



MICROBIOME



WG4 Progress Report “July-October 2021”

Domenica D’Elia

3° Management Committee Meeting - *25 October 2021*

COST Action CA18131

WG4 Leader: Domenica D’Elia

Vice WG-Leader: Aldert Zomer





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WG4 Activities & Achievements

- Website
- Dissemination and outreach activities
- YouTube channel creation
- VNS Tools implementation
- Training School

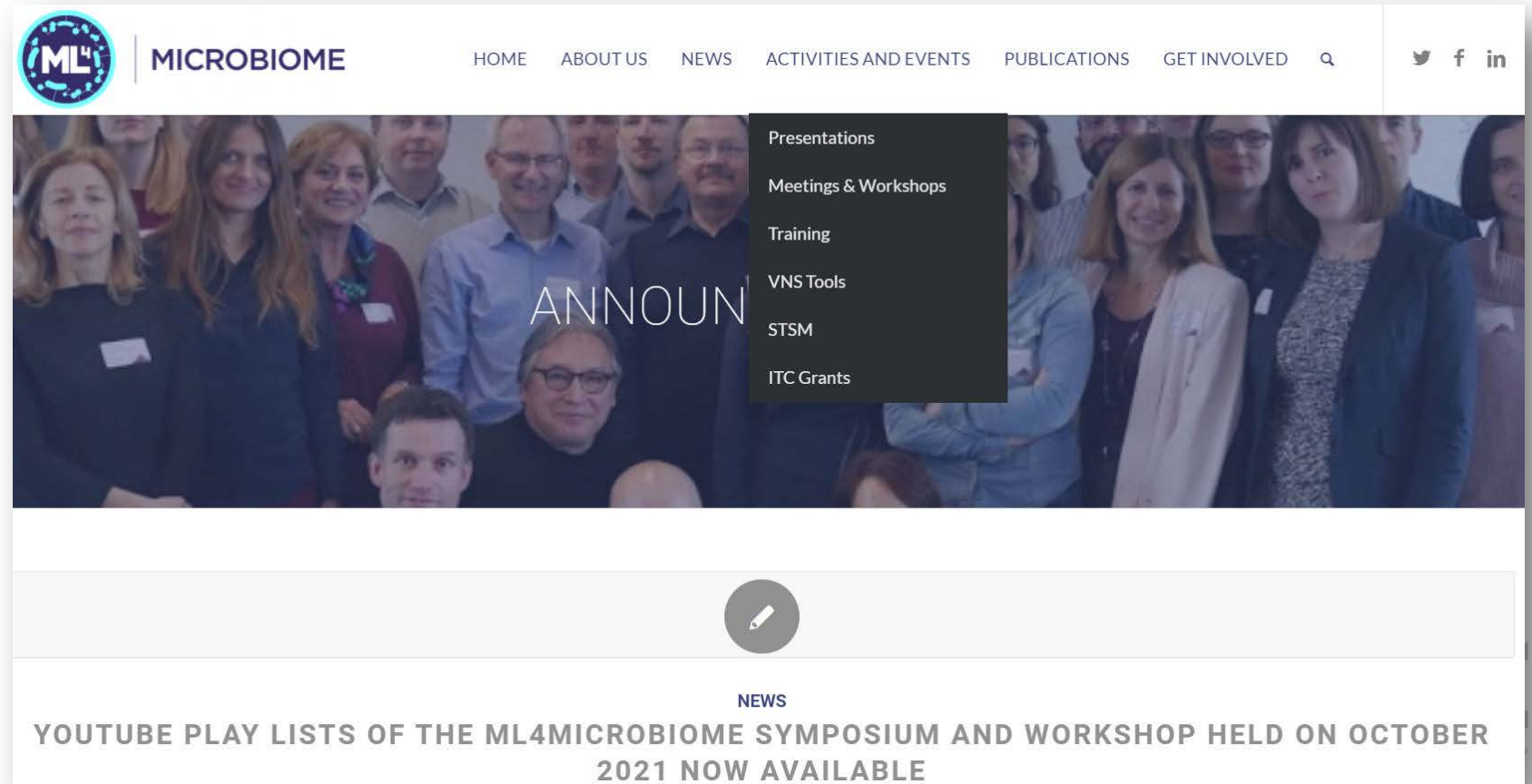


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Action Web Portal

- Addition of new sections & content:
- Activities & Events
 - Presentations
 - VNS Tools
 - STSM Reports
- Publications





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Dissemination & outreach activities

Two ML4Microbiome dissemination events organised in the context of the [GOBLET](#) & [EMBnet AGM 2021](#) - Bioinformatics Education & Training from 2012 and beyond - 11-15 October 2021

[ML4Microbiome Symposium, 14 Oct 2021](#) - Grand Challenges of Data-Intensive Science in Microbiome & Metagenome Data Analysis and Training

- 7 talks, 5 from ML4Microbiome Members
- 85 participants from 68 different countries
- Presentation of ML4Microbiome by Domenica D'Elia - [The ML4Microbiome COST Action: aims & state-of-the-art report, Domenica D'Elia](#)



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Dissemination & outreach activities

[ML4Microbiome Workshop, 15 October 2021-](#) Statistical and Machine Learning Techniques for Microbiome Data Analysis

Programme

12:00 – 12:15 **Welcome & Introduction**

Domenica D'Elia, CNR-Institute for Biomedical Technologies, Bari, Italy

12:15 – 13:30 **Overview of the microbiome data**

Dr Ilze Elbere, Latvian Biomedical Research and Study Centre, Latvia

13:30 – 14:45 **Statistical analysis of the microbiome data with R**

Dr Eliana Ibrahimi, Department of Biology, University of Tirana, Albania

14:45 – 16:00 **How Artificial Intelligence is enhancing human microbiome research**

Dr Magali Berland, MetaGenoPolis, French National Institute for Agriculture, Food, and Environment,
France

- Presentation of ML4Microbiome by Domenica D'Elia
[The ML4Microbiome COST Action, Domenica D'Elia](#)

- 81 participants from 65 different countries





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Post-Workshop Survey

Please take five minutes of your time to provide feedback on The ML4Microbiome workshop: Statistical and machine learning techniques for microbiome data.

How was your overall event experience?

- ☐ Excellent
- ☐ Good
- ☐ Average
- ☐ Below Average
- ☐ Very Poor

[ML4Microbiome Workshop, 15 Oct 2021](#)

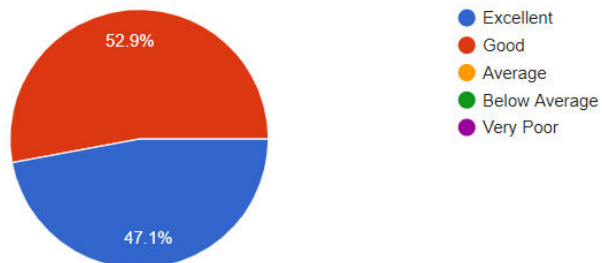




Results of the Post-Workshop Survey

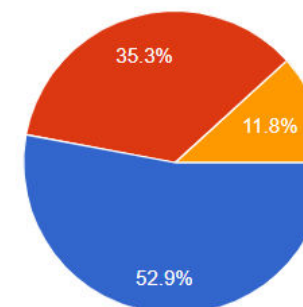
How was your overall event experience?

17 responses



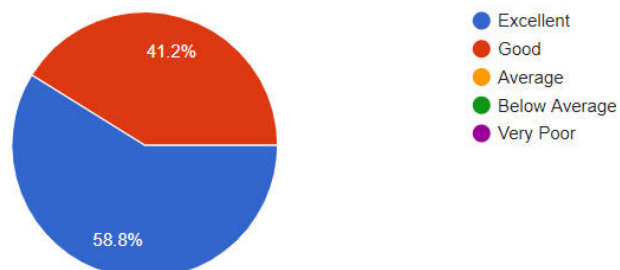
How easy was it for you to navigate the environment?

17 responses



How do you rate the value of the content available within the event?

17 responses



From a content perspective, what could be improved?

5 responses

-

Have a more hands-on workshop. For instance, create an hands-on workshop on experiment design for microbiome studies.

More detailed methodologies

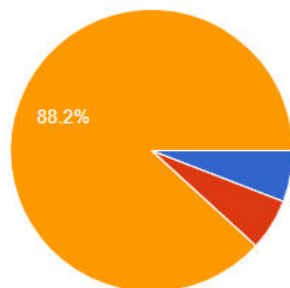
More practical details maybe.



Results of the Post-Workshop Survey

Was attending the event “Live” important?

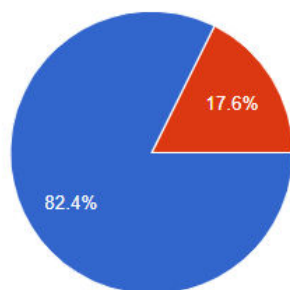
17 responses



- Yes, I would only want to participate live (synchronously)
- No, thinking about this I would be happy to only participate on-demand (asynchronously)
- Both – it was good to be here Live AND I am going to come back and watch additional sessions on-demand (asynchronously).

How likely are you to recommend that colleagues who were not at the event should watch some of the sessions On-Demand (asynchronously) in the next 3-6 months?

17 responses



- Very likely
- Likely
- Neutral
- Probably Not Likely
- Not at All Likely

Please share any additional comments on how we could improve your experience at the next event or any other suggestions you may have.

6 responses

Thank you to the organization and speakers for this excellent workshop.


Congrats

Thank you very much for the great workshop!

Include practical/hands-on data analyses session for participants

Make more events like this. :)

Thanks for every thing. it was so informative. please give us all presentation files and the link of video records. Wishing All the best for you.



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Description

COST Action CA18131 - Statistical and machine learning techniques in human microbiome studies


Details

Location: Belgium

Links

[ML4Microbiome website](#)

ML4Microbiome – YouTube Channel & PlayLists




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CUSTOMISE CHANNEL

Created playlists



ML4Microbiome Workshop 2021
Updated 2 days ago
[VIEW FULL PLAYLIST](#)



ML4Microbiome Symposium 2021
Updated yesterday
[VIEW FULL PLAYLIST](#)



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Virtual Networking Tools

Call in June: deadline **30 June 2021**

Two applications for VM Grant:

- **Dr Rajesh Shigdel** - Benchmarking of ML tools for microbiome analytics in support of the DREAM
- **Dr Eliana Ibrahimi** - ML4Microbiome online workshop on - Statistical and machine learning techniques for microbiome data analysis



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VNS Tools

CONTACT INFORMATION

Address
Grant holder institution:
(GH Manager: Dr Chloe Huseyin)
Biosciences Institute,
University College Cork,
Western road,
Cork, Ireland,
T12 YT20.

Contact
ml4microbiome@gmail.com

COST has developed two new types of Grants to respond to the rising need for digital tools in the context of the pandemic and to ensure continuity of COST Actions' work activities. These are proposed as a pilot scheme until 31 October 2021 to build capacity and spread the uptake of virtual collaboration.

The Virtual Networking Tools include two new types of Grants:

- **Virtual Networking Support (VNS) Grant** to stimulate virtual collaboration among all the members of a given Action by designating a Virtual Networking Support Manager.

The successful applicant will be selected by the COST Action Management Committee (MC) to promote the virtual collaboration, such as developing a virtual networking strategy for the Action, taking overall responsibility for Virtual Mobility Grants and supporting the MC in the discussions and planning of virtual events and collaboration activities.

- **Virtual Mobility (VM) Grants** to strengthen the existing networks by allowing individual participants to foster collaboration, to exchange knowledge, to learn new techniques, etc.

The successful applicants will be selected by the MC to perform activities that do not necessarily require in-person presence. These activities may include surveys, questionnaires or preparation of protocols, virtual mentoring of activities that can generate capacity, build new skills, etc.

The deadline for the submission of applications for VNS and VM grants specifically aiming to accomplish ML4 Microbiome's objectives is 30 June 2021.

For information on eligibility rules, evaluation and selections of applicants, implementation of activities, financial support and payment, non-eligible expenses, please read:




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Training School - 27th and 28th of September and the 4th, 7th and 8th of October

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Virtual Training School – 27-28 Sept. & 4-7-8 October 2021

Training workshop in Radboud summer school July 11-16, 2021: Leo Lahti & Rajesh Shigdel

Training School, Sarajevo 2019

Presentations

Meetings & Workshops

Training

VNS Tools

STSM

ITC Grants

[Training School Sweden Virtual - Google Drive](#)

ML4 MICROBIOME HOME ABOUT US NEWS ACTIVITIES AND EVENTS PUBLICATIONS GET INVOLVED

ML4Microbiome Training School 2021

ML4Microbiome is glad to announce the Training School 2021 edition on Machine Learning approaches & methods for the analysis of microbiome data.

The Training School (TS) will take place "live" on the 27th and 28th of September and the 4th, 7th and 8th of October.

We have a challenge planned for the week 11-15th of October where gained knowledge can be applied on a different dataset, but only if enough people sign up for this part of the course.

The Programme is available [here](#)

Lectures and practicals will be recorded and made available through the ML4Microbiome YouTube channel to allow people to watch them also at a later point.

The training material for the hands-on part will be made available to registered people before the school starts. Nevertheless, we recommend following the "live" event as questions can be asked during or after the lectures.

We will make use of the Zoom or Teams platform for communication and access to the material and practicals will only require a web browser. The interface is based on Jupyterhub/Jupyterlab and is tested with Chrome and Firefox. Edge and Safari may work but are untested. All analysis is done remotely in the cloud so no need to install the software.

Registration

Signing up for the Training School can be done [here](#) also if you are not planning on following the lectures live. Registration is free and open to ML4Microbiome members and non-ML4Microbiome members.

Organizers

Aldert Zomer, Utrecht University, Netherlands

Erik Bongcam-Rudloff, Swedish University of Agricultural Sciences, Uppsala, Sweden

Domenica D'Elia, National Research Council, Institute for Biomedical Technologies, Italy

Marcus Claesson, APC Microbiome Ireland, University College Cork, Ireland

Contacts

Aldert Zomer: a.l.zomer@uu.nl

Erik Bongcam-Rudloff: erik.bongcam@slu.se



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Thank you for your attention

Questions?

3° Management Committee Meeting - *25 October 2021*

COST Action CA18131

WG4 Leader: Domenica D'Elia

Vice WG-Leader: Aldert Zomer





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ML4MICROBIOME ACTION OVERVIEW

READ MORE

COST Action CA18131

Statistical and machine learning techniques in human microbiome studies

Aldert Zomer
WG4 vice leader

TS update

Infectious Diseases and Immunology
Faculty of Veterinary Medicine
Utrecht University

25-Oct-2021

Training School – Virtual - Uppsala

- Organizers: Aldert Zomer – Erik Bongcam-Rudloff
- 12 trainers
- Blended learning: lectures and practicals
- 5 (6) days – not consecutively

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 on 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	
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 Ponsero	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 Ponsero, Doris Vandeputte	15:15-15:45	Discussion on rarefying, clustering and data transformation (alr/clr/ilr)	
	15:45-16:00	Concluding remarks	

Day 3 9:00-16:00 - Hands on sessions unsupervised and supervised approaches - 4th of October			
	9:00-9:15	Welcome	
Aldert Zomer	9:15-9:30	Recap week 1	1. What is the microbiome 2. Microbiome data 3. Data transformation 4. Unsupervised learning
	9:30-10:15	Unsupervised learning: Basic approaches	Clustering data
Coffee Break	10:15-10:30	Coffee Break	
Leo Lahti, Rajesh Shigdel	10:30-12:30	Hands on session unsupervised learning: feature selection & dimension reduction	Analysis of taxonomic profiling data, hands-on demonstrations of the new R/Bioconductor framework for multi-omic data analysis (miaverse)
Lunch Break	12:30-13:15	Lunch Break	
Leo Lahti, Rajesh Shigdel	13:15-15:00	Hands on session unsupervised learning: clustering & visualization	Analysis of taxonomic profiling data, hands-on demonstrations of the new R/Bioconductor framework for multi-omic data analysis (miaverse)
Tea break	14:30-14:45	Tea break	
Leo Lahti, Rajesh Shigdel	14:45-15:45	Hands on session unsupervised learning: analysis & interpretation	Analysis of taxonomic profiling data, hands-on demonstrations of the new R/Bioconductor framework for multi-omic data analysis (miaverse)
	15:30-16:00	Concluding remarks	
Day 4 9:00-16:00 - Theory and hands on sessions supervised approaches 7th of October			
	9:00-9:15	Welcome	
Matti Ruuskanen	9:15-10:15	Supervised machine learning	1. Supervised methods: general description
Coffee Break	10:15-10:30	Coffee Break	
Matti Ruuskanen	10:30-11:30	Methods and Model Quality Assessment	2. Model quality assesment (accuracy, specificity, sensitivity) 3. Approaches to build test/training sets
Aleksandra Gruca	11:30-12:30	Supervised Machine Learning Hands-on session	
Lunch Break	12:30-13:15	Lunch Break	
Aleksandra Gruca	13:15-14:30	Supervised Machine Learning Hands-on session	
Tea break	14:30-14:45	Tea break	
Aleksandra Gruca	14:45-15:45	Supervised Machine Learning Hands-on session	
	15:45-16:00	Concluding remarks	

Day 5 9:00-16:00 - Structured output prediction 8th of October			
	9:00-9:15	Welcome	
Aldert Zomer/ Erik Bongcam-Rudloff	9:15-10:15	Recap week 2	<ol style="list-style-type: none"> 1. Unsupervised learning 2. Supervised learning 3. Model assessment
Coffee Break	10:15-10:30	Coffee Break	
Gianvito Pio	10:30-12:30	Structured output prediction	<ul style="list-style-type: none"> - Time Series - Link prediction & Network reconstruction - Exploitation of causal relationships for network reconstruction - Multi-type and multi-target prediction
Lunch Break	12:30-13:15	Lunch Break	
Aldert Zomer	13:15-14:45	Introduction of the challenge	<ol style="list-style-type: none"> 1. Cohort 2. Dataset 3. Challenges in this set 4. Teams
Tea break	14:30-14:45	Tea break	

Signed up

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

Timestamp	Name	Surname	Ei Country	Affiliation	Organization	Register by clicking on th new email
9-9-2021 9:13:09	Aldert	Zomer	nlNetherlands	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	RzNorway	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	ptPortugal	NOVA School of Science	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-9-2021 17:04:29	Andrea	Mihajlovic	anSerbia	Junior Research Asistant	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-9-2021 18:59:00	Isabel	Moreno-Indias	esSpain	IBIMA	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-9-2021 21:20:16	Dumitrana	lordache	roRomania	Babeş-Bolyai University	Romanian Society of Bioi	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-9-2021 22:19:08	Malik	Yousef	ilIsrael	Zefat Academic College	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-10-2021 9:27:04	Miray	UNLU	trTurkey	Abdullah Gul University	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-10-2021 11:26:21	Marjia	Kopanja	rsSerbia	Junior Researcher	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-10-2021 12:10:27	Patricia	Ruiz Limón	esSpain	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	esSpain	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	inFinland	University of Turku	University of Turku	Training School (27-28 Sept; 4-7-8 Oct)
9-12-2021 20:48:37	Renuka	Potbhare	inIndia	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	itItalia	Utrecht University	Utrecht University	Training School (27-28 Sept; 4-7-8 Oct)
9-13-2021 9:57:48	Béreux	Stéphane	frFrance	INRAE	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-13-2021 15:58:06	Amhar	Jabeer	anTurkey	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	esSpain	INRAE	none	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-15-2021 6:51:04	POPESCU	GABRIELA	roROMANIA	BIOLOGIST ORGANIZATI	BIOLOGIST ORGANIZATI	Training School (27-28 Sept; 4-7-8 Oct)
9-15-2021 19:09:51	Valērija	Movčana	lvLatvia	Latvian Biomedical Resea	Latvian Biomedical Resea	Training School (27-28 Sept; 4-7-8 Oct)
9-21-2021 9:18:34	Renuka	Potbhare	inIndia	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	grItalia	CNR Bari	CNR Bari	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 9:57:16	grazia	visci	grItalia	CNR Bari	CNR Bari	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 10:33:28	Elisabetta	Notario	itItalia	Università degli studi di B	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 11:23:45	Maryia	Khomich	noNorway	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	esSpain	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	baBosnia 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	esSpain	IMDEA Food Institute	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 12:13:05	Rajesh	Shigdel	RzNorway	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	ptPortugal	NOVA School of Science	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 12:28:07	Andrea	Mihajlovic	anSerbia	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	trTurkey	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	roRomania	University of Agricultural S	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 12:42:23	Ainhoa	Garcia Serrano	esSpain	IDIBELL	IDIBELL	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 13:00:59	Cláudia	Marques	ptPortugal	NOVA Medical School	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 13:10:27	Mário	Gomes	ptPortugal	FCT-UNL	FCT-UNL	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-22-2021 13:13:05	Shâmila	Ismael	ptPortugal	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	Inés	Paciência	ptPortugal	ISPUP	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	esSpain	IDIBELL	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 14:21:04	Iris	Zhupa	irIran	none	none	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-22-2021 14:24:37	Balázs	Ligeti	huHungary	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	esSpain	IDIBELL	IDIBELL	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 15:12:49	Ferran	Moratalla Navarro	esSpain	Catalan Institute of Oncol	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 15:36:57	Sayak	Ganguli	inIndia	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	esSpain	IMDEA	Working with ML4Microbi	Training School (27-28 Sept; 4-7-8 Oct)
9-22-2021 16:08:46	Subham	Saha	inEstonia	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	Victor Manuel	López Molina	esSpain	Universidad Autónoma de	Universidad Autónoma de	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 7:08:07	Nejc	Stopnisek	nsNetherlands	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	ptPortugal	University of Oslo	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 9:22:21	Mitilda	Gugu	alAlbania	University of Elbasan "Ale	University of Elbasan "Ale	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 10:19:51	Julienne	Sipproth	deGermany	PHD student	TH Wildau	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 10:53:10	Teresa	Rubio	esSpain	CIPF	CIPF	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 11:26:30	Sandra	Garcia Mulero	esSpain	IDIBELL	IDIBELL	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 11:27:06	Khadjah	Abid	pkPakistan	Szabist	Research	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-23-2021 11:32:30	Klajdi	Rrasa	alAlbania	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	esSpain	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	esSpain	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	frFrance	INSERM	PHD student	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 11:40:29	Miguel	Socolovsky	esSpain	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	ieIreland	University College Cork	ML4Microbiome Member	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 13:53:30	Catarina	Oliveria	ptPortugal	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	esSpain	National Center of Epidem	National Center of Epidem	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-23-2021 14:51:43	Tam	Tran	thVietnam	University of Science and	University of Science and	Training School (27-28 Sept; 4-7-8 Oct), Challenge (11-15 Oct)
9-23-2021 14:53:40	Mikolaj	Dziurzynski	plPoland	University of Warsaw	University of Warsaw	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 14:58:10	Zulema	Rodriguez Hernandez	esSpain	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	chSwitzerland	Université de Fribourg	Université de Fribourg	Training School (27-28 Sept; 4-7-8 Oct)
9-23-2021 15:32:13	James	Morningstar	usUnited States	Cornell	Cornell	Training School (27-28 Sept; 4-7-8 Oct)

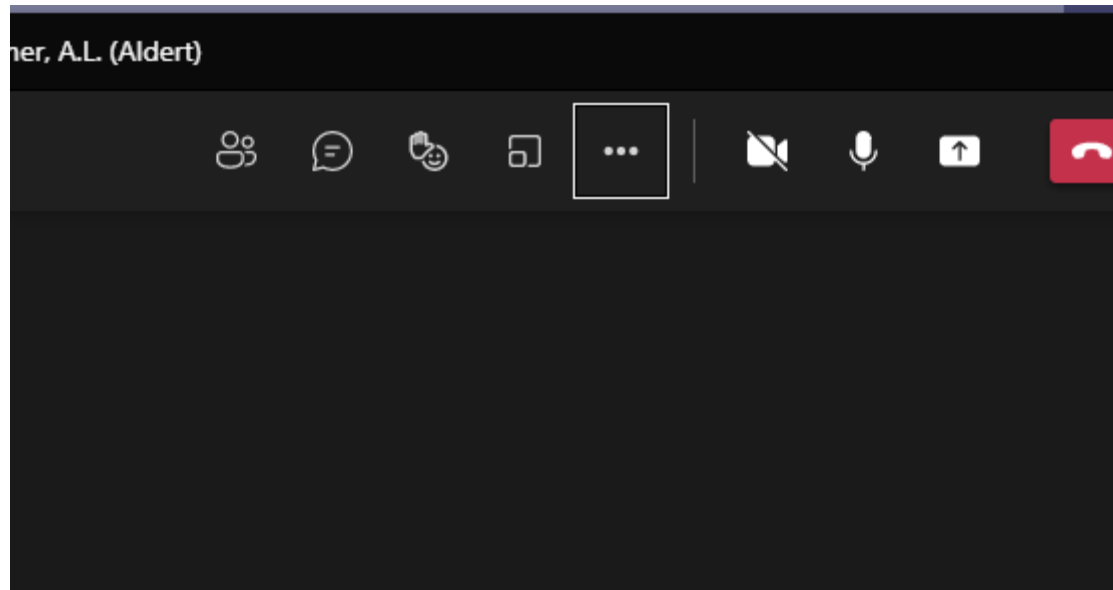
Participated

- ~36 participated (according to Teams attendance report, excluding trainers)
- 32 people did the practical part of the course (excluding trainers)
- All material recorded – Available as virtual course
- https://drive.google.com/drive/folders/1RKWnKEDRF7ZkVlbItO8FADF_yhBuXglB

	0. DADA2 tutorial - Zomer (not part of this course but for reference)
	1. Microbiome Biology - Zomer - Claesson
	2. Microbiome study design - Elbere
	3. Statistical specificity of microbiome data - Berland
	4. Introduction to the statistical analysis of microbiome data - Ibrahimi
	5. An introduction to compositional data analysis - Ponsero
	6. Machine learning: basic concepts - Vlachakis
	7. Avoiding compositionality and absolute abundance profiling - Vandeputte
	8. Unsupervised learning - Lahti - Shigdel
	9. Supervised learning - Ruuskanen - Gruca
	10. Structured output prediction - Pio
	11. Challenge
	Learning Resources
	Report
	Virtual Machine

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

Practical information
















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



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

Virtual TS possible

- We can have more people virtually attending
- Jupyter notebook server available
- Videos open on Youtube? Have to check with trainers. Else private link.
- Still need to do questionnaire. Maybe too late.

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