Coalescent theory

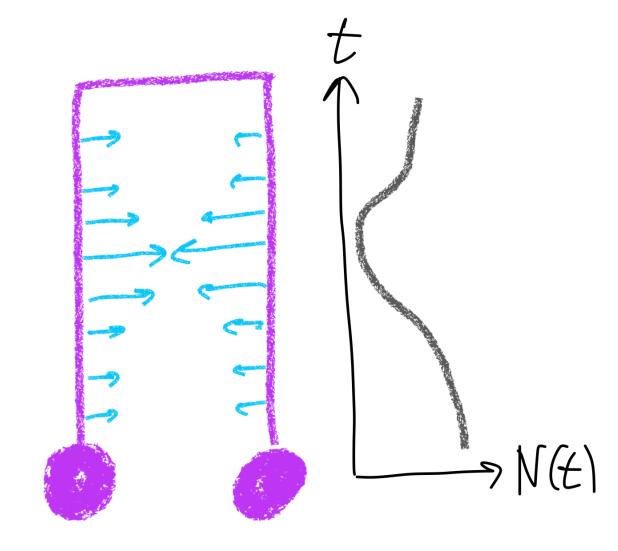
Population size determines coalescence rate

What if population size varies over time ? N(t)

Like students adding/dropping mid-quarter in Cole-escent theory

> N(t) distorts time scale from the standard coalescent

- o time compressed when N(E) is small
- · time stretched when N(E) is large



The details:

$$P(T; = t;) = \frac{\binom{i}{2}}{2N_{\xi_i}} \frac{t_{i-1}}{\binom{1}{2}} \left(1 - \frac{\binom{i}{2}}{2N_{\xi_i}}\right)$$
by
$$P(t_i) = \frac{\binom{i}{2}}{2N_{\xi_i}} - \binom{i}{2} \frac{ds}{2N_{\xi_i}}$$
Inhomogeneous Poisson process

Coalescent theory

Population size determines coalescence rate

