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**JIANRONG YANG**, Sun Yat-sen University

*Developmental cell lineage trees, and the quantitative comparisons between them*

The developmental process of multicellular organisms can be summarized as the cell lineage tree (CLT). Technological breakthroughs have facilitated determination of more CLTs, but complete comprehension of the data remains difficult without a quantitative framework for CLT comparison. I will briefly introduce some CLT data, and present “DELTA”, a novel algorithm that quantitatively compares CLTs. Application of DELTA to the worm CLTs allowed inference of transcriptomic resemblance, identifying cell fate transformations, predicting functional relationships between mutants, and finding evolutionary correspondence between cell types of different species. Quantitative comparison between CLTs can likely help answer many questions surrounding the developmental process.