



To the attention of ISME Office
PO BOX 50
6700 AB Wageningen, the Netherlands

FINAL REPORT ; “Crash course on Nanopore sequencing for microbial ecology (ICME12)”

Location: CNR-IRSA Verbania Italy

Date: 24 September - 29 September

Overview of your event

The ICME12 Crash course on nanopore sequencing for microbial ecology was a hands-on training course. A total of 20 PhD students and early-career researchers were selected by the scientific committee. The criteria for selection were different affiliation, country heterogeneity and gender balance. The course lasted 5 intensive days and it focused on nanopore sequencing data for microbial ecology.

The course required the total involvement of all participants in the activities. Lunches and coffee breaks occurred at the CNR facilities, and respected the criteria of sustainability. Instructors and teachers were constantly present for the theoretical and practical sessions. All this contributes significantly to the continuous exchange of information. Finally, the course consisted of a total of 32 hours of activities divided in:

- N 22 hours of practical activities in the laboratory and on bioinformatic analysis
- N 6 hours of theoretical activities with plenary lectures and teaching provided by internationally recognized scientists
- N 4 hours of question timing and result discussion and presentation by participants

Several researchers in microbial ecology and communicators contributed to the organisation of the course: Ester Eckert, Alejandro Martinez, Emanuele Ferrari, Gianluca Corno, Laura Garzoli, Andrea Di Cesare (Molecular Ecology Group (MEG) of CNR-IRSA-Verbania) ; Grazia Quero, Manuela Coci (CNR-IRBIM- Ancona); M.Antonietta Buccheri (CNR IMM- Catania) ; Elena Panariello (Unina and Microbeco); Stefano Amalfitano (CNR-IRSA Roma) and Andrea Franzetti (University of Milano Bicocca, ISME member). The invited speakers were: Mina Bizic,

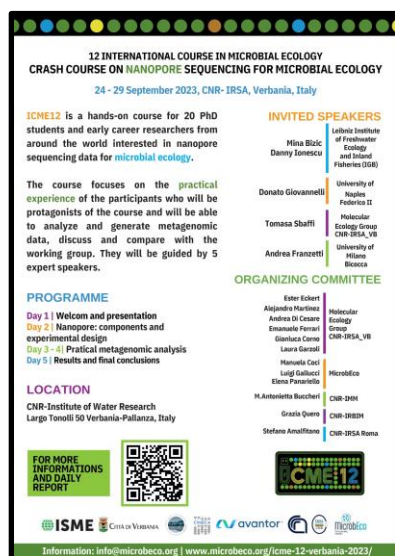
Danny Ionescu, Donato Giovannelli , Andrea Franzetti and Tomasa Sbaffi. A short presentation of the speakers is present on the course webpage.

<https://www.microbeco.org/icme-12-verbania-2023/>

Proper acknowledgement of ISME as sponsor

As signed in the ISME sponsorship acceptance letter, the ISME logo was placed on: 1) the event website 2) the poster/flyer 3) the badge of sponsored speakers and students; 4) several posts, messages and text appeared on the social media of Microbeco account (facebook and instagram) and also on the official communication that our social media manager presented to the press offices of the city of Verbania (local level) and to the national and international press offices, webpage and social media of the CNR- IRSA, (at national and international level) .

Hereby some examples:



Poster (left image) with the sponsors' logo were put up at the entrance of the venues where the ICME12 course was held (left) and distributed by social media. Example of post (right image) of the acknowledgement to the ISME sponsorship.



Daily report

A daily report was prepared during the course and published on the microbeco.org website, sharing all the activities occurred during the event. The daily report is available at the following link and it will stay on line:

<https://www.microbeco.org/icme-12-verbania-2023/icme-12-daily-report/>

In addition, MicrobEco's socials have been updated daily in favour of broad knowledge sharing.

Program

Below the programme of the Course per day.

PROGRAM - ICME12



	SUNDAY 24.09	MONDAY 25.09	TUESDAY 26.09	WEDNESDAY 27.09	THURSDAY 28.09	FRIDAY 29.09
09:00		Group A&B loading of minion (lab) Group C&D lecture by Danny Ionescu - Introduction to metagenomics	9:00-9:30 loading of second library set on minion Practical metagenomic analysis	9:00-9:30 loading of third library set on minion Practical metagenomic analysis	Practical metagenomic analysis	Group meeting at Villa GIULIA
10:00		Group A&B loading of nanopore (lab) Group C&D lecture by Danny Ionescu - Introduction to metagenomics	Practical metagenomic analysis	Practical metagenomic analysis	Practical metagenomic analysis	Working groups present their preliminary conclusion
10:40		Break	Break	Break	Break	Break
11:00		Group C&D loading of nanopore (lab) Group A&B lecture by Danny Ionescu - Introduction to metagenomics	Practical metagenomic analysis	Practical metagenomic analysis	Practical metagenomic analysis	
12:00		Group C&D loading of nanopore (lab) Group A&B lecture by Danny Ionescu - Introduction to metagenomics	11:30 Mina Bizic - Science talk "Insights into cave dwelling <i>Thiovulum sp.</i> "	11:30 Danny Ionescu - Science talk "Linking genomic properties to Cell Architecture in the giant bacterium <i>Achromatium</i> "	11:30 Andrea Franzetti : Science Talk "Short vs long reads sequencing data: theory and case study"	Roundtable on comparing results
12:30		Lunch - foccaccia	Lunch - pidina	Lunch - slamo fritti	Lunch - stuzzichini	Closing ceremony & lunch
13:30	14-14.40 Registration and Coffee 14.40-15:00 Welcome	Demonstration online tool of nanopore	Practical metagenomic analysis	Practical metagenomic analysis	Practical metagenomic analysis	
15:00	15:00-15:30 Mina Bizic - Introduction to nanopore sequencing	Gianluca Cora, Andrea di Cesare, Ester Eckert - presentation of Lake Maggiore	Practical metagenomic analysis	Practical metagenomic analysis	Practical metagenomic analysis	
16:00	15:30-16:30 Donato Giovanelli - Metagenomics in extreme environment	Tomasa Sbaffi - Introduction to Cineca, access to server and basic bash	Practical metagenomic analysis	Practical metagenomic analysis	Practical metagenomic analysis	
16:30	Break	Break	Break	Break	Break	
17:00	Presentation (2min) of students	CINEC- introduction to Cineca, access to server	Practical metagenomic analysis	Practical metagenomic analysis	Practical metagenomic analysis	
18:00	Introduction to the programm of the week and formation of groups	CINEC- introduction to Cineca, access to server	Practical metagenomic analysis	Practical metagenomic analysis	Practical metagenomic analysis	
19:00	Ice Breaker				Social Dinner & Party	

Cost of the event and description of the funding from ISME

The registration fee was 380 euro and it covered the didactic material, lunches, coffee breaks and the social dinner. The consumables for nanopore laboratories were purchased with the income of the registration fee. The ISME funding will be used for reimbursement of the travel expenses of 3 invited speakers and as travel grants for 4 participants. Thanks to the support of ISME, we were able to invite Nanopore sequencing experts who accompanied the participants in theoretical and practical lectures. Participants compared and challenged their prior skills as well as learned new sequencing methods and gained more experience in bioinformatics.

Invited speaker	
Danny Ionescu	<ul style="list-style-type: none"> ● Introduction to metagenomics ● Guide for Practical Metagenomic Analysis ● Science talk "Linking genomic properties to Cell Architecture in the giant bacterium <i>Achromatium</i>"
Mina Bizic	<ul style="list-style-type: none"> ● Introduction to Nanopore sequencing ● Science talk "Insights into cave dwelling <i>Thiovulum sp.</i>" ● Laboratory exercise for loading of Nanopore and Minlon
Donato Giovanelli	<ul style="list-style-type: none"> ● Introduction to Microbial ecology and its main challenges ● Science talk "metagenomics in extreme environments"

Participants	
Luigi Gallucci	PhD student from Max Planck Institute for Marine Microbiology, DE
Matteo Selci	Post doc from Rutgers University, Department of Marine and Coastal Science, USA
Mario Mestre Rodrigues	PhD student from University of Copenhagen, DK
Isabel Vanoverberghe	PhD student from Katholieke Universiteit Leuven, BE



By using this photo, the microbeco organization and myself underline the present report we declare to receive the authorization of using this photographic material by the participants.



Our final acknowledgement to the ISME board for having sponsored our event. ISME financial contribution allowed us to invite top

scientists as instructors, to have students refunded their travel expenses and to, indeed, create a high level scientific practical course for the promotion of microbial ecology.

Prof. Andrea Franzetti (univ. Milano Bicocca)

Dr. Manuela Coci (Microbeco)

A handwritten signature in black ink, reading "Manuela Coci". The signature is written in a cursive style with a large initial 'M' and 'C'.