Amit Bandyopadhyay

Herman and Brita Lindholm Endowed Chair Professor, School of Mechanical and Materials Engineering

Bandyopadhyay's research expertise is in additive manufacturing of metallic and ceramic materials and their composites for structural, biomedical and piezoelectric applications. In particular, his research has focused on the use of laser-based additive manufacturing in implants, including load-bearing metallic implants. His first generation work on stiffness-matched implants or tailored porosity metallic coatings through additive manufacturing to enhance bone-tissue growth is becoming popular in many products around the world. For the past 10 years, he has also worked on infection control using nanoparticles of silver.

"This is the type of research the world needs now to help patients today," wrote one of his nominators. "He has developed elegant, yet simple, surface modification processes that can be used inexpensively around the world to improve biomaterial function." In collaboration with NASA, his group also was the first to show that moon-rock simulant can be directly processed via laser-based 3D Printing or additive manufacturing to produce parts of interest for outer space applications. During his nearly 20-year career at WSU, Bandyopadhyay received external research funding as PI or Co-PI in excess of $12 million. He is the inventor of 15 issued US patents, has published more than 265 technical papers including over 185 journal papers, and edited nine books.

WASHINGTON STATE UNIVERSITY

2017
Convocation

Voiland College of Engineering & Architecture

His research papers have been cited more than 9700 times and his current “H” index is 53, according to Google Scholar. During his time at WSU, he has supervised 17 Ph.D. and 26 MS graduate students, and his students have gone on to careers in industry, academia, and national labs within and outside the US.

He has received funding from a wide variety of agencies, including the National Science Foundation (NSF), the Office of Naval Research (ONR), the Nationals Institute of Health (NIH); state agencies such as Life Sciences Discovery Fund, Washington Technology Center and Joint Center for Aerospace Technology Innovation; foundations such as the W. M. Keck Foundation, M. J. Murdock Charitable Trust. He has also received funding from different industries.

His work has also been featured many times in the popular press, including on CNN, CBS, and the BBC. Bandyopadhyay is a fellow of the American Ceramic Society (ACerS), American Society for Materials (ASM International), American Institute for Medical and Biological Engineering (AIMBE), American Association for the Advancement of Science (AAAS) and National Academy of Inventors (NAI). He is also the recipient of the National Science Foundation CAREER award and Young Investigator award from the Office of Naval Research.

He is married to and has a life-long collaboration with Susmita Bose, also a faculty member in the School of Mechanical and Materials Engineering at WSU, and they have two wonderful boys, Shohom and Aditya.

WASHINGTON STATE UNIVERSITY

2017
Convocation

Voiland College of Engineering & Architecture