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 FOOD AND ENVIRONMENTAL MICROBIOLOGY
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3RD INTERNATIONAL CONFERENCE ON MICROBIAL DIVERSITY

2015

THE CHALLENGE OF COMPLEXITY

OCTOBER 2015

TUESDAY 27TH
 WEDNESDAY 28TH
 THURSDAY 29TH

PERUGIA

SALA DEI NOTARI - PALAZZO DEI PRIORI

TUESDAY, OCTOBER 27, 2015

10:00 – 14:00 Registration ([Sala della Vaccara](#))

14:00 – 14:15 **WELCOME INTRODUCTION** ([Sala dei Notari](#))

Mayor of Perugia, *Andrea Romizi*

Rector of the University of Perugia, *Franco Moriconi*

Director of the Department of Pharmaceutical Sciences, *Benedetto Natalini*

President of CEMIN Centre of Excellence, Member of the Board of

Governors *Fausto Elisei*

President of the SIMTREA, *Erasmus Neviani*

14:15 – 15:00 **KEYNOTE LECTURE**

Chair: Gianluigi Cardinali (Italy)

CLETUS P. KURTZMAN (USA)

Taxonomic concepts and practice with complex microbial communities

SESSION I

METABOLIC COMPLEXITY OF AGRICULTURAL AND NATURAL ENVIRONMENTS

Chairs: Jan Dirk Van Elsas (Netherlands), Daniele Daffonchio (Italy)

15:00 – 15:30 PLENARY LECTURE

JAN DIRK VAN ELSAS (Netherlands) *The soil/plant-fungal/bacterial*

network – mechanisms of interaction in the soil

15:30 – 16:45 SELECTED LECTURES

15:30 – 15:45 Federico Rossi (Italy) *Biological soil crusts: a microenvironment*

affected by the microbial secreted exopolysaccharidic matrix

15:45 – 16:00 Pelin Yilmaz (Germany) *Expanding the world of marine bacterial*

and archaeal clades

16:00 – 16:15 Francesca Mapelli (Italy) *Spatial pattern of soil bacterial diversity*

in a mixed and uneven polluted site, and assessment of rhizoremediation

potential

16:15 – 16:30 Cene Gostin ar (Slovenia) *Specialists in everything: the black*

yeasts Aureobasidium spp.

16:30 – 16:45 Andrea Squartini (Italy) *Sequencing directly the ribosomal 16s*

rRNA pool from bacterial communities: a novel PCR-independent

approach to microbial diversity analyses

16:45 – 17:15 **COFFEE BREAK**

SPECIAL SESSION I: YOUNG RESEARCHERS PRESENTATIONS

Chairs: Cletus P. Kurtzman (USA), Pier Sandro Cocconcelli (Italy)

17:15 – 18:45 SELECTED LECTURES

17:15 – 17:25 Rahi Praveen (India) *Matrix-assisted laser desorption/ionization*

time-of-flight mass-spectrometry (MALDI-TOF MS) based identifications

of microorganisms of non-clinical origin

17:25 – 17:35 Luca Roscini (Italy) *Bringing the ITS barcode in the NGS*

framework

17:35 – 17:45 Sarah Vega Gutierrez (USA) *Initial studies on the diversity of*

spalting fungi in the southern Amazon forest of Peru

17:45 – 17:55 Ilario Ferruccio (Italy) *Gut microbiota and metagenomic diversity*

of omnivore, vegetarian and vegan healthy subjects

17:55 – 18:05 Sun Jeong Jeon (Korea) *Mucor sp. nov. from tangerine fruit and*

Mucor spp. from plant leaves in Korea

18:05 – 18:15 Eleonora Egidi (Italy) *Temperate native grasslands with different*

fire histories differ in their fungal community composition

18:15 – 18:25 Fatma Salem (Egypt) *Anticancer metabolites of endobiotic fungus*

Trichotheicum roseum and its biochemical effects as a strong candidate

for MCF-7 breast cancer cell-line

18:25 – 18:35 Giorgia Perpetuini (Italy) *Link between Lactobacillus pentosus*

adaptation to olive brine and its ability to form biofilms

PARALLEL SESSIONS

18:40 – 19:30 Technical Session of BRUKER OPTICS and DALTONICS

([Sala della Vaccara](#))

18:40 – 19:30 Dissemination of YesVitE project

([Sala dei Notari](#))

TYPICAL UMBRIAN APERITIVO 19:30 – 20:00 ([Sala della Vaccara](#))

POSTER SESSION (Throughout the meeting exhibition at the [Cathedral Cloister](#))

WEDNESDAY, OCTOBER 28, 2015

SESSION II

THE COMPLEXITY OF FOOD ECOSYSTEMS: PHYSIOLOGY OF SINGLE STRAINS IN PURE CULTURE VS. COMPLEX CONSORTIA

Chairs: Sylvie Lortal (France), Erasmo Neviani (Italy)

08:30 – 09:00 PLENARY LECTURE

SYLVIE LORTAL (France) *Wooden tools: complex reservoirs of microbial*

diversity for food fermentation

09:00 – 10:15 SELECTED LECTURES

09:00 – 09:15 Ileana Vigentini (Italy) *Melatonin and tryptophan-derivatives in*

wine: the yeast contribution during alcoholic fermentation

09:15 – 09:30 Stephane Chaillou (France) *Ecological engineering of meat*

microbial ecosystems: factorial design of complex meat preservative

cultures for spoilage reduction

09:30 – 09:45 Daniela Bassi (Italy) *Understanding the bacterial communities of*

hard cheese with blowing defect

09:45 – 10:00 Eugenio Parente (Italy) *FoodMicrobionet: a tool for the*

visualisation and analysis of the structure of bacterial food microbial

communities

10:00 – 10:15 Monica Agnolucci (Italy) *Molecular and functional diversity of*

lactic acid bacteria and yeasts characterizing sourdough Tuscan bread

10:15 – 10:45 **COFFEE BREAK**

10:45 – 11:30 **KEYNOTE LECTURE**

Chair: Marco Gobetti (Italy)

RUDI VOGEL (Germany)

Microbial networks and metabolic fluxes in food fermentations

SESSION III

GENES AND FUNCTIONS IN COMPLEX MICROBIAL COMMUNITIES

Chairs: Peter N. Golyshin (UK), Giancarlo Ranalli (Italy)

11:30 – 12:00 PLENARY LECTURE

PETER N. GOLYSHIN (UK) *Minig metagenomes for novel enzymes*

12:00 – 13:15 SELECTED LECTURES

12:00 – 12:15 Lucia Aquilanti (Italy) *Occurrence of antibiotic resistance genes in*

feces and saliva of healthy omnivores, ovo-lacto vegetarians and vegans

12:15 – 12:30 Christophe Monnet (France) *Metatranscriptome RNA-Seq analysis of*

cheese surface microbiota identifies physiological responses occurring

during ripening

12:30 – 12:45 Rosa Guarcello (Italy) *Identification of amine-degrading non-*

starter lactic acid bacteria from Sicilian and Apulian typical/traditional

cheeses and characterization of enzymatic activities

12:45 – 13:00 Alessia Levante (Italy) *Development of a method employing a*

metabolic gene to monitor non-starter lactic acid bacteria strains and

their evolution during ripening of cheese

13:00 – 13:15 Lorenzo Brusetti (Italy) *Bacterial diversity and functionality in*

mineral soils of early successional stages in a glacier Alpine moraine

13:15 – 14:15 **LUNCH**

SESSION IV

NEW TOOLS AND STRATEGIES TO UNRAVEL THE COMPLEXITY OF MICROBIAL DIVERSITY

Chairs: Vincent Robert (Netherlands), Gianluigi Cardinali (Italy)

14:30 – 15:00 PLENARY LECTURE

VINCENT ROBERT (Netherlands) *Biodiversity bioinformatics, challenges*

and opportunities

15:00 – 16:15 SELECTED LECTURES

15:00 – 15:15 Joseph Mellor (USA) *Pooled library preparation for deep*

sequencing of diverse microbial samples

15:15 – 15:30 Anna Greppi (Italy) *16S rRNA-based HTS approach to monitor the*

microbiota development during storage of beefburgers in active packaging

15:30 – 15:45 Volha Shapaval (Norway) *Fourier transform infrared spectroscopy*

for exploring microbial phenotypic diversity

15:45 – 16:00 Pasquale Filannino (Italy) *A comprehensive snapshot of plant niche*

environments sensing and adaptive regulation models for Lactobacillus

plantarum C2 through whole transcriptome and phenotypic microarray

16:00 – 16:15 Koenraad Van Hoorde (Belgium)

MALDI-TOF MS of microbial mixtures: impressions of its usability for

culture-independent analyses of microbial diversity in food ecosystems

16:15 – 16:45 **COFFEE BREAK**

SPECIAL SESSION II: Young Researchers Presentations

Chairs: Rudi Vogel (Germany), Jan Dirk Van Elsas (Netherlands)

17:00 – 18:30 SELECTED LECTURES

17:00 – 17:10 Canan Canal (Turkey) *Characterization of yeast flora of “hurma”*

olives using molecular methods and mid-IR spectroscopy

17:10 – 17:20 Claudia Colabella (Italy) *The use of FT-IR spectroscopy and ITS*

sequencing as useful tools for strain dereplication in medical environment

17:20 – 17:30 Amélie Rouger (France) *Bacterial communities’ dynamics and*

interactions during poultry meat storage to improve food quality and

safety

17:30 – 17:40 Alberoni Daniele (Italy) *Administration of lactobacilli and*

bifidobacteria on Apis mellifera L. beehives to increase health of the bee

super-organism

17:40 – 17:50 Hye Won Lee (Korea) *A new zygomycete species and two new*

recorded fungi from Dokdo, Korea

17:50 – 18:00 Irene Aloisio (Italy) *Influence of intrapartum antibiotic prophylaxis*

against group B Streptococcus on the early newborn gastrointestinal

composition

18:00 – 18:10 Nassima Illikoud (France) *Genetic diversity of Brochothrix*

thermosphacta and food spoilage

18:10 – 18:20 Paola Torres-Andrade (USA) *Preliminary assessment to the fungal*

colonization on Douglas-fir, western red cedar and red alder in ground

contact exposure

18:20 – 18:30 Alessia Bani (Italy) *The leaf microbial community degradation*

process and endophytic bacteria

POSTER SESSION (Throughout the meeting exhibition at the [Cathedral Cloister](#))

20:00 **GALA DINNER** ([Etruscan Chocohotel](#))

THURSDAY, OCTOBER 29, 2015

SESSION V

METAORGANISMS: FUNCTIONAL INTERDEPENDENCY OF MICROBIAL ASSOCIATIONS WITH PLANTS, ANIMALS AND HUMANS

Chairs: Benoît Folligné (France), Luca Coccolin (Italy)

08:30 – 09:00 PLENARY LECTURE

BENOÎT FOLLIGNÉ (France) *Appraisal of microbial diversity for health: of*

mice, cats and men ...

09:00 – 10:15 SELECTED LECTURES:

09:00 – 09:15 Maddalena Del Gallo (Italy) *Bacterial biodiversity on Solanum*

tuberosum inoculated by endophytes

09:15 – 09:30 Fabio Minervini (Italy) *Lactic acid bacteria are endophytic*

components of durum wheat plant following the whole life cycle from soil

to flour

09:30 – 09:45 Marco Fusi (Italy) *Gill-bacteria association in dual-breathing*

animals living in mangrove ecosystem

09:45 – 10:00 Danilo Ercolini (Italy) *Microbiota and metabolome signatures in*

plant-based compared to omnivore diets

10:00 – 10:15 Ramona Marasco (Italy) *Bacterial diversity and functional services*

within the rhizosphere of a desert plant

10:15 – 10:45 **COFFEE BREAK**

10:45 – 11:30 **KEYNOTE LECTURE**

Chair: Fabrizio Faticenti (Italy)

BERNARD DUJON (France)

Genetic bases of microbial diversity

SESSION VI

BRINGING THE MICROBIAL COMPLEXITY IN THE INDUSTRIAL ENVIRONMENT

Chairs: Nikolas Kalogerakis (Greece), Sergio Casella (Italy)

11:30 – 12:00 PLENARY LECTURE

NIKOLAS KALOGERAKIS (GR)

Integrating microbiology and engineering for bioremediation

12:00 – 13:15 SELECTED LECTURES

12:00 – 12:15 Lorenzo Favaro (Italy) *Exploring and FTIR-ing yeast diversity*

towards the development of superior strains for lignocellulosic ethanol

12:15 – 12:30 Ramon Gonzalez (Spain) *Diversity in the response of aerobic*

metabolism to environmental factors among different wine yeast species

12:30 – 12:45 Noura Raddadi (Italy) *Characterization of surface-active molecules*

produced by marine bacterial isolates

12:45 – 13:00 Mathabatha Evodia Setati (South Africa) *Metagenomic and ARISA*

profiling of the wine microbial consortium and its functional potential

13:00 – 13:15 Fabrizio Cappa (Italy) *Bio-hydrogen production of Clostridium*

acetobutylicum DSM 792 and the pSOL1 deficient mutant MU56 in

deproteinized cheese whey

13:15 – 14:30 **LUNCH**

14:30 – 15:00 **FAREWELL – END OF THE CONFERENCE**

Presentation Award winning posters

President of the MD2015 Organizing Committee

President of the SIMTREA

Announcement of the 4th International Conference on Microbial Diversity 2017

Closing remarks

End of the Conference and Departure

MD2015 SATELLITE EVENTS

a. SIMTREA meeting for steering board election

The meeting for the election of the 2016-2018 SIMTREA steering board will be held on Oct. 29th 2015 at 15.30 in the Sala dei Notari of the historical Palazzo dei

Priori (P.zza IV Novembre - Perugia)

SIMTREA www.simtrea.org

b. YeSVitE project - Annual Meeting

The Second Annual Meeting of YeSVitE will take place on October 29th 2015 at 18.00 in the Sala della Vaccara of the historical Palazzo dei Priori (P.zza IV

Novembre - Perugia)

c. BioAware School of Bioinformatics

Coordinator of the school: Dr. Vincent Robert (Bio-Aware)

maximum number of participants : 20

For info and registration contact Vincent Robert v.robert@bio-aware.com

d. Bruker School of FTIR spectroscopy applied to Microbiology

Coordinator of the school: Dr. Pierangelo Morini (Bruker - Italia)

maximum number of participants : 20, minimum number of participants: 4