



YOUNG SCIENTISTS' FORUM

Homeostasis & Adaptation

Cell Shape in Space & Time

Bottom-up Synthetic Biology

Dynamic Cytoskeletal Systems

Quantitative Imaging of Development

BERLIN, FEB 26-27, 2018

26 Homeostasis and Adaptation
hosted by
Robert Ernst (Universität des Saarlandes)
James Saenz (TU Dresden)

Cell Shape in Space and Time
hosted by
Alba Diz-Muñoz (EMBL, Heidelberg)
Gaia Pigino (MPI-CBG, Dresden)

Bottom up Synthetic Biology
hosted by
Dora Tang (MPI-CBG, Dresden)

27 Dynamic Cytoskeletal Systems
hosted by
Peter Bieling (MPI Dortmund)
Alex Bird (MPI Dortmund)

Quantitative Imaging of Development
hosted by
Stephan Preibisch (BIMSB, Berlin)

Scientific Organizer: Simone Reber, IRI Life Sciences, Humboldt-Universität

Registration & abstract deadline: 15. January 2018

Contact: Deutsche Gesellschaft für Zellbiologie, dgz@dkfz.de

<http://zellbiologie.de/dgz-young-scientists-2018/>

Scientific Organizer: Simone Reber (IRI Life Sciences, Humboldt-Universität Berlin)

Conference Organizer: Sabine Reichel-Klingmann, Deutsche Gesellschaft für Zellbiologie e.V. (DGZ)

Venue: Hörsaalruine, Medizinhistorisches Museum Berlin

Programme Overview

NOTE: ALL SPEAKERS OF SHORT TALKS WILL BE SELECTED FROM SUBMITTED ABSTRACTS

Monday, 26. Feb 2018

09.00 - 10.00	Registration & Welcome
10.00 – 12.00	Session I: Homeostasis and Adaptation: How Cells and Compartments Change whilst Maintaining their Identity
12.00 – 13.00	Lunch
13.00 – 15.00	Session II: Cell Shape in Space and Time
15.00 – 15.30	Coffee break
15.30 – 17.30	Session III: Bottom up Synthetic Biology
17.30 – 19.00	Science & Society Session: The Future of Science Communication
19.00 – 22.00	Posters, Drinks, Food, Meet the Speakers, Tour through the museum

Tuesday, 27. Feb 2018

10.00 – 12.00	Session IV: Dynamic Cytoskeletal Systems
12.00 – 13.00	Lunch
13.00 – 15.00	Session V: Quantitative Imaging of Development
15.00 – 15.30	Coffee break
15.30 – 16.30	Junior DGZ meeting

Monday, 26. Feb 2018 10.00 - 12.00

SESSION I: Homeostasis and Adaptation: How Cells and Compartments Change
whilst Maintaining their Identity

hosted by Robert Ernst (Universität des Saarlandes) and James Saenz (TU Dresden)



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| 10:00 – 10:10 | Introduction by Robert Ernst (Universität des Saarlandes) and James Saenz (TU Dresden) |
| 10:10 – 10:40 | David Mick (Universität des Saarlandes)
Hedgehog-induced remodeling of the primary cilium revealed by proximity labeling and proteomics |
| 10:40 – 11:10 | Bianca Schrul (Universität des Saarlandes)
Coordinating cellular lipid storage and consumption – An unexpected liaison of lipid droplets and peroxisomes |
| 11:10 – 11:40 | Christoph Zechner (MPI-CBG, Dresden)
Suppression of protein variability by liquid compartments |
| 11:40 – 12:00 | James Sáenz (TU Dresden)
Homeostasis and adaptation: How cells and compartments change whilst maintaining their identity |

Monday, 26. Feb 2018 13.00 - 15.00

SESSION II: Cell Shape in Space and Time

hosted by Alba Diz-Muñoz (EMBL, Heidelberg) and Gaia Pigino (MPI-CBG, Dresden)



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| 13:00 – 13:25 | Mareike Jordan (MPI-CBG, Dresden)
Cryo-EM structure of anterograde intraflagellar transport trains |
| 13:25 – 13:50 | Markus Mund (EMBL, Heidelberg)
Systematic nanoscale analysis of endocytosis links efficient vesicle formation to patterned actin nucleation |
| 13:50 – 14:00 | Short talk selected from the abstracts |
| 14:00 – 14:25 | Franziska Decker (MPI-CBG, Dresden)
Autocatalytic microtubule nucleation determines the size and mass of spindles |
| 14:25 – 14:50 | Shiladitya Banerjee (UCL, London)
Cell shape dynamics during tissue repair |
| 14:50 – 15:00 | Short talk selected from the abstracts |

Monday, 26. Feb 2018 15.30 - 17.30

SESSION III: Bottom up Synthetic Biology

hosted by Dora Tang (MPI-CBG, Dresden)



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| 15:30 – 15:50 | Tom Robinson (MPI of colloids and interfaces, Potsdam)
Microfluidic tools for bottom-up synthetic biology |
| 15:50 – 16:10 | Adrian Zambrano (MPI-CBG, Dresden)
DNA reaction networks within micro- compartments |
| 16:10 – 16:30 | Yadira Boada (Universitat Politecnica de Valencia)
Model-based design in synthetic biology |
| 16:30 – 16:50 | Thomas Gorochowski (University of Bristol)
Scaling the complexity of synthetic genetic circuits |
| 16:50 – 17:30 | Panel discussion |

18.20 - 19.00 Panel discussion

Monday, 26. Feb 2018 19.00 - 22.00

Social Event

- Posters
- Drinks & Food
- Meet the Speakers
- Tour through the museum

SESSION IV *Dynamic Cytoskeletal Systems*

hosted by Peter Bieling (MPI Dortmund) and Alex Bird (MPI Dortmund)



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| 10:00 – 10:30 | Melina Schuh (MPI for Biophysical Chemistry, Goettingen)
A method for the acute and rapid degradation of endogenous proteins |
| 10:30 – 10:45 | Short talk selected from the abstracts |
| 10:45 – 11:00 | Arnaud Rondelet (MPI Dortmund)
A new mechanism for clathrin stabilization of microtubules via adaptor-like interactions on the mitotic spindle |
| 11:00 – 11:15 | Péter Lénárt (EMBL, Heidelberg)
How does actin break the nuclear envelope? |
| 11:15 – 11:30 | Short talk selected from the abstracts |

Tuesday, 27. Feb 2018 13.00 - 15.00

SESSION V: Quantitative Imaging of Development

hosted by Stephan Preibisch (MDC & BIMS, Berlin)



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| 13.00 - 13.30 | Florian Jug (MPI-CBG, Dresden)
Content-aware image restoration and quantitative downstream analysis |
| 13.00 - 14.00 | Jean-Léon Maître (Institut Curie, Paris)
Mechanics of blastocyst morphogenesis |
| 14.00 - 14.30 | Stephan Saalfeld (HHMI Janelia, Ashburn)
Methods and tools for neural anatomy reconstruction from light and electron microscopy |
| 14.30 - 15.00 | Young Yoon (Albert Einstein College of Medicine, New York)
Dynamic visualization of protein translation sites in living cells using ribosome inter-subunit FLIM-FRET |

Host & Speaker Contact Details

Scientific Organizer

- Simone Reber (IRI Life Sciences, Humboldt-Universität Berlin)
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SESSION I: Homeostasis and Adaptation: How Cells and Compartments Change whilst Maintaining their Identity

Hosts:

- Robert Ernst (Universität des Saarlandes)
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- James Saenz (TU Dresden)
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Speakers:

- David Mick (Universität des Saarlandes)
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- Bianca Schrul (Universität des Saarlandes)
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- Christoph Zechner
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SESSION II: Cell shape in Space and Time

Hosts:

- Alba Diz-Muñoz (EMBL, Heidelberg)
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<https://www.embl.de/research/units/cbb/diz-munoz/>
- Gaia Pigino (MPI-CBG, Dresden)
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<https://www.mpi-cbg.de/research-groups/current-groups/gaia-pigino/research-focus/>

Speakers:

- Shiladitya Banerjee (UCL, London)
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- Franziska Decker (Brugues lab, MPI-CBG, Dresden)
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- Mareike Jordan (Pigino lab, MPI-CBG, Dresden)
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- Markus Mund (Ries Group EMBL, Heidelberg)
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<https://www.embl.de/research/units/cbb/ries/index.html>

SESSION III: Bottom up Synthetic Biology

Host:

- Dora Tang (MPI-CBG, Dresden)
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Speakers:

- Yadira Boada (Universitat Politècnica de Valencia)
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- Tom Gorochofski (University of Bristol)
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<http://www.bristol.ac.uk/brissynbio/people/191306/index.html>
- Tom Robinson (MPI of colloids and interfaces)
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http://www.mpikg.mpg.de/5638018/Biomicrofluidic_Systems
- Adrian Zambrano (Tang lab, MPI-CBG, Dresden)
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SESSION 4 Dynamic Cytoskeletal Systems

Hosts:

- Peter Bieling (MPI Dortmund)
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- Alex Bird (MPI Dortmund)
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Speakers:

- Peter Lenart (EMBL, Heidelberg)
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- Schuh, Melina (Max Planck Institute for Biophysical Chemistry, Goettingen)
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SESSION 5: Quantitative Imaging of Development

Host:

- Stephan Preibisch (BIMSB, Berlin)
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<http://fly.mpi-cbg.de/~preibisch/>

Speakers:

- Florian Jug (MPI-CBG, Dresden)
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- Jean-Leon Maitre (Institut Curie, Paris)
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- Stephan Saalfeld (HHMI Janelia, Ashburn)

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- Young Yoon (Albert Einstein College of Medicine, New York)

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The Future of Science Communication

Speakers:

- Amani Said (Science Matters AG)

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- Manuel Breuer (Journal of Cell Science)

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