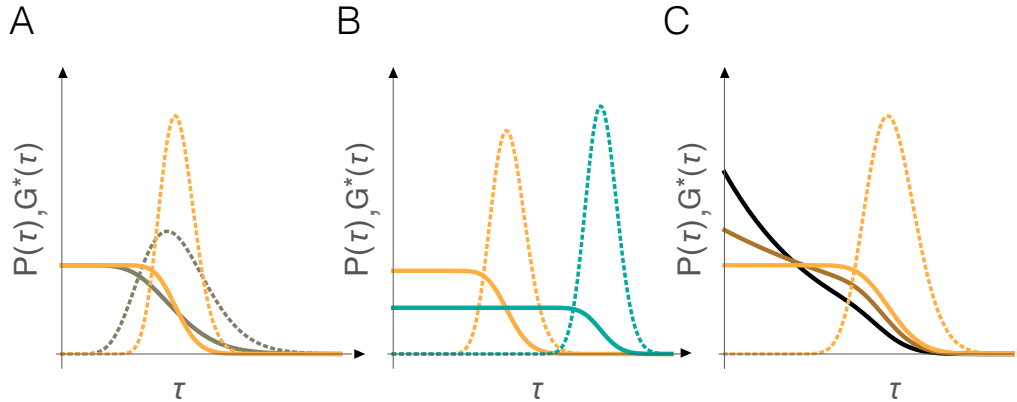


Supplementary Information for “Bridging the timescales of single-cell and population dynamics”



Supplementary Figure S1. **Relation between the division time distribution, $P(\tau)$, and the steady-state age distribution, $G^*(\tau)$, for a given progeny number, ν .** See main text, Eqs. (1), (2) and (3) and accompanying text, for explanation of symbols and discussion of results. In (A) we have shown cell-age distributions (bold orange and gray curves) for $\nu = 1$ corresponding to two $P(\tau)$ distributions (dotted orange and gray); the $P(\tau)$ distributions have the same mean but different COVs. The figure illustrates that the point of inflection of the cell-age distribution determines the mean division time and the slope at the point of inflection determines the width of the division time distribution. In (B) we have shown cell-age distributions (bold orange and cyan) for $\nu = 1$, corresponding to two $P(\tau)$ distributions (dotted orange and cyan) which have the same COV but different means. Evidently, the point of inflection of $G^*(\tau)$ predicts the mean division time. In (C) we show age distributions for $\nu = 1$ (bold orange), $\nu = 2$ (brown) and $\nu = 5$ (black) for the same division time distribution (dotted orange).