

Solutions in 3D Printing



Amit Bandyopadhyay

CURRENT RESEARCH

Advanced technology in 3D printing to enable medical and aerospace applications

Almost eight years back, there was a neurosurgeon who was working with a patient suffering from a motorcycle injury. A big chunk of the patient's skull had fallen out, and the neurosurgeon was desperately in search of an implant that could substitute the missing piece of the skull to help the patient gain back his life. Enter Dr. Amit Bandyopadhyay, a pioneer in 3D printing and additive manufacturing, who collaborated with the surgeon to measure the left side of the skull which remained intact, copy it, and design an implant that would be 3D printed to fit the rest of the skull. If only this concept could become commonplace reality, such product would be invaluable for patients. Dr. Amit Bandyopadhyay, Herman and Brita Lindholm Endowed Chair Professor of Mechanical and Materials Engineering at Washington State University, uses advanced manufacturing techniques for novel materials and coatings to solve emerging as well as long-standing challenges in healthcare, space and aerospace industries. The solutions that he derives will not only greatly benefit the medical and aerospace communities, but also further revolutionize the way products are made in the future.

A holder of 11 US issued patents and author of over 250 technical papers, Dr. Bandyopadhyay has been pioneering the field of 3D printing and additive manufacturing for the past two decades. He collaborates with physicians and industry partners from biomedical devices and space related projects to identify key challenges that can be addressed with 3D printing. To make one-of-a-kind elements catered to a specific need, Dr. Bandyopadhyay and his team join efforts to conduct practical, applied research whose concepts are proven to work, but which needs...

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AFFILIATION



Washington State University

EDUCATION

- Ph.D. in Materials Science and Engineering 1995, University of Texas at Arlington
- Master of Engineering in Metallurgy 1992, Indian Institute of Science, Bangalore, India
- Bachelor of Engineering in Metallurgy 1989, Jadavpur University, Calcutta, India

AWARDS

- 2015 Class of Fellows, National Academy of Inventors (NAI)
- 2012 Class of Fellows, American Association for the Advancement of Science (AAAS)
- 2012 Class of Fellows, American Society for Materials (ASM International)
- 2012 College of Fellows, American Institute for Medical and Biological Engineering (AIMBE)
- 2011 Class of Fellows, American Ceramic Society

RESEARCH AREAS

Technology, Space, Materials Science / Physics, Veteran's Causes

FUNDING REQUEST

Your contributions will support Dr. Amit Bandyopadhyay at Washington State University as he continues to expand the field of 3D printing and additive manufacturing for medical and aerospace applications. Donations will help fund \$500K/year required to support personnel and research expenditures including maintaining and upgrading experimental set-ups for additive manufacturing and other characterization tools. Help bring innovative ideas to the market and revolutionize healthcare and space research!