

---

**Wednesday 13 November 2019**


---

12:00 - 13:30	<b>Registration</b> ATC Registration Desk	
13:30 - 13:45	<b>Opening Remarks</b> ATC Auditorium	
13:45 - 18:00	<b>Session 1</b> <b>Chair: Lars Steinmetz</b> ATC Auditorium	
13:45 - 14:15	<b>Understand the similarities and differences between normal and malignant stem cells to develop more efficient therapies for AML patients</b> Caroline Pabst <i>University Hospital Heidelberg, Germany</i>	1
14:15 - 14:45	<b>Regulatory principles governing enhancer activity in development and disease</b> Emma Farley <i>University of California, San Diego, United States of America</i>	2
14:45 - 15:00	<b>Understanding genetic and epigenetic T-cell regulatory mechanisms in autoimmune diseases</b> Neha Daga <i>EMBL Heidelberg, Germany</i>	3
15:00 - 15:30	<b>Translating immune disease GWAS variants to causal cell types and genes</b> Gosia Trynka <i>Wellcome Sanger Institute, United Kingdom</i>	4
15:30 - 16:00	<b>Coffee Break and Meet the Speakers</b> ATC Auditorium Foyer	
16:00 - 16:30	<b>Dissecting spatiotemporal variations of the human proteome</b> Emma Lundberg <i>Science for Life Laboratory, KTH, Sweden</i>	5

**EMBO Workshop: Precision Health: Molecular Basis, Technology and Digital Health**

- 16:30 - 16:45 **Whole genome sequencing insights into infertility: Preliminary results from WGS of couples with repeated IVF failure** 6  
Anna Mantzouratou  
*Bournemouth University, United Kingdom*
- 16:45 - 17:15 **Single-cell sequencing of epigenetic disease landscapes and induced perturbations** 7  
Christoph Bock  
*CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences, Austria*
- 17:15 - 18:00 **Keynote Lecture**  
ATC Auditorium
- Growing organs in vivo: iPS cell-derived, xeno-created organs for transplantation** 8  
Hiromitsu Nakauchi  
*Stanford University School of Medicine, United States of America*
- 18:00 - 19:30 **Speed Networking Session**  
ATC Auditorium Foyer
- 19:30 - 21:00 **Dinner**  
EMBL Canteen
- 21:00 - 23:00 **Welcome Reception**  
ATC Rooftop Lounge

---

**Thursday 14 November 2019**


---

09:00 - 12:30	<b>Session 2</b> <b>Chair: Julien Gagneur</b> ATC Auditorium	
09:00 - 09:30	<b>Pinpointing disease-causing regulatory genetic variants by multi-omics and machine learning</b> Julien Gagneur <i>Technical University of Munich, Germany</i>	9
09:30 - 09:45	<b>Characterizing the phenotypic effects of genetic variants associated with transcriptomic outliers in iPSC and differentiated cell-types</b> Craig Smail <i>Stanford University, United States of America</i>	10
09:45 - 10:00	<b>Data integration for prediction of time to insulin in type 2 diabetes patients</b> Rikke Linnemann Nielsen <i>Technical University of Denmark, Denmark</i>	11
10:00 - 10:30	<b>The power of multi-omics for finding novel disease stratifications</b> Wolfgang Huber <i>EMBL Heidelberg, Germany</i>	12
10:30 - 11:00	<b>Coffee Break and Meet the Speakers</b> ATC Auditorium Foyer	
11:00 - 11:30	<b>Genetic variation in 3D cis and trans genome interactions in immune cells</b> Emmanouil Dermitzakis <i>University of Geneva, Switzerland</i>	13
11:30 - 11:45	<b>A longitudinal big data approach for precision health</b> Sophia Miryam Schüssler-Fiorenza Rose <i>Stanford University, United States of America</i>	14

**EMBO Workshop: Precision Health: Molecular Basis, Technology and Digital Health**

11:45 - 12:00	<b>Multiplexed Cas12a-Cpf1-based screening enables machine learning prediction of an optimal evolving barcoding strategy for lineage tracing</b> Nicholas Hughes <i>Stanford University, United States of America</i>	15
12:00 - 12:30	<b>21st Century medicine: Big data, wellness and disease</b> Leroy Hood <i>Institute for Systems Biology, United States of America</i>	30
12:30 - 14:00	<b>Lunch with Meet the Editors</b> ATC Auditorium Foyer	
14:00 - 18:00	<b>Session 3</b> <b>Chair: Ami Bhatt</b> ATC Auditorium	
14:00 - 14:30	<b>Precision medicine from liquid biopsies</b> Stephen Quake <i>Stanford University, United States of America</i>	17
14:30 - 14:45	<b>Microbiome in active and inactive older people</b> Nathan O'Callaghan <i>CSIRO, Australia</i>	18
14:45 - 15:15	<b>Functional precision medicine for tailoring treatments to patients with acute myeloid leukemia</b> Olli Kallioniemi <i>Science for Life Laboratory, Karolinska Institutet, Sweden</i>	19
15:15 - 15:45	<b>The value(s) of precision health: Patients and society</b> Barbara Prainsack <i>University of Vienna, Austria</i>	20
15:45 - 16:15	<b>Coffee Break and Meet the Speakers</b> ATC Auditorium Foyer	

- 16:15 - 16:45 **Big data in health and biology** 21  
 Ewan Birney  
*EMBL-EBI, United Kingdom*
- 16:45 - 17:30 **Keynote Lecture**  
 ATC Auditorium
- Exploring the dynamic relationship between gene expression and chromosome organisation during X-chromosome inactivation** 22  
 Edith Heard  
*EMBL Heidelberg, Germany*
- 17:30 - 18:00 **Flash Talks Session**  
**Abstract # 47, 48, 51, 53, 60, 64, 68, 70, 72, 76, 81, 82**  
 ATC Auditorium
- 18:00 - 19:30 **Poster Session 1 (odd numbers)**  
 ATC Helix A
- 19:30 - 21:00 **Dinner**  
 EMBL Canteen

---

## Friday 15 November 2019

---

- 09:00 - 12:30 **Session 4**  
**Chair: Emma Lundberg**  
ATC Auditorium
- 09:00 - 09:30 **Sampling of menstrual fluid for applications in early detection and monitoring of gynaecological malignancy** 23  
  
Angela Goncalves  
*German Cancer Research Center, Germany*
- 09:30 - 09:45 **Identification of a reproducible epigenetic risk profile for schizophrenia linked to post-mortem brain methylation and prefrontal-hippocampal connectivity** 24  
  
Emanuel Schwarz  
*Central Institute of Mental Health, Germany*
- 09:45 - 10:00 **The use of iPSCs for in vivo personalized organ generation using cross-species chimeras: A primate model** 25  
  
Morteza Roodgar  
*Stanford University, United States of America*
- 10:00 - 10:30 **Harnessing big data for personalized medicine** 26  
Eran Segal  
*Weizmann Institute of Science, Israel*
- 10:30 - 11:00 **Coffee Break and Meet the Speakers**  
ATC Auditorium Foyer
- 11:00 - 11:30 **Personalizing ICU medicine: How 'omics is advancing our understanding of ARDS** 27  
Angela Rogers  
*Stanford University, United States of America*

11:30 - 11:45	<p><b>Integrated personalized diabetes management goes Europe: Adding value to diabetes care through digital innovation and integrated care</b></p> <p>Allan Jones <i>Roche Diabetes Care Deutschland, Germany</i></p>	28
11:45 - 12:00	<p><b>Navigating causal-reasoning pathways to identify personalize drug-treatments through multi-omics using multi-task learning</b></p> <p>Rosa Hernansaiz Ballesteros <i>Heidelberg University, Germany</i></p>	29
12:00 - 12:30	<p><b>Unravelling the genotype-to-phenotype map in human pluripotent cells</b></p> <p>Oliver Stegle <i>EMBL Heidelberg and German Cancer Research Center, Germany</i></p>	16
12:30 - 14:00	<p><b>Lunch</b></p> <p>ATC Auditorium Foyer</p>	
14:00 - 18:00	<p><b>Session 5</b> <b>Chair: Christina Curtis</b></p> <p>ATC Auditorium</p>	
14:00 - 14:30	<p><b>Unlocking the secret genes and genomes from the human microbiome</b></p> <p>Ami Bhatt <i>Stanford University, United States of America</i></p>	31
14:30 - 14:45	<p><b>DNA methylation relates to cardiac alternative splicing in dilated cardiomyopathy</b></p> <p>Weng-Tein Gi <i>Heidelberg University, Germany</i></p>	32
14:45 - 15:00	<p><b>Single-molecule, full-length transcript sequencing reveals disease-associated isoforms in human cells</b></p> <p>Chenchen Zhu <i>Stanford University, United States of America</i></p>	33

**EMBO Workshop: Precision Health: Molecular Basis, Technology and Digital Health**

15:00 - 15:15	<b>Pathological mutations in LSD1 interfere with ZEB1/2 transcription factor and alter developmental gene expression</b> Daria Bunina <i>EMBL Heidelberg, Germany</i>	34
15:15 - 15:45	<b>Patient centered data in real world medicine</b> Christof von Kalle <i>Berlin Institute of Health-Charité Clinical Study Center, Germany</i>	35
15:45 - 16:15	<b>Coffee Break and Meet the Speakers</b> ATC Auditorium Foyer	
16:15 - 16:45	<b>The modular proteome and its clinical significance</b> Ruedi Aebersold <i>ETH Zürich, Switzerland</i>	36
16:45 - 17:15	<b>From bench to bedside: Identifying and targeting the genomic drivers of breast cancer progression and therapeutic resistance</b> Christina Curtis <i>Stanford University, United States of America</i>	37
17:15 - 18:00	<b>Industry Panel Discussion: Commercialising Precision Health</b> ATC Auditorium	
18:00 - 19:30	<b>Poster Session 2 (even numbers)</b> ATC Helix A	
19:30 - 21:00	<b>Conference Dinner</b> EMBL Canteen	
21:00 - 00:00	<b>Conference Party</b> ATC Auditorium Foyer	



---

**Saturday 16 November 2019**


---

09:00 - 13:15	<b>Session 6</b> <b>Chair: Judith Zaugg</b> ATC Auditorium	
09:00 - 09:30	<b>Making meaningful biomarker measurements with digital ELISA technology</b> David Walt <i>Wyss Institute at Harvard University, Harvard Medical School, Brigham and Women's Hospital, United States of America</i>	40
09:30 - 09:45	<b>Development of a urine-based diagnostic test for selecting a subpopulation of asthmatics</b> Hoda Sharifian <i>AstraZeneca, Sweden</i>	39
09:45 - 10:15	<b>Designing cell based treatment strategies of the future</b> Martin Fussenegger <i>ETH Zürich, Switzerland</i>	38
10:15 - 10:45	<b>Extracellular electrophysiological characterization of neurons and networks at subcellular resolution</b> Andreas Hierlemann <i>ETH Zürich, Switzerland</i>	41
10:45 - 11:15	<b>Coffee Break and Meet the Speakers</b> ATC Auditorium Foyer	
11:15 - 11:45	<b>Microfluidic approaches in personalized cancer therapy</b> Christoph Merten <i>EMBL Heidelberg, Germany</i>	42
11:45 - 12:00	<b>The NASA Twins Study: A multidimensional analysis of a year-long human spaceflight</b> Tejaswini Mishra <i>Stanford University, United States of America</i>	43

**EMBO Workshop: Precision Health: Molecular Basis, Technology and Digital Health**

12:00 - 12:30	<b>The failure uncovers heart's wonderful principles</b> Benjamin Meder <i>University Hospital Heidelberg, Germany</i>	44
12:30 - 13:00	<b>Extending the small molecule similarity principle to all levels of biology</b> Patrick Aloy <i>IRB Barcelona, Spain</i>	45
13:00 - 13:15	<b>Closing Remarks and Poster Prize</b> ATC Auditorium	
13:15	<b>Packed Lunch and Departure</b> ATC Auditorium Foyer	

**Poster removal: Please remember to collect your poster. Posters which have not been collected will be disposed of after the meeting.**

**Feedback questionnaire: Check your inbox when the meeting ends. You will find an email with the link to the online feedback questionnaire. Please take time to complete it.**