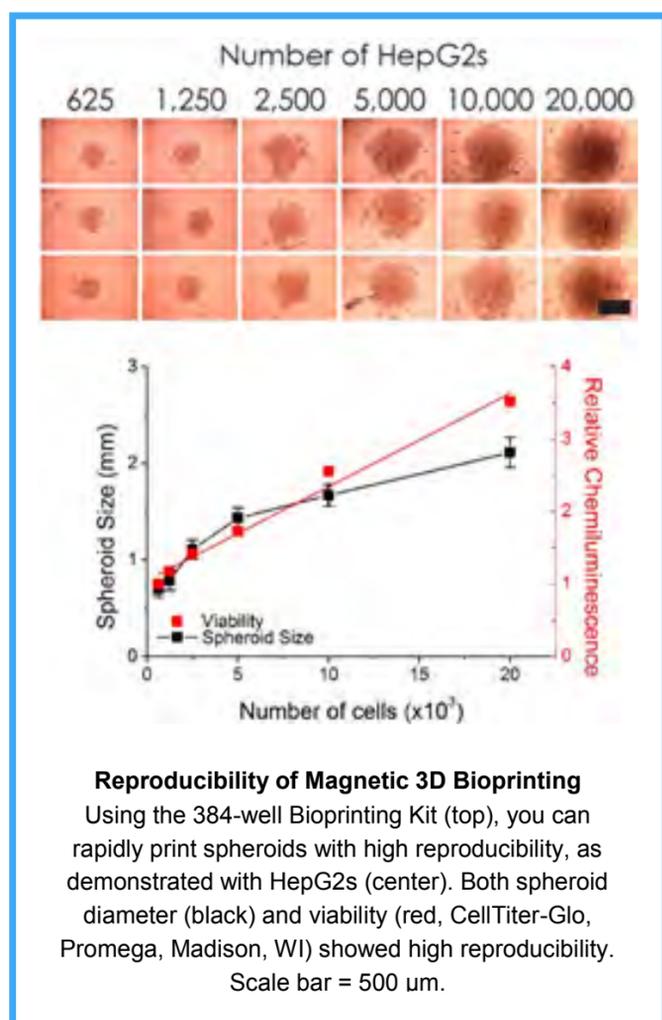


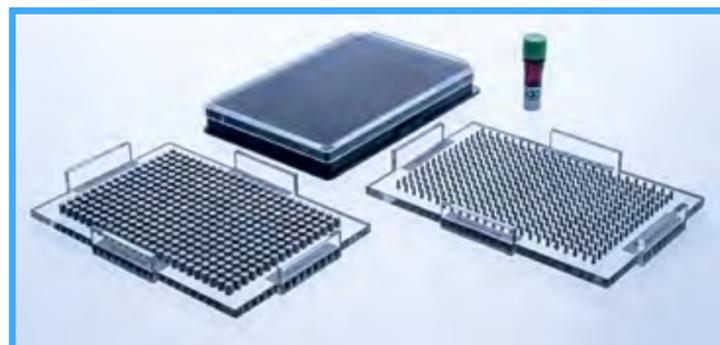
# SEMINAR

## Magnetic 3D Cell Culture: Levitation and 3D Bioprinting



Biomedical research has gravitated towards 3D cell culture models that mimic native tissue structure and function. Yet, currently available platforms have technical limitations in speed and handling that preclude its use in high-throughput screening. Towards that end, n3D, in collaboration with Greiner Bio-One, offers kits and services for 3D cell culture using magnetic 3D bioprinting. Magnetic 3D bioprinting works by magnetizing cells with NanoShuttle™, a biocompatible nanoparticle assembly, then rapidly printed into spheroids using magnetic forces. These spheroids are:

- representative of native tissue environments
- rapidly formed (15 min - few hours)
- easy to handle with magnetic forces
- not affected by NanoShuttle™ on viability, fluorescence
- non-specific to cell types



In this seminar, Dr. Souza will also share new results using magnetic 3D bioprinting with microscopic real-time and high-content imaging to generate wound-healing and cancer cell migration models. The wound-healing model incorporates the co-culture of fibroblast and keratinocytes. The cancer model includes the culture and migration of colon cancer cells and co-culture of colon-cancer cells with fibroblasts. Fibroblasts are incorporated in both models as a co-culture to more accurately capture the stroma influence on the process of wound-healing and cancer metastasis. Here, the mTOR cell signaling pathway is also targeted to validate the cancer cell migration model.



### PRESENTER:

**Glauco R. Souza** is President, CSO, and co-founder of Nano3D Biosciences (n3D), founded in 2008. Before n3D, Dr. Souza received his Ph.D. in Chemistry from the George Washington University and was a postdoctoral associate at MD Anderson Cancer Center, where he conceptualized magnetic 3D bioprinting. He currently holds a cross appointment with University of Texas Health Science Center Houston, TX, as Adjunct Assistant Professor.

**Dia 13/07**

**Hora: 15h**

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