



## Scientific Programme

**Monday, 09 September 2019**

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<b>09:00 - 16:00</b>	<p>[BC]2 Session, University of Basel</p> <p><b>Workshop and tutorials at the University of Basel</b></p> <p>Organized by the SIB Training Group, will take place at the University of Basel, 12 workshops/tutorials foreseen.</p>
<b>16:45 - 18:00</b>	<p>EMBO Session, Town Hall (Rathaus)</p> <p><b>Welcome and Opening lecture</b></p>
<b>16:45 - 17:00</b>	<p><b>Welcome</b></p> <p>Lukas Engelberger (Basel Stadt, Basel, Switzerland)</p>
<b>17:00 - 18:00</b>	<p><b>Opening lecture</b></p> <p>Thomas Stocker (University of Bern, Bern, Switzerland)</p>
<b>18:00 - 19:00</b>	<p>Networking event, Town Hall (Rathaus)</p> <p><b>Welcome reception</b></p>



## Scientific Programme

**Tuesday, 10 September 2019**

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<b>09:00 - 09:45</b>	Joint Session, Montreal <b>Keynote lecture 1: Kari Stefánsson</b>
<b>09:00 - 09:45</b>	<b>Title to be announced</b> Kári Stefánsson (deCODE Genetics, Reykjavik, Iceland)
<b>09:30 - 17:00</b>	Job Fair, Job Fair <b>European Job Fair @ BASEL LIFE</b>
<b>10:00 - 11:45</b>	EMBO Session, Montreal <b>EMBO Plenary session 1: Microbiome as a driver of health and disease</b>
<b>10:00 - 10:25</b>	<b>Title to be announced</b> Eran Elinav (Weizmann Institute of Science, Rehovot, Israel)
<b>10:25 - 10:50</b>	<b>Title to be announced</b> Sonia Garel (PSL Research University, Paris, France)
<b>10:50 - 11:15</b>	<b>Title to be announced</b> Michael A. Fischbach (UCSF, San Francisco, United States)
<b>11:15 - 11:40</b>	<b>Title to be announced</b> Yasmine Belkaid (NIAID/NIH, Bethesda, United States)
<b>10:00 - 11:45</b>	[BC]2 Session, Singapore <b>[BC]2 Plenary session 1: Single-cell data</b>
<b>10:00 - 10:45</b>	<b>Title to be announced</b> Peter Kharchenko (Harvard Medical School, Boston, United States)
<b>10:45 - 11:05</b>	<b>Selected oral presentation</b>
<b>11:05 - 11:25</b>	<b>Selected oral presentation</b>
<b>11:25 - 11:45</b>	<b>Selected oral presentation</b>



## Scientific Programme

**10:00 - 11:00**

Innovation Forum, Sydney

### **Aging and drug discovery and AI**

In this symposium, leaders in the aging, longevity, and drug discovery field will describe the latest progress in the molecular, cellular and organismal basis of aging and the search for interventions. Furthermore, the forum will include opinion leaders in AI to discuss the latest advances of this technology in the biopharmaceutical sector and how this can be applied to interventions. This event intends to bridge academic and commercial research and foster collaborations that will result in practical solutions to one of humanity's most challenging problems: aging. A panel of thought-leaders will give us their cutting edge reports on the latest progress in our quest to extend the healthy lifespan of everyone on the planet. Please join us in this merger of driven scientists and global visionaries in an event that may shape the field in years to come.

Morten Scheibye-Knudsen (Center for Healthy Aging, University of Copenhagen, Copenhagen, Denmark)  
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)

**10:00 - 10:30**

### **To be announced**

Johan Auwerx (EPFL, Lausanne, Switzerland)

**10:00 - 11:00**

Innovation Forum, Rio

### **Peptide therapeutics**

The framework of the BASEL LIFE, we will host the "Peptide Therapeutics Forum 2019" for 2 days on September 10, and 11. Similar to previous events, presentations highlight important new insights regarding the drug discovery of peptides including examples for successful development. The first day is dedicated to topics to be addressed more early during peptide optimization, and the second day focuses more on issues related to later-stage development. As in the past, this event is thought to disseminate information on latest news in the broad field of therapeutic peptides and to enable networking of interested parties from academia and industries.

Thomas Vorherr (Novartis, Basel, Switzerland)  
Roderich Süßmuth (Technical University Berlin, Berlin, Germany)

**10:00 - 10:30**

### **Playmolecule, a repository of deep learning based applications for biomolecule design**

Franck Chevalier (Acellera, Barcelona, Spain)

**10:30 - 11:00**

### **Optimization of the lipopeptide arylomycin natural product into Gram-negative antibiotics**

Christopher Heise (Genentech Research & Early Development, United States)



## Scientific Programme

**10:00 - 11:00**

Innovation Forum, Samarkand

### **Biotherapeutics - Making complex biologics accessible**

Disruptive innovations are driving future biotherapeutics to become more personalized, cost-effective and efficacious. The biotherapeutics are shifting from classical monoclonal antibodies towards more complex modalities, such as engineered antibodies, multi-specific antibodies, cell and gene therapies. The 2019 biotherapeutics forum discusses technology trends and developments required to progress current and future drug modalities from concepts to the market.

Thomas Huber (Novartis, Basel, Switzerland)  
Stefan Weigand (Roche, Basel, Switzerland)  
René Assenberg (Janssen Biologics, Leiden, Netherlands)

**10:00 - 11:00**

Innovation Forum, Osaka

### **Advances in 3R**

The principles of 3Rs will celebrate their 60 years old in 2019. They were originally proposed in the book "The principles of humane experimental technique", published in 1959 by Russell and Burch. The concept of the three Rs addresses the Replacement, Reduction and Refinement of animal experimentation. Fortunately, we have come a long way in 60 years. Nowadays, many scientific and technological advances facilitate the use of alternative methods in research. Also, scientific knowledge can lead to improved design of animal studies, which can potentially reduce the numbers of used animal and the severity of the interventions (animal suffering). Moreover, specific bodies, like the 3RCC (Swiss 3R competence centre: <https://swiss3rcc.org/>) strongly promote education, research, dissemination and application of 3Rs. In this session, we will focus on the current status and applications of the 3R-principles in industrial and academic research. We will address the uses of alternatives to animal experimentation in drug discovery research for pharmacological and toxicological characterization of potential drugs. The session will also touch upon the relevance of animal experimentation for the detection of human-relevant effects.

Chantra Eskes (3RCC, Bern, Switzerland)  
Laura Suter-Dick (University of Applied Sciences and Arts Northwestern Switzerland, Muttenz, Switzerland)

**10:00 - 10:10**

### **Introduction**

Laura Suter-Dick (University of Applied Sciences and Arts Northwestern Switzerland, Muttenz, Switzerland)  
Chantra Eskes (3RCC, Bern, Switzerland)

**10:15 - 15:30**

MipTec / Industry related session, Stage

### **Company presentations**

**10:15 - 19:00**

Poster , Poster exhibition

### **Poster exhibition**



## Scientific Programme

**11:30 - 12:30**

Innovation Forum, Sydney

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Morten Scheibye-Knudsen (Center for Healthy Aging, University of Copenhagen, Copenhagen, Denmark)  
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)

**11:30 - 12:00**

### **To be announced**

David Gems (UCL, London, United Kingdom)

**12:00 - 12:30**

### **To be announced**

Anne Bertolotti (Cambridge Biomedical Campus, Cambridge, United Kingdom)

**11:30 - 12:30**

Innovation Forum, Rio

### **Peptide therapeutics**

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Thomas Vorherr (Novartis, Basel, Switzerland)  
Roderich Süßmuth (Technical University Berlin, Berlin, Germany)

**11:30 - 12:00**

### **Activation of the Hippo pathway via targeting of transcription factor TEAD using designed tertiary protein structure mimetics**

Hélène Adihou (Astra Zeneca, Dortmund, Germany)

**12:00 - 12:30**

### **Elimination of A $\beta$ oligomers by the orally available all-D-peptide PRI-002 reverses cognition deficits and decelerates neurodegeneration**

Dieter Willbold (University of Düsseldorf, Düsseldorf, Germany)



## Scientific Programme

**11:30 - 12:30**

Innovation Forum, Samarkand

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Innovation Forum, Osaka

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Chantra Eskes (3RCC, Bern, Switzerland)

Laura Suter-Dick (University of Applied Sciences and Arts Northwestern Switzerland, Muttenz, Switzerland)

**11:45 - 13:15**

Break, Montreal

### **Lunch break**

**11:45 - 13:15**

Break, Singapore

### **Lunch break**

**12:45 - 13:45**

MipTec / Industry related session, Sydney

### **Industry symposium**



## Scientific Programme

**12:45 - 13:45**

MipTec / Industry related session, Rio  
**Industry symposium**

**12:45 - 13:45**

MipTec / Industry related session, Samarkand  
**Industry symposium**

**12:45 - 13:45**

MipTec / Industry related session, Osaka  
**Industry symposium**

**13:15 - 15:00**

EMBO Session, Montreal  
**EMBO Plenary session 2: The emergence of infectious diseases**

**13:15 - 13:40**

**Title to be announced**  
Marcel Salathé (EPFL, Geneve, Switzerland)

**13:40 - 14:05**

**Title to be announced**  
Marco Vignuzzi (Institut Pasteur, Paris, France)

**14:05 - 14:30**

**Title to be announced**  
Sharon Peacock (London School of Hygiene & Tropical Medicine, London, United Kingdom)

**14:30 - 14:55**

**Title to be announced**  
Rino Rappuoli (Italy)

**13:15 - 15:00**

[BC]2 Session, Singapore  
**[BC]2 Plenary session 2: Evolutionary medicine**

**13:15 - 14:00**

**To be announced**  
Roy Kishony (Israel Institute of Technology, Israel)

**14:00 - 14:20**

**Selected oral presentation**

**14:20 - 14:40**

**Selected oral presentation**

**14:40 - 15:00**

**Selected oral presentation**



## Scientific Programme

**14:00 - 15:00**

Innovation Forum, Sydney

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Morten Scheibye-Knudsen (Center for Healthy Aging, University of Copenhagen, Copenhagen, Denmark)  
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)

**14:00 - 14:30**

### **A biologist and his dogs: The quest to slow aging in man's best friend**

Matt Kaeberlein (U of Washington, Washington, United States)

**14:30 - 15:00**

### **To be announced**

Adam Antebi (Max Planck, Cologne, Germany)

**14:00 - 15:00**

Innovation Forum, Rio

### **Peptide therapeutics**

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Thomas Vorherr (Novartis, Basel, Switzerland)  
Roderich Süßmuth (Technical University Berlin, Berlin, Germany)

**14:00 - 15:00**

### **Plenary Lecture: The chemical evolution of endocrine hormones**

Richard DiMarchi (University of Indiana, Bloomington, United States)





## Scientific Programme

**14:00 - 15:00**

Innovation Forum, Samarkand

### **Biotherapeutics - Making complex biologics accessible**

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René Assenberg (Janssen Biologics, Leiden, Netherlands)

**14:00 - 15:00**

Innovation Forum, Osaka

### **Antibiotic resistance**

Antimicrobial resistance has become a major threat to public health. Inappropriate use of antibiotics had and still has a major effect on resistance evolution. Rapid diagnostics of the pathogen and determination of its antimicrobial susceptibility will be one strategy for more effective antibiotics treatments as well as for epidemiological surveillance of resistant pathogens. Also, new insights in antibiotics resistance mechanisms can support the development of new antimicrobials. In this session, the speakers will focus on both the latest advances in antimicrobial diagnostics and the pathogen's resistance mechanisms.

Eric Kübler (FHNW, Muttens, Switzerland)  
Jürg Dreier (Basilea Pharmaceutica Ltd, Basel, Switzerland)

**15:30 - 16:30**

Joint Session, Montreal

### **EMBO & [BC]2 Flashtalks on the stage**

**15:30 - 16:30**

Joint Session, Singapore

### **EMBO & [BC]2 Flashtalks on the stage**



## Scientific Programme

**15:30 - 16:30**

Innovation Forum, Sydney

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Morten Scheibye-Knudsen (Center for Healthy Aging, University of Copenhagen, Copenhagen, Denmark)  
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)

**15:30 - 16:00**

### **To be announced**

Peter de Keijzer (UMC Utrecht, Utrecht, Netherlands)

**16:00 - 16:30**

### **To be announced**

Alex Aliper (Insilico Medicine, Baltimore, United States)

**15:30 - 16:30**

Innovation Forum, Rio

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Thomas Vorherr (Novartis, Basel, Switzerland)  
Roderich Süßmuth (Technical University Berlin, Berlin, Germany)

**15:30 - 16:00**

### **Virobiome derived anti-inflammatory short peptides**

Michael Ruff (Creative BioPeptides, Montreal, United States)

**16:00 - 16:30**

### **Peptide platforms for therapy and imaging: The first total synthesis of amanitin for ADCs and one-step 18F-labeling PET-oncology**

David Perrin (University of British Columbia, Vancouver, Canada)



## Scientific Programme

**15:30 - 16:30**

Innovation Forum, Samarkand

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Eric Kübler (FHNW, Muttens, Switzerland)  
Jürg Dreier (Basilea Pharmaceutica Ltd, Basel, Switzerland)

**15:30 - 16:30**

Joint Session, Stage

### **EMBO & [BC]2 Flashtalks**

**16:30 - 17:30**

Joint Session, Montreal

### **Louis-Jeantet Prize lecture**

**16:30 - 17:00**

#### **Title to be announced**

Luigi Naldini (San Raffaele Telethon Institute for Gene Therapy, Milan, Italy)

**17:00 - 17:30**

#### **Title to be announced**

Botond Roska (Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland)

**16:30 - 17:45**

Joint Session, Singapore

### **[BC]2 Session - SIB Bioinformatics Awards**



## Scientific Programme

**16:30 - 16:55**

**SIB Early Career Bioinformatician Award**

**16:55 - 17:20**

**SIB Best Swiss Bioinformatics Graduate Paper Award**

**17:20 - 17:45**

**SIB Bioinformatics Resource Innovation Award**

**17:30 - 19:00**

Networking event, Stage

**Networking event & Poster session for EMBO and [BC]2 Presenters**



## Scientific Programme

Wednesday, 11 September 2019

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<b>09:00 - 09:45</b>	EMBO Session, Montreal <b>Keynote lecture 2: Michal Schwartz</b>
<b>09:00 - 09:45</b>	<b>Title to be announced</b> Michal Schwartz (Weizmann Institute of Science, Rehovot, Israel)
<b>09:00 - 09:45</b>	[BC]2 Session, Singapore <b>[BC]2 Keynote lecture</b>
<b>10:00 - 11:45</b>	EMBO Session, Montreal <b>EMBO Plenary session 3: EMM lecture and awards</b>
<b>10:00 - 10:15</b>	<b>Title to be announced</b> Bart de Strooper (VIB Center for Brain & Disease Research, Leuven, Belgium)
<b>10:15 - 11:45</b>	<b>EMM 10th anniversary awards for posters and one speaker per topical session</b>
<b>10:00 - 11:45</b>	[BC]2 Session, Singapore <b>[BC]2 Plenary session 3: Clinical population genomics</b>
<b>10:00 - 10:45</b>	<b>Keynote presentation</b>
<b>10:45 - 11:05</b>	<b>Selected oral presentation</b>
<b>11:05 - 11:25</b>	<b>Selected oral presentation</b>
<b>11:25 - 11:45</b>	<b>Selected oral presentation</b>



## Scientific Programme

**10:00 - 11:00**

Innovation Forum, Sydney

### **Aging and drug discovery and AI**

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Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)

**10:00 - 10:30**

### **To be announced**

Andrea Ablasser (EPFL, Lausanne, Switzerland)

**10:30 - 11:00**

### **To be announced**

Morten Scheibye-Knudsen (Center for Healthy Aging, University of Copenhagen, Copenhagen, Denmark)

**10:00 - 11:00**

Innovation Forum, Rio

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Thomas Vorherr (Novartis, Basel, Switzerland)  
Roderich Süßmuth (Technical University Berlin, Berlin, Germany)

**10:00 - 10:30**

### **Exotic side chain-to-side-chain cyclization modes in octreotide analogs for tumor pretargeting**

Anna Maria Papini (University of Florence, Florence, Italy)

**10:30 - 11:00**

### **Peptide-based radiopharmaceuticals for cancer imaging and therapy Agonist or Antagonist? Does it really matter?**

Melpomeni Fani (University Hospital Basel, Basel, Switzerland)



## Scientific Programme

**10:00 - 11:00**

Innovation Forum, Samarkand

### **Microfluidics and microenvironment**

BaselArea.swiss, CSEM, and the Molecular Evolution Lab of the University of Basel join forces to organize the 2<sup>nd</sup> Basel Microfluidics and Microenvironment Forum at BASEL LIFE. As in the previous year, the forum will focus on the preparation of microphysiological systems in a microenvironment for boosting the relevance of in-vitro assays towards in-vivo outcome. This includes developments related to organ or model organism on a chip, droplet microfluidics or bioprinting. Newest technological developments and critical insights from the end users will come together at this forum. The forum brings together scientists, entrepreneurs and managers in these fields, from both industry and academia, to exchange ideas and to promote innovation applicable to bio-pharmaceutical development, in particular to antibiotics R&D.

Marc Creus (University of Basel, Basel, Switzerland)  
Ralf Dümpelmann (BaselArea.swiss, Basel, Switzerland)  
Helmut Knapp (CSEM, Alpnach, Switzerland)

**10:00 - 11:00**

Innovation Forum, Osaka

### **Innovating in healthcare - global health data sharing**

Healthcare is facing an uncertain future. People are living longer, costs are rising and patients are demanding a different experience. The cost to discover new medicines is skyrocketing, and efficacy of these treatments is regularly being questioned by reimbursement authorities. The future of healthcare is focusing on Precision Medicine to decrease costs and increase efficacy. Precision medicine utilizes the patient's health data to define a personalized signature for individualized treatment. But what the field lacks to move forward significantly is access to sufficient data to elucidate signatures of states of human health. The ability to exchange genome and other health data can have multiple benefits to advance healthcare. Stakeholders in the healthcare ecosystem, like academics, pharmaceutical corporations, insurers, and governments, can get population molecular data to develop health care programs (new drugs, reimbursement models, national programs). Patients can get preventative healthcare based on diagnosis of biomarkers that might predispose them to disease. New business models can be developed based on needs of rare diseases communities, for example. Leading to overall better health, lower costs, increased productivity and longevity.

Bhupinder Bhullar (Swiss Vault Systems, Basel, Switzerland)  
Thomas Brenzikofer (BaselArea.swiss, Basel, Switzerland)

**10:15 - 16:45**

MipTec / Industry related session, Stage

### **Company presentations**

**10:15 - 16:45**

Poster , Poster exhibition

### **Poster exhibition**



## Scientific Programme

**11:30 - 12:30**

Innovation Forum, Sydney

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Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)

**11:30 - 12:00**

### **To be announced**

Rafael de Cabo (NIA - NIH, Baltimore, United States)

**12:00 - 12:30**

### **Metformin as a tool to change regulatory landscape for targeting aging**

Nir Barzilai (Albert Einstein, New York, United States)

**11:30 - 12:30**

Innovation Forum, Rio

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Roderich Süßmuth (Technical University Berlin, Berlin, Germany)

**11:30 - 12:00**

### **Vancomycin regains effectiveness for resistant bacteria by conjugation to cationic peptides**

Walter Mier (University of Heidelberg, Heidelberg, Germany)

**12:00 - 12:30**

### **Peptide discovery at protagonist therapeutics: A platform yielding multiple clinical candidates**

Mark Smythe (Protagonist, Newark, CA, United States)





## Scientific Programme

**11:30 - 12:30**

Innovation Forum, Samarkand

### **Microfluidics and microenvironment**

BaselArea.swiss, CSEM, and the Molecular Evolution Lab of the University of Basel join forces to organize the 2<sup>nd</sup> Basel Microfluidics and Microenvironment Forum at BASEL LIFE. As in the previous year, the forum will focus on the preparation of microphysiological systems in a microenvironment for boosting the relevance of in-vitro assays towards in-vivo outcome. This includes developments related to organ or model organism on a chip, droplet microfluidics or bioprinting. Newest technological developments and critical insights from the end users will come together at this forum. The forum brings together scientists, entrepreneurs and managers in these fields, from both industry and academia, to exchange ideas and to promote innovation applicable to bio-pharmaceutical development, in particular to antibiotics R&D.

Marc Creus (University of Basel, Basel, Switzerland)  
Ralf Dümpelmann (BaselArea.swiss, Basel, Switzerland)  
Helmut Knapp (CSEM, Alpnach, Switzerland)

**11:30 - 12:30**

Innovation Forum, Osaka

### **Innovating in healthcare - global health data sharing**

Healthcare is facing an uncertain future. People are living longer, costs are rising and patients are demanding a different experience. The cost to discover new medicines is skyrocketing, and efficacy of these treatments is regularly being questioned by reimbursement authorities. The future of healthcare is focusing on Precision Medicine to decrease costs and increase efficacy. Precision medicine utilizes the patient's health data to define a personalized signature for individualized treatment. But what the field lacks to move forward significantly is access to sufficient data to elucidate signatures of states of human health. The ability to exchange genome and other health data can have multiple benefits to advance healthcare. Stakeholders in the healthcare ecosystem, like academics, pharmaceutical corporations, insurers, and governments, can get population molecular data to develop health care programs (new drugs, reimbursement models, national programs). Patients can get preventative healthcare based on diagnosis of biomarkers that might predispose them to disease. New business models can be developed based on needs of rare diseases communities, for example. Leading to overall better health, lower costs, increased productivity and longevity.

Bhupinder Bhullar (Swiss Vault Systems, Basel, Switzerland)  
Thomas Brenzikofer (BaselArea.swiss, Basel, Switzerland)

**11:45 - 13:15**

Break, Montreal

### **Lunch break**

**11:45 - 13:15**

Break, Singapore

### **Lunch break**



## Scientific Programme

<b>12:45 - 13:45</b>	MipTec / Industry related session, Sydney <b>Industry symposium</b>
<b>12:45 - 13:45</b>	MipTec / Industry related session, Rio <b>Industry symposium</b>
<b>12:45 - 13:45</b>	MipTec / Industry related session, Samarkand <b>Industry symposium</b>
<b>12:45 - 13:45</b>	MipTec / Industry related session, Osaka <b>Industry symposium</b>
<b>13:15 - 15:00</b>	EMBO Session, Montreal <b>EMBO Plenary session 4: Chronic inflammation: The common denominator of post-modern pathologies</b>
<b>13:15 - 13:40</b>	<b>Title to be announced</b> Fiona Powrie (University of Oxford, Oxford, United Kingdom)
<b>13:40 - 14:05</b>	<b>Title to be announced</b> Henrique Veiga-Fernandes (Centro Champalimaud, Lisbon, Portugal)
<b>14:05 - 14:30</b>	<b>Title to be announced</b> Erika Pearce (Max Planck Institute for Immunobiology and Epigenetics, Freiburg, Germany)
<b>14:30 - 14:55</b>	<b>Title to be announced</b> Alberto Mantovani (Istituto Clinico Humanitas, Milan, Italy)
<b>13:15 - 15:00</b>	[BC]2 Session, Singapore <b>[BC]2 Plenary session 4: Systems biology of disease</b>
<b>13:15 - 14:00</b>	<b>Keynote presentation</b>
<b>14:00 - 14:20</b>	<b>Selected oral presentation</b>
<b>14:20 - 14:40</b>	<b>Selected oral presentation</b>
<b>14:40 - 15:00</b>	<b>Selected oral presentation</b>



## Scientific Programme

**14:00 - 15:00**

Innovation Forum, Sydney

### **Aging and drug discovery and AI**

In this symposium, leaders in the aging, longevity, and drug discovery field will describe the latest progress in the molecular, cellular and organismal basis of aging and the search for interventions. Furthermore, the forum will include opinion leaders in AI to discuss the latest advances of this technology in the biopharmaceutical sector and how this can be applied to interventions. This event intends to bridge academic and commercial research and foster collaborations that will result in practical solutions to one of humanity's most challenging problems: aging. A panel of thought-leaders will give us their cutting edge reports on the latest progress in our quest to extend the healthy lifespan of everyone on the planet. Please join us in this merger of driven scientists and global visionaries in an event that may shape the field in years to come.

Morten Scheibye-Knudsen (Center for Healthy Aging, University of Copenhagen, Copenhagen, Denmark)  
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)

**14:00 - 14:30**

### **Screening in the right context**

Martin Borch Jensen (Gordian Biotechnology, San Francisco, United States)

**14:00 - 15:00**

Innovation Forum, Rio

### **Peptide therapeutics**

The framework of the BASEL LIFE, we will host the "Peptide Therapeutics Forum 2019" for 2 days on September 10, and 11. Similar to previous events, presentations highlight important new insights regarding the drug discovery of peptides including examples for successful development. The first day is dedicated to topics to be addressed more early during peptide optimization, and the second day focuses more on issues related to later-stage development. As in the past, this event is thought to disseminate information on latest news in the broad field of therapeutic peptides and to enable networking of interested parties from academia and industries.

Thomas Vorherr (Novartis, Basel, Switzerland)  
Roderich Süßmuth (Technical University Berlin, Berlin, Germany)

**14:00 - 14:30**

### **Disulfide-rich peptide production**

Mike Pennington (AmbioPharm, North Augusta, SC, United States)

**14:30 - 15:00**

### **A new green solvent for solid phase peptide synthesis**

Jon Collins (CEM, Matthews, NC, United States)



## Scientific Programme

**14:00 - 15:00**

Innovation Forum, Samarkand

### **Microfluidics and microenvironment**

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Ralf Dümpelmann (BaselArea.swiss, Basel, Switzerland)  
Helmut Knapp (CSEM, Alpnach, Switzerland)

**14:00 - 15:00**

Innovation Forum, Osaka

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Bhupinder Bhullar (Swiss Vault Systems, Basel, Switzerland)  
Thomas Brenzikofer (BaselArea.swiss, Basel, Switzerland)

**15:30 - 17:40**

EMBO Session, Montreal

### **EMBO Plenary session 5: Regenerative medicine**

**15:30 - 15:55**

**Title to be announced**

Alain Fischer (Institut Imagine, Paris, France)

**15:55 - 16:20**

**Title to be announced**

Yanick J. Crow (MRC Institute of Genetics & Molecular Medicine, Edinburgh, United Kingdom)



## Scientific Programme

**16:20 - 16:45**

**Title to be announced**

Christine Petit (Unité de Génétique & Physiologie de l'Audition, Institut Pasteur, UMRS 1120 INSERM25, Paris, France)

**16:45 - 17:10**

**Title to be announced**

Stefanie Dimmeler (Centre for Molecular Medicine, Frankfurt , Germany)

**17:10 - 17:35**

**Title to be announced**

Gérard Karsenty (Columbia university medical center, New York, United States)

**15:30 - 17:15**

[BC]2 Session, Singapore

**[BC]2 Plenary session 5: Multi-level data integration**

**15:30 - 16:15**

**Keynote presentation**

Lude Franke (University of Groningen, Groningen, Netherlands)

**16:15 - 16:35**

**Selected oral presentation**

**16:35 - 16:55**

**Selected oral presentation**

**16:55 - 17:15**

**Selected oral presentation**

**15:30 - 16:30**

Innovation Forum, Rio

**Peptide therapeutics**

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Thomas Vorherr (Novartis, Basel, Switzerland)

Roderich Süßmuth (Technical University Berlin, Berlin, Germany)

**15:30 - 16:00**

**Synthetic immune system engagers target cancer cells and prevent tumor formation**

Christian Becker (University of Vienna, Vienna, Austria)

**16:00 - 16:30**

**Discovery and clinical development of an inhaled cyclic peptide elastase inhibitor for the treatment of cystic fibrosis**

Marc Thommen (Santhera Pharmaceuticals (Switzerland) Ltd, Pratteln, Switzerland)

Roxana Drake (Santhera Pharmaceuticals (Switzerland) Ltd, Pratteln, Switzerland)



## Scientific Programme

**15:30 - 16:30**

Innovation Forum, Samarkand

### **Microfluidics and microenvironment**

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Ralf Dümpelmann (BaselArea.swiss, Basel, Switzerland)  
Helmut Knapp (CSEM, Alpnach, Switzerland)

**15:30 - 16:30**

Innovation Forum, Osaka

### **Innovating in healthcare - global health data sharing**

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Bhupinder Bhullar (Swiss Vault Systems, Basel, Switzerland)  
Thomas Brenzikofer (BaselArea.swiss, Basel, Switzerland)

**16:45 - 17:45**

Innovation Forum, Poster exhibition

### **Innovation Forums Poster session**

Thursday, 12 September 2019

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Joint Session, Montreal

**09:00 - 10:15** **Plenary session 6 (Joint with [BC]2) Computational biology, artificial intelligence, machine learning in precision medicine**

**09:00 - 09:25** **Title to be announced**  
Oliver Stegle (European Bioinformatics Institute, Hinxton, United Kingdom)

**09:25 - 09:50** **Title to be announced**  
Amos Tanay (Rehovot, Israel)

**09:50 - 10:15** **Title to be announced**

Innovation Forum, Rio

**09:00 - 10:15** **Cellular allergy - Novel strategies for allergy treatment and monitoring**

Allergic reactions are common phenomena during which the immune system overreacts to typically harmless substances from the environment. These hypersensitivities are mostly mediated by IgE antibodies that recognize the allergen and then trigger a cellular reaction that may lead to a severe and possibly lethal anaphylactic shock. This innovation forum at BASEL LIFE 2019 on cellular allergy shall be a platform to present cutting-edge research on cellular allergy and its implication in immunotherapy together with novel in vitro approaches in allergy diagnostics and therapy monitoring. The transition from in vivo oral food challenges or skin-prick tests to in vitro assays based on basophil activation as well as expected FDA clearances of oral immunotherapies are current game changers in allergy diagnostics and treatment. Additionally, the role of IgE directed immunotherapy (Omalizumab, Xolair®) as stand-alone and synergistic treatment will be discussed. Concomitant monitoring of therapy success with ex vivo challenges is expected to alleviate the burden on allergy patients significantly. The basophil activation test provokes a patient-specific allergic reaction in a test tube mediated by PI3 like kinase signaling of blood cells. This allows its application beyond allergy monitoring as for instance the Bruton's kinase inhibitor Ibrutinib (IMBRUVICA®), which is used to treat various lymphoma and leukemia, was discovered using a basophil stimulation assay. Therefore, the innovation forum also aims to present novel discoveries in cellular allergy signaling and their exploitation beyond allergy treatment.

Michael A. Gerspach (BÜHLMANN Laboratories AG, Schönenbuch, Switzerland)  
Christian B. Gerhold (BÜHLMANN Laboratories AG, Schönenbuch, Switzerland)

**09:00 - 09:15** **Introduction**

**09:15 - 09:45** **Cellular allergy and novel therapy approaches**  
Alexander Eggel (Bern, Switzerland)

**09:45 - 10:15** **Recent breakthroughs in immunotherapy of allergy**  
Wayne Shreffler (Massachusetts General Hospital, Boston, United States)



## Scientific Programme

**09:00 - 10:15**

Innovation Forum, Samarkand

### **Genome editing (CRISPR/Cas9) in drug discovery**

Genome editing technologies allow engineering parts of the genome by removing, adding or altering sections of the DNA Sequence. Recent discovery of the CRISPR/Cas9 system as a technology for genome editing, enables the simplest, quickest and most versatile way of genome editing. CRISPR/Cas9 technology is quickly developing and has already found many applications as a drug discovery tool and even as a potential new therapeutic agent in cellular and gene therapy. This forum focuses on relevant applications of CRISPR/Cas9 for drug discovery such as identification of novel targets through genetic screens, generation of relevant genetic disease models (human cells or animal models) for validation of drug targets and for mechanistic and safety studies. Importantly, current standard practices and perspectives of genome editing in drug discovery will be presented. Furthermore, the forum will show novel applications and discuss future challenges and potential pitfalls of the technology.

Claas Aiko Meyer (Roche, Basel, Switzerland)  
Filip Roudnicky (Roche, Basel, Switzerland)

**09:00 - 09:15**

### **Introduction**

Filip Roudnicky (Roche, Basel, Switzerland)  
Claas Aiko Meyer (Roche, Basel, Switzerland)

**09:15 - 09:45**

### **To be announced**

Jacob Corn (Swiss Federal Institute of Technology, Zürich, Switzerland)

**10:45 - 12:30**

Joint Session, Montreal

### **Plenary session 7 (Joint with [BC]2) Genetic diseases: genome and epigenome**

**10:45 - 11:10**

### **Title to be announced**

Michele De Luca (Center for Regenerative Medicine, Università degli Studi di Modena e Reggio Emilia, Modena, Italy)

**11:10 - 11:35**

### **Title to be announced**

Rudolf Jaenisch (Whitehead Institute for Biomedical Research, Cambridge, United States)

**11:35 - 12:00**

### **Title to be announced**

Anu Wartiovaara-Suomalainen (University of Helsinki, Helsinki, Finland)

**12:00 - 12:25**

### **Title to be announced**

Kristian Helin (Memorial Sloan Kettering Cancer Center, New York, United States)





## Scientific Programme

**10:45 - 11:45**

Innovation Forum, Sydney

### **Aging and drug discovery and AI**

In this symposium, leaders in the aging, longevity, and drug discovery field will describe the latest progress in the molecular, cellular and organismal basis of aging and the search for interventions. Furthermore, the forum will include opinion leaders in AI to discuss the latest advances of this technology in the biopharmaceutical sector and how this can be applied to interventions. This event intends to bridge academic and commercial research and foster collaborations that will result in practical solutions to one of humanity's most challenging problems: aging. A panel of thought-leaders will give us their cutting edge reports on the latest progress in our quest to extend the healthy lifespan of everyone on the planet. Please join us in this merger of driven scientists and global visionaries in an event that may shape the field in years to come.

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)  
Morten Scheibye-Knudsen (Center for Healthy Aging, University of Copenhagen, Copenhagen, Denmark)

**10:45 - 11:45**

Innovation Forum, Rio

### **Cellular allergy - Novel strategies for allergy treatment and monitoring**

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Christian B. Gerhold (BÜHLMANN Laboratories AG, Schönenbuch, Switzerland)

**10:45 - 11:15**

**Title to be announced**

**11:15 - 11:45**

**Novel approaches for allergy diagnosis and immunotherapy monitoring**

Alexandra Santos (King's College, London, United Kingdom)



## Scientific Programme

**10:45 - 11:45**

Innovation Forum, Samarkand

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Claas Aiko Meyer (Roche, Basel, Switzerland)  
Filip Roudnicky (Roche, Basel, Switzerland)

**10:45 - 11:15**

### **To be announced**

Scott Martin (Genentech Inc, San Francisco, United States)

**11:15 - 11:45**

### **To be announced**

Manuel Kaulich (Goethe University, Frankfurt, Germany)

**12:00 - 13:00**

Innovation Forum, Sydney

### **Aging and drug discovery and AI**

In this symposium, leaders in the aging, longevity, and drug discovery field will describe the latest progress in the molecular, cellular and organismal basis of aging and the search for interventions. Furthermore, the forum will include opinion leaders in AI to discuss the latest advances of this technology in the biopharmaceutical sector and how this can be applied to interventions. This event intends to bridge academic and commercial research and foster collaborations that will result in practical solutions to one of humanity's most challenging problems: aging. A panel of thought-leaders will give us their cutting edge reports on the latest progress in our quest to extend the healthy lifespan of everyone on the planet. Please join us in this merger of driven scientists and global visionaries in an event that may shape the field in years to come.

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)  
Morten Scheibye-Knudsen (Center for Healthy Aging, University of Copenhagen, Copenhagen, Denmark)

**12:00 - 13:00**

Innovation Forum, Rio

**Cellular allergy - Cellular signaling in allergy and beyond**

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Christian B. Gerhold (BÜHLMANN Laboratories AG, Schönenbuch, Switzerland)  
Michael A. Gerspach (BÜHLMANN Laboratories AG, Schönenbuch, Switzerland)

**12:00 - 12:30**

**How allergens become allergic - a molecular snapshot**

Jean-Phillipe Girard (Institut de Pharmacologie et de Biologie Structurale (IPBS), Toulouse, France)

**12:30 - 13:00**

**Orchestrating signaling in allergic inflammation**

Matthias Wymann (University of Basel, Basel, Switzerland)

**12:00 - 13:00**

Innovation Forum, Samarkand

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Claas Aiko Meyer (Roche, Basel, Switzerland)  
Filip Roudnický (Roche, Basel, Switzerland)



## Scientific Programme

12:00 - 12:30

**Title to be announced**

Jon Chesnut (Thermo Fisher, Carlsbad, United States)

12:30 - 13:00

**Title to be announced**

12:30 - 13:45

Break, Montreal

**Lunch break**

13:15 - 14:15

MipTec / Industry related session, Sydney

**Industry symposium**

13:15 - 14:15

MipTec / Industry related session, Rio

**Industry symposium**

13:15 - 14:15

MipTec / Industry related session, Samarkand

**Industry symposium**

13:45 - 15:30

EMBO Session, Montreal

**EMBO Plenary session 8: Tissue regeneration, organoids without borders**

13:45 - 14:10

**Title to be announced**

Sabine Werner (ETH Zurich, Zurich, Switzerland)

14:10 - 14:35

**Title to be announced**

Prisca Liberali (Friedrich Miescher Institute for biomedical research, Basel, Switzerland)

14:35 - 15:00

**Title to be announced**

15:00 - 15:25

**Title to be announced**

Marc van de Wetering (Netherlands)



## Scientific Programme

**14:30 - 15:30**

Innovation Forum, Sydney

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In this symposium, leaders in the aging, longevity, and drug discovery field will describe the latest progress in the molecular, cellular and organismal basis of aging and the search for interventions. Furthermore, the forum will include opinion leaders in AI to discuss the latest advances of this technology in the biopharmaceutical sector and how this can be applied to interventions. This event intends to bridge academic and commercial research and foster collaborations that will result in practical solutions to one of humanity's most challenging problems: aging. A panel of thought-leaders will give us their cutting edge reports on the latest progress in our quest to extend the healthy lifespan of everyone on the planet. Please join us in this merger of driven scientists and global visionaries in an event that may shape the field in years to come.

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Christian B. Gerhold (BÜHLMANN Laboratories AG, Schönenbuch, Switzerland)  
Michael A. Gerspach (BÜHLMANN Laboratories AG, Schönenbuch, Switzerland)

**14:30 - 15:00**

### **PI3K Signalling and the Basophil Activation Test in Allergic Asthma and COPD**

Augustin Amour (GSK, Stevenage, United Kingdom)

**15:00 - 15:30**

**Title to be announced**



## Scientific Programme

**14:30 - 15:30**

Innovation Forum, Samarkand

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Claas Aiko Meyer (Roche, Basel, Switzerland)

Filip Roudnicky (Roche, Basel, Switzerland)

**14:30 - 15:00**

### **To be announced**

Sai Reddy (Swiss Federal Institute of Technology, Basel, Switzerland)

**16:00 - 16:45**

Joint Session, Montreal

### **Joint Keynote lecture**

**16:00 - 16:45**

**Title to be announced**

**16:45 - 17:00**

Joint Session, Montreal

### **Closing address**