

The Institute of Community and Public Health at Birzeit University is hosting two short courses in collaboration with the Swiss Tropical and Public Health Institute at the University of Basel.

Practical Introduction to Next-Generation Sequencing using Oxford Nanopore's MinION Platform for Microbiologists and Public Health Professionals

Time: June 5-8, 2023. From 02:00 pm to 5:00 pm

Location: Birzeit University, Said Khoury Development Studies Building, 1st Floor

Course Overview and Objectives:

In this course, participants will learn the fundamentals of the MinION platform, including how to collect a sample, extract DNA, amplify the pan-bacterial 16S gene by PCR, and sequence the amplicons on the MinION platform. Participants will also gain an understanding of the data generated by the MinION platform, including how to interpret the data for microbiological and public health applications. Upon completion of this course, participants will have gained a practical understanding of next-generation sequencing using Oxford Nanopore's MinION platform.

The following topics will be covered:

- Understand the basics of next-generation sequencing using Oxford Nanopore's MinION platform
- Learn how to collect a sample, extract DNA, amplify the pan-bacterial 16S gene by PCR, and sequence the amplicons on the MinION platform
- Analyze the data generated by the MinION platform for microbiological and public health applications
- Gain hands-on experience using the MinION platform in a laboratory setting
- Develop a basic understanding of the bioinformatics tools used for next-generation sequencing data analysis

Who Should Attend?

The course is designed for microbiologists and people working within the field of public health who are interested in using next-generation sequencing technologies for their research or work. No prior knowledge of next-generation sequencing or the MinION platform is required. Up to 10 participants with laboratory experience and interest in microbiology, next-generation sequencing or molecular diagnostics will be selected for this laboratory-based training.



معهد الصحة العامة والمجتمعية
Institute of Community and Public Health

Swiss TPH

Swiss Tropical and Public Health Institute
Schweizerisches Tropen- und Public Health-Institut
Institut Tropical et de Santé Publique Suisse

Associated Institute of the University of Basel



Course Format:

The course will be delivered over a period of five half with a combination of lectures and hands-on laboratory sessions. The lectures will cover the theoretical background of the MinION platform, next-generation sequencing, and its applications in microbiology and public health. The laboratory sessions will provide participants with hands-on experience using the MinION platform to generate sequencing data.

The trainers:

The trainers are a Swiss Tropical and Public Health Institute- University of Basel team with extensive knowledge and practical experience in next-generation sequencing using Oxford Nanopore's MinION platform for microbiology and public health applications.

Course Registration:

Please register, no later than May 27, 2023, using this [link](#)

Registration fee of \$50 should be paid after receiving confirmation of your registration, and if the participant requested a training certificate.

For any questions, don't hesitate to contact us by email at nrmeileh@birzeit.edu, or by phone at 022982020.

Introduction to the Statistical Software R

Time: June 5-8, 2023. From 9:00 am to 12:30 pm

Location: Birzeit University, Said Khoury Development Studies Building, 1st Floor

Course Overview and Objectives:

This course is a practical introduction to R, a free, open-source software environment for statistical computing. Besides an introduction to the software, the following topics will be covered:

- Data import and export
- Data manipulation
- Statistical analysis
- Graphics and visualization
- Advanced programming concepts (branching and loops)

In contrast to other statistical software solutions, R is designed around a true computer language. This has the implication that R is characterized by an enormous flexibility that enables the user to perform sophisticated statistical procedures or simulations. R might be less intuitive to scientists without prior programming skills. However, there are some tools available to make the user's life easier as graphical user interfaces and editors with syntax highlighting.

By the end of this course, students will be able to use R for statistical analysis and graphical representation. They will be aware of the common mistakes and get familiar with additional tools to use R more efficiently.

Participants should have basic statistical knowledge. Programming skills are not required.

Participants should bring their laptop for the practical work.

Course Registration:

Please register, no later than May 29, 2023, using this [link](#).

Registration fees of \$50 should be paid after receiving confirmation of your registration, and if the participant requested a training certificate.

For any questions, don't hesitate to contact us by email at nrmeileh@birzeit.edu, or by phone at 022982020.