



University  
of Basel

Department of  
Biomedical Engineering



From Scientific  
Discoveries to  
Clinical Appli

# 8<sup>th</sup> DBE Research Day

The Department of Biomedical Engineering –  
innovative research from bench to bedside



Tuesday, 30 August 2022  
Zentrum für Lehre und Forschung  
Hebelstrasse 20, CH-4031 Basel  
Register now: [dbe-events.dbe.unibas.ch](https://dbe-events.dbe.unibas.ch)

# Dear Guests and Colleagues

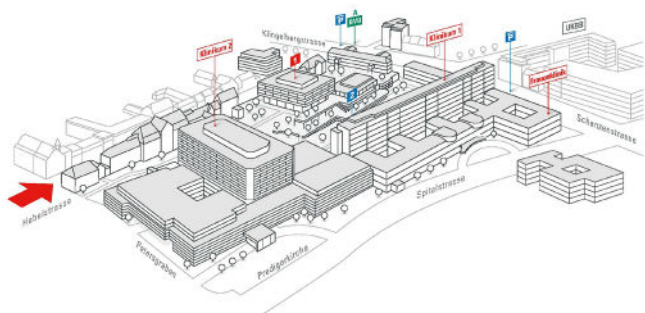
In our daily struggle for better solutions to clinical problems, we cannot get anywhere on our own. We need to encounter other people's perspectives, their problems and ideas, their routines and habits. In such encounters, we lose a little control, in a good way, over our sometimes too well-ordered world. An unfamiliar thought, an unexpected move, sometimes just a word or a never-before-heard comparison can suddenly set something truly new in motion.

«Innovation Through Collaboration», the motto of the 8th DBE Research Day, expresses this in the word «through». Collaboration itself is innovative, if only because we often have to find a new language to make ourselves understood to our collaborative partner, because it forces us to leave our well-trodden paths and let new things enter our mindset.

But innovation does not just mean having a good idea, it also means bringing it to fruition. Again, virtually no one can do this alone. The initial idea must pass through several hands like a baton, transforming itself again and again in the process, in order to finally arrive as a genuine innovation, a truly collaborative creation.

We want to invite you to be part of this adventure and come on 30 August to the Zentrum für Lehre und Forschung.

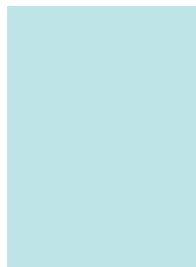
Prof. Philippe Cattin  
Department Head



# Agenda

## 30 August 2022

8.45	<b>Prof. Philippe Cattin &amp; Prof. Dirk Schäfer</b>	<b>Welcome to the DBE Research Day</b>
8.55	<b>Session 1: New Groups</b>	<b>Chair: Prof. Alexander Navarini</b>
8.55	Short film: «hi_i_am_a_robot» by Carlo Seppi	
9.00	Dr. Claudia Lenz	Forensic perspectives on medical imaging
9.15	PD Dr. Cordula Netzer	RoLSSroice – More than a car... Are spinal loads the key to understanding spinal stenosis?
9.30	Dr. Francesco Santini	Translation through collaboration: muscle MRI from the proton to the patient
9.45	PD Dr. Christof Stieger	(H)ear motions
<b>10.00</b>	<b>Poster Session &amp; Coffee Break</b>	
<b>11.20</b>	<b>Session 2: Tandems</b>	<b>Chair: Prof. Carlalberta Verna</b>
11.20	Short film: «Myelin Water Imaging» by Jessica Schäper	
11.25	Yukiko Tomooka & Prof. Niklaus Friederich	Robotic surgery – Assist human hands
11.40	Rosa Visscher & Prof. Heide Elke Viehweger	Stop tip-toeing around toe-walking – towards assisting clinical decision making for pediatric movement disorders
11.55	Kim Arnold & Dr. Alejandro Gomez Mejia	Take a deep breath and watch out
12.10	Michaela Maintz & PD Dr. Philipp Honigmann	Impact of patient specific treatment in hand and wrist surgery
<b>12.30</b>	<b>Poster Session &amp; Lunch Break</b>	
<b>14.00</b>	<b>Session 3: Evaluated Group</b>	<b>Chair: Prof. Ludwig Kappos</b>
14.00	Short film: «INsIDER-paths» by Dr. Riccardo Galbusera	
14.05	Prof. Cristina Granziera	From postmortem to in vivo advanced MRI in multiple sclerosis – an exciting journey
14.20	Dr. Alessandro Cagol	Mechanisms of disease progression in multiple sclerosis
14.35	Po-Jui Lu	GAMER MRI: a deep dive in multiple sclerosis pathology and clinical disability
<b>14.50</b>	<b>Coffee Break</b>	
<b>15.20</b>	<b>Session 4: DBE Highlights</b>	<b>Chair: Prof. Eva Scheurer</b>
15.20	Short film: «Of robots building robots – Assembling MIRACLES» by Cédric Duverney	
15.25	Dr. Ferda Canbaz	Miniaturized smart laser osteotomy: from free space to fibers
15.40	Dr. Adrien Moya	Tissue engineered grafts for phalanx construction in children suffering from symbrachydactyly
15.55	Dr. Griffin Rodgers	Hard X-ray microtomography for virtual histology of the brain with cellular resolution
16.10	Prof. Najat Salameh & Prof. Mathieu Sarraçanie	AMT Center farewell
<b>16.25</b>	<b>Award Ceremony</b>	<b>Chair: Prof. Pablo Sinues</b>
<b>16.50</b>	<b>Prof. Georg Rauter</b>	<b>Closing Remarks</b>
<b>–19.00</b>	<b>Get-Together Apéro</b>	



## **Contact**

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