

Dear colleagues,

You are cordially invited to the seminar of **Prof. J. Elster** 'Development of low temperature algal biotechnology' on Thursday 30/11/17 at 15H30, room B52 at Amphitheatres de l'Europe (Liège University).

The adaptation/acclimatization mechanisms of polar microalgae (including cyanobacteria and eukaryotic microalgae) evolved to withstand the harsh environment characterized by low temperature, freeze-thaw cycles, desiccation, salinity, and high and variable photosynthetically active and ultraviolet radiations. Hence, the polar microalgae developed ecological, physiological and molecular defensive and adaptive strategies, which include the synthesis of a tremendous diversity of compounds originating from different metabolic pathways which protect them against the above-mentioned stresses. Production of different biological compounds followed by various biotechnological applications, for instance, water treatment technology in low-temperature environments, and many others are the perspectives for human that widely explore and exploit rich Arctic resources. In this lecture, the non-marine environmental conditions in Arctic environments and microalgal adaptations will be introduced with respect to possible biotechnological applications. The presentation also provides a survey of the possible compounds to be exploited from Arctic microalgae. Possible constructions of photobioreactors for mass cultivation of microalgae are proposed for operations in the Arctic.