V.T. Taipale (Convener) **Preventive policies, politics, profit and gerontechnology.** *Gerontechnology 2014;13(2):139;* doi:10.4017/gt.2014.13.02.425.00 **Participants** H. Bouma (Netherlands), J. Stenberg, M. Nordlund (Finland), R. Priya, H. Ansari (India), P. Heikkilä, J. Leikas (Finland), and Y-N Luo (China). **Issue** The symposium is addressing the issue of preventive policies in global ageing. Public policies are needed to enhance the process of ageing well and the civil society is needed to bring the resources of old age visible and into societal use[1]. **Content** The symposium has a strong global point of view presenting elements of ageing policies and practices from several parts of the world[2,3]. The solutions and opportunities differ, not to mention the huge differences among the older people themselves. In the same time the elementary needs of older people are quite similar. Universally, older people prefer to live at their homes as long as possible, many with their families but with increasing urbanisation hoping to live alone. Age-friendly environment is then important, including new housing and communication opportunities[4]. Participation is one of the most central needs of human beings. Until now too few innovations for older people have been developed with a participatory pattern. Co-design where company representatives, municipalities and older people can engage with a dialogue with each other will create new solutions. Older people themselves have not insisted enough in participation. The symposium will also discuss the preventive elements in gerontechnology[5], which have largely been underestimated and neglected in public policies. However, promotion of wellbeing and health and prevention of illnesses and disabilities are cornerstones of ageing well. People of all ages can enhance their own ageing mentally, physically and socially with simple measures which do not cost but effort. Thus it can also be debated that gerontechnology starts at birth and even earlier, and the evidence will be presented by referring modern research in the field of epigenetics, mental health and functional abilities. **Structure** There will be 5 oral presentations, followed by a panel discussion and question and answer session for the participants. **Conclusion** The aim of the session is to raise awareness of the participants of the importance of ageing as a life-long process and to show the importance of different policies and political decisions. It will also concretize the vast differences in the preconditions of ageing globally. The actors in gerontechnology have a role to play to educate the politicians and greater public to understand and develop opportunities of ageing well.

References
1. UNFPA and HelpAge International. Ageing in the Twenty-First Century: A Celebration and A Challenge; 2012; www.unfpa.org/public/home/publications/pid/11584; retrieved May 13, 2014
2. Global AgeWatch Index 2013: Insight report, summary and methodology; www.helpage.org/global-agewatch/reports/; retrieved May 13, 2014
3. Zaidi A, Well-being of Older People in Ageing Societies. Surrey: Ashgate; 2008
4. WHO. Global age-friendly cities: a guide; 2007; www.who.int/ageing/age_friendly_cities_guide/en/index.html; retrieved May 13, 2014
5. Bouma H, Fozard JL, Bouwhuis DG, Taipale VT. Gerontechnology 2007;6(4):190-216; doi:10.4017/gt.2007.06.04.003.00

H. Bouma. **On lifelong learning and permanent education.** *Gerontechnology 2014;13(2): 139-140;* doi:10.4017/gt.2014.13.02.230.00. Lifelong learning has replaced the earlier notion of youth and adolescence as the period of learning in preparation for a whole life integrated in society. People are able to internalize new information and acquire new skills at any age up to the end of life[1], except in case of specific memory-attacking diseases. A normal life requires quite a few memory skills. However, society as a whole still seems to hold on to the earlier notion of education as preparation for and continuation of professional life, i.e. education for jobs. **Purpose** Working out the notion of lifelong learning for ageing people in present society. **Method** Analysis of the structural lag[2] of older people to participate in a society characterised by fast innovations[3,4], and deriving suggestions for solutions. **Results and discussion** Stemming from developments in technology, a stream of innovations has deeply changed society and is continuing doing so. It follows that the time horizon of education has shrunk and a ne-

cessity has arisen of permanent education and training of skills up till the end of life. Some options will be outlined for permanent education, thus enabling lifelong learning[3,5]. It is presently unclear who will be the primary stakeholder for organizing this.

Table 1. Part of cross-fertilization matrix[3] showing relevant disciplines of both gerontology and technology; In the cells concepts are placed that are relevant for lifelong learning to be met by permanent education

Gerontology	Technology		
	Computer science	Ergonomics / design	Business management
Cognitive psychology	*Situated learning Frequent repetition*	*Inclusive design*	*Technology Adoption Model*
Social psychology	*Frequent interaction Structural lag*	*Generations*	*Technology Adoption Model*

Scientific disciplines of gerontology and technology[3,6,7] (headings) and concepts (cells) for education software, user interfaces, social organization, and massive introduction are indicated in the matrix of *Table 1*.

References
1. Charness N, Best R, Souders D. Gerontechnology 2012;11(1):22-34; doi:10.4017/gt.2012.11.01.006.00
2. Lawton PM. Future society and Technology. In: Graafmans J, Taipale V, Charness N, editors. Gerontechnology: a Sustainable Investment in the Future. Amsterdam: IOS Press; 1998; pp 12-22
3. Bouma H, Fozard JL, Bouwhuis DG, Taipale VT. Gerontechnology 2007;6(4):190-216; doi:10.4017/gt.2007.06.04.003.00
4. Sackmann R, Winkler O. Gerontechnology 2013;11(4):493-503; doi:10.4017/gt.2013.11.4.002.00
5. Lave J, Wenger E. Situated Learning: Legitimate Peripheral Participation. Cambridge: Cambridge University Press; 1990
6. Fozard JL, Wahl H-W. Gerontechnology 2012;11(1):10-21; doi:10.4017/gt.2012.11.01.003.00
7. Bouwhuis DG, Meesters LMJ, Sponselee MA. Gerontechnology 2012;11(1):45-55; doi:10.4017/gt.2012.11.01.007.00

Purpose In studies of older adults, research design still often describes ages 55+ as the target group. This is controversial for several reasons. Life expectancy in western countries, as well as the number of healthy years, has increased significantly. Statistics show that commonly the age when some kind of support is required is 75+[1]. Research also shows, that attitudes, preferences, and the use of technology are different in different age groups[2,4-7]. More focus should therefore be put on research designs in which the target group reports a need for support in their daily life. **Method** The data for this paper were gathered from several KÄKÄTE Project publications and two surveys (n=1265) done by interviews with a structured questionnaire of people in the age range 55 to 89 years[4,5]. **Results & Discussion** The goal of the KÄKÄTE Project (User Centered Technology for Elderly People and Care Givers) is to determine how technology can be used to support older people in their homes and to assist caregivers in their work. The need for better usability and for devices and applications that are easier to use has been recognized for many years, and many worthwhile improvements have been introduced. However, wider and more successful adoption of technology into supportive use in daily life has been fairly slow. This paper proposes that one crucial reason for this is that the age diversity within older people is not fully understood and taken into consideration. Several studies from the KÄKÄTE Project support this viewpoint. Differences can be seen between older and younger elderly people in their use of common technologies, such as payment terminals or ATMs, or their use of the internet and smart phones[2,5,7]. Differences can also be seen in the attitudes toward what type of supportive services are preferred or considered attractive[4]. These differences are relevant for several reasons. For example, without thorough age-specific targeting, research can focus on innovations for the wrong people: either an age group that does not yet feel the need for supportive technology or no longer has the (e.g., cognitive) capacity to use new technology to their advantage[3]. This easily becomes an additional factor that makes independent living and full participation a challenge. Another study

from the KÄKÄTE Project shows significant differences between people of ages 55 to 74 years and 75 to 80 years with regard to their willingness to purchase services that support their daily life[4]. The age groups differ in several respects, the biggest difference being in their attitudes toward using meal services (technology-supported), entertainment services (recreation of mind), and communication technologies (e.g., video telephones)[4]. The age diversity of older people must be taken into consideration and manifested in future research design, if there is to be full participation by the elderly in technology developments, and if these technology developments are to contribute to the independence of all age groups of older people.

References
1. Väyrynen R. Count of regular home-care clients on 30 November 2012. Helsinki: THL Statistical report; 2012
2. Use of information and communications technology by individuals. Helsinki: Official Statistics of Finland; 2013
3. Taipale VT. Nordens Välfärdscenter 2012;(11):51
4. [Aging and housing: Survey] (in Finnish) 2012. Helsinki: KÄKÄTE Project; 2012
5. Nykänen J, Virkkunen A. [Older people ATMs - Report on the results of the survey] (in Finnish). Helsinki: KÄKÄTE Project; 2012
6. Diversity Among Older Adults Requires Diverse Solutions; June 2013; http://www.health.gov/paguidelines/blog/post/Diversity-Among-Older-Adults.aspx; retrieved September 12, 2013.
7. Intosalmi H, Nykänen J, Stenberg L. [The use of technology and attitudes of 75-89 years of age - Report of the survey] (in Finnish). Helsinki: KÄKÄTE Project; 2013
Address: The Union for Senior Services, Helsinki, Finland; *E*: lea.stenberg@valli.fi

R. Priya, H. Ansari.
Policies and politics of ageing in India: Social and technological options.
Purpose This paper presents a brief overview of the situation of the elderly in India and policies relating to them. **Method** It examines the possible large-scale social and technological developments appropriate for health and wellbeing of the elderly in India. **Results & Discussion** Formal sector pensions as social security and technological inputs for individual assistive aids and health care, cater to the needs of the elderly of the urban upper and middle class in India. Social security provisions for the majority, despite large sized public programmes, involve non-contributory pensions providing minimal subsistence to a fraction of the rural and poor, only minimal access to health care and that primarily curative, as well as minimal provision of free food grain[1]. The creation of institutional care through old age homes can only be a partial solution, primarily for those with special needs.

Reference
1. Ansari H. Are the elderly a Burden? An examination of their conditions in Rural Bihar. Man in India 2000;80(1/2):185-196
Address: A.N. Sinha Institute of Social Studies, Patna, Bihar, India; *E*: hbansari@yahoo.com

P. Heikkilä, J. Leikas.
Why not? Charity as a motivational factor for participation in user-driven innovation.
Purpose The aim of the study was to draw attention to sustainability in society and to create possibilities for citizens to discuss societal problems in relation to sustainable development. Secondly, the study aimed at innovating[1,2] new sustainable services for the aging population. In addition, a new approach for participatory design was tested: The participants were able to donate money for charity work on the basis of their activity rate in the innovation process. **Method** The study was carried out at the Open Web Lab of the VTT Technical Research Centre of Finland[3]. This tool for user-driven design and innovation consists of various human-driven design possibilities, such as a blog-based discussion platform, user diaries, real-time online chatting, online surveys, and polls, all of which can be used flexibly for various design and innovation purposes[4]. A blog-based discussion was selected as a tool for innovation. In total, 40 Finnish citizens from different age groups participated in the study (18 male, 22 fe-

male). They were recruited from VTT's end-user register and a user pool of an open innovation community. Different cases of societal problems were presented to the participants for ideation and discussion. These consisted of: (i) Wasted food: How to exploit the leftover food from groceries that usually ends up in the bin? (result: 18 ideas); (ii) Homelessness: How to improve the situation of homeless people? (result: 9 ideas); and (iii) Support for elderly: How to support living at home for as long as possible? (result: 17 ideas). The topics were open for discussion for two weeks, during which time the participants were supposed to add their own ideas and experiences for discussion. In addition, they filled out a questionnaire concerning the study method. Every idea, comment, or answer from the participants increased the amount of money for charities by 50 cents. **Results & Discussion** Based on the qualitative data received and content analysis of ideas it can be estimated that the research approach is suited for discussion about societal issues. A co-design activity of this kind offers a significant advantage compared with many other co-design methods: it provides a possibility to empower people who would, because of their genuine interest in the subject, actively participate in the discussion. Furthermore, because the participants were informed of the fact that the amount of the individual charity donation was tied to the number of comments and ideas of the person in question, they were amenable to attend the discussion for a relatively long period. The study approach was found beneficial because it made it possible to produce a lot of ideas (44 in total) and generated active discussion, which led to both new and refined ideas. The next step in the process, in order to develop workable real life solutions, would be to elaborate and further develop the ideas together with relevant business actors and decision makers[5,6]. The existing platform provides support also for this kind of co-design where company representatives, municipalities and citizens can engage in a dialogue with each other online. In doing this, it is important that the initiatory debaters are further involved in the process and informed of the value of their initial ideas.

References
1. Hippel E von. The sources of innovation. Oxford: Oxford University Press; 1988
2. Hippel E von. Democratizing innovation. Cambridge: The MIT Press; 2005
3. Friedrich P. Web-based co-design. Social media tools to enhance user-centred design and innovation processes. Espoo: VTT; 2013
4. Owela Open Web Lab; http://owela.fi/; retrieved May 13, 2014
5. Tidd J, Bessant J, Pavitt K. Managing innovation. Integrating technological, market and organizational change. Chichester: Wiley; 1997
6. Drucker PF. Innovation and entrepreneurship. Practice and principles. Oxford: Elsevier; 2006

Y-N. LUO. ***The new perspective of house-for-pension pattern: The choice of Chinese elderly living arrangements.*** *Gerontechnology 2014;13(2):142-143;* doi:10.4017/gt.2014.13.02.111.00 **Purpose** With the increase of the aging population, pension issues become prominent in China. But there is a question whether the house-for-pension pattern can be used to solve this problem. The characteristic of Chinese urban-rural dual structure results in the difference of elderly living between urban and rural areas. This study analyzes the factors affecting the will of living and the living arrangements of the elderly in China. It analyzes how gender impacts the choice of elderly in their living arrangements as well. It makes a thorough inquiry to the applicable and feasible of house-for-pension pattern in China. Then this study puts forward new technology for the elderly with mobility impairments and living alone: the gerontechnology used where the elderly live. **Method** This paper uses the data on CHLSL (1998-2008)[1] to analyze the effect of living arrangements on their survivor time. We use logistic regression and Cox model to deal with the categorical variables and the hazard ratio on the different living arrangements. **Results & Discussion** House-for-pension pattern is also called reverse mortgage. But under the Chinese elderly pension current situation, the feasibility of the house-for-pension pattern is still in question. As *Figure 1* indicates, for elderly to live with family has the lowest mortality risk as compared with other living arrangements. The analysis indicates

that the best option for the elderly is to live with family. Compared with the urban elderly, rural elderly are more willing to live with their children. This is due to the better social security and education the urban elderly have and the better pension they have compared with those in rural environments[2]. It results in the more independent the urban elderly is as well. The further the elderly live away from their children, the more willing they are to live alone. However, gerontechnology can help the elderly to decrease their willingness to live alone. If the living place of elderly is installed with a sort of
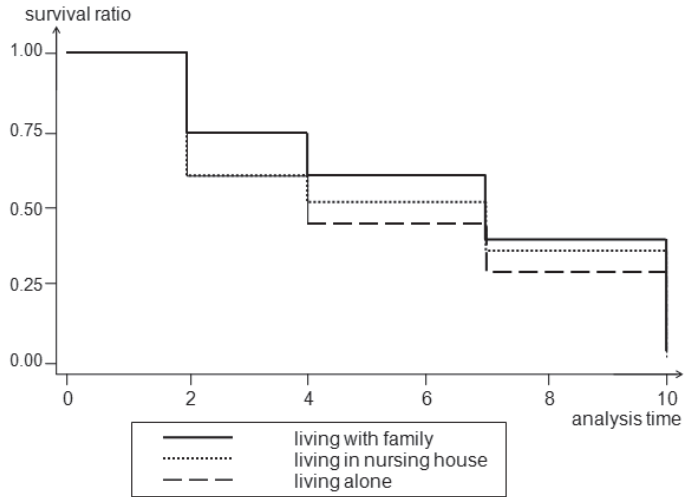

Figure 1. Kaplan-Meier survival estimates graph of different living arrangements

networked application, the elderly can use mobile phones to control digital cameras or satellite TV. Otherwise, their children can take care of them from long distances. Nowadays, most rural elderly do not have social security and income from pension[3]. But the value of the famers' living places in China is low compared with other houses. Many farmers' homes have no real estate license. That is, reverse mortgage for them is useless. Compared with the urban elderly, especially for the elderly who own the houses or apartment in cities, there is no need for them to use the house-for-pension pattern. So combined with the living arrangement of the elderly, it is not appropriate to implement reverse mortgage in China now. But with the popularization of gerontechnology, the house-for-pension may become a good way for old-age security in China.

References

1. Chinese Longitudinal Healthy Longevity Survey (CLHLS); 1998-2008; http://centerforaging.duke.edu/chinese-longitudinal-healthy-longevity-survey; retrieved May 13, 2014
2. Yoshinori Kamo, Min Zhou. Journal of Marriage and Family 1994;56(3):544-558; doi:10.2307/352866
3. Yoshihisa Fujino, Shinya Matsuda. Preventive Medicine 2009;48(1):79-85; doi:10.1016/j.ypmed.2008.10.014