



# “Cortona Procarioti 2018”

Programma  
17-19 May 2018

Le presentazioni sono di 12' + 3' di discussione per le sessioni a tema e di 20' + 5' di discussione per la sessione *Giornata dei Dottorandi* di sabato 19.



Regione Toscana



FAS  
Fondo Aree  
Sottoutilizzate  
2007-2013



REPUBBLICA ITALIANA

# Giovedì 17/5/2018

## 14.30 Environmental biotechnology

- Francesca Mapelli (Milano) The stage of soil development modulates rhizosphere effect along a High Arctic desert chronosequence
- Eugenio La Cava (Firenze) CO<sub>2</sub> electrobio-reduction by pure culture of electroactive model microbe *Shewanella oneidensis* MR1
- Daniela Bencardino (Camerino) Characterization and genetic improvement of ammonia-oxidizing bacteria isolated from wastewater treatment plants
- Martina Bertolini (Milano) Microbial populations involved in the degradation of chloride ethens in contaminated aquifers
- Marta Di Pietro (Sapienza) A role for microbial selection in frescoes' deterioration in Tomba degli Scudi in Tarquinia
- Teresa Carusone (IBP-CNR Napoli) Phosphotriesterase-Like Lactonases (PLL) for environment and human health
- Barbara Tonanzi (IRSA Monterotondo) Mesophilic anaerobic digestion of food waste: process performances and microbiome dynamics

16.15 Coffee break

## 16.45 Bacterial adaptation to different environmental hosts

- Alice Checcucci (Firenze) Creation and multi-omics characterization of a genomically hybrid strain in the nitrogen-fixing symbiotic bacterium *Sinorhizobium meliloti*
- Pasquale Alibrandi (Torino) Isolation and characterization of PGP bacteria from three terrestrial mediterranean orchids
- Michele Castelli (Milano) Characterisation and genomic analyses of a novel bacterial ectoparasite of the protist *Paramecium primaurelia*
- Chiara Pasqualetti (Pisa) Red mark syndrome of rainbow trout: could the parasite ciliate *Ichthyophthirius multifiliis* vectorize the disease?
- Luana Presta (Firenze) The *Fusobacterium nucleatum* and colorectal cancer interplay: a metabolic modeling approach

## 18,00 Molecular microbiology and structural biology

- Antonella Fioravanti (Bruxelles) Stripping away *Bacillus anthracis*' protective coats

Viviana Izzo (Salerno)

OMVs from *Novosphingobium* sp. PP1Y: isolation, purification and partial characterization of a novel example of Bacterial Outer Membrane Vesicles

Anna La Teana (Ancona)

aIF5A: a multifunctional archaeal translation factor?

# Venerdì 18/5/2018

## 9.00 Keynote Lecture 1:

**Simonetta Gribaldo (Institut Pasteur, Paris, France)**

One membrane or two? Using phylogenomics to tackle a key evolutionary transition in the history of Bacteria

## 10.00 Search for novel antimicrobial activities and targets for antibiotics and vaccines

Valerio Baldelli (Roma3)	Identification of FDA-approved antivirulence drugs targeting the <i>pqs</i> quorum sensing system of <i>Pseudomonas aeruginosa</i>
Angela Di Somma (Napoli)	Toward the comprehension of antimicrobial peptides mechanism of action: studies on the interactions with bacterial membrane proteins
Elena Perrin (Firenze)	Kill one to turn off many: cracking gene regulatory networks to avoid <i>Burkholderia cenocepacia</i> antibiotics resistance by means of multi-omics technologies
Beatrice Ricchetti (Bologna)	Understanding and exploiting lipoproteins translocation system in Gram-negative pathogens for improved vaccine antigen delivery platforms

11.00 Coffee break

## 11.30 Human microbiota

Monica di Paola (Firenze)	Characterization of cervico-vaginal microbiota in women developing persistent high-risk human Papilloma virus infection
Christian Milani (Parma)	Novel metagenomics tools for analysis of gut viromes
Francesca Bottacini (Cork)	Genotype/Phenotype associations for the investigation of bifidobacteria in the human gut microbiota
Gabriele Lugli (Parma)	Compositional assessment of bacterial communities in probiotic supplements by means of metagenomic techniques
Giovanni Bacci (Firenze)	Flying to Mars: the human microbiome under isolated conditions

13.00 Lunch break

## 14.30 Human host-bacteria interactions in infectious and non-infectious diseases

Marco Oggioni (Leicester)	Intracellular replication of <i>Streptococcus pneumoniae</i> inside splenic macrophages serves as a reservoir for septicaemia
Camilla Ceccarani (Milano)	SCFA effects on gut microbiome in Phenylketonuria disorder
Francesca Di Cesare (Firenze)	The personalized dynamics of microbiome in airways of cystic fibrosis patients
Camilla Fagorzi (Firenze)	Towards microbe-assisted therapy of colon cancer: exploring oral and intestinal human microbiota in patients with CRC
Moira Paroni (Milano)	Phagocytosis and epithelial cell invasion by Crohn's disease-associated adherent-invasive <i>Escherichia coli</i> (AIEC) are inhibited by the anti-inflammatory drug 6-mercaptopurine.
Francesco Vitali (Firenze)	Stratification of ulcerative colitis patients according to distinctive tissue cytokine/microbiota profiles

## 16,00 Bacterial sporulation and differentiation

Teresa Faddetta (Palermo)	Extracellular vesicles of <i>Streptomyces coelicolor</i> .
Alberto Vassallo (Palermo)	The small protein TrpM is involved in <i>Streptomyces coelicolor</i> differentiation
Rachele Isticato (Napoli)	The temperature of sporulation affects structure and function of <i>Bacillus subtilis</i> spores

16.45 Coffee break

## 17,15 "Insect microbiology": collaboration and competition between insects and microorganisms

Matteo Callegari (Milano)	Drivers of the microbial community associated to the honeybee gut compartments
Francesca Berini (Insubria)	Metagenome-sourced bacterial chitinases as potential bioinsecticides
Niccolò Meriggi (Firenze)	<i>Saccharomyces cerevisiae</i> -induced resistance from bacterial infection in paper wasp queens
Emanuela Ursino (Pavia)	Heterologous expression of <i>Bacillus thuringiensis israelensis</i> $\delta$ -endotoxin genes in <i>Bacillus subtilis</i> for Asian tiger mosquito control
Giulia Daly (Firenze)	A preliminary study of propolis microbiota

# Sabato 19/5/2018

**9.00: Ricordo di Alessandro Galizzi**

**9.10- Keynote Lecture 2:**

**Daniela Barillà (University of York, UK)**

Borrowing building blocks from bacteria and eukarya: a three-component DNA segregation machine in archaea

**10.00** “Giornata dei Dottorandi” (3<sup>rd</sup> year Ph.D. students’ reports)- part I

Simona Crognale (IRSA-CNR)	Microorganisms in arsenic-contaminated aquatic environments: distribution, metabolic potential and exploitation in bioremediation
Sarah Hijazi (Roma3)	Antimicrobial activity of gallium compounds on ESKAPE pathogens
Marta Mangifesta (Parma)	Unveiling bifidobacterial biogeography across the mammalian branch of the tree of life
Mariamichela Lanzilli (Napoli)	Preventive and therapeutic effects of <i>Bacillus</i> spores in oxidative stress

**11.40** Coffee break

**11.50** “Giornata dei Dottorandi” (3<sup>rd</sup> year Ph.D. students’ reports)- part II

Elisangela Miceli (Firenze)	Wastewater treatment by endophytes: investigating a new sustainable method at GIDA S.p.A. purifier.
Simona Pepe (Bologna)	The <i>Helicobacter pylori</i> Heat-Shock repressor HspR: Definition of its direct regulon and characterization of the cooperative DNA-binding mechanism on its own promoter
Elisa Piampiano (Firenze)	Analysis of microbiota in xenic cultures of the green microalga <i>Tetraselmis suecica</i>
Matteo Raneri (Milano)	<i>In vivo</i> and <i>in vitro</i> characterization of <i>Pseudomonas aeruginosa</i> mutants defective in glucose uptake.

**13.30** Lunch break

## 14.30 Virulence factors and regulation of bacterial pathogenesis

Martina Pasqua (Sapienza)	Characterization of EmrKY, an efflux pump potentially involved in the invasive process of <i>Shigella</i>
Alessandra Fortuna (Roma3)	DksA-dependent regulation of quorum sensing in <i>Pseudomonas aeruginosa</i>
Stefano Gaiarsa (Pavia)	Genome plasticity: the strange case of <i>Acinetobacter baumannii</i> pulsotype SMAL
Marta Mellini (Roma3)	Preliminary characterization of the hybrid diguanylate cyclase/phosphodiesterase PA0575 in <i>Pseudomonas aeruginosa</i> PAO1
Mattia Pirolo (Roma3)	A bioluminescence-based biosensor for the detection of the pyochelin siderophore from <i>Pseudomonas aeruginosa</i>
Gabriele Trespidi (Pavia)	Molecular investigations on the transcriptional regulation and organization of the dcw operon of <i>Burkholderia cenocepacia</i>

**Saluti e fine Convegno: ore 16,30**