



Scientific Programme

Tuesday, 11 September 2018

16:45 - 18:00

EMBO Scientific Sessions, Kunstmuseum Basel

Welcome and opening session

Maria Leptin (EMBO, Heidelberg, Germany)

16:45 - 17:00

Welcome

Josef Helfenstein (Kunstmuseum Basel, Basel, Switzerland)

Susan Gasser (Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland)

Gerd Folkers (ETH, Zürich, Switzerland)

17:00 - 18:00

Art and Science

Michael N. Hall (University of Basel, Switzerland)

Jacques Herzog (Herzog & de Meuron, Basel, Switzerland)

18:00 - 19:30

EMBO Scientific Sessions, Kunstmuseum Basel

Welcome reception. Attendees are invited to visit the art galleries of the museum 18:30 - 19:30, free admission

Discover the art galleries of the "Kunstmuseum": Ask Me Guides will be happy to answer your questions



Scientific Programme

Wednesday, 12 September 2018

09:00 - 09:45

EMBO Scientific Sessions, Montreal

Keynote lecture 1

René Bernards (Netherlands Cancer Institute, Amsterdam, Netherlands)

09:00 - 09:45

Novel therapeutic approaches

Jeffrey Engelman (Novartis, Boston, United States)

09:30 - 17:00

Job Fair, Job Fair

European Job Fair @ BASEL LIFE

During this one-day Job Fair on 12 September 2018, various Life Sciences companies will be present in the exhibition area to market themselves as attractive employers. Talented scientists at the PhD or PostDoc level and young researchers with work experience will attend the Job Fair. The event will be modelled on a 'Marketplace', showing the diversity of job opportunities and positions in small, mid-size and large Life Sciences companies and academic institutions. The central point of this innovative exhibition will be a meeting-and-networking area for personal meetings and communication between industry and young scientists.

BÜHLMANN Laboratories AG

Career Service Center (CSC) University Basel

Carbogen Amics AG

CRB Group GmbH

Fluidic Analytics

Hoffmann-La Roche

Sartorius Corporate Administration GmbH

10:00 - 11:20

Innovation Forums, Shanghai 2

Biotherapeutics

The 2018 Biotherapeutic Forum of Basel Life will focus on new advancements in tissue specific delivery of biotherapeutics, cover exciting examples of site specific drug activation and novel approaches for intracellular targets. Join us to discover and discuss the latest developments in the field together with renowned experts from academia and industry. Keywords: •Delivery of Biotherapeutics to specific tissue site of action •Biotherapeutic approaches for intracellular targets •Tissue specific activation

Thomas Huber (Novartis, Basel, Switzerland)

Stefan Weigand (Roche, Basel, Switzerland)



Scientific Programme

- 10:00 - 10:30** **ImmTAC: soluble TCR based bispecifics**
Stephen Harper (Immunocore, Milton, United Kingdom)
- 10:30 - 11:00** **TCR based therapeutics**
Carsten Reinhardt (Immatix, Tübingen, Germany)
- 11:00 - 11:20** **Antibody discovery at Syngene: multiple platforms for multiple scenarios**
Priyadarshini Chatterjee (Syngene International, New Delhi, India)
- 10:00 - 16:30** **Poster exhibition**
EMBO & Innovation forums - poster exhibition, Poster exhibition
- 10:05 - 11:15** **Aging and drug discovery**
Innovation Forums, Kairo 1-2
Why do we age? And what can we do about it? In this symposium, a phenomenal group of thought-leaders will uncover the latest progress in aging and longevity at the molecular, cellular and organismal level. A panel of world leading experts will give us their cutting edge reports on the latest progress in our quest to extend our healthy lifespan. We will hear from both academic and top investors on where and how commercialization of aging and longevity research will likely occur. 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 (Danish Center for Aging Research/National Institute on Aging, Copenhagen, Denmark)
- 10:05 - 10:15** **Welcome to the intersection of AI, longevity and drug discovery**
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Morten Scheibye-Knudsen (Danish Center for Aging Research/National Institute on Aging, Copenhagen, Denmark)
- 10:15 - 10:35** **Commercializing the science of aging biology**
S. Jay Olshansky (University of Illinois at Chicago and Lapetus Solutions, Chicago, United States)
- 10:35 - 10:55** **Redox-regulation of lifespan and metabolism**
Michael Ristow (ETH Zurich, Switzerland)
- 10:55 - 11:15** **Multi-stage longevity therapeutics to fight aging at every level**
Ivan V. Ozerov (InSilico Medicine, Baltimore, United States)
- 10:15 - 12:00** **Plenary session 1: Cancer I**
EMBO Scientific Sessions, Montreal
René Bernards (Netherlands Cancer Institute, Amsterdam, Netherlands)



Scientific Programme

10:15 - 10:40 **Tumour-stroma interactions in breast cancer metastasis**
Clare Isacke (The Institute of Cancer Research, London, United Kingdom)

10:40 - 11:05 **Translation control in melanoma**
Caroline Robert (Institut Gustave Roussy, Paris, France)

11:05 - 11:30 **Cancer evolution as a therapeutic target**
Alberto Bardelli (University of Torino, Candiolo, Italy)

11:30 - 11:55 **Cell plasticity and lineage commitment in liver tumorigenesis**
Lars Zender (Tübingen University, Germany)

Innovation Forums, Delhi
10:15 - 11:25 **Basel Agenda Session I: superior healthcare systems with sustainable behavioral impact**

The 2018 dialogue will focus on the questions “Will holistic behavior change models be the next game changer in healthcare?” During the symposium, we will apply both system-level and specific best practice cases perspectives focusing on five critical aspects: •Successful behavioral economics approaches in healthcare •Challenges across healthcare from behavior shortcomings •Value of monetary incentives to maximize health outcomes •Behavioral lifestyle intervention framework – how holistic should it be? •Pay for performance health eco-systems – basis of robust business models The fourth international symposium The Basel Agenda is an interactive annual conference for healthcare & life science leaders and senior stakeholders since 2015. It brings together managers of innovative life science industries, providers, patient groups, ICT, governmental agencies, insurers, and many other stakeholders. The forum builds on topical input speeches of invited international speakers followed by extended, interactive and guided discussions with the panelists and the audience.

Beatus Hofrichter (ConCePlus, Weggis, Switzerland)
Aleksandar Ruzicic (INSEAD Alumni Association Switzerland - Healthcare Club, Baar, Switzerland)
Christoph Nabholz (SwissRe, Zurich, Switzerland)

10:15 - 10:30 **Welcome & introduction**
Beatus Hofrichter (ConCePlus, Weggis, Switzerland)

10:30 - 10:40 **Ayushman Bharat - Impacts anticipated in healthcare provision and citizen behaviour**
Indu Bhushan ("Modicare" - Ayushman Bharat National Health Protection Mission - (ABNHPM), Ministry of Health & Family Welfare, New Delhi, India)

10:40 - 10:50 **The next level of personalized health care**
Gerd Maass (Roche Pharma AG, Penzberg, Germany)

10:50 - 11:00 **Health behavior change: theoretical background and empirical evidence**
Theda Radtke (University Zurich, Switzerland)

11:00 - 11:10 **An overview of the behavioural science applications in health insurance**
Francesca Tamma (SwissRe, Zurich, Switzerland)



Scientific Programme

11:10 - 11:15

Introduction live-voting

Aleksandar Ruzicic (INSEAD Alumni Association Switzerland - Healthcare Club, Baar, Switzerland)

10:15 - 11:15

Innovation Forums, Shanghai 1

Medicinal chemistry

The perpetual task of Medicinal Chemistry and Drug Discovery is the finding and profiling of pharmacologically active and safe medicine. In this forum the importance of new methodologies for profiling and synthesis of new compounds will be presented and discussed including new computational approaches for compound design.

Daniel Gygax (FHNW, Muttenz, Switzerland)
Gerhard Grundler (FHNW, Muttenz, Switzerland)

10:15 - 10:45

Fishing for compound targets using CRISPR-mediated bar-coded deletion collections

Dominic Hoepfner (Novartis, Basel, Switzerland)

10:45 - 11:15

Phage display selection of chemically cyclized peptides for the development of therapeutics

Christian Heinis (Ecole Polytechnique Federal de Lausanne (EPFL), Lausanne, Switzerland)

11:30 - 12:30

Innovation Forums, Delhi

Basel Agenda

Beatus Hofrichter (ConCePlus, Weggis, Switzerland)
Aleksandar Ruzicic (INSEAD Alumni Association Switzerland - Healthcare Club, Baar, Switzerland)
Christoph Nabholz (SwissRe, Zurich, Switzerland)

11:30 - 12:30

Panel Discussion with speakers of morning session and live-voting

Beatus Hofrichter (ConCePlus, Weggis, Switzerland)
Aleksandar Ruzicic (INSEAD Alumni Association Switzerland - Healthcare Club, Baar, Switzerland)

11:45 - 12:45

Innovation Forums, Kairo 1-2

Aging and drug discovery

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Morten Scheibye-Knudsen (Danish Center for Aging Research/National Institute on Aging, Copenhagen, Denmark)

11:45 - 12:05

Systems biology of lifespan control and its applications

Vadim Gladyshev (Harvard, Cambridge, United States)



Scientific Programme

12:05 - 12:25

Juvenescence: Investing in Longevity

Alexander Pickett (Boston, United States)

12:25 - 12:45

Fucoxanthin from the point of criteria of geroprotector

Alexey Moskalev (Institute of biology of Russian Academy of Sciences, Syktyvkar, Russia, Syktyvkar, Russian Federation)

11:45 - 12:45

Innovation Forums, Shanghai 1

Medicinal chemistry

The perpetual task of Medicinal Chemistry and Drug Discovery is the finding and profiling of pharmacologically active and safe medicine. In this forum the importance of new methodologies for profiling and synthesis of new compounds will be presented and discussed including new computational approaches for compound design.

Daniel Gygax (FHNW, Muttenz, Switzerland)

Gerhard Grundler (FHNW, Muttenz, Switzerland)

11:45 - 12:15

The screening compound collection: a key asset for drug discovery

Christoph Boss (Idorsia Pharmaceuticals Ltd., Allschwil, Switzerland)

12:15 - 12:45

Can a computer design a drug?"

John Cumming (Roche, Basel, Switzerland)

11:45 - 12:45

Innovation Forums, Shanghai 2

Biotherapeutics

Thomas Huber (Novartis, Basel, Switzerland)

Stefan Weigand (Roche, Basel, Switzerland)

11:45 - 12:15

Targeting intracellular proteins

Julia Neugebauer (Morphosys, München, Germany)

12:15 - 12:45

Intracellular delivery of antibodies

Andreas Plückthun (University of Zurich, Switzerland)



Scientific Programme

11:50 - 12:10

MipTec Stage, MipTec stage

Covaris - The Covaris Platform : Bring Your Sample Preparation to the Next Level with AFA-energetics™

Focused-ultrasonication provides precise process control, which is beneficial to a number of scientific disciplines in both advanced biological and chemical applications. Pre-analytical processes are increasingly recognized as the limiting factors for sensitivity and specificity of biomarker detection. This is especially relevant for highly advanced analytical methods such as Next Generation Sequencing or Mass Spectrometry. The AFA (Adaptive Focused Acoustics®) process is isothermal and non-contact . Covaris Focused-ultrasonicators may be programmed for intensity, duration, and duty factor of these bursts, supporting a wide variety of applications, from gentle mixing to extreme compound reformatting and dissolution. This talk will present some of the major applications driven by AFA (e.g. DNA and chromatin shearing, cfDNA isolation, FFPE extraction of nucleic acids and proteins, tissue and cell lysis of various organisms), many of which we launched recently including a series of kits through our truChIP/truXTRAC product line. We will also discuss insights into current developments in automation and robotization.

Nicolas Autret (United Kingdom)

12:00 - 13:45

Break, Montreal

Lunch break

12:00 - 13:45

Break, Singapore

Lunch break



Scientific Programme

12:20 - 12:40

MipTec Stage, MipTec stage

CSEM - Fostering innovation to convert groundbreaking research into value for the Life Science industry

CSEM is a national innovation accelerator—a catalyst for the transfer of technologies and know-how from fundamental research to industry. This role involves four principal tasks: we develop and maintain technology platforms, we integrate and combine technologies into workable systems, we mature those technologies until using them will add value to our industrial clients, then we support the process of transferring those technologies to industry. CSEM technology platform for the Life Sciences articulates along three axes. The bio-interfacing activity addresses issues related to the chemical functionalization and micro/nano structuring of surfaces to support cell expansion and behaviour and to facilitate bio-compatible processes. The bio-sensors topic focusses on developing electrochemical, mechanical and optoelectronic sensors for application in diagnostics (in-vitro and on-body), cell cultures, or environmental (water) and food quality control. The bio-instrumentation topic develops miniaturized liquid actuation systems, instrumentation for treating or analysing samples in the life sciences and systems for the handling and expansion of cells. Through concrete project examples, the presentation gives a highlight on how the combination of these three topics leads to breakthrough and commercial successes in the field for our partners.

Vincent Revol (CSEM, Alpnach, Switzerland)

12:45 - 14:15

Break, Delhi

Lunch break

12:45 - 14:15

Break, Kairo 1-2

Lunch break

12:45 - 14:15

Break, Shanghai 1

Lunch break

12:45 - 14:15

Break, Shanghai 2

Lunch break

12:45 - 14:15

Break, MipTec stage

Lunch Break



Scientific Programme

13:45 - 15:30

EMBO Scientific Sessions, Montreal

Parallel session 1: Plant disease and pathogens

Regine Kahmann (Max Planck Institute for Terrestrial Microbiology, Marburg, Germany)

13:45 - 14:10

Effectors to go: unexpected insights from a plant pathogenic fungus

Regine Kahmann (Max Planck Institute for Terrestrial Microbiology, Marburg, Germany)

14:10 - 14:35

Dynamics of host adaptation in fungal pathogens

Antonio Di Pietro (University of Cordoba, Cordoba, Spain)

14:35 - 15:00

Secretion and delivery of effector proteins from a plant pathogen to its host

Paul Birch (The James Hutton Institute, Dundee, United Kingdom)

15:00 - 15:30

Determination of the host range of the fungal plant pathogen *Verticillium*

Bart Thomma (University of Wageningen, Netherlands)

13:45 - 15:30

EMBO Scientific Sessions, Singapore

Parallel session 2: Cancer II

Charles Swanton (The Francis Crick Institute, London, United Kingdom)

13:45 - 14:10

Cancer evolution, adaptation and immune evasion

Charles Swanton (The Francis Crick Institute, London, United Kingdom)

14:10 - 14:35

Understanding the role of metabolism in cancer

Matthew G. Vander Heiden (Koch Institute for Integrative Cancer Research, Cambridge, United States)

14:35 - 15:00

Circulating tumour cells: a multi-use biomarker

Caroline Dive (The University of Manchester, United Kingdom)

Abstract presentations

15:00 - 15:15

The protein histidine phosphatase LHPP is a tumor suppressor

Sravanth K Hindupur (University of Basel / Biozentrum, Basel, Switzerland)

15:15 - 15:30

Modelling mutant IDH2 leukemia evolution identifies vulnerabilities and effective combination therapy

Vera Mugoni (Harvard Medical School, Boston, United States)



Scientific Programme

14:15 - 15:15

Innovation Forums, Delhi

Basel Agenda Session II: best practice cases with superior behavior in diabetes care

Beatus Hofrichter (ConCePlus, Weggis, Switzerland)
Aleksandar Ruzicic (INSEAD Alumni Association Switzerland - Healthcare Club, Baar, Switzerland)
Christoph Nabholz (SwissRe, Zurich, Switzerland)

14:15 - 14:25

Re-welcome & introduction

Aleksandar Ruzicic (INSEAD Alumni Association Switzerland - Healthcare Club, Baar, Switzerland)

14:25 - 14:35

Behavioral change with the "digital pill"

Matthias Heuberger (CSS Incentive Program, Luzern, Switzerland)

14:35 - 14:45

Redefining chronic illness: empowering patients to take control of metabolic health and wellbeing

Charlotte Summers (Diabetes.co.uk, Coventry, United Kingdom)

14:45 - 14:55

How digital technology can help to implement behavioral change models

Rolf Hinzmann (Roche, Basel, Switzerland)

14:55 - 15:05

How to implement pay-for-outcome in diabetes successfully

Charlotte Tengelin (Diabeter, Medtronic, Tolochenaz, Switzerland)

15:05 - 15:15

Reminder live-voting

Aleksandar Ruzicic (INSEAD Alumni Association Switzerland - Healthcare Club, Baar, Switzerland)

14:15 - 15:15

Innovation Forums, Kairo 1-2

Aging and drug discovery

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Morten Scheibye-Knudsen (Danish Center for Aging Research/National Institute on Aging, Copenhagen, Denmark)

14:15 - 14:35

Understanding the role of Cockayne syndrome proteins in DNA repair, transcription, and accelerated aging

Martijn Luijsterburg (Leiden University Medical Center (LUMC), Leiden, Netherlands)

14:35 - 14:55

Exploring the phenotypical landscape of aging

Morten Scheibye-Knudsen (Danish Center for Aging Research/National Institute on Aging, Copenhagen, Denmark)

14:55 - 15:15

Environment and skin aging - new insights and anti-aging strategies

Olga Kovalchuck (University of Lethbridge, Canada)



Scientific Programme

14:15 - 15:15

Innovation Forums, Shanghai 1

Antibiotics brought by NTN Swiss Biotech

Antimicrobial resistance (AMR) of pathogenic bacteria is an emerging global health problem, which threatens the achievements of modern medicine. For several decades, lack of economic incentives prevented companies to develop novel antimicrobial drugs. Today, an increasing number of bacterial infections cannot be cured with the existing arsenal of antibiotics due to the spread of multidrug resistant strains. The forum "Antibiotics", organized by NTN SwissBiotech, brings together leaders in the field of antibiotic development from academia and industry to discuss technical innovations in order to overcome the AMR crisis. The invited speakers focus on novel concepts and targets to treat multidrug resistant pathogens.

Markus Seeger (UZH, Zurich, Switzerland)
Eric Kübler (FHNW, Basel, Switzerland)

14:15 - 14:35

CAL02, a unique broad-spectrum toxin trap

Samareh Azeredo da Silveira Lajaunias (Combioxin SA, Geneva, Switzerland)

14:35 - 14:55

The return of the Trojan Horse: an update on siderophore-drug conjugates

Thilo Köhler (University of Geneva, Switzerland)

14:55 - 15:15

Discovery of rare anti-BamA antibodies with growth inhibitory activity

James Koerber (Genentech Inc., South San Francisco, United States)

14:15 - 15:15

Innovation Forums, Shanghai 2

Biotherapeutics

Thomas Huber (Novartis, Basel, Switzerland)
Stefan Weigand (Roche, Basel, Switzerland)

14:15 - 14:45

A versatile bacterial cancer therapy

Simon Ittig (T3, Basel, Switzerland)



Scientific Programme

14:20 - 14:40

MipTec Stage, MipTec stage

SiLA Analysis and Automation Ltd.

SiLA2: A step closer to real plug and play operation Description: SiLA enables the Lab of the Future through free and open systems communication and data standards, such as AnIML. Whether you are a scientist, an integrator, or a supplier, we help future-proof labs, offering end-to-end integration by connecting instruments to informatics systems, lab systems to each other, and people with their data. SiLA started in 2008 and there are many implementations in the field. To drive further adoption, the SiLA organization decided to work on the next version, SiLA2 with the aim of delivering a simpler and leaner framework. The result is an improved standard that combines what we've learnt so far along with the many concepts and ideas surrounding proven and emerging internet standards, IoT and web technologies. This talk will provide an overview of the standard, how we envisage it will be used in practise and the benefits that SiLA2 offers.

Rob Harkness (United Kingdom)

14:50 - 15:10

MipTec Stage, MipTec stage

upcyte® technologies GmbH - upcyte® expanded human primary cells as the golden middle way in in vitro research

upcyte® technologies has developed a novel technique for the proliferation of human primary phenotype. This technique opens up the use of cells in research which are hard to isolate and/ hepatocytes and liver sinusoidal endothelial cells. With this, large batches of expanded primary generated enabling reproducible and standardised experimental settings.

Nikolett Nagy (upcyte technologies, Hamburg, Germany)

15:15 - 16:45

Innovation Forums, Delhi

Basel Agenda

Beatus Hofrichter (ConCePlus, Weggis, Switzerland)

Aleksandar Ruzicic (INSEAD Alumni Association Switzerland - Healthcare Club, Baar, Switzerland)

Christoph Nabholz (SwissRe, Zurich, Switzerland)

15:15 - 16:05

Panel discussion with speakers of both sessions and live-voting

Aleksandar Ruzicic (INSEAD Alumni Association Switzerland - Healthcare Club, Baar, Switzerland)

Christoph Nabholz (SwissRe, Zurich, Switzerland)

16:05 - 16:15

Closing of Basel Agenda 2018

Beatus Hofrichter (ConCePlus, Weggis, Switzerland)

15:15 - 15:45

Break, Kairo 1-2

Coffee break

Scientific Programme

15:15 - 15:45 Break, Shanghai 1
Coffee break

15:15 - 15:45 Break, Shanghai 2
Coffee break

EMBO Flash Talks & Posters, Montreal

EMBO Flash talks (session 1) at the MipTec Stage

EMBO Flash Talks & Posters, Poster exhibition

EMBO Poster session 1

Same posters are presented during both EMBO Poster sessions.

- P47** **Tracing epithelial-to-mesenchymal transition in breast cancer**
Fabiana Lüönd (University of Basel, Basel, Switzerland)
- P48** **Structural basis for regulation of Acetyl-CoA carboxylase**
Leonie Anton (University of Basel / Biozentrum, Basel, Switzerland)
- P49** **Histone acetylation is altered in HCC**
Sujin Park (Biozentrum, Basel, Switzerland)
- P50** **Syrosingopine is a dual inhibitor of the MCT1/MCT4 lactate transporters and potentiates killing by metformin in cancer cells**
Don Benjamin (Biozentrum, Basel, Switzerland)
- P51** **Alterations in amino acid metabolism in liver cancer**
Dirk Mossmann (Biozentrum der Universität Basel, Basel, Switzerland)
- P52** **Evaluation of potential factors contributing to the exhaustion of T lymphocytes in the tumor microenvironment**
Ulrike Harms (Advanced Cell Diagnostics – A Bio-Techne Brand, Zug, Switzerland)
- P53** **LIMK1 regulates centrosomal dynamics during mitosis**
Cheng-Gee Koh (Nanyang Technological University, Singapore, Singapore)
- P54** **AAA-ATPase p97/VCP regulates actin cytoskeleton and cell motility through Plk1-dependent ROCK pathway in cancer metastasis**
Hoi Yeung Li (Nanyang Technological University, Singapore, Singapore)
- P55** **Investigating the RNA-binding protein NONO in high-risk neuroblastoma**
Alina Naveed (The University of Western Australia, Perth, Australia)
- P56** **Breast tumor derived exosomes mediate tumor infiltrated CD8+T cell dysfunction to promote breast cancer**
Soumya Chatterjee (University of Calcutta, Kolkata, India)

Scientific Programme

- P57** **Rational design and validation of F2i: a novel adapter protein inhibitor**
Karthiga Santhana Kumar (University of Zürich, Zürich, Switzerland)
- P58** **Exosomal transfer of miR-27b from breast cancer cells reprogram the fibroblasts into cancer associated fibroblasts to promote breast cancer growth and metastasis**
Samir Jana (University of Calcutta, Kolkata, India)
- P59** **DNA editing of Bcr/Abl hybrid gene in k562**
Olga Zimina (Institute of Molecular Biology & Genetics, Kyiv, Ukraine)
- P60** **Interplay between epithelial-mesenchymal transition and reactive oxygen species**
Agathe Morand (Universitätsspital Basel / Department of Biomedicine, BASEL, Switzerland)
- P61** **Isorhapontigenin as a potential candidate against breast cancer: via regulating SPHK1/SPHK2 signaling & tubulin stabilization**
Lalita Subedi (Gachon University, Incheon, Korea, Republic of)
- P62** **Amino acid composition of conditional media reveals components enhancing aggressiveness in early stage human melanoma cells, but not in metastatic cells**
Martin Hohenegger (Medical University Vienna/Institute of Pharmacology, Vienna, Austria)
- P63** **CDK5 involvement in the tumor microenvironment**
Floriana Farina (Humanitas Research Hospital, Rozzano, Italy)
- P64** **Super-resolution imaging of intracellular distribution of PH domain of BCR in HEK293T cells**
Dmytro Gurianov (Institute of Molecular Biology and Genetics NASU, Kyiv, Ukraine)
- P65** **Automated monitoring and analysis of Kinetic live cell 3D spheroid-based tumor invasion within a hydrogel matrix**
Gary Prescott (BioTek Instruments, Inc., Winooski, United States)
- P66** **A novel signaling pathway that governs tumor metastasis: TGF- β receptor I/II trafficking and signaling at primary cilia are inhibited by ceramide to attenuate cell migration and tumor metastasis**
Salih Gencer (Uskudar University, Istanbul, Turkey)
- P67** **Conformational thermo-stabilisation as an aid for structure determination of GPCRs bound to allosteric modulators**
Nicolae Solcan (Heptares Therapeutics Ltd, Welwyn Garden City, United Kingdom)
- P68** **Targeting MET modulates global metabolic pathways and induces dNTPs depletion in MET-addicted cellular systems**
Michaela Poliakova (University of Bern, Inselspital, Bern, Switzerland)
- P69** **The role of microtubule-associated protein TPX2 in sensitizing head and neck cancer cells to ionizing radiation**
Selina Roth (Inselspital, Bern University Hospital, and University of Bern, Bern, Switzerland)
- P70** **The aging synapse: decoupling between transcriptome and proteome and between somatic and local regulation**
Cinzia Caterino (Scuola Normale Superiore, Pisa, Italy)
- P71** **Transcriptome analysis by CAGE-seq in the young and aged primary cultured neurons**
Nozomu Mori (Nagasaki University School of Medicine, Nagasaki, Japan)

Scientific Programme

- P72** **Role of mTOR in regulation of DIK1-Dio3 cluster miRNAs**
Dritan Liko (University of Basel, Basel, Switzerland)
- P73** **Role of the vacuolar membrane-associated protein Pib2 in TORC1 regulation**
Asier González (University of Basel / Biozentrum, Basel, Switzerland)
- P74** **Determination of insecticide fenpropathrin in different environmental samples by spectrophotometry**
Kalpana Wani (Pt, Ravishankar Shukla University Raipur, Chhattisgarh, India, Raipur, India)
- P75** **The neurodevelopmental 16p11.2 CNVs have, as yet overlooked, mirror effect on sexual development in humans and animal models**
Anna Mikhaleva (University of Lausanne, Lausanne, Switzerland)
- P76** **Automated media exchange for spheroid cultures using a novel MultiFlo™ FX accessory**
Priska Kramer (BioTek Instruments, Inc., Winooski, United States)
- P77** **Fatty acid metabolism is regulated by PTC-3 via modulation of cholesterol**
Carla Elizabeth Cadena del Castillo (University of Basel / Biozentrum, Basel, Switzerland)
- P78** **Control of the hemolytic behavior of the pathogenic bacterium Pseudomonas aeruginosa**
- P79** **Modulation of PD-L1:PD-1 axis by Mycobacterium tuberculosis protein Rv2463 to establish early infection**
Mohit Vashishta (International Center for Genetic Engineering and Biotechnology, New Delhi, India)
- P80** **Settle or wander: bacterial surface colonization strategies**
Fabienne Estermann (University of Basel, Basel, Switzerland)
- P81** **Towards identification of novel inhibitors against Plasmodium falciparum Sir2A - a unique histone deacetylase and deciphering the molecular basis of its interaction**
Dhaval Patel (Institute of Advanced Research, Gandhinagar, India)
- P82** **Prevalence of class 1 integron, resistance gene cassettes and antimicrobial susceptibility profiles among isolates of pseudomonas aeruginosa in Iran**
Ahmad Khorshidi (Kashan University of Medical Sciences, Kashan, Iran, Islamic Republic of)
- P83** **mTORC2 inhibition in adipose tissue promotes pancreatic β -cells to secrete insulin**
Irina Céline Frei (University of Basel, Basel, Switzerland)
- P85** **Protein tyrosine phosphatase, receptor type B (PTPRB) inhibits brown adipocyte differentiation through regulation of VEGFR2 phosphorylation**
Jisoo Kim (KRIBB, Daejeon, Korea, Republic of)
- P86** **Computational study of HMG CoA reductase inhibitors and analysis of natural product compounds**
Ns Hari Narayana Moorthy (Indira gandhi national tribal university, Amarkantak, India)
- P87** **Platform comparison for multiple cytokines between ELISA, Simple Plex™ and Simple Western™**
Annegret Boge (ProteinSimple - a Bio-Techne division, San Jose, United States)
- P88** **Adenosine-mediated immunomodulatory action on alveolar macrophages during Klebsiella pneumoniae B5055 induced acute lung infection**
Vijay Kumar (Panjab University, Chandigarh, India)

Scientific Programme

- P89 Non-variable cyclic stretching affects Amphiregulin levels and endosome trafficking in rat alveolar epithelial cells type II**
Jorge Miguel Ferreira (University Hospital Carl Gustav Carus, TU Dresden, Dresden, Germany, Dresden, Germany)
- P90 Inhibition of lymphotoxin-a protects C57BL/6 mice from experimental cerebral malaria and neuronal cell death during plasmodium berghei ANKA infection**
Prabhakar Eeka (Tata Institute of Fundamental Research Center for Interdisciplinary Sciences, Hyderabad, India)
- P91 Effect of Heparin Trisulfated Disaccharide (TD) in neuronal death triggered by calcium overload**
Gabrielly Chiarantin (Federal University of Sao Paulo, São Paulo, Brazil)
- P92 An objective characterization of f-actin structures in spines imaged with single molecule localization microscopy**
Siddharth Nanguneri (Indian Institute of Science, Bangalore, India)
- P93 Aristaless-related homeobox gene disruption leads to abnormal distribution of GABAergic interneurons in human neocortex**
Masayuki Itoh (NATIONAL CENTER OF NEUROLOGY AND PSY, KODAIRA, Japan)
- P94 Evolutionary interlinking pathway in neuroimmunology of Parkinson's disease: a therapeutic strategies of miRNA mediated autophagic dysregulation in fruit fly Drosophila**
Shauryabrota Dalui (University of Calcutta, Kolkata, India)
- P95 Real-time breath analysis of antiepileptic drugs**
Kapil Dev Singh (University of Basel, Basel, Switzerland)
- P96 Phosphatases of the thiamin-binding proteomes**
Vasily A. Aleshin (Lomonosov Moscow State University, Moscow, Russian Federation)
- P97 Endosome maturation: coordination of acidification and Rab5-Rab7 conversion**
Maria Podinovskaya (University of Basel, Basel, Switzerland)
- P124 Identifying the multidimensional controllers of aging**
Stuart Maudsley (VIB University of Antwerp, Antwerp, Belgium)
- P99 Selective loss of histone H3K9 di- methylation triggers satellite repeat transcription, R-loop formation, genome instability and BRCA-1 addiction**
Jan Padeken (Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland)
- P100 Epistasis analysis reveals distinct roles of non-homologous end joining factors in human HAP1 cells**
Mengtan Xing (Norwegian University of Science and Technology, Trondheim, Norway)
- P101 Functional dissection of MIEN1 trans-regulation provides new evidence for colorectal cancer genome editing-based therapeutics**
Diana Carolina Sierra-Diaz (Universidad del Rosario, Bogota, Colombia)
- P102 DNA repair gene discovery using genome-scale CRISPR/Cas9 screens**
Nicole Hustedt (Lunenfeld-Tanenbaum Research Institute, Toronto, Canada)
- P103 Sesn2 protects sensory hair cells against cisplatin via modulation of AMPK/mTOR pathway**
Soledad Levano (University Basel Hospital, Basel, Switzerland)

Scientific Programme

- P104** **Exercise training causes a partial improvement through increasing testosterone and eNOS for erectile function in middle-aged rats**
Dae Yun Seo (College of Medicine, Cardiovascular and Metabolic Disease Center, Busan, Korea, Republic of)
- P105** **Eosinophils restore age-related adipose tissue dysfunction and sustain immunological fitness in old age**
Daniel Brigger (University of Bern, Bern, Switzerland)
- P106** **Interferon-driven deletion of antiviral B cells at the onset of chronic infection**
Kerstin Narr (University of Basel, Experimental Virology, Basel, Switzerland)
- P107** **Comparative effect of green tea polyphenols as modulators of human prion protein aggregation**
Nikita Admane (Lab 107, Delhi, India)
- P108** **Effect of GAA expansion on Iron Copper metabolism and cell free nucleic acids (cfNA) levels in plasma of Friedreich's ataxia (FRDA) patients and its co relation with FARS scores**
Deepti Pathak (All India Institute of Medical sciences, New DELHI, India)
- P109** **The role of the NF-κB activating enzyme IκB kinase-2 in atherosclerosis**
Johannes Schmid (Medical University of Vienna, Vienna, Austria)
- P118** **Lipid metabolism and intestinal organoid development**
Aline Xavier da Silveira dos Santos (Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland)
- P133** **A microfluidic device to study chemotaxis by high-throughput single-cell tracking**
Fabian Wyss (University of Basel / Biozentrum, Basel, Switzerland)

EMBO Flash Talks & Posters, MipTec stage

EMBO Flash talks (session 1)

Dominik Buser (Switzerland)

Cancer

- P110** **Mechanisms of oncogene-induced DNA replication stress**
Morgane Macheret (University of Geneva, Geneva, Switzerland)
- P111** **DNA-PK regulates the radiosensitivity and oncogenicity of MET-addicted cancer cell lines via a novel MET phosphosite**
Jonas Koch (Inselspital, Bern University Hospital, and University of Bern, Bern, Switzerland)
- P113** **Molecular mechanisms mediating responsiveness to targeted cancer therapy**
Eva Dazert (Biozentrum / University of Basel, Basel, Switzerland)
- P114** **A highly miniaturized system for anti-cancer compound screening on primary cells and cancer spheroids**
Anna Popova (Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany)
- P115** **Role of CDK8 in hepatocellular carcinoma**
Katarina Bacevic (Institute of Molecular Genetics, Montpellier, France)

Scientific Programme

P116 Potassium channels and membrane polarization control membrane translocation of cell-penetrating peptides

Evgeniya Trofimenko (University of Lausanne, Lausanne, Switzerland)

Metabolic disorders - diabetes/obesity

P117 Insulin resistance causes inflammation in adipose tissue

Mitsugu Shimobayashi (University of Basel / Biozentrum, Basel, Switzerland)

Inflammation

P119 T cell costimulation blockade blunts pressure overload-induced heart failure

Elisa Martini (Humanitas Research Hospital, Rozzano, Italy)

Neurodegenerative disease

P121 Comparative in silico analysis of bacterial and human neutral sphingomyelinases

Elif Ozkirimli Olmez (Bogazici University, Istanbul, Turkey)

15:45 - 16:45

Innovation Forums, Kairo 1-2

Aging and drug discovery

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)

Morten Scheibye-Knudsen (Danish Center for Aging Research/National Institute on Aging, Copenhagen, Denmark)

15:45 - 16:05

Quantifying and manipulating mammalian NAD synthesis

Joseph Baur (University of Pennsylvania, Philadelphia, United States)

16:05 - 16:25

Anti-aging drugs: what do we need now?

Judith Campisi (Buck Institute for Research on Aging, Novato, United States)

16:25 - 16:45

Panel discussion

15:45 - 16:45

Innovation Forums, Shanghai 1

Antibiotics brought by NTN Swiss Biotech

Markus Seeger (UZH, Zurich, Switzerland)

Eric Kübler (FHNW, Basel, Switzerland)

15:45 - 16:15

Dynamics of the soil resistome

Pascal Simonet (University of Lyon, Lyon, France)

16:15 - 16:45

Tolerance as a potential reservoir for the development of antibiotic resistance

Urs Jenal (University of Basel, Basel, Switzerland)



Scientific Programme

15:45 - 16:45

Innovation Forums, Shanghai 2

Biotherapeutics

Thomas Huber (Novartis, Basel, Switzerland)
Stefan Weigand (Roche, Basel, Switzerland)

15:45 - 16:15

Balancing selectivity and efficacy of bispecific antibodies

Lars Toleikis (Merck Group, Darmstadt, Germany)

16:15 - 16:45

A brain shuttle for safe and efficient large molecule transport to the brain

Jens Niewoehner (Roche/Genentech, Basel, Switzerland)

16:30 - 17:30

EMBO Scientific Sessions, Montreal

Louis-Jeantet Prize lectures

Paul Nurse (Francis Crick Institute, London, United Kingdom)

16:30 - 17:00

Deconstructing and reconstructing the vasculature

Christer Betsholtz (Uppsala University, Sweden)

17:00 - 17:30

Dissecting human antibody responses: useful, basic and surprising findings

Antonio Lanzavecchia (Institute for Research in Biomedicine, Bellinzona, Switzerland)

17:00 - 19:00

MipTec Stage, MipTec stage

MipTec Networking Event



Scientific Programme

Thursday, 13 September 2018

09:00 - 09:45	EMBO Scientific Sessions, Montreal Keynote lecture 2 Karen Avraham (Tel Aviv University, Israel)
09:00 - 09:45	Space and memory in the brain May-Britt Moser (NTNU, Trondheim, Norway)
09:30 - 16:45	EMBO & Innovation forums - poster exhibition, Poster exhibition Poster exhibition
09:45 - 10:15	Break, Montreal Coffee Break
10:00 - 11:15	Innovation Forums, Shanghai 1 Genome editing (CRISPR/Cas9) in drug discovery <p>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.</p> <p>Filip Roudnický (Roche, Basel, Switzerland) Claas Aiko Meyer (Roche, Basel, Switzerland)</p>
10:00 - 10:15	Introduction by the chairs Claas Aiko Meyer (Roche, Basel, Switzerland) Filip Roudnický (Roche, Basel, Switzerland)
10:15 - 10:45	Therapeutic genome editing in clinically relevant human cells Toni Cathomen (University of Freiburg, Germany)
10:45 - 11:15	Unraveling biology and identifying targets with functional genomics approaches supported by LentiArray CRISPR library screens Jonathan Chesnut (Thermo Fisher, Carlsbad, United States)



Scientific Programme

	Innovation Forums, Shanghai 2
10:00 - 11:15	Women in science - The power of FeMale innovation Women in Science Team presents: The power of FeMale Innovation In order to enhance future scientific focus and significant breakthroughs we need to foster a shift in culture, as diversity and inclusion becomes more important than ever in the search for groundbreaking innovation. BASEL LIFE 2018 will host its first Women in Science forum and strives to encourage and empower FeMale collaboration to fuel inspired and cutting-edge research. Bejal Joshi (Plush Communique, Basel, Switzerland) Jolanda Groenhuijzen (MyLanda GmbH, Basel, Switzerland)
10:00 - 10:15	Quick welcome and a short introduction Bejal Joshi (Plush Communique, Basel, Switzerland) Jolanda Groenhuijzen (MyLanda GmbH, Basel, Switzerland)
10:15 - 10:45	Breaking the psychological code of innovation and excellence Helen Eriksen (Eriksen Institute, Copenhagen, Denmark)
10:45 - 11:15	Future of personalized healthcare and what this means for women's health Estelle Vester-Blokland (Roche, Basel, Switzerland)
	EMBO Scientific Sessions, Montreal
10:15 - 12:00	Plenary session 2: Microbial disease and pathogens Philippe Sansonetti (Insitut Pasteur, Paris, France)
10:15 - 10:40	Gut microbiome and intestinal epithelial regeneration: decrypting signals in the crypt Philippe Sansonetti (Insitut Pasteur, Paris, France)
10:40 - 11:05	Pathoecology and evolution of the cholera-causing pathogen Vibrio cholerae Melanie Blokesch (EPFL, Lausanne, Switzerland)
11:05 - 11:30	Programmable RNA antibiotics for microbiome editing Jörg Vogel (Helmholtz Centre for Infection Research, Germany)
11:30 - 11:55	How Salmonella deals with host immune responses David Holden (Imperial College London, United Kingdom)



Scientific Programme

10:15 - 11:15

Innovation Forums, Delhi

Peptide therapeutics

The framework of the Basel Life 2018, we will host the “Peptide Therapeutics Forum 2018” for 2 days on Sept 13, and 14. 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 (TU Berlin, Germany)

10:15 - 10:45

Rationalizing the passive membrane permeability of cyclic peptides

Sereina Riniker (ETH Zurich, Switzerland)

10:45 - 11:15

Positive allosteric modulators for GABAs

Immanuel Lerner (Pepticom, Jerusalem, Israel)

10:15 - 11:15

Innovation Forums, Kairo 1-2

Aging and drug discovery

Why do we age? And what can we do about it? In this symposium, a phenomenal group of thought-leaders will uncover the latest progress in aging and longevity at the molecular, cellular and organismal level. A panel of world leading experts will give us their cutting edge reports on the latest progress in our quest to extend our healthy lifespan. We will hear from both academic and top investors on where and how commercialization of aging and longevity research will likely occur. 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 (Danish Center for Aging Research/National Institute on Aging, Copenhagen, Denmark)

10:15 - 10:35

Identifying the multidimensional regulators of aging

Stuart Maudsley (VIB University of Antwerp, Antwerp, Belgium)

10:35 - 10:55

Transcriptomic signature of longevity

Collin Ewald (ETH Zurich, Zurich, Switzerland)

10:55 - 11:15

Deep learning algorithms for DNA repair stimulators

Garik Mkrtchyan (University Copenhagen, Copenhagen, Denmark)



Scientific Programme

10:20 - 10:40

MipTec Stage, MipTec stage

Basler AG - Replacement of CCD by modern CMOS sensors in fluorescence applications

CCD cameras are still an established standard in scientific and medical systems. However new

Felix Asche (Switzerland)

10:50 - 11:10

MipTec Stage, MipTec stage

Hamamatsu Photonics - High throughput screening for drug development and safety assessment using human iPSC-derived cells

Cardiac toxicity is responsible for a large percentage of new drugs to fail in clinical trials. The first part of the talk is about human iPSC-derived cardiac cells as in vitro models for potential replacement of preclinical work with FDSS (Functional Drug Screening system). The second part will introduce a new Drug Screening assay using Human iPSC derived cells with FDSS μ Cell/Electried field Stimulation (EFS).

Jean Marc d'Angelo (Hamamatsu Photonics, Massy Cedex, France)

11:45 - 12:45

Innovation Forums, Delhi

Peptide therapeutics

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

11:45 - 12:15

Employing electronic and structural constraints to advance peptide leads to therapeutic peptide mimic prototypes

William Lubell (University of Montreal, Canada)

12:15 - 12:45

Design of bioactive macrocycles

Andrei Yudin (University of Toronto, Canada)

11:45 - 12:45

Innovation Forums, Kairo 1-2

Aging and drug discovery

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Morten Scheibye-Knudsen (Danish Center for Aging Research/National Institute on Aging, Copenhagen, Denmark)

11:45 - 12:05

The thyroid hormone axis in healthspan and lifespan

Alejandro Martín-Montalvo (CABIMER, Seville, Spain)

12:05 - 12:25

Promoting healthy aging through the reduction of specific dietary macronutrients

Dudley Lamming (univesity of Wisconsin, United States)



Scientific Programme

12:25 - 12:45

Computer vision for skin aging biomarkers investigation

Anastasia Georgievskaya (Youth Laboratories, Moscow, Russian Federation)

11:45 - 12:45

Innovation Forums, Shanghai 1

Genome editing (CRISPR/Cas9) in drug discovery

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

11:45 - 12:05

Creation and correction of human disease alleles in iPSCs through microhomology-mediated end joining

Knut Woltjen (University of Kyoto, Kyoto, Japan)

12:05 - 12:25

Genome editing tools for iPSC-based disease modeling

William Hendriks (MGH Harvard, Boston, United States)

12:25 - 12:45

Correction of autosomal recessive disorders via CRISPR-associated base editors in adult animals

Gerald Schwank (ETH Zurich, Switzerland)

11:45 - 12:45

Innovation Forums, Shanghai 2

Women in science - The power of FeMale innovation

Bejal Joshi (Plush Communique, Basel, Switzerland)
Jolanda Groenhuijzen (MyLanda GmbH, Basel, Switzerland)

11:45 - 12:15

Thriving in a complex world. Importance of female science role models and leadership

Jane Griffiths (Actelion Pharmaceuticals Ltd, Allschwil, Switzerland)

12:15 - 12:45

Session Q & A

11:50 - 12:10

MipTec Stage, MipTec stage

infoteam Software AG - A customized middleware boosts lab effectiveness

Performance and reproducibility in lab workflows – despite of progresses made in automation a hindered by insufficient integration of devices and data or tedious work of bringing all the information into a single Framework, a middleware connecting lab devices and higher-level enterprise software systems is designed to be adapted to individual lab environments.

Alexander Brendel (infoteam Software AG, Baar, Switzerland)

12:00 - 13:45

Break, Montreal

Lunch break



Scientific Programme

12:00 - 13:45

Break, Singapore

Lunch break

12:20 - 12:40

MipTec Stage, MipTec stage

Bucher Biotec AG

Stem cells have tremendous promise to help us understand and treat a range of diseases, injuries and other health-related conditions. However, challenges during preparation and usage of stem cells are constantly faced in the lab, such as maintenance of the stemness during cell culture, efficient differentiation to one specific lineage or monitoring cell state & fate. Similarly, engaging and fine-tuning the cells of the immune system has recently opened new ways to better fight cancer. Immuno-oncology research is aiming for a better understanding how cancer cells can escape immune surveillance and how to re-establish effective immune responses with complete tumor clearance. In this presentation, we aim to introduce you to latest developments and tools in stem cell and immuno-oncology research. The presentation will cover the impact of controlling the cell culture microenvironment, the impact of live-cell metabolic measurements and how to utilize flow cytometric analysis to characterize your precious samples of stem, tumor or immune cells.

12:20 - 12:40

Modern tools in stem cell and immuno-oncology research

Georg Kienzle (Bucher Biotec AG, Basel, Switzerland)

12:45 - 14:15

Break, Delhi

Lunch break

12:45 - 14:15

Break, Kairo 1-2

Lunch break

12:45 - 14:15

Break, Shanghai 2

Lunch break

12:45 - 14:15

Break, MipTec stage

Lunch Break



Scientific Programme

13:00 - 14:00

Industry Symposium, Shanghai 1

Industry Symposium supported by Merck

CRISPR applications for basic research are expanding at record pace. Recent advances in development of Cas9 proteins enable new methods for precise gene editing and chromosomal detection that extend not only to human cell lines but also to animal health and the environment. This presentation will feature the proxy CRISPR system for improving the performance of CRISPR/Cas9 for editing mammalian cell lines and non-mammalian organisms alike. We will also explore delivery of CRISPR as both lentivirus and RNP, for gene knockout and activation, in projects ranging in size from use of small gene panels to whole genome pools and arrayed libraries.

13:00 - 14:00

Advanced CRISPR/Cas9 Gene Editing: Homo sapiens and Beyond

Caroline Beckett (Sigma-Aldrich Co.LLC, St. Louis, United States)

13:45 - 15:30

EMBO Scientific Sessions, Montreal

Parallel session 3: Microbiota

François Leulier (IGFL, Lyon, France)

13:45 - 14:10

The microbiome and animal linear growth promotion

François Leulier (IGFL, Lyon, France)

14:10 - 14:35

Personalizing treatments using microbiome and clinical data

Eran Segal (Weizmann Institute of Science, Rehovot, Israel)

14:35 - 15:00

Building an advanced molecular genomics toolkit for translational microbiome research

Ami Bhatt (Stanford University, Palo Alto, United States)

15:00 - 15:25

Innovation in nutrition and health based on microbiome research

Nathalie Delzenne (Catholic University Leuven, Belgium)

13:45 - 15:30

EMBO Scientific Sessions, Singapore

Parallel session 4: Sensory function and deficit

Karen Avraham (Tel Aviv University, Israel)

13:45 - 14:10

Epigenomics of the auditory system: Implications for deafness

Karen Avraham (Tel Aviv University, Israel)

14:10 - 14:35

Gut feelings: delineating sensory signaling pathways in the intestine

David Julius (University of California, San Francisco, United States)

14:35 - 15:00

Optogenetics for vision restoration - translation from mice to primates

Deniz Dalkara (Institut de la Vision, Paris, France)

15:00 - 15:25

Cell type specification during development of proprioception- the body's "Sixth Sense"

Yoram Groner (The Weizmann Institute of science, Rehovot, Israel)



Scientific Programme

14:00 - 14:15	MipTec Stage, MipTec stage Innovation Award
14:15 - 15:15	Innovation Forums, Delhi Peptide therapeutics Thomas Vorherr (Novartis, Basel, Switzerland) Roderich Süßmuth (TU Berlin, Germany)
14:15 - 15:15	Revolutionizing the discovery process of bioactive peptides Hiroaki Suga (School of Science The University of Tokyo, Japan)
14:15 - 15:30	Innovation Forums, Kairo 1-2 Artificial intelligence and blockchain in healthcare <p>The recent advances in deep learning techniques revolutionized the Artificial Intelligence (AI) and facilitated its application in the pharmaceutical industry. Alongside AI, Blockchain technology is also rapidly gaining popularity in the biopharmaceutical sector. These two technologies are remarkably converging with each other and enabling new, previously unthinkable applications in healthcare. The "Artificial Intelligence and Blockchain in Healthcare" forum is bringing together the AI and Blockchain thought leaders to explore the potential of bridging AI and Blockchain for drug discovery processes and personalized management of life data.</p> <p>Alex Zhavoronkov (InSilico Medicine, Baltimore, United States) Verner De Biasi (GSK, Collegeville, United States) Ulrich Mühlner (GrowthCube Partners GmbH, Basel, Switzerland) Daniel Burgwinkel (DayOne.swiss, Basel, Switzerland)</p>
14:15 - 14:45	Identifying novel growth opportunities for AI and blockchain in life sciences Neelotpal Goswami (Frost & Sullivan, New Delhi, India)
14:45 - 15:00	Healthcare value in the digital age Sastry Chilukuri (McKinsey, New Jersey, United States)
15:00 - 15:30	Improving translation using AI: from biology to programs and programs to the clinic Brandon Allgood (Numerate, Inc., San Francisco, United States)
14:15 - 15:15	Innovation Forums, Shanghai 1 Genome editing (CRISPR/Cas9) in drug discovery Filip Roudnický (Roche, Basel, Switzerland) Claas Aiko Meyer (Roche, Basel, Switzerland)
14:15 - 14:40	CRISPR platform development for drug target discovery and validation Benjamin Haley (Genentech, San Francisco, United States)



Scientific Programme

14:40 - 15:00

CRISPR screening directly in vivo

Randall Platt (ETH Zurich, Switzerland)

15:00 - 15:15

Custom CRISPR screens for drug target discovery in immune cells

Fredrik Wermeling (Karolinska University, Stockholm, Sweden)

14:15 - 15:15

Innovation Forums, Shanghai 2

Women in science - The power of FeMale innovation

Bejal Joshi (Plush Communique, Basel, Switzerland)

Jolanda Groenhuijzen (MyLanda GmbH, Basel, Switzerland)

14:15 - 14:40

Creating an environment for innovation: changing the narrative on women in science

Bahija Jallal (MedImmune/AstraZeneca, Gaithersburg, United States)

14:40 - 15:00

Academic perspective on FeMale collaboration and Swiss culture

Bettina Borisch (University of Geneva, Geneva, Switzerland)

15:00 - 15:15

Session Q & A

14:20 - 14:40

MipTec Stage, MipTec stage

Molecular Devices

With the latest addition of the ImageXpress Pico to Molecular Devices' broad imaging product portfolio, we offer a very cost-effective automated cell imaging system that does not compromise functionality nor ease of use. The very intuitive web browser-based Cell Reporter Xpress software comprises flexible image acquisition, image analysis, and data visualization for a wide range of applications from angiogenesis, autophagy, mitochondria integrity, neurite outgrowth, phagocytosis, to viral infection studies. Join us to learn more or visit us at booth #48.

14:20 - 14:40

ImageXpress Pico & Cell Reporter Xpress

Christian Holz (Molecular Devices, LLC., San Jose, United States)



Scientific Programme

14:50 - 15:10

MipTec Stage, MipTec stage

Clinerion - «Anonymized Identification» Technology and its use in EHR Clinical Trial Patient Recruitment

Privacy in the storage and use of electronic medical data is understandably a major concern for patients. For clinical trial patient recruitment, current state-of-the-art uses pseudonymized electronic medical records to find eligible candidates. This technology, however, still operates with identifiable data, which has both legal and data security implications. This limits access to patient data and, as a result, limits the access patients have to clinical trials via online patient recruitment. "Anonymized Identification" technology enables patient search and re-identification for clinical trial recruitment using only anonymized patient data, with no use of pseudonymization. This "Anonymized Identification" technology addresses the critical barrier of supporting patient privacy and security while being able to re-identify patients for clinical trials.

Luis Magalhaes (Clinerion Ltd, Basel, Switzerland)

15:15 - 15:45

Break, Delhi

Coffee break

15:15 - 15:45

Break, Cairo 1-2

Coffee break

15:15 - 15:45

Break, Shanghai 1

Coffee break

15:15 - 15:45

Break, Shanghai 2

Coffee break

15:30 - 16:00

Break, Montreal

Coffee break

15:30 - 16:00

Break, Singapore

Coffee break



Scientific Programme

- Innovation Forums, Delhi
- 15:45 - 16:45** **Peptide therapeutics**
Thomas Vorherr (Novartis, Basel, Switzerland)
Roderich Süßmuth (TU Berlin, Germany)
- 15:45 - 16:15** **Vulnerability of invasive glioma cells to lysosomal membrane instabilisation**
Pirjo Lakkonen (University of Helsinki, Helsinki, Finland)
- 16:15 - 16:45** **Ena/VASP EVH1 domains as possible anti-metastatic targets addressed by structure-optimized polyproline-II secondary structure mimetics**
Ronald Kühne (Leibniz Institute for Molecular Pharmacology, Berlin, Germany)
- Innovation Forums, Kairo 1-2
- 15:45 - 16:45** **Artificial intelligence and blockchain in healthcare**
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Verner De Biasi (GSK, Collegeville, United States)
- 15:45 - 15:55** **AI & Blockchain in BioPharma: recent trends and strategic implications**
Ulrich Mühlner (GrowthCube Partners GmbH, Basel, Switzerland)
- 15:55 - 16:05** **Deep learned multi-modal biomarkers of aging**
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
- 16:05 - 16:15** **Protein engineering from AI perspective: a 4 million molecule knowledge graph for rapid assessment of therapeutic peptide developability**
Kamil Tamiola (Peptone, London, United Kingdom)
- 16:15 - 16:45** **Panel on AI in healthcare**
Neelotpal Goswami (Frost & Sullivan, New Delhi, India)
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Verner De Biasi (GSK, Collegeville, United States)
Sergey Nikolenko (Neuromation, St. Petersburg, Russian Federation)
Polina Mamoshina (Pharma AI, Insilico Medicine, Baltimore, United States)
Pascal Bouquet (Geneva, Switzerland)
- Innovation Forums, Shanghai 1
- 15:45 - 16:45** **Genome editing (CRISPR/Cas9) in drug discovery**
Filip Roudnicky (Roche, Basel, Switzerland)
Claas Aiko Meyer (Roche, Basel, Switzerland)
- 15:45 - 16:10** **Editing fate changing marks**
Stefan Stricker (Helmholtz Center, Munich, Germany)
- 16:10 - 16:30** **Cellular indel profiles and dynamics induced by different CRISPR/Cas9 delivery formats: Applying in vitro methodologies ex vivo**
Eric Paul Bennett (University of Copenhagen, Denmark)



Scientific Programme

16:30 - 16:45

Editing of neurodegenerative disease mutations with the transient KamiCas9, (CRISPR/Cas9) system

Nicole Deglon (Lausanne University Hospital (CHUV), Switzerland)

15:45 - 16:45

Innovation Forums, Shanghai 2

Women in science - The power of FeMale innovation

Bejal Joshi (Plush Communique, Basel, Switzerland)

Jolanda Groenhuijzen (MyLanda GmbH, Basel, Switzerland)

15:45 - 16:05

Blockchain for healthcare: bringing innovation to society

Quy Vo-Reinhard (HIT Foundation, Duebendorf, Switzerland)

16:05 - 16:25

Angel Investing and Female Entrepreneurship

Trudi Haemmerli (Go Beyond Investing, Basel, Switzerland)

16:25 - 16:35

Session Q & A

16:35 - 16:45

Closing

Bejal Joshi (Plush Communique, Basel, Switzerland)

15:50 - 16:10

MipTec Stage, MipTec stage

Fluidic Analytics Ltd - A new method for protein size and concentration analysis - MDS microfluidic diffusional sizing

An overview of this fundamentally new technique for protein analysis, and how it is already providing new insights into how biology is influenced by protein folding, interactions and aggregation.

Chris Thorne (Fluidic Analytics, Cambridge, United Kingdom)

16:00 - 17:15

EMBO Scientific Sessions, Montreal

Plenary session 3: Inflammation

Yinon Ben-Neriah (The Hebrew University Hadassah Medical School, Jerusalem, Israel)

16:00 - 16:25

CKI alpha inhibition-mediated p53 activation and parainflammation - implications for cancer therapy

Yinon Ben-Neriah (The Hebrew University Hadassah Medical School, Jerusalem, Israel)

16:25 - 16:50

Inflammation: linking homeostasis and defense

Ruslan Medzhitov (Yale University, New Haven, United States)

16:50 - 17:15

Immune suppression: how to convert conventional T cells into regulatory T cells

Shimon Sakaguchi (Osaka University, Japan)



Scientific Programme

16:20 - 16:40

MipTec Stage, MipTec stage

PreciPoint

16:45 - 17:30

EMBO & Innovation forums - poster exhibition, Poster exhibition

Poster session - Innovation Forums

16:45 - 17:30

Innovation Forums, Poster exhibition

Innovation Forums - Poster session

- P01** **Deciphering the interplay between hypoxia and DNA metabolism in aging**
Amanuel Teklu (Center for Healthy Aging, Copenhagen N, Denmark)
- P02** **Lab results in the context of aging**
Urs Nydegger (Labormedizinisches Zentrum Dr. Risch, Liebefeld bei Bern, Switzerland)
- P03** **Discovery of novel DNA repair stimulators.**
Aksel Sebastian Lee Olesen (University of Copenhagen, Copenhagen, Denmark)
- P04** **Re-engineering DNA repair**
Nils Madsen (University of Copenhagen, Copenhagen, Denmark)
- P05** **Optogenetic technologies enable high throughput ion channel drug discovery and toxicity screening**
Antonella Solia (Axxam S.p.A., Bresso, Italy)
- P06** **Transported by light: optogenetic control of NCX-1**
Antonella Solia (Axxam S.p.A., Bresso, Italy)
- P07** **Ketogenic diet to delay brain aging in Cockayne syndrome**
Michael Petr (University of Copenhagen, Copenhagen, Denmark)
- P08** **Interaction of vesicular monoamine transporter 2 (VMAT2) and neuromelanin pigment among the midbrain dopaminergic neurons, in man**
Hamed Omid (Azad University of Tehran, Olom Tahghyghat, Tehran, Iran, Islamic Republic of)
- P10** **Investigating the interplay between normal and premature ageing**
Matthew James Erickson (University of Copenhagen, Copenhagen, Denmark)
- P11** **Cardiotoxicity screening using Ca²⁺ transients with FDSS**
Jean Marc d'Angelo (Hamamatsu Photonics, Massy Cedex, France)
- P12** **Ca²⁺ oscillation measurement for detection of drug-induced neurotoxicity on a kinetic plate reader FDSS**
Jean Marc d'Angelo (Hamamatsu Photonics, Massy Cedex, France)

Scientific Programme

- P13** **The neuroprotective effects of flaxseed oil supplementation on functional motor recovery in a model of ischemic brain stroke: upregulation of BDNF and GDNF.**
Fatemeh Javid Zardalo (Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of)
- P14** **Resveratrol pretreatment enhanced homing of SDF-1 α -preconditioned bone marrow-derived mesenchymal stem cells in a rat model of liver cirrhosis**
Parichehr Pasbakhsh (Tehran University of Medical Sciences/Medical School, Tehran, Iran, Islamic Republic of)
- P15** **The discovery and characterization of a new premature age disease**
Silja Samuelsen (University of Copenhagen, Copenhagen, Denmark)
- P16** **Investigating the synergistic effect of propolis and gentamycin against methicillin-resistant Staphylococcus aureus in a 3D thermo-sensitive hydrogel**
Aslihan Kazan (Bioengineering Dept., Izmir, Turkey)
- P17** **Mitosis detection in breast cancer histological images with COGNEX ViDi Deep Learning.**
Joerg Vandenhirtz (COGNEX, Aachen, Germany)
- P18** **Microfluidic Diffusional Sizing for analysis of proteins in solution**
Chris Thorne (Fluidic Analytics, Cambridge, United Kingdom)
- P19** **Rapid, high-capacity monitoring of T-cell activation for adoptive cell therapy**
Kathrin Pieles (Bucher Biotec AG, Basel, Switzerland)
- P20** **Streamlining monoclonal CHO cell line generation using droplet microfluidics**
Kathrin Pieles (Bucher Biotec AG, Basel, Switzerland)
- P21** **ICE: an analysis tool for (multiplex) CRISPR editing**
Kevin Holden (Synthego, Redwood City, United States)
- P22** **Synthetic sgRNA enables efficient CRISPR editing of primary cells for therapeutic applications**
Dominic Hussey (Synthego, Redwood City, United States)
- P23** **Dual direction CRISPR transcriptional regulation screening uncovers gene networks driving drug resistance**
Jochen Hartner (Horizon Discovery, Waterbeach, Cambridge, United Kingdom)
- P24** **Identification of the transcriptional network enabling peripheral naïve T cell survival and homeostasis**
Ravindra Mode (University of Basel, Basel, Switzerland)
- P25** **Differentially expressed serum exosomal MiRNAs in localized prostate cancer for biomarker discovery**
Bijaya Malla (Inselspital Bern, Bern, Switzerland)

- P26 Spectroscopic study on the molecular interaction of B-Doped carbon dots with bovine serum albumin.**
Vinayak Sahu (National Institute of Technolog Raipur, Dhamtari, India)
- P27 Protein analysis in microfluidic chips for diagnostic purposes**
Ecem Saygili (Ege University, Izmir, Turkey)
- P28 Development of an integrated optic sensor for determination of β -Hydroxybutyrate within the microfluidic platform**
Utku Devamoglu (Ege University, Izmir, Turkey)
- P29 A pipeline for expression and purification of large ion channels and transporters for cryo-EM studies**
Wassim Abdul Rahman (LeadXpro, Villigen, Switzerland)
- P30 Multiplexed Nomad biosensors high-throughput screen for novel PAR-2 modulators**
Oleksandra Onopchenko (Enamine Ltd./Bienta, Kyiv, Ukraine)
- P31 Comprehensive spectroscopic probing the interaction effect of bovine serum albumin (BSA) by hydroxamic acids (HAs)**
Rainy Agrawal (Pt. Ravishankar Shukla University, Raipur, India)
- P32 Steroids as allosteric NMDA receptor modulators for neuropathic pain treatment**
Eva Kudová (Institute of Organic Chemistry and Biochemistry, Prague, Czech Republic)
- P33 Combination of sodium alginate and polymethacrylates (Eudragit® RS PO and S100) in formulation of 5-ASA pellets aimed for colon specific drug delivery: an in-vivo and in-vitro study**
Ehsan Kaffash (Mashhad University of Medical Science, Mashhad, Iran, Islamic Republic of)
- P34 Development and characterization of DNA aptamers against Florfenicol: fabrication of a sensitive fluorescent aptasensor for specific detection of Florfenicol in milk**
Mohammad Amin Asgari Yazdi (Mashhad University of Medical Sciences, Mashhad, Iran, Islamic Republic of)
- P35 Bioenergetic profiling of cancer cell lines: quantifying the impact of glycolysis on cell proliferation.**
Georg Kienzle (Bucher Biotec AG, Basel, Switzerland)
- P36 Functional and mechanistic neurotoxicity profiling using human iPSC-derived neural 3D cultures**
Oksana Sirenko (Molecular Devices, Sunnyvale, United States)
- P37 BBB on-a-chip: a 3D in vitro model of the human blood brain barrier (BBB)**
Nienke Wevers (Mimetas BV, Leiden, Netherlands)
- P38 Perfused intestinal tubules for real-time assessment of drug-induced barrier disruption**
Elena Naumovska (Mimetas BV, Leiden, Netherlands)

- P39 Evaluation of biological effect of peptide derived from FBLN1 in stem cell differentiation**
Jun-Hyeog Jang (Inha University, Incheon, Korea, Republic of)
- P40 Fungal methyltransferase as a tool for generating de novo libraries of backbone N-methylated peptides**
Jurate Fahrīg-Kamarauskaite (ETH Zurich, Zürich, Switzerland)
- P41 ORBIT peptide display - high throughput discovery of novel peptides with biological function**
Angela Moncada Pazos (Orbit Discovery, Oxford, United Kingdom)
- P42 Multivalent ligand design - chemistry and applications**
Markus Muttenthaler (University of Vienna, Vienna, Austria)
- P43 Establishment and validation of a 3D cultivation system "CERO" for hepatic spheroids to study virus induced hepatitis**
Mathias Heikenwälder (Deutsches Krebsforschungszentrum (DKFZ), Heidelberg, Germany)
- P44 Granulation technique and standardization of noni root extracts**
Raymond Kojo Agbadi (Saint-Petersburg State Chemical-Pharmaceutical Academy, Saint-Petersburg, Russian Federation)
- P45 Hydrogel based microplatform for rapid detection of Escherichia coli in environmental water samples**
Baris Gulicli (Ege University, Bornova İzmir, Turkey)
- P46 Unlock your compound management**
Jan Breitenfeld (Chemspeed Technologies AG, Füllinsdorf, Switzerland)

16:45 - 17:30

EMBO & Innovation forums - poster exhibition, MipTec stage

Innovation Forums - Flash talks

Bhupinder Bhullar (Swiss Vault Systems, Basel, Switzerland)

16:45 - 16:55

Chemo-enzymatic synthesis of highly constrained multicyclic peptides

Marcel Schmidt (EnzyPep B.V., Geleen, Netherlands)

16:55 - 17:05

Hitting drug resistant bacteria where it hurts.

Andrej Trauner (Swiss Tropical and Public Health Institute, Basel, Switzerland)

17:05 - 17:15

Healthspan pathway maps in model organisms and human

Georg Fuellen (Rostock University Medical Center, Rostock, Germany)

17:15 - 17:25

Prevention of polymerization of sickle cell haemoglobin by N-arylhdroxamic acids

Likheshwari Mithlesh (Pt. Ravishankar Shukla University, Raipur, India)

Scientific Programme

17:00 - 20:00

MipTec Stage, Shanghai 2

SiLA Conference and Apéro

EMBO Flash Talks & Posters, Montreal

EMBO Flash talks (session 2) at the MipTec Stage

EMBO Flash Talks & Posters, Poster exhibition

EMBO Poster session 2

Same posters are presented during both EMBO Poster sessions.

- P47 Tracing epithelial-to-mesenchymal transition in breast cancer**
Fabiana Löönd (University of Basel, Basel, Switzerland)
- P48 Structural basis for regulation of Acetyl-CoA carboxylase**
Leonie Anton (University of Basel / Biozentrum, Basel, Switzerland)
- P49 Histone acetylation is altered in HCC**
Sujin Park (Biozentrum, Basel, Switzerland)
- P50 Syrosingopine is a dual inhibitor of the MCT1/MCT4 lactate transporters and potentiates killing by metformin in cancer cells**
Don Benjamin (Biozentrum, Basel, Switzerland)
- P51 Alterations in amino acid metabolism in liver cancer**
Dirk Mossmann (Biozentrum der Universität Basel, Basel, Switzerland)
- P52 Evaluation of potential factors contributing to the exhaustion of T lymphocytes in the tumor microenvironment**
Ulrike Harms (Advanced Cell Diagnostics – A Bio-Techne Brand, Zug, Switzerland)
- P53 LIMK1 regulates centrosomal dynamics during mitosis**
Cheng-Gee Koh (Nanyang Technological University, Singapore, Singapore)
- P54 AAA-ATPase p97/VCP regulates actin cytoskeleton and cell motility through Plk1-dependent ROCK pathway in cancer metastasis**
Hoi Yeung Li (Nanyang Technological University, Singapore, Singapore)
- P55 Investigating the RNA-binding protein NONO in high-risk neuroblastoma**
Alina Naveed (The University of Western Australia, Perth, Australia)
- P56 Breast tumor derived exosomes mediate tumor infiltrated CD8+T cell dysfunction to promote breast cancer**
Soumya Chatterjee (University of Calcutta, Kolkata, India)
- P57 Rational design and validation of F2i: a novel adapter protein inhibitor**
Karthiga Santhana Kumar (University of Zürich, Zürich, Switzerland)

Scientific Programme

- P58 Exosomal transfer of miR-27b from breast cancer cells reprogram the fibroblasts into cancer associated fibroblasts to promote breast cancer growth and metastasis**
Samir Jana (University of Calcutta, Kolkata, India)
- P59 DNA editing of Bcr/Abl hybrid gene in k562**
Olga Zimina (Institute of Molecular Biology & Genetics, Kyiv, Ukraine)
- P60 Interplay between epithelial-mesenchymal transition and reactive oxygen species**
Agathe Morand (Universitätsspital Basel / Department of Biomedicine, BASEL, Switzerland)
- P61 Isorhapontigenin as a potential candidate against breast cancer: via regulating SPHK1/SPHK2 signaling & tubulin stabilization**
Lalita Subedi (Gachon University, Incheon, Korea, Republic of)
- P62 Amino acid composition of conditional media reveals components enhancing aggressiveness in early stage human melanoma cells, but not in metastatic cells**
Martin Hohenegger (Medical University Vienna/Institute of Pharmacology, Vienna, Austria)
- P63 CDK5 involvement in the tumor microenvironment**
Floriana Farina (Humanitas Research Hospital, Rozzano, Italy)
- P64 Super-resolution imaging of intracellular distribution of PH domain of BCR in HEK293T cells**
Dmytro Gurianov (Institute of Molecular Biology and Genetics NASU, Kyiv, Ukraine)
- P65 Automated monitoring and analysis of Kinetic live cell 3D spheroid-based tumor invasion within a hydrogel matrix**
Gary Prescott (BioTek Instruments, Inc., Winooski, United States)
- P66 A novel signaling pathway that governs tumor metastasis: TGF- β receptor I/II trafficking and signaling at primary cilia are inhibited by ceramide to attenuate cell migration and tumor metastasis**
Salih Gencer (Uskudar University, Istanbul, Turkey)
- P67 Conformational thermo-stabilisation as an aid for structure determination of GPCRs bound to allosteric modulators**
Nicolae Solcan (Heptares Therapeutics Ltd, Welwyn Garden City, United Kingdom)
- P68 Targeting MET modulates global metabolic pathways and induces dNTPs depletion in MET-addicted cellular systems**
Michaela Poliakova (University of Bern, Inselspital, Bern, Switzerland)
- P69 The role of microtubule-associated protein TPX2 in sensitizing head and neck cancer cells to ionizing radiation**
Selina Roth (Inselspital, Bern University Hospital, and University of Bern, Bern, Switzerland)
- P70 The aging synapse: decoupling between transcriptome and proteome and between somatic and local regulation**
Cinzia Caterino (Scuola Normale Superiore, Pisa, Italy)
- P71 Transcriptome analysis by CAGE-seq in the young and aged primary cultured neurons**
Nozomu Mori (Nagasaki University School of Medicine, Nagasaki, Japan)
- P72 Role of mTOR in regulation of DIK1-Dio3 cluster miRNAs**
Dritan Liko (University of Basel, Basel, Switzerland)

Scientific Programme

- P73 Role of the vacuolar membrane-associated protein Pib2 in TORC1 regulation**
Asier González (University of Basel / Biozentrum, Basel, Switzerland)
- P74 Determination of insecticide fenprothrin in different environmental samples by spectrophotometry**
Kalpana Wani (Pt, Ravishankar Shukla University Raipur, Chhattisgarh, India, Raipur, India)
- P75 The neurodevelopmental 16p11.2 CNVs have, as yet overlooked, mirror effect on sexual development in humans and animal models**
Anna Mikhaleva (University of Lausanne, Lausanne, Switzerland)
- P76 Automated media exchange for spheroid cultures using a novel MultiFlo™ FX accessory**
Priska Kramer (BioTek Instruments, Inc., Winooski, United States)
- P77 Fatty acid metabolism is regulated by PTC-3 via modulation of cholesterol**
Carla Elizabeth Cadena del Castillo (University of Basel / Biozentrum, Basel, Switzerland)
- P78 Control of the hemolytic behavior of the pathogenic bacterium Pseudomonas aeruginosa**
Vanja Ivancevic (University of Basel / Biozentrum, Basel, Switzerland)
- P79 Modulation of PD-L1:PD-1 axis by Mycobacterium tuberculosis protein Rv2463 to establish early infection**
Mohit Vashishta (International Center for Genetic Engineering and Biotechnology, New Delhi, India)
- P80 Settle or wander: bacterial surface colonization strategies**
Fabienne Estermann (University of Basel, Basel, Switzerland)
- P81 Towards identification of novel inhibitors against Plasmodium falciparum Sir2A - a unique histone deacetylase and deciphering the molecular basis of its interaction**
Dhaval Patel (Institute of Advanced Research, Gandhinagar, India)
- P82 Prevalence of class 1 integron, resistance gene cassettes and antimicrobial susceptibility profiles among isolates of pseudomonas aeruginosa in Iran**
Ahmad Khorshidi (Kashan University of Medical Sciences, Kashan, Iran, Islamic Republic of)
- P83 mTORC2 inhibition in adipose tissue promotes pancreatic β -cells to secrete insulin**
Irina Céline Frei (University of Basel, Basel, Switzerland)
- P85 Protein tyrosine phosphatase, receptor type B (PTPRB) inhibits brown adipocyte differentiation through regulation of VEGFR2 phosphorylation**
Jisoo Kim (KRIBB, Daejeon, Korea, Republic of)
- P86 Computational study of HMG CoA reductase inhibitors and analysis of natural product compounds**
Ns Hari Narayana Moorthy (Indira gandhi national tribal university, Amarkantak, India)
- P87 Platform comparison for multiple cytokines between ELISA, Simple Plex™ and Simple Western™**
Annegret Boge (ProteinSimple - a Bio-Techne division, San Jose, United States)
- P88 Adenosine-mediated immunomodulatory action on alveolar macrophages during Klebsiella pneumoniae B5055 induced acute lung infection**
Vijay Kumar (Panjab University, Chandigarh, India)

Scientific Programme

- P89 Non-variable cyclic stretching affects Amphiregulin levels and endosome trafficking in rat alveolar epithelial cells type II**
Jorge Miguel Ferreira (University Hospital Carl Gustav Carus, TU Dresden, Dresden, Germany, Dresden, Germany)
- P90 Inhibition of lymphotoxin-a protects C57BL/6 mice from experimental cerebral malaria and neuronal cell death during plasmodium berghei ANKA infection**
Prabhakar Eeka (Tata Institute of Fundamental Research Center for Interdisciplinary Sciences, Hyderabad, India)
- P91 Effect of Heparin Trisulfated Disaccharide (TD) in neuronal death triggered by calcium overload**
Gabrielly Chiarantin (Federal University of Sao Paulo, São Paulo, Brazil)
- P92 An objective characterization of f-actin structures in spines imaged with single molecule localization microscopy**
Siddharth Nanguneri (Indian Institute of Science, Bangalore, India)
- P93 Aristaless-related homeobox gene disruption leads to abnormal distribution of GABAergic interneurons in human neocortex**
Masayuki Itoh (NATIONAL CENTER OF NEUROLOGY AND PSY, KODAIRA, Japan)
- P94 Evolutionary interlinking pathway in neuroimmunology of Parkinson's disease: a therapeutic strategies of miRNA mediated autophagic dysregulation in fruit fly Drosophila**
Shauryabrota Dalui (University of Calcutta, Kolkata, India)
- P95 Real-time breath analysis of antiepileptic drugs**
Kapil Dev Singh (University of Basel, Basel, Switzerland)
- P96 Phosphatases of the thiamin-binding proteomes**
Vasily A. Aleshin (Lomonosov Moscow State University, Moscow, Russian Federation)
- P97 Endosome maturation: coordination of acidification and Rab5-Rab7 conversion**
Maria Podinovskaya (University of Basel, Basel, Switzerland)
- P99 Selective loss of histone H3K9 di- methylation triggers satellite repeat transcription, R-loop formation, genome instability and BRCA-1 addiction**
Jan Padeken (Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland)
- P100 Epistasis analysis reveals distinct roles of non-homologous end joining factors in human HAP1 cells**
Mengtan Xing (Norwegian University of Science and Technology, Trondheim, Norway)
- P101 Functional dissection of MIEN1 trans-regulation provides new evidence for colorectal cancer genome editing-based therapeutics**
Diana Carolina Sierra-Diaz (Universidad del Rosario, Bogota, Colombia)
- P102 DNA repair gene discovery using genome-scale CRISPR/Cas9 screens**
Nicole Hustedt (Lunenfeld-Tanenbaum Research Institute, Toronto, Canada)
- P103 Sesn2 protects sensory hair cells against cisplatin via modulation of AMPK/mTOR pathway**
Soledad Levano (University Basel Hospital, Basel, Switzerland)

Scientific Programme

- P104** **Exercise training causes a partial improvement through increasing testosterone and eNOS for erectile function in middle-aged rats**
Dae Yun Seo (College of Medicine, Cardiovascular and Metabolic Disease Center, Busan, Korea, Republic of)
- P105** **Eosinophils restore age-related adipose tissue dysfunction and sustain immunological fitness in old age**
Daniel Brigger (University of Bern, Bern, Switzerland)
- P106** **Interferon-driven deletion of antiviral B cells at the onset of chronic infection**
Kerstin Narr (University of Basel, Experimental Virology, Basel, Switzerland)
- P107** **Comparative effect of green tea polyphenols as modulators of human prion protein aggregation**
Nikita Admane (Lab 107, Delhi, India)
- P108** **Effect of GAA expansion on Iron Copper metabolism and cell free nucleic acids (cfNA) levels in plasma of Friedreich's ataxia (FRDA) patients and its co relation with FARS scores**
Deepti Pathak (All India Institute of Medical sciences, New DELHI, India)
- P109** **The role of the NF- κ B activating enzyme I κ B kinase-2 in atherosclerosis**
Johannes Schmid (Medical University of Vienna, Vienna, Austria)

EMBO Flash Talks & Posters, MipTec stage

EMBO Flash talks (session 2)

Dirk Mossmann (Biozentrum der Universität Basel, Basel, Switzerland)

Microbiota

- P122** **Cancer cell-microbiota interactions in the human skin microbiome of cutaneous T cell lymphoma**
Martin Kriegel (Yale School of Medicine, New Haven, United States)
- P123** **Experimental evolution of a fungal pathogen into a gut symbiont**
Norman Pavelka (Agency of Science, Technology and Research (A*STAR), Singapore, Singapore)

Aging/senescence

- P124** **Identifying the multidimensional controllers of aging**
Stuart Maudsley (VIB University of Antwerp, Antwerp, Belgium)
- P125** **mTOR regulates mRNA metabolism via mRNA binding proteins**
Sunil Shetty (University of Basel, Basel, Switzerland)
- P126** **Sarcopenia chronicles: dynamics of gene expression during aging of rat skeletal muscles**
Anastasiya Börsch (University of Basel, Basel, Switzerland)

Model system in disease

- P127** **Single cell RNA sequencing identifies novel cell types and distinct, transcriptional programs in the developing *Drosophila* ovary**
Maija Slaidina (New York University School of Medicine, New York, United States)

Scientific Programme

- P128** **The role for coronin 1 in homeostatic CD4+ T cell expansion and survival in peripheral lymphoid organs**
Mayumi Mori (University of Basel, Basel, Switzerland)
- Microbial disease/pathogens**
- P129** **NCS1 regulates Ca²⁺-dependent focal exocytosis of Golgi-derived vesicles to help phagocytic uptake in macrophages**
Nimi Vashi (National Institute of Immunology, Delhi, India)
- P130** **A strategic application of computational tools for the identification enoyl-acyl carrier protein reductase inhibitors**
Mohsin Y. Lone (Indian Institute of Technology Gandhinagar, Gandhinagar, India)
- P131** **Conformational sampling of the intrinsically disordered C-terminal tail of DERA is important for enzyme catalysis**
Marianne Schulte (Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany)
- P132** **Uptake of pVEC examined by microfluidic technology**
Elif Ozkirimli Olmez (Bogazici University, Istanbul, Turkey)

Friday, 14 September 2018

09:00 - 10:15	EMBO Scientific Sessions, Montreal Plenary session 4: Neurodegenerative Disease John Hardy (University College London, United Kingdom)
09:00 - 09:25	Presenilin metastability in Alzheimer's disease, implications for drug discovery Lucía Chávez Gutiérrez (Catholic University Leuven, Leuven, Belgium)
09:25 - 09:50	Microglial dysfunction in neurodegenerative disorders Christian Haass (Ludwig-Maximilians-University, Munich, Germany)
09:50 - 10:15	Gene silencing therapy for human neurodegenerative disease Don W. Cleveland (Ludwig Institute for Cancer Research, La Jolla, United States)
09:00 - 10:00	Innovation Forums, Delhi Innovation Forum Keynote lecture
09:00 - 10:00	Turning science into medicine: tomorrow's innovation delivered today Stefan Platz (AstraZeneca, London, United Kingdom)
09:30 - 17:00	EMBO & Innovation forums - poster exhibition, Poster exhibition Poster exhibition
10:15 - 10:45	Break, Montreal Coffee Break
10:45 - 12:30	EMBO Scientific Sessions, Montreal Parallel session 5: Aging and senescence Judith Campisi (Buck Institute for Research on Aging, Novato, United States)
10:45 - 11:10	Cellular senescence, aging and longevity Judith Campisi (Buck Institute for Research on Aging, Novato, United States)
11:10 - 11:35	Senescence in cancer therapy - not too bad, if not for good Clemens A. Schmitt (Max Delbrück Center for Molecular Medicine, Berlin, Germany)



Scientific Programme

11:35 - 12:00

An integrated view of cellular senescence and in vivo reprogramming

Manuel Serrano (Centro Nacional de Investigaciones Oncológicas (CNIO), Barcelona, Spain)

Abstract presentations

12:00 - 12:15

Longitudinal analysis of gene expression reveals widespread pleiotropic antagonism during aging of the short-lived fish *Nothobranchius furzeri*

Mariateresa Mazzetto (Scuola Normale Superiore, Pisa, Italy)

12:15 - 12:30

Identification and application of gene expression signatures of lifespan-extending interventions

Alexander Tyshkovskiy (Brigham & Women's Hospital and Harvard Medical School, Boston, United States)

10:45 - 12:30

EMBO Scientific Sessions, Singapore

Parallel session 6: Model systems in disease

Cayetano Gonzalez (Institute for Research in Biomedicine, Barcelona, Barcelona, Spain)

10:45 - 11:10

Using *Drosophila* tumours to understand malignant and normal growth during development

Cayetano Gonzalez (Institute for Research in Biomedicine, Barcelona, Barcelona, Spain)

11:10 - 11:35

Models and model systems: the nutritional geometry of health and ageing

Stephen Simpson (University of Sydney, Sydney, Australia)

11:35 - 12:00

When the young die old: the premature aging disease Progeria and Lamin A processing by ZMPSTE24

Susan Michaelis (Johns Hopkins University, Baltimore, United States)

Abstract presentations

12:00 - 12:15

Active chromatin markers H3K36me and MRG-1 drive heterochromatin spatial sequestration in differentiated cells in *C. elegans*

Daphne S. Cabianca (Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland)

12:15 - 12:30

Human brain organoids with functional eyecups

Jay Gopalakrishnan (University of Cologne, Cologne, Germany)



Scientific Programme

10:45 - 11:45

Innovation Forums, Delhi

Peptide therapeutics

The framework of the Basel Life 2018, we will host the "Peptide Therapeutics Forum 2018" for 2 days on Sept 13, and 14. 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 (TU Berlin, Germany)

10:45 - 11:15

Unlocking the power of D-peptides

Brett Welch (Navigen, Salt Lake City, United States)

11:15 - 11:45

Antibody Targeted Amanitin Conjugates (ATACs): expanding the ADC landscape with a new payload targeting RNA polymerase II

Christian Lutz (Heidelberg Pharma Research GmbH, Heidelberg, Germany)

10:45 - 11:45

Innovation Forums, Kairo 1-2

Artificial Intelligence and blockchain in healthcare

The recent advances in deep learning techniques revolutionized the Artificial Intelligence (AI) and facilitated its application in the pharmaceutical industry. Alongside AI, Blockchain technology is also rapidly gaining popularity in the biopharmaceutical sector. These two technologies are remarkably converging with each other and enabling new, previously unthinkable applications in healthcare. The "Artificial Intelligence and Blockchain in Healthcare" forum is bringing together the AI and Blockchain thought leaders to explore the potential of bridging AI and Blockchain for drug discovery processes and personalized management of life data.

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Verner De Biasi (GSK, Collegeville, United States)
Ulrich Mühlner (GrowthCube Partners GmbH, Basel, Switzerland)
Daniel Burgwinkel (DayOne.swiss, Basel, Switzerland)

10:45 - 11:15

How AI can transform the Life Science Industry

Ruchika Sachdeva (Accenture, Zurich, Switzerland)

11:15 - 11:25

Computational drug discovery: a look at yesterday, today and tomorrow, and the role of artificial intelligence

Naheed Kurji (Toronto, Canada)

11:25 - 11:45

Big data analytics for small molecules

Theodore Alexandrov (EMBL - European Molecular Biology Laboratory, Heidelberg, Germany)



Scientific Programme

10:45 - 11:45

Innovation Forums, Shanghai 1

Genomics, blockchain smart contracts and the healthcare data sharing economy

Healthcare data is growing at an exponential rate. For example, current estimates suggest 500 million whole genomes sequenced by 2030, generating approximately 500 Exabytes of data, which is larger than all current global data repositories. In addition, Terabytes of data are being collected from wearable devices. However, insights for preventative health and care remain to be unlocked from these rich data sources. This forum will bring together stakeholders from across the value chain (pharma, hospitals, insurers, patient groups) to discuss how to build an ecosystem to unleash the power of this data. This ecosystem should connect the data owners (hospital, or individual patients as the lowest common denominator), to data analyzers (i.e. the algorithm developers), and the data users (companies paying for these insight to develop the best-in-class competitive products and services). We will hear from these stakeholders as the future landscape for how health and care is disrupted.

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

10:45 - 10:55

Welcome and introduction to Session I

Bhupinder Bhullar (Swiss Vault Systems, Basel, Switzerland)

10:55 - 11:25

Democratizing the health data ecosystem - The citizens as the ultimate data aggregators

Ernst Hafen (Midata.Coop, Basel, Switzerland)

11:25 - 11:35

Blockchain genomics and the nature of a value-based healthcare sharing economy

Daniel Gutierrez (Genebook, Basel, Switzerland)

11:35 - 11:45

Blockchain beyond the hype: what are the real use cases for health data

Omar Fogliadini (Suisse Life Science, London, United Kingdom)

Innovation Forums, Shanghai 2

10:45 - 11:45

Microfluidics and microenvironment workshop

BaselArea.swiss and CSEM with their partners Toolpoint for Lab Science join forces to organize the Basel Microfluidics and Microenvironment Workshop at Basel Life. This Forum builds up from the experience of two successful years to provide critical technological insights and latest updates from the global microfluidics industry for applications in the life sciences. The focus of this year's forum will be 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. 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.

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



Scientific Programme

10:45 - 10:55

Welcome and introduction of BaselArea.swiss and CSEM

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

10:55 - 11:20

The enemy within: use of a novel human bladder organoid model to probe host/pathogen interactions in chronic urinary tract infection

Jennifer L. Rohn (Chronic UTI Group, Centre for Nephrology, University College London, London, United Kingdom)

11:20 - 11:45

Organs on chips: advanced human cell models as novel tools for safety & efficacy testing and more

Adrian Roth (Roche, Basel, Switzerland)

10:45 - 11:45

Innovation Forums, Shanghai 3

From personalised to global health

The organizers of the associated event are Swiss TPH and the Botnar Foundation in co-operation with the Journal Public Health Genomics and the European Alliance for Personalised Medicine. All partners engage in personalised health and medicine with a global public health and social equity perspective. The Botnar Foundation has an additional focus on children's health. The partners aim is to improve citizen and patient health across the globe. Personalised health technology and big data analysis are revolutionising disease control along the chain from etiological research, to prevention, screening, diagnosis and treatment. To translate evidence into patient and citizen access needs adapting R&D, P&R and regulatory processes to novel disease understanding and policy context. Presentations of the workshop will stimulate an exchange on which processes related to the translation of personalised health from bench-to-citizen-to-bedside is right for all diseases and health systems.

Denis Horgan (European Alliance of Personalised Medicine, Brussels, Belgium)
Nicole Probst-Hensch (Epidemiology and Public Health Swiss TPH, Basel, Switzerland)

10:45 - 10:55

Welcome and Moderation

Denis Horgan (European Alliance of Personalised Medicine, Brussels, Belgium)
Nicole Probst-Hensch (Epidemiology and Public Health Swiss TPH, Basel, Switzerland)

10:55 - 11:20

Access to precision medicines in oncology - health policy and legal implications

Kerstin Noëlle Vokinger (Harvard Medicine School, Boston, United States)

11:20 - 11:45

Personalised health: A regional perspective

Gianni D'Errico (Toscana Life Sciences Foundation, Florence, Italy)



Scientific Programme

11:20 - 11:40

MipTec Stage, MipTec stage

OLS - OMNI Life Sciences GmbH - CERO: A New Device for Your Cell-based Research

Ideally suited for Spheroids, Organoids or any other cells, CERO is a novel bench-top incubator and bioreactor hybrid. The system is capable of handling four independent and high density cell cultures located in a temperature-, CO₂- and pH- controlled compact culture chamber. A touch-screen interface provides users with intuitive setup of cell culture workflows. Utilizing the proprietary CEROTube technology (gentle tube rotation), CERO allows long-term cultivation with outstanding cell quality and high cell yields. Thereby, automatic processes and monitoring enables a real walkaway operations. CERO is a reproducible and versatile cell culture system that integrates 3D cell culture with no impellers into a streamlined culture process. CERO allows users to focus on value-added research and discovery rather than lose time with cell culture.

11:20 - 11:40

Presentation

Amir Keric (OLS-OMNI Life Science GMBH, Bremen, Germany)

12:15 - 13:15

Innovation Forums, Delhi

Peptide therapeutics

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

12:15 - 12:45

⁶⁸Ga/¹⁷⁷Lu-dotatate as theragnostic pair in nuclear medicine

Maurizio Mariani (Advanced Accelerator Applications, Torino, Italy)

12:45 - 13:15

Patient-centric combination therapy and sustain peptide drug delivery for metabolic disease

Ved Srivastava (Intarcia Therapeutics, Boston, United States)

12:15 - 13:15

Innovation Forums, Kairo 1-2

Artificial Intelligence and blockchain in healthcare

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Verner De Biasi (GSK, Collegeville, United States)
Daniel Burgwinkel (DayOne.swiss, Basel, Switzerland)
Ulrich Mühlner (GrowthCube Partners GmbH, Basel, Switzerland)

12:15 - 12:45

Leveraging the Blockchain from Bench to Bedside - How It Can Benefit the Patient

Verner De Biasi (GSK, Collegeville, United States)

12:45 - 13:15

Deep learning and synthetic data for healthcare

Sergey Nikolenko (Neuromation, St. Petersburg, Russian Federation)



Scientific Programme

12:15 - 13:15

Innovation Forums, Shanghai 1

Genomics, blockchain smart contracts and the healthcare data sharing economy

Bhupinder Bhullar (Swiss Vault Systems, Basel, Switzerland)
Daniel Gutierrez (Genebook, Basel, Switzerland)

12:15 - 12:25

Value based healthcare

Girisha Fernando (Digipharm, Basel, Switzerland)

12:25 - 12:35

The Oonida Project

Andy Bushell (Oonida, Basel, Switzerland)

12:35 - 13:15

Panel Discussion

Thomas Brenzikofer (BaselArea.swiss, Basel, Switzerland)
Ernst Hafen (Midata.Coop, Basel, Switzerland)
Omar Fogliadini (Suisse Life Science, London, United Kingdom)
Daniel Gutierrez (Genebook, Basel, Switzerland)
Girisha Fernando (Digipharm, Basel, Switzerland)
Andy Bushell (Oonida, Basel, Switzerland)
Jose Bolano (Nimbus-T, Basel, Switzerland)

12:15 - 13:15

Innovation Forums, Shanghai 2

Microfluidics and microenvironment workshop

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

12:15 - 12:35

Novel functional analysis techniques for accurate phenotype characterization of human iPSC-derived neurons

Michele Fiscella (Maxwell Biosystems, Basel, Switzerland)

12:35 - 12:55

How micro-technologies enable to capture the full potential of new micro-physiological systems - examples of technology transfer

Vincent Revol (CSEM, Alpnach, Switzerland)

12:55 - 13:15

Automatable organoid cultures for geno-phenotypic screenings

Sylke Hoehnel (Sun Bioscience, Lausanne, Switzerland)

12:15 - 13:15

Innovation Forums, Shanghai 3

From personalised to global health

Nicole Probst-Hensch (Epidemiology and Public Health Swiss TPH, Basel, Switzerland)
Denis Horgan (European Alliance of Personalised Medicine, Brussels, Belgium)

12:15 - 12:35

Developing new products for vulnerable populations in low income countries - the example of Medicines for Malaria Venture

Jörg Moehrle (Medicines for Malaria Ventures, Geneva, Switzerland)



Scientific Programme

12:35 - 12:55

Access hurdles to ultra-orphan drugs: the case of afamelanotide for erythropoietic protoporphyria

Jasmin Barman-Aksözen (Municipal Hospital Zurich, Triemli, Zurich, Switzerland)

12:55 - 13:15

The global alliance for TB drug development - Personalized medicine towards fighting antibiotics resistance

Daniela Maria Cirillo (San Raffaele Scientific Institute, Milan, Italy)

12:30 - 14:00

Break, Montreal

Lunch break

12:30 - 14:00

Break, Singapore

Lunch break

12:50 - 13:10

MipTec Stage, MipTec stage

ERC Funding Opportunities

presented by the European Research Council Executive Agency

12:50 - 13:10

Funding Opportunities

Fiona Kernan (European Research Council Executive Agency, Brussels, Belgium)

13:15 - 14:45

Break, Delhi

Lunch break

13:15 - 14:45

Break, Kairo 1-2

Lunch break

13:15 - 14:45

Break, Shanghai 1

Lunch break

13:15 - 14:45

Break, Shanghai 2

Lunch break



Scientific Programme

13:15 - 14:45	Break, Shanghai 3 Lunch break
13:15 - 14:45	Break, MipTec stage Lunch Break
14:00 - 15:40	EMBO Scientific Sessions, Montreal Plenary session 5: Metabolic disorders - Diabetes and obesity Helena Edlund (University of Umeå, Sweden)
14:00 - 14:25	PAN-AMPK activator O304 improves glucose homeostasis and microvascular perfusion in mice and type2 diabetes patients Helena Edlund (University of Umeå, Sweden)
14:25 - 14:50	Obesity and its metabolic consequences: lessons from human genetics Stephen O'Rahilly (University of Cambridge, United Kingdom)
14:50 - 15:15	MicroRNAs and RNA-binding proteins as regulators of metabolism Markus Stoffel (ETH, Zurich, Switzerland)
15:15 - 15:40	Adipose tissue expandability, lipotoxicity and the metabolic syndrome Antonio Vidal-Puig (University of Cambridge, United Kingdom)
14:30 - 14:45	MipTec Stage, MipTec stage Poster award
14:45 - 15:45	Innovation Forums, Delhi Peptide therapeutics Thomas Vorherr (Novartis, Basel, Switzerland) Roderich Süßmuth (TU Berlin, Germany)
14:45 - 15:15	N-butylpyrrolidinone as green solvent for solid phase peptide synthesis John Lopez (Novartis Pharma AG, Basel, Switzerland)
15:15 - 15:45	Potential of cell-penetrating peptides for improved drug delivery Ines Neundorf (University of Cologne, Cologne, Germany)



Scientific Programme

14:45 - 15:45

Innovation Forums, Kairo 1-2

Artificial Intelligence and blockchain in healthcare

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Verner De Biasi (GSK, Collegeville, United States)
Ulrich Mühlner (GrowthCube Partners GmbH, Basel, Switzerland)
Daniel Burgwinkel (DayOne.swiss, Basel, Switzerland)

14:45 - 15:15

Blockchain as a disruptive technology in healthcare, governments and businesses

Tatiana Oleksiienko (BitFury, Kiev, Ukraine)

15:15 - 15:30

Guiding principles for blockchain data management

Daniel Burgwinkel (DayOne.swiss, Basel, Switzerland)

15:30 - 15:45

How can blockchain transform the healthcare and pharmaceutical sector

Aji Barot (PhUSE + HealthUnlocked, Kent, United Kingdom)

14:45 - 15:45

Innovation Forums, Shanghai 1

Genomics, blockchain smart contracts and the healthcare data sharing economy

Bhupinder Bhullar (Swiss Vault Systems, Basel, Switzerland)
Daniel Gutierrez (Genebook, Basel, Switzerland)

14:45 - 14:55

Introduction to Session II

Daniel Gutierrez (Genebook, Basel, Switzerland)

14:55 - 15:15

Systemic oversight: a new governance approach for big data in medicine

Alessandro Blasimme (ETH Zurich, Zurich, Switzerland)

15:15 - 15:30

Data and technology as transformational force - a perspective from health insurance

Yamin Gröniger (Ernst & Young AG, Zurich, Switzerland)

15:30 - 15:45

Genetic data mining for health outcomes

Mark Fiume (DNA Stack, Toronto, Canada)



Scientific Programme

14:45 - 15:45

Innovation Forums, Shanghai 2

Microfluidics and microenvironment workshop

BaselArea.swiss and CSEM with their partners Toolpoint for Lab Science join forces to organize the Basel Microfluidics and Microenvironment Workshop at Basel Life. This Forum builds up from the experience of two successful years to provide critical technological insights and latest updates from the global microfluidics industry for applications in the life sciences. The focus of this year's forum will be 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. 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, Switzerland)
Ralf Dümpelmann (BaselArea.swiss, Switzerland)
Helmut Knapp (CSEM SA, Alpnach, Switzerland)

14:45 - 15:05

Multi-tissue systems in a scalable and automation-compatible format

Olivier Frey (Insphero, Schlieren, Switzerland)

15:05 - 15:25

Towards more relevant in-vitro models: a breathing lung-on-chip

Nina Hobi (Alveolix, Bern, Switzerland)

15:25 - 15:45

Engineering complex bioarchitectures to biomimic nature: A step closer to the development of artificial organs

Marc Thurner (RegenHu, Villaz-St.Pierre, Switzerland)

14:45 - 15:10

Innovation Forums, Shanghai 3

From personalised to global health - Speed talks

Nicole Deglon (Lausanne University Hospital (CHUV), Switzerland)
Nicole Probst-Hensch (Epidemiology and Public Health Swiss TPH, Basel, Switzerland)

14:45 - 14:50

Role of mathematical modelling towards efficient tool development

Melissa Penny (Swiss Tropical and Public Health Institute, Basel, Switzerland)

14:50 - 14:55

Multidimensional characterization of expanded unconventional T cells in malaria vaccination and controlled infection

Claudia Daubenberger (Swiss TPH, Basel, Switzerland)

14:55 - 15:00

Omic profiling towards causal inference in primary prevention

Ayoung Jeong (Swiss TPH, Basel, Switzerland)

15:00 - 15:05

Imaging and biobanking towards understanding the dual disease burden in Laos

Peter Odermatt (Swiss TPH, Basel, Switzerland)

15:05 - 15:10

Efficacy and safety of a single dose versus a multiple dose regimen of mebendazole against hookworm infections in children

Marta Pameirim (Swiss TPH, Basel, Switzerland)



Scientific Programme

15:40 - 15:55

EMBO Scientific Sessions, Montreal

Closing address

15:45 - 16:15

Break, Delhi

Coffee break

15:45 - 16:15

Break, Kairo 1-2

Coffee break

15:45 - 16:15

Break, Shanghai 1

Coffee break

15:45 - 16:15

Break, Shanghai 2

Coffee break

15:45 - 16:15

Break, Shanghai 3

Coffee break

16:15 - 17:15

Innovation Forums, Delhi

Peptide therapeutics

Thomas Vorherr (Novartis, Basel, Switzerland)

Roderich Süßmuth (TU Berlin, Germany)

16:15 - 16:45

Drug delivery systems for peptides

Michael Wagner (Sanofi, Frankfurt, Germany)

16:45 - 17:15

In vitro & In vivo performance criteria of enTRinsic™ dosage form using lipid multi-particulates for oral peptide targeted delivery

Paolo Botti (Lonza, Basel, Switzerland)



Scientific Programme

16:15 - 17:15

Innovation Forums, Kairo 1-2

Artificial intelligence and blockchain in healthcare

Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Verner De Biasi (GSK, Collegeville, United States)
Ulrich Mühlner (GrowthCube Partners GmbH, Basel, Switzerland)
Daniel Burgwinkel (DayOne.swiss, Basel, Switzerland)

16:15 - 16:30

Using blockchain for sharing genomic and health data

Kamal Obbad (Nebula Genomics + Longgenesis, San Francisco, United States)

16:30 - 16:45

How Blockchain Technology applied to Audit Trail Records Improves Quality and Data Integrity

Mimmo Garibbo (ETHICAL, Basel, Switzerland)

16:45 - 17:15

Panel on blockchain in healthcare

Sergey Nikolenko (Neuromation, St. Petersburg, Russian Federation)
Tatiana Oleksienko (BitFury, Kiev, Ukraine)
Alex Zhavoronkov (InSilico Medicine, Baltimore, United States)
Lucy Ojomoko (Rockville, United States)
Emil Syundyukov (Riga, Latvia)
Maksim Prasolov (Kiev, Ukraine)

16:15 - 17:15

Innovation Forums, Shanghai 1

Genomics, blockchain smart contracts and the healthcare data sharing economy

Bhupinder Bhullar (Swiss Vault Systems, Basel, Switzerland)
Daniel Gutierrez (Genebook, Basel, Switzerland)

16:15 - 16:30

Collaborative research leveraging blockchain and decentralised data

Sebastian Buergel (Validity Labs, Zurich, Switzerland)

16:30 - 17:15

Panel Discussion

Thomas Brenzikofer (BaselArea.swiss, Basel, Switzerland)
Alessandro Blasimme (ETH Zurich, Zurich, Switzerland)
Yamin Gröninger (Ernst & Young AG, Zurich, Switzerland)
Mark Fiume (DNA Stack, Toronto, Canada)
Luigi Riva (Swisscom Blockchain AG, Zurich, Switzerland)

16:15 - 17:15

Innovation Forums, Shanghai 2

Microfluidics and microenvironment workshop

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

16:15 - 16:45

Understanding the unique cellular microenvironment: How emerging technologies are enabling a new approach to research and medicine

Mark Gilligan (Blacktrace/Dolomite, Royston, United Kingdom)

16:45 - 17:15

Panel discussion



Scientific Programme

16:15 - 17:15

Innovation Forums, Shanghai 3

From personalised to global health

Juerg Utzinger (Swiss TPH, Basel, Switzerland)

16:15 - 16:25

Panel discussion: Challenges and next steps

Marcel Tanner (Swiss TPH, Basel, Switzerland)

Denis Horgan (European Alliance of Personalised Medicine, Brussels, Belgium)

Melissa Penny (Swiss Tropical and Public Health Institute, Basel, Switzerland)

Ursula Zybach (Grossrätin, Bern, Switzerland)