Impact of Additive manufacturing and Nano-technologies on Dentistry and Medicine

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Abstract: Recent advanced in scanning technologies, application of digital manufacturing techniques, and introduction of nano-technoologies have revolutionized the practice of Dentistry from direct patient care to predictable laboratory products. This presentation will provide an overview of the technologies available, the application of those technologies, and a glimpse of technologies that may have even greater impact in patient care.

Bio:

Dr. "Jerry" Grant is currently the Interim Assistant Dean of Advanced Technologies and Innovation and the Interim Director of the Advanced Education in Prosthodontics Program, University of Louisville School of Dentistry. He received his D.M.D. degree from the University of Louisville, School of Dentistry in 1985, a certificate in Prosthodontics from the Naval Postgraduate Dental School, Bethesda, MD and a Masters from George Washington University in 1995, and a certificate in Maxillofacial Prosthetics from the Naval Postgraduate Dental School in 1999. He is a Diplomat of the American Board of Prosthodontics. He retired after 33 years of service with the United States Navy as the Service Chief of the 3D Medical Applications Center, Department of Radiology at Walter Reed National Military Medical Center – a center he established for research, development and use of 3d printing and digital design for treatment of Wounded Warriors world-wide. Dr. Grant's current research involves imaging, design, and additive manufacturing technologies for bio printing, biofabrication, and bio assembly of medical and dental tissues as well as devices. He has collaborative research for NASA in the development of printed medical instruments, development of an orbital 3D FabLab, and bioprinting of bone on the International Space Station. He has authored numerous papers in peer reviewed journals, as well as a book and several chapters on the use of 3d printing technologies in Medicine and Dentistry, and is an accomplished national and international speaker.