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## Promoting cell migration in confined channels with bends

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Controlling cell movement and positioning are crucial for biosystems. Here we have designed channel structures to control cell migration characteristics, which form the fundamental building block for cell positioning. A micro structured polydimethylsiloxane (PDMS) substrate was bonded to another PDMS slab by oxygen plasma, forming sealed channels with a height of 15  $\mu\text{m}$  and a width of 10  $\mu\text{m}$ . MC3T3-E1 osteoblast cells were seeded through an entrance port at one end of the channels and were allowed to attach to the substrate overnight. Cells in channels with 135° bends traveled significantly further as compared to those in channels with 45° bends or in straight channels. We hypothesize that such phenomenon is cell type-specific. As we continue to build in guiding features in the channels, this will be the basis for “smart” platform or biomaterial which is capable of sorting adherent cells to predesigned locations or screening cells without applying chemical gradient or fluidic flow.

### Biography

Stella W Pang is the Chair Professor and Centre Director for Biosystems, Neuroscience and Nanotechnology at City University of Hong Kong. Previously, she was the Professor and Associate Dean at University of Michigan in Ann Arbor, USA. She is a Fellow of the IEEE, ECS and AVS.

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