# Newsletter

## New Structure, New Ways, New Look!

The CABMM started the year 2026 with a big change. After almost 17 successful years as a UZH competence center, the CABMM was transferred to a more stable, **new structure**. Namely, a center integrated within the Department of Molecular Mechanisms of Disease (DMMD), headed by the longstanding Chair of the CABMM, Prof. Michael O. Hottiger. This ensures the continuation of the CABMM member network and CABMM's important contribution to advancing interdisciplinary, translational research in the Zurich region and beyond.

Along with this structural change came the decision to go **new ways**. To further promote cutting-edge research within our network, highlight opportunities and advances in translational research, and also increase the CABMM's visibility, science communication was identified as one new path to be explored. To pursue this direction with drive and expertise, the CABMM team was recently reinforced by our new team member and scientific communication specialist Diarmuid De Faoite, whom I would like to warmly and officially welcome. You might have the opportunity to meet him soon in person, e.g., at one of our upcoming events (see the Event Calendar), but you can already learn more about him right now by reading the new section "Five Questions For" in this newsletter. Amongst others, Diarmuid will help us to increase the CABMM's social media presence, to prepare content for various print and online channels, and to adapt the latest CABMM achievements for different groups of people such as laypeople and experts in the field.

Which brings us straight to the CABMM newsletter: you are looking at one of Diarmuid's first achievements. From now on, Diarmuid will be taking charge of publishing the newsletter on a regular basis. Alongside the relaunch, Marina took care of revising its layout, so this newsletter comes with a **new look** and with some new sections, which we hope will make the reading more interesting to you. If you have any comments, questions, or further ideas, feel free to contact Diarmuid directly.

And there are more changes on the way.
Stay tuned!

Dr. Silke Kalchofner-Mark
Managing Director of the CABMM

## Newsletter Frequency

This is the first edition in the new iteration of the CABMM newsletter – the summer issue!

We will produce a newsletter for all four seasons of the year to help keep you more up-to-date on CABMM news.

## Event Calendar

### 15th CABMM Symposium
**Generative AI & Digital Twins in Medicine: Fact or Fiction?**
Read the report on pages 3 and 4 of this newsletter!

### 3rd CABMM GxP Day
**Good Manufacturing Practice**
17.09.2026
***Save the date!***

### 4th CABMM Winter Colloquium
November 2026 – more information will be shared in the next newsletter.

## Welcome to CABMM

**Basil Grüter**

*Toronto Western Hospital, Canada*
*Department of BioMedical Research, University of Bern*

Basil Grüter conducts translational research at the interface of neurosurgery and neuroradiology. His work focuses on intracranial aneurysms, combining preclinical models and clinical studies to investigate their formation, progression, and treatment. He contributes to the development of innovative microsurgical and endovascular techniques to improve outcomes in cerebrovascular patients.

Welcome to CABMM, Basil!

Want to know more about our other members?
Check out our member roster here.

# Newsletter

## Congratulations

We warmly congratulate our long-standing member **Zsolt Kulcsár** on his appointment as Adjunct Professor of Neuroradiology at the University of Zurich. Prof. Kulcsár has headed the Department of Neuroradiology at the University Hospital Zurich since 2022 and conducts research into the biology and hemodynamics of cerebral aneurysms and minimally invasive treatment of neurovascular diseases.

We are delighted to announce that our member **Henning Richter**, Head of the Diagnostic Imaging Research Unit (DIRU) at the Vetsuisse Faculty, was awarded the Venia Legendi in experimental imaging in the spring semester 2026. Congratulations Henning!

CABMM member **Marie-Noëlle Giraud**, expert in the field of heart repair and regeneration, has been awarded the title of titular professor at the University of Fribourg in Switzerland. We are delighted for her and her success.

## We Need Your Feedback and Inputs!

Got something to say about any aspect of the CABMM newsletter or CABMM activities? Please don't keep it to yourself, let us know!

Similarly, have you got a story, project or news you would like to present to CABMM members here or online? We would love to hear from you.

Contact us here!

All newsletters are archived on the CABMM website.

## Five Questions For…

In this new section, we will try to gain an insight into people involved in CABMM.

Please get in touch if you would like to be the next interviewee!

**Five Questions For… Diarmuid De Faoite**

**How has your start at CABMM been?**
It's involved a lot of reading and learning! I have been trying to get up to speed with everything CABMM does and to try to get to know the members – on paper at least!

**What current issue in your field excites you most?**
In the field of medical writing, it is the same as in many industries – the impact of AI. I view AI as a tool that will help writers but not replace them. Time will tell if I am right in my thinking - as always…

**What book or article would you recommend to others?**
The Checklist Manifesto by Atul Gawande on how simple operating checklists in surgery can save lives. He is a surgeon who has written several interesting books on medical topics, all of which I enjoyed.

**What's the best piece of career advice you've ever received?**
"Don't complain, be accountable!"

**Tell me something about yourself that might surprise people?**
I have contributed humorous pieces to a political magazine in Ireland for many years and previously had my own humor column in a Swiss magazine!

## CABMM is now on LinkedIn

Join us on our new LinkedIn channel for the latest information on what is happening at CABMM.

Scan the QR code or go to:
www.linkedin.com/company/cabmm

## Digital Twins at the University of Zurich

The 15th CABMM Symposium held in June focused on *Generative AI & Digital Twins in Medicine: Fact or Fiction?*

The keynote lecture was given by Claudia Witt[1] (UZH) and was the perfect start to the afternoon's learnings. After first explaining the need for digital twins, she took the participants on a tour of an imagined future with digital twins. Finally, she examined the implications that digital twins have on various actors within the healthcare system.


Next up was Sven Hirsch[2] (ZHAW) who examined model-based precision medicine. He told the audience that while digital twins will radically change decision making in medicine, annotated and real-life data are essential in developing digital twins. To illustrate the point, he led the audience through a case study on digital twins in stroke care.


Vartan Kurtcuoglu[3] (UZH) spoke about coronary artery disease and how digital twins could be used to predict plaque locations. Addressing the point made in the previous presentation, Vartan walked the audience through an example of how to deal with unknown parameters. He ended with a message exhorting researchers to consider using probabilistic approaches to parameterizing digital twins, despite the inherent difficulties of such an approach.


Matthias Seibold[4] (Balgrist University Hospital / UZH) was the first presenter in the second part of the program. He profiled the Operating Room X and outlined how the fully connected operating room of the future could look like. In a short video, he brought home to the audience the importance of understanding workflows while operating in order to build surgical intelligence. Digital twins can act as a unifying framework for surgical data science.


Peter Schwarzenberg[5] (AO Foundation) tackled digital twins in bone fracture healing through the use of combined simulations and implantable sensors. He provided some real-life examples to demonstrate the utility of virtual tests and showed how even simple models can identify bone healing rates when compared to actual results. Peter then showed how prognostic models could be built to predict healing outcomes. Once these models are finetuned, they can be used to identify patients at risk of adverse healing outcomes like nonunion of the bone.

## Digital Twins (continued)

Building nicely on Peter's presentation, Pavlos Natsios[6] (Musculoskeletal Research Unit, UZH) turned his attention to digital twins in veterinary orthopedics. He opened with a review of kinematics and how dogs can be used as a model for Anterior Cruciate Ligament (ACL) deficiencies. A clinical application was presented through a case study of a dog whose owner believed suffered from lameness, demonstrating how modern models can be a powerful tool for clinicians in identifying problems that conventional diagnostic tools might miss.


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The final presentation of the day was by Jascha Grübel[7] and Leonel Aguilar[8]. They examined the potential and pitfalls of a world which is increasingly integrating AI and digital technology into everyday life. During their presentation they showed the link between experiments as code and digital twins. They advocated for an open digital twin platform where data collection, processing and analysis which lead to decision support are available to all and explained the benefits of an open health research infrastructure. Their presentation ended with the strong message that "digital twins enable open research data, analysis, process and design."


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All nine presenters then took to the stage for a panel discussion where they could more deeply explore the role of digital twins in the modern world and elaborate on perspectives beyond what they could show in their presentations. Questions from the audience also added to the debate.

After an intense afternoon of learning, everyone was happy to join a post-event get-together where over drinks and snacks, the conversations about digital twins continued in a convivial setting.


The CABMM Organizing Committee

## Selected Publications by CABMM Members

### 2026

Krupkova O, Aterini B, Rahal N, Schulze E, Darwiche S, Ehrbar M, Pelttari K, Martin I, Schären S, Mehrkens A, Barbero A, Mainardi A
**A mechanically active nucleus pulposus-on-a-chip for studying mechanobiology and therapeutic strategies in intervertebral disc disease**
*Biofabrication, 2026 Feb 5;18(1)*
PubMed Link.

### 2025

Germani F, Spitale G, Fischer C, Tag B, Reichenbach J, Devuyst O, Baumgartner M, Biller-Andorno N
**Healthcare resource allocation for rare diseases: an exploratory survey of Swiss citizens` preferences**
*Swiss Med Wkly, 2025 Sep 18;155:4243*
PubMed Link.

Hsin S, Lourenço K, Porcello A, Chemali M, Marques C, Raffoul W, Cerrano M, Applegate LA, Laurent AE
**Clinical Safety and Efficacy of Hyaluronic Acid-Niacinamide-Tranexamic Acid Injectable Hydrogel for Multifactorial Facial Skin Quality Enhancement with Dark Skin Lightening**
*Gels, 2025 Jun 26;11(7):495*
PubMed Link.

Guerrero J, Maevskaia E, Pfister P, Dominguez AP, Ghayor C, Bhattacharya I, Scherberich A, Weber FE
**Mineralized Osteoblast-Derived Exosomes and 3D-printed Ceramic-based Scaffolds for Enhanced Bone Healing: A Preclinical Exploration**
*Acta Biomater, 2025 Jun 15;200:686-702*
PubMed Link.

Ariyanfar A, Bahrami M, Klein K, von Rechenberg B, Darwiche S, Dailey HL
**Fast automated creation of digital twins for virtual mechanical testing of ovine fractured tibiae**
*Comput Biol Med, 2025 Jun;192(Pt A):110268*
PubMed Link.

Iversen JN, Tai YK, Wu KY, Wong CJK, Lim HY, Franco-Obregón A
**Magnetically Stimulated Myogenesis Recruits a CRY2-TRPC1 Photosensitive Signaling Axis**
*Cells, 2025 Feb 6;14(3):231*
PubMed Link.

Hafezi F, Kling S, Hafezi NL, Aydemir ME, Lu NJ, Hillen M, Knyazer B, Awwad S, Mazzotta C, Kollros L, Torres-Netto EA
**Corneal cross-linking**
*Prog Retin Eye Res, 2025 Jan;104:101322*
PubMed Link.

**Thank you for reading this edition of the CABMM Newsletter.**
**The next edition will arrive in your inbox in the autumn, sent by Diarmuid.**
**Have a good summer!**