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Plant Virus Nanoparticles: New Applications for Developing Countries

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For over two decades now, plants have been explored for their potential to act as production platforms for biopharmaceuticals, such as vaccines and monoclonal antibodies. Without a doubt, the development of plant viruses as expression vectors for pharmaceutical production have played an integral role in the emergence of plants as inexpensive and facile systems for the generation of therapeutic proteins. More recently, plant viruses have been designed as non-toxic nanoparticles which can target a variety of cancers and thus empower the immune system to slow or even reverse tumor progression. The following presentation describes the employment of plant virus expression vectors for the treatment of some of the most challenging diseases known today. The presentation concludes with a projection of the multiple avenues by which virus nanoparticles could impact developing countries.

Biography:

Kathleen Hefferon received her PhD from the Department of Medical Biophysics, University of Toronto and completed her postdoctoral fellowship at Cornell University. Kathleen has published multiple research papers, chapters and reviews, and has written three books. Kathleen is the Fulbright Canada Research Chair of Global Food Security and has been a visiting professor at the University of Toronto over the past year. Her research interests include virus expression vectors, food security agricultural biotechnology and global health. Kathleen lives in New York with her husband and two children.