Neuroengineering Seminar

Patterning Human Neurons & Astrocytes on Silicon Chip

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10:00-11:00am
Fung Auditorium, Powell-Focht Bioengineering Building
University of California San Diego

Large network studies of the brain at the single cell level become difficult due to the entwined growth of neurons and glial cells in the neocortex. The field of cell patterning promises precise placement of individual cells and their arrangement into organised networks. This will lead to key neuroscientific advancements in understanding the interactions that exist at both the cellular and network level. In addition, the use of human cells in the patterning process will contribute to closer pathological studies of the human brain. In this seminar, I will discuss the protocol we developed to pattern the first human hNT neurons (derived from the human teratocarcinoma cell line (hNT)) on parylene-C/SiO2 substrates and how, in our more recent work, we have patterned the supportive cell to the hNT neuron, the hNT astrocyte, on such substrates to single cell resolution.

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