Alzheimer's disease, Aging and Centenarians

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DOI
10.4233/uuid:e29b2e6f-b135-49dd-ae08-2e67f06b5cc2

Publication date
2023

Document Version
Final published version

Citation (APA)
Zhang, M. (2023). *Alzheimer's disease, Aging and Centenarians*. [Dissertation (TU Delft), Delft University of Technology]. https://doi.org/10.4233/uuid:e29b2e6f-b135-49dd-ae08-2e67f06b5cc2

Propositions

accompanying the dissertation

Alzheimer's disease, Aging and Centenarians

by

Meng Zhang

1. Research towards healthy brain aging should seriously be intensified by Alzheimer's disease researchers, as molecular mechanisms behind Alzheimer's disease are seriously overshadowed by that related to aging (*This proposition pertains to this dissertation*).
2. As many biological processes, for example aging, are subtle, new tools that can detect differences with small effect sizes are necessary to advance biological research (*This proposition pertains to this dissertation*).
3. A systemic perspective from the molecular to the cellular level is necessary to reveal mechanisms behind brain aging (*This proposition pertains to this dissertation*).
4. The complexity and incompleteness of annotation databases pose a significant obstacle to the interpretation of statistical results in proteomics research.
5. As proteins are just carriers of functional domains, functional analyses of proteins should be done at the domain level instead of the protein level.
6. Much more effort must be put in building a large comprehensive database of centenarian genomes, as centenarians have escaped all these diseases and thus are valuable references.
7. Death is a protection for species, especially for homo sapiens, and yet individuals are fighting against this protection.
8. In development processes, early advantages will inhibit flexibility in the face of change.
9. Compared with money and status, the role of education and midlife cognitive stimulation on cognitive health is undervalued in old age.
10. Silence in one's own professional field is irresponsible to society.

These propositions are regarded as opposable and defendable, and have been approved as such by the promotor *Prof. dr. ir. M.J.T. Reinders* and *Dr. H. Holstege*.