

FEMS Online Conference on Microbiology

28 – 31 October 2020

ELECTRONIC ABSTRACT BOOK

in association with
the Serbian Society
of Microbiology



Message from the organizers

Dear colleagues and friends,

We would like to cordially greet you at the end of the FEMS 2020 ONLINE Conference on Microbiology, that has been successfully organized at the end of October 2020.

One great idea became reality. It would not have been possible without all of you, for which we are grateful. A pioneering endeavor in many different aspects and in challenging times. First, as a first Conference of the kind in the FEMS history, planned as a middle sized event, oriented in parallel to regional and global audiences, both in terms of content delivery and participation and an event done in partnership with the national/regional association and the dedicated PCO. Second, as a first major Conference event fully organized as an ONLINE format in European microbiology in 2020. Third, as the first major FEMS Conference event organized in complex times, with numerous challenging, even adverse psychological, societal and economic effects for the whole professional community and, in addition, microbiologists being the one of the few medical professions directly standing in the front line of the COVID-19 response.

We made a brave decision and it paid off. With the new world of ONLINE possibilities, we strive and succeed to organize the most suitable formats to cover the scientific content of the conference, discuss the most challenging topics of the day and to enable scientific exchange and the interaction with the participants in a safest possible manner.

We are happy to say that, despite all different complexities, overall results of the Conference and the whole concept went beyond our bravest expectation. Almost 700 microbiologists from 40 European countries and another 20 worldwide, making the ONLINE Conference global event, eight scientific sessions, including one session with best selected grantees presentations and four Symposia, organized in two parallel streams, four plenary lectures and COVID-19 Round Table for the whole audience, total of over 70 invited lectures with prerecorded lectures. In addition, over 50 prerecorded presentation prepared by participants-authors in the main program, in 7 corresponding ORAL ONLINE sessions, all together more than 30 hours of prerecorded material. Finally, another 60 video presentations, over 400 e-posters and some 10 Company materials, in total almost 600 presentational items, uploaded on the Conference ONLINE platform and accessible to participants until the 27. October 2021.

As FEMS, we are delighted that we were able to put together a great scientific program and contribute to the Conference success. Moreover, in light of the challenging times we live in and all different complexities it entails, and also to support your enthusiasm and scientific rigour, we decided to support your effort by waiving conference fees for the ONLINE Conference for almost 300 colleagues, authors of scientific papers, submitted until 15. March 2020.

Despite the circumstances, the pharmaceutical and medical industry has been with the Conference, providing valuable support and building solid basis for broader future collaboration.

We sincerely hope that you also enjoyed all different contents and aspects of the Conference and that you would be able to catch up with those recordings and presentations you may have missed or have a detailed look at posters.

We would like to warmly wish you health, love and happiness, Merry Christmas and a Happy New Year and are looking forward to the new encounters, in the next occasion, FEMS 2022 Conference in Belgrade.

Sincerely

Prof. dr Vaso Telenik, Chair, COC
President of FEMS & member of the Executive Board



Prof. dr Hilary Lappin Scott
Host In-person



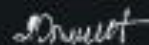
Prof. dr Baško Oudega, Chair, CSC
Hosts Panel President



Prof. dr Lazar Ranin, Co-chair, COC
Host President, SSM



Prof. dr Dragojlo Obradović, Co-chair, CSC
President, SSM



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Federation of European
Microbiological Societies

FEMS Online Conference on Microbiology

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MAIN CONFERENCE PROGRAM



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WEDNESDAY, 28th October 2020

Schedule

- 14.00-16.15 **Symposium 1 –
The Control of Viral diseases
by vaccination – new challenges**
Chairs – Tanja Jovanović,
Maja Stanojević
- 14.00-14.15 **Tanja Jovanović, Serbia**
Viral vaccines – from Jenner to new
technologies
- 14.15-14.30 **Maja Stanojević, Serbia**
Poliovirus eradication:
novel attenuated poliovirus strains
- 14.30-14.45 **Maja Ćupić, Serbia**
Traditional and New Influenza
Vaccines - the impact of repeated
influenza vaccine effectiveness
on global health
- 14.45-15.00 **Ivana Lazarević, Serbia**
Advances and Challenges
in HCV Vaccine Development
- 15.00-15.15 **Ana Banko, Serbia**
MMR vaccine: updates and challenges
- 15.15-15.30 **Aleksandra Knežević, Serbia**
Future prospects of prophylactic
HPV vaccine
- 15.30-15.45 **Danijela Miljanović, Serbia**
Is now the time to introduce
VZV vaccine in the mandatory
immunization programme in Serbia?

Schedule

- 14.00-15.30 **Symposium 2 –
Helicobacter pylori –
microbiologist prospective**
Chairs – Nataša Opavski
- 14.00-14.15 **Biljana Selimović, Serbia**
Immunopathogenesis and resistance in
H. pylori infection
- 14.15-14.30 **Vladimir Mitojević, Serbia**
Advances in *Helicobacter pylori* infec-
tion diagnostics and therapy from the
gastroenterology corner
- 14.30-14.45 **Dusan Kekić, Serbia**
Identification of *Helicobacter pylori*
in biptic material and detection of
antibiotic resistance genes
- 14.45-15.00 **Mirjana Rajčić-Stojanović, Serbia**
Gastric microbiota beyond
Helicobacter pylori
- 15.00-15.30 **Discussion
and
Q&A**

15.45-16.15	Discussion and Q&A	15.30-15.40	Break
16.15-16.25	Break	15.40-18.20	Symposium 4 – HIVAS – Contemporary approach to the AIDS infection – role of Microbiologist-Virologist Chairs – Jovan Ranin, Danijela Simić
16.25-18.30	Symposium 3 – Mighty microbes for a healthy and sustainable future Chairs – Tanja Berić, Milan Kojić	16.25-16.40	Jasmina Nikodinović Runić, Serbia Plastic degrading microorganisms: Opening an avenue to a sustainable world
16.25-16.40	Jasmina Nikodinović Runić, Serbia Plastic degrading microorganisms: Opening an avenue to a sustainable world	15.40-15.55	Danijela Simić, Serbia Epidemiological situation of HIV infection in Serbia and the World
16.40-16.55	Svetlana Soković, Serbia GABA producing lactobacilli: a way to modulate immune response via autophagy induction	15.55-16.10	Ivana Pesić, Serbia Application of PCR tests in the diagnosis of HIV infection in Serbia: case reports
16.55-17.10	Mina Obradović, Serbia Bacteriophages - alternative agents for treatment of MDR pathogens	16.10-16.25	Jovan Ranin, Serbia Microbiological principles in contemporary antiretroviral treatment of HIV patients in Serbia
17.10-17.25	Sanja Jeremić, Serbia Bacterial nanocellulose for biomedical applications: Recent advances and future prospects	16.25-16.40	Ljiljana Popović, Serbia Dark side of the antiretroviral treatment
17.25-17.40	Andrea Radalj & Jakov Nišavić, Serbia Some viral infections of animals as potential public health risk	16.40-16.55	Mila Paunić, Serbia An example of good practice - VCCT HIV counseling at the Institute for Students' Health of Belgrade University
17.40-17.55	Sladana Prišić, USA "Known unknowns" – secret life of <i>Mycobacterium tuberculosis</i> .	16.55-17.15	GlaxoSmithKline Jovan Ranin, Serbia Dolutegravir as core agent in dual therapy
17.55-18.30	Discussion and Q&A	17.15-17.35	GlaxoSmithKline Maja Stanojević, Serbia The Importance of Dolutegravir high barrier to resistance from virological perspective
		17.35-18.30	Discussion and Q&A
18.30-19.00	FEMS Networking Session		
19.00	OPENING CEREMONY Chairs: Bauke Oudega, Dragojlo Obradović, Vaso Taleski 19.20 Welcome address – Hilary Lappin-Scott, UK 19.30 Plenary lecture 1 - Anita Kriško, Germany & Miroslav Radman, Croatia/France Survival Strategies in Microbes: it is all about communication 20.30 Plenary lecture 2 - Rino Rappuoli/Mariagrazia, Italy The emerging problem of AntiMicrobial Resistance and the role of vaccines		

THURSDAY, 29th October 2020

Schedule

13.00-14.00

FEMS Networking Session

14.00-14.40

PLENARY LECTURE

Chairs – Jozef Anné, Dragana Vuković

Tom Coenye, Belgium

Metabolic adaptations as drivers for antibiotic tolerance in microbial biofilms

14.40-14.50

Discussion

14.50-18.10

Session 1

Infections and control
(human medical focus)

Chairs – Bauke Oudega, Branislava Kocić

14.50-18.10

Session 2

Food Microbiology and Biotechnology
(non human medical focus)

Chairs – Andriy Sibimy, Miroslav Vrvic

14.50-15.15

Eliora Ron, Israel

Combatting antibiotic resistant septicemic *E. coli*

14.50-15.15

Lixin Zhang, China

Harnessing cellular triacylglycerol pool for titer improvement of polyketides

15.15-15.40

Lidija Šenerović, Serbia

Antivirulence agents in the treatment of mixed species infections.

15.15 -15.40

Daniele Daffonchio, Saudi Arabia

Microorganisms of the agro-ecosystem, "plant wellness" and the quality of food products.

15.40-16.05	Ivana Gobin, Croatia Opportunistic premise plumbing pathogens: a new challenge in the hospital	15.40-16.05	Ken Ichi Yoshida, Japan Application of the Gram-positive conjugative plasmid pLS20 for rapid and easy transformation of intra- and inter-species
16.00-16.30	Ina Gajić, Serbia Molecular insight into the antimicrobial resistance of group <i>B streptococci</i> , serotype distribution and emerging serotype III sequence type 17	16.05-16.30	Hristo Najdenski, Bulgaria The prevalence of <i>Yersinia</i> in Europe I would recommend the topic Infections and control
16.30-16.55	Danaï Pervanidou, Greece West Nile virus in humans in Greece, 2010-2020: surveillance and public health response	16.30-16.55	Aleksa Obradović, Serbia Novel approaches to biocontrol of plant bacterial diseases.
		16.55-17.20	Andriy Sibirny, Ukraine Non-conventional thermotolerant yeast <i>Ogataea polymorpha</i> for production of the 2nd generation fuel ethanol from lignocellulosics and crude glycerol
16.55-18.10	Discussion and Q&A	17.20-18.10	Discussion and Q&A
18.10-18.20	Break	18.10-18.20	Break
18.20-18.40	PFIZER		
	Metka Paragi, Slovenia National Laboratory Surveillance of invasive Pneumococcal Diseases (IPD) in Slovenia		
18.40-18.50	Discussion and Q&A		
18.50-19.30	FEMS SESSION Patrik Bavoil, France/USA FEMS Director of Publications and Science The FEMS Journals, the new Open Access Journals, and how to publish Patrik Michel Bavoil What makes a great paper? Max Haggblom FEMS Microbes: Open science toward a sustainable world Kimberly Klein FEMS Session Discussion Patrik Michel Bavoil		
19.30-19.40	Break	19.30-19.40	Break

19.40-21.10	ONLINE Oral Session No. 1	19.40-20.30	ONLINE Oral Session No. 2
19.40-19.45	Diego Emilio Pérez-Stuardo, Chile Lysosomal reactivation in response to IgM-beads on Atlantic salmon macrophages infected by <i>Piscirickettsia salmonis</i>	19.40-19.45	Anwar Kandari, UK Investigation into the effects of fibres and starches on the gut microbiota
19.45-19.51	Gülcan Kuyucuklu, Turkey Effect of N-Acetylcystein-Ampicillin combination against Methicillin resistant <i>Staphylococcus Aureus</i> and their Mec-A gene expressions	19.45-19.50	Büşra Akdeniz Oktay, Turkey Potential use of hazelnut husk for pullulan production by <i>Aureobasidium pullulans</i> AZ-6
19.51-19.59	Lena Cinc, UK Collecting and using evidence for improved hospital cleaning	19.50-19.55	Dina Ramić, Slovenia New approach for quantification of signal molecules AI-2 of <i>Campylobacter jejuni</i>
19.59-20.04	Miriam Latorre-Millán, Spain Presence of chronic diseases in elderly patients, hospitalized with flu or serious acute respiratory infection	19.55 -20.00	Izlem Haktanir, France Mechanism of antimicrobial activity of honeybee (<i>Apis mellifera</i>) venom on <i>Escherichia coli</i> and <i>Pseudomonas spp.</i>
20.04-20.16	Mümtaz Güran, Cyprus A survey of oropharyngeal HPV infections among healthy university students: infection prevalence, associated risk factors and awareness levels	20.00-20.06	Sarah Marie Stoppel, Norway Pre-Treatments and Long-Range PCR to Assess Infectivity of Norovirus Surrogates
20.16-20.21	Nataša Stanković Nedeljković, Serbia ACINETOBACTER BAUMANII COMPLEX IN CLINICAL SAMPLES AND ANTIBIOTIC RESISTANCE-DECADES BACK	20.06 -20.11	Tolulope Modupeoluwa Adeleye, Nigeria Ethanol Production from Cassava Starch by Protoplast Fusants of <i>Wickerhamomyces anomalus</i> and <i>Galactomyces candidum</i>
20.21-20.27	Seda Havuz, Turkey Rare Clinical Presentation caused by <i>Borrelia burgdorferi</i>	20.11-20.16	Viorica Corbu, Romania Screening of newly isolated yeast strains showing no pathogenic profile for biotechnological applications
20.27-20.46	Yvonne Cortese, Ireland A Novel In Vitro Urethra Model to Visualise Bacterial Migration During Long-Term Urinary Catheter Insertion	20.16-20.30	Discussion and Q&A
20.46-21.10	Discussion and Q&A		

FRIDAY, 30th October 2020

Schedule	
14.00-14.40	Plenary Chair – Vaso Taleski, Dejan Baskić, Lazar Ranin Petra Dersch, Germany Remodelling <i>Yersinia</i> -host interactions - For better or worse?
14.40-14.50	Discussion
14.50-17.40	Session 3 AMR, novel therapeutic agents Chairs – Vaso Taleski, Dejan Baskić, Lazar Ranin
14.50-17.40	Session 4 Microbiomes and human health (mixed focus) Chairs – Bauke Oudega, Jelena Begović
14.50-15.15	Stefano Donadio, Italy Scientific and financial challenges for new antibiotics
14.50-15.15	Jeroen Raes Belgium Quantitative microbiome profiling in health and disease
15.15-15.40	Branislava Kocić, Serbia Susceptibility pattern of Gram-negative bacilli to antimicrobial agents with an emphasis on colistin and carbapenems
15.15-15.40	Özgür Kurt, Turkey Neglected residents of the gut microbiota
15.40-16.05	Nataša Golić, Serbia Gut microbiota and autoimmune diseases
15.40-16.05	Maja Rupnik, Slovenia <i>Clostridium difficile</i> and One Health (position possibility 2)
15.40-16.05	Rossitza Vatcheva-Dobrevska, Bulgaria Approaches to prevent and control the spread of mdr pathogens in healthcare setting
15.40-16.05	Marina Dinić, Serbia Plasmid-mediated Cephalosporinase in Enterobacterales - Challenges in Detection
16.05-16.50	Discussion and Q&A

16.50-17.00	Break	16.55-17.40	Discussion and Q&A
17.00-17.50	Lucia Rubio Fernandez, Belgium The European Research Council – funding opportunities for bright minds	17.40-17.50	Break
17.50-18.30	PFIZER		
	Matteo Bassetti, Italy Novel antibiotics in the era of AMR		
18.30-18.40	Break		
18.40-18.50	PROMEDIA		
	TBD CerTest – Specialists identifying causal pathogens of infectious diseases		
18.50-19.00	Discussion and Q&A		
19.00-19.40	FEMS Networking Session		
19.40-19.50	Break		

19.50-21.20	ONLINE Oral Session No. 3	19.50-21.20	ONLINE Oral Session No. 4
19.50-19.55	Manuela Agudelo-Restrepo, Colombia Mosquito-larvicidal activity of bacterial extracts produced by Colombian strains	19.50-19.57	Isabel Abellan-Schneyder, Germany Full-length versus short amplicon 16S rRNA sequencing: benefits, drawbacks and risks
19.55-20.00	Tahrioui Ali, France <i>Pistacia lentiscus L.</i> Fruit Thwart <i>Pseudomonas aeruginosa</i> Virulence Through Membrane Fluidity Alteration	19.57-20.06	Jonathan Josephs-Spaulling, Germany PhenoScreen: Development of a Systems Biology Tool for Decision Making in Recurrent UTIs
20.00-20.05	Olukemi Aromolaran, Nigeria Antimicrobial and synergistic effect of green synthesized silver nanoparticles against multi-drug resistant bacteria	20.06-20.11	Maria-Isabel Rojas, USA Phage as drivers of microbiome evolution: how they regulate their lysogenic-to-lytic switch to move across systems
20.05-20.10	Onyedikachi Cecil Azuama,Eure,France Inhibition of <i>Pseudomonas aeruginosa</i> virulence by <i>Azorella atacamensis</i> from Taira Atacama's community	20.11-20.22	Tomoka Urushidani, Japan Promoting and memory effects of air-solid biofilm culture on persister formation : analysis on mutants of toxin-antitoxin system genes
20.10-20.15	Celia Campillo, Spain Th-Seq reveals a panel of genes as key contributors to <i>Haemophilus influenzae</i> respiratory infection in a murine model of emphysematous lung	20.22-20.57	ONLINE Oral Session No. 5
20.15-20.27	Nitin Chandra Teja Dadi, Slovakia Antimicrobial properties of a new hybrid system based on clay mineral saponite and photosensitizer phloxine B	20.22-20.27	IEsra BARAN, Turkey Evaluation of Sysmex UF-5000 for cerebro-spinal fluid and body fluids
20.27-20.32	Eduardo Lanzagorta Garcia, Ireland Sustainable Antimicrobial Biopolymeric Food & Biomedical Film Engineering Using Bioactive AMP-Ag+ Formulations	20.27-20.32	Nahikari López López, Spain A genome-scale metabolic reconstruction of <i>Haemophilus influenzae</i> reveals FabH as a potential target for antimicrobial therapeutic development
20.32-20.43	Allison Lopatkin, USA Predicting and inhibiting the spread of plasmid-mediated antibiotic resistance	20.32-20.37	Özgür Yanılmaz, Turkey Evaluation of fluorescence flow-cytometry to rule out negative urine samples in neonates
20.43-20.54	Valérian Lupo, Belgium Mining the hidden diversity of class-D (OXA) beta-lactamases	20.37-20.43	Sayuri Kasagaki, Japan Involvement of DNA methylation in memory phenomenon of persisters in <i>Escherichia coli</i>
20.54-21.00	Daria Olkiewicz, Poland Antibacterial activity of trans-cinnamaldehyde and geraniol	20.43-20.50	Ceylan Polat, Turkey Dobrava hantavirus variants in Apodemus flavicollis mice in European part of Turkey
21.00-21.20	Discussion and Q&A	20.50-20.57	Marko Janković, Serbia Cytomegalovirus glycoprotein B and N genotypes in pediatric recipients of hematopoietic stem cell transplant
		20.57-21.20	Discussion and Q&A

SATURDAY, 31th October 2020

Schedule

09.00-10.00

FEMS Networking Session

10.00-12.30

Session 5
Pathogenicity, virulence, diagnosis
Chairs – Eliora Ron, Vera Mijač

10.00-11.30

Session 6
Biofilms
Chairs – Colin Harwood, Helena Bujdakova

10.00-10.25

Maximiliano Gutierrez, UK
Host cell environments and antibiotic efficacy in tuberculosis

10.00-10.25

Ute Römling, Sweden
Characterisation of human commensal *Escherichia coli* strains; Commensal *E. coli* strains - Unravelling secrets of biofilm formation and beyond

10.25-10.50

Irena Arandelović, Serbia
Prediction of susceptibility to first line tuberculosis drugs by DNA sequencing

10.25-10.50

Milan Kojić, Serbia
Impact of chromosomal architecture on the response to stress conditions in bacteria

10.50-11.15

Vladimir Peličić, UK
Type 4 pili in *Neisseria*, *Streptococcus*

10.50-11.15

Helena Bujdakova, Slovakia
Photodynamic inactivation - a promising approach combating resistant microorganisms

11.15-11.40

Ivana Čolović-Čalovski & Aleksandar Džamić, Serbia
Diagnosis of fungal infection

11.15-11.30

Discussion and Q&A

ONLINE Oral Session No. 6

11.40-12.05	Duro Josić, Croatia Fast omics methods in detection of pathogens and their toxins	11.30-11.38	Gülcan Kuyucuklu, Turkey EVALUATION OF BIOFILM FORMATION IN <i>STAPHYLOCOCCUS</i> STRAINS WITH CONVENTIONAL AND MOLECULAR METHODS
		11.38-11.43	Iago Grobas, UK Swarming <i>Bacillus subtilis</i> transits into a biofilm templated by active jamming in a gradient of antibiotics
		11.43-11.48	Nezahat Koşar, Turkey Acinetobacter baumannii's biofilm formation as a survival and adaptation mechanism
12.05-12.30	Discussion and Q&A	11.48-12.00	Discussion and Q&A
12.30-12.40	Break	12.00-12.40	Break
12.40-13.20	BIOMERIEUX		
	Valeria Zucchelli, Italy The role of diagnostics in navigating through the challenge of COVID-19 pandemic and AMR		
13.20-13.30	Break		
13.30-16.30	COVID-19 ROUND TABLE Moderator – Linda Kenney, USA		
13.30-13.40	Tanja Jovanović, Serbia NEW CORONAVIRUS – MYTH AND REALITY		
13.40-13.50	Miroslav Radman, Croatia/France Viral Parabiosis Hypothesis for onset of COVID-19		
13.50-14.00	Ivan Đikić, Germany Ubiquitin networks in regulation of COVID-19		
14.00-14.10	Peter Hotez, USA Recombinant Proteins in COVID19 Vaccine Development		
14.10-14.20	Jean-Claude Piffaretti, Switzerland The COVID-19 pandemic seen by the past chair of the Swiss committee for preparing pandemics		
14.20-14.30	Stefan Pöhlmann, Germany SARS-CoV-2 entry into cells and its inhibition		
14.30-14.40	Alexander Suvorov, Russia Development of mucosal vaccine against COVID-19		
14.40-14.50	Marion Koopmans, The Netherlands Insights in Virus Transmission Using Genomic Epidemiology		
14.50-16.20	Round Table discussion		
16.20-16.30	Break		

16.30-19.30	Session 7 Environmental Microbiology Chairs – Hilary Lappin-Scott, Branka Vasiljević	16.30-17.50	Session 8 FEMS session and short presentations by grantees Chairs - Vaso Taleski, Jozef Anne
16.30-16.55	Cagri Ergin, Turkey World-wide Cryptococcal pathogens with respect to global climate change and ecological niche modelling	16.30-16.40	FEMS Grants: Influence on the scientific careers of Early Career Researchers
16.55-17.20	Vaso Taleski, North Macedonia Metagenomic insight into the microbial diversity of the world unique Ioran-dite mine Allchar	16.40-16.50	Rita Hirmondó, Hungary Investigation of the mutator effects of currently used TB drugs provides insight into the mechanism of drug resistance development in <i>Mycobacteria</i>
17.20-17.45	Colin Harwood, UK The <i>Bacillus</i> secretion factory	16.50-17.00	Katarina Novović, Serbia Unraveling regulon of novel two-component system in <i>Pseudomonas putida</i> WCS358 through transcriptomics
17.45-18.10	Dragan Radnović, Serbia Bacterial resistance to hexavalent chromium and applicability in bioremediation	17.00-17.10	Zandra Fagernäs, Germany Biogeography of the ancient oral cavity
18.10-18.35	Ines Sviličić Petrić, Croatia Microorganism - early indicators of anthropogenic perturbations within the environment	17.10-17.20	Kusum Dhakar, Israel Modelling of microbial communities to promote atrazine degradation in crop soils
		17.20-17.30	Amanda Pacholak Poland Azole fungicides – do they affect the properties of environmental bacterial strains?
		17.30-17.40	Marija Lješević, Serbia Bacterial degradation of monocyclic aromatic compounds in kraft lignin

18.35-19.30

Discussion and Q&A

17.40-17.50

Discussion and Q&A

17.50-18.00

Break

18.00 -19.30

ONLINE Oral Session No. 7

18.00-18.08

Andrea Silva Claros, Spain

Heavy metal biosorption using *Halomonas* strains isolated from the Bolivian altiplano

18.08 -18.13

Dragana Tamindžija, Serbia

Biodegradation and biosorption of organo-phosphorus pesticides by the alluvial sediment isolate *Bacillus megaterium* BD5

18.13-18.21

Francesca Bandini, Italy

Fate and microbial ecology of biodegradable polymers under industrial anaerobic and aerobic conditions

18.21-18.28

Guillermo Budiño, Spain

Shewanella T2.3D-1.1, an electrifying tale in the deep subsurface

18.28-18.33

Jose Francisco Nava Olivas, France

STUDY OF NAPHTHALENE AND PHENANTHRENE DEGRADING BACTERIA ISOLATED FROM SELECTIVE MEDIA

18.33-18.38

Kalonji Abondance Tshisekedi, South Africa

Comparative genomic analysis hints at psychrophilic nature of the novel yeast species *Naganishia randhawae*

18.35-19.30

Discussion and Q&A

18.38-18.43 **Kusum Dhakar, Israel**
Modelling of microbial communities to promote atrazine degradation in crop soils

18.43-18.48 **Marija Mojicević, Ireland**
Plastic Saga - The microbes strike back

18.48-18.53 **Sara Fareed Mohamed Wahdan, Germany**
Link between metabolically active soil microbiome and soil function and their response to environmental factors in grassland ecosystem

18.53-18.58 **Harold Alejandro Jurado Rivadeneira, Hungary**
Assessing the degradation of short chain chlorinated aliphatic hydrocarbon contaminated sites by monitoring the effect of two different bioremediation approaches using area specific bioaugmentation culture

18.58-19.06 **Karla Peranić, Croatia**
DYNAMICS OF *Cryphonectria parasitica* POPULATIONS AND ASSOCIATED *Cryphonectria hypovirus 1* PREVALENCE IN NORTH-WESTERN CROATIA

19.06-19.11 **Munavvara Dzhuraeva, Tajikistan**
THERMOPHILIC BACILLI ISOLATED FROM KHOJA OBI GARM (TAJIKISTAN) GEOTHERMAL SPRING

19.11-19.30

Discussion

19.40-19.50

Break

20.00

CLOSING CEREMONY AND ADDRESS

Hilary Lappin-Scott, Vaso Taleski, Lazar Ranin



Federation of European
Microbiological Societies

FEMS Online Conference on Microbiology

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CONFERENCE ABSTRACTS

SESSION 7 - ENVIRONMENTAL MICROBIOLOGY

METAGENOMIC INSIGHT INTO THE MICROBIAL DIVERSITY OF THE WORLD UNIQUE LORANDITE MINE ALLCHAR

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Abstract

Background

The Allchar mine situated in southern part of the Republic of North Macedonia, is an unique mine well known as the source of the lorandite (TlAsS₂) that present mineral with purest contain of thallium (Tl) in the world. The Crven Dol mine, part of the Allchar mine complex, holds an estimated 500 t of Tl. As a result of interaction of solar neutrinos with ²⁰⁵Tl of the lorandite, Tl transforms to ²⁰⁵Pb (²⁰⁵lead whose 15,3 million years half-life present traps of neutrino capture event). Lorandite from this ore deposit is used as geochemical detector to capture neutrinos from the Sun, developed in the project LOREX).

Objectives and Methods of this study was, for the first time for this locality, to evaluate presence and diversity of bacteria and fungi using metagenomic methods and bioinformatic analysis (Krona viewer).

Results showed high bacterial and fungal diversity.

Most dominant bacterial phyla level were: Proteobacteria, Bacteroidetes, Acidobacteria, Planctomycetes, Actinobacteria, and Verrucomicrobia. On the genus level following groups of bacteria were detected: Chryseolinea, Opiritus, Flavobacterium, Pseudomonas, Terrimonas and Sphingomonas.

Fungi phyla Ascomycota (genera: Pilidium, Dendroclathra, Rosellinia and Hypomyces) and Basidiomycota (genera: Coprinellus and Coprinus) were confirmed.

This study is the first to identify specific As- and Tl- tolerant fungal (Pilidium, Cladophialophora, Neobulgaria, and Mycena) and bacterial genera (Trichococcus, Devosia, Litorilinea, and Gimesia).

ICP-OES analysis of the samples detected 25 elements and high concentration of As and Tl.

Keywords: Allchar, mine, bacteria, fungi, diversity, lorandite, thallium.



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