Dott.ssa Marzia Boaretti

Curriculum vitae

Born in Verona on 17th November 1961.
Degree in Biology, University of Padova, 1986.
PhD (Research Doctorate) in Basic and Applied Microbiology, University of Padova, 1996.
Post Doctoral Fellow at the Microbiology Section of the Department of Diagnostic and Public Health, University of Verona
Assistant Professor of Microbiology (MED/07), Faculty of Medicine, University of Verona since 1996 (present position).
Biologist Manager at the UOC di Microbiologia e Virologia of Azienda Ospedaliera Universitaria Integrata di Verona, 2000 (present position).

Research activity:

- bacterial physiology and genetics: studies on mechanism of bacterial growth and division and involvement of lytic enzymes in the final stages of cell wall assembly
- mechanism of action and antibacterial activity of new antibiotics such as RU 51,746 and Daptomycin
- mechanisms of resistance to beta-lactam antibiotics in gram-positive (*Enterococcus faecalis*, *Enterococcus faecium*) and gram-negative bacteria (*Escherichia coli*)
- evaluation of survival strategies adopted by bacteria of medical interest (*Enterococcus spp* and *Escherichia coli*) when they are released in natural environments and possible genetic mechanisms involved in persistence in viable but non-culturable (VBNC) state
- development and evaluation of innovative molecular approaches for diagnosis of viral infections: viruses involved in acute tract respiratory infections and in central nervous system (CNS) infections, cytomegalovirus and BK virus reactivation in organ solid transplant recipients
- development and validation of molecular methods applied to the detection of bacteria of medical interest in biological fluids of cirrhotic patients with ascites, with negative microbiological report but indication of presumptive infection
- identification and molecular typing of *Pseudomonas aeruginosa* isolated from CF patients with acute and chronic lung infection
- evaluation of antimicrobial and anti-biofilm activity of biogenic selenium nanoparticles and effects on human dendritic cells and fibroblasts
- evaluation of anti-inflammatory action of “protease inhibitors” on *Pseudomonas* acute lung infections in opportune mouse models
- cohabitation and interactions between *Pseudomonas aeruginosa* and *Achromobacter* spp in CF lung infections
- possible role of viruses in inflammatory myopathies: direct and indirect research of various viruses in relation to clinical and pathological evaluation of various forms of myositis.
- Stuies for development of a rapid and accurate molecular protocol for species-specific identification of Burkholderia cepacia complex and Achromobacter sp

All these studies yielded various oral/poster presentations in scientific congresses and publications in peer-reviewed national and international journals.

Teaching activity: courses of General Microbiology, Clinical and Diagnostic Microbiology for students and MD specialists of the Faculty of Medicine

Diagnostic activity: Biologist Coordinator in charge for the diagnostic activities of the Clinical Microbiology Division at the University Hospital of Verona, expertise coordinator in "Molecular diagnosis of central nervous system infections"

Partecipation to Research Project of national interest: "Survival strategies of pathogenic bacteria in response to stress conditions found in the human body: biological, pathogenic and diagnostic aspects" (2006); "Role of the marine environment in the evolution, persistence and diffusion of virulence and antibiotic resistance genes in bacteria that might represent a risk for human health" (2010); "Development of a CF, IL-8/NF-KB transgenic mouse model for the in vivo long-term monitoring of the inflammatory response induced by bacteria treated or not with azithromycin" (FFC#18/2013); "Environmental and human reservoirs of *Pseudomonas aeruginosa* and other bacterial species colonizing the lower airways of cystic fibrosis patients" (FFC # 22/2016); manager of the experiments in the project "Inibitori di proteasi e nanoparticelle di selenio per il trattamento dell'infezione polmonare da *P. aeruginosa* in fibrosi cistica tramite tecniche di "in vivo imaging", autorizzazione ministeriale n. 953/2017-PR (protocol n° 46984); "Investigating *Achromobacter xylosoxidans* pathogenicity and clinical impact on CF lungs" (2019).