Rules and procedures for use of the instrument NEXT-GENERATION SEQUENCER, ILLUMINA NEXTSEQ 1000 purchased under the MUR Department of Excellence Project 2023–2027

ACADEMIC CONTACT
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TECHNICAL CONTACT
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Approved by the Department of Excellence Steering Committee on 03/09/2026

Approved by the Council of the Department of Food and Drug on 09/09/2026

Instrument description

The NextSeq™ 1000 system is a second-generation massively parallel sequencing platform (MPS/NGS) that uses Illumina's established Sequencing by Synthesis (SBS) technology, based on patented proprietary chemistry.
The platform is designed for high-performance nucleic acid analysis and supports both Single-End and Paired-End sequencing, providing maximum flexibility for specific experimental requirements. System output varies with the type of sequencing run, ranging from 10 Gbp to 240 Gbp per run. Up to 400 million reads can be obtained in Single-End mode and 800 million in Paired-End mode, enabling analysis of large numbers of samples and genomic targets.
The system also delivers throughput exceeding 4 Gbp per hour, optimising sequencing times and increasing laboratory efficiency. The entire process of clonal library amplification is fully automated and integrated within the instrument, significantly reducing manual intervention and helping to standardise analytical procedures. The high-resolution optical module accurately detects fluorescence signals during sequencing, ensuring high data acquisition quality.
Next-generation sequencing (NGS) technologies are used in many areas of biomedical, food, biotechnology and pharmaceutical research.

Authorised permanent staff and trainers

Surname	First name	Dept./Centre	Contact
Levante	Alessia	Food and Drug	alessia.levante@unipr.it
Bertani	Gaia	Food and Drug	gaia.bertani@unipr.it
Marchi	Laura	Food and Drug	laura.marchi@unipr.it

The list of authorised staff is kept up to date and is available in **Annex 2** to these Rules.

Instrument access and use

1) ALIFAR Department research groups with authorised users may access the instrument through their own staff, subject to prior booking on the dedicated Teams platform managed by the Technical Contact. Groups without a designated contact may contact the relevant staff. Access remains subject to booking on the Teams platform. Use of the instrument without a booking will result in a charge for a full working day of eight hours. Use is restricted to staff who have completed the initial training (authorised staff and trainers) or have subsequently been trained by the trainers.
2) Users from other University departments and external users may contact the Scientific Supervisor by completing the analysis request form (**Annex 1**).

Fees

Three user categories apply to instrument usage fees:

1) ALIFAR users: academic and research staff of the University of Parma affiliated with the ALIFAR Department;
2) Internal users: academic and research staff of the University of Parma;
3) External users: researchers and operators from universities, research bodies and public or private institutions.

Type of analysis	**ALIFAR USERS (€/run)**	**INTERNAL NON-ALIFAR USERS (€/run)**	**EXTERNAL USERS (€/run)**
P1 600-cycle run only (Amplicon sequencing)*	372	1418	2790
P2 300-cycle run only (Shotgun metagenomics and WGS)*	190	746	1446
Type of analysis	**ALIFAR USERS (€/sample)**	**INTERNAL NON-ALIFAR USERS (€/sample)**	**EXTERNAL USERS (€/sample)**
*Amplicon sequencing** (Library preparation and sequencing)* *Min. 48 samples*	90	120	130
*Bacterial whole genome sequencing** (Library preparation and sequencing)* *Min. 50 samples*	150	200	210
*Shotgun metagenomics** (Library preparation and sequencing)* *Max. output 3 Gbp, min. 24 samples*	260	340	350
Type of analysis **Data analysis – additional service**	**ALIFAR USERS (€/sample)**	**INTERNAL NON-ALIFAR USERS (€/sample)**	**EXTERNAL USERS (€/sample)**
Microbiome composition analyses for amplicon sequencing data	30	30	40
Genome assembly	20	20	30
Microbiome composition analyses for metagenome data	50	50	60

* Fee per run covering sequencing only (instrument usage time and work performed by dedicated technical staff), excluding consumables, reagents and data processing.

** Fee per sample including reagents, consumables and dedicated technician time. The cost per sample has been estimated assuming a fully loaded cartridge. Fewer samples may be run, but costs may vary.

ALIFAR users who use their research funds to contribute to annual preventive maintenance and/or insurance contracts (*all risks*) or to pay for repairs will not be charged until their contribution has been offset in full.

Annex 1. ILLUMINA NEXTSEQ 1000 SEQUENCER – ANALYSIS REQUEST FORM

to be emailed to authorised staff

Applicant details

INTERNAL USER AT THE UNIVERSITY OF PARMA
Dept./Centre:
Applicant:
Instrument user:
E-mail:
Telephone:

EXTERNAL USER
Organisation name:
VAT no./Tax code
Address:
Applicant:
Instrument user:
E-mail:
Telephone:

Information on samples and type of analysis

Number of samples to analyse (specify whether replicates are required)	*e.g. "Total number of samples, specifying whether replicates are required"*
Sample type (briefly describe, specifying the matrix and extraction kit used)	*e.g. "DNA isolated from a bacterial strain; specify the extraction kit used"*
Sample purity and concentration	*e.g. "Specify nucleic acid purity measured using NanoDrop and concentration measured by a spectrofluorimetric method"*
Selected type of analysis	*e.g. "Specify whether Amplicon sequencing, Shotgun metagenomics or Whole genome sequencing is required"*
Minimum required output per sample	*e.g. "Minimum output of 3 Gbp per sample"*
Risk factors	☐ flammable ☐ irritant ☐ acute toxicity ☐ harmful ☐ corrosive ☐ oxidising ☐ carcinogenic/mutagenic ☐ hazardous to the environment

Bookings may be cancelled up to the third working day before the requested date.

If the booking is not cancelled in time, the service will be charged even if it is not used.

Date …….

Applicant's signature (fund holder)

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Annex 2. Staff authorised to use the instrument

Permanent staff and trainers			
Surname	**First name**	**Dept./Centre**	**Contact**
Levante	Alessia	Food and Drug	alessia.levante@unipr.it
Bertani	Gaia	Food and Drug	gaia.bertani@unipr.it
Marchi	Laura	Food and Drug	laura.marchi@unipr.it
Authorised permanent staff			
Surname	**First name**	**Dept./Centre**	**Contact**
Instrument users			