Aging research explores the basic biological mechanisms of aging and age-related disease. As the ‘aging society’ is framed as one of today’s grand challenges, particularly in the global North, the field is gaining momentum. Epigenetic approaches have become important for aging research. This article explores which kinds of epistemic and biopolitical formations arise with the integration of epigenetics into aging research. Drawing on literature analysis, participant observation at international conferences in Europe, and interviews with selected speakers, we identify two distinctly different ways in which epigenetics and aging have become linked. On the one hand, epigenetics has become important for research focusing on the continuous biological malleability of aging processes in adults. On the other hand, it is integral to research investigating how early life development programs aging trajectories. These perspectives do not only differ epistemically, but also entail distinctly different visions of possible clinical, social, and political responses to the challenges of the aging society. Particularly, questions of social inequality and the growing health and morbidity gap in late-capitalist Western societies figure differently in each perspective. This shows that epigenetics, rather than moving biological research in one specific direction, can participate in heterogeneous epistemic formations with diverging biopolitical momenta.