International Symposium on c-di-GMP Signaling in Bacteria

Harnack-Haus, Berlin-Dahlem, Germany
March 22-25, 2015

Organizers:
Regine Hengge & Christine Kanow-Scheel
Humboldt-Universität zu Berlin, Germany

Scientific Committee:
Angelika Gründling (Imperial College London, UK), Regine Hengge (Humboldt-Universität zu Berlin, Germany), Urs Jenal (Biocentre Basel, Switzerland); Robert Ryan (University of Dundee, UK); Fitnat Yildiz (UC Santa Cruz, USA)

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Conference location

Harnack-Haus - Tagungsstätte der Max-Planck-Gesellschaft
Ihnestr. 16-20, 14195 Berlin, Germany
Subway: U3, Thielplatz
Tel. +49 30 8413 3800,
E-mail: info@harnackhaus-berlin.mgp.de
http://www.harnackhaus-berlin.mpg.de
Location of the Tuesday night event

English Theatre Berlin - F40
Fidicinstr. 40, 10965 Berlin, Germany
Tel. +49 30 693 5692
http://www.etberlin.de

To get back to Dahlem after the show, take U7 from 'Mehringdamm' subway station (direction 'Rathaus Spandau'), at 'Fehrbelliner Platz' change to U3 (direction 'Krumme Lanke') and get off at 'Thielplatz'
Scientific Programme
International Symposium on c-di-GMP Signaling
Scientific Programme

Sunday (March 22nd)

17:00 - 19:00      Registration / Poster set-up / Get together
19:00               Dinner
20:30               Get together (Einstein lounge)

Monday Morning (March 23rd 9:00 – 12:30)

8:30 – 9:00        Set up of posters for poster session I
9:00 – 9:10        Regine Hengge: Welcome and Introduction

Session 1. Novel effectors in c-di-GMP signaling - c-di-GMP-binding proteins and riboswitches

Discussion Leader: Fitnat Yildiz (UC Santa Cruz)

09:10 – 09:40 Holger Sondermann (Cornell University):
Insights into conserved molecular mechanisms controlling bacterial adhesion

09:40 – 10:10 Vincent Lee (University of Maryland):
Discovering c-di-GMP binding proteins and their inhibitors

10:10 – 10:30 Michael Galperin (NCBI, NIH):
Diversity of c-di-GMP-binding proteins and mechanisms

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

11:00 – 11:30 Zhao-Xun Liang (Nanyang University Singapore):
Unraveling the function of c-di-GMP binding PilZ proteins in Pseudomonas aeruginosa

11:30 – 12:00 Caroline Harwood (University of Washington Seattle):
FleQ responds to c-di-GMP to regulate biofilm and flagella gene expression by two different mechanisms

12:00 – 12:15 Olga Soutourina (Institut Pasteur):
c-di-GMP-responsive riboswitches in the human pathogen Clostridium difficile

12:30 – 14:00 Lunch

Monday Afternoon (March 23rd 14:00 – 19:00)

14:00 – 15:30 Poster Session I

Session 2. c-di-GMP-controlled cellular processes

Discussion Leader: Angelika Gründling (Imperial College)

15:30 – 16:00 Fitnat Yildiz (UC Santa Cruz):
C-di-GMP Regulates Motile to Sessile Transition by Modulating MshA Pili Biogenesis and Near-Surface Motility Behavior in Vibrio cholerae
16:00 – 16:30 Robert Ryan (University of Dundee): Novel cyclic di-GMP effectors of the YajQ family control bacterial virulence

16:30 – 17:00 Samuel Miller (University of Washington Seattle): Using an in-vivo biosensor to define signals and pathways that regulate c-di-GMP signaling

17:00 – 17:30 Coffee Break (Poster hall)

17:30 – 18:00 Liz Sockett (University of Nottingham): GGDEF, HD-GYP and EAL proteins cause specific effects on prey-interaction, cell replication and motility in predatory Bdellovibrio bacteria

18:00 – 18:15 Andrew Lovering (University of Birmingham): Structure of Bdellovibrio bacteriovorus cNMP-EAL hybrid protein Bd1971

18:15 – 18:45 Susanne Häußler (Helmholtz Centre for Infection Research Braunschweig): Mutations in a clinical Pseudomonas aeruginosa small colony variant affect membrane composition to adopt surface-associated behaviors

19:00 Dinner / Set up of posters for poster session II

20:30 Get together (Einstein lounge)

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**Tuesday morning (March 24th 9:00 – 12:30)**

**Session 3a. C-di-GMP signaling in the control of biofilm matrix production and supracellular biofilm architecture**

Discussion Leader: Urs Jenal (Biocentre Basel)

09:00 – 09:30 Regine Hengge (Humboldt Universität zu Berlin): c-di-GMP signaling in the control of matrix production and architecture of E. coli macrocolony biofilms

09:30 – 10:00 George O’Toole (Dartmouth University): To Build a Biofilm: Does a Bacterium Know it is on a Surface?

10:00 – 10:30 Ute Römling (Karolinska Institute): Regulation of biofilm formation, motility and virulence by cyclic di-GMP dependent and independent mechanisms in Salmonella enterica serovar Typhimurium

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

**Session 3b. Sensory input into c-di-GMP signaling**

11:00 – 11:30 Mark Gomelsky (University of Wyoming): c-di-GMP in a whole new light

11:30 – 11:45 Veronika Angerer (Universität Freiburg): Light-dependent production of c-di-GMP regulating cyanobacterial phototaxis

11:45 – 12:00 Nicole Frankenberg-Dinkel (Technische Universität Kaiserslautern): NO-induced biofilm dispersion in Pseudomonas aeruginosa is mediated by a MHYT domain-coupled phosphodiesterase

12:00 – 13:15 Lunch
Tuesday Afternoon (March 24th 14:00 – 18:00)

13:15 – 14:30  Poster Session II

Session 4. c-di-GMP signaling in cell polarity and development

Discussion Leader:  Robert Ryan (University of Dundee)

14:30 – 15:00  Urs Jenal (Biocentre Basel):
The role of cyclic di-GMP in Caulobacter cell cycle progression and cell fate determination

15:00 – 15:15  Benoit-Joseph Laventie (Biocentre Basel):
FimA, a novel c-di-GMP effector in Pseudomonas aeruginosa dynamically localizes to the new cell pole to mediate pilus function

15:15 – 15:45  Lotte Søgaard-Andersen (Max-Planck-Institute Marburg):
Distinct c-di-GMP metabolizing enzymes regulate type IV pili-dependent motility and fruiting body formation in Myxococcus xanthus

15:45 – 16:15  Coffee Break (Poster hall)

16:15 – 16:45  Natalia Tschowri (Humboldt Universität zu Berlin):
The role of c-di-GMP in Streptomyces development

16:45 – 17:15  Pauline Schaap (University of Dundee):
Cyclic-di-GMP regulation of cell differentiation in the eukaryote Dictyostelium discoideum

17:45  Bus to English Theatre Berlin (ETB, Berlin-Kreuzberg)

18:15  Reception at ETB

19:00  "Isaac’s Eye" by Lucas Hnath at ETB
A production by the Science&Theatre project, directed by Günther Grosser

21:00  Free evening – enjoy the lively restaurant scene on and around Bergmannstraße in Berlin-Kreuzberg

Wednesday morning (March 25th 9:00 – 13:00)

Session 5a. "Classical" bacterial second messengers revisited - cAMP & ppGpp

Discussion Leader:  Regine Hengge (Humboldt Universität zu Berlin)

09:00 – 09:30  Victor de Lorenzo (CNB-CSIC, Madrid):
E. coli and the elephant no more: the CRP-cAMP system of Pseudomonas putida

09:30 – 10:00  Kenn Gerdes (University of Copenhagen):
Stochastic control of bacterial persistence by ppGpp and toxin-antitoxins: Surprisingly, Toxin Activation, Not Growth Inhibition, is Essential for Persister Cell Formation

10:00 – 10:30  Jade Wang (University of Wisconsin Madison):
Molecular Mechanism and Evolution of Guanylate Kinase Regulation by (p)ppGpp

10:30 – 11.00  Coffee Break and Poster Prize Award Ceremony
Session 5a. "Newcomers" in bacterial second messenger signaling - c-di-AMP, cGMP-AMP, cGMP

11:00 – 11:15 Ming Hammond (UC Berkeley):
Illuminating cyclic-dinucleotide signaling: discoveries driven by riboswitch-based fluorescent biosensors

11:15 – 11:45 Angelika Gründling (Imperial College):
c-di-AMP signaling in *Staphylococcus aureus*

11:45 – 12:15 Jörg Stülke (Universität Göttingen):
DarA - a new c-di-AMP-binding signal transduction protein in *Bacillus subtilis*

12:15 – 12:30 Volkhard Kaever (Medizinische Hochschule Hannover):
Identification and quantification of low-molecular weight bacterial signaling molecules by mass spectrometry

12:30 – 12:45 Forward-looking discussion / concluding remarks (R. Hengge)

13:00 Departure