

Nucleotide Second Messenger Signaling in Bacteria

SPP 1879 International Symposium 2022

Poster Session I (Monday, May 23rd)

No.	Author(s)	Title
P01	<u>Erick Eligio Arroyo-Pérez</u> and Simon Ringgaard	A putative c-di-GMP module involved in spatiotemporal regulation of flagellar synthesis
P02	<u>Heike Bähre</u> and Roland Seifert	Automated screening of unknown nucleotides in biological samples using Ion Mobility Quadrupole Time-of-flight Mass Spectrometry combined with database research
P03	<u>Sukanya Bhowmick</u> , Ruth Viveros, Fabian Commichau and Natalia Tschowri	Exploring the connection between c-di-AMP signaling and cell envelope modifications in <i>Streptomyces</i>
P04	<u>Simon Brückner</u> , Tyll Kalle, Laura Schadowski, Sophia Weber, Fabian Müller, Wieland Steinchen, Gert Bange, Sabine Adler, Dominik Begerow and Franz Narberhaus	(p)ppGpp curbs lipopolysaccharide (LPS) biosynthesis in <i>Escherichia coli</i>
P05	<u>Buse Cinar</u> , Julian Haist and Natalia Tschowri	RmdB-mediated global and local c-di-GMP-signaling in <i>Streptomyces</i> developmental control
P06	<u>Fabián A. Cornejo</u> , Kristina Driller, Sebastian Rämisch, Vivekanandan Shanmuganathan, Kathirvel Alagesan and Kürşad Turgay	The Ric/Y-complex is important for heat stress and stringent response
P07	<u>David Ricardo Cortés Sotres</u> , Alberto Ramírez-Mata, José Francisco Cruz-Pérez, Sandra Raquel Reyes-Carmona, María Luisa Xiqui Vázquez, Beatriz Eugenia Baca	<i>In-silico</i> analysis of the CHASE domain of a di-GMPc hybrid protein in <i>Azospirillum baldaniorum</i> Sp 245
P08	<u>Kristina Driller</u> , Fabián Cornejo, Kathirvel Alagesan and Kürşad Turgay	Identification of interaction partners of ppGpp in <i>B. subtilis</i>
P09	Daisuke Nakane, <u>Gen Enomoto</u> , Annegret Wilde and Takayuki Nishizaka	<i>Thermosynechococcus</i> switches the direction of phototaxis by a c-di-GMP dependent process with high spatial resolution
P10	<u>Jelena Erdmann</u> , Melisa Gür and Susanne Häussler	Unraveling the c-di-GMP signaling network in the opportunistic pathogen <i>Pseudomonas aeruginosa</i>
P11	<u>Ozan Ertekin</u> and Lotte Søgaard-Andersen	Characterization of two MshEN domain proteins in <i>Myxococcus xanthus</i>
P12	Víctor G. Tagua, María Antonia Molina-Henares, María L. Travieso, Rafael Nisa-Martínez, José Miguel Quesada, <u>Manuel Espinosa-Urgel</u> and María Isabel Ramos-González	C-di-GMP and biofilm are regulated in <i>Pseudomonas putida</i> by the CfcA/CfcR two-component system in response to salts
P13	<u>Michael F. Fuss</u> , Yvonne Hellmich, Jan-Philip Wieferig, Janet Vonck and Inga Hänelt	Cyclic di-AMP traps proton-coupled K ⁺ transporters of the KUP family in an inward-occluded conformation
P14	<u>Kelley Gallagher</u> , Maria Schumacher, Neil Holmes, Richard Brennan and Mark Buttner	Evolution of a σ -(c-di-GMP)-anti- σ switch
P15	<u>Tim B. Garbers</u> , Jana L. Heidemann and Ralf Ficner	Structure-based design of inhibitors for the c-di-AMP synthesizing enzyme CdaA
P16	<u>Tania Gaviria-Cantín</u> and Régis Hallez	Virulence and cell cycle regulation by the alarmone (p)ppGpp in the plant-associated pathogenic bacterium <i>Agrobacterium tumefaciens</i>
P17	<u>Christopher Geiger</u> , Sherry Kuchma and George O'Toole	Surface Contact by <i>Pseudomonas aeruginosa</i> leads to an Increase in cAMP via the Type IV Pili Motor
P18	<u>Pietro Ivan Giammarinaro</u> , Georg Hochberg, Jens Reiners, Sander Smits and Gert Bange	Ap4A regulates an <i>Ancestral</i> Inosine Monophosphate Dehydrogenase (AnI-MPDH).

P19	<u>Michael Haffner</u> , Oliver Mantovani, Markus Burkhardt, Martin Hagemann, Khaled Selim and Karl Forchhammer	Diurnal metabolic control in cyanobacteria requires perception of second messenger signaling molecule c-di-AMP by the carbon control protein SbtB
P20	Regine Hengge	Principles of high-specificity local and global c-di-GMP signaling
P21	<u>Nushrat Hogue</u> , Shannon Rivera, Dayna C. Patterson and Emily E. Weinert	Elucidating the mechanism of oxygen sensing in the globin coupled sensor proteins
P22	<u>Eike H. Junkermeier</u> and Regine Hengge	A novel locally c-di-GMP-controlled exopolysaccharide synthase required for bacteriophage N4 infection of <i>E. coli</i>
P23	<u>Vanessa Kreiling</u> , Tim Rick and Kai Thormann	Polar on-switch of the phosphodiesterase PdeB governs heterogeneity of the <i>Shewanella</i> life style
P24	<u>Igor Kviatkovski</u> and Angelika Gründling	Identification of genes that impact cellular c-di-AMP levels in <i>Staphylococcus aureus</i> using a riboswitch-based biosensor
P25	<u>Olaf Latta</u> , Luisa Munza and Andreas Bechthold	Role of c-di-GMP as a Regulator for the Production of Natural Compounds in <i>Streptomyces</i>
P26	<u>José Maio</u> and Régis Hallez	Deciphering the RNA-mediated allosteric regulations of the bifunctional (p)ppGpp synthetase/hydrolase enzyme in α -proteobacteria
P27	<u>Oliver Mantovani</u> , Peter Walke, Wolfgang R. Hess, Michel Haffner, Khaled Selim, Karl Forchhammer and Martin Hagemann	Role of second messengers, carbon control protein SbtB and its C-terminal region in the regulation of carbon metabolism
P28	<u>Elie Marchand</u> and Régis Hallez	Characterisation of the mechanisms leading to (p)ppGpp accumulation under carbon starvation in <i>Caulobacter crescentus</i>
P29	<u>Karoline Raulf</u> and Daniel N. Wilson	Isolation of the bifunctional (p)ppGpp synthetase/hydrolase SpoT in complex with <i>E. coli</i> ribosomes

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Poster Session II (Tuesday, May 24th)

No.	Author(s)	Title
P30	<u>Nicholas Marotta</u> and Emily E. Weinert	Cellular effects of bacterial 2',3'-cyclic nucleotide monophosphates
P31	<u>Janek Meißner</u> , Katharina Stark, Ben Hoßbach and Jörg Stülke	Different amino acids – different strategies: How <i>B. subtilis</i> deals with amino acid stress in a c-di-AMP free background
P32	<u>Ronja Offer</u> , Vanessa Pfiffer, Alexandra Possling and Regine Hengge	Signal input into the <i>E. coli</i> K-12 biofilm matrix control network via the diguanylate cyclase DgcE and a GTPase partner system
P33	<u>María Pérez-Burgos</u> , Marco Herfurth, Dorota Skotnicka and Lotte Søgaard-Andersen	The diguanylate cyclase DmxA and c-di-GMP regulate motility in <i>Myxococcus xanthus</i>
P34	<u>Daniel Perez-Mendoza</u> , Manuel Döring, Broder Rühmann, Volker Sieber, Juan Sanjuan and Jochen Schmid	Unveiling novel c-di-GMP activated EPS in bacteria
P35	<u>Ainelen Piazza</u> , Catriona Thompson, Michael Brockhurst, Jamie Hall, Richard Little and Jacob Malone	Plasmid-chromosome crosstalk in <i>Pseudomonas fluorescens</i>
P36	<u>Katharina Pressler</u> , Martin Lorkowski and Regine Hengge	Comparative analysis of redox-controlled activity of the 5 CSS domain c-di-GMP phosphodiesterases of <i>Escherichia coli</i>
P37	<u>Alberto Ramírez-Mata</u> , Elvia G. Gómez- Vázquez, Ma. Luisa Xiqui Vázquez, Claudia Mancilla-Simbro, Sandra Reyes-Carmona and Beatriz E. Baca	Functional characterization of a composite protein metabolizing c-di-GMP in <i>Azospirillum baldaniorum</i> Sp245

P38	<u>Karoline Raulf</u> , Bertrand Beckert, Alexander Lepak, Gert Bange and Daniel N. Wilson	Structure of the Proline-rich Antimicrobial Peptide Bac5 in Complex with the <i>Vibrio natriegens</i> 70S Ribosome
P39	Frank Braun, <u>Hongcheng Ren</u> , Felix Grünberger, Tobias Gebauer and Sonja-Verena Albers	Cyclic di-AMP as a regulator of the potassium homeostasis in the euryarchaeon <i>Haloferax volcanii</i>
P40	Chiara Scribani Rossi, Kelly Eckart, Elisabetta Scarchilli, Simone Angeli, Adele Di Matteo, Francesca Cutruzzolà, Alessandro Paiardini, Lars Dietrich and <u>Serena Rinaldo</u>	Linking L-Arginine and redox sensing in <i>Pseudomonas aeruginosa</i> to control c-di-GMP levels and biofilm formation
P41	<u>Mohammad Roghanian</u> , Katleen Van Nerom, Hiraku Takada, Julien Caballero-Montes, Hedvig Tamman, Pavel Kudrin, Ariel Talavera, Ievgen Dzhygyr, Simon Ekstrom, Gemma C. Atkinson, Abel Garcia-Pino and Vasili Hauryliuk	(p)ppGpp controls stringent factors by exploiting antagonistic allosteric coupling between catalytic domains
P42	<u>Chayan Kumar Saha</u> and Gemma C Atkinson	Alarmone synthetases turn toxic
P43	<u>Andrea Salzer</u> , Sophia Ingrassia, Lisa Sauer and Christiane Wolz	Cell death during nutrient starvation in <i>Staphylococcus aureus</i> cells lacking (p)ppGpp is linked to disturbed GTP homeostasis
P44	<u>Anna Scherhag</u> , Katrin Gerbracht, Susanne Zehner, Sandro Keller, Markus Räschle and Nicole Frankenberg-Dinkel	Analysis of membrane-bound c-di-GMP modulating enzymes in <i>Pseudomonas aeruginosa</i> by complexome profiling
P45	<u>Inge Schwedt</u> , Mengyi Wang and Fabian M. Commichau	Adaptation of <i>Listeria monocytogenes</i> to perturbation of c-di-AMP metabolism underpins its central role in osmoadaptation and uncovers a role of the <i>opp</i> oligopeptide transporter in fosfomycin uptake
P46	<u>Chiara Scribani Rossi</u> , Elisabetta Scarchilli, Simone Angeli, Giacomo Parisi, Alessandro Paiardini, María Antonia Molina-Henares, Manuel Espinosa-Urgel and Serena Rinaldo	L-Arginine in <i>Pseudomonas</i> controls c-di-GMP levels and biofilm formation
P47	<u>Michael Seidel</u> , Dorota Skotnicka, Timo Glatter and Lotte Søgaard-Andersen	Two antagonistically acting, c-di-GMP binding proteins are important for chromosome organization and segregation
P48	<u>Anna Sueki</u> , Katarzyna Buczak, Alexander Schmidt and Urs Jenal	Systematic investigation of c-di-GMP network using Thermal Proteome Profiling
P49	Wiem Abidi, Marion Decossas-Mendoza, <u>Lucia Torres-Sánchez</u> , Lucie Puygrenier and Petya V. Krasteva	Crystal-clear: Mechanistic insights into crystalline cellulose secretion
P50	<u>Liyun Wang</u> , Gabriele Malengo, Xuanlin Chen, Ming C. Hammond and Victor Sourjik	Screening test of FRET-based biosensor for detection of second messenger cyclic di-GMP
P51	<u>Danny Ward</u> , Richard Little and Jacob Malone	Control of Type III-mediated Virulence in <i>Pseudomonas syringae</i> by cyclic-di-GMP
P52	<u>Robert Warneke</u> , Thorben Schramm, Hannes Link and Jörg Stülke	A protein in search of a function: The c-di-AMP-binding protein DarA of <i>Bacillus subtilis</i>
P53	<u>Mai Watanabe</u> , Michael Haffner, Markus Burkhardt, Karl Forchhammer, Khaled Selim and Annegret Wilde	c-di-AMP-dependent accumulation of the CpL-phycoobilisome in cyanobacteria
P54	Emily Weinert	Probing the Metabolism and Cellular Roles of 2',3'-Cyclic Nucleotide Monophosphates
P55	<u>Cordelia A. Weiss</u> , Allison Maher and Angelika Gründling	Investigation of the link between c-di-AMP signaling and cell wall biosynthesis in <i>Staphylococcus aureus</i>
P56	Adrian Bandera and <u>Gregor Witte</u>	BusR – a c-di-AMP binding transcription factor with a built-in molecular ruler
P57	<u>Kaitlin D. Yarrington</u> and Dominique H. Limoli	<i>Pseudomonas aeruginosa</i> senses secreted interspecies signals via a c-di-GMP and cAMP-controlled signaling module
P58	<u>Michael Tope Agbadaola</u> , Eugenio Pérez Patallo, Sandro Keller, Jonathan Oyebamiji Babalola, Nicole Frankenberg-Dinkel and Susanne Zehner	Characterization of the full-length membrane-anchored phosphodiesterase NbdA of <i>Pseudomonas aeruginosa</i>
P59	<u>Niklas Schäfer</u> , Laura Werel, Neda Farmani, Elizaveta Krol, Lars Oliver Essen and Anke Becker	Cir-dependent regulation of secondary root-hair infection during the <i>Sinorhizobium-Medicago</i> symbiosis