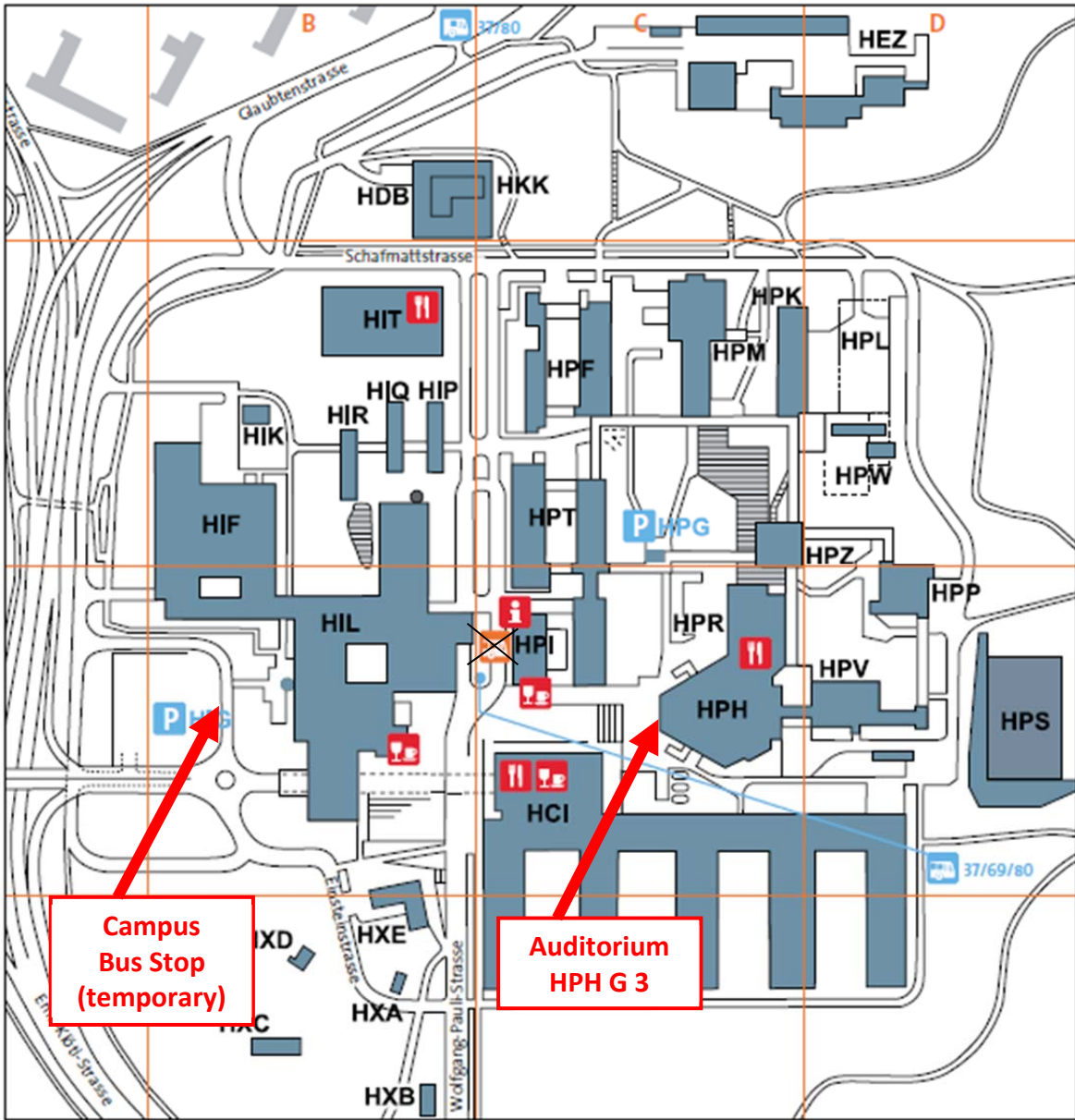


RESEARCH DAY 2013 - Friday, 14 June 2013

ETH Zürich, Science City, HPH G 3

Program

- 08:30 Registration
- 09:00 **Welcome Address**
Prof. Dr. Thomas Vogel, Prorector for Doctoral Studies at ETH Zürich
- Introductory talk**
Prof. Dr. Wolfgang Langhans, Head of Department D-HEST
- 09:15 **Speed Presentations: Food and Nutrition 1**
- 10:15 **Photo Session** (all participants)
- 10:30 Coffee Break (HEXAGON)
- 11:00 **Speed Presentations: Medical Engineering**
- 11:30 **Keynote**
Prof. Dr. Donald E. Ingber, MD, PhD, Director of the Wyss Institute of Biologically Inspired Engineering, Harvard University, and Professor of Vascular Biology, Harvard Medical School and Children's Hospital, Boston.
- 12:00 **Buffet Lunch** (HEXAGON) / **Graduate Session** (HPH G 3)
- 13:30 **Lab Tours: Medical Engineering** (meet outside of HPH)
- 15:15 **Speed Presentations: Food and Nutrition 2**
- 15:45 Coffee Break (HEXAGON)
- 16:15 **Speed Presentations: Food and Nutrition 3 / Neurosciences**
- 16:55 **Speed Presentations: Movement Sciences and Sport**
- 17:15 **Panel Discussion**
- Prof. Dr. Donald E. Ingber
 - Prof. Dr. Isabelle Mansuy
 - Prof. Dr. Nicole Wenderoth
 - Prof. Dr. William R. Taylor
 - Prof. Dr. Wolfgang Langhans
 - Hailey Gahlon (young scientist)
- Moderator: Prof. Ralph Müller
- 17:45 **Apéro riche** (Physics Restaurant)



Due to construction work, the bus stop is temporarily located behind the HIL building.

Keynote: Donald E. Ingber, MD, PhD

Founding Director & Core Faculty Member
The Wyss Institute for Biologically Inspired Engineering

Judah Folkman Professor of Vascular Biology
Harvard Medical School and Boston Children's Hospital

Professor of Bioengineering
Harvard School of Engineering & Applied Sciences



Don is the Founding Director of the Wyss Institute for Biologically Inspired Engineering at Harvard University; the Judah Folkman Professor of Vascular Biology at Boston Children's Hospital and Harvard Medical School; and Professor of Bioengineering at the Harvard School of Engineering and Applied Sciences. Dr. Ingber is a leader in the emerging field of biologically inspired engineering, and at the Wyss Institute, he oversees a multifaceted effort to identify the mechanisms that living systems use to build, control and manufacture, and to apply these design principles to develop advanced materials and devices. He also leads the Biomimetic Microsystems platform in which microfabrication techniques from the computer industry are used to build tiny, complex, three-dimensional models of living human organs. These „organs on chips,“ which mimic complicated human functions, are being designed to replace traditional animal-based methods for testing of drugs and toxins. Ingber has made major contributions to mechanobiology, tissue engineering, tumor angiogenesis, systems biology, and nanobiotechnology. He was the first to recognize that tensegrity architecture (in which a system stabilizes itself mechanically by balancing local compression with continuous tension) is a fundamental principle that governs how living cells are structured at the nanometer scale.

Don has authored more than 325 publications and 70 patents and has received numerous honors including the Holst Medal, Pritzker Award from the Biomedical Engineering Society, Rous-Whipple Award from the American Society for Investigative Pathology, Lifetime Achievement Award from the Society of In Vitro Biology, and the Department of Defense Breast Cancer Innovator Award. He is also a member of the Institute of Medicine of the National Academies and a fellow of the American Institute for Medical and Biological Engineering.

<http://www.childrenshospital.org/research/ingber/>

Speed Presentations: Food and Nutrition 1

Session Chair:

Simon Kuster

09:15

30 presentations

First Name	Last Name	Title Presentation	Professorship
Katarina	Slettengren	Powder-liquid mixing process for production of food composite structures with low water or fat	Erich J. Windhab
Volker	Lammers	Development of gluten-free snack products with premium sensory properties by novel microstructuring technology	Erich J. Windhab
Annekathrin Fabian	Mütze Birbaum	Shear bands in wormlike micelles solution	Erich J. Windhab
Josef	Hoermansperger	Pickering Stabilized Microfoams	Erich J. Windhab
William	Case	Steam decontamination of food powders	Erich J. Windhab
Patrick	Strähl	Spray Processing of Powders with Multiple Emulsion Structure	Erich J. Windhab
Jasmine	Ritschard	Low Energy Confectionary (LECO)	Erich J. Windhab
Jenna	Denyes	Microbial characterization of the microbiota of surface ripened smear cheese	Martin Loessner
Sibylle	Schmitter	Recovery of foodborne pathogens with biofunctionalized magnetic beads.	Martin Loessner
Sophie	Fehlbaum	Characterization of a toxin-antitoxin system in <i>L. monocytogenes</i>	Martin Loessner
Sabine	Tanner	Potential of <i>Lactobacillus casei</i> to fight <i>Clostridium difficile</i> infection	Christophe Lacroix
Saskia	Malang	Investigating the mechanisms of bacteriocinogenic <i>Bifidobacterium thermophilum</i> RBL67 on <i>Salmonella</i> infection in swine using in vitro fermentation and in vivo models	Christophe Lacroix
Alexandra	Dostal	Development of a multifunctional bioingredient for shelf-life extension of bakery products	Christophe Lacroix
Eun-Hee	Doo	Impact of iron on gut microbiota	Christophe Lacroix
Pamela	Vazquez Gutierrez	Effects of dietary nucleotides on the human gut microbiota studied with in vitro fermentation models with faecal microbiota	Christophe Lacroix
Lea	Amato	Antinfectious mechanisms of <i>Bifidobacteria</i> based on iron sequestration	Christophe Lacroix
Raschida	Bouhouch	Maintain the high quality of foil-prepacked red-smear cheese by controlling the smear microflora	Leo Meile
Marica	Brnic Bontognali	Micronutrient deficiencies and heavy metals: Effect on human development	Michael B. Zimmermann
Tanja	Jaeggi	Combating Zinc Deficiency Through Staple Food Fortification	Michael B. Zimmermann
Dominik Maren	Glinz Fischer	Efficacy and Safety of Iron Interventions in Infants in Sub-Saharan Africa - Effect of Iron fortification on Infant Gut Microbiota	Michael B. Zimmermann
Angela	Bearth	Iron deficiency and malaria	Michael B. Zimmermann
Christina	Hartmann	Improving iron and zinc nutrition from tef based diets	Michael Siegrist
Angelina	Gmür	Swiss consumers perception of food risks	Michael Siegrist
Selma	L'Orange Seigo	Food Panel Switzerland - A longitudinal study regarding eating behavior of the Swiss population	Michael Siegrist
Maryam Alik	Fotouhinia Yepes Perdikari	Emotions and Sensory Science	Michael Siegrist
Eva	Röder	Public perception and communication of Carbon Capture and Storage (CCS) in Switzerland	Michael Siegrist
Nadja	Mrosek	Menu nutrition labeling and consumer food choices	Michael Siegrist
		Mature adipocyte characterization	Christian Wolfrum
		Regulation of adipocyte metabolism	Christian Wolfrum
		A bile acid for the prevention and treatment of type 2 diabetes	Christian Wolfrum

Speed Presentations: Medical Engineering

Session Chair: Kathryn Stok

11:00
16 presentations

First Name	Last Name	Title Presentation	Professorship
Dario	Wyss	Advanced robotic gait training: Towards a free walking training system	Robert Riener
Corinne	Nicoletti	Neck pain: the role of 24 hours trapezius muscle activity, workload and work postures	Robert Riener
Serge	Pfeifer	A Biomimetic Above-Knee Prosthesis	Robert Riener
Aniket	Nagle	Increasing user motivation in serious games	Robert Riener
Ximena	Omlin	Effects of Rocking Movements on Sleep	Robert Riener
Francesco	Crivelli	Somnomat: an Actuated Bed to Improve Sleep Quality	Robert Riener
Amirehsan	Sarabadani Tafreshi	An Intelligent Bed for Early Mobilization	Robert Riener
Roland	Sigrist	Multimodal Augmented Feedback Strategies in Complex Motor Learning	Robert Riener
Urs	Keller	Robot-Assisted Pediatric Arm Rehabilitation	Robert Riener
Raphael	Zimmermann	Interfacing the brain for motor rehabilitation	Roger Gassert
Frieder	Wittmann	Sensor Based Home Therapy for Stroke and Spinal Cord Injured Patients	Roger Gassert
Bogdan	Vigaru	MRI-compatible high-fidelity haptics to investigate fine motor control	Roger Gassert
Michael	Tucker	Toward a Rehabilitation Engineering Actuator with Impedance Variation (REActIV)	Roger Gassert
Yufei	Li	Multiscale functional imaging of tendon	Jess G. Snedeker
Xiang	Li	Silk matrix enlaced TCP scaffold with PEEK anchor for ACL reconstruction	Jess G. Snedeker
Gion	Fessel	Mechanical Effects of Collagen Cross-Links in Tendon	Jess G. Snedeker

Speed Presentations: Food and Nutrition 2

Session Chair: Elisabeth Rondeau

15:15
15 presentations

First Name	Last Name	Title Presentation	Professorship
Renata	Negrini	Lyotropic Liquid Crystals for Controlled Drug Delivery	Raffaele Mezzenga
Jijo	Vallooran Joy	Stimuli-responsive Lyotropic Liquid Crystal for Biomaterial Applications	Raffaele Mezzenga
Alexandru	Zabara	Perforated Bicontinuous Cubic Phases with pH-Responsive Topological Channel Interconnectivity	Raffaele Mezzenga
Isabelle	Martiel	Phospholipid mesophases for food delivery systems	Raffaele Mezzenga
Johannes	Haberl	Liquid-crystalline elastomer nanocomposites	Raffaele Mezzenga
Larissa	Schefer	Chiral Self-Assembly of Food Polysaccharides at the Molecular Level	Raffaele Mezzenga
Cécile	Lara	From prteins to Amyloid fibrils	Raffaele Mezzenga
Ivan	Usov	Bovine serum albumin fibrillation	Raffaele Mezzenga
Sophia	Jördens	Structural and physical properties of protein fibrils at liquid interfaces	Raffaele Mezzenga
Laura	Wyss	Synthetic nucleotide analogs as probes for DNA damage	Shana Sturla
Melanie	Erzinger	Impact of Bioactive Food Components on Cancer Drug Metabolism	Shana Sturla
Claudia	Otto	Synthetic Nucleosides as Probes for DNA Alkylation and Repair	Shana Sturla
Heidi	Dahlmann	Exploring stabilization of alkylated DNA using nucleoside analogs	Shana Sturla
Linda	Münger	Enzymatic hydrolysis of steryl glycosides	Laura Nyström
Dan	Zhu	Bioactive properties of steryl ferulates from various grain sources	Laura Nyström

Speed Presentations: Food and Nutrition 3

Session Chair:		Elisabeth Rondeau	16:15 6 presentations
First Name	Last Name	Title Presentation	Professorship
Elnaz	Karimian	Role of Intestinal Fatty Acid Oxidation (FAO) in the Control of Eating	Wolfgang Langhans
Marie	Labouesse	Fat diets and cognition in mice: the vulnerability of adolescents	Wolfgang Langhans
Rosmarie	Clara	Enterocyte metabolism in the control of eating	Wolfgang Langhans
Jean-Philippe	Krieger	The glucagon-like peptide-1 effect on vagal afferent neurons in the control of food intake	Wolfgang Langhans
Eugenia	Mc Allister	Central interactive effect of pro-inflammatory cytokines and leptin on energy homeostasis.	Wolfgang Langhans
Sandra	Giovanoli	Prenatal Priming of Brain and Behavioral Pathology	Wolfgang Langhans

Speed Presentations: Neurosciences

Session Chair:		Johannes Bohacek	16:30 13 presentations
First Name	Last Name	Title Presentation	Professorship
Ying-Yin	Huang	Effects on human vision and visual performance caused by abruptly changing lighting conditions	Marino Menozzi
Katharina	Gapp	Epigenetic Inheritance of the Impact of Early Trauma in Mammals	Isabelle Mansuy
Lukas	von Ziegler	Study of the proteome in hippocampus area CA1 and CA3 for memory formation	Isabelle Mansuy
Eloïse	Kremer	DNA hydroxymethylation in the brain and its importance for memory	Isabelle Mansuy
Bisrat	Tewhibe Woldemichael	Micro RNAs in the regulation of learning and memory formation	Isabelle Mansuy
Alice	Mosberger	Neuronal plasticity following a bilateral CST lesion and rehabilitative training	Martin E. Schwab
Antonio	Schmandke	Nogo-A Signaling	Martin E. Schwab
Michael	Arzt	How Nogo-A interacts with its specific receptor	Martin E. Schwab
Flora	Vajda	The role of glial and neuronal Nogo-A in axonal regeneration	Martin E. Schwab
Nina Kristin	Thiede-Stan	Tetraspanin proteins provide a spatiotemporally coordinated functional membrane scaffold for Nogo-A- Δ_{20} -induced signal transduction and neurite outgrowth inhibition	Martin E. Schwab
Anna-Sophia	Wahl	Promoting recovery after stroke: Experimental studies to understand key mechanisms of rehabilitation and neuronal plasticity	Martin E. Schwab
Anne Katrin	Engmann	A propriospinal relay bridges brainstem reticular commands around a cervical incomplete spinal cord injury	Martin E. Schwab
Anna	Guzik-Kornacka	See what Nogo-A does in the visual system	Martin E. Schwab

Speed Presentations: Movement Sciences and Sport

Session Chair:

Eling de Bruin

16:55

8 presentations

First Name	Last Name	Title Presentation	Professorship
Thomas	Wüthrich	Assessment of Inspiratory Muscle Fatigue in Competition of Different Duration	Christina Spengler Walder
Philipp	Eichenberger	Effect of breathing warm-up on exercise-induced bronchoconstriction	Christina Spengler Walder
Seline	Wüest	Rehabilitative Wayout In Responsive home Environments (REWIRE)	Eling D. de Bruin
Patrick	Eggenberger	Effects of a six-month multi modal training intervention on cognitive and physical performance in old adults	Eling D. de Bruin
Eva	van het Reve	Tablet-based exercise training to improve walking and physical functions in older adults	Eling D. de Bruin
Rahel	Bürgi	Built Environment and Physical Activity Locations of Primary School Children in Everyday Life	Kurt Murer
Sandro	Müller	A new exercise stimulus for simultaneous strength and endurance adaptations	Urs Boutellier
David	Aguayo	Exercise-specific improvements in human skeletal muscle regenerative potential	Urs Boutellier