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Special Issue on

Engineering Viruses in Plant Biotechnology

CALL FOR PAPERS

The research on nanometer-sized particles, with a wide range of applications, is a strongly transdisciplinary and rapidly emerging field with enormous potential. Viruses, whole virus or virus-like particles (VLPs), deriving from animals, bacteria, or plants, are a novel source of nanoparticles for different uses. Virus nanoparticles (VNPs) are versatile and have some peculiar traits such as i) ability to self-assemble in structurally simple scaffolds homogeneous in size and shape; ii) wide range of dimensions and symmetries; iii) ease of engineering on the external surface or the internal cavity, both chemically and/or genetically; iv) rapid and scalable "manufacturing" in several systems. Furthermore, the intrinsic nature of VNPs makes these nanostructures ideal tools in terms of biocompatibility and biodegradability. In this context, plant viruses, or plant-produced VNPs, have an increasingly important role, being able to couple the specific issues of VNPs performances and/or manufacturing strategies.

For all these characteristics, they are investigated, with different approaches, for different applications, spanning from biomedical uses to nanostructured materials and electronic devices.

We invite authors to contribute high quality original research papers as well as review papers that will cover the different biotechnological applications of engineered viruses.

Potential topics include but are not limited to the following:

- VNPs production strategies
- VNPs modification strategies: biochemical and genetic engineering
- VNPs for biomedical applications:
  - Imaging
  - Drug/gene delivery
  - Diagnostic
  - Vaccine formulations
  - Therapy
  - Tissue engineering
- VNPs as scaffolds for enzymatic reactions
- VNPs as nanoreactors
- VNPs as nanostructured materials for energy transfer
- VNPs safety to both the environment and humans

Authors can submit their manuscripts through the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/bmri/biotechnology/evbt/.

Lead Guest Editor
Chiara Lico, ENEA Casaccia Research Center, Rome, Italy
chiara.lico@enea.it

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inga.hitzeroth@uct.ac.za

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d.cardinale@ucl.ac.uk

Giuseppe Destito, Kyowa Kirin Pharmaceutical Research Inc., San Diego, USA
giuseppe.destito@kyowakirin.com

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