Electronic plants as an innovative platform for reducing environmental health risk factors

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ABSTRACT

Environmental pollution endangers the good health of people living in both developed and developing countries. Hazardous chemicals are released from industries and other human activities to the environment, contaminating the air, the water and the soil. Inevitably, finite amounts of these chemicals enter the human body through either the respiratory or the digestive system. Environmental monitoring systems must be developed and deployed in our surroundings, to allow the early warning of environmental pollution, thus enabling preventive measures to reduce the associated health risks. Electronic plants have been recently proposed as a futuristic approach for environmental monitoring, using functionalized plants. This newborn technology relies on the development of advanced bio-hybrid systems based on photosynthetic organisms and smart materials and devices. In this talk, I will introduce the concept of electronic plants, discuss the first achievements, and highlight our contribution to this fascinating scientific and technological field.