

Nucleotide Second Messenger Signaling in Bacteria

SPP 1879 Progress Meeting 2020

Friday February 28th, 2020

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

Discussion Leader: **Nicole Frankenberg-Dinkel** (Universität Kaiserslautern)

09:10 – 09:35 **Kai Thormann** (Justus-Liebig-Universität Gießen):
A single amino acid substitution is sufficient for polar targeting of PdeB by HubP in *Shewanella putrefaciens*

09:35 – 10:00 **Jelena Erdmann** (AG Häussler, Helmholtz Centre for Infection Research, Braunschweig):
Unraveling the c-di-GMP signaling network in the opportunistic pathogen *Pseudomonas aeruginosa*

10:00 – 10:25 **Katrin Gerbracht** (AG Frankenberg-Dinkel, Universität Kaiserslautern):
Transcriptional regulation and cellular localization of the c-di-GMP-specific phosphodiesterase NbdA of *Pseudomonas aeruginosa*

10:30 – 11:00 Coffee Break (Poster hall)

Session 1. c-di-GMP signaling (ctd.)

Discussion Leader: **Natalia Tschowri** (Humboldt-Universität zu Berlin)

11:00 – 10:25 **Regine Hengge** (Humboldt-Universität zu Berlin):
A c-di-GMP switch controls the building of the large-scale 3D biofilm matrix architecture in *E. coli* macrocolony biofilms

11:25 – 11:50 **Gen Enomoto** (AG Wilde, Universität Freiburg):
c-di-GMP mediates directional switching of cyanobacterial phototaxis

Session 2. c-di-GMP/cGAMP/ZMP riboswitches

Discussion Leader: **Natalia Tschowri** (Humboldt-Universität zu Berlin)

11:50 – 12:15 **Harald Schwalbe** (Goethe Universität Frankfurt):
Dynamic basis of the molecular mechanism of nucleotide secondary messenger-sensing riboswitches by NMR spectroscopy

12:15 – 14:00 Lunch

14:00 – 16:00 Poster Session

15:00 – 15:30 Coffee (Poster hall)

Session 3. (p)ppGpp signaling

Discussion Leader: **Jörg Stülke** (Georg-August-Universität Göttingen)

16:00 – 16:25 **Franz Narberhaus** (Ruhr-Universität Bochum):
Novel biological functions of (p)ppGpp in *Escherichia coli*

16:25 – 16:50 **Kürsad Turgay** (Leibniz-Universität Hannover):
The alarmones (p)ppGpp are part of the heat shock response of *Bacillus subtilis*

16:50 – 17:15 **Christiane Wolz** (Universität Tübingen):
Inducible expression of (pp)pGpp synthetases RSH, RelP or RelQ is associated with activation of stress response genes in *Staphylococcus aureus*

17:15 – 17:40 **Gert Bange** (Philipps-University Marburg):
(p)ppGpp and the translation machinery

18:00 – 19:30 Social event (Göttingen city tour)

19:30 Dinner / Get together

Saturday February 29th, 2020

Session 4. cAMP/cGMP signaling

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

- 09:00 – 09:25 **Karl Forchhammer** (Universität Tübingen):
Linking second messenger nucleotide signalling with CO₂ homeostasis in cyanobacteria:
unravelling the SbtB-based network
- 09:25 – 09:50 **Neda Farmani** (AG Becker, Philipps-Universität Marburg):
Cyclic mononucleotide signaling in *Sinorhizobium meliloti*

Session 5. c-di-AMP signaling

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

- 09:50 – 10:15 **Jana Heidemann** (AG Ficner, Georg-August-Universität Göttingen):
The phosphoglucosamine mutase GlmM moonlights in modulating the activity of the diadenylate
cyclase CdaA in *Listeria monocytogenes*
- 10:15 – 10:40 **Larissa Krüger** (AG Stülke, Georg-August-Universität Göttingen):
C-di-AMP-signaling in *Bacillus subtilis*
- 10:40 – 11:10 Coffee break (Poster hall)

Session 5. c-di-AMP signaling (ctd.)

Discussion Leader: **Sonja-Verena Albers** (Universität Freiburg)

- 11:15 – 11:40 **Inga Hänelt** (Goethe Universität Frankfurt):
Regulation of K⁺, H⁺ symporter KimA by cyclic nucleotides
- 11:40 – 12:05 **Andreas Latoscha** (AG Tschowri, Humboldt-Universität zu Berlin):
The RCK_C domain proteins CpeA and CpeD sense c-di-AMP in *Streptomyces*
- 12:05 – 12:30 **Frank Braun** (AG Albers, Universität Freiburg):
Cyclic di-AMP as second messenger in the euryarchaeon *Haloferax volcanii*

Session 6. 'Nucleotidomics'

Discussion Leader: **Sonja-Verena Albers** (Universität Freiburg)

- 12:30 – 12:55 **Roland Seifert** (Medizinische Hochschule Hannover):
Exploring new avenues of research on bacterial cyclic nucleotides
- 12:55 – 13:00 Closing remarks
- 13:00 – 13:30 Coffee and Sandwiches - Departure