



Nothing Stands Still in the Streams of Life

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The research story

This image represents three replicates of a simulation of the evolution of a population of bacteria over time. Each square corresponds to an individual and each color corresponds to a new mutant. The horizontal axis corresponds to the time in generations, and the vertical axis corresponds to the relative abundances of each variant. The fate of this population is driven by various evolutionary forces that lead to constant changes in this population. For example, some mutants can invade the population if they carry an advantageous mutation. Simulating these evolutionary dynamics allows to better understand how evolutionary forces shape observed patterns of diversity or how organisms respond to changes in their environment. A typical application is the study of antibiotic resistance in bacteria.

The image

The choice of colors is central in this image. We put an impressionist touch to this figure by taking them from colors found in impressionist paintings. For each of the tree panels, we loaded a digital image of the painting, and computed the dominant colors of that image. Then, these colors have been randomly assigned to the different variants in our evolving population. The three panels correspond to three different painters and paintings, from the top to the bottom: Auguste Renoir – Bal du Moulin de la Galette (1876); Claude Monet – The Japanese Footbridge (1899); Vincent Van Gogh – The Starry Night (1889).

