Special session – Biomimicry, bio-inspiration and bioprospecting in the deep sea

Daniela Zeppilli, Ifremer (France), Daniela.Zeppilli@ifremer.fr
Franck Zal, HEMARINA (France), franck.zal@hemarina.com
Julia Sigwart, Senckenberg Institute (Germany), julia.sigwart@senckenberg.de
Christine Delbarre-Ladrat, Ifremer (France), Christine.Delbarre.Ladrat@ifremer.fr
Sabrina Mace, Ifremer (France), Sabrina.Mace@ifremer.fr

Covering 93% of the biosphere available in our planet, the deep sea are is the largest but still the least explored habitat on Earth. Due to its unique conditions (pressure, temperature, darkness, pH, ...), the deep sea is an exceptional reservoir of molecules, mechanisms, species and resources. This huge biome hosts this important but largely unknown and underexploited biodiversity. This diversity opens up a vast and original field of investigation with varied potential applications leading to new innovative solutions for environmental and societal issues. Despite several molecules and resources were discovered from the deep sea, the biomimicry, the bio-inspiration and the bioprospecting of deep-sea environments is still at its infancy. This special session aims to unite all of the different ways that the deep sea inspires solutions to life's problems, from molecules and medicine to armour and architecture. The presentations and discussion will provide opportunities for sharing advances and researches in this emergent field, but also to stimulate new subjects for collaboration between scientists and private companies proposing the deep-sea biomimicry as a science-industry transfer tool.