



University
of Basel

Department of
Biomedical Engineering



10th DBE Research Day

The Department of Biomedical Engineering:
Innovative Research from Bench to Bedside



Wednesday, 21 August 2024
Biozentrum, University of Basel
Spitalstrasse 41, CH 4056 Basel
Register now: dbe-events.dbe.unibas.ch

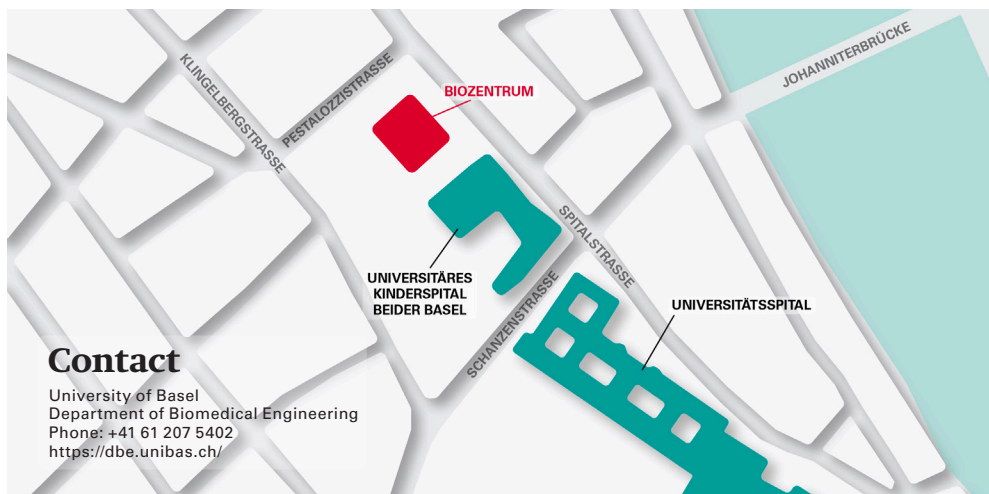
Dear Guests and Colleagues

At the DBE we claim to bridge the gap between medicine and engineering. But is there actually a gap? The oldest evidence of surgery from the stone age proves the use of stone tools. And ever since, until today, medicine and technology remain closely linked, think for example of prostheses, stethoscopes, thermometers etc. So is there a gap at all?

Yes, there is. It is being created – and widened – by the specialization that comes with the ever growing corpus of knowledge in medicine and engineering. Today, no human being is able to oversee both fields in their entirety, let alone newest results and developments. This creates a gap between disciplines, and what it takes to bridge it is first and foremost: communication. The game has changed from a single player competition to a team sport, which is why the discipline and the Department of Biomedical Engineering have been established in the first place. Their success relies on our ability to connect people, perspectives, ideas, problems, solutions, technologies and institutions. The DBE Research Day is our most important event to promote exactly this.

In 2024, we are celebrating our 10th Research Day, the very first significant birthday of the youngest of the Departments at the Medical Faculty. You are cordially invited – this year to the Biozentrum – to participate in the exchange and celebrate our anniversary with an apéro on 21 August 2024.

Prof. Philippe Cattin
Department Head



Agenda

21 August 2024

8.45	Prof. Philippe Cattin & Prof. Beat Müller	Welcome to the DBE Research Day	13.50	Session 3	Chair: Prof. Arnaud Scherberich
9.00	Session 1	Chair: PD Dr. Daniel Studer	13.50		RDX Microcalorimetry
9.00	Prof. Anne Mündermann	Introduction to CADENCE	13.55	Dr. med. Annette Mettler	Codifying Complexities of Emergencies
9.05	PD Dr. Cordula Netzer	Translating Biomechanical Insights into Clinical Strategies for Enhanced Patient Treatment	14.00	Alvaro Gonzalez Jimenez	AI in Dermatology with Noisy and Limited Data
9.15	David Koch	Exploring Lumbar Spinal Stenosis: Understanding Biomechanical, Radiological, and Physiological Interrelationships	14.05	Dr. Ferda Canbaz	Enhancing Biomedical Optics: Benefits of Cross-Field Innovations Through Diverse Projects
9.30	Prof. Elke Viehweger	From the Gait Laboratory to the 21 st Century Clinical Research Centre of Motion Analysis In Neuroorthopaedics	14.20	Dr. Claudia Lenz	The Role of Tissue Anisotropy in Quantitative MRI of the Human Brain
9.45	Regine Zibold	Beyond Boundaries: Harnessing VR to Support Management in Cerebral Palsy	14.35	Break	
10.00	Poster Session & Coffee Break		14.50	Session 4	Chair: Dr. Claudia Weidensteiner
11.30	Session 2	Chair: Prof. Andreas Müller	14.50		RDX Swiss MAM
11.30		RDX CADENCE	14.55	Dr. Janine Schulte	A Multidisciplinary Approach - the Potential of Pharmacogenetics in Forensic Science
11.35	Prof. Georg Rauter	Including Humans, Robots, and Real-Time Machine Learning in the Loop	15.00	Arnaud Champetier	A Feasible Machine Learning Approach to Diagnose Non-ST-Segment Elevation Myocardial Infarction
11.50	Prof. Anne Mündermann	Advancing Orthopaedic Research: Enhancing Patient Care through Biomedical Engineering Innovation	15.05	PD Dr. Francesco Santini	These Legs are Made for Walking: MR Imaging of the Skeletal Muscle Beyond its Structure
12.05	Dr. Linda Bühl	Augmenting Patient-Reported and Clinical Outcomes with Biomechanical Insights to Advance ACL Injury Treatment	15.20	Dr. Valentina Basoli	Regenerative Medicine: Integrating Tissue Engineering, 3D Printing, and Biosensors for Point-of-Care
12.20	PD Dr. Morgan Sangeux	Statistical and Musculoskeletal Models to Inform Clinical Decisions	15.35		RDX MiNa
12.35	Poster Session & Lunch Break		15.40	Award Ceremony	Chair: Prof. Pablo Sinues
			15.55	Dr. Ferda Canbaz	Closing Remarks
			16.05	H.-F. Zeilhofer opens the Celebration of the 10th DBE Research Day	