

## From 4D printing to nanotextured surfaces to implantable sensors: Tomorrow's nanomedicine today

**Thomas J. Webster**

Northeastern University, USA

Nanotechnology has already revolutionized medicine in a number of ways, from improving disease detection to greater treatments. So what does the future of nanomedicine hold? This talk will summarize efforts to create the next generation of nanomedicine focussed on implantable sensors, 4D printing, and more. Implantable sensors have already been shown to control cell functions in the body to ensure implant success. Further, 4D printing has developed new implantable materials that can change shape inside the body when stimulated from outside the body useful for on-demand drug delivery or increasing tissue growth on-demand. This talk will also emphasize 2nd generation FDA approved nanomedicine products developed in our lab already being used today in humans.

### Biography

Thomas J. Webster's (H index: 101) degrees are in chemical engineering from the University of Pittsburgh (B.S., 1995) and in biomedical engineering from Rensselaer Polytechnic Institute (M.S., 1997; Ph.D., 2000). Prof. Webster has graduated/supervised over 189 students. He has started 12 companies with over 12 FDA medical products. Prof. Webster has received numerous honors including but not limited to: 2012, Fellow, American Institute for Medical and Biological Engineering; 2013, Fellow, Biomedical Engineering Society; 2016, International College of Fellows, Biomaterials Science and Engineering; 2016, Acta Biomaterialia Silver Award; 2018, Fellow, National Academy of Inventors; and 2019, Fellow, IJN; and 2019, Fellow, Royal Society of Medicine (International Fellow). He has appeared on BBC, NBC, ABC, Fox News, the Weather Channel, the Discovery Channel, and the recent special 'Year Million' TV series on National Geographic talking about the future of medicine and science.

websterthomas02@gmail.com