

THE CELL PARADIGM: CELLULAR DIVERSITY IN DISEASE AND EVOLUTION

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Cells are the functional units of life.
Correct orchestration of gene
expression by each individual cells
gives rise to emergent organismal
phenomena such as tissue
homeostasis and development, while
aberrant cellular phenotypes are
observed across many diseases. In this
talk, I will present two stories to
illustrate our single-cell work in
medicine and basic biology.

The first describes how we used a **systems immunology approach** to understand dengue infection, a condition affecting half a billion people annually, in both adults and children.

The second is an ongoing effort combining data science, molecular biology, software engineering, and artificial intelligence to create an atlas of cellular diversity across the tree of life.





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