University of Zurich[UZH]

cabmm
center for applied biotechnology and molecular medicine

# Newsletter

## Major changes in 2014

Dear CABMM members

The past year brought some changes to the CABMM. Prof. Dr. Dr. Michael Hottiger, one of the original founders of the CABMM, became the head of the Institute of Veterinary Biochemistry and Molecular Biology (IVBMB) following the retirement of Prof. Dr. Ueli Hübscher in early spring 2014. The CABMM Research Platform is still closely associated with his institute, and under Michael's guidance, the translational aspect will be even more pronounced than before.

### Move of the CABMM Research Platform

Apart from the change of directorship, one of the major changes in 2014 was the move of the IVBMB and the CABMM Research Platform to a new location within the Irchel area. Both were formerly located in floors which belong to the ETHZ. The latter claimed the space for their own researchers and we had to fight quite seriously for not having both labs relocated to the new area in Schlieren, which would have completely abrogated the translational nature of the CABMM's scope, vision and goals. Being removed from the clinics and a preclinical trial area would have been a major loss for our research. Therefore, we were happy to have had the chance to remain within the Irchel area, more specifically in building 13, floor L. However, there are always two sides to a coin. While the closeness to the clinical platform at the Vetsuisse hospital and the USZ is considered very positive, the down side is that the overall space of both, the IVBMB and the CABMM Research Platform, was significantly reduced and everybody had to move closer together. While the lab space was not so severely reduced for both groups, office and storage space is now significantly less and the platform scientist's personal space is a bit more limited. However, scientists have to be adaptable and always have to find new ways to get their research done. True to our original goal, we will find new ways to move in the right direction. Time will tell!

### Changes in the CABMM Scientific Advisory Board

Major changes occurred also in the Scientific Advisory Board (SAB): Prof. em. Dr. Peter Sonderegger and Dr. Margarethe Hofmann-Amtenbrink retired at our 4th CABMM Symposium, and the chairman of our SAB, Prof. em. Dr. A. Robin Poole, as well as Prof. Dr. Frank Baaijens retired at our last CABMM Symposium in November 2014. All of them were there from the very beginning and have significantly contributed to the development of the CABMM. Their tireless efforts helped establish the visibility and credibility of the CABMM platform and their advice was always highly appreciated. Unfortunately, Robin couldn't attend our last symposium in November, where we planned his official "good bye and thank you" by the CABMM. Nevertheless, in appreciation of all his support, we sent him a present from the Swiss Craftmanshop (Schweizer Heimatwerk), a beautifully carved "Scherenschnitt" with motives from Switzerland representing an "Alpaufzug" with animals and their farmers. We felt it symbolized how he helped the CABMM to climb the mountain. Thank you all for your work and we hope that all of you enjoy your free time with more leisure and family life. Although we were sad to see them leave, we are also very lucky to find wonderful replacements for their positions. Prof. em. Dr. Walter Schaffner replaced Peter, Prof. Dr. Jörg Goldhahn replaced Margarethe and Prof. Felix Althaus, the former Dean and soon to be emeritus head of the Pharmacology Institute at the Vetsuisse faculty ZH, will replace Robin. Most of you had the pleasure to listen to Walter's lecture at the 5th CABMM Symposium in November, and most of you already met Jörg and Felix, our dynamic former Dean and supporter of the CABMM. Welcome to the SAB, we are looking forward to working with you in the future!

Finally, we would like to thank all friends and members of the CABMM for their support in 2014. We hope that you had a relaxing holiday season with your families and look forward to working with you again in the New Year 2015 – let's see what it brings to all of us. We hope for peace, health, good grants and exciting results in our research.

Prof. Dr. med. vet. Brigitte von Rechenberg, Dipl. ECVS
Chair CABMM Steering Committee

## Public relations

"From sports bench to bedside"
About the research of Prof. Dr. Martin Flück.
*Horizon 2020 Projects: Portal, Issue 4: 132-135, 2014.*

"Bone to bone marker"
about the research of Prof. Dr. Annette Liesegang.
*Horizon 2020 Projects: Portal, Issue 4: 126-127, 2014.*

"TOMorrow people"
About the research of PD Dr. Benjamin Gantenbein.
*Horizon 2020 Projects: Portal, Issue 3: 56-59, 2014.*

"Inflammation/metaflammation"
About the research of Prof. Dr. Dr. Michael O. Hottiger.
*Horizon 2020 Projects: Portal, Issue 3: 48-51, 2014.*

"Regenerative medicine for the heart"
About the research of Prof. Dr. Dr. Simon P. Hoerstrup.
*Horizon 2020 Projects: Portal, Issue 2: 106-107, 2014.*

"Cranial cruciate ligament rupture"
About the research of Prof. Dr. David Spreng and Dr. Simone Forterre.
*PanEuropeanNetworks: Science&Technology, Issue 13: 186-189, Dec 2014.*

"Dynamisation of fracture healing"
About the research of Prof. Dr. B. von Rechenberg and Dr. Michael Plecko.
*PanEuropeanNetworks: Science&Technology, Issue 12: 108-111, Sept 2014.*

"The shape of things to come"
About the research of Prof. Dr. Daniel A. Rüfenacht.
*PanEuropeanNetworks: Science & Technology, Issue 11: 212-213, June 2014.*

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## Selected recent publications

Activation of intervertebral disc cells by co-culture with notochordal cells, conditioned medium and hypoxia. Gantenbein B, Calandriello E, Wuertz-Kozak K, Benneker LM, Keel MJ, Chan SC. *BMC Musculoskelet Disord. 2014 Dec 11, 15:422, doi: 10.1186/1471-2474-15-422.*

Influence of feeding and UVB exposition on the absorption mechanisms of calcium in the gastrointestinal tract of veiled chameleons (Chamaeleo calyptratus). Haxhiu D, Hoby S, Wenker C, Boos A, Kowalewski MP, Lewis F, Liesegang A. *J Anim Physiol Anim Nutr (Berl) 2014 Dec;98(6):1021-30. doi: 10.1111/jpn.12206. Epub 2014 May 22.*

Comparison of radiographic changes of the proximal third metacarpal and metatarsal bones in horses with and without proximal suspensory dermitis. Trump M, Siegenthaler E, Kircher PR, Fürst A, Theiss F. *Pferdeheilkunde 2014 Nov/Dec;30(6):671-676.*

Epigallocatechin 3-gallate suppresses interleukin-1$\beta$-induced inflammatory responses in intervertebral disc cells in vitro and reduces radiculopathic pain in rats. Krupkova O, Sekiguchi M, Klasen J, Hausmann O, Konno S, Ferguson SJ, Würtz-Kozak K. *Eur Cell Mater. 2014 Nov 25;28:372-86.*

A novel multi-phosphonate surface treatment of titanium dental implants: a study in sheep. von Salis-Soglio M, Stübinger S, Sidler M, Klein K, Ferguson SJ, Kämpf K, Zlinszky K, Buchini S, Curno R, Péchy P, Aronsson BO, von Rechenberg B. *J Funct Biometr. 2014 Sep 11;5(3): 135-57. doi: 10.3390/jfb5030135.*

The bone splitting stabilisation technique - a modified approach to prevent bone resorption of the buccal wall. Stricker A, Stübinger S, Voss P, Duttenhoefer F, Fleiner J. *Oral Health Dent Manag. 2014 Sep;13(3):870-6.*

Expression and regulation of toll-like receptors (TLRs) in human intervertebral disc cells. Klawitter M, Hakozaki M, Kobayashi H, Krupkova O, Quero L, Ospelt C, Gay S, Hausmann O, Liebscher T, Meier U, Sekiguchi M, Konno SI, Boos N, Ferguson SJ, Wuertz K. *Eur Spine J. 2014 Sep;23(9):187891. doi: 10.1007/s00586-014-3442-4. Epub 2014 Jul 5.*

Differences in peripartal plasma parameters related to calcium homeostasis of dairy sheep and goats in comparison with cows. Wilkens MR, Liesegang A, Richter J, Fraser DR, Breves G, Schröder B. *J Dairy Res. 2014 Aug;81(3):325-32. doi: 10.1017/S002202991400020X. Epub 2014 May 28.*

Therapeutic potential of adipose-derived stromal cells in age-related osteoporosis. Mirsaidi A, Genelin K, Vetsch JR, Stanger S, Theiss F, Lindtner RA, von Rechenberg B, Blauth M, Müller R, Kuhn GA, Hofmann Boss S, Ebner HL, Richards PJ. *Biomaterials. 2014 Aug;35(26):7326-35. doi: 10.1016/j.biomaterials 2014.05.016. Epub 2014 Jun 2.*

Evaluation of local cancellous bone amelioration by poly-l-dl-lactide copolymers to improve primary stability of dental implants: a biomechanical study in sheep. Stübinger S, Waser J, Hefti T, Drechsler A, Sidler M, Klein K, von Rechenberg B, Schlottig F. *Clin Oral Implants Res. 2014 Jul 2. doi: 10.1111/clr.12445. [Epub ahead of print]*

Comparison of two dental implant surface modifications on implants with same macrodesign: an experimental study in the pelvic sheep model. Ernst S, Stübinger S, Schüpbach P, Sidler M, Klein K, Ferguson SJ, von Rechenberg B. *Clin Oral Implants Res. 2014 May 21. doi: 10.1111/clr.12411. [Epub ahead of print]*

Tendon response to pharmaco-mechanical stimulation of the chronically retracted rotator cuff in sheep. *Wieser K, Farshad M, Meyer DC, Conze P, von Rechenberg B, Gerber C. Knee Surg Sports Traumatol Arthrosc. 2014 May 4. [Epub ahead of print]*

## New members

**Prof. Dr. Franck Forterre**, Department of Clinical Veterinary Medicine, Vetsuisse Faculty, University of Bern.
The main focus is directed towards canine intervertebral disc disease and atlantoaxial instability with regard to biomechanics, inflammation, intramedullary blood flow and pressure changes. Because the dog is a recognized naturally occurring clinical model for human disc degeneration and spinal cord trauma, a translational aspect is present.

**PD Dr. Dr. Caroline Ospelt**, Center of Experimental Rheumatology, University Hospital Zurich.
In one of the leading centers worldwide for the analysis of synovial fibroblasts in rheumatoid arthritis, Dr. Ospelt`s track record is the analysis of innate immune mechanisms and epigenetic changes within this complex field. Furthermore, the group analyses the role of non-coding RNAs, histone acetylation and DNA methylation.

**Prof. Dr. Janine Reichenbach**, Division of Immunology, University Children`s Hospital Zurich.
The research group of Prof. Reichenbach is focused on inborn errors of the immune system, spanning from analysis of molecular pathophysiology to development of new therapeutic concepts and therapeutic correction by clinical gene therapy. Furthermore, the focus lies on the analysis of hyperinflammatory pathophysiology observed in Chronic Granulomatous Disease.

**Dr. Dr. Benedikt Weber**, Swiss Center for Regenerative Medicine, Department of Surgical Research, University Hospital Zurich.
The research focus of Dr. Weber is to investigate the use of different cell and stem cell sources for cardiovascular bioengineering. The group has demonstrated the successful in vitro manufacture and in vivo implantation of different vascular bioengineered structures. A major focus lies on the underlying remodeling mechanisms in vivo with regards to guiding in situ cellularization, scaffold (bio)degradation and neotissue formation.

## Announcements

**Save the date!**
Don't miss the opportunity to discuss scientific questions and find new collaborations in the stimulating environment of the CABMM and reserve the following dates in your calendar:

- **Friday, June 12, 2015:**
  8th CABMM Plenary Meeting and 5th CABMM Spring Seminar
- **Thursday, November 5, 2015:**
  6th CABMM Symposium

We are looking forward to your participation!

**Call for information:**
Please inform us about your CABMM-affiliated publications, awards, career development and any other **information related to the CABMM**, so we can continue to keep our records up-to-date. Thank you!

CABMM
University of Zurich
Winterthurerstrasse 190
8057 Zurich
www.cabmm.uzh.ch

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