionic Seas;
- This is the home region of Pythagoras, the inventor of the famous Theorem for right triangles;
- The weather in August is expected to be hot, 30 to 35 and even more degrees C, but windy;
- The region is safe, but be cautious, you are in Italy…

Social Activities

The following social activities are planned:

Monday 25 Aug 2025, 18h00-20h00: Welcome Cocktail Grand Hotel San Michele. From 16h30 to 19h30 registration will be open in the lobby. Close by, from 18h00 drinks will be served at the Welcome Reception for Biometal2025. From 19h15/19h30 dinner will be served. Stop to meet old friends and make new ones!

Thursday 24 Aug 2025. Two tours will be available, as follows. More details onsite.

TOUR A - MAGNIFICENT SCALEA, the MEDITERRANEAN SEA AND its BEAUTY
At 14h00, BUS TO Scalea, 45 min each way. Two options: i) with three guides (speaking English) visit the medioeval village of Scalea and discover its secrets. To have an idea, check here (but there are much more online):

Video 1 ; Video 2 ; Video 3

TOUR B – Extreme Biometal 2025 = Rafting Experience on Lao River
At 14h00, Bus to Papasidero, 60 min each way.
11 km rafting on the Lao river, safe but **extreme** activity, 3-4 hours.
Please note:
-Equipment furnished (including guide, helmet, boat and navigation tools, floating clothes, and water dress).
-Participants MUST provide: suit swim, shower soap and towels, dry T-shirt & dry-shoes, shoes for entering water.

Friday 29 Aug 2025, from 20h00 to midnight (and more): To close the 2025 edition of the Biometal symposium, we have planned an intriguing night, with local dance (tarantella) and music, from 20h00 to midnight. Come to enjoy the last night, with friends while relaxing in the swimming pool area. Casual sport dress suggested.

For all the above ACTIVITIES, please do not forget to put in your luggage: Sunscreen, hat, beach shoes, swimsuits, sunglasses, and (multiple and fast drying) comfortable shoes.

Allergies, Intolerances, and Preferences

Biometal shares values and aim to recreate an environment that care and consider a valued equity, diversity and inclusive immersion for all attendees. We respect your allergies, intolerances and will do our best to satisfy your preferences. We already asked each one of the registered participants to let us know his-her situation. Might you feel the need to remind, or just to let us know, please contact asap pierre.bolduc@conferium.com or Diego (+1-418-717-0828) in case you did not do yet. Although we guarantee we will do our best, we also recognize that it is **your** responsibility to vigilate so to guarantee a safe and healthy environment for yourself, and your beloved attending with you. The cooks are all advised of the preferences you indicated us during registration.

Instructions for Presenters

Speakers are responsible for the content of their presentations.

Four types of presentations are offered during the 17th Biometal 2025:

Keynote (K)

On invitation only, 40 minutes including 5 minutes (minimum, 8 maximum) discussions. Keynote speakers are allowed to connect their own computer to the audiovisual equipment.

Oral (O)

20 minutes presentations including 2-4 minutes discussion. **Please keep the time**. For the benefits of all, we strongly suggest limiting your presentation to 12 minutes. Oral presenters MUST upload their files and check the compatibility of the presentation with the audiovisual equipment in advance and no later than the coffee break prior to the presentation session. Please contact the AV responsible volunteers the day before your presentation.

Short oral presentation (SOP)

SOP are presentations that include 2 parts: 1) 5 minutes fire presentation (*a short discussion for burning questions on a cluster of 3 to 4 short oral presentations will be held at the end of the presentation, see the program);* **AND** 2) Poster displayed all the conference length. The presenter will be asked to remain in front of his/her poster during one of the poster session which will be held on Wednesday (Metals) and Friday (Corrosion, in vitro and in vivo) from 21h30. During the first, posters with an odd number will be presented, while in the second poster with an unpair number will be presented. All papers presented as SOP also need to be presented as Poster for allowing discussion and foster exchanges. Short-Oral presenters MUST upload their files and check the compatibility of the presentation with the audiovisual equipment in advance, and no later than the coffee break prior to the presentation session. We suggest SOP presenters to limit their slides to 5, and include title, context/approach, goal(s) of the work, and the main original result(s).

Poster (P)

Poster Size: 95x100 cm

Posters are expected to generate discussion between participants during all 17th Biometal 2025. **All registered participants are offered to bring a poster to enhance the chance and the potential to show and discuss their work in the field even out of the allowed poster hours**. If you intend to bring a poster that was not registered at the conference, please bring it, and contact Diego on arrival.

Posters will be displayed and available for generating a basis for discussion and exchange during coffee breaks, afternoon breaks, and nights. Posters will be accessible from morning to late at night. Tables and chairs will be available to attendees to seat, share and discuss further. Please prepare your poster to stimulate questions, exchanges, provide ideas breakthroughs in the field. We strongly suggest presenters to include or bring a photo of themselves to be put up next to the poster so to facilitate interactions between participants. Tools for fixation will be provided onsite.

Code of Conduct for Biometal events

The ***Biometal Intl Organizing Commitee*** developed this Code of Conduct to communicate our common understanding of basic values and rules for respectful cooperation and communication. These guidelines apply to everyone, regardless of their level or field of experience, gender or gender identity, age, national origin or nationality, cultural background, religious creed, sexual orientation, family status and health condition. The purpose of the Code of Conduct is to identify the core ethical values for conducting research within the Biometal community, to establish an example and to develop this further within the wider Biomaterials community. We encourage all Biometal2025 attendees, online or onsite, to implement and transmit the values of the Code of Conduct within and outside the Biometal environment such as within their working groups, research departments and institutes.

VALUE OF INTERNATIONALISM AND INTERCULTURALISM

We desire and value a highly international and intercultural research community bringing in different perspectives on scientific questions, research methods and experimental set-ups for the improvement of our research. We endeavour to develop and maintain a respectful cooperation by acting and communicating in cultural sensitive ways within and outside the research community.

TRANSPARENCY ON RESEARCH OUTPUT

Research follows ethical principles, not only with respect to the way it is conducted but also with respect to the research output. We therefore follow important guidelines, for example, the fulfilment of regulations regarding (co)-authorship on publications and the FAIR* principle of data availability and access.
*FAIR data = findable, accessible, interoperable, reusable.

VALUE OF DIVERSITYAND INDIVIDUALISM

We encourage and acknowledge the importance of diversity in research teams by fostering staff with different backgrounds, ways of living, beliefs and nature to bring in diversified experiences, research ideas, ways to organize work and communicate. A diverse working environment supports an open exchange of individual ideas and the development of diverse practices to improve the cooperation between scientists and advance research.

> Individuals who participate (or plan to participate) in the Biometal Scientific Meeting should conduct themselves at all times in a manner that comports with both the letter and spirit of this policy prohibiting harassment and abusive behavior, whether before, during, or after the event. This includes statements made in social media postings, on-line publications, text messages, chat rooms, **posting screenshots without permission** and all other forms of electronic communication.

CAREER DEVELOPMENT

Early career scientists at the graduate and postgraduate level are encouraged to participate, discuss, network with established scientists during our activities to discuss, exchange, questioning training and structured career support. Career development support is expected from supervisors, mentors, principal investigators and all other academic, industrial, governmental officers in leading positions.

ZERO TOLERANCE FOR UNJUST TREATMENT AND HARASSMENT

Everyone shall be treated equally and fairly. Specific individual requirements such as different levels of familiarity with the International Scientific System, different levels of experience, various language capacities, and confidentiality obligations should be taken into consideration in our discussions and expectations of each other. Discrimination, mobbing and sexual harassment are under no circumstances tolerated in all working environments, including sessions, social activities, formal and less formal meetings. Everyone shall be free to speak up about inappropriate and unjust behaviour or make use of the formal (anonymous) channels provided by our lobby desk. Serious cases can lead to official complaint procedures.

SUGGESTIONS TO IMPROVE COMMUNICATION IN ONLINE ENVIRONMENTS

- Embrace joy and humour
- Smile and be welcoming if you chose to use your camera
- Make efforts to build new connections
- Use inclusive and appropriate language
- Embrace different communication styles and dialogues about science
- Be open to suggestions and feedback
- Be purposeful in allowing equitable time allowed for underrepresented voices
- Avoid gendered pronouns, gendered terms and heteronormative* statements in presentations
- Be understanding of the current online environment is also family space for many participants
- External interruptions, muting and unmuting, unstable Internet are all realities that need to be addressed with patience and good humour

UNACCEPTABLE BEHAVIOUR

Biometal specifically prohibits posting conference materials, screenshots of chat room discussions or comments, questions, photos of posters or recordings of the conference outside of our event or virtual space without consent.

Online and onsite events need to be safe and open spaces for discussions.

- Violence and threats of violence. Incitement of violence towards any individual.
- Derogatory comments related to gender, gender identity and expression, sexual orientation, disability, mental illness, neuro(a) typicality, physical appearance, body size, race, religion, or socio-economic status.
- Posting or threatening to post other people's personal info, identifying information.
- Use of social or mainstream media to target individuals in a way that could harm their privacy and/or reputation.
- Deliberate mis-gendering such as not using a person's preferred pronouns.
- Inappropriate photography or recording.
- Unwelcome sexual attention. This includes, sexualized comments or jokes; inappropriate and unwelcome sexual advances.
- Deliberate intimidation, stalking or following (online or in person).
- Sustained disruption of community events, including talks and presentations.
- Advocating for, or encouraging, any of the above behaviour

Final Program, as of Aug 21, 2025

We invite you to review this advanced (but not necessarily final) program of the conference, and especially the information that concerns yourself and your presentation. If you notice any discrepancy, or if you have any ideas, comments or suggestions, please contact Carlos at carlos-henrique.michelin-beraldo.1@ulaval.ca

Monday 25 Aug, 2025

Arrival

Room available from 15h00

Luggages can be stored for you

Private beach available

Lunch available for purchase at the hotel

16h00-20h00	*Registration*
18h00-19h30	*Welcome Reception on the Terrasse*
19h30-21h30	*Dinner*

Tuesday 26 Aug, 2026

Workshop Day

Innovation in Biometals

Co-chairs	*Frank Witte, Diego Mantovani*
AV	*Xinna Zhu, Ferdinando Barazza*
7h00-8h30	*Breakfast*
8h45	*Introductory Remarks*
9h00	Innovation Cluster 1

131-3F2C-305 **Development of bioabsorbable metals for endovascular medical devices: a presentation of the BIOMEND Doctoral Network**

Alex Mainguy[1], Kiarash Mashoufi[1], João Cruz[1], Marius Thiel[2], Simon Schmidt[2], Vittoria Squartecchia[3], Diego Blunda[2], Jan Sygor[4], Alessandra Di Lorenzo[5], Maike Bittner[2], Mariana Rodrigues[5], Sean O'Connell[6], Amr Fathy[7], Anastasia Panagi[8], Ted Vaughan[2], **Alexander Kopp[1]**

[1] Meotec GmbH, Germany; [2] University of Galway, Ireland; [3] IMDEA Materials Institute, Spain; [4] University of Eastern Finland, Finland; [5] Fibrothelium GmbH, Germany; [6] Hydrumedical SA, Portugal; [7] Embocraft GmbH, Germany; [8] Maastricht University, Netherlands

	20'		**The idea behind the project**
	20'		**The project, the partners, the expected outcomes**
	20'		***Discussion***
10h00	**Innovation Cluster 2**		
	Biometals for Pediatric Cranial Applications		
	20'	131-SFB6-55	**Resorbable magnesium alloy implants for cranial applications** **Jesse Skoch**[1], Bryce Owen[2], Ayush Raut[2], Benjamin Kraus[2], Vesselin Shanov[2] [1] *Cincinnati Children's Hospital Medical Center, USA;* [2] *University of Cincinnati, USA*
	20'	131-isUC-55	**Engineering biodegradable WE43 springs for craniosynostosis repair** **Benjamin Kraus**[1], Ayush Raut[1], Jesse Skoch[2], Bryce Owen[2], Vesselin Shanov[1] [1] *University of Cincinnati, USA;* [2] *Cincinnati Children's Hospital Medical Center, USA*
	20'		***Discussion***
11h00	***Break***		
11h30	**Innovation Breakthrough 1**		
	30'	131-jLap-285	**Biocompatible therapeutic platform: plant-derived nanovesicles for ROS modulation in chronic inflammatory diseases** **Yuna Jung**, Sun Hee Lee, Chris Hyung-Seop Han *Korean Institute of Science and Technology, South Korea*
12h00	**Innovation Breakthrough 2**		
	30'	131-Hax8-304	**Machine learning approach for predicting the corrosion behavior of coated magnesium-based materials** Abdelrahman Amin[1], Ibrahim Awad[2], **Hamdy Ibrahim**[1] [1] *University of Tennessee Chattanooga, USA;* [2] *Independent Researcher, USA*
	20'		***Discussion***
13h00	***Lunch & Free time***		
Co-chairs	*Diego Mantovani, Frank Witte*		
AV	*Abdelhakim Cherqaoui, Carlos Cuao*		
15h00	**Innovation Cluster 3**		
	Biometals for Innovation in Ocular Treatments		
	20'		**The idea behind the project : From clinics to materials** **Marco Ferroni**, CEO *MgShell, Italy*
	20'		**Future developments** **Francesco de Gaetano**, CTO *MgShell, Italy*

	20'	***Discussion***	
16h00	**Round Table**	**Accelerating Clinical Transfer in Patient Interests: Do Regulatory Process is Too Heavy?**	
Moderator	*Sviatlana Lamaka*		
	5' each	***6 industrials present their vision***	
	30'	***Discussion***	
17h00	***Break***		
17h30	**Innovation Breakthrough 3**		
	30'	**Surface modifications for R&D in corrosion, in vitro and in vivo testing** **Andranik Sarkissian,** CEO *Plasmionique Inc., Varennes, Canada*	
18h00	**Innovation Breakthrough 4**		
	30'	131-KN9W-285	**Artificial bioelectrical current stimulation derived from autonomous hydrovoltaic electricity generator for cell therapy** **Soyeon Park**[1], Indong Jun[2], Hojeong Jeon[1], Chris Hyung-Seop Han[1] [1] *Korea Institute of Science and Technology, South Korea;* [2] *Korea Institute of Science and Technology (Europe), Germany*
	20'		***Discussion***
18h50-19h10	***Sum Up and end of the Workshop***		
20h00	***Dinner***		
21h30	***Get Together on the Terrasse***		

Wednesday 27 Aug, 2025

Day 1

Metals

Co-chairs	*Sofia Gambaro, Chris Hyung-Seop*	
AV	*Iria Araujo, Luciana Malvestiti*	
7h00-8h15	***Breakfast***	
8h30	**131-1K9h-85 KN1**	**Phenomenological studies on powder bed fusion - laser beam processing of biodegradable Mg alloys** **Francesco D'Elia** *Uppsala University, Sweden*
9h10	131-tpGM-215 O1	**Additive manufacturing anatomical magnesium alloy prosthesis for repairing tibial plateau fracture** **Yun Tian**[1], Bingchuan Liu[1],Zhengguang Wang[1],Chaoxin Wang[1], Peng Wen[2], Yufeng Zheng[3]

[1] Department of Orthopedics, Peking University Third Hospital, China; [2] Department of Mechanical Engineering, Tsinghua University, China; [3] Department of Materials Science and Engineering, Peking University, China.

9h30	131-8nTM-15 O2	**Additively manufactured biodegradable Zn-Mn-based implants with an unprecedented balance of strength and ductility** Yageng Li, Chengcong Huang, Luning Wang *University of Science and Technology Beijing, China*
9h50	131-VwoJ-15 O3	**Electroformed Fe-Zn Binary Alloys for Tiny Medical Devices: Exploring the Effect of Zn on the Microstructure and Electrochemical Properties** Carlos Henrique Michelin Beraldo, Carlo Paternoster, Diego Mantovani *Laval University, Canada*
10h10	***SOP Session***	
	131-NeJ4-315 SOP1	**3D-Printed Biodegradable Zn alloy Scaffolds to Suppress Osteosarcoma and Promote Osteogenesis** Dandan Xia[1], Peng Wen[2], Yufeng Zheng[3] *[1] Peking University School and Hospital of Stomatology, China; [2] Tsinghua University, China; [3] Peking University, China*
	131-aL2b-304 SOP2	**Natural ageing and static recrystallisation effects of additively manufactured biodegradable pure Zn and Zn-Mg alloys** Himesha Abenayake, Luisa de Souza Dieter, Cecilia Persson, Francesco D'Elia *Division of Biomedical Engineering, Department of Materials Science ang Engineering, Uppsala University, Sweden*
	131-BHE9-15 SOP3	**Optimization of 3D printing parameters to densify the microstructure of FeMnC alloys for biomedical applications** Carlos Cuao[1], Carlo Paternoster[1], Simon Gélinas[1], Paolo Mengucci[2], Carl Blais[1], Diego Mantovani[1] *[1] Laval University, Canada; [2] Università Politecnica Delle Marche, Italy*
	131-bTCh-15 SOP4	**Powder-based precipitation simulation of a MgZnCa alloy** Belén Alonso Rancurel[1], Vitalii Shtender[1], Daniel Primetzhofer[1], Francesco D'Elia[1], Martin Fisk[2], Cecilia Persson[1] *[1] Uppsala University, Sweden; [2] Malmö University, Sweden*
10h30	***SOP Discussion***	
10h45	***Break***	
11h15	131-A4DB-304 O4	**Enhancing the mechanical performance of biodegradable zinc alloys for vascular stents through trace lithium alloying** Jialin Niu *Shanghai Jiao Tong University, China*
11h35	131-anHj-294 O5	**Pre-Implantation Property Changes: Monitoring Mechanical Drift in Mg Alloys Over Time** Adam Griebel, Phil George, Jeremy Schaffer *Fort Wayne Metals, USA*

11h55	131-hFTs-15 O6	**Improving the properties of zinc-based alloys: an analysis of the effects of alloying and extrusion on** **Magdalena Bieda-Niemiec**[1], Kinga Mycek[1], Karol Krolewski[1], Anna Jarzebska[1], Lukasz Maj[1], Lukasz Rogal[1], Mariusz Kulczyk[2], Jacek Skiba[2], Carlo Paternoster[3], Diego Mantovani[3] *[1] Institute of Metallurgy and Materials Science of Polish Academy of Sciences, Krakow, Poland; [2] Institute of High Pressure Physics, Polish Academy of Sciences, Warsaw, Poland; [3] Laboratory for Biomaterials and Bioengineering, Laval University, Québec, Canada*
12h15	***SOP Session***	
	131-3fMS-15 SOP5	**Printability, microstructure formation, and material properties during L-PBF of binary Mg-Li alloy** **Stephanie Kotiadis**[1], Cecilia Persson[1], Tomasz Choma[2], Francesco D'Elia[1] *[1] Uppsala Universitet, Sweden; [2] Amazemet, Poland*
	131-gZwD-65 SOP6	**Tailoring surface quality and geometrical accuracy in additive manufacturing of biodegradable Mg/Zn alloys via powder quality and laser process control** **Simon Pöstges**[1], Timo Poel[1], Florian Fischer[2], Maximilian Voshage[2], Alexander Kopp[1] *[1] MEotec GmbH, Germany; [2] Chair for Digital Additive Production DAP, Germany*
	131-Hrvf-284 SOP7	**Dynamic response of additively manufactured WE43 lattice structures under high-strain compression** **Zaki Alomar**[1], Bratislav Lukic[2], Cecilia Persson[1], Per Isaksson[1], Francesco D'Elia[1] *[1] Uppsala University, Sweden; [2] European Synchrotron Radiation Facility, France*
12h30	***SOP Discussion***	
12h45	131-iP1N-215 O7	**Development of a novel magnesium alloy with high degradation resistance and osteo/angiogenesis activity through scandium-enhanced growth of passivation film** **Zhengguang Wang, Yun Tian** *Peking University Third Hospital, China*
13h05	131-KU5s-15 O8	**Fe-Mn-C-Zn Coatings via Magnetron Sputtering Co-Deposition: Temperature and Target Power Effects on Microstructure and Electrochemical Properties** **Xinna Zhu**[1], Carlo Paternoster[2], Andrea Gatto[1], Diego Mantovani[2] *[1] Department of Engineering Enzo Ferrari, University of Modena and Reggio Emilia, Italy; [2] Laboratory for Biomaterials and Bioengineering, Laval University, Canada*
13h30	***Lunch & Free Time***	
Co-chairs	*Magdalena Bieda, Joseph Buhagiar*	
AV	*Carlos Beraldo, Clara Hynes*	
16h20	**131-qY4B-14** **KN2**	**There are no molecules in metals and alloys** Norbert Hort[1], **Domonkos Tolnai**[1], Petra Maier[2] *[1] Helmholtz-Zentrum Hereon, Germany; [2] University of Applied Sciences Stralsund, Germany*
17h00	131-mQ9U-265 O9	**Molybdenum Neurovascular Implants: Bridging Biodegradability and Neural Safety for Stroke Management** **Yufeng Zheng**, Yunong Shen *Peking University, China*

17h20	***Break***	
17h50	131-kWsC-15 O10	**High-strength, low-degradation Mg microtubes for biodegradable vascular stents** **Joung Sik Suh**[1], Chang Dong Yim[1], Byeon-Chan Suh[1], Ha Sik Kim[1], Sang Eun Lee[1], Jaeseong Kim[1], Hwa-Chul Jung[2] *[1] Korea Institute of Materials Science, South Korea; [2] CG MedTech Co., Ltd., South Korea*
18h10	131-eYB1-102 O11	**Development and surface protection of high-purity magnesium materials for medical applications** **Zhentao Yu**, Weihong Jin, Qiwei Wang, Qingyun Fu *Jinan University, China*
18h30	131-b2KK-15 O12	**Power source device considerations for Micro Arc Oxidation to coat Mg1.2Zn0.5Ca0.5Mn alloy coupons with large surface area** Luis H. Olivas-Alanis[1], Sourav Dutta[1], Javier Vazquez-Armendariz[1], Gabe Krieger[1], Alan Luo[1], **David Dean**[2] *[1] The Ohio State University, USA; [2] University of Wisconsin-Madison, USA*
18h50	***SOP Session***	
	131-4p6g-55 SOP8	**Degradation behavior of as-cast and extruded Mg-Dy-Zn alloys under physiological conditions** **Genzhi Jiang**, Yuanding Huang, Domonkos Tolnai, Norbert Hort *Helmholtz-Zentrum Hereon, Germany*
	131-jcUT-315 SOP9	**In vitro degradation behavior of composite MAO/sol gel coated Mg-1.6Zn-0.5Ca-0.5Mn alloy** Sourav Dutta[1], Luis H. Olivas-Alanis[1], Gabe Krieger[1], Alan Luo[1], **David Dean**[2] *[1] The Ohio State University, USA; [2] University of Wisconsin-Madison, USA*
	131-UDKj-25 SOP10	**Stronger Absorbable Wire for Small Anatomies** **Jeremy Schaffer**, Adam Griebel *Fort Wayne Metals Research Products, LLC, USA*
	131-Zqyx-15 SOP11	**Engineering solvent-free resorbable polymer-metal hybrid structures for next generation bone implants** Christina Ingelmo, Sara Sánchez Gil, Maria Dolores López González, Pilar Rodrigo, Joaquín Rams, Juan Pablo Fernández Hernán, **Sandra C. Cifuentes** *Universidad Rey Juan Carlos, Spain*
	131-Tr1P-56 SOP12	**Microstructural and degradation evaluation of Fe-based biodegradable scaffolds fabricated using polyurethane templates** **Marlena Grodzicka** *Nicolaus Copernicus University, Poland*
19h15	***SOP Discussion***	
19h30	***End of the Day***	
20h00	***Dinner***	
21h30-00h00	***Poster Session & Local Drinks, including Digestives***	

Thursday 28 Aug, 2025

Day 2

Corrosion

Co-chairs	*Silvia Cere, Petra Maier*	
AV	*Abdelhakim Cherqaoui, Carlos Cuao*	
7h00-8h15	***Breakfast***	
8h30	**131-jEk9-15** **KN3**	**High-throughput robotic and machine learning-driven discovery of dissolution modulators for post-PEO functionalization of Mg surfaces** Bahram Vaghefinazari, Tim Wurger, Carsten Blawert, Mikhail Zheludkevich, Christian Feiler, **Sviatlana Lamaka** *Institute of Surface Science, Helmholtz-Zentrum Hereon, Germany*
9h10	131-wsm6-304 O13	**Specification setting for RESOLOY®: Influence of dysprosium on property evolution across manufacturing stages in biodegradable cardiovascular stents** **Huu Chánh Trinh**[1], Niklas Ihmann[2], Roman Menze[1], Christian Podolsky[2] [1] *MeKo Manufacturing e.K., Germany;* [2] *HAWK Göttingen, Germany*
9h30	131-R2CA-284 O14	**Toward a mechanistic understanding of trace-element influence on corrosion at the magnesium-biology interface** **Maxence Hannard**[1], Martina Cihova[1], Davide Bleiner[2], Patrik Schmutz[1] [1] *Laboratory of Joining Technologies and Corrosion - EMPA, Switzerland;* [2] *Laboratory of Advanced Analytical Technologies - Empa, Switzerland*
9h50	131-yvuL-15 O15	**Novel Antibacterial Biodegradable Fe-Mn-C-Cu 3D-Printed Alloys: Mechanical Properties, Degradation Behavior, and Biological Performances** **Abdelhakim Cherqaoui**, Carlos Henrique Michelin Beraldo, Carlo Paternoster, Simon Gélinas, Carl Blais, Diego Mantovani *Laval University, Canada*
10h10	***SOP Session***	
	131-ftq5-304 SOP13	**Localized accelerated degradation of magnesium: A new insight into the mechanism of its biomedical degradation** **Yue Zhang**[1], Yuanding Huang[1], Jing Bai[2], Norbert Hort[1] [1] *Institute of Metallic Biomaterials, Helmholtz-Zentrum Hereon, Germany;* [2] *School of Materials Science and Engineering, Southeast University, China*
	131-2v18-304 SOP14	**Impact of heat treatment on the degradation behaviour of electropolished WE43** **Jessica Kloiber**, Selina Rieger, Helga Hornberger *OTH Regensburg, Technical University of Applied Sciences, Germany*
	131-nEuJ-304 SOP15	**Controlling the corrosion rate of a WE43 biodegradable alloy by surface engineering** **Sarah Galea**, Leonardo Fanton, Joseph Buhagiar, Daniel A. Vella, Bertram Mallia *University of Malta, Malta*

	131-T39o-15 SOP16	**Liquid Ag, Zn, and Zn-based Alloys on Biodegradable Hadfield Steel for Biomedical Applications: Wettability and Interfacial Reactivity** **Sofia Gambaro**[1,2], Carlo Paternoster[2], Agnieszka Bigos[3], Marta Janusz-Skuza[3], Marzio Rancan[1], Lidia Armelao[1], Joanna Wojewoda-Budka[3], Diego Mantovani[2], Fabrizio Valenza[1] *[1] National Research Council of Italy (ICMATE), Italy; [2] Laval University, Canada; [3] PAS-IMMS-Polish Academy of Sciences - Institute of Metallurgy and Materials Science, Poland*
10h30	***SOP Discussion***	
10h45	***Break***	
11h15	131-QxJ1-55 O16	**Effect of Tensile and Compression Loading on the Degradation Behaviour and Subsequent Cyclic Testing Response of Coated and Uncoated WE43 Mg Alloy** Roberto Correa Schragen[1], Mehdi Behbahani[2], Alexander Kopp[1], **Jan-Marten Seitz**[1] *[1] Medical Magnesium GmbH, Germany; [2] Aachen University of Applied Sciences, Germany*
11h35	131-VS9k-294 O17	**Residual mechanical properties of corroded WE43, ZX10 and Mg10Gd under varying degree of pitting corrosion** **Agathi Dimakopoulou**, Petra Maier *University of Applied Sciences Stralsund, Germany*
11h55	131-8F1u-304 O18	**Assessment of degradation and cytotoxicity of Fe-Mg and Fe-Zn-Mg alloys** Rafael Estrada[1], Natalia Fagalli[2], Rosa María Lozano[3], **Marcela Lieblich**[1], Marta Multigner[4] *[1] National Center of Metallurgical Research-CENIM-CSIC, Spain; [2] INIFTA/ CONICET/UNLPan Carlos, Argentina; [3] Centro de Investigaciones Biológicas-CSIC, Spain; [4] Universidad Rey Juan Carlos, Spain*
12h15	***SOP Session***	
	131-92FK-174 SOP17	**Degradation behaviors of Mg-5Sn-xZn alloys in Hank's balanced salt solution** **Chang Dong Yim**[1], Yoon Jeong Won[1], Sang Kyu Woo[2] *[1] Korea Institute of Materials Science, South Korea; [2] Samsung Heavy Industries, South Korea*
	131-gHpm-304 SOP18	**In-situ study of degradation controlled smart 4D actuator designs and their load-bearing capabilities for biomedical applications** **Muzi Li**[1], Guillermo Dominguez[1], William Solórzano-Requejo[2], Simon Pöstges[3], Alexander Kopp[3], Conall Quinn[4], Jennifer Patterson[1], Jon Molina-Aldareguía[1] *[1] IMDEA Materials, Spain; [2] Polytecnica University of Madrid, Spain; [3] MEOTEC, Germany; [4] University of Galway, Ireland*
	131-rHcY-15 SOP19	**Oxygen Plasma Immersion Ion Implantation on AZ31B for Clinical Applications** **Luciana Malvestiti**[1], Carlo Paternoster[1], Carlos Henrique Michelin Beraldo[1], Silvia Ceré[2], Diego Mantovani[1] *[1] Laval University, Canada; [2] Mar del Plata National University, Argentina*
	131-THC3-294 SOP20	**On the possibility of additive manufacturing of Mg-Zn-Ca biodegradable alloys** **Anna Dobkowska**[1], Jakub Ciftci[2], Lukasz Zrodowski[2], Wojciech Swieszkowski[1] *[1] Warsaw University of Technology, Poland; [2] Amazemet Ltd., Poland*

12h35	***SOP Discussion***	
12h50	O19	**Effect of laser shock peening on the microstructure of coarse-grained Zn-based biodegradable alloy** **Jaroslav Čapek**, J. Pinc, J. Kaufman *Institute of Physics of the Czech Academy of Sciences, Czech Republic*
13h10	***End of the day***	
13h30	**Lunch & Activities**	

Friday 29 Aug, 2025

Day 3

In Vitro and In Vivo

Co-chairs	*Marta Multigner, Edgar Montufar*
AV	*Carlos Beraldo, Clara Hynes*
7h00-8h15	***Breakfast***

In Vitro

8h30	**131-bGjn-304** **KN4**	**In vivo monitoring of oxygen concentration at Mg interface in porcine bladder** **Sviatlana Lamaka**[1], Margarida Pacheco[2], Zahra Jafari[2], Maria Nienaber[1], Jan Bohlen[1], Mikhail Zheludkevich[1], Estevao Lima[3], Alexandre Barros[2] *[1]Helmholtz-Zentrum Hereon, Germany; [2]ICVS/3B's-PT Government Associate Laboratory, Portugal; [3]ICVS, University of Minho, Portugal*
9h10	131-JEB5-234 O20	**Influence of sterilisation methods and selected test conditions on cell viability assays with Zn-based materials** **Francisca M. Seabra**[1], Moara Marques de Castro[2], Martin Balog[1], Peter Krizik[1], Martina Takacova[3], Jana Lapinova[3], Eliska Svastova[3], Vojtech Hybasek[4], Jiri Kubasek[4] *[1]Institute of Materials and Machine Mechanics; [2]Centre of Excellence for Advanced Materials Application; [3] Biomedical Research Center, Institute of Virology, Slovak Academy of Sciences, Slovakia; [4]Department of Metals and Corrosion Engineering, University of Chemistry and Technology, Czech Republic*
9h30	131-K8NC-243 O21	**Characterization of thin zinc-alloy wires for biodegradable cardiovascular stent applications** **Deirdre Anderson**[1], Lea Morath[2], Cole Baker[1], Jennifer Johnson[1], Shebeer Abdul Rahim[2], Jaroslaw Drelich[2], Jeremy Goldman[2], Monica Hinds[1] *[1]Oregon Health & Science University, USA; [2]Michigan Technological University, USA*
9h50	131-Yxv6-304 O22	**The biocompatibility of molybdenum - A 10-year-roundup of findings at Fraunhofer IFAM and TU Dresden** **Christian Redlich**[1], Tom Alexander Schroeder[2], Maria-Elisa Prieto Jarabo[3], Antje Schauer[4], Georg Poehle[1], Thomas Weissgaerber[1], Lysann M. Kroschwald[2], Peter Quadbeck[5], Volker Adams[4], Michael Wagner[3], Guenter Lauer[2] *[1]IFAM, Germany; [2]Technical University Dresden; [3]Heart Center Dresden; [4]Laboratory of Experimental and Molecular Cardiology; [5]Department of Electrical Engineering, Germany*

10h10 ***SOP Session***

131-3dUh-14
SOP21

A Finite Element Model for crimping and free deployment in the design of bioabsorbable metallic coronary stents
Diego Blunda[1], Hans Lange[2], Alexander Kopp[3], Ted Vaughan[1]
[1]University of Galway, Ireland; [2]B. Braun, Germany; [3]Meotec, Germany

131-r94V-274
SOP22

Hydrogen-gel for selective ROS modulation strategy to eliminate bacteria and promote wound healing
Tairan Quan, Xiao Hou, Yu Yin, Guangyin Yuan, Daijie Chen, Wenjiang Ding, Jia Pei
Shanghai Jiao Tong University, China

131-1cQ8-15
SOP23

The Role of Metal Degradation In In Vitro Biological Evaluation
Edgar B. Montufar
Brno University of Technology, Czech Republic

10h25 ***SOP Discussion***

10h40 ***Break***

11h10 131-vVFh-15
O23

Manufacturing matters: cytotoxicity and degradation of Mg-5Gd produced by extrusion and 3D printing
Katherine Pérez Zapata, Eshwara Nidadavolu, Thomas Ebel, Björn Wiese, Heike Helmholz, Berit Zeller-Plumhoff, Regine Willumeit-Römer
Helmholtz Zentrum Hereon, Germany

11h30 131-2AXd-15
O24

Corrosion extracts of different Zn alloys with and without Mg addition led to different cell viability in dependence of cell line and alloy composition
Nina Angrisani[1], Janin Reifenrath[1], Magdalena Bieda-Niemiec[2]
[1]Department of Orthopaedic Surgery, Hannover Medical School, Germany; [2]Institute of Metallurgy and Materials Science, Polish Academy of Sciences, Poland

11h50 131-rrXR-284
O25

Tracing immunological interaction of zinc-based membrane microenvironment during guided bone regeneration: Single-cell transcriptome analysis
Ping Li[1], Jingtao Dai[2], Huibin Liang[1]
[1]Guangzhou Medical University, China; [2]Southern Medical University, China

12h10 ***SOP Session***

131-MNZV-195
SOP24

Shelf-life and stability of simulated body fluids used for in vitro tests biodegradable alloys
Camila Barros, Josá Antônio Ponciano Gomes
Labcorr, COPPE/UFRJ, Federal University of Rio de Janeiro, Brazil

131-vbnD-255
SOP25

Enhanced corrosion resistance and bioactivity of metallic alloys via non-toxic nitrogen-doped carbon film transfer and laser-deposited bioactive glass
Szymon Bajda[1], Adarsh Rai[1], Katarzyna Cholewa-Kowalska[1], Björn Wiese[2], Yijun Liu[3], Michal Krzyzanowski[4]
[1] AGH University of Krakow, Poland; [2] Helmholtz-Zentrum Hereon, Germany; [3] The Manufacturing Technology Centre Ltd, UK; [4] Birmingham City University, UK

131-xKwt-304
SOP26

Influence of texture on the mechanical performance of a wire-form bioabsorbable vascular scaffold
Kenneth MacLeod[1], David Nash[1], Calum MacLeod[2], Mark Steckel[2]
[1]The University of Strathclyde, UK; [2]Lumenology Ltd., Scotland

12h25	***SOP Dicussion***	
12h40	131-99EY-284 O26	**Magnesium-microbiome interactions in the human oral cavity'an in-situ study** **Ping Li**[1], Lian Huang [1], Janak Pathak[1], Zhentao Yu[2], Jingtao Dai[3] *[1]Guangzhou Medical University, China; [2]Jinan University, China; [3]Southern Medical University, China*
13h00	131-NpfS-304 O27	**Bioresorbable magnesium implants promote osteogenesis in the medullary cavity and glycogenolysis in the liver** **Begüm Okutan**[1], D. C. Florian Wieland[2], Uwe Yacine Schwarze[1], Hansjörg Habisch[1], Tobias Madl[1], Nicole Gabriele Sommer[1], Annelie-Martina Weinberg[1] *[1]Medical University of Graz, Austria; [2]Helmholtz-Zentrum Hereon, Germany*
13h30	***Lunch & Free Time***	
In Vivo		
Co-chairs	*Deirdre Anderson, Roger Guillory*	
AV	*Iria Araujo, Luciana Malvestiti*	
16h00	**131-WVKh-164** **KN5**	**Multiscale hard-soft structured Zn-based alloy with ultrahigh strength and deformability used for biodegradable anastomosis staples** Xiyuan Zhang, Jialin Niu, **Guangyin Yuan** *School of Materials Science and Engineering,, Shanghai Jiao Tong University, China*
16h40	131-cQyr-295 O28	**Local sustained magnesium delivery to harness Mg biological activity: examples of applicable clinical applications** **Charles Sfeir**, Nursima Lacin, Jejin Cho, Julie Kobyra, Flavy Roseren *University of Pittsburgh, USA*
17h00	***Break***	
17h30	131-7DFP-194 O29	**In vivo compatibility and anti-bacterial activity of semi-solid rheo-formed Mg-Sr-Ag alloy in urinary system** **Di Tie**[1], Xia Wu[1], Guangyin Yuan[2], Xiaoli Cui[1], Dongsong Yin[1], Magdalena Bieda-Niemiec[3], Anastassios Papageorgiou[1] *[1] School of Materials Science and Engineering, Guangdong Ocean University , China.*
17h50	***SOP Session***	
	131-fb68-304 SOP27	**Multiscale investigation of bone quality at the interface formed by biodegradable magnesium implants using 2D qBEI imaging and 3D micro-CT** **Sven Schimek**[1], Amel Batouche[2], Imke Fiedler[2], Katharina Jähn-Rickert[2], Björn Busse[2], Florian Wieland[1] *[1]Helmholtz-Zentrum Hereon, Germany; [2]University medical center Hamburg-Eppendorf, Germany*
	131-wAM5-304 SOP28	**Investigating the effect of surface treatments on Mg-based implant behavior in male, juvenile, growing rats** **Nicole Zechmann** , Begüm Okutan , Uwe Yacine Schwarze, Annelie-Martina Weinberg, Nicole Gabriele Sommer *Medical University of Graz, Austria*

	131-Rm8L-304 SOP29	**Ultrasonic atomization of medical grade Mg alloys for additive manufacturing** João Cruz[1], Felix Wisotzki[1], Alex Mainguy[1], Holger Mescheder[2], Simon Pöstges[1], Alexander Kopp[1] *[1]Meotec GmbH, Germany; [2]Fraunhofer Institute for Production Technology IPT, Germany*
18h05	***SOP Discussion***	
18h20	131-pNT3-284 O30	**On the trail of Mg - Incorporation and diffusion of Mg into the bone structure during the biodegradation of a MgGd screw** Selase Torkonoo[1], D. C. Florian Wieland[2], Berit Zeller-Plumhoff[2], Baptiste Gault[1], **Tim M. Schwarz[1]** *[1]Max-Planck-Institute for Sustainable Materials, Germany; [2] Institute of Metallic Biomaterials, Helmholtz-Zentrum Hereon, Germany*
18h40	131-GD2i-25 O31	**Fracture healing with Mg-based implants in a big animal model** Ilona Szyszko Mertelseder[1], Christopher Stahle[2], Uwe Yacine Schwarze[1], Begüm Okutan[1], Nicole Gabriele Sommer[1], **Annelie-Martina Weinberg[1]** *[1]Medical University of Graz, Austria; [2] Bioretec OY, Finland*
19h00	***End of the Conference***	
20h15	***Conference Dinner***	
21h30	***Local Animation***	
01h00 am	***End of the Day***	

Saturday 30 Aug, 2025

Departure

7h00-10h00	***Breakfast***

Check out by and no later 11 a.m. on 30 Aug 2025

Wednesday 27 Aug, 2025

Poster Session

Corrosion Session

P1	131-Di1c-16	**Comparison of silk fibroin coating and PEO on WE43 specimen** **Marius Thiel[1]**, Ted Vaughan[2], Alexander Kopp[1], Benedetta Isella[1] *[1] Fibrothelium, Germany; [2] Univeristy of Galway, Ireland*
P2 (SOP15)	131-nEuJ-304	**Controlling the corrosion rate of a WE43 biodegradable alloy by surface engineering** **Sarah Galea**, Leonardo Fanton, Joseph Buhagiar, Daniel A. Vella, Bertram Mallia *University of Malta, Malta*
P3 (SOP14)	131-2v18-304	**Impact of heat treatment on the degradation behaviour of electropolished WE43**

		Jessica Kloiber, Selina Rieger, Helga Hornberger *OTH Regensburg, Technical University of Applied Sciences, Germany*
P4	131-XVDF-285	**Improving the functionality of polyelectrolyte oxide coatings by incorporation of nanoparticles** Katharina Lammers, Heike Helmholz, Carsten Blawert, Maria Serdechnova, Regine Willumeit-Römer, Berit Zeller-Plumhoff, **Florian Wieland** *Hereon, Germany*
P5	131-UXj2-172	**In situ monitoring of corrosion in Resoloy with isothermal calorimetry** **Petra Maier** *University of Applied Sciences Stralsund, Germany*
P6 (SOP9)	131-T39o-15	**In vitro degradation behavior of composite MAO/sol gel coated Mg-1.6Zn-0.5Ca-0.5Mn alloy** Sourav Dutta[1], Luis H. Olivas-Alanis[1], Gabe Krieger[1], Alan Luo[1], **David Dean**[2] *[1] The Ohio State University, USA; [2] University of Wisconsin-Madison, USA*
P7	131-59xG-224	**Magnetically assisted corrosion of a novel LPBF-manufactured Fe20Mn0.5C alloy in simulated physiological conditions** Irene Limón[1], **Daniel Valdés**[1], Marta Multigner[1], Marcela Lieblich[2], Carlo Paternoster[3], Diego Mantovani[3], Belén Torres[1], Joaquín Rams[1] *[1] Universidad Rey Juan Carlos, Spain; [2] Centro Nacional de Investigaciones Metalúrgicas, Spain; [3] Laval University, Canada*
P8	131-XUBP-16	**Modulating ZnO thin film structure, stoichiometry, and corrosion resistance through oxygen-to-argon ratio in reactive sputtering** **Clara Grace Hynes**[1], Carlos Henrique Michelin Beraldo[1], Carlo Paternoster[1], Andraik Sarkissian[2], Diego Mantovani[1] *[1] Laval University, Canada; [2] Plasmionique Inc., Canada*
P9	131-iGXh-15	**Uneven Corrosion Analysis Via X-Ray Microtomography** Ivana Rocnáková, Miroslava Horynová, Tomás Zikmund, Lenka Klakurková, Ladislav Celko, Jozef Kaiser, **Edgar B. Montufar** *Brno University of Technology, Czech Republic*

In Vitro Session

P10 (SOP13)	131-ftq5-304	**Localized accelerated degradation of magnesium: A new insight into the mechanism of its biomedical degradation** **Yue Zhang**[1], Yuanding Huang[1], Jing Bai[2], Norbert Hort[1] *[1] Institute of Metallic Biomaterials, Helmholtz-Zentrum Hereon, Germany; [2] School of Materials Science and Engineering, Southeast University, China*
P11	131-334B-311	**Surface stabilization of partially bioresorbable Ti-Mg dental implant** **Martin Balog** *Institute of materials and machine mechanics, Slovak academy of sciences, Slovakia*
P12 (SOP23)	131-1cQ8-15	**The Role of Metal Degradation In In Vitro Biological Evaluation** **Edgar B. Montufar** *Brno University of Technology, Czech Republic*

In Vivo Session

P13	131-yKNw-165	**Development of a Composite Filler for Oral Tissue Regeneration Using Magnesium-Substituted Apatite** **Kang-Sik Lee**[1], Minseong Chae[1], Yoon-Ji Kim[1], Jin-Yong Jeong[1], Hojeong Jeon[2], Yu-Chan Kim[2], Chris Hyung-Seop Han[2], Kyungwoo Lee[3], Hyunwoo Han[3], Jinkyung Son[3] *[1] Asan Medical Center, University of Ulsan College of Medicine, South Korea; [2] Korea Institute of Science and Technology (KIST), South Korea; [3] Research and development team, BMPort, South Korea*
P14 (SOP22)	131-r94V-274	**Hydrogen-gel for selective ROS modulation strategy to eliminate bacteria and promote wound healing** **Tairan Quan**, Xiao Hou, Yu Yin, Guangyin Yuan, Daijie Chen, Wenjiang Ding, Jia Pei *Shanghai Jiao Tong University, China*
P15 (SOP28)	131-wAM5-304	**Investigating the effect of surface treatments on Mg-based implant behavior in male, juvenile, growing rats** **Nicole Zechmann** , Begüm Okutan , Uwe Yacine Schwarze, Annelie-Martina Weinberg, Nicole Gabriele Sommer *Medical University of Graz, Austria*
P16 (SOP27)	131-fb68-304	**Multiscale investigation of bone quality at the interface formed by biodegradable magnesium implants using 2D qBEI imaging and 3D micro-CT** **Sven Schimek**[1], Amel Batouche[2], Imke Fiedler[2], Katharina Jähn-Rickert[2], Björn Busse[2], Florian Wieland[1] *[1]Helmholtz-Zentrum Hereon, Germany; [2]University medical center Hamburg-Eppendorf, Germany*

Metals Session

P17 (SOP1)	131-NeJ4-315	**3D-Printed Biodegradable Zn alloy Scaffolds to Suppress Osteosarcoma and Promote Osteogenesis** **Dandan Xia**[1], Peng Wen[2], Yufeng Zheng[3] *[1] Peking University School and Hospital of Stomatology, China; [2] Tsinghua University, China; [3] Peking University, China*
P18	131-miyt-234	**Creep properties of bioabsorbable ultrafine-grained Zn+ZnO composites** **Yujie Zhao,** Martin Balog, Peter Krizik, Petra Krajnakova, Francisca M. Seabra *Institute of materials & machine mechanics, SAS, Slovakia*
P19 (SOP8)	131-4p6g-55	**Degradation behavior of as-cast and extruded Mg-Dy-Zn alloys under physiological conditions** **Genzhi Jiang,** Yuanding Huang, Domonkos Tolnai, Norbert Hort *Helmholtz-Zentrum Hereon, Germany*
P20 (SOP17)	131-92FK-174	**Degradation behaviors of Mg-5Sn-xZn alloys in Hank's balanced salt solution** **Chang Dong Yim**[1], Yoon Jeong Won[1], Sang Kyu Woo[2] *[1] Korea Institute of Materials Science, South Korea; [2] Samsung Heavy Industries, South Korea*
P21 (SOP7)	131-Hrvf-284	**Dynamic response of additively manufactured WE43 lattice structures under high-strain compression** **Zaki Alomar**[1], Bratislav Lukic[2], Cecilia Persson[1], Per Isaksson[1], Francesco D'Elia[1] *[1] Uppsala University, Sweden; [2] European Synchrotron Radiation Facility, France*
P22 (SOP11)	131-Zqyx-15	**Engineering solvent-free resorbable polymer-metal hybrid structures for next generation bone** Christina Ingelmo, Sara Sánchez Gil, Maria Dolores López González, Pilar Rodrigo, Joaquín Rams, Juan Pablo Fernández Hernán, **Sandra C. Cifuentes**

Universidad Rey Juan Carlos, Spain

P23 (SOP25)	131-vbnD-255	**Enhanced corrosion resistance and bioactivity of metallic alloys via non-toxic nitrogen-doped carbon film transfer and laser-deposited bioactive glass** Szymon Bajda[1], Adarsh Rai[1], Katarzyna Cholewa-Kowalska[1], Björn Wiese[2], Yijun Liu[3], **Michal Krzyzanowski**[4] *[1] AGH University of Krakow, Poland; [2] Helmholtz-Zentrum Hereon, Germany; [3] The Manufacturing Technology Centre Ltd, UK; [4] Birmingham City University, UK*
P24	131-xN85-304	**Evaluation of in situ resistivity measurement for the development of Mg-based implant materials** **Björn Wiese**[1], Norbert Hort[2] *[1] Helmholtz-Zentrum Hereon GmbH, Germany; [2] Helmholtz-Zentrum Hereon GmbH/Leuphana University Lüneburg, Germany*
P25	131-t3tm-305	**Fe-Mn-C steel organic acid pickling as preliminary surface treatment for 3D printed devices** **Iria Lucena Araujo** *Laval University, Canada*
P26 (SOP18)	131-gHpm-304	**In-situ study of degradation controlled smart 4D actuator designs and their load-bearing capabilities for biomedical applications** **Muzi Li**[1], Guillermo Dominguez[1], William Solórzano-Requejo[2], Simon Pöstges[3], Alexander Kopp[3], Conall Quinn[4], Jennifer Patterson[1], Jon Molina-Aldareguía[1] *[1] IMDEA Materials, Spain; [2] Polytecnica University of Madrid, Spain; [3] MEOTEC, Germany; [4] University of Galway, Ireland*
P27 (SOP26)	131-xKwt-304	**Influence of texture on the mechanical performance of a wire-form bioabsorbable vascular scaffold** **Kenneth MacLeod**[1], David Nash[1], Calum MacLeod[2], Mark Steckel[2] *[1]The University of Strathclyde, UK; [2]Lumenology Ltd., Scotland*
P28 (SOP16)	131-jcUT-315	**Liquid Ag, Zn, and Zn-based Alloys on Biodegradable Hadfield Steel for Biomedical Applications: Wettability and Interfacial Reactivity** **Sofia Gambaro**[1,2], Carlo Paternoster[2], Agnieszka Bigos[3], Marta Janusz-Skuza[3], Marzio Rancan[1], Lidia Armelao[1], Joanna Wojewoda-Budka[3], Diego Mantovani[2], Fabrizio Valenza[1] *[1] National Research Council of Italy (ICMATE), Italy; [2] Laval University, Canada; [3] PAS-IMMS-Polish Academy of Sciences - Institute of Metallurgy and Materials Science, Poland*
P29 (SOP12)	131-Tr1P-56	**Microstructural and degradation evaluation of Fe-based biodegradable scaffolds fabricated using polyurethane templates** **Marlena Grodzicka** *Nicolaus Copernicus University, Poland*
P30 (SOP2)	131-aL2b-304	**Natural ageing and static recrystallisation effects of additively manufactured biodegradable pure Zn and Zn-Mg alloys** **Himesha Abenayake,** Luisa de Souza Dieter, Cecilia Persson, Francesco D'Elia *Division of Biomedical Engineering, Department of Materials Science ang Engineering, Uppsala University, Sweden*
P31 (SOP20)	131-THC3-294	**On the possibility of additive manufacturing of Mg-Zn-Ca biodegradable alloys** **Anna Dobkowska**[1], Jakub Ciftci[2], Lukasz Zrodowski[2], Wojciech Swieszkowski[1]

[1] Warsaw University of Technology, Poland; [2] Amazemet Ltd., Poland

P32	131-Z6ob-26	**Opioid-sparing non-surgical, bioresorbable nerve stimulator for pain relief** Kevin Woeppel[1], Trent Emerick[2], Xinyan Cui[3] [1] Vanish Therapeutics, USA; [2] University of Pittsburgh Medical Center, USA; [3] University of Pittsburgh, USA
P33 (SOP3)	131-BHE9-15	**Optimization of 3D printing parameters to densify the microstructure of FeMnC alloys for biomedical applications** Carlos Cuao[1], Carlo Paternoster[1], Simon Gélinas[1], Paolo Mengucci[2], Carl Blais[1], Diego Mantovani[1] [1] Laval University, Canada; [2] Università Politecnica Delle Marche, Italy
P34 (SOP19)	131-rHcY-15	**Oxygen Plasma Immersion Ion Implantation on AZ31B for Clinical Applications** Luciana Malvestiti[1], Carlo Paternoster[1], Carlos Henrique Michelin Beraldo[1], Silvia Ceré[2], Diego [1] Laval University, Canada; [2] Mar del Plata National University, Argentina
P35 (SOP4)	131-bTCh-15	**Powder-based precipitation simulation of a MgZnCa alloy** Belén Alonso Rancurel[1], Vitalii Shtender[1], Daniel Primetzhofer[1], Francesco D'Elia[1], Martin Fisk[2], Cecilia Persson[1] [1] Uppsala University, Sweden; [2] Malmö University, Sweden
P36 (SOP5)	131-3fMS-15	**Printability, microstructure formation, and material properties during L-PBF of binary Mg-Li alloy** Stephanie Kotiadis[1], Cecilia Persson[1], Tomasz Choma[2], Francesco D'Elia[1] [1] Uppsala Universitet, Sweden; [2] Amazemet, Poland
P37 (SOP24)	131-MNZV-195	**Shelf-life and stability of simulated body fluids used for in vitro tests biodegradable alloys** Camila Barros, Josá Antônio Ponciano Gomes Labcorr, COPPE/UFRJ, Federal University of Rio de Janeiro, Brazil
P38	131-PQmK-261	**Spray-deposited Ag nanoparticles on implant surface for enhanced bactericidal properties and cytocompatibility** Dexin Chen, Peng Zhang, Zhentao Yu, Qiwei Wang Jinan University, China
P39 (SOP10)	131-UDKj-25	**Stronger Absorbable Wire for Small Anatomies** Jeremy Schaffer, Adam Griebel Fort Wayne Metals Research Products, LLC, USA
P40	131-Wcek-16	**Surface treated FeMnCSi biodegradable alloy for medical applications: in vitro study** Melina Hankovits[1], Julieta Merlo[1], Nabila Yasmeen[2], Anna Maria Pappa[2], Josefina Ballarre[1], Silvia Cere[1] [1] INTEMA- University of Mar del Plata-CONICET, Argentina; [2] Khalifa University of Science and Technology, United Arab Emirates
P41 (SOP6)	131-gZwD-65	**Tailoring surface quality and geometrical accuracy in additive manufacturing of biodegradable Mg/Zn alloys via powder quality and laser process control** Simon Pöstges[1], Timo Poel[1], Florian Fischer[2], Maximilian Voshage[2], Alexander Kopp[1] [1] Meotec GmbH, Germany; [2] Chair for Digital Additive Production DAP, Germany
P42 (SOP29)	131-Rm8L-304	**Ultrasonic atomization of medical grade Mg alloys for additive manufacturing**

João Cruz[1], Felix Wisotzki[1], Alex Mainguy[1], Holger Mescheder[2], Simon Pöstges[1], Alexander Kopp[1]
[1]Meotec GmbH, Germany; [2]Fraunhofer Institute for Production Technology IPT, Germany

Others

P43 (SOP21)	131-3dUh-14	**A Finite Element Model for crimping and free deployment in the design of bioabsorbable metallic coronary stents** Diego Blunda[1], Hans Lange[2], Alexander Kopp[3], Ted Vaughan[1] [1]University of Galway, Ireland; [2]B. Braun, Germany; [3]Meotec, Germany
P44	131-3F2C-305	**Development of bioabsorbable metals for endovascular medical devices: A presentation of the BIOMEND Doctoral Network** Alex Mainguy[1], Kiarash Mashoufi[1], João Cruz[1], Marius Thiel[2], Simon Schmidt[2], Vittoria Squartecchia[3], Diego Blunda[2], Jan Sygor[4], Alessandra Di Lorenzo[5], Maike Bittner[2], Mariana Rodrigues[5], Sean O'Connell[6], Amr Fathy[7], Anastasia Panagi[8], Ted Vaughan[2], Alexander Kopp[1] [1] Meotec GmbH, Germany; [2] University of Galway, Ireland; [3] IMDEA Materials Institute, Spain; [4] University of Eastern Finland, Finland; [5] Fibrothelium GmbH, Germany; [6] Hydrumedical SA, Portugal; [7] Embocraft GmbH, Germany; [8] Maastricht University, Netherlands
P45	131-K3Vi-165	**Colour-changing smart materials inspired by nature : Chameleon effect** Karine Mougin, Arnaud Spangenberg Institut de Science des Matériaux de Mulhouse- CNRS, France