Target Audience
20 – 30 technicians, (molecular) biologists, medical microbiologists, bioinformaticians, hospital infection control experts, infectious disease epidemiologists and public health specialists with an interest in transmission dynamics are the target groups which would benefit most from this workshop.

Faculty Members
Jennifer Bender, Wernigerode, Germany
Yvette Bisselink, Groningen, Netherlands
Stephan Fuchs, Wernigerode, Germany
Hajo Grundmann, Freiburg, Germany
Sarah Klassen, Freiburg, Germany
Alex Kolda, Berlin, Germany
Jacob Moran-Gilad, Beer Sheva, Israel
Silke Peters, Tübingen, Germany
Erwin Raangs, Groningen, Netherlands
Sandra Reuter, Freiburg, Germany
Sigrid Rosema, Groningen, Netherlands
John W. A. Rossen, Groningen, Netherlands
Birgit Strömmenger, Wernigerode, Germany
Alan Walker, Aberdeen, United Kingdom
Sabine Weber, Freiburg, Germany
Guido Werner, Wernigerode, Germany

Course Objectives
Next generation sequencing (NGS) technology has developed rapidly during the last years. Innovative bench-top NGS platforms broaden application opportunities, especially for diagnostic use, epidemiological inference, and surveillance. The programme highlights opportunities and challenges posed by this technology. The workshop has been designed to boost practical knowledge exchange (with respect to both “wet-lab” and “e-lab”) as well as ample discussions with colleagues from all over Europe.
Course Programme

Tuesday, 10 October 2017
13.30 Registration and coffee
14.00 Opening of the course, welcome. Hajo Grundmann
14.05 Next-generation epidemiology and infection prevention. Jacob Moran-Gilad
14.30 Introduction of Illumina sequencing – theory. Illumina representative
15.00 Coffee break
15.30 Data QC: introduction to basespace tools. Illumina representative
16.00 Workshop: data QC – raw reads. Stephan Fuchs
16.30 Coffee break
17.00 Workshop: introduction to Artemis sequence viewer. Sandra Reuter
18.00 Wrap up – questions of the day. Illumina representative, Sandra Reuter, Stephan Fuchs
18.30 Keynote: detection of resistance genes – application of WGS and metagenomics. Silke Peters

Wednesday, 11 October 2017
08.30 Workshop: data QC – assembly. Stephan Fuchs
09.30 Coffee break
10.00 Aspects of library preparation. Erwin Raangs
10.30 Workshop: DNA quantification. Erwin Raangs, Sigrid Rasema, Yvette Bisselink, Sarah Klassen, Sabine Weber
11.30 Workshop: tagmentation & index PCR. Erwin Raangs, Sigrid Rasema, Yvette Bisselink, Sarah Klassen, Sabine Weber, Stephan Fuchs
12.30 Lunch
13.30 Workshop: PCR cleanup. Erwin Raangs, Sigrid Rasema, Yvette Bisselink, Sarah Klassen, Sabine Weber
14.00 Workshop: library normalization & pooling. Erwin Raangs, Sigrid Rasema, Yvette Bisselink, Sarah Klassen, Sabine Weber
15.30 Coffee break
16.00 Wrap up – questions of the day. Erwin Raangs, Sigrid Rasema, Yvette Bisselink, Sarah Klassen, Sabine Weber, Stephan Fuchs
16.30 Keynote: application of WGS in a routine diagnostic lab. Axel Kola
17.15 Keynote: application of WGS in national health surveillance. Guido Werner
18.30 Keynote: studying the intestinal microbiota – recent insights and pitfalls to be avoided. Alan Walker

Thursday, 12 October 2017
08.30 Workshop: data QC – species ID. Stephan Fuchs
09.30 Coffee break
10.00 Workshop: data analysis – MLST. Jennifer Bender, Birgit Strommenger
11.00 Workshop: data analysis – resistance. Sandra Reuter
12.00 Lunch
13.00 Workshop: data analysis – cgMLST and phylogenetics. John W. A. Rossen
15.00 Coffee break
15.30 Wrap up – questions of the day. Stephan Fuchs, Jennifer Bender, Birgit Strommenger, John W. A. Rossen
16.00 Keynote: personalized microbiology during outbreaks – unique markers and in silico screening approaches. John W. A. Rossen
17.30 Social activity and dinner

Friday, 13 October 2017
08.30 Workshop: data analysis – own run. Course participants
10.00 Coffee break
11.00 Workshop: data analysis – own run. Course participants
12.30 Lunch break, departures

Organization

Course Venue
Medical Center, University of Freiburg
Breisacher Strasse 115b
79106 Freiburg, Germany

Registration Procedure
Register now online on the ESCMID website at www.escmid.org/education. Registration deadline is 8 September 2017.

Registration Fee
EUR 500 for ESCMID members (Full Membership/Young Scientist Membership)
EUR 600 for all others

The fee includes the course, coffee, lunches and the social dinner. Travel and accommodation are not included.

Attendance Grants
ESCMID provides a number of attendance grants for ESCMID “young scientist members”. The grant covers the registration fee. Travel and accommodation are not included. Please apply via the ESCMID website at www.escmid.org/education before 18 August 2017. Applicants will be informed about their acceptance by 1 September 2017.

CME Accreditation
The organizers of the course will apply for European CME accreditation through EACCME.