$\widehat{\omega}_{x,y}$ estimated between $\langle 2N_e \mathbb{P}_{fix}(x \rightarrow y) \rangle$ predicted between pairs of amino-acids pairs of amino-acids Fixation probabilities 0.6 (3 , x , v 0.2 **Estimated** 0.4 0.3 0.2 ACDEFGHIKLMNPQRSTVWY ACDEFGHIKLMNPQRSTVWY $y = 0.92x + 0.0045 (r^2 = 0.93)$ 0.1 0.6 0.1 0.5 0.2 0.4 0.6 0.2 0.4 0.6 True $\langle 2N_e \mathbb{P}_{fix}(x \rightarrow y) \rangle$