

## Dr. Fernando Reyes



*Department of Chemistry, Fundación MEDINA, Granada, Spain*

### **Marine actinomycetes as source of new antimicrobial molecules**

Microbial natural products (NPs) have historically played a key role and have been one of the most prolific sources of new leads in drug discovery, more importantly in the antimicrobial field. The unique chemical space and architectural complexity represented by NPs, together with their improved potency and selectivity as the result of an extended evolutionary selection to create biologically active molecules, make of them a privileged source of drug candidates.

Existing collections of microbial strains and natural products libraries still represent untapped sources of novel molecules and the large diversity of microbial sources that remain largely underexplored open new avenues for future drug discovery. Based on more than fifty years of cumulative experience in the pharmaceutical industry Fundación MEDINA possess a collection of approximately 116.000 microbial strains from which approximately 5.000 strains have a marine origin. A selection of a group of the best strains from this collection taking into account their geographical origin and taxonomy allowed the creation of a collection of extracts and fractions that was subjected to different bioactivity tests, mainly in the anti-infective area.

The strategy for the creation of this collection, including fermentation and strategies for the creation of extracts, global screening results, and tools used in the dereplication of known molecules by HRMS and NMR combined with the use of databases will be commented. Results [1-3] on some of the new bioactive molecules identified using this strategy will also be discussed.

[1] Palomo S, González I, de la Cruz M, Martín J, Tormo JR, Anderson M, Hill RT, Vicente F, Reyes F, Genilloud O (2013) *Mar. Drugs* 11:1071-1086.

[2] Martín J, da S. Sousa T, Crespo G, Palomo S, González I, Tormo JR, de la Cruz M, Anderson M, Hill RT, Vicente F, Genilloud O, Reyes F (2013) *Mar. Drugs*, 11: 387-398.

[3] Lacret R, Oves-Costales D, Gómez C, Díaz C, de la Cruz M, Pérez-Victoria I, Vicente F, Genilloud O, Reyes F (2015) *Mar. Drugs* 13: 128-140.

Date: Wednesday, July 1st, 2015, 13:00 h c.t.  
Place: GEOMAR Westshore, Düsternbrooker Weg 20, Lecture Hall  
Host: Prof. Dr. Deniz Tasdemir / RU Marine Natural Products Chemistry