

MULTICELLULAR

ORGANIZATION

From biophysical models to
single-cell genomics



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3 pm Thursday, August 31
127 Hayes-Healy Center

Cells make decisions about their fate in response to their dynamic environments, and multicellular structures emerge from close interplays among cells and genes over time. Recent emergence of single-cell genomics technologies allows unprecedented opportunities to dissect complex spatial tissues, but many challenges remain. Dr. Nie will share new methods to reconstruct spatiotemporal tissue properties from large, single-cell genomics datasets. He will also describe the discovery power of these methods, and discuss the continued need of new models and tools as datasets continue to grow.

The director of the National Science Foundation-Simons Center for Multiscale Cell Fate Research as well as a professor at University of California, Irvine, Dr. Nie has published more than 200 research articles and supervised more than 50 postdoctoral fellows and doctoral students. He is a fellow of the American Association for the Advancement of Science, of the American Physical Society, and of the Society for Industrial and Applied Mathematics.