BACELL 2019
9-10 April 2019, Ljubljana, Slovenia

PROGRAM

Univerza v Ljubljani
Biotehniška fakulteta
Conference Chair

Ines Mandić Mulec

Organising committee

Tjaša Danevčič
Polonca Štefanič
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BACELL 2019 Registration Secretariat

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Program

Tuesday 9th April

8:30 – 9:00 Registration

9:00 – 9:10 Welcome

Prof. dr. Emil Erjavec, Dean of the Biotechnical Faculty
Prof. dr. Ines Mandić Mulec, Chair of the conference

Session 1 - Stress response

Chair: Ulrike Mäder (University of Greifswald, Germany)

9:10 – 9:25 O1 - Kürşad Turgay (Leibniz University of Hannover, Germany): The interplay of heat shock and stringent response in *Bacillus subtilis*

9:30 – 9:45 O2 - Zuzana Chromiková (Institute of Molecular Biology, SAS, Slovakia): Microbial tolerance to heavy metal stress

9:50 – 10:00 O3 - Marietta Thüring (Philipps University Marburg, Germany): 6S RNA makes the difference when bacteria are in trouble

10:05 – 10:15 O4 - Hermann Rath (University of Greifswald, Germany): Alterations in gene expression of *Bacillus subtilis* caused by high salinity and the compatible solute glycine betaine

10:20 – 10:30 O5 - Jolanda Neef (University of Groningen, The Netherlands): Systematic analysis of the roles of individual Sec pathway components in high-level enzyme secretion by *Bacillus subtilis*

10:35 – 11:00 Tea and Coffee Break

Session 2- Sporulation and cell cycle

Chair: Iztok Dogsa (University of Ljubljana, Slovenia)

11:00 – 11:15 O6 – Heath Murray (Newcastle University, UK): Identification of a basal system for bacterial chromosome origin unwinding

11:20 – 11:35 O7 - Aleksandra Zielińska (University of Groningen, The Netherlands): Efficient cell wall synthesis relies on flotillin modulated membrane fluidity
11:40 – 11:55 O8 - Robyn Eijlander (NIZO, The Netherlands): Spores of Bacillaceae – the importance of translating fundamental knowledge to practical solutions

12:00 – 12:15 O9 - Rachele Istita (University of Naples Federico II, Italy): A heat-labile regulatory protein mediates spore coat formation in Bacillus subtilis

12:20 – 12:30 O10 - Yifan Zhang (ETH Zürich, Switzerland): Bacillus spore under high pressure: dormancy, germination and inactivation

12:35 – 14:00 Lunch Break and Poster session 1

Session 3 - Evolution and mobile genetic elements

Chair: Ákos T. Kovács (Technical University of Denmark, Denmark)

14:00 – 14:15 O11 - Anna Dragos (Technical University of Denmark, Denmark): Braking bad of bacterial viruses during experimental evolution


14:40 – 14:55 O13 - Melih Yüksel (University of Cologne, Germany): Cross-species gene transfer rapidly navigates a complex fitness landscape

15:00 – 15:10 O14 - Luiza P. Morawska (University of Groningen, The Netherlands): Cell-to-cell non-conjugative molecular transfer between Bacillus subtilis and Lactic Acid Bacteria


15:30 – 16:00 Tea and Coffee Break

Session 4 – Antimicrobials and toxins

Chair: Sven Halbedel (Robert Koch Institute, Germany)

16:00 – 16:15 O16 - Leendert W. Hamoen (University of Amsterdam, The Netherlands): New sample preparation method for transmission electron microscopy reveals a new mechanism of tetracycline

16:20 – 16:35 O17 - Loredana Baccigalupi (University of Naples Federico II, Italy): Antimicrobials produced by a marine strain of Bacillus pumilus
16:40 – 16:55 O18 - Katia Rouzeau-Szynalski (Nestlé, Switzerland): Classification of emetic *Bacillus cereus* strains as low, medium or high cereulide producer in milk

17:00 – 17:15 O19 – Monika Ehling-Schulz (University of Veterinary Medicine Vienna, Austria): First insights into within host translocation of the *Bacillus cereus* toxin cereulide using a porcine model

17:20 – 17:30 O20 - Samuel Hauf (Robert Koch Institute, Germany): Aurantimycin resistance genes found in *Listeria monocytogenes* are prevalent in the Firmicutes Phylum

17:35 – 19:30 Poster Session 2 and Slovenian beer, wine and cheese tasting

**Wednesday 10th April**

**Session 5 - Microbial Interactions**

**Chair: Polonca Stefanic** (University of Ljubljana, Slovenia)

9:00 – 9:15 O21 - Ákos T. Kovács (Technical University of Denmark, Denmark): *When Bacillus subtilis* meets a fungus: interaction with *Aspergillus niger*

9:20 – 9:35 O22 - Moshe Shemesh (Agricultural Research Organization, Israel): Live-encapsulation of probiotic *Bacilli* in extracellular matrix increases their survivability during environmental stresses through antagonizing pathogenic bacteria

9:40 – 9:55 O23 - Zhihui Xu (Nanjing Agricultural University, China): The social network of rhizobacteria after applied *Bacillus velezensis* strains into cucumber rhizosphere

10:00 – 10:15 O24 - Sylvie Nessler (Institute for Integrative Biology of the Cell, France): How quorum sensing regulates the cell cycle of *Bacillus cereus*


10:40 – 11:15 Tea and Coffee Break

**Session 6 - Gene regulation**

**Chair: Henrik Strahl** (Newcastle University, United Kingdom)
11:15 – 11:30  O26 - Ken-ichi Yoshida (Kobe University, Japan): Monitoring NADPH regeneration by luciferase luminescence in *Bacillus subtilis*

11:35 – 11:50  O27 - Elena Bidnenko (Micalis Institute, INRA, France): New insights into the role of transcription termination factor Rho in regulation of gene expression in *Bacillus subtilis*

11:55 – 12:10  O28 - Saori Kosono (University of Tokyo, Japan): Dynamic changes in lysine acetylation and succinylation of the elongation factor Tu in *Bacillus subtilis*

12:15 – 12:30  O29 – Harald Putzer (Université Paris Diderot, France): Dynamics of RNase Y membrane localization in *Bacillus subtilis*

12:35 – 12:45  O30 - Anja Pavlin (University of Ljubljana, Slovenia): Lytic/lysogenic switch of the *Bacillus thuringiensis* temperate bacteriophage GIL01

12:50 – 14:30 Lunch break and Poster session 3

**Session 7 - Biotechnology I**

*Chair: Robyn Eijlander (NIZO, The Netherlands)*

14:30 – 14:45  O31 - Margo Diricks (BioMérieux, Belgium): Rapid surveillance of *Bacillus cereus* outbreaks with an integrated whole genome MLST and SNP analysis

14:50 - 15:05  O32 – Erlinda Rama (University of Pavia, Italy): Integration of enzymatic data in *Bacillus subtilis* genome-scale metabolic model improves phenotype predictions and enables in silico design of poly-y-glutamic acid production strains

15:10 – 15:25  O33 - Marcin Łukaszewicz (University of Wroclaw, Poland): The biorefinery: from industrial biomass to value added products

15:30 – 15:40  O34 - Maria Alexandri (Leibniz Institute for Agricultural Engineering and Bioeconomy, Germany): *Bacillus coagulans*: a promising strain for the industrial production of L-lactic acid from renewable resources

15:45 – 16:10 Tea and Coffee Break

**Session 8 - Biotechnology II**

*Chair: Elena Bidnenko (Micalis Institute, INRA, France)*
O35 - Sabine Schneider (Technical University of Munich, Germany): Genetic code expansion and large scale protein expression and functionalisation in *Bacillus subtilis*

O36 - Ingy I. Abdallah (University of Groningen, The Netherlands): Metabolic engineering of *Bacillus subtilis* toward biosynthesis of the terpenoids, Taxol and artemisinin

O37 - José Pablo López-Gómez (Leibniz Institute for Agricultural Engineering and Bioeconomy, Germany): Production of lactic acid from the organic fraction of municipal solid wastes using *B. coagulans*.

O38 - Linda Schroedter (Leibniz Institute for Agricultural Engineering and Bioeconomy, Germany): High optical pure L-(+)-lactic acid from reed employing *Bacillus coagulans*: Comparison of various nitrogen sources for the nutrient provision

Closing remarks

Conference dinner at Union Pub, Pivovarniška ulica 2, Ljubljana
Poster presentations:

P1 – James Grimshaw (Newcastle University, UK): *Induced Formation of Membrane Associated RNA Degradosome in Bacillus subtilis*

P2 – Michael D. Rasmussen (Novozymes, Denmark): *Heterologous expression of Amylase and PrsA pairs and their influence on the secretion stress response in Bacillus subtilis*

P3 – Sabrina Wamp (Robert Koch Institute, Germany): *Identification of a novel cell division protein in Gram-positive bacteria*

P4 – Katarína Muchová (Institute of Molecular Biology, Slovak Academy of Sciences, Slovakia): *The role of Bacillus subtilis RodZ protein in mid-cell and asymmetric cell division*

P5 – Fella Hamitouche (INRA, France): *Linking extracellular redox dynamic with Bacillus cereus Redoxome*

P6 – Alessia Vercio (University of Liège, Belgium): *skfA regulation and new insight on the onset of the sporulation in Bacillus subtilis*

P7 – Carsten Haupka (Bielefeld University, Germany): *Requirements for methanol-based production of lysine derivatives in Bacillus methanolicus*

P8 – Jacek K. Bardowski (Institute of Biochemistry and Biophysics PAS, Poland): *Microbiological and molecular characteristics of 936-type lactococcal bacteriophages infecting the dairy environment*

P9 – Grace Taylor-Joyce (University of Warwick, UK): *The impact of a horizontally acquired virulence plasmid on Bacillus cereus G9241, the causative agent of an anthrax-like illness*

P10 – Katarina Belcijan (university of Ljubljana, Slovenia): *Bacillus subtilis prefers to exchange their DNA with less related strains*

P11 – Nan Zhang (Nanjing Agricultural University, China): *Recognition of dominant attractants by key chemoreceptors mediates recruitment of plant growth-promoting rhizobacteria*

P12 – Bodil Kjeldgaard (Technical University Denmark, Denmark): *Attachment of Bacillus subtilis to Aspergillus niger hyphae depends on the major biofilm components*

P13 – Tjaša Danevčič (University of Ljubljana, Slovenia): *Bacillus subtilis alters antibiotic production by Streptomyces rapamycinicus*
P14 – Wout Overcamp (Koppert Biological Systems, The Netherlands): **Antagonism of *Bacillus amyloliquefaciens* against *Botrytis cinerea***

P15 – Lisa Thijs (Kemin Europa N.V., Belgium): **Bacillus subtilis is able to reduce translocation and invasion of *Campylobacter jejuni* in poultry**

P16 – Andi Erega (University of Ljubljana, Slovenia): **Bacillus subtilis overrides *Campylobacter jejuni* biofilm**

P17 – Xinli Sun (Nanjing Agricultural University, China): **Identification of rhizospheric bacteria interacting with *Bacillus amyloliquefaciens* SQR9**

P18- Mihael Spacapan (University of Ljubljana, Slovenia): **The unexpected consequences of quorum sensing in *Bacillus subtilis* floating biofilms**

P19 – Barbara Kraigher (University of Ljubljana, Slovenia): **Surface exclusion in *Bacillus subtilis* swarming is driven by kin discrimination**

P20 – Maja Bolješić (University of Ljubljana, Slovenia): **Kinship affects social interactions and territoriality in *Bacillus subtilis* biofilms**

P21 - Heiko T. Kiesewalter (Technical University Denmark, Denmark): **Characterization of *Bacillus subtilis* secondary metabolites for biocontrol**

P22 – Agnieszka Gacek-Matthews (University of Veterinary Medicine Vienna, Austria): **CesCD, putative ABC efflux pump with a binary role**

P23 – Vladimir Zanki (University of Zagreb, Croatia): **IleRS2 is responsible for mupirocin resistance of *Bacillus megaterium***

P24 – Fuad Alatawi (Newcastle University, UK): **Secondary metabolite production of *Bacillus* spp**

P25 - Abhroop Garg (Technical University Denmark, Denmark): **Production of 3-hydroxypropanoic acid in *Bacillus subtilis***

P26 - Kerstin Schultenkämper (Bielefeld University, Germany): **Establishment and application of CRISPR interference to affect sporulation and mannitol metabolism in the methylotrophic thermophile *Bacillus methanolicus* MGA3**

P27 - Claudia Y. Munoz Moreno (University of Groningen, The Netherlands): **Antimicrobial properties of a wide variety of wild *Bacillus* strains and spore germination mechanisms in the tomato and lettuce phyllosphere**
P28 - Shadi Rahimi (Chalmers University of Technology, Sweden): *Bacillus subtilis* capacity for waste water treatment in microbial fuel cells

P29 - Yafeng Song (University of Groningen, The Netherlands): Production of Squalene in *Bacillus subtilis*

P30 - Margo Diricks (BioMérieux, Belgium): High-throughput and high resolution typing of *Bacillus subtilis* with wgMLST in BioNumerics®

P31 - Marcus A. Price (University of Edinburgh, UK): Expanding the *Bacillus subtilis* CRISPR Tool Kit: base editing and alternative CRISPR-associated nucleases

P32 - Josef Altenbuchner (University of Stuttgart, Germany): Improving gene expression in *Bacillus subtilis* by multiple chromosomal insertions employing CRISPR-Cas9

P33 - Jennifer Wright (Newcastle University, UK): The study of the activation of *Bacillus subtilis* urease in vivo

P34 – Shathviga Manoharan (University of Warwick, UK): The role and regulation of the PlcR-PapR circuit in *B. cereus* G9241, the causative agent of anthrax-like agent

P35 – Dominika Tomoń (InventionBio, Poland): Development and optimization of a culture media for growth and production of gamma-PGA in submerged fermentation by *Bacillus* strain isolated from the quinoa-based food product
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Biotehnical Faculty, Jamnikarjeva 101, Ljubljana

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