

## Editorial

- Innovations in computational biology: RECOMB 2024 Special Issue vii  
Jian Ma and Bonnie Berger

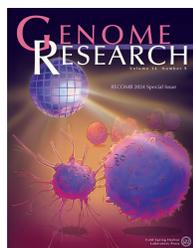
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**Cover** A dendritic cell and a T cell are depicted dancing in the foreground, under the dazzling lights reflected from a disco ball. In the background, a malignant cancer cell is depicted dancing with another T cell, and a second malignant cancer cell is in the process of being phagocytosed by a macrophage, highlighting the many different interactions that can occur in the tumor microenvironment. Characterizing this complex “dance” between different immune cell types as well as between cancer and immune cells is critical in understanding the mechanisms underlying development, disease, and response to therapies. In this issue, DIISCO, a new probabilistic method for characterizing temporal changes in cell–cell interactions, is introduced. Using structured Gaussian process regression, DIISCO unveils the time-resolved coevolution of diverse cell types, integrating prior knowledge of receptor–ligand complexes to map these intricate connections across multiple time points. Here, the artwork encapsulates the essence of DIISCO’s ability to illuminate the delicate waltz guiding cellular communication that can lead to both response and resistance to therapies. (Cover illustration by Sigrid Knemeyer and Jennifer Gu, SciStories, <https://scistories.com>. [For details, see Park et al., pp. 1384–1396.]