

# DTS

# DAVIS TECHNOLOGY SERIES

## CONNECTING INDUSTRY, ACADEMIA AND SCIENCE



### *Featuring Keynote Speaker*



**James Lim, Ph.D.**  
Chief Scientific Officer and  
Co-Founder - Xcell Biosciences

Dr. James Lim is the Chief Scientific Officer and co-founder of Xcell Biosciences, which was formed based on his previous research involving live-fluorescence imaging of single cells. Dr. Lim's expertise in microscopy hardware, image analysis and cell culturing techniques has allowed him to study a variety of primary cells (such as neuronal stem cells, lung epithelial and embryonic fibroblasts), and the work has been extended to translational efforts in cancer diagnostics. Dr. Lim holds degrees from McGill University and The Scripps Research Institute and completed his postdoctoral work at Harvard Medical School and Lawrence Berkeley National Laboratory.

### **CELLS UNDER PRESSURE: Elucidating the Impact of Pressurized Culture Conditions on Gene and Protein Expression in Primary Human Cells**

Cells experience a range of different microenvironments in the human body, including often over-looked physical forces, and dramatic deviation from room-air level oxygenation. These factors exert distinct effects on cells at the molecular and metabolic level. Xcellbio has developed the Avatar cell control system that can replicate the range of atmospheric pressure and oxygen concentration levels found within the body, with dramatic effects on growth, differentiation, and expression of clinically significant cellular phenotypes. For example: iPSC differentiation studies lead to programmable selection towards neuronal vs. cardiomyocyte differentiation; prostate cancer cells show increased expression of drug-resistance markers; and T-cells under pressure show altered cytokine signaling and express both exhaustive and naïve markers important for immunotherapy applications. In addition, the platform is being used to propagate and study the properties of primary carcinoma cells in both 2D and 3D cultures.

## Tuesday, December 12, 2017

4:30 – 5:00 p.m. Cocktails & Hors d'Oeuvres

5:00 – 6:00 p.m. Presentation

6:00 – 7:00 p.m. Informal Discussion & \*MORE\* Refreshments

**Medical Education Building**

**4610 X Street, Rm. 1222**

**Sacramento, CA 95817**

**To register, go to:**

**[dtsdrjameslim.eventbrite.com](https://dtsdrjameslim.eventbrite.com)**

For questions, please call Jennifer Black at (916) 734-2350

*Hosted by Richard Levenson, M.D.*

*Vice Chair of Strategic Technologies*

*Sponsored by: Xcell Biosciences and UC Davis*

*Department of Pathology & Lab Medicine*