

J.A.M. GRAAFMANS (Convener). *The incubation of gerontechnology*. *Gerontechnology* 2012;11(2):115; doi:10.4017/gt.2012.11.02.014.00 **Participants:** P.A.G. VERMIJS (Netherlands), H. BOUMA (Netherlands), J.L. FOZARD (USA), V.T. TAIPALE (Finland). **ISSUE** The symposium will address the long road for gerontechnology to be put on the worldwide political and scientific agenda. **CONTENT** It started with the visit of social worker Vermijs to Eindhoven University of Technology; he asked for engineers to be involved in solving the problems and challenges encountered by aging people (1984). The term ‘Gerontechnology’ was coined in 1988¹, as the first simple concepts for interdisciplinary discussion and collaboration were defined. This led to the first International Conference in Eindhoven² (1991, Scientific chair Herman Bouma) and the success of the conference gradually convinced many technology and social science researchers to come on board. Following the visiting professorship of Jim L. Fozard to Eindhoven (from 1992 onward)³ a more elaborate model for gerontechnology studies was developed. Furthermore, in the early 1990`s, the European network COST A5 (Aging and Technology) was established and the political and scientific achievements of this network were instrumental to the success of the 2nd International Conference in Helsinki⁴ in 1996, and in 1997 to the foundation of the ISG (Vappu T. Taipale, Chair COST A5, President Helsinki Conference, First President ISG). **STRUCTURE** The speakers will not address the chronological events, but rather the scientific and political debates and the development of concepts needed to incubate a new field of research and education. **CONCLUSION** Gerontechnology, a collaboration of engineers, social scientists, and other disciplines emerged as the result of the need felt by professionals coming from many fields.

References

1. Graafmans JAM, Brouwers A. Gerontechnology, the modelling of normal aging. Proceedings of the Human Factors Society 33rd Annual meeting, Denver, USA; 1989
2. Bouma H, Graafmans JAM. Gerontechnology. Amsterdam: IOS Press; 1992
3. Bronswijk JEMH van, editor. James Leonard Fozard, Grand Master of Gerontechnology, for his 80th birthday. *Gerontechnology* 2010;9(3):359-428; doi:10.4017/gt.2010.09.03.000.00
4. Graafmans JAM, Taipale V, Charness N. Gerontechnology: A sustainable investment in the future. Amsterdam: IOS Press; 1998

Keywords: communication & governance, aging people, engineering, social sciences

Affiliation: Tujanranta Consultants, Nunnanlahti, Finland; E: jan.graafmans@gmail.com

P.A.G. VERMIJS, J.A.M. GRAAFMANS. *Conveying the needs and demands of older people to engineers and designers*. *Gerontechnology* 2012;11(2):115-116; doi:10.4017/gt.2012.11.02.102.00

Purpose In the middle of the 1980s it became clear to the Dutch government that demographic and social developments demanded radical interventions. A sponsoring programme was started by the Ministry of Health, which, among other things, would facilitate collaboration between health and welfare workers and engineers, architects and industrial designers. The ultimate goal was to create a better quality living environment for ageing people living independently. **Method** An assessment was made of the actual living environment of older people using 500 questionnaires (response rate 25%), at 30 site visits and in-depth interviews. **Results & Discussion** Regarding the quality of products and services it became clear that (i) good quality products and services exist, but clients are not aware of this, (ii) there is a lot of bad design and there are many useless products, and (iii) there is a need for new customized products and services. The project resulted in three major successes (i) the field of gerontechnology was created, standing for the interdisciplinary collaboration between all professionals concerned with an ageing society, (ii) over 100.000 copies of ‘De helpende hand’ (the helping hand), an information brochure, were distributed nationwide, (iii) the first simple models and concepts for gerontechnology were developed and used for a worldwide discussion between all relevant actors and experts¹. After a long incubation period a more refined human-technology-environment-interaction model emerged, with an emphasis on older people, and this was used as the starting point by all the keynote speakers during the First International Conference on Gerontechnology (Eindhoven, 1991). The conference was a step forward towards future collaboration between technology and other sciences, targeting the challenges posed by an ageing society.

References

1. Bouma H. Gerontechnology: a framework on technology and aging. In: Bouma H, Graafmans JAM, editors. *Gerontechnology*. Amsterdam: IOS Press; 1992; pp 1-5

Keywords: communication & governance, gerontechnology, social technology, independent living, welfare and health

Affiliation: VKC Business Consultancy, Tilburg, Netherlands; E: p.vermijis@planet.nl

Full paper: No

H. BOUMA. **Developments in the continuing agenda of Gerontechnology.** *Gerontechnology* 2012;11(2):116; doi:10.4017/gt.2012.11.02.097.00 **Agenda** From the beginning of Gerontechnology in 1990, its agenda has been the insight-based optimal technological environments for ageing and aged people, i.e. real people in their physical, mental, social, and cultural environment¹. The concept of real people means those living an active life of their own choosing, adapted to their interests, abilities, and restrictions. Note that disease, physical and mental restrictions are not central issues, although health issues such as prevention and compensation of decline are part of the agenda. In short people are more than their shortcomings. Developments in gerontechnology stem from three sources: different generations of people, different technological environments, and advancing scientific insights. The position of aging people in changing, innovative environments has been characterized by Lawton as individual and socio-cultural lag². The origin of this lag is that natural adaptation to technological and other environments stops at about age 30 and is then replaced by explicit learning directed at daily needs, for example at work. The three types of development and their consequences for Lawton's lag will be discussed, updating their impact for Gerontechnology from earlier reviews^{3,4}.

References

1. Bouma H. Gerontechnology: a framework on technology and ageing. In: Bouma H, Graafmans J, editors. Gerontechnology. Amsterdam: IOS Press; 1992; pp 1-5
2. Lawton MP. Future society and technology. In: Graafmans J, Taipale V, Charness N, editors. Gerontechnology. A sustainable investment in our future. Amsterdam: IOS Press; 1998; pp 12-22
3. Bouma H, Fozard JL, Bouwhuis DG, Taipale V. Gerontechnology in perspective. *Gerontechnology* 2007;6(4):190-216; doi:10.4017/gt.2007.06.04.003.00
4. Bouma H., Fozard JL, Bronswijk JEMH van. Gerontechnology as a field of endeavour. *Gerontechnology* 2009;8(2):68-75; doi:10.4017/gt.2009.08.02.004.00

Keywords: R&D agenda, generation, Lawton's lag, sources of development

Affiliation: International Society of Gerontechnology, Netherlands;

E: h.bouma@gerontechnology.info

Full paper: No

J.L. FOZARD. **The relevance of Gerontechnology for medical, biological and behavioral studies on aging.** *Gerontechnology* 2012;11(2):116-117; doi:10.4017/gt.2012.11.02.098.00 **Purpose** To show how the major concepts of Gerontechnology provide a framework for understanding and guiding research on human aging. **Method** Gerontechnology -the development and adaptation of technology for the goals and ambitions of aging and aged people- is applied in nature. Four fundamental concepts underlying Gerontechnology: the 4 goals of technology, the 5 domains of life activity to which technology is applicable, the changing dynamics of person-environment interactions over time, and the identification of the multidisciplinary knowledge base for Gerontechnology are shown to be relevant to basic and applied studies of aging. **Results & Discussion** The goals of gerontechnology are derived from those for public health-prevention or delay of age-associated declines in health and functioning (primary prevention), compensation for common functional decline, mostly perceptual motor function (secondary prevention), care for persons with disabilities (tertiary prevention), and for all three an improvement in quality of life as defined by the WHO. The 4 goals of Gerontechnology are equally relevant to 5 domains of human activity-health and self-esteem, housing and everyday functioning, communication, transportation, and work and leisure¹⁻². The changing dynamics of interactions between people and their environment reflect both human aging within and between successive age cohorts and secular changes in the environment. This transactional view of aging informs both the questions and methods used in gerontological research³. The interdisciplinary basis for Gerontechnology-the engineering and basic sciences of supporting technology and the biological and behavioural sciences supporting gerontology-are basically the same in gerontological research⁴.

References

1. Bronswijk JEMH van, Bouma H, Fozard JL. Technology for quality of life: An enriched taxonomy. *Gerontechnology* 2003;2(2):169-172; doi:10.4017/gt.2002.02.02.001.00
2. Bouma H, Fozard JL, Bronswijk JEMH van. Gerontechnology as a field of endeavour. *Gerontechnology* 2009;8(2):68-75; doi:10.4017/gt.2009.08.02.004.00
3. Fozard JL. Impacts of technology on health and self-esteem. *Gerontechnology* 2005;4(2):63-76; doi:10.4017/gt.2005.04.02.002.00
4. Bronswijk JEMH van, Fozard JL, Kearns WD, Davison GC, Tuan PC. Implementing gerontechnology. *Gerontechnology* 2008;7(3):325-329; doi:10.4017/gt.2008.07.03.007.00

Keywords: gerontechnology concepts, basic and applied research on aging

Affiliation: University of South Florida, Tampa, Florida, USA; *E:* fozard@tampabay.rr.com

Full paper: No

V.T. TAIPALE. International, political and scientific networking in Gerontechnology resulting in the foundation of the Society of Gerontechnology. Gerontechnology 2012;11(2):117; doi:10.4017/gt.2012.11.02.130.00

Purpose The aim is to assess the development in national and international innovation policies and the opportunities this present for Gerontechnology. **Method** Different policies on ageing, Gerontechnology and innovation are reviewed. **Results & Discussion** The ageing of the population was insufficiently politically targeted in the 1980's despite the UN Summit on Ageing (1982). Ageing is to be understood as a cultural, social and physiological phenomenon, which implies multidisciplinary research in the field. Pioneers in Europe, the USA, and Japan created these core concepts that led to the creation of Gerontechnology¹. From the very beginning there was a strong user perspective. One of the leitmotives is to listen to the needs of an ageing person and to communicate her/his needs to the multidisciplinary innovation team and to a wider community. Gerontechnology constitutes thus an excellent partner for innovation policies. There are interesting opportunities for everyday life, self-care, and proactive prevention, as well as to create better living environments in social, financial and human terms. The existing political and research cooperation structures were slow to understand the new needs but COST² accepted an action Ageing and Technology³ and the international networks started to build up resulting in the foundation of the Society. European Union explored the issue⁴ and recognised it in the 5th Framework Programme of Research⁵. However, later developments have not been only positive. Today, there is a considerable interest in demand-side innovation policies in a number of countries⁶. National policies increasingly stress the importance of innovation as a partner of research and development. In the European Innovation Partnerships⁷, the first topic will be active and healthy ageing. Current budget pressures also have generated interest in demand-side innovation policies while increasing the cost-effectiveness of services in areas of strong societal demand, such a health and population ageing. The lack of economic research and evaluation still makes evidence-based policy making difficult. If the world sees a positive development, we will be faced with an operating model based on which a well-informed ageing citizen, the consumer of services, becomes a driver of development.

References

1. Graafmans JAM, Taipale V, Charness N, editors. *Gerontechnology: A sustainable investment in the future*. Amsterdam: IOS Press; 1998
2. COST, European Cooperation of Science and Technology; www.cost.esf.org; retrieved January 24, 2012
3. Graafmans JAM, Taipale V. COST-A5, Ageing and Technology 1991-1995 Final Report EUT-Centre BMGT; 1994
4. Smith K. The Ageing Population and Technology, Challenges and Opportunities. ETAN working paper; 1998; cordis.europa.eu/src/topic-2.htm; retrieved January 24, 2012
5. Hansen G, editor. Key Action 6: The Ageing Population and their Disabilities, 1999-2002. Mid-Term Assessment Report 2003. European Commission 5th Framework Programme of Research and Technological Development; 2004
6. Taylor R. Ageing, health and innovation: Policy reforms to facilitate healthy and active ageing in OECD countries. OECD; DELSA/HEA(2011)14; 2011
7. European Commission. Pilot European Innovation Partnership on active and healthy ageing; 2011; ec.europa.eu/active-healthy-ageing; retrieved January 24, 2012

Keywords: innovation policies with gerontechnology, demand-side innovation, old age innovations

Affiliation: Chair, Union for Senior Services, Finland; *E:* vappu@vapputaipale.fi

Full paper: No