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Aging of clean foams[1] BYUNG MOOK WEON, School of Advanced Materials Science and Engineering, SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University, PETER S. STEWART, School of Mathematics and Statistics, University of Glasgow — Aging is an inevitable process in living systems. Here we show how clean foams age with time through sequential coalescence events: in particular, foam aging resembles biological aging. We measure population dynamics of bubbles in clean foams through numerical simulations with a bubble network model. We demonstrate that death rates of individual bubbles increase exponentially with time, independent on initial conditions, which is consistent with the Gompertz mortality law as usually found in biological aging. This consistency suggests that clean foams as far-from-equilibrium dissipative systems are useful to explore biological aging.

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