
Wednesday 29 August 2018

11:00 - 13:00	Arrival / Registration with light refreshments ATC Reception and Foyer	
13:00 - 13:10	Opening remarks ATC Auditorium	
13:10 - 16:30	Session 1: Drug and target discovery Chair: Maja Köhn, University of Freiburg ATC Auditorium	
13:10 - 13:45	To be presented onsite Nathanael Gray <i>Dana-Farber Cancer Institute, United States of America</i>	1
13:45 - 14:20	Chemical probes as tools for target validation Stefan Knapp <i>Goethe-University Frankfurt, Germany</i>	2
14:20 - 14:35	Mimicking protein-protein interactions in persistent bacteria Anna Barnard <i>Imperial College London, United Kingdom</i>	3
14:35 - 15:05	Coffee break ATC Foyer	
15:05 - 15:40	To be presented onsite Priscilla Yang <i>Harvard Medical School, United States of America</i>	4
15:40 - 16:15	Mitochondrial molecular delivery Shana Kelley <i>University of Toronto, Canada</i>	5
16:15 - 16:30	A layered systems pharmacology approach reveals a complex polypharmacology mechanism of action of the multikinase inhibitor foretinib in lung cancer Uwe Rix <i>H. Lee Moffitt Cancer Center & Research Institute, United States of America</i>	6

EMBO Workshop: Chemical Biology 2018

16:30 - 16:50 **Flash talks (2 min / 1 slide each)**
ATC Auditorium

16:50 - 18:30 **Poster session I (odd numbers)**
ATC Helices

18:30 - 19:30 **Keynote session: Stuart L. Schreiber**
Chair: Maja Köhn, University of Freiburg
ATC Auditorium

**Chemical biology-based approach to understanding and
overcoming resistance of cancers to therapies** 7

Stuart L. Schreiber
Broad Institute & Harvard University, United States of America

19:30 - 20:30 **Welcome reception with light refreshments**
ATC Foyer

20:30 **Free evening**

Thursday 30 August 2018

09:00 - 10:20	Session 2: Chemical biology of post-translational modifications Chair: Natalia Shymanska, EMBL Heidelberg ATC Auditorium	
09:00 - 09:35	Inorganic polyphosphate and protein polyphosphorylation Henning J. Jessen <i>University of Freiburg, Germany</i>	8
09:35 - 09:50	Synthetic and single-molecule approaches reveal dynamic chromatin regulation Beat Fierz <i>École Polytechnique Fédérale de Lausanne, Switzerland</i>	9
09:50 - 10:05	Acetylation blocks DNA damage-induced chromatin ADP-ribosylation Katharine Diehl <i>Princeton University, United States of America</i>	10
10:05 - 10:20	In cell imaging of protein-specific methylation Franziska Doll <i>University of Konstanz, Germany</i>	11
10:20 - 10:50	Coffee break ATC Foyer	
10:50 - 12:30	Session 3: Molecular optogenetics and synthetic biology Chair: Shana Kelley, University of Toronto ATC Auditorium	
10:50 - 11:25	Synthetic biology approaches to new chemistry Michelle C. Chang <i>University of California, Berkeley, United States of America</i>	12
11:25 - 12:00	Small molecule inhibitors of Shiga toxin trafficking Ludger Johannes <i>Institut Curie, France</i>	13

EMBO Workshop: Chemical Biology 2018

12:00 - 12:15	Near-infrared light-activated Trk optokinases for regulation of cell signaling	14
	Anna Leopold <i>University of Helsinki, Finland</i>	
12:15 - 12:30	Optical control of cell signaling by single-chain photoswitchable kinases	15
	Xin Zhou <i>University of California, San Francisco, United States of America</i>	
12:30 - 14:00	Lunch (Meet the speakers at 13:15 - 13:45)	
	ATC Foyer	
14:00 - 15:40	Session 4: Nucleotide chemical biology Chair: Michelle C. Chang, University of California, Berkeley	
	ATC Auditorium	
14:00 - 14:35	Expanding the scope of methyltransferases	16
	Andrea Rentmeister <i>University of Münster, Germany</i>	
14:35 - 14:50	Development of fluorogen/protein hybrid probe for live-cell imaging of DNA methylation	17
	Yuichiro Hori <i>Osaka University, Japan</i>	
14:50 - 15:05	Bisulfite-independent epigenome profiling & epigenome-dependent genome editing	18
	Yi Chengqi <i>Peking University, China</i>	
15:05 - 15:40	Chemical biology of RNA modifications and catalytic DNA	19
	Claudia Höbartner <i>University of Würzburg, Germany</i>	
15:40 - 16:00	Flash talks (2 min / 1 slide each)	
	ATC Auditorium	

- 16:00 - 16:30 **Coffee break & Meet the speakers**
ATC Foyer
- 16:30 - 18:30 **Poster session II (even numbers)**
ATC Helices
- 18:30 - 19:30 **Keynote session: David R. Liu**
Chair: Kai Johnsson, MPI for Medical Research
ATC Auditorium

**Base editing: Chemistry on a target nucleotide
in the genome of living cells**

20

David R. Liu

Harvard University, United States of America

- 19:30 - 21:15 **Dinner**
ATC Canteen

- 21:15 **Free evening**

Friday 31 August 2018

09:00 - 12:20	Session 5: Peptide and protein modifications Chair: Edward Lemke, JGU & IMB Mainz and EMBL Heidelberg ATC Auditorium	
09:00 - 09:35	The ubiquitin system Huib Ovaa <i>Leiden University Medical Center, The Netherlands</i>	21
09:35 - 10:10	The KAHA ligation for the chemical synthesis of modified proteins Jeffrey W. Bode <i>ETH Zürich, Switzerland</i>	22
10:10 - 10:25	Site-specific ubiquitylation and SUMOylation using genetic code expansion Kathrin Lang <i>Technical University of Munich, Germany</i>	23
10:25 - 10:55	Coffee break ATC Foyer	
10:55 - 11:30	Chemical labeling of endogenous proteins for imaging and functional inhibition Itaru Hamachi <i>Kyoto University, Japan</i>	24
11:30 - 12:05	Functionalizing protein nanocages for biomedical applications Jan C.M. van Hest <i>Eindhoven University of Technology, The Netherlands</i>	25
12:05 - 12:20	Coordination-assisted bioorthogonal chemistry Kimberly Bonger <i>Radboud University, The Netherlands</i>	26
12:20 - 14:00	Lunch (Meet the editors at 13:15 - 13:45) ATC Foyer	

14:00 - 17:10	Session 6: Redox and metabolic enzyme chemical biology Chair: Kai Johnsson, MPI for Medical Research ATC Auditorium	
14:00 - 14:35	Swiss Army Man: a single molecule that interrogates cause & consequences of precision redox signaling Yimon Aye <i>École Polytechnique Fédérale de Lausanne, Switzerland</i>	27
14:35 - 15:10	Decoding protein ADP-ribosylation networks in cells using chemistry-based approaches Michael S. Cohen <i>Oregon Health & Science University, United States of America</i>	28
15:10 - 15:25	Visualizing Vitamin A metabolism Sebastiaan Koenders <i>Leiden University, The Netherlands</i>	29
15:25 - 16:05	Coffee break & Meet the speakers ATC Foyer	
16:05 - 16:40	Lessons from supramolecular chemistry Stefan Matile <i>University of Geneva, Switzerland</i>	30
16:40 - 16:55	Studying lipid function in living cells – technological advances André Nadler <i>Max Planck Institute of Molecular Cell Biology and Genetics, Germany</i>	31
16:55 - 17:10	Semisynthetic biosensors for mapping cellular concentrations of nicotinamide adenine dinucleotides Corentin Gondrand <i>Max-Planck Institute for Medical Research, Germany</i>	32
17:10 - 17:30	Flash talks (2 min / 1 slide each) ATC Auditorium	

EMBO Workshop: Chemical Biology 2018

17:30 - 19:20 **Poster session III (all numbers)**
ATC Helices

19:20 - 21:20 **Conference Dinner**
ATC Canteen

21:20 - 00:00 **Conference Party with band**
ATC Foyer

Saturday 01 September 2018

09:00 - 12:00	Session 7: Chemical biology of cellular reprogramming Chair: Carsten Schultz, EMBL Heidelberg and OHSU	
	ATC Auditorium	
09:00 - 09:15	Understanding enzymes specificities as a tool for cofactor engineering	33
	Paola Laurino <i>Okinawa Institute of Science & Technology Graduate University, Japan</i>	
09:15 - 09:50	Bioorthogonal cleavage reactions for gain-of-function protein manipulations	34
	Peng Chen <i>Peking University, China</i>	
09:50 - 10:25	(Chemo)enzymatic precision modification of proteins	35
	Floris van Delft <i>Wageningen University and Research, The Netherlands</i>	
10:25 - 10:55	Coffee break	
	ATC Foyer	
10:55 - 11:30	Structure-based engineering of aminoacyl-tRNA synthetases for expansion of the mammalian and bacterial genetic codes and their in vivo and in vitro applications	36
	Shigeyuki Yokoyama <i>RIKEN, Japan</i>	
11:30 - 11:45	Genetic encoding of a stable O-GlcNAc analogue	37
	Andrii Gorelik <i>University of Dundee, United Kingdom</i>	
11:45 - 12:00	Cathepsin G activity reporters detect chronic lung inflammation by microscopy and flow cytometry	38
	Matteo Guerra <i>EMBL Heidelberg, Germany</i>	

EMBO Workshop: Chemical Biology 2018

- 12:00 - 12:10 **Poster prize announcements**
ATC Auditorium
- 12:10 - 12:40 **Coffee break & Meet the speakers**
ATC Foyer
- 12:40 - 13:40 **Keynote session:**
Carsten Schultz, EMBL Heidelberg and OHSU
ATC Auditorium
- 13:40 - 13:50 **Closing remarks**
ATC Auditorium
- 13:50 - 14:20 **Packed lunch**
ATC Foyer
- 14:25 **Buses to FRA International Airport
and downtown Heidelberg**

Please remember to collect your poster. Posters that have not been collected will be disposed of after the meeting.

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