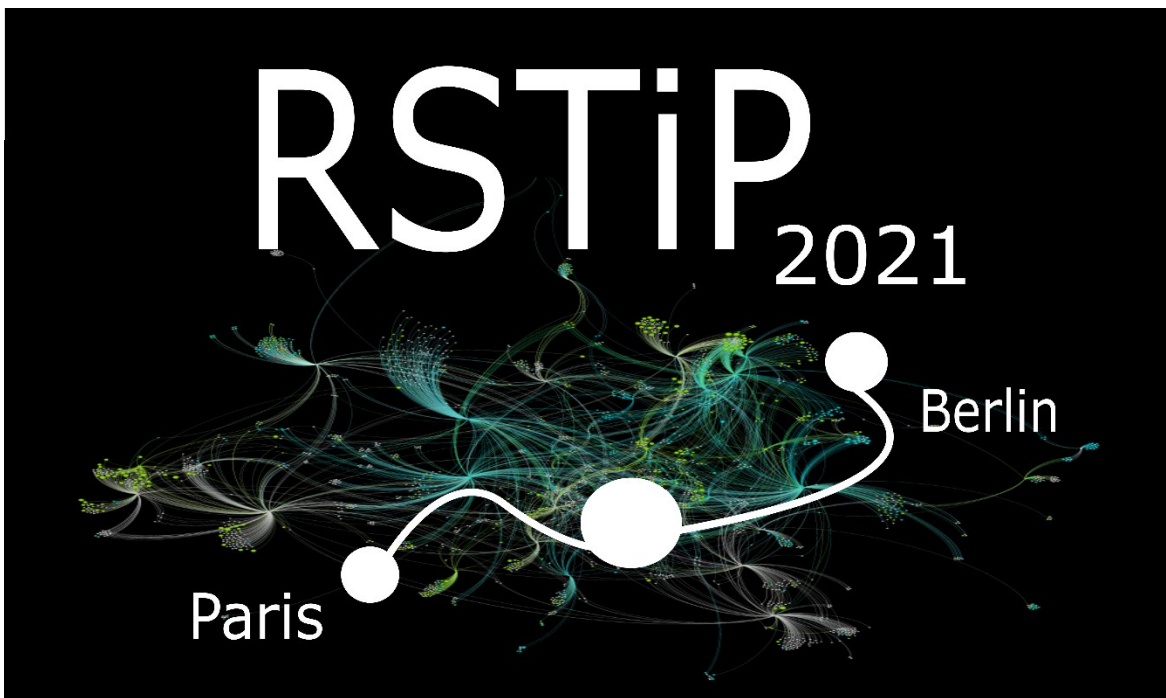


PROGRAM

Digital Binational Autumn School on
Regulation and Signal Transduction

in Prokaryotes (RSTIP₂₀₂₁)

Molecules – Functions - Applications



November 15th – 16th, 2021

Hosted by:



GASB
GERMAN ASSOCIATION FOR
SYNTHETIC BIOLOGY

November 15th 2021 (Monday)

Opening

8.45 am *Welcome – Bienvenue – Willkommen!*

Receptors and Signal Transduction

Opening Lecture

9.00 am Gottfried Uden (JGU Mainz)

The sensor kinase DcuS: Transmembrane signaling and function in the mouse gut

9.45 am Christina Huber (TU Kaiserslautern)

Phenotypical and functional characterization of the bacterial phytochrome PaBphP of *Pseudomonas aeruginosa*

10.00 am *Meet and Greet*

Regulation of cellular processes

10.15 am Christophe Grangeasse (Université Claude Bernard Lyon, CNRS)

StkP-mediated signaling in pneumococcal cell division

10.45 am **Simon Brückner (RU Bochum)**

(p)ppGpp in concert with a (p)ppGpp-binding RNase inhibit LPS biogenesis in *E. coli*

11.00 am Nathalie Campo (CNRS, Université de Toulouse)

Visualization of competence development and transformation in *Streptococcus pneumoniae*

11.30 am **Gauthier Dangla-Pélissier (Aix-Marseille Université)**

The transcriptional triad TprA/NdpA2/MvaT control the horizontal transfer of PA14 ICE PAPI-1

November 15th 2021 (Monday)

11.45 am *Meet the Speakers/Break*

Adaptation to stress

12.45 pm Benjamin Ezraty (Aix-Marseille Université, CNRS)
Oxidative stress from neutrophil induces the Envelope Stress Response
in *Salmonella*

1.15 pm **Aileen Krüger (FZ Jülich)**
Adaption to heme stress in *Corynebacterium glutamicum*

1.30 pm **Emma Fortier (Aix-Marseille Université)**
Characterization of the *Shewanella oneidensis* RpoS core regulon

1.45 pm *Meet the Speakers/Break*

Stress and development

2.00 pm Kirsten Jung (LMU München)
Sensing and decision making in bacteria

2.30 pm **Sukanya Bhowmick (LU Hannover)**
LytR_C domains in *Streptomyces*' sporulation and stress response

2.45 pm **Benedikt Steinfeld (RKU Heidelberg/MPI Marburg)**
Cell-cell communication aids *Bacillus subtilis* survival under cation stress

3.00 pm *Meet the Speakers/Break*

November 15th 2021 (Monday)

Industry Session

3.15 pm **BioNTech** presented by **Stefan Strobl**

4.45 pm *Break*

Regulation of metabolism and Synthetic biology applications (GASB)

5.00 pm **Kavyaa Venkat (FSU Jena)**

Vibrio cholerae dual-function RNA that balances carbon uptake and central metabolism

5.15 pm **Lea Sundermeyer (FZ Jülich)**

A novel signal transduction cascade tuning OdhI function in *Corynebacterium glutamicum*

5.30 pm **Julia Frunzke (FZ Jülich)**

Synthetic addiction of microbial growth to small molecule production

6.00 pm *Meet the Speakers/Open Discussion/Gather Town*

November 16th 2021 (Tuesday)

Regulation of motility and collective behaviors

8.45 am Victor Sourjik (MPI Marburg)

Cost-benefit tradeoffs in regulation of motility gene expression

9.15 am Caroline Kühne (HU Berlin)

A polyproline motif in FlhDC is essential for motility in *Salmonella Typhimurium*

9.30 am Erick Arroyo Perez (LMU München)

A novel protein regulating flagellum formation in the *Vibrionaceae*

9.45 am Meike Schwan (JLU Gießen)

How do bacteria restrict the assembly of a single polar flagellum?

10.00 am Tãm Mignot (CNRS, Aix-Marseille Université)

Pattern formations during bacterial predation, a multi-scale approach

10.30 am Meet the Speakers/Break

Bacterial resistance mechanisms

10.45 am Fabian Commichau (BTU Cottbus-Senftenberg)

The evolution of glyphosate resistance in bacteria - a journey from Gram-positive to Gram-negative species

11.15 am Giovanni Gallo (University of Naples/LMU Munich)

TtSmtB the playmaker of the arsenic-cadmium resistance system in *Thermus thermophilus* HB27

11.30 am Ana-Rita Brochado (JMU Würzburg)

Systems biology approaches to study drug combinations in bacteria

November 16th 2021 (Tuesday)

Bacterial resistance mechanisms (cont.)

12.00 am **Elisabetta Cacace (EMBL Heidelberg)**

High-throughput profiling of drug interactions in Gram-positive bacteria

12. 15 am *Meet the Speakers/Break*

Industry Session

1 pm **Bind-X GmbH presented by Luitpold Fried**

Phages and Synthetic biology applications (GASB)

3.00 pm **Naoual Derdouri (Aix-Marseille Université)**

Pleiotropic and adaptive effects of the prophage-encoded regulator AppY in *E. coli*

3.15 pm **Eike Junkermeier (HU Berlin)**

A novel locally c-di-GMP-controlled exopolysaccharide synthase required for N4 phage infection of *E. coli*

3.30 pm **Max Hünnefeld (FZ Jülich)**

Regulatory dynamics of the Lsr2-type xenogeneic silencer CgpS in *Corynebacterium glutamicum*

Closing Lecture

3.45 pm **David Bikard (Institut Pasteur, Paris)**

From bacteriophage defense systems to novel genetic tools and back

Closing Session

4.30 pm **Closing Remarks/CNRS Presentation Prize**

4.45 pm *Meet the Speakers/Farewell*

Au revoir! Auf Wiedersehen!