

## **AVVISO DI SEMINARIO**



**Prof. Heungsoo Shin**

Department of Bioengineering, Hanyang University, Seoul, South Korea

**15 Luglio ore 15 - 17**

**Presso l'Aula Magna Pacinotti  
Ingegneria, Polo A**

***Biomaterials-based delivery of signaling molecules and cells for  
tissue engineering and regenerative medicine***

Biomaterials may offer a viable solution by creating a supportive microenvironment for cell growth, differentiation, and integration. Specifically, biocompatible materials can be tailored to present signaling molecules, such as growth factors, cytokines and small molecules, in a controlled manner to promote tissue regeneration. Various techniques, including physical and chemical immobilization, have been developed for this purpose. Moreover, biomaterials can also be utilized to create spheroids with enhanced properties and to support them to recapitulate complex tissue architecture. This presentation details our approaches to using biomaterials for surface-mediated delivery of signaling molecules and their integration with spheroids for musculoskeletal tissue regeneration.

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*Heungsoo Shin received his B.S. and M.S. degrees in the Department of Industrial Chemistry from Hanyang University, Korea, and his Ph.D. degree in the Department of Bioengineering from Rice University, USA, (2004), under the supervision of Dr. Antonios G. Mikos. He then worked as a postdoctoral researcher in the Department of Mechanical Engineering at the Georgia Institute of Technology, USA, with Dr. Andres J. Garcia. He joined the Department of Bioengineering at Hanyang University in Korea in 2006 as an assistant professor, and he is currently a full professor at the same school. He has authored over 160 publications with a total citation count of 14000 and an h-index of 59, according to Google Scholar (June 2024). He has been recognized by various awards. In addition, he was elected as a Fellow of Biomaterials Science and Engineering (FBSE) and Tissue Engineering Regenerative Medicine (TERM).*