

## David Dean, PhD

**Biography:** I have been an Associate Professor with tenure at The Ohio State University (OSU; Columbus, OH) since 2013. At OSU I have full appointments in the Departments of Materials Science and Engineering, College of Engineering, and Plastic and Reconstructive Surgery, College of Medicine. At OSU I direct the Osteo Engineering Laboratory (OEL). The OEL focuses on the design and fabrication of devices for reconstructive skeletal surgery. My appointment transferred to OSU after nearly 20 years (1994-2013) at Case Western Reserve University (CWRU; Cleveland, OH) where my primary appointment had been in the Department of Neurological Surgery, School of Medicine. Prior to my appointment at CWRU, I had been a Postdoctoral Researcher at the Institute of Plastic Surgery (1992-1994) at New York University (New York, NY). I earned the PhD degree in Biological Anthropology (emphasis: comparative anatomy) at the City University (New York, NY). At OSU, the OEL's research into biofabrication for skeletal regeneration currently utilizes two novel methods, chaotic printing and melt electrowriting. These techniques are capable of fabricating thin membranes, a critical advance in the effort to generate or regenerate fully functional and vascularized bone tissue. I am currently the PI, with my Co-PI Dr. Matthew Becker (Duke University), on an Osteo Science Foundation grant that is attempting to validate the "tethered ligand" cell-signaling bioconjugation strategy developed over the last 8 years. I have authored 102 published journal papers and have an h-index of 52 representing papers that currently have 9046 citations. I am the first or last author of half of those papers. A 2003 paper co-authored with Tony Mikos and John Fisher has 687 citations. A 2010 patent on which I am lead inventor has 642 citations. I have also authored 290 conference abstracts, 33 proceedings papers, 18 book chapters, and 2 books. I am currently an Associate Editor for six journals, including Virtual and Physical Prototyping (IF: 10.71 ; Routledge) and Biofabrication (IF: 11.06; IOP), the peer-reviewed, archival journal of the International Society for Biofabrication (ISBF). I am an inventor on 20 issued patents (lead inventor on 17) and an inventor on 15 pending patent applications (lead inventor on 11). I co-founded 3 start-up companies. I lead the 3D printing curriculum at OSU. It includes a course I developed "Biomedical Device AM" (available online) which is offered to upper level undergraduate and graduate students. I have supervised the research of more than 50 Postdoctoral and Doctoral student researchers and nearly two hundred undergraduate, medical, and dental students.

**Motivation:** The ISBF is the premier society in the field of biofabrication. It represents an organic collaboration of the leading researchers in this nascent field, perhaps best represented by its commitment to rotate its meeting each year between the three world regions (i.e., Europe/Africa, Americas, and Asia/Pacific). I attended an early ISBF meeting in Philadelphia in 2011, the ISBF's formal incorporation at Biofabrication 2015 in Utrecht, and every annual ISBF meeting since. I joined the ISBF's Awards committee in 2016 and became its Chair in 2018. I have overseen an expansion of the ISBF Awards program that now recognizes every level of achievement of our society's members, provides travel funding, and helps ISBF members document and promote their contributions to science. I became a member of the ISBF Board of Directors in 2019 and was proud to Chair and host the 2019 ISBF annual meeting, Biofabrication 2019, at OSU. Biofabrication 2019 presented a diverse group of invited and applicant keynote and plenary speakers. It was the first ISBF annual meeting to have thematic, course-like workshops and achieve endorsements from peer societies, both mechanisms that, in addition to corporate sponsorship, can potentially help raise substantial endowment. Following the Biofabrication 2019 meeting, with the support of the ISBF Executive Committee, I co-edited, with my colleague Dr. Ciro Rodriguez, an issue of invited papers from that conference that appeared in Advanced Healthcare Materials. The ISBF's success has mirrored the worldwide growth in biofabrication technologies, areas of exploration, and clinical applications. With your support, I will use my experience in the ISBF's unique and strong institutions and traditions to improve member opportunities for networking, collaboration, and scientific achievements as well as the environment in which we gather each year to recognize and celebrate those achievements.