

# World Congress and Expo on Applied Microbiology

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### Biology of *Myxobacteria* – An underestimated group of antibiotic producing bacteria

The *Myxobacteria* with the order *Myxococcales* (TCHAN, POCHON and PRÉVOT 1948) belong to the Gram negative Proteobacteria and have first been described in detail by Thaxter in 1892 in the Botanical Gazette. Most known *Myxobacteria*, occur in soil and frequently develop on decomposing plant material, the bark of living trees or animal dung. Both in nature and in the laboratory their presence may be detected through the appearance of fruiting bodies. Since the introduction of Epotilon as anticancer therapeutic on the market, the *Myxobacteria* have their place in the group of industrial important bacteria. The biology of *Myxobacteria* is mainly characterized by two features that are the gliding on surfaces without any locomotion organelles and the formation of fruiting bodies. *Myxobacteria* also have a high GC content and very huge genomes with a size of about 10 Mb which correlates with their ability to produce many different secondary metabolites. Until today the taxonomy of the *Myxobacteria* is basing on the morphological features together with the 16S rRNA sequence, in addition we have established a number of chemotaxonomic and molecular biological markers which can be used in *myxobacterial* taxonomy. A short overview on the history of *Myxobacteria*, the fruiting body formation, its taxonomic classification and additional methods for characterization is given in this talk.

### Biography

Joachim Wink has completed his PhD in 1985 from Frankfurt University. He then went to the pharmaceutical industry and started his career at the Hoechst AG where he was responsible for the strain collection and specialized in the cultivation and taxonomic characterization of *Actinobacteria* and *Myxobacteria*. In 2012 he went to the Helmholtz Centre for Infection Research in Braunschweig where he founded the working group of the strain collection with its focus on *Myxobacteria*. He has published more than 40 papers on secondary metabolites and the taxonomy of the producing microorganisms in reputed journals.

### Notes: