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Nanomaterials-Based Devices for Food, Agricultural, and Biomedical Applications

Guest Editor:

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Deadline for manuscript submissions:
1 November 2018

Message from the Guest Editor

The global population, and the need to generate enough food to feed everyone, continues to rise. At the same time, globalization and ecological pressures have increased the emergence of novel infections and pandemics in farmed animals. According to the World Health Organization, three new diseases emerge each year, two of which originate in livestock and 75% of which are zoonotic. These diseases affect livestock and the people who care for them. The lack of reliable and cost-effective diagnostic tests, devices, and instruments for early disease detection threatens to derail disease control efforts. Nanobiotechnology enabled by nanomaterials offers great promise as a potential solution to this problem; it can be used to create efficient and cost-effective diagnostic solutions for early disease detection in animals and food products, contributing to global long-term societal and economic health. In this Special Issue, we discuss the design, development, and testing of devices, micromachines, sensing tools, and instruments with end applications in food processing, sustainable food engineering, food safety, agriculture, and animal health. We look forward to the contributions from universities, research centres and institutions, government research labs, as well as academic and industrial organizations that will attempt to solve the grand challenges in the food, agricultural and biomedical sector.