

Nucleotide Second Messenger Signaling in Bacteria

SPP 1879 Progress Meeting 2017

Friday October 6th, 2017

08:30 – 09:00 Registration / Poster set-up / Get together
09:00 – 09:10 Regine Hengge: Welcome and Introduction

Session 1. c-di-GMP signaling in motility and flagella function

Discussion Leader: **Susanne Häussler** (Helmholtz Centre for Infection Research, Braunschweig)

09:10 – 09:35 **Annegret Wilde** (Universität Freiburg):
A light-triggered behavioural switch in cyanobacterial motility
09:35 – 10:00 **Tim Rick** (AG Thormann, Justus-Liebig-Universität Gießen):
Polar localization of a sensor PDE regulating swimming behavior of *Shewanella putrefaciens*
10:00 – 10:25 **Sarina Bense** (AG Häussler, Helmholtz Centre for Infection Research, Braunschweig):
Characterization of the *Pseudomonas aeruginosa* c-di-GMP binding protein FlgZ
10:25 – 10:50 **Olga Besharova** (AG Sourjik, MPI for Terrestrial Microbiology, Marburg):
Role of flagella and motility in attachment, structure formation and detachment of *Escherichia coli* biofilms
11:00 – 11:30 Coffee Break

Session 2. c-di-GMP signaling in biofilms and development

Discussion Leader: **Victor Sourjik** (MPI for Terrestrial Microbiology, Marburg)

11:30 – 11:55 **Regine Hengge** (Humboldt-Universität zu Berlin):
Local c-di-GMP signaling controls synthesis and post-synthetic chemical modification of the *E. coli* biofilm exopolysaccharide cellulose
11:55 – 12:20 **Sandra Schwarz** (Universität Tübingen):
Oxygen-dependent regulation of the diguanylate cyclase SadC in *Pseudomonas aeruginosa*
12:20 – 12:45 **Nicole Frankenberg-Dinkel** (Universität Kaiserslautern):
Insights into NO-induced dispersal of *Pseudomonas aeruginosa* biofilms
12:45 – 13:10 **Sofya Kuzmich** (AG Søgaard-Andersen, MPI for Terrestrial Microbiology, Marburg):
Regulation of development in *Myxococcus xanthus* by the phosphodiesterase PmxA
13:15 – 14:00 Lunch
14:00 – 16:00 Poster Session
15:30 – 16:30 Coffee

Session 3. cGAMP/c-di-GMP riboswitches

Discussion Leader: **Lotte Søgaard-Andersen** (MPI for Terrestrial Microbiology, Marburg)

16:30 – 16:55 **Jens Wöhnert** (Goethe-Universität Frankfurt):
The ligand specificity of c-GAMP-responsive riboswitches is modulated by nucleotide protonation

Session 4. (p)ppGpp signaling

Discussion Leader: **Lotte Søgaard-Andersen** (MPI for Terrestrial Microbiology, Marburg)

16:55 – 17:20 **Franz Narberhaus** (Ruhr-Universität Bochum):
The contribution of (p)ppGpp to various cellular processes in *Escherichia coli*
17:20 – 17:45 **Kürsad Turgay** (Leibniz-Universität Hannover):
Curbing protein synthesis is important for the concerted heat shock response of *Bacillus subtilis*

- 17:45 – 18:10 **Christiane Wolz** (Universität Tübingen):
Role and function of the (p)ppGpp synthetases RelP, RelQ and RSH in *Staphylococcus aureus*
- 18:10 – 18:35 **Bertrand Beckert** (AG Wilson, LMU München & Universität Hamburg):
Structure of the *Bacillus subtilis* hibernating 100S ribosome reveals the basis for 70S dimerization
- 19:00 Dinner / Get together

Saturday October 7th, 2017

Session 5. cAMP/cGMP signaling in α -proteobacteria

Discussion Leader: **Anke Becker** (Philipps-Universität Marburg)

- 09:00 – 09:25 **Neda Farmani** (AG Becker, Philipps-Universität Marburg):
Cyclic mononucleotide signaling in *Sinorhizobium meliloti*
- 09:25 – 09:50 **Gottfried Unden** (Johannes-Gutenberg-Universität Mainz):
The redox-regulated membrane-integral class III-adenylate cyclase CyaC of *Sinorhizobium meliloti*

Session 6. c-di-AMP signaling in Gram-positive bacteria

Discussion Leader: **Anke Becker** (Philipps-Universität Marburg)

- 09:50 – 10:15 **Martin Weiß** (AG Stülke, Georg-August-Universität Göttingen):
A protein in search of a function: The c-di-AMP-binding protein DarA of *Bacillus subtilis*
- 10:15 – 10:40 **Johannes Gihardt and Ralf Ficner** (AG Commichau and AG Ficner, Georg-August-Universität Göttingen):
Control of diadenylate cyclase activity in firmicutes
- 10:45 – 11:15 Coffee break

Session 6. c-di-AMP signaling in Gram-positive bacteria (ctd.)

Discussion Leader: **Kai Thormann** (Justus-Liebig-Universität Gießen)

- 11:15 – 11:40 **Andreas Latoscha** (AG Tschowri, Humboldt-Universität zu Berlin):
The diadenylate cyclase DisA is involved in development and osmotic stress resistance of *Streptomyces venezuelae*
- 11:40 – 12:05 **Gerd Seibold** (Universität Ulm):
Analysis of regulatory targets of the secondary messenger c-di-AMP in *Corynebacterium glutamicum*
- 12:05 – 12:30 **Gregor Witte** (LMU München):
Structural and biophysical analysis of the soluble DHH/DHHA1-type phosphodiesterase TM1595 from *Thermotoga maritima*

Session 7. 'Nucleotidomics'

Discussion Leader: **Kai Thormann** (Justus-Liebig-Universität Gießen)

- 12:30 – 12:55 **Volkhard Kaefer** (Medizinische Hochschule Hannover):
Nucleotidomics, the still expanding world of nucleosides and nucleotides
- 12:55 – 13:00 Farewell and end of the Meeting