

Personal statement: Professor Heungsoo Shin

Dr. Heungsoo Shin is professor in the Department of Bioengineering, Hanyang University, Korea. He received his Ph.D. degree in the Department of Bioengineering from Rice University, USA (2004) and was a postdoctoral researcher at the Department of Mechanical Engineering, Georgia Institute of Technology, USA before joining the faculty in the Department of Bioengineering, Hanyang University, Korea in 2006 as assistant professor.



His main research areas lie in (1) Development of biomimetic materials for delivery of bioactive molecules and stem cells, (2) Surface modification of biomaterials, (3) Spheroid-based engineering and biofabrication, (4) Cell-extracellular matrix interactions. His works particularly have led to the innovative approaches in regeneration of impaired bone, muscular, and vascular tissue. He has co-authored over 140 peer-reviewed publications and 17 patents (filed or registered). As of July 1, 2023, total citation of his publication was >13000 with h-index of 56 according to Google Scholar. In particular, recent works in his group involved the development of composite 3D spheroids, in which biomimetic nanofibers enabling delivery of cell-instructive signals were mixed with mesenchymal stem cells to spontaneously form 3D spheroids, which has been utilized as a tissue module to engineer large-size 3D tissue with vascularized structure. Stem cells within the 3D composite spheroid can be independently regulated by the types of cell-instructive molecules, which allow us to spatially regulate stem cell differentiation or survival when a number of composite spheroids are assembled into a large engineered tissue. These novel bottom-up biofabrication approaches have been highlighted in several leading journals in Biofabrication research including *Biofabrication* (13, 034101, 2021), *Biofabrication* (13, 015011, 2021), *Advanced Healthcare Materials* (9, 2000608, 2020), *Biomaterials* (255, 120192, 2020), *Biomaterials* (230, 119652, 2020), *Biofabrication* (11(3):035025, 2019), *Advanced Science* (e2201883, 2022)

He has been recognized by various awards including Outstanding Rice University Bioengineering Alumnus Award (2012), Mid-Career Researcher Academy Award, The Polymer Society of Korea (2019), CGBIO Mid-Career Researcher Award, The Korea Society for Biomaterials (KSBM)(2021), MEDIPOST Outstanding Research Award, Korean Tissue Engineering and Regenerative Medicine Society (KTERMS) (2021). He has been serving as co-editors-in-chief in *Tissue Engineering Part B: Reviews*, and editorial board member of *Journal of Biomedical Materials Research A*. He is an active member of International society for Biofabrication (ISBF) and other international professional societies including Tissue Engineering and Regenerative Medicine International Society (TERMIS), Biomedical Engineering Society (BMES). I believe the board of director of ISBF plays a critical role to represent the voice of members within their own countries and to determine the future vision of the society. Given that, I would like to run for this position since my previous experience in the community and research would be helpful to make ISBF to be globally leading society with continuous growth.