

## **Annual patterns of presence and activity of marine bacteria monitored by 16S rDNA 16SrRNA fingerprints in the coastal NW Mediterranean Sea.**

Lami, R, Ghiglione, JF., Desdevises, Y., West, N.J., Lebaron, P (2009).  
Aquatic Microbial Ecology, Vol. 54 (2), 199-210.

The annual dynamics of the bacterial community structure and its activity remain poorly studied in marine environments. Our goal was to gain new insights into the year-long bacterial dynamics and activity in correlation with environmental changes in the NW Mediterranean Sea. To accomplish this goal, we combined 16S rDNA versus 16S rRNA fingerprints and environmental variables using multivariate analyses. A clone library was constructed to determine to which bacterial taxa the major ribotypes were related. Our results revealed similar environmental controls of bacterial community structure at both the DNA and RNA levels. The 16S rRNA signal of several ribotypes differed relative to their 16S rDNA counterpart, suggesting that the members of the community have either a higher or lower activity than their relative abundance would suggest. Such differences included the dominant ribotypes observed in the fingerprints, such as *Roseobacter*, *Synechococcus*, SAR11 and SAR116. All these results give support to the 16S rDNA and 16S rRNA fingerprinting approach to monitor bacterial community structure and activity in marine environment