東北大学大学院歯学研究科
インターフェイス口腔健康科学
第107回学術フォーラム
Forum for Interface Oral Health Science

Understanding Oral Biofilms
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平成29年9月15日（金）17:30〜19:00
大会議室（C棟 1 階）

The dental plaque that is the biofilm covering our teeth consists of a large number of microorganisms living within an extracellular polysaccharide matrix of its own making. The richness of this community is very high and each individual will have several hundred species in their oral cavity. This community forms complex and diverse biofilms in the various environments in the mouth.

A number of oral diseases are mediated by changes in the community structure and the proportions of different taxa in these communities. Dental caries, gingivitis, chronic periodontitis and peri-implantitis are just some examples of these. These diseases are difficult to study *in vivo* and we have developed a range of *in vitro* techniques to help us understand what causes population shifts and indeed what these shifts are. I will present data on developing a gingivitis model that utilises environmental changes to shift health associated microbial populations to disease associated populations. This allows us to study what changes occur in species richness, and metabolic end products. I will also show how we have developed a 3 phase system to characterize health, peri-mucositis and peri-implantitis. Finally, I will discuss a functional food project where we selected a range of foods (shiitake mushroom, red chicory and raspberry) for their possible oral health benefits, tested and refined these (and fractions of these) in a large range of *in vitro* and *in vivo* assays to determine active constituents.

In summary, the presentation focuses on studying how complex microbial populations shift to cause disease, how we characterise these shifts and whether there are any ways to control these shifts.

連絡先：第107回モデレーター　高橋信博 （口腔生化学分野）