



MICROBIOME



WG4 Progress Report - July 2021/May 2022

23 May 2022

Dissemination, Communication & Training

Domenica D'Elia & Aldert Zomer



COST Action CA18131 - WGs Meeting, Tirana, 23-24 May 2022



MICROBIOME



Publications (Dissemination)

1. Cekikj Miodrag, Jakimovska Özdemir, Milena Kalajdzhiski, Slobodan Özcan, Orhan Sezerman, Osman Uğur (2022) **Understanding the Role of the Microbiome in Cancer Diagnostics and Therapeutics by Creating and Utilizing ML Models.** *Appl. Sci.* 12(9), 4094; <https://doi.org/10.3390/app12094094>
2. Vilne Baiba, Ķibilds Juris, Sikсна Inese, Lazda Ilva, Valciņa Olga, Krūmiņa Angelika (2022) **Could Artificial Intelligence/Machine Learning and Inclusion of Diet-Gut Microbiome Interactions Improve Disease Risk Prediction? Case Study: Coronary Artery Disease.** *Frontiers in Microbiology*, 13. [doi:10.3389/fmicb.2022.627892](https://doi.org/10.3389/fmicb.2022.627892)
3. Ibrahimi, E., Elbere, I., Berland, M., & D'Elia, D. (2022) **Report of the ML4Microbiome workshop 2021 – Statistical and Machine Learning Techniques for Microbiome Data Analysis.** *EMBnet.journal*, 27, e1012. doi:<https://doi.org/10.14806/ej.27.0.1012>
4. Rosario D, Bidkhorі G, Lee S, Bedarf J, Hildebrand F, Le Chatelier E, Uhlen M, Ehrlich SD, Proctor G, Wüllner U, Mardinoglu A, Shoaie S. **Systematic analysis of gut microbiome reveals the role of bacterial folate and homocysteine metabolism in Parkinson's disease.** *Cell Rep.* 2021 Mar 2;34(9):108807. doi: [10.1016/j.celrep.2021.108807](https://doi.org/10.1016/j.celrep.2021.108807). PMID: 33657381.

[ACTION WEBSITE: Publications - ML4 Microbiome](#)



Research Topic

Microbiome and Machine Learning

Submission closed.

Overview **9** Articles **91** Authors Impact



VIEWS
63,544

Articles

By Views By Type By Date



DeepT3_4: A Hybrid Deep Neural Network Model for the Distinction Between Bacterial Type III and IV Secreted Effectors

Lezheng Yu, Fengjuan Liu, Yizhou Li, Jiesi Luo and Runyu Jing

Original Research Gram-negative bacteria can deliver secreted proteins (also known as secreted effectors) directly into host cells through type III secretion system (T3SS), type IV secretion system (T4SS), and type VI secretion system (T6SS) and cause various ...

Published on 21 January 2021
Front. Microbiol. doi: 10.3389/fmicb.2021.605782

1,848 total views 2



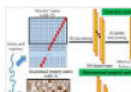
kernInt: A Kernel Framework for Integrating Supervised and Unsupervised Analyses in Spatio-Temporal Metagenomic Datasets

Elies Ramon, Lluís Belanche-Muñoz, Francesc Molist, Raquel Quintanilla, Miguel Perez-Enciso and Yulixias Ramayo-Caldas

Technology and Code The advent of next-generation sequencing technologies allowed relative quantification of microbiome communities and their spatial and temporal variation. In recent years, supervised learning (i.e., prediction of a phenotype of interest) from ...

Published on 28 January 2021
Front. Microbiol. doi: 10.3389/fmicb.2021.609048

2,307 total views 4



VirionFinder: Identification of Complete and Partial Prokaryote Virus Virion Protein From Virome Data Using the Sequence and Biochemical Properties of Amino Acids

Zhencheng Fang and Hongwei Zhou

Topic Editors



Isabel Moreno Indias

Instituto de Investigaciones Biomédicas de Málaga, Universidad de Málaga
Málaga, Spain

Follow

81 publications



Marcus Claesson

University College Cork
Cork, Ireland

Follow

55 publications



Aldert Zomer

Utrecht University
Utrecht, Netherlands

Follow

107 publications



David Gomez-Cabrero

NavarraBiomed
Pamplona, Spain

Follow

88 publications



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2021

- **GOBLET & EMBnet AGM 2021, 11-15 October 2021**
- ML4Microbiome Symposium "Grand Challenges of Data-Intensive Science in microbiome & metagenome data analysis and training", 14 October 2021

Oral Presentations by:

Domenica D'Elia - The ML4Microbiome COST Action: aims & state-of-the-art report

Leo Lahti - Open data science in microbiome research

Enrique Carrillo - Machine Learning & Microbiome for Precision Nutrition

Isabel Moreno - ML4microbiome for the advance of precision medicine: what Biomedicine expects

Eleni Papakonstantinou - Microbiome analysis in precision agriculture

- ML4Microbiome Workshop "Statistical and Machine Learning Techniques for Microbiome Data Analysis", 15 October 2021

Four Oral Presentations by Domenica D'Elia, Ilze Elbere, Eliana Ibrahimi, Magali Berland available at the [workshop webpage](#)

- **Bioconductor Virtual Conference, 4-6 August 2021**

Oral Presentation by Leo Lathi - Microbiome data science in the *SummarizedExperiment* universe



- **8th International Human Microbiome Consortium Congress, June 27-29, 2021**

ML4Microbiome Poster presentation by Marcus Claesson: [pdf](#)

Oral presentation by Leo Lathi: Taxonomic Signatures of Long-Term Mortality Risk in Human Gut Microbiome

- **ESCI 2021 - 55th Scientific Meeting, 9-11 June 2021**

Oral presentation by Isabel Moreno-Indias: Past, present and future of Gut Microbiota in Metabolic diseases

- **ECO 2021 - 28th European Congress on Obesity, 10-13 May 2021**

Oral presentation by Isabel Moreno-Indias: Special diets to microbiota modulation



MICROBIOME



Training School 2021

- ML4Microbiome Training School 2021 – Machine Learning approaches & methods for the analysis of microbiome data – **27th and 28th of September and the 4th, 7th and 8th of October 2021** (Aldert will report more in details)
- GOBLET-EMBnet-ELIXIR-IIT, **Symposium on Grand Challenges of Data-Intensive Science in microbiome & metagenome data analysis and training**, 14 October 2021
- ML4Microbiome workshop on “ Applications of biostatistics in microbiome data analysis”, 15 October 2021

Outcomes: on the Action website ([Training Material - ML4 Microbiome](#))

Recorded presentations in YouTube Playlist;

Slide Presentations in the Action’s web site;

Report of the workshop published in the EMBnet Journal: [Report of the ML4Microbiome workshop 2021 - Statistical and Machine Learning Techniques for Microbiome Data Analysis | Ibrahimi | EMBnet.journal](#)

Training School Programma - Day 1

ML4MICROBIOME training school 2021 Preliminary schedule - All times in CEST			
Day 1 9:00 -16:00 (approx) - Introduction to the microbiome and microbiome data specificities - 27th of September			
Aldert Zomer/Erik Bongcam-Rudloff	9:00-10:00	Welcome + Checking setup - can everyone access the tools	
Aldert Zomer	10:00-11:00	Programme overview	
Coffee Break	11:00-11:15	Coffee Break + live chat questions	
Aldert Zomer/Marcus Claesson	11:15-12:30	Microbiome biology	Microbiome biology
Virtual lunch break	12:30 - 13:30	Virtual lunch break	
Ilze Elbere	13:30-14:30	Microbiome sampling & wet-lab basics, study design	What is the microbiome? Aspects of wet-lab work Study design, with focus un human gut microbiome studies (16S & shotgun).
Tea break	14:30-14:45	Tea break	
Magali Berland	14:45-15:45	Metagenomic data analysis for human gut microbiota: statistical specificity of microbiome data	1. Introduction, 2. Data acquisition for statistical analysis, 3. Statistical specificity of metagenomic data, 4. Index of diversity, 5. Identify the variation factors in the microbiome (differential analysis), 6. Specificities (MoU 1.1.1, sparsity, challenges).
	15:45-16:00	Concluding remarks - Discussion	



Training School Programme - Day 2

Day 2 9:00-16:00 - Statistics, compositional data analysis - 28th of September			
	9:00-9:15	Welcome	
Eliana Ibrahimi	9:15-10:15	Introduction to the statistical analysis of microbiome data	Univariate and multivariate community analysis
Coffee Break	10:15-10:30	Coffee Break + live chat questions	
Alise Ponsoero	10:30-11:30	An introduction to compositional data analysis	Statistical analysis and data transformation (alr/ilr/clr)
Lunch Break	11:30-13:00	Lunch Break	
Dimitrios Vlachakis	13:00-14:00	Machine learning: basic concepts	
Tea break	14:00-14:15	Tea break	
Doris Vandeputte	14:15-15:15	Avoiding compositionality and absolute abundance profiling	Absolute abundance profiling
Alise Ponsoero, Doris Vandeputte	15:15-15:45	Discussion on rarefying, clustering and data transformation (alr/clr/ilr)	
	15:45-16:00	Concluding remarks	



Training School Programme - Day 3-6

Day 3 9:00-16:00 - Hands on sessions unsupervised and supervised approaches - **4th of October**

Day 4 9:00-16:00 - Theory and hands on sessions supervised approaches **7th of October**

Day 5 9:00-16:00 - Structured output prediction **8th of October**

Day 6 and onwards Challenge time **11-15th October**

Included an optional challenge



Training material

https://drive.google.com/drive/folders/1RKWnKEDRF7ZkVlbtO8FADF_yhBuXglB

Drive

Zoeken in Drive

Gedeeld met mij > 2021-09-27 2nd Training School Sept-Oct-2021 Virtual

Naam ↑	Eigenaar	Laatst gewijzigd	Bestandsgrootte
0. DADA2 tutorial - Zomer (not part of this course but for reference)	Domenica D'Elia	11 okt. 2021 ik	–
1. Microbiome Biology - Zomer - Claesson	Domenica D'Elia	11 okt. 2021 ik	–
2. Microbiome study design - Elbere	Domenica D'Elia	11 okt. 2021 ik	–
3. Statistical specificity of microbiome data - Berland	Domenica D'Elia	11 okt. 2021 ik	–
4. Introduction to the statistical analysis of microbiome data - Ibrahim	Domenica D'Elia	11 okt. 2021 ik	–
5. An introduction to compositional data analysis - Ponsero	Domenica D'Elia	11 okt. 2021 ik	–
6. Machine learning: basic concepts - Vlachakis	Domenica D'Elia	11 okt. 2021 ik	–
7. Avoiding compositionality and absolute abundance profiling - Vandeputte	Domenica D'Elia	11 okt. 2021 ik	–
8. Unsupervised learning - Lahti - Shigdel	Domenica D'Elia	11 okt. 2021 ik	–
9. Supervised learning - Ruuskanen - Gruca	Domenica D'Elia	11 okt. 2021 ik	–
10. Structured output prediction - Pio	Domenica D'Elia	11 okt. 2021 ik	–
11. Challenge	Domenica D'Elia	11 okt. 2021 ik	–
Learning Resources	Domenica D'Elia	11 okt. 2021 ik	–
ML4Microbiome Training School 2021- Registration form	Domenica D'Elia	22 sep. 2021 Domenica D'Elia	–
Report	Domenica D'Elia	11 okt. 2021 ik	–

Opslagruimte (84% vol)
12,64 GB van 15 GB gebruikt
[Opslagruimte kopen](#)

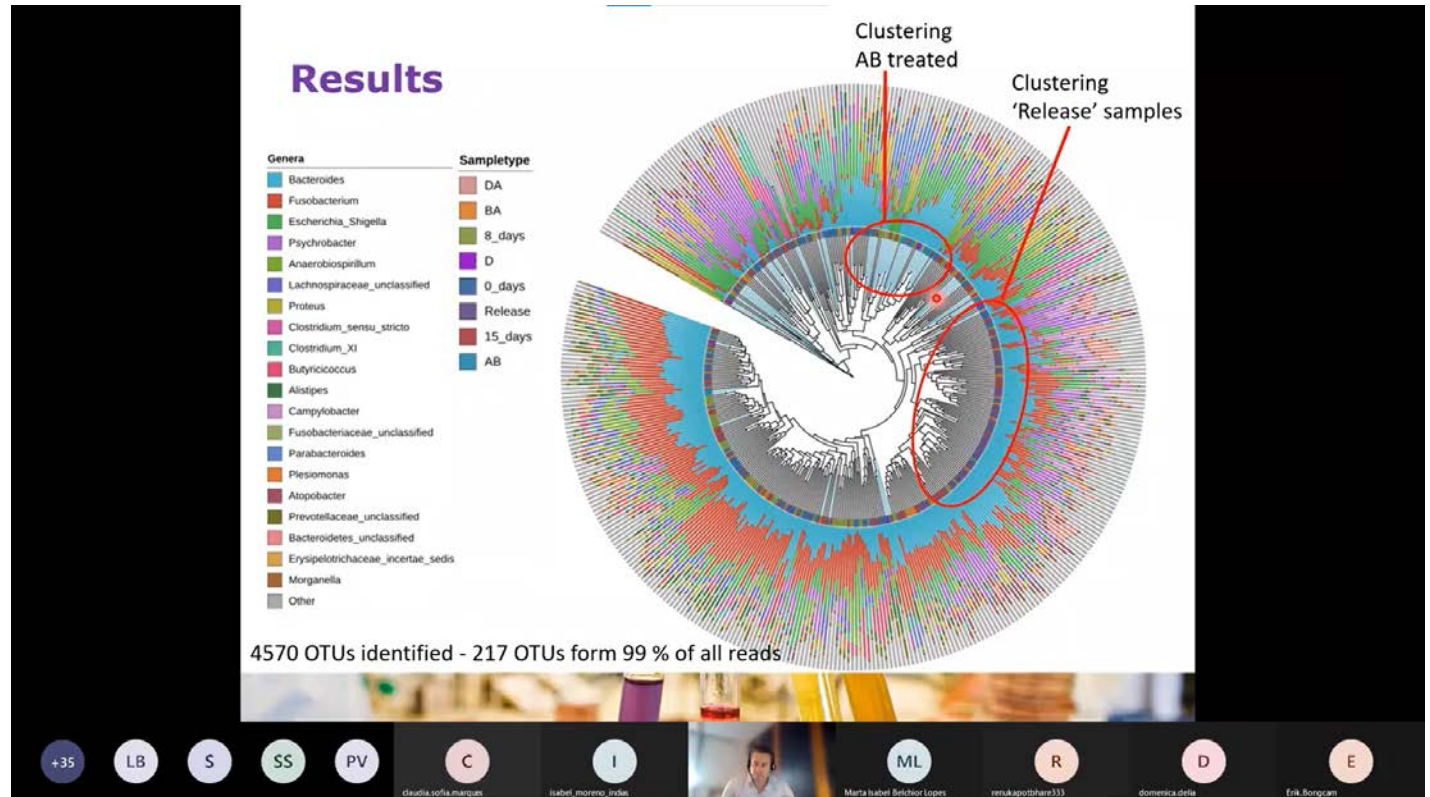
<https://drive.google.com/?tab=oo&authuser=0>

All lecture presentations and data for practicals have been made available online



Video

All lectures and practical instruction videos have been recorded and are available



Practical information

- **Google Drive-** only 15 gb, but easy access control
 - 2 euro/month 100gb if we want more storage
- Cloud provider (**Azure**)
- **Web interface**
 - Jupyter like interfaces




A multi-user version of the notebook designed for companies, classrooms and research labs

Server access

Gedeeld met mij > 2021-09-27 2nd Training School Sept-Oct-2021 Virtual > Virtual Machine ▾ 👤



Naam ↑	Eigenaar	Laatst gewijzigd	Bestandsgrootte
 Google CoLab ML4Microbiome - Miaverse 👤	ik	8 okt. 2021 ik	24 KB
 ML4Microbiome Login.xlsx 👤	ik	7 okt. 2021 ik	23 KB
 Readme 👤	ik	7 okt. 2021 ik	1 KB



Sign up and participation

Albania
 Bosnia and Herzegovina
 Czech Republic
 Estonia
 Finland
 France
 Germany
 Hungary
 India
 India
 Ireland
 Israel
 Italia
 Latvia
 Madrid
 Netherlands
 Norway
 Pakistan
 Poland
 Portugal
 ROMANIA
 Serbia
 Spain
 Switzerland
 Turkey
 United States
 Vietnam

68 people signed up

27 ML4M members

27 countries

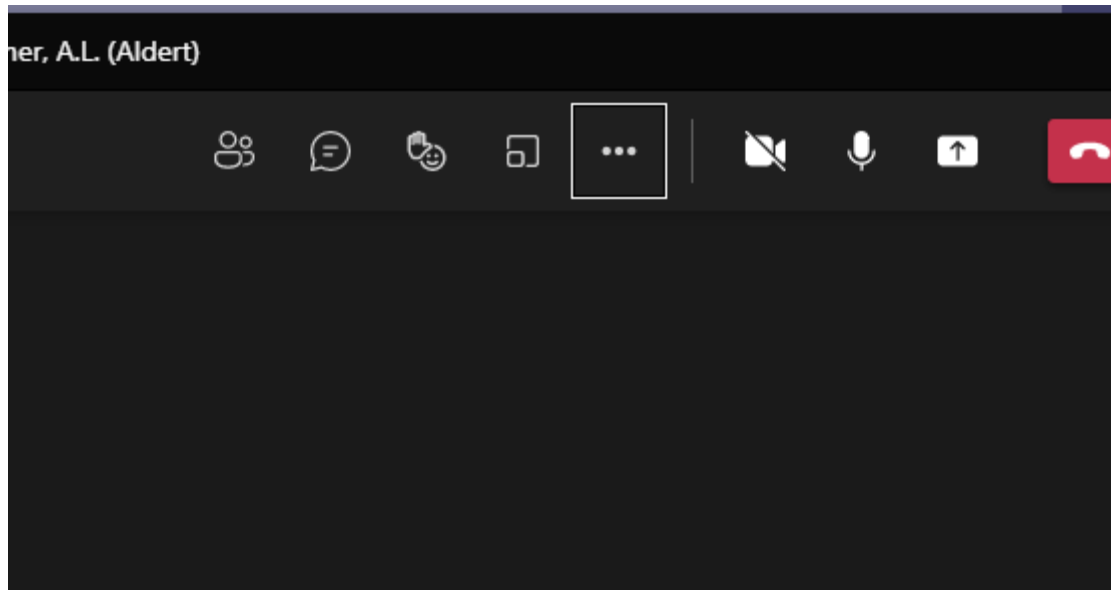
In total we had 12 trainers
 that gave lectures and
 practicals

Timestamp	Name	Surname	Country	Affiliation	Organization	Register	Registration
9-9-2021 9:13:09	Aldert	Zomer	nl Netherlands	Utrecht University	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-9-2021 14:49:15	Rajesh	Shigdel	Rs Norway	University of Bergen	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-9-2021 14:51:41	Marta	Lopes	m Portugal	NOVA School of Science	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-9-2021 17:04:29	Andrea	Mihajlovic	an Serbia	Junior Research Assistant	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-9-2021 18:59:00	Isabel	Moreno-Indias	is Spain	IBIMA	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-9-2021 19:20:20	Dumitrana	lordache	du Romania	Babeş-Bolyai University	Romanian Society of Bioi	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-9-2021 19:22:19	Malik	Yousef	m Israel	Zefat Academic College	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-9-2021 19:27:01	Miray	UNLU	mi Turkey	Abdullah Gul University	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-10-2021 11:26:21	Marija	Kopanja	m Serbia	Junior Researcher	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-10-2021 12:10:27	Patricia	Ruiz Limón	pe Spain	Clinical Management Unit	Member of the laboratory	Training School (27-28 Sept; 4-7-8 Oct)	
9-11-2021 14:18:56	Carolina	Gutiérrez Repiso	ca Spain	Institute of Biomedical Re	Institute of Biomedical Re	Training School (27-28 Sept; 4-7-8 Oct)	
9-12-2021 18:55:14	Mrunalini	Lotankar	mi Finland	University of Turku	University of Turku	Training School (27-28 Sept; 4-7-8 Oct)	
9-12-2021 20:48:37	Renuka	Potbhare	re India	PHD student	Pune University and in col	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-13-2021 9:52:36	Alberto	Pascale	pa Italia	Utrecht University	Utrecht University	Training School (27-28 Sept; 4-7-8 Oct)	
9-13-2021 9:57:48	Béreux	Stéphane	st France	INRAE	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-13-2021 15:58:06	Amhar	Jabeer	an Turkey	Abdullah Gul university	Abdullah Gul university	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-14-2021 13:39:00	Manolo	Laiola	m France	INRAE	none	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-15-2021 6:51:04	POPESCU	GABRIELA	ge ROMANIA	BIOLOGIST ORGANIZATI	BIOLOGIST ORGANIZATI	Training School (27-28 Sept; 4-7-8 Oct)	
9-15-2021 19:09:51	Valērija	Movčana	va Latvia	Latvian Biomedical Resea	Latvian Biomedical Resea	Training School (27-28 Sept; 4-7-8 Oct)	
9-21-2021 9:18:34	Renuka	Potbhare	re India	PHD student	Pune university, India	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-22-2021 9:53:09	GRAZIA	VISCI	gr Italia	CNR Bari	CNR Bari	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 9:57:16	grazia	visci	gr Italia	CNR Bari	CNR Bari	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 10:33:28	Elisabetta	Notario	eli Italia	Università degli studi di B	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 11:23:45	Maryia	Khomich	m Norway	Dept of Clinical Science, U	University of Bergen	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 12:02:07	Victor	Moreno	vr Spain	Catalan Institute of Oncol	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-22-2021 12:10:25	Kanita	Karadzovic-Hadziabdic	ka Bosnia and Herzegovina	International University of	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 12:10:32	Laura Judith	Marcos Zambrano	ju Spain	IMDEA Food Institute	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 12:13:05	Rajesh	Shigdel	Rs Norway	University of Bergen	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-22-2021 12:22:42	Marta	Lopes	m Portugal	NOVA School of Science	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 12:28:07	Andrea	Mihajlovic	an Serbia	Junior Research Assistan	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-22-2021 12:34:21	Hatice	Duman	ha Turkey	Canakkale Onsekiz Mart	non-ML4Microbiome mem	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-22-2021 12:40:21	Carmen Ioana	Muresan	ca Romania	University of Agricultural S	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 12:42:23	Ainhoa	García Serrano	ag Spain	IDIBELL	IDIBELL	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 13:00:59	Cláudia	Marques	cl Portugal	NOVA Medical School	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 13:10:27	Mário	Gomes	m Portugal	FCT-UNL	FCT-UNL	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-22-2021 13:13:05	Shánila	Ismael	sh Portugal	NOVA Medical School, U	NOVA Medical School, U	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-22-2021 13:33:07	Inês	Paciência	in Portugal	ISPU	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 13:36:56	Karel	Hron	Czech Republic	Palacky University	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 14:12:38	Mireia	Obón-Santacana	m Spain	IDIBELL	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 14:21:04	Iris	Zhupa	iri Albania	none	none	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-22-2021 14:24:37	Balázs	Ligeti	lig Hungary	PPKE	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-22-2021 14:41:13	Blanca	Rius Sansalvador	bl Spain	IDIBELL	IDIBELL	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 15:12:49	Ferran	Moratalla Navarro	fm Spain	Catalan Institute of Oncol	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 15:36:57	Sayak	Ganguli	sa India	Assistant Professor, DepSt.	Xavier's College (Auto	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 15:38:23	Blanca	Lacruz Pleguezuelos	bl Spain	IMDEA	Working with ML4microbi	Training School (27-28 Sept; 4-7-8 Oct)	
9-22-2021 16:08:46	Subham	Saha	su Estonia	Institute of Molecular and	University of Tartu	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-23-2021 0:05:23	Víctor Manuel	López Molina	vc Spain	Universidad Autónoma de	Universidad Autónoma de	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 7:08:07	Nejc	Stopnisek	ns Netherlands	NIOO-KNAW	Only interested in this top	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-23-2021 8:44:38	Paula	Istvan	pe Norway	University of Oslo	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 9:22:21	Mitilda	Gugu	mi Albania	University of Elbasan "Ale	University of Elbasan "Ale	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 10:19:51	Julienne	Sipitro	si Germany	PHD student	TH Wildau	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 10:53:10	Teresa	Rubio	te Spain	CIPF	CIPF	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 11:26:30	Sandra	García Mulero	s Spain	IDIBELL	IDIBELL	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 11:27:06	Khadajah	Abid	kh Pakistan	Szabist	Research	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-23-2021 11:32:30	Klajdi	Rrasa	kl Albania	Molecular biologist	O.E.S DISTRIMED	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-23-2021 11:34:51	Ferran	Moratalla Navarro	fm Spain	Catalan Institute of Oncol	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-23-2021 11:36:02	Alberto	Lopez	all Spain	Catalan Institute of Oncol	Catalan Institute of Oncol	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-23-2021 11:36:39	karen	fadel	ka france	INSERM	PHD student	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 11:40:29	Miguel	Socolovsky	mi Spain	Catalan Insitute of Oncolo	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-23-2021 12:45:37	Jill	O'Sullivan	11 Ireland	University College Cork	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 13:53:30	Catarina	Oliveira	ca Portugal	Nutrition & Metabolism, N	NOVA Medical School F	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 14:42:36	Marta	Galvez Fernandez	m Spain	National Center of Epider	National Center of Epider	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-23-2021 14:51:43	Tam	Tran	th Vietnam	University of Science and	University of Science and	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 14:53:40	Mikolaj	Dziurzynski	mi Poland	University of Warsaw	University of Warsaw	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 14:58:10	Zulema	Rodriguez Hernandez	zu Madrid	Department of Chronic Di	Department of Chronic Di	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)	
9-23-2021 14:58:24	Vivien	Pichon	vi Switzerland	Université de Fribourg	Université de Fribourg	Training School (27-28 Sept; 4-7-8 Oct)	
9-23-2021 15:32:13	James	Momingstar	ja United States	Cornell	Cornell	Training School (27-28 Sept; 4-7-8 Oct)	



Communication platforms

- MS Teams - issue with greyed chat / screen share



- Caused by invite to Teams channel was done to different email address than Teams account, invite the right account

Participated

- ~36 participated (according to Teams attendance report, excluding trainers)
- 32 people did the practical part of the course (excluding trainers)
- According to feedback during the course it was well received





MICROBIOME



- **Plans for Training School in Barcelona 2022 – October 5-7**
- **Local organizer: Victor Moreno**
 - **Content: Same lectures/material**
 - **Content: Phyloseq< -> summarizedexperiment conversion exercise from Leo**
 - **Participants - Likely new participants so same material is ok**
 - **Teachers - Check who is available - Magali is not available**
 - **Planning**
 - **Recording yes/no**



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Rules changes for Grants from November 2021

Action website:

- **STSM** ([STSM | ML4 Microbiome](#))
- **VNST** ([VNS Tools - ML4 Microbiome](#))
- **ITC** ([ITC Grants | ML4 Microbiome](#))
- **Dissemination** ([Dissemination Grants - ML4 Microbiome](#))



MICROBIOME



Rules for Dissemination & Communication – From November 2021

Any time our Action creates a new dissemination product – video, publication, podcast etc. –

We MUST

- send to Olga Gorczyca (Olga.Gorczyca@cost.eu) the link to the product or file together with the invoice before processing any payment.

As for rules, please go and read the document available online:

[Visual identity - COST](#)

Should you have any question, please do not hesitate to contact me.



MICROBIOME



Dissemination & Communication Plans 2022-23

- **Dissemination activities at international conferences to be held 2022-2023; (we need a list to plan these activities for the WBP 2021-2022)**
- **Communication & Dissemination activity at national level (member countries) & organisation of training activities based on specific need (survey to be done or do we inspire to feedback of the workshop and symposium held on October 2021?)**
- **One proposal from Turkey (September of November 2022)**
- **Production of teaching material or video tutorials as an outcome of workshops & training school**
- **Community Building - Stakeholders?**
- **White/Opinion paper: what, who and when**



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Dissemination & Communication Plans 2022-23

- **Publications** – any article where at least two members are involved can be published with acknowledgements to ML4Microbiome and communication has to be done to WG4 (Rules at: [Visual identity – COST](#))
- Production of reports and their publication in journals or web repository that provide a DOI
- **Web site & Social Media:**
 - **Research Section:** eliminated
 - **Added:**
 - **Training material** - [Training Material - ML4 Microbiome](#)
 - **Presentations:** [Presentations - ML4 Microbiome](#)
 - **Publications** - [Publications - ML4 Microbiome](#)



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Community Building

- Analysis of stakeholders (science, industry, standardisation bodies, policymakers,..) for the organisation of joint meetings to be implemented in the upcoming year? Other COST Actions? **(VM grant possible)**

Increase communication activities among our community and outside

- ML4Microbiome Newsletter: **not realised**
- Web site & Social Media (research, STSM, training material, announcement of member activities)
- Organisation of meeting with other communities (discovery-oriented microbiome researchers and ML scientists)



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Agenda WG4 at the WGs Meeting in Tirana

- **Training School Barcelona 2022**
 - Participants
 - Teachers
 - Planning
 - Recording yes/no
 - **Workshops 2022**
 - Virtual, organization
 - Subjects to cover (feature selection?/classification?/stratification?/others/)
 - **White paper**
 - Subjects (teaching? Best practices? Data availability/)
 - Project team
 - Deadlines
 - **Presenting ML4Microbiome work at conferences**
 - ECCB2022 Barcelona September
 - Is anyone going to IHMC in Japan in November
- ACTION WEBSITE**
- **Updating of some content**
 - create profile pages of new members
 - change the GHM details
 - Main page of events to be connected with new events added after 2020



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THANK YOU SO MUCH

for your attention!

Question?