

Alessandra Polissi

1. Curriculum Vitae

1990 PhD in Cellular and Molecular Biology, Department of Genetics and Microbiology, University of Milano

1990-1995 "Maître-assistante", Department of Medical Biochemistry, University of Geneva Medical Center (Geneva)

1996-2002 Group Leader, Department of Microbiology, GlaxoSmithKline Research Center (Verona - Stevenage).

2003-2007 Assistant Professor in Microbiology, Department of Biotechnology and Biosciences, University of Milano – Bicocca

2007-2015 Associated Professor in Microbiology, Department of Biotechnology and Biosciences, University of Milano – Bicocca

2015-2017 Associated Professor in Microbiology, Department of Pharmacological and Biomolecular Sciences, University of Milano

2018-present Full Professor in Microbiology, Department of Pharmacological and Biomolecular Sciences, University of Milano

2. Major Scientific Contributions

The common theme throughout my research career is the study of fundamental microbial processes.

I initially applied genetic and biochemical techniques to characterize catabolic pathways for the degradation of aromatic compounds in *Pseudomonas*.

Then I moved to applied research in GlaxoSmithKline where the major objective was to develop and use a genomic approach to identify and characterize novel conventional (essential genes) and non-conventional (virulence genes) as molecular targets for the development of new antibiotics.

Since 2003, when I set up my own laboratory and research group, my main scientific interest is bacterial cell envelope biogenesis in Gram-negative bacteria and in particular the characterization of the molecular machine that transports lipopolysaccharide (LPS) to the cell surface and its connection to the synthesis and turnover of peptidoglycan (PG). Both LPS and PG are not only essential components of Gram-negative envelope but represent conserved molecular structures (PAMPs) sensed by the host. Therefore, the dissection of this process not only allowed the identification of new molecular targets for the development of novel antimicrobials but is also an important tool to decipher molecular mechanisms of host-pathogen interaction.