

Eric Déziel, Ph.D.

Rhamnolipids: why and how are they produced?

Known for more than 60 years and among the best studied biosurfactants, rhamnolipids comprise a diverse group of mono- and di-sugar amphiphilic glycolipids with surface-active properties. Produced by various bacteria, the best known being *Pseudomonas aeruginosa* and a few *Burkholderia* species, these fascinating molecules still hold many secrets and promises. Although we have learned a lot on the genetic and metabolic regulation of rhamnolipid production in *P. aeruginosa*, the pathogenic potential of this bacterial species represents an incentive to develop alternative production models. In this regard, the intrinsic capacity of a few *Burkholderia* species which are not human pathogens, such as *B. thailandensis* and *B. glumae*, to produce rhamnolipids, although different from the ones produced by *P. aeruginosa*, is especially promising, while posing a whole new set of challenges. In this presentation, I will argue that a better understanding of the reasons why bacteria produce rhamnolipids is key to develop procedures to optimize their productivity.