

## Recent progress in coalescent theory

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**Abstract.** Coalescent theory is the study of random processes where particles may join each other to form clusters as time evolves. These notes provide an introduction to some aspects of the mathematics of coalescent processes and their applications to theoretical population genetics and in other fields such as spin glass models. The emphasis is on recent work concerning in particular the connection of these processes to continuum random trees and spatial models such as coalescing random walks.