



Name	Enrico Feoli
Email	feoli@units.it
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Abstract

Plants are the fundamental components of all the ecosystems, there is no evolved life without plants, it is trivial to remember that they give us the fundamental resources through the process of photosynthesis. Therefore it is paramount to study all the conditions which can threaten such process and in particular the mechanisms that may induce the threats. What we need is to investigate on the responses of the photosynthetic process in the presence of low atmospheric pressures, reduced gravity, low CO₂ concentrations, ultraviolet radiation and other radiations, beyond the visible, where the process would take place. The research needs interdisciplinary cooperation and a network of terrestrial, orbital laboratories and laboratories on the Moon and Mars, where to evaluate mutations and genetic-phenetic interactions and the possibility to create new plants (OGM) adapted to extreme environment that would fit and/or create new ecological niches.

A short bio

Enrico Feoli is full professor of Ecology at the University of Trieste. He also teaches Quantitative Ecology at MAICH, Chania, GR (International Centre for Advanced Mediterranean Agronomic Studies, Paris Rue Newton 11, 75116, France). His researches concern the application of mathematical and statistical methods to the study of vegetation and its interactions with climate and the integration of ecological and socio-economic information and knowledge into decision-making processes in the management of natural resources for sustainable development. He has been a researcher and visiting professor in several universities in Africa (Ethiopia, Kenya, Tanzania, Tunisia), China, Europe (The Netherlands, Sweden, England), India, North America (Canada and USA) and has been in charge of the environmental program of ICS-UNIDO (Trieste) for many years. He was the founder of the International Centre of Theoretical and Applied Ecology (CETA, Gorizia) of which he is an honorary member of the scientific committee. He has been and is on the editorial board of several national and international scientific journals (e.g. Journal vegetation science, Community Ecology etc.). In 1998 he was awarded the "Distinguished Statistical Ecologist Award" by INTECOL (International Ecological Society).