SESSION
BIOS 4

TITLE	**Whole-cell bioreporters in environmental monitoring**		
CHAIRMANS	1	Francisca Fernandez Piñas	Spain
	2	Elisa Michelini	Italy
	3	Sapna Deo	USA
ABSTRACT	Whole cell bioreporters are extremely useful in environmental monitoring as they are able to integrate the environmental information reaching the cell and that they also sense or detect the bioavailable fraction of the contaminants. The term bioreporters generally refers to transgenic organisms (usually microorganisms) which harbor, either in the chromosome or in a replicative plasmid, a fusion between a sensing element [a gene(s) promoter responsive to the stimulus/compound to be detected] and a promoterless reporter element encoding easily detectable output signals. These recombinant organisms are designed to produce a measureable signal in response to an analyte (i.e. toxin or pollutants) or an environmental stress situation. The luciferase reporter systems are widely used due to their high sensitivity and ease of measurement. The luciferase systems product is bioluminescence and may be based either in bacterial *luxCDABE* genes or in eukaryotic *luc* genes. Another luminescent reporter system that is gaining interest in environmental monitoring is aequorin, a sensitive luminescent intracellular free calcium indicator whose gene has been expressed in a number of cell systems, both prokaryotic and eukaryotic, to measure Ca signals in response to a variety of environmental stresses including pollution This session welcomes abstracts dealing with luminescent environmental whole cell bioreporters, both prokaryotic and eukaryotic as well as those dealing with aequorin-based bioreporters. Any further innovations in this field are also welcome.		
KEYWORDS	Whole-cell bioreporters; environmental monitoring; luciferase, aequorin		