



MICROBIOME



Mobility Grants ML4Microbiome 2019-2023



Grants

- **COST Actions support different type of grants to researchers from the participating countries:**
 - Dissemination conference grants (DG)
 - Inclusiveness target country conference grants (CG)
 - Short term scientific missions (STSM)
 - Virtual mobility grants (VM)



Grant awarding committee

- In four grant periods your grants were evaluated and approved by the grant awarding committee:
 - Tatjana Loncar-Turukalo, GA manager
 - Domenica d'Elia
 - Erik Bongcam-Rudloff





Overview

- 16 awarded and completed STSMs
- 3 VMs
- 1 ITC

- 1 awarded was withdrawn STSM due to COVID19 outbreak



I GP 2019/2020

STSM

CANDIDATE NAME	CANDIDATE INSTITUTION	HOME COUNTRY	HOST NAME	HOST COUNTRY	TITLE
Oliver Aasmets	Intitute of Molecular and Cell Biology, Tartu	Estonia	Gianvito Pio	Italy	Using Machine Learning to predict diabetes in METSIM samples
Paul-Stefan Popescu	University of Craiova	Romania	Ugur Sezerman	Turkey	Exploring the microbiome related datasets
Vladimir Trajkovik	Ss. Cyril and Methodius University, Skopje	North Macdonia	Tatjana Loncar Turukalo	Serbia	Evaluation of state-of-the-art research on application of machine learning in human microbiome studies
Gianvito Pio	University of Bari Aldo Moro (Bari, Italy)	Italy	Saso Džeroski	Slovenia	Standardizing the pipeline for the analysis of high dimensional noisy Microbiome data
Mikhail Kolev	South West University (Blagoevgrad)	Bulgaria	Jaak Turu	Estonia	Intestinal/Gut microbiome association with bone health – review of literature, machine learning methods and data availability
Malik Yousef	Zefat Academic College (Zefat, Israel)	Israel	Burcu Bakir-Gungor	Turkey	Features groups ranked based biological information for classification Applied on microbiome data



II GP 2020/2021

STSM					
CANDIDATE NAME	CANDIDATE INSTITUTION	HOME COUNTRY	HOST NAME	HOST COUNTRY	TITLE
Thomas Klammersteiner	University of Innsbruck	Austria	Blaz Stres	Slovenija	The gut microbiome of black soldier fly larvae – a meta-analysis of available marker gene datasets
Miodrag Cekikj	Ss. Cyril and Methodius University (Skopje)	North Macedonia	Ugur Sezerman	Turkey	Statistical and machine learning techniques in human microbiome studies
Malik Yousef	Zefat Academic College (Zefat, Israel)	Israel	Burcu Bakir-Gungor	Turkey	MicroBiomeNet: Machine Learning Analysis of Metagenomics

VM GRANT			
Rajesh Shigdel	University of Bergen	Norway	Benchmarking of ML tools for microbiome analytics in support of the DREAM challenge and training events
Eliana Ibrahim	University of Tirana	Albania	ML4Microbiome online workshop on - Statistical and machine learning techniques for microbiome data analysis



III GP 2021/2022

STSM					
CANDIDATE NAME	CANDIDATE INSTITUTION	HOME COUNTRY	HOST NAME	HOST COUNTRY	TITLE
Ainhoa Garcia	Institut Catala d'Oncologia	Spain	Ville Nikolai Pimenoff	Sweden	Capturing different microbiome insights using NGS technologies and ML techniques
Eliana Ibrahim	University of Tirana	Albania	Antonio Jose Malheiro	Portugal	Generalized linear models with LASSO, and sparse group LASSO regularization to find bacteria associated with colorectal cancer
Andrea Simeon (ex Mihajlovic)	BioSense Institute Novi Sad	Serbia	Gianvito Pio	Italy	Multi-view semi-supervised prediction on incomplete microbiome data
Rajesh Shigdel	University of Bergen	Norway	Leo Lahti	Finland	Optimization and standardization of microbiome data and to support dissemination and training
Jamie Fitzgerald	APC Microbiome Ireland, Cork	Ireland	Aldert Zomer	Netherlands	Human Teaching, Machine Learning – developing a sharable syllabus from the recommendations generated through ML4Microbiome



IV GP 2022/2023

STSM					
CANDIDATE NAME	CANDIDATE INSTITUTION	HOME COUNTRY	HOST NAME	HOST COUNTRY	TITLE
Tayyio Karaman	Acibadem Mehmet Ali Aydınlar University, Istanbul	Turkey	Balázs Ligeti	Hungary	Integration of microbiome and other omics (Transcriptomics and Metabolomics) data by using machine learning techniques
Blanca Lacruz Pleguezuelos	Fundación IMDEA Alimentación Madrid	Spain	Vera Pancaldi	France	Machine learning techniques for the characterization and analysis of metagenomic and metabolic microbiome networks
ITC GRANT					
Andrea Simeon (ex Mihajlovic)	BioSense Institute Novi Sa, Serbia	19th Annual Meeting of the Bioinformatics Italian Society		Bari, Italy	Multi-class boosting with adversarial multi-arm bandits on incomplete microbiome views
VM GRANT					
Rajesh Shigdel	University of Bergen	Norway	Implementation of Machine Learning Techniques for Microbiome Data Analysis		



STSM presentations

STSM Session 1: In-person project summaries

13.50-14.05 Miodrag Cekic

Creating and utilizing ML and Deep Learning models to understand the role of the microbiome in relation to cancer therapeutics and diagnostics

14.05-14.20 Thomas Klammsteiner

The gut microbiome of black soldier fly larvae – a meta-analysis of available marker gene datasets

14.20-14.35 Mikhail Kolev

Intestinal/Gut microbiome association with bone health – review of literature, machine learning methods and data availability

14.35-14.50 Jamie Fitzgerald

Human Teaching, Machine Learning – developing a sharable syllabus from the recommendations generated through ML4Microbiome



STSM Session 2: Video-link project summaries

15.20-15.35 Paul Stefan Popsecu

Exploring the Microbiome-related datasets

15.35-15.50 Malik Yousef

MicroBiomeNet: Machine Learning Analysis of Metagenomics Datasets

15.50-16.05 Eliana Ibrahimi

Generalized linear models with LASSO, and sparse group LASSO regularization to find bacteria associated with colorectal cancer

16.05-16.20 Gianvito Pio

Standardizing the pipeline for the analysis of high dimensional noisy Microbiome data