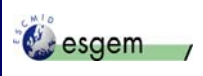


Instituto de Tecnologia Química e Biológica Oeiras, Portugal



European Society of Clinical Microbiology
and Infectious Diseases



ESCMID Study Group on Epidemiological
Markers

40th ESCMID Postgraduate Education Course

Bacterial Molecular Typing **A Practical and Theoretical Course**



April 29 – May 4, 2007, Oeiras, Portugal
organised by ESGEM under the auspices of ESCMID



40th Postgraduate Education Course
of European Society of Clinical Microbiology
and Infectious Diseases

Bacterial Molecular Typing

A Practical and Theoretical Course

Objectives of the course

To provide participants with updated theoretical and practical information on bacterial molecular typing. The course will focus on pulsed-field gel electrophoresis (PFGE), multiplex PCR, and DNA sequence-based methods namely multilocus sequence typing (MLST) and *spa* typing. Overall, there will be 13 lectures and approximately 25 hours of hands-on experiments. At the end of the workshop, participants will be able to plan, perform and interpret molecular typing experiments for different bacterial species, using the currently most up to date methods.

Course Organizers

Hermínia de Lencastre,

Marta Aires de Sousa,

Raquel Sá-Leão,

Instituto de Tecnologia Química e Biológica,

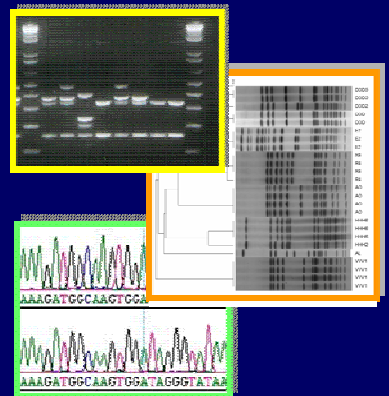
Oeiras, Portugal

Panayotis Tassios,

University of Athens, Greece

Alex van Belkum,

Erasmus MC, Rotterdam, The Netherlands



Local organizing committee

Hermínia de Lencastre, Marta Aires de Sousa, Raquel Sá-Leão

Alexandra Simões, Catarina Milheiro, Sónia Nunes, Teresa Conceição

Faculty: Marta Aires de Sousa, Alex van Belkum, João Carriço, Hajo Grundmann, Dag Harmsen, Hermínia de Lencastre, Duarte C. Oliveira, Mário Ramirez, Raquel Sá-Leão, Panayotis Tassios

Preliminary program

The course will consist of both practical and lecture sessions. Experimental work will be preceded by detailed practical instructions and followed by troubleshooting sessions. Appropriate computer software for data interpretation will be available. Protocols and relevant bibliography will be provided to the participants.

The structure of the course is detailed below:

Sunday, April 29

Registration

Welcome and introduction to the course, introduction of the participants.

Lunch.

Practical work: 1. DNA extraction for PCR; 2. Inoculation of strains for PFGE.

Welcome dinner.

Lectures: 1. Molecular typing; 2. Principles and applications of PFGE; 3. Principles and applications of PCR-based methods.

Monday, April 30

Practical work: 3. PFGE disk preparation, cell lysis and proteinase K digestion; 4.

Preparation of PCR reaction mixtures for MLST and *spa* typing.

Lecture: 4. Principles of *spa* typing and MLST.

Tuesday, May 1

Practical work: 5. Agarose gel electrophoresis and purification of MLST and *spa* products; 6. Restriction endonuclease of DNA for PFGE and gel preparation; 7. Staining and photography of MLST and *spa* gels.

Lectures: 5. Molecular epidemiology of *Streptococcus pneumoniae*; 6. Molecular epidemiology of *Staphylococcus aureus*.

Wednesday, May 2

Practical work: 8. Loading of PFGE gel; 9. MLST sequence analysis and troubleshooting; 10. *spa* sequence analysis and troubleshooting; 11. Preparation of PCR reaction mixtures and initiation of *SCCmec* typing.

Lectures: 7. eBURST; 8. DNA sequence based early warning systems for infectious diseases: from data to knowledge; 9. *SCCmec*: definitions and typing strategies.

Thursday, May 3

Practical work: 12. Agarose gel electrophoresis of *SCCmec* products; 13. Staining and photography of PFGE and *SCCmec* gels; 14. *SCCmec* analysis and troubleshooting.

Lectures: 10. Software for comparison of typing methods; 11. Harmonization of methods, international networks and databases.

Social event, social dinner.

Friday, May 4

Practical work: 15. Visual and computer assisted analysis of PFGE gels and troubleshooting; 16. Preparation of participants' presentations describing and discussing experimental results they have obtained; 17. Participant's presentations.

Lectures: 12. New typing methods; 13. Computer assisted analysis of PFGE gels.

Closing session.

Farewell dinner.

Venue

Instituto de Tecnologia Química e Biológica
Rua da Quinta Grande, 6
2780-106 Oeiras, Portugal
Tel: +351 21 446 9870
Fax: + 351 21 442 8766
<http://www.itqb.unl.pt>

Participants

A total of 24 MSc or MD/PhD specialists in clinical microbiology or infectious diseases (or in the process of graduating) wishing to acquire expertise in DNA-based microbial typing techniques.

Deadline for applications

January 15, 2007.

Deadline for registration

February 15, 2007.

Cancellation policy

Before March 15: complete refund minus 50€ of administrative fees. After this date there will be no refunds.



Course Secretariat

Mrs. Manuela Nogueira
e-mail: hml@itqb.unl.pt
Tel: + 351 21 4469870
Fax: + 351 21 4428766

Language

The official language of the course will be English.

Registration fees

The registration fee is 800€ for ESCMID members and 900€ for non-ESCMID members. The registration fee covers the 6-day course including: educational material, accommodation in a four-star hotel (www.almeidahotels.com/praiamar_eng.htm) in a double room shared with a co-student (7 nights), breakfast, lunches, coffee breaks, social events (including at least three dinners), and transportation from the hotel to the course venue.

Applications and attendance grants

Applicants should send by e-mail addressed to the Course Secretariat:

- registration form;
- short motivation letter explaining your reasons for attending the course;
- brief CV including professional affiliation, position, date of birth, and educational status.

There will be a few **attendance grants** for ESCMID members requiring financial support covering the full registration fee but no travel costs to and from Oeiras. Applicants of attendance grants are also requested to send a recommendation letter by someone knowledgeable in the field or their institutional head.

The successful candidates will be notified by e-mail by January 31, 2007 at the latest.



Sponsors (preliminary)

ESCMID, Instituto de Tecnologia Química e Biológica, Stichting Microbiële Typering (NL), Instituto Gulbenkian de Ciência, Bio-Rad, HT Biotechnology Ltd., Ridom Bioinformatics, STAB Vida