Dr. Shaochen Chen, Zable Endowed Chair Professor
Department of Chemical and Nano Engineering, University of California, San Diego, USA

I am honored to be nominated as a potential member of the Board of Directors (BoD) of ISBF. Please see below my qualifications and commitments to the BoD.

Qualifications:

Expertise in Biofabrication: I started 3D printing and bioprinting research in 2000 with over 190 journal papers (H index = 72, Total citations = 20640) in top journals such as *Nature, Nature Medicine*, *Nature Materials*, *PNAS,* and *Biofabrication*. I have received prestigious awards such as NSF CAREER, ONR Young Investigator award, and NIH Edward Nagy New Investigator Award. I also received Milton C. Shaw Manufacturing Research Medal from ASME, and Frederick W. Taylor Research Medal from SME, two most prestigious awards for manufacturing. My major contributions include:

a) Pioneering work in DLP-based 3D printing and bioprinting (*JBMR 2006,* 463 citations), which is among the firsts in the field for projection 3D printing of hydrogel biomaterials for tissue engineering. Our dynamic optical stereolithography method (DOPsL) (*Adv Mat 2012, 410 citations*) is another first in the field about dynamic and continuous 3D printing of hydrogels. Our recent high-throughput, direct in-well bioprinting in a multi-well plate (*Biofab* 2020) was commercialized as Stemaker Model D through my startup, Allegro 3D, that was recently acquired by BICO and merged with CELLINK. Stemaker Model D was rebranded as BIONOVA X and became the flagship product of CELLINK, gaining significant interest and sales from the biotech and pharmaceutical industries. My former PhD graduate, Dr. Wei Zhu, is now the CTO of CELLINK.

b) 3D bioprinted tissue constructs: I am one of the world authorities in bioprinting functional tissue models such as liver, heart, eye, brain tumor (*PNAS* 2016, 855 citations). We have also created vascularized tissues with complex 3D microarchitectures and multiple cell types (*Biomat* 2017; *Sci Adv* 2023). Recently, we integrated neuron stem cells within a 3D printed biomimetic scaffold, to repair a severely damaged spinal cord in rats with significant functional recovery (*Nat Med* 2019, 595 citations). This is a giant step towards future clinical treatment for spinal cord injury (highlighted in *Nat Rev Neuroscience* and reported by *NIH Director's Blog*). Our recent work of bioprinted ventricular wall provided new insight of heart development (*Nature*, 2024).

Demonstrated Leadership: In 2010, I was recruited from the University of Texas at Austin to UC San Diego to build a brand-new NanoEngineering Department, the first of its kind in the US, where I served as Graduate Program Chair, Department Vice Chair and Chair for the last 14 years. The department grew from the original 6 faculty to 32 faculty, enrolling about 800 undergraduates and 300 graduate students. As the Chair, I held regular townhall meetings to hear about feedback from the students, staff and faculty and then take actions thoughtfully and swiftly to improve our teaching, research, and services. From 2008 to 2010, I served as the Program Director of the Nanomanufacturing Program at the US National Science Foundation (NSF). This US government position allowed me to work with the nanomanufacturing community at large to define the future directions of nanomanufacturing research in the US and collaborate with key international partners such as EU and Asia. As an active member in my professional community, I was elected Fellow of 7 major societies including the National Academy of Inventors (NAI), the American Association for the Advancement of Science (AAAS), and the European Academy of Sciences and Arts (EASA). I have served as the Associate Editor of *J. Manufacturing Science and Engineering* and *J. Nanoparticle Research,* and on the editorial boards of several journals such as *Biofabrication* and *Additive Manufacturing*.

Commitments as a BoD Member:

As a BoD member, I will be a strong advocate of ISBF. I will carefully listen to the ISBF community and collaborate closely with other BoD members and the ISBF leadership. As a society, we should maintain a transparent environment for its operation. We should encourage inputs from everyone in the ISBF society, especially young investigators. Nurturing and promoting young investigators within ISBF should be our priority. We should also promote excellence and diversity in ISBF globally. Also, as the flagship society for biofabrication, ISBF should work closely with government agencies through timely workshops to promote biofabrication research for strong government fundings. Last, but not least, ISBF should invite more participations from the industry so that our research can align well with industry needs for true commercial impact and build a long-lasting pipeline for workforce development.