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Delayed Luminescence and Biophotons from Biological Materials ERNST KNOESEL, PATRICK HANN, MARIA GARZON, ERIK PFEIFFER, SAMUEL LOFLAND, Rowan University, ROWAN UNIVERSITY TEAM — There has recently been increased interest in the field of biophotonics, since it is a non-invasive technique. Many biological systems, such as yeast, bacteria, leaves, seeds, and algae display the unusual phenomenon of a weak, delayed luminescence on the timescale of seconds to minutes after transient illumination. It is also observed that the time decay of the biophotonic emission is not exponential, even after the delay, and that there can be oscillations in intensity with time, which depend on the duration of the illumination. Results from two types of yeast, i.e. bread yeast, and saccharomyces, as well as those from several types of algae are presented. Possible mechanisms for the source of the ultraweak photon emission are discussed.

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