

- 1) -N 7310 -- Ne
- 2) -ms 200 100 -- 100 samples, sample size 200=100*2 due to diploidy

Zero level. Time -- now

- 3) -I 3 200 0 0 0 -- 3 populations, sample from 1st (other commands for 2,3)
- 4) -t 36.55 -- theta (acc. to study from script)
- 5) -r 18.27 -- recombination rate (acc. to study from script)
- 6) -g 2 111.11 -g 3 140.35 -- growth exponential rates for EUR and EAS
- 7) -n 1 1.98003 -n 2 4.65646 -n 3 6.27244 -- pop sizes prop to Ne
- 8) -m 1 2 0.73100 -m 2 1 0.73100 -m 1 3 0.22807 -m 3 1 0.22807 -m 2 3 0.90644 -m 3 2 0.90644 -- setting up migration rates

First level. Time -- 23kya

- 9) -ej 0.03146 3 2 -- Join EAS to EUR subpopulation
- 10) -en 0.03146 2 0.25458 -- set 1861/Ne as the size of 2nd
- 11) -em 0.03146 1 2 4.38600 -em 0.03146 2 1 4.38600 -- set new migration rate between AFR & EUR
- 12)

Second level. Time -- 51kya

- 12) -ej 0.06977 2 1 --- Join 2 to AFR

Third level. Time -- 148kya

- 13) -en 0.20246 1 1 --- Set at 148kya AFR population to Ne

Full command

```
java -jar ./msms/lib/msms.jar -N 7310 -ms 200 100 -I 3 200 0 0 0 -t 36.55 -r 18.27 50000 -g 2 111.11 -g 3 140.35 -n 1 1.98003 -n 2 4.65646 -n 3 6.27244 -m 1 2 0.73100 -m 2 1 0.73100 -m 1 3 0.22807 -m 3 1 0.22807 -m 2 3 0.90644 -m 3 2 0.90644 -ej 0.03146 3 2 -en 0.03146 2 0.25458 -em 0.03146 1 2 4.38600 -em 0.03146 2 1 4.38600 -ej 0.06977 2 1 -en 0.20246 1 1 -oAFS onlySummary
```