

**Network on advanced biomaterials  
& biomedical applications**

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# **Presentation of Microbiology Laboratory Research Activities**

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**Department of Microbiology  
School of Medicine  
University of Patras**

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# Research Interests & Faculty

**Director: Prof. E.D. Anastassiou**

## Research Interests

Molecular identification of bacteria: pathogenicity and resistant determinants. Molecular epidemiology

- **I. Spiliopoulou, Prof.**
- Foka A., PhD
- Drougka E., Diploma thesis
- Giormezis N, M.D., PhD

■ **Virology: Molecular identification, genotyping, resistance determinants**

- **M. Christofidou, Assoc. Prof.**
- Bartzavali C., PhD
- Koutsogiannou M., M.D., PhD

Host defense lab

Molecular Immunology

**F. Paliogianni, Prof.**

- Liopeta K., PhD
- Dimitracopoulos O., M.D., PhD

Bacterial Biofilms: structure, immunology

**F. Kolonitsiou, Assist. Prof.**

- Spiliopoulou A., M.D., PhD
  - Krevata M., PhD
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## FACILITIES

- Bacteriology:  
isolation,  
phenotypes,  
antibiotic  
susceptibility testing



# FACILITIES

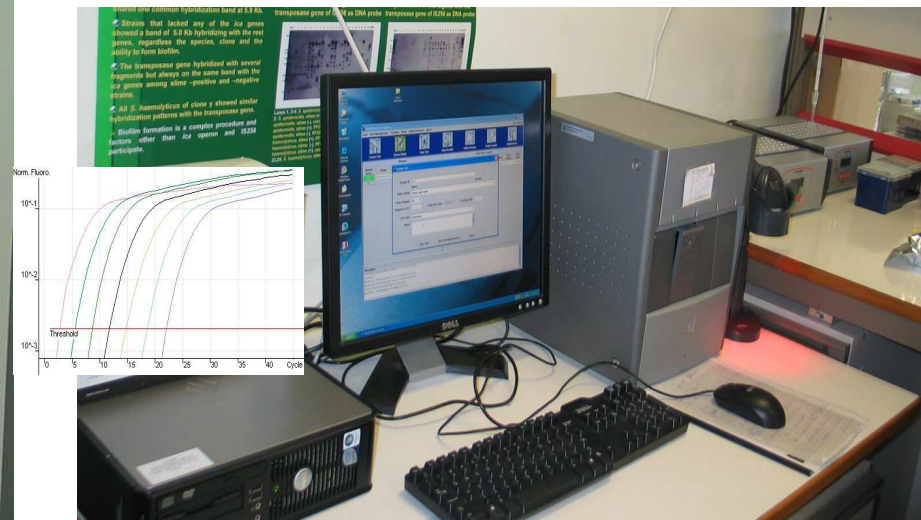


**PCR** and **Multiplex PCR** for the identification of bacteria, toxin genes' profile, antibiotic resistance genes



# FACILITIES

**Real-Time PCR (RT-PCR)** systems for the identification of bacteria in different specimens; **Reverse-transcription PCR**: quantification of genes' expression

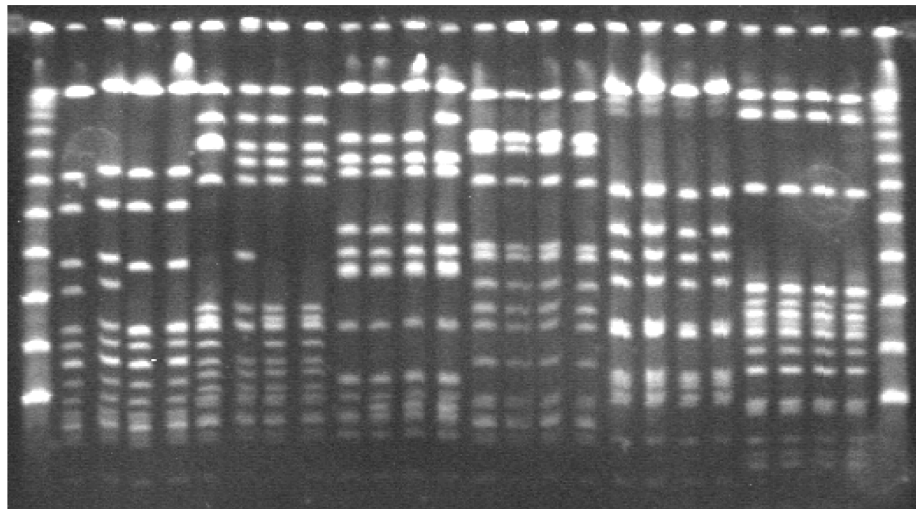




# FACILITIES

Pulsed-Field Gel  
Electrophoresis (PFGE)  
system for molecular  
characterization of bacterial  
clones

MWM 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 MWM



A A A A B B B B C C C C E E E E F F F F G G G G



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## FACILITIES

**DNA sequencing:**  
Multi-Locus  
Sequencing Typing  
(MLST), identification  
of mutations.



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## Recent Publications

1. Katsikogianni M, I Spiliopoulou, DP Dowling, YF Missirlis: **Adhesion of slime producing *Staphylococcus epidermidis* strains to PVC and diamond-like carbon/silver/fluorinated coatings.** *Journal of Materials Science: Materials in Medicine*. 2006; 17: 679-689.
  2. Foka A, V Chini, E Petinaki, F Kolonitsiou, E D Anastassiou, G Dimitracopoulos and I Spiliopoulou. **Clonality of slime-producing methicillin-resistant coagulase-negative staphylococci disseminated in the neonatal intensive care unit of a university hospital.** *Clinical Microbiology and Infection*, 2006; 12: 1230-1233.
  3. Sdougkos G, V Chini, DA Papanastasiou, G Christodoulou, G Tagaris, G Dimitracopoulos, I Spiliopoulou. **Methicillin-resistant *Staphylococcus aureus* producing Panton-Valentine leukocidin as a cause of acute osteomyelitis in children.** *Clinical Microbiology and Infection*, 2007; 13: 651-654.
  4. Chini V, A Foka, G Dimitracopoulos, I Spiliopoulou. **Absolute and relative real-time PCR in the quantification of *tst* gene expression among methicillin-resistant *Staphylococcus aureus*: evaluation by two mathematical models.** *Letters in Applied Microbiology* 2007; 45: 479-484.
  5. Petinaki E, Kanellopoulou M, Damani A, Foka A, Spiliopoulou I, Skalmoutsou N, Raitsiou B, Valakis K, Papafragas E. **Linezolid-resistant *Staphylococcus cohnii*, Greece.** *Emerging Infectious Diseases*. 2009; 15(1):116-118
  6. Liakopoulos A, Neocleous C, Klapsa D, Kanellopoulou M, Spiliopoulou I, Mathiopoulos KD, Papafrangas E, Petinaki E. **A T2504A mutation in the 23S rRNA gene responsible for high level resistance to linezolid of *Staphylococcus epidermidis*.** *Journal of Antimicrobial Chemotherapy*. 2009; 64(1):206-207
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