

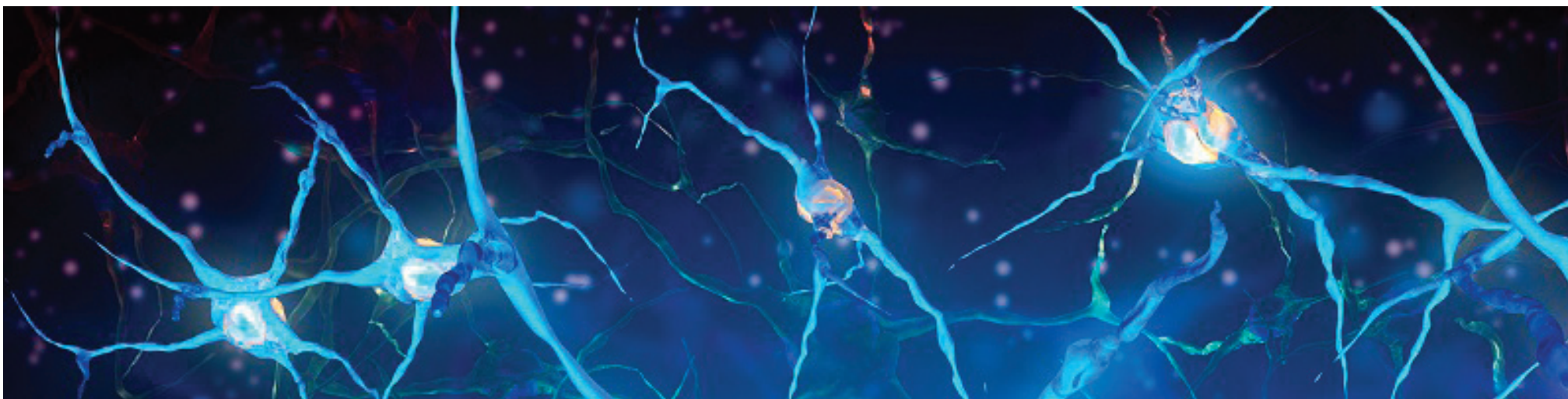


Pacific Institute *for the*
Mathematical Sciences

Frontiers in Biophysics

June 16, 2017

LSC 3, Life Sciences Centre
The University of British Columbia



Frontiers in Biophysics is a one-day conference designed to promote collaboration and networking within the quantitative biology community in the Pacific Northwest and beyond. Participants in all stages of their careers and from academic backgrounds such as math, physics, biology, chemistry, medicine, computer science and engineering are welcome.

KEYNOTE SPEAKER:

Jagesh Shah (Harvard Medical School)

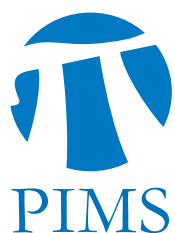
How do migrating cells measure?

ABSTRACT: Orientation of motile cells in chemical gradients, or chemotaxis, plays a critical role in the survival of single-celled organisms and the development and immune function of multi-cellular organisms. While an abundance of molecules modulating chemotaxis have been identified, measuring their dynamical behavior to explain how cells become oriented has been far more challenging. Microfabricated devices, with features the size of single cells, permit quantitative programming of chemical and physical cues in space and time to connect experimental results to computational models. Using these devices we have identified a novel inputs into cell orientation such as hydraulic resistance and memory that belie a complex measurement scheme at play in migrating cells that goes beyond chemical cues and includes physical inputs and past history. We will describe these findings and our current efforts to develop in an integrated quantitative model of how migrating cells measure.

WEBSITE: www.pims.math.ca/2017frontiersinbiophysics

REGISTRATION DEADLINE: May 19, 2017

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