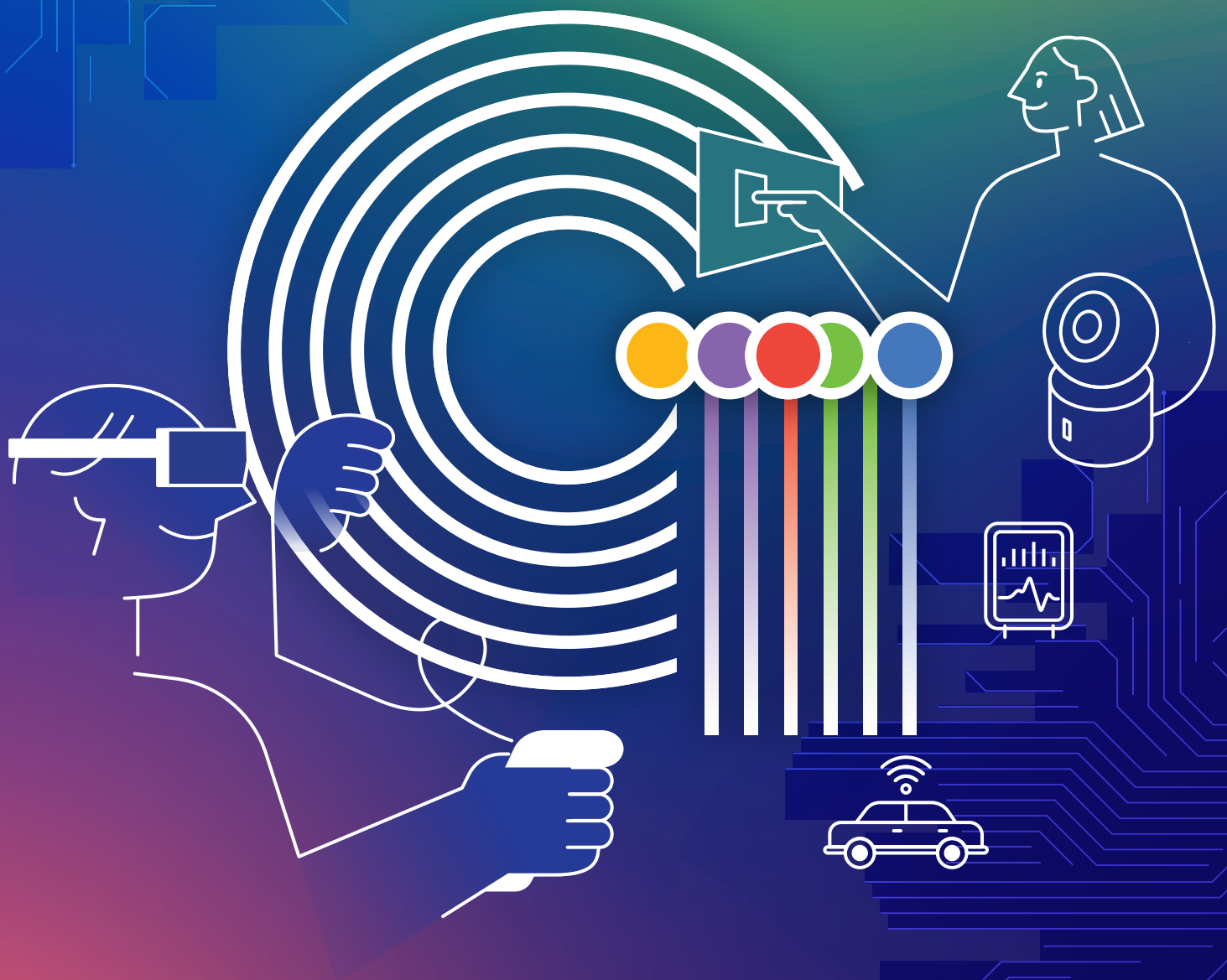


Conference Program

ISG 2022

The 13th World Conference of Gerontechnology

Gerontechnology in the Era of AI



October 24–26, 2022
EXCO, Daegu, Korea

Hosted by



International Society for
Gerontechnology

INTERNATIONAL SOCIETY FOR GERONTECHNOLOGY



Designing technology and environment for independent living and social participation of older persons in good health, comfort and safety

www.gerontechnology.info

Conference Program

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Words of Welcome



Helianthe Kort
President, ISG



Yeong-Ran Park
Vice president of ISG

The era of longevity and progressive population aging is coinciding with the era of Artificial Intelligence. This era has opened the door for great opportunities as well as global challenges. These challenges are having social, political, and economic-related aspects. The Sustainable Development Goals give an overview of these global challenges in which Gerontechnology can have a huge contribution to addressing the challenges.

Nowadays the challenge for the world population aging is not only about how to assist with frail older persons but also about how to design and develop solutions that older persons can own and actively participate in. This means that technological solutions for aging population should be developed under the principle of cocreation with older people, beyond the level of consultation with older users. A paradigm shift is needed from designing technological solutions for older people to designing technological innovations together with older people. The era of artificial intelligence implicitly demands this shift because older people will be the major users of AI for the coming years. Therefore, AI should be developed based on values, seeking optimal, inclusive use for everyone regardless of age.

The 13th conference of the International Society of Gerontechnology is the first conference run in both online and offline modes, offering diverse sessions and events, inviting researchers, practitioners, government officers, entrepreneurs, etc. in Gerontechnology around the world. Multidisciplinary and multisectoral networking and discussions are the important values of ISG 2022; and symposia, oral and poster presentations will offer the most current information and knowledge about social and technological solutions addressing challenges related to population aging. In addition, the organizing committee has arranged splendid opportunities for formal and informal meetings for promoting networking between participants from diverse backgrounds.

We wish you a wonderful conference experience and a pleasant stay in Daegu, the Republic of Korea, hoping that this conference will provide you with valuable insights into gerontechnology

Words of Welcome



Moon Jeong Choi
Chair of the Scientific Committee



Woo-joung Shim (President)
Korean Association of Products and
Services for Senior Citizens (KAPASS)
Host, ISG 2022

Dear Colleagues,

It is an honor to welcome you to the 13th World Conference of Gerontechnology in Daegu, Korea. ISG 2022 is the community and festival for researchers, practitioners, government officers, entrepreneurs, etc. in the field of gerontechnology from all around the world to share their latest research findings and a vision for active and healthy aging under the theme of “Gerontechnology in the Era of Artificial Intelligence.”

Preparing for ISG 2022 has been a daunting challenge for us since COVID-19 has caused many uncertainties and unprecedented barriers. We hoped that by the time we announced a call for abstracts, the world would be free from the pandemic. To cope with these uncertainties, the Organizing Committee has decided to run the conference in both online and offline modes to accommodate diverse needs and situations of participants from around the world. It is the first time to run the conference in two modes in the history of 31 years of the ISG Conference followed by the all virtual one in the year of 2020.

We are grateful to announce that ISG 2022 has 5 keynote speeches (2 online), 24 symposia (5 online), 85 oral paper presentations (39 online), and 60 poster presentations (32 online) delivered by multidisciplinary researchers from 35 countries.

Innovations brought by digital technology and artificial intelligence have been changing the daily lives of older people, opening new opportunities and challenges for active and healthy aging. In this era of AI, “gerontechnology for all” has become an ever more important agenda, in particular related to digital divide. We would like to highlight a special roundtable on WHO-ISG Collaboration on Assistive Technologies for Healthy Ageing, which is a step forward for ISG to contribute to achieving the SDGs.

Also, as the host organization of the ISG Korean Chapter, the Korean Association of Products and Services for Senior Citizens (KAPASS) holds the 6th International Gerontechnology Expo & Forum (IGEF 2022) along with ISG 2022. It provides a convergence platform for users, researchers, public officials, service providers and entrepreneurs in the field of gerontechnology to share the latest R&D results, policy and market trends, and new knowledge and insights for practice.

Daegu is the fourth largest smart city in Korea with approximately 2.5 million residents. It is the symbolic city of digital transformation in healthcare industry responding to the challenges related to population aging. We hope you enjoy the beautiful scenery of Daegu this autumn, its cultural vibrance and dynamic activities during your stay.

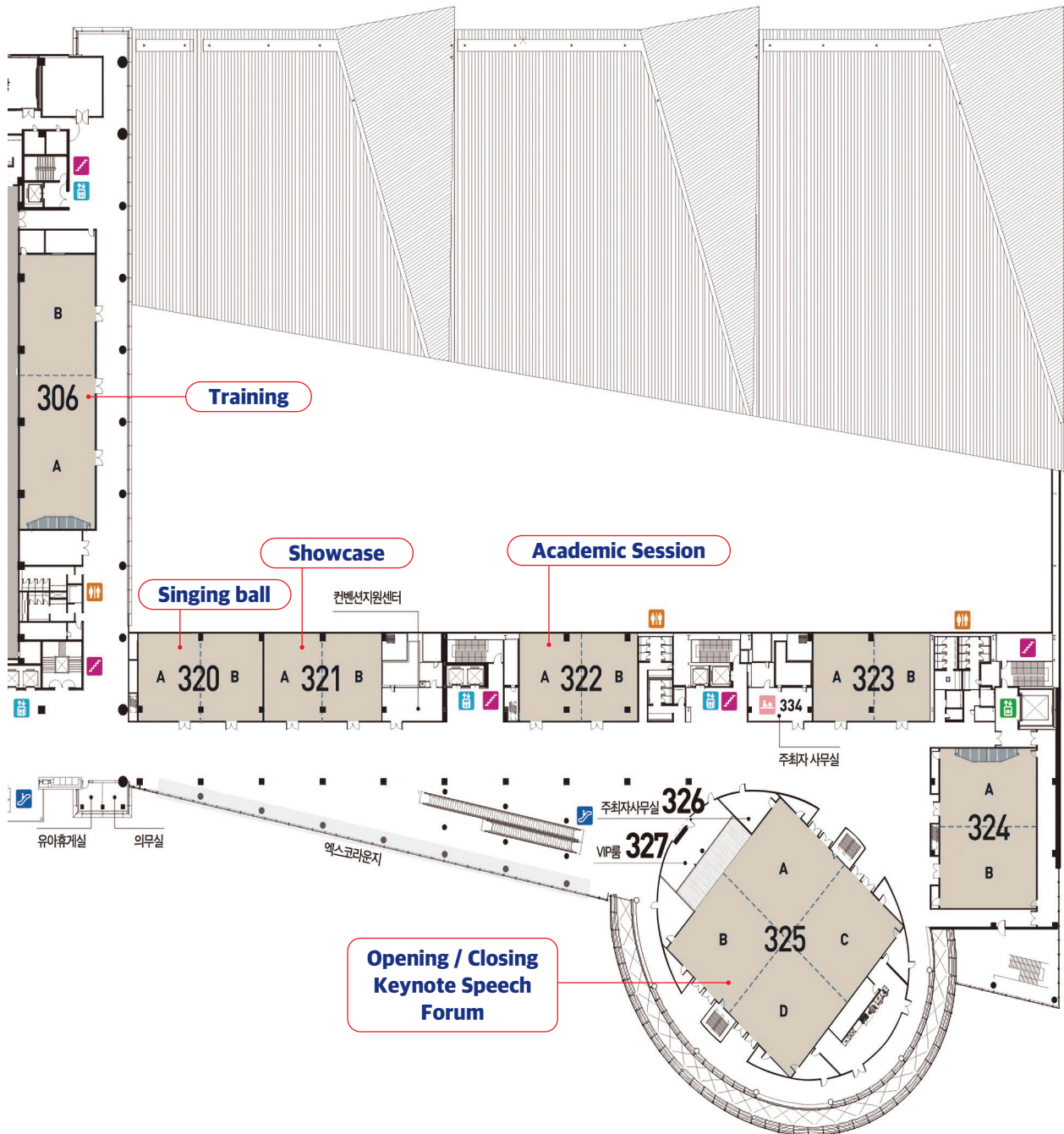
Sponsors and Organizing Partners

	<p>Korean Association of Products and Services for Senior Citizens(KAPASS) is a non-profit organization registered with the Ministry of Health and Welfare in 2003. KAPASS conducts research projects and develops services and technologies related to silver industry. The purpose is to contribute to the promotion of silver industry through information exchange and networking among the individual and organizational members. KAPSS became a host of the ISG Korean Chapter in 2018. International Gerontechnology Expo&Forum is an annual event providing a platform for global exchange among the gerontechnologists. https://kapass.org</p>
	<p>The International Society for Gerontechnology(ISG) promotes design of technology and environments for independent living and social participation of older persons in good health, comfort and safety. It holds biennial international conferences, publishes the quarterly journal Gerontechnology and enjoys a collaborative relationship with IAGG as a Standing Committee. www.gerontechnology.info</p>
 <p>(사)한국노인과학학술단체연합회 The Korean Association of Gerontology and Geriatrics</p>	<p>The Korean Association of Gerontology and Geriatrics(KAGG) is the nation's largest alliance of six major academic societies related to aging; the Korean Gerontological Society, the Korean Society for Gerontology, the Korean Geriatrics Society, the Korean Association for Geriatric Psychiatry, the Korean Gerontological Nursing Society, and the Korean Academy of Long-Term Care. KAGG is also a member of the International Association of Gerontology and Geriatrics(IAGG), representing Korea internationally.</p>
	<p>Kangnam University was established in 1946 as a Central Theological Seminary. In 1953, the Department of Social Work was established for the first time in Korea. A new Department of Silver Industry with curriculum on gerontology, business management and universal design was created in 2006 to prepare for aging society. Curriculum on wel-tech is also offered to future human service providers to meet the challenges of digital transformation.</p>

Sponsors and Organizing Partners

 경희대학교 BK21 AgeTech-Service 교육연구단  힐링케어 실증지원 사업단 · 경희대학교 실증거점센터	<p>Platform-based AgeTech Service Education and Research Innovation Ecosystem(NewAging Patform) at Kyung Hee University operates a systematic and integrated education system for technological innovation, people-centered real life-based research, and university-company-oriented industry-academic cooperation. Healing Care Business Unit provides a test bed for exercise services and food care products</p>
 KAIST Aging & Technology Policy Lab	<p>The AT Policy Lab is the first lab with a focus on aging, social welfare, and technology policy at KAIST since 2014. The AT Policy Lab's research focuses on examining the mechanisms of social problems related to population aging and new technologies and providing policy analysis and recommendations on the issues. The AT Policy Lab carry out research and seek solutions to solve current and emerging social problems to promote evidence-based policy-making, with special interest in improving the quality of life of marginalized people such as older people, people with disabilities, ethnic minorities, and people under poverty.</p>
 이화여자대학교 연령통합고령사회연구소 Ewha Institute for Age Integration Research	<p>The Ewha Institute for Age Integration Research (EIAIR) is a university-based center for research on age-integration and aging society in Korea. EIAIR was established in 2016. The goal of EIAIR is to build an age-integration paradigm as new principles of the contemporary aging society across different societal domains including law, social policy, environment, and socio-cultural systems.</p>
 한국에자이	<p>The Eisai Group's Corporate Concept is "to give first thought to patients and the people in the daily living domain, and to increase the benefits that health care provides to them." Under this Concept (also known as human health care (hhc) Concept), we aim to effectively achieve social good in the form of relieving anxiety over health and reducing health disparities.</p>
 KB 골든라이프케어	<p>KG Golden Lifecare provides daycare and long-term nursing services for older people in Seoul. By grafting the knowledge, experiences and network accumulated while providing financial services by KB Financial Group and KB Insurance for a long period of time, KB Golder Lifecare provides quality care for older people and families.</p>

EXCO (3F) Floor Plan



Program at a Glance

※ Red No. is Session ID

(KST, UTC+09:00)

Date Time	Day1, 24 October (Monday)				
8:30					
9:00					
9:30					
10:00	ISG Registration (3F Lobby)				
10:30					
11:00					
11:30					
12:00	Lunch				
12:30					
13:00	ISG Opening Ceremony (RM: 325)				
13:30	Keynote Speech 1 / A. Oh (RM: 325)				
14:00					
14:30	2404 Oral 3. (Health) Fall/Balance 506, 536, 733, 739 (RM: 322-A)	2405 Oral 7. (Others) Medical 557, 655, 717 (RM: 322-B)	2401 Symposium 7. (Others) 578 Barbara Klein (RM: 323-A)	2402 Symposium 7. (Others) 774 Hye-Ri Shin (RM: 323-B)	2403 Symposium 3. (Health) 818 Moo-Kwon Chung (RM: 324-A)
15:00					
15:30					
16:00	Coffee Break				
16:30	2409 Oral 4. (Info) Intervention 531, 544, 732 (RM: 322-A)	2410 Oral 6. (Governance) Perspective 538, 576, 724, 746 (RM: 322-B)	2406 Symposium 1. (Housing) 541 Won-Kyung Song (RM: 323-A)	2407 Symposium 7. (Others) 721 Helianthe Kort (RM: 323-B)	2408 Symposium 3. (Health) 750 Hongsoo Kim (RM: 324-A)
17:00					
17:30					
18:00	Break				
18:30	Welcome Reception (HOTEL INTER-BURGO EXCO, Grand Ballroom)				
19:00					
19:30	Break				
20:00	Old Board Meeting (Invited only, RM: 325)				
20:30					
21:00	Keynote Speech 2 / A. Officer (Online)				
21:30					
22:00	2422 On-Oral 4. (Info) Dialogue 497, 552, 575, 696 (Online)	2423 On-Oral 3. (Health) Robots 691, 730, 759, 760 (Online)	2421 On-Sym. 1. (Housing) 530 C.A.M. Huisman (Online)		
22:30					
23:00	2425 On-Oral 3. (Health) VR/Medical 563, 607, 618 (Online)	2426 On-Oral 7. (Others) Active Aging 562, 775 (Online)	2424 On-Sym 7. (Others) 571 V. Gallistl, A. Peine (Online)		
23:30					

Program at a Glance

※ Red No. is Session ID

(KST, UTC+09:00)

Date Time	Day2: 25 October (Tuesday)					
8:30	ISG Registration (3F Lobby)					
9:00	Keynote Speech 3 / S. Helal (RM: 325)					
9:30						
10:00	Coffee Break			ISG Chapter Meeting (RM: 325)		
10:30	2504 Oral 1. (Housing) Smart Home 566, 574, 577, 769 (RM: 322-A)	2501 Symposium 3. (Health) 527 Gwi-Ryung Hong (RM: 322-B)	2502 Symposium 3. (Health) 757 Othelia Lee (RM: 323-A)	2503 Symposium 2. (Transport) 793 Moon Choi (RM: 323-B)		
11:00						
11:30						
12:00 ~ 13:00	Lunch		Poster Session (3F Lobby)			
13:30	Keynote Speech 4 / K. Niederlander (Online) (RM: 324-A, B)					
14:00						
14:30	2509 Oral 4. (Info) Digital Divide 522, 584, 806 (RM: 322-A)	2510 Oral 3. (Health) Exercise/Leisure 553, 658, 728 (RM: 322-B)	2505 Symposium 3. (Health) 777 BeLong Cho (RM: 324-B)	2506 Symposium 3. (Health) 789 Jaekwang Kim (RM: 323-B)	2507 Symposium 3. (Health) 821 Kun Ho Lee (RM: 324-A)	2508 Symposium 3. (Health) 808 Joong Jean Park (RM: 323-A)
15:00						
15:30						
16:00	Coffee Break					
16:30	2515 Oral 3. (Health) Care/Tech 520, 554, 558 (RM: 322-A)	2516 Oral 7. (Others) Policy 605, 636, 725 (RM: 322-B)	2511 Symposium 3. (Health) 542 Stefanie Baisch (RM: 323-A)	2512 Symposium 4. (Information) 587 Henk-Herman Nap (RM: 323-B)	2513 Symposium 6. (Policy) 744 Young Hee Ro (RM: 324-A)	2514 Symposium 3. (Health) 822 Hyun Kook Lim (RM: 324-B)
17:00						
17:30						
18:00	ISG General Assembly (RM: 325)					
18:45						
18:30 ~ 19:30	Gala Dinner (Senior Fashion Show) (HOTEL INTER-BURGO EXCO, Grand Ballroom)					
20:00	Break					
20:30						
21:00	2522 On-Oral 3. (Health) AI 509, 556, 634, 713 (Online)	2523 On-Oral 4. (Info) Robot 510, 582, 673 (Online)	2521 On-Sym. 4. (Info) 560 Johannes Doll (Online)			
21:30						
22:00	2525 On-Oral 3. (Health) Movement 545, 568, 570, 684 (Online)	2526 On-Oral 4. (Info) Digital Use 547, 567, 585, 734 (Online)	2524 On-Sym 3. (Health) 593 R.F.L. Azevedo (Online)			
22:30						
23:00	2528 On-Oral 1. (Housing) Community 537, 649, 689 (Online)	2529 On-Oral 7. (Others) Health 569, 586, 708, 762 (Online)	2527 On-Sym 7. (Others) 517 N. Charness (Online)			
23:30						

Program at a Glance

※ Red No. is Session ID

(KST, UTC+09:00)

Date Time	Day3: 26 October (Wednesday)					
8:30	ISG Registration (3F Lobby)			08:00-09:00 New Board Meeting (Invited only, RM: 327)		
9:00	2604 Oral 1. (Housing) Assistive Tec 523, 507, 697, 711 (RM: 322-A)	2605 Oral 3. (Health) Monitoring 573, 686, 706, 726 (RM: 322-B)	2606 Oral 3. (Health) Care 604, 650, 653 (RM: 323-A)	2601 Symposium 3. (Health) 515 Woochol Joseph Choi (RM: 323-B)	2602 Symposium 4. (Info) 679 Soondool Chung (RM: 324-A)	2603 Symposium 4. (Info) 817 Moon Choi (RM: 324-B)
9:30						
10:00						
10:30	Coffee Break					
11:00	Keynote Speech 5 / A. Mihailidis (RM: 325)					
11:30						
12:00	Closing & Preview of ISG 2024 (RM: 325)					
12:30	Lunch					
13:00						
13:30 ~ 18:00	K-Cultural Tour Daegu			K-GT Tour Daegu K-GT Tour Busan K-GT Tour Kyeongnam		

Date Time	Day4: 27 October (Thursday)
09:00 ~ 18:00	K-GT Tour Seoul K-Cultural Tour Seoul

Date Time	Day5: 28 October (Friday)
09:00 ~ 15:00	K-Cultural Tour (Invited foreigners only)
15:00 ~ 17:00	SEED (Invited only)

[Keynote Speech 1]

Toward Making AI for All



Alice Oh

Professor, The School of Computing, KAIST

Abstract

Rapid advances in artificial intelligence are making our lives fuller and more enjoyable, but not all AI technologies are beneficial to everyone. In fact, recent AI technologies have been shown to make biased predictions which can harm people. For example, language models which drive the latest chatbots and machine translation systems show gender stereotypes and generate hateful language toward minority groups. In this talk, I will discuss several ethical issues with AI, show examples of biased machine learning models, and illustrate how some of these issues can be tackled. I will conclude by presenting future directions in making AI inclusive.

Biography

Alice Oh is a Professor in the School of Computing at KAIST. She received her MS in 2000 from Carnegie Mellon University and PhD in 2008 from MIT. Her major research area is at the intersection of machine learning and computational social science. Within machine learning, she studies various models designed for analyzing written text including social media posts, news articles, and personal conversations. She has served as Tutorial Chair for NeurIPS 2019, Diversity & Inclusion Chair for ICLR 2019, and Program Chair for ICLR 2021. She is serving as Program Chair for NeurIPS 2022 and General Chair for ACM FAccT 2022.

[Keynote Speech 2]

The United Nations Decade of healthy ageing (2021-2030) and Geotechnology: challenges and opportunities



Alana Officer

Unit Head, Demographic Change and Healthy Ageing at the World Health Organization (WHO)

Abstract

The United Nations proclaimed 2021-2030 the Decade of Healthy Ageing, and asked WHO to lead this global initiative to improve the lives of older people, their families and communities.

The Decade brings together a variety of stakeholders (Governments, civil society, international organizations, academics, private sector etc.) to galvanize concerted action to: change how we think, feel and act towards age and ageing; develop communities in ways that foster the abilities of older people; deliver person-centred, integrated care and primary health services that are responsive to older people; and provide older people access to long-term care when they need it. The keynote will explore the role of geotechnology in the UN Decade of Healthy Ageing with a specific focus on opportunities and challenges of artificial intelligence.

Biography

Alana Officer is the Unit Head for Demographic Change and Healthy Ageing at the World Health Organization. She coordinates the UN Decade of Healthy Ageing (2021-2030) and oversees WHO's work on Age-friendly physical and social environments including the Global Campaign to Combat Ageism and the Global Network for Age-friendly Cities and Communities. For more information <https://www.who.int/about/people/biography/alana-officer>

[Keynote Speech 3]

Smart Home in a Box: Lessons Learned in Designing Assistive and Intelligent Living Environments for Graceful Aging



Abdelsalam (Sumi) Helal

Professor, University of Florida

Abstract

An imminent crisis in ageing-related care threatens world economies and people's quality of life. Multimorbidities, frailty, dementia and other conditions are overstretching both the health and social care systems and exposing their lack of integration. Cost-effective, high impact Gerontechnology for active, healthy, and independent living are urgently needed. I will present our experience, technology development, and lessons learned in designing the Gator Tech Smart House (GTSH) - an "assistive environment" for the ageing population and demonstrate some of the challenges faced in working in multi-disciplinary, human-centered research. I will present our ATLAS "softwarization" technology which is the foundation on which we made the GTSH a flexibly programmable smart space. I will cover several ATLAS based applications developed in the GTSH. I will then present a critical review of the key ATLAS and GTSH achievements, but also the mistakes, missed opportunities, and in general lessons learnt. I will close by summarizing the challenges ahead and the potential paths forward, including the evolution from the current smart home concept to smart-ready homes and communities.

Biography

Sumi Helal is a Computer & Information Science and Engineering Professor at the University of Florida, USA, and Director of its Mobile and Pervasive Computing Laboratory. He co-founded and directs the Gator Tech Smart House, a real-world deployment project that aims at identifying key barriers and opportunities to make the Smart Home concept a common place (creating the "Smart Home in a Box" concept). His active areas of research focus on architectural and programmability aspects of smart spaces and the Internet of Things, and on pervasive/ubiquitous systems and their human-centric applications with special focus on proactive health/wellness, patient empowerment and e-coaching, and assistive technology in support of personal health, aging, disabilities, and independence. Professor Helal was from 2017 to 2020, and while on leave from Florida, he was professor and Chair in Digital Health at Lancaster University, UK, where he led interdisciplinary research initiatives in digital health in both the School of Computing and Communications (Faculty of Science and Technology) and the Division of Health Research (Faculty of Health and Medicine). As Director of Lancaster University's Center on Digital Health and Quality of Life Technologies, he led several projects on Connected Health Cities, Healthy New Towns design and implementation, suicide prevention using cybernetics and analytics, Airport Accessibility for the hearing impaired, and intelligent primary care GP-Patient interactions. Prof Helal is currently an adjunct professor at Lancaster University.

[Keynote Speech 4]

AAL in Europe and the prospects for the WHO's declared Decade of Healthy Ageing



Klaus Niederländer

Director of the Ambient Assisted Living (AAL) Association

Abstract

With a double bachelor's degree in European Business in Germany and the UK and a master's degree in European Economics from the College of Europe in Belgium, Mr. Niederländer started his professional career in 1995 in investment banking and in management consulting for the pharmaceutical/chemical/logistics industry as well as for city development. When moving to Brussels in 2002, he joined an EU-ACP agency for private sector development as programme manager before becoming Director of Cooperatives Europe, the pan-European cooperative enterprise association. He eventually was appointed Director of the AAL Association in 2017.

Biography

Klaus Niederländer is currently the Director of the Ambient Assisted Living (AAL) Association, an international public partnership of national and regional Health, Innovation & Research Ministries/Funding Agencies from 18 countries (mainly in Europe plus North America and Asia). This support programme focuses on active & healthy ageing with support of digital-based solutions.

Mr Klaus Niederländer has 25 years of work experience in dealing with socio-economic transformation issues, such as SME development in Sub-Saharan Africa or the spreading of cooperative enterprise models in various sectors in Europe, e.g. for locally owned renewable energy production, healthcare and education. Since 2016 his work focuses on demographic change challenges and opportunities through ageing well based on autonomy, self-help and solidarity.

[Keynote Speech 5]

Building AgeTech that Works: Lessons Learned and Lessons Still to be Learned



Alex Mihailidis

Professor, University of TorontoScientific Director, AGE-WELL

Abstract

We are at a tipping point. Our world's population is getting older, there are fewer people who can look after these individuals, and our healthcare systems are crumbling. Also, we are all dealing with the impact of a global pandemic that has shone a light on the low quality of care that we are providing for older people. However, the past three years have also shown that technology can and must play a role in supporting our aging population by filling the gaps in care that have surfaced. The time is now for the AgeTech community to develop new solutions that will make a difference in the lives of older adults and their care partners. To be successful, however, we need to understand how to build these solutions so that they solve real problems in the real world. This presentation will discuss the journey that I have been through in hopefully understanding these needs and translating them into practical and effective solutions. I will discuss how we as a community can discover the needs of older adults, present how we have gone through this journey in Canada, and provide examples of technologies that have been developed. Finally, I will discuss where I feel we need to go in our field and the important questions that we must ask of ourselves moving forward.

Biography

Professor Mihailidis is the Associate Vice-President for International Partnerships at the University of Toronto, and the Scientific Director of the AGE-WELL Network of Centres of Excellence, which focuses on the development of new technologies and services for older adults. He is a Professor in the Department of Occupational Science and Occupational Therapy (U of T) and in Biomedical Engineering (U of T), with a cross appointment in the Department of Computer Science (U of T).

Professor Mihailidis has been conducting research in the field of technology to support older adults for the past 17 years, having published over 200 journal papers, conference papers, and abstracts in this field. Dr. Mihailidis is also very active in the rehabilitation engineering profession, currently as the Past-President for RESNA (Rehabilitation Engineering and Assistive Technology Society of North America). He was also named a Fellow of RESNA in 2014, which is one of the highest honours within this field of research and practice, and a Fellow in the Canadian Academy of Health Science (CAHS) in 2021 for his contributions to the health and well-being of older Canadians.

Professor Mihailidis received a B.A.Sc. in Mechanical Engineering from University of Toronto in 1996, a M.A.Sc. in Biomedical Engineering in 1998 from the University of Toronto, and a PhD in Bioengineering (Rehabilitation Engineering) in 2002 from the University of Strathclyde (Glasgow, Scotland).

Detailed Scientific Programme

Monday, 24 October 2022

(KST, UTC+09:00)

09:00-18:00 Registration (3F Lobby)

12:00-13:00 Lunch

13:00-13:30 ISG Opening (RM: 325)

Congratulatory address: Helianthe Kort (President, International Society of Gerontechnology)

Opening address: Woo-Joung Shim (President, Korean Association of Products and Services for Senior Citizens(KAPASS))

Welcoming address: Young-Ran Park (Vice president, International Society of Gerontechnology)

13:30-14:30 Keynote Speech 1 (RM: 325)

Toward Inclusive AI: Understanding and mitigating harmful effects of AI

- Alice Oh (Professor, KAIST School of Computing)

14:30-16:00 5 Parallel sessions

Session ID:2401

Symposium 7. Others (RM: 323-A)

578 B. Klein, S. Merkel (Convener)

Current trends in Gerontechnology. Recent findings from the Austrian-German-Swiss Chapter

Relationships between ICT use and subjective well-being among the oldest-old in Germany: Findings from the NRWBO+ study

Older persons and the domestication of smart speakers

A. B. Kucharski, S. Merkel

“Computer, how do smart speakers support aging in place?” – Smart Speakers and Images of Ageing

S. Merkel, A. B. Kucharski, S. Schorr

Smart Speakers and Chatbots in Care Consultation – Evaluation of Use Cases and Challenges

J. Bleja, S. Neumann, U. Grossmann

AI for Simplifying the use of an assistive robotic arm for people with severe body impairments

A. Baumeister, M. Pascher, Y. Shivashankar, F. Goldau, U. Frese, J. Gerken, E. Gardó, B. Klein, P. Tolle

Evaluation of design options for an assistive robot in augmented reality

M. Ringwald, J. Sehr, B. Klein, H. Solis; J. Umansky, P. Nauth

Qualification of health and social care professionals in digital technologies

B. Klein, M. Ringwald, M. Schmidt, F. Paschou, L. Trebienne, H. Lydon, A. Riccio, M. Panzironi, A. Papadopoulos, K. Karaikos, M. Xiari, C. Papadopoulou, A. Hannotte, T. Gomez-Sanchez Otero, K. Gkeka

Session ID:2402

Symposium 7. Others (RM: 323-B)

774 H. Shin (Convenor)

(Symposium by Kyung Hee University BK 21 AgeTech-Service)

ICT-Medical convergence Patient Transfer Assistant Robot system

K.W. Jung, B.W. Lee, B.H. Lim, J.H. Yoon, S.H. Kim, M.W. Moon, Y.J. Cho

Evaluating the Smart Transfer Assistive Robot with Dual Arms in Health care Workers

H.R. Shin, H.J. Yoon, S.W. Ban, Y.G Kim, S.R. Um, W.C. Shin, Y.S. Kim

Technology Applied Recipe Development to Increase Fruits Intake of the Elderlies with Decreased Chewing and Swallowing Function

H.S. Lim, Y. Park, J.W. Han, Y.J. Sung, D. Kim, Y.S. Kwon

What bibliometric and scientometric analysis tells about the international research trends of smart home for older adults?

Y.K. Hong, Z.Y. Wang, J.Y. Cho.

Session ID:2403

Symposium 3. Physical and Mental Health (RM: 324-A)

818 M. K. Chung (Convenor)

Interventions to promote health and mental health among older adults

How do communication skills influence older patients' satisfaction of health care services? - Empirical evidence from Korea

J.N. Hwang, J.S. Kang, K.S. Moon, J.H. Kim, H.S. Woo, S.J. Park

The Impacts of Physical Health and Social Networks on Depression Symptoms of Middle and Old Ages of the Korean Urban and Rural Complexity City

M.K. Chung, T.S. Shin, J.Y. Park, M.H. Kim, K.J. Lee, J.K. Lee, S.W. Hwang, J.H. Lee, H.S. Lim, U.Edrenebayar

The mental well-being of the elderly through mindful storytelling and physical activity

H.Y. Hwang, S.J. Seo, H.T. Kim, H.K. Kim, H.J. Kim

Session ID:2404

Oral 3. Physical and Mental Health – Fall/Balance (RM: 322-A)

Chair: Laura A. Rice (UIUC)

506

Muscle activation pattern to distinguish balance recovery from falls at loss of balance

J. Park, S. Kim, W.J. Choi

536

Potential negative effects of neuromuscular electrical stimulation: Does it affect static balance and proprioception?

J.W. Je, W.J. Choi

733

Use of mobile devices and their functionalities by Brazilian older people

T. M. Raymundo, M. S. Bernardes, W. R. Boot, L. D. Bernardo

739

Development of an automated fall detection device specific to wheelchair users

L.A. Rice, L. Abou, A. Fliflet, P. Presti, J.J. Sosnoff, H.P. Mahajan, M.L. Frechette

Session ID:2405

Oral 7. Others – Medical (RM: 322-B)

Chair: Dorothy Bai (Taipei Medical University)

557

Quantum-classical software for drug prescription simulation in aging people

J. Alvarado-Valiente, J. Romero-Álvarez, E. Moguel, J. Garcia-Alonso, J.M. Murillo

655

Comparative Analysis of Satisfaction by Types of Medical Electric Beds

J.H. Jeong

717

Effects of end-of-life care education on nursing students' knowledge, attitude, and self-efficacy

D. Lee, S.H. Tak, H. Choi

16:00-16:30 Coffee Break

16:30-18:00 5 Parallel sessions

Session ID:2406

Symposium 1. Housing and Daily Living (RM: 323-A)

541 W.K. Song (Convener)

Care robots and service model development

Translational research and service model development based on smart care space for people with severely disability

W.K. Song, K.J. Lee

Comparative study of physical care burden on caregivers for elderly excretion care between human manual care and robot-aided care based on hierarchical excretion care task model

J.B. Ko, H.J. Keom, C.K. Lee, B.H. Won, J.S. Hong

Comparison of physical burden of caregivers when using transfer devices

Y.M. Shin, Y.K. Kim, K.J. Lee, W.K. Song

Development of patient-transfer robot considering user convenience and patient safety

H. Kweon, K. Ha, J. Park, and C. Kim

Utilization of an artificial intelligence automatic urination handling device according to the aspect of the individuals with disorders

U.C. Lee

Design, control, and evaluation of a meal-assistive robot based on gravity compensation for elderly people with muscle weakness

K. Kim, J.H Kim, J.B Kim

Session ID:2407

Symposium 7. Others (RM: 323-B)

— **721 H. Kort** (Convener)

WHO-ISG Collaboration on Assistive Technologies for Healthy Ageing-in-Place: A Round Table Discussion

E. Aspnes, J. Bergschold, N. Charness, M.L. Fang, G. Gutman, Y. Hsu, W. Kearns, H.S.M. Kort, T. Marquine, H. Nap, D. Zandi, W. Zhang

Session ID:2408

Symposium 3. Physical and Mental Health (RM: 324-A)

— **750 H. Kim** (Convener)

Delivery of health and social care for lower-income older adults in communities: Does technology help?

ICT use promoting integrated health and social services through multi-disciplinary research efforts: cases from Korea

H. Kim

Development of needs-resources prediction model using integrated case management big data

Y. Kim, H. Kim, T. Lee, S. Min, S. Park, W. Lee

Development and validation of a mobile app-based interRAI CUSR for older adults in urban, low-income communities

T.H. Lee, S. Chun, E. Kim, H. Kim

A Smartphone application-based communications tool for the care management of community-dwelling older adults: Findings from the HWePS

E. Kim, T.H. Lee, S. Chun, H. Kim

Session ID:2409

Oral 4. Information and Communication – Intervention (RM: 322-A)

Chair: Fuad Abujarad (Yale University)

531

Adaptation and evaluation of the digital elder abuse intervention “VOICES” in the primary care-based setting

F. Abujarad, C. Edwards, B. Vander Wyk, P. Ellis, K. Kraemer, R. Marottoli.

544

Improving the Assessment of Older Adults using Feature Selection and Machine Learning Models

J. Rojo, J. García-Alonso, Juan M. Murillo, S. Helal

732

The utilization of IOT technology in the study of communication between people with dementia and their caregivers

D. Kim, S. Jeong

Session ID:2410

Oral 6. Governance and Social Policy – Perspectives (RM: 322-B)

Chair: R.A. Søråa & M. Kharas (NTNU)

538

An Introduction of the Assistive Technology R&D for Older People with Disabilities in Korea

M.J. Lim, A.J.Kim, E.J.Kim, and S.D.Eun

576

Gerontechnology for who? A responsible framework for diversity and inclusivity for health technology

R.A. Søråa

724

The importance of a worker’s perspective on digital technology

A. Spånt Enbuske

746

Happiness IT Platform for Active & Happy Ageing(AHA)

Y.H Ro, Ph. D.

18:00-18:30	Break
18:30-19:30	Welcome Reception (Hotel Inter-Burgo EXCO, Grand Ballroom)
20:00-21:00	Old Board Meeting (RM: 325) (Invited only)

21:00-22:00 Keynote Speech 2 (Online)
The United Nations Decade of healthy ageing (2021-2030) and Geotechnology: challenges and opportunities
- Alana Officer (Unit Head, Demographic Change and Healthy Ageing at the World Health Organization)

22:00-23:00 3 Parallel sessions (Online)

Session ID:2421

On-Symposium 1. Housing and Daily Living – Dementia Care

530 C.A.M. Huisman (Convener)

Living at home with dementia beyond care; a perspective on the day and night situation

Available technology applications to support sleep for people with dementia and their informal caregiver

C.A.M. Huisman, H.S.M. Kort

A multi-stakeholder perspective on challenges during the night for people with dementia and their carers

A.A.G. Sponselee, M.E. Nieboer, R.G.A. Brankaert

Visual functioning and home modifications at home

M.A. van Tilborg

Brazilian initiatives aimed at the prevention and care of dementia

T.M. Raymundo, L.D. Bernardo

Session ID:2422

On-Oral 4. Information and communication – (Dialogue)

Chair: David Frohlich (University of Surrey)

497

A Summary Report through Home Experiment on a Dialogue System for Older Adults

S. Tokunaga, K. Tamura, M. Otake-Matsuura

552

Integrating multiple dialogue agents using WebRTC for facilitating elderly mutual-aid at home

S. Chen, M. Nakamura

575

Supporting Home- and Community-Based Organization Activities through a Customized Videoconferencing Platform

G. Mois, S. Shende, R. A. Mudar, D. Myers, W. A. Rogers

696

Printed digital storytelling for older audiences

D.M. Frohlich, L. Ferraz, P. Castro

Session ID:2423

On-Oral 3. Physical and Mental Health – Robots

Chair: Kelvin Cheng Kian TAN (Singapore University)

— 691

A social robot to promote intergenerational interaction in community service during coronavirus (COVID-19) pandemic

Y.J. Mao, D.K.H. Lai, A.K.Y. Cheung, A.Y.C. Tam, D.S.K Cheung, J.C.W. Cheung

— 730

A functional approach to measuring acceptance of social robots among elderly singletons in hong kong and singapore: protocol review of a purposeful sampling study

C.K.Tan, W.Q. Lou, C.Y. Man, Y.Y. Mor

— 759

Can telepresence robots empower people with mental health conditions and intellectual disabilities in everyday life?

L. Küsters, M. Schmidt, B. Klein

— 760

Development of a design framework to support pleasurable robot interactions for older adults

S.A. Olatunji, W.A. Rogers

23:00-24:00 3 Parallel sessions (Online)

Session ID:2424

On-Symposium 7. Others – Soci-Gerontechnology

— 571 V. Gallistl, A. Peine (Conveners)

Critical Engagements with Ageing and Technology – Why we need Socio-Gerontechnology

Resourceful DIY solutions of older people as input for design

L. Neven, J. Berschöld

“What’s the limit?” Technologies for aging in place as imagined by young adults

N.K. Dalmer, K. L. Ellison

Why Care of all things? A critical analysis of Robotics in Care Settings

A. Bischof, P. Graf

The interrelatedness of digital practices and social connectedness: A study on older people’s smartphone use

A. Peine, M. Fernández-Ardèvol, E. Loos, A. Rosales, D. Blanche

Session ID:2425

On-Oral 3. Physical and Mental Health – VR/Medical

Chair: David Man (The Hong Kong Polytechnic University)

— 563

VR exercise game to keep the shoulder self-exercise going

N. Takahashi, K. Ishihara

— 607

VR & AI-based Mobile Apps in Enhancing Independence of Daily Function in Older Adults

D.W.K. Man, F.H.Y. Lai

— 618

Healthcare workers' expectations of the Dyna-Form SMARTresponse application (HESA): A qualitative study

J. Slob, C.T.M. van Houwelingen, H.S.M. Kort

Session ID:2426

On-Oral 7. Others – Active aging

Chair: Moon Choi(KAIST)

— 562

Decision Support System for the Fair Contribution of Efficiency Gains in the AAL Sector

J. Bleja, S. Neumann, U. Grossmann

— 775

Volunteering Characteristics, Social Support, and Successful Aging: Mediation Effects of Volunteer Satisfaction and Gender Differences

S. Lee, J. Lee

Tuesday, 25 October 2022

(KST, UTC+09:00)

08:30-18:00 Registration (3F Lobby)

09:00-10:00 Keynote Speech 3 (RM: 325)
Smart Home in a Box: Lessons Learned in Designing Assistive and Intelligent Living Environments for Graceful Aging
- Professor Abdelsalam (Sumi) Helal (Professor, University of Florida)

10:00-10:30 Coffee Break

10:00-10:30 ISG Chapter Meeting (Invited only) (RM: 325)

10:30-12:00 4 Parallel sessions

Session ID:2501

Symposium 3. Physical and Mental Health (RM:322-B)

527 G. R. Hong (Convener)

Multidisciplinary perspectives on care burden and social value of care robot

Care Difficulty of Activities of Daily Living among Formal Caregivers: Suggestion for Developing Caring Robot

G.R.S. Hong, E.M. Oh, D. Chung, R.N. Choi, S.H. Moon

Analysis of social value for nursing robots with the estimates of demand functions

K. Park, H. Ryu, J. Kim, J. Lee, Y. Lee

Effects of transfer assistive robots on care burden, burnout, and self-esteem in caregivers

M.J. Kim, Y.S. Shin

Biomechanical effects of a mechanical lift on the risk of low back injury during transfers from bed to wheelchair

W. J. Choi, S. Lee, K. Lim

Session ID:2502

Symposium 3. Physical and Mental Health (RM:323-A)

757 O. Lee (Convener)

Effects of Companion Robots for Socially Isolated Older Adults

Socially Assistive Humanoid Robots for Home Care: Investigating depressive symptoms and quality of life among impoverished and isolated older adults in South Korea

O. Lee, I. Nam, H., Lee, Y. Chon

Verification of the Effectiveness of a Social Robot According to the Cognitive function of the older adults

J. Jang, Y. Hwang, K. S. Kim, H. Jo

What Hinders Robotic Care? Towards Situated Understanding of Elder Care Robots and Their Uses

H. Shin, C. Jeon

Session ID:2503

Symposium 2. Mobility and Transport (RM:323-B)

793 M. Choi (Convener)

Technology use for assessing mobility among older adults

Do older people drive differently? analysis of driving characteristics of taxi drivers on urban roads

J. Lee, K. Jang

Analysis of dangerous driving behavior per driver age with taxi driving log data

A. Son, J.G. Lee

Mobility evaluation system based on anomaly detection using an exercise exoskeleton robot

C. Lee, B.M. Kang, S. Joo, Y. Kim, D.E. Kim, G.J. Kim, Y.M. Lim

Evaluation method using muscle activation of resistance exercise with wearable robot

B. Kang, C. Lee, S. Joo, J. Y. Kim, D.E. Kim, G.J. Kim, Y.M. Lim

Session ID:2504

Oral 1. Housing and Daily Living – Smart Home (RM:322-A)

Chair: Kristina Grüenberg (University of Copenhagen)

566

Building personalized virtual networks of care with the ADEL electronic home assistant for older adults

A. Moreno, J. Bernier

574

Engaging citizen stakeholders on the topic of social robotics in healthcare

R.A. Søraa, Y. Cheng, M. Kharas, S. Moratti

577

Automated Modeling and Reasoning Approach for Context in Smart Homes based on Stochastic Analysis of Sensory Data

J. W. Lee, A. Helal

769

Residents' perception of the use of smart-home technologies in a retirement community

A. P. Aguilera-Hermida

12:00-13:30	Lunch & Poster Session (3F Lobby)
13:30-14:30	Keynote Speech 4 (RM: 324-A, B) AAL in Europe and the prospects for the WHO's declared Decade of Healthy Ageing -Klaus Niederländer (Director, the Ambient Assisted Living (AAL) Association)

14:30-16:00 6 Parallel sessions

Session ID:2505

Symposium 3. Physical and Mental Health by The Korean Geriatrics Society (RM: 324-B)

777 Y.J. Cho, S.Y. Kim, J.L. Yoon (Conveners)

Technologies to manage chronic diseases and frailty
(Korean Association of Gerontology and Geriatrics)

Care coordinator application to manage chronic disease in primary care

B.L. Cho

Information technology-supported integrated health service for older adults in long-term care settings: A cluster randomized controlled study

K.I. Kim

Technology based frailty prevention model with an eCBT application and a multisensor device

H.Jung, S.Yoon

Session ID:2506

Symposium 3. Physical and Mental Health by the Korea Dementia Research Center (RM:323-B)

789 J.K. Kim (Convener)

Application of artificial intelligence and digital technology to overcome dementia
(Korean Association of Gerontology and Geriatrics)

PET-validated EEG-Machine Learning Algorithm Predicts Brain Amyloid Pathology in Pre-dementia Alzheimer's Disease

N.H. Kim, U. Park, S.W. Kang

The Role of Neuroimaging: Quantitative Approach for Prognosis/Staging/Analysis in Dementia Study

D. Kim, EY. Kim

SUPERBRAIN (The SoUth Korean study to PrEvent cognitive impaiRment and protect BRAIN health through lifestyle intervention in at-risk elderly people.) : a randomized controlled feasibility trial.

S. Han

Session ID:2507

Symposium 3. Physical and Mental Health by Gwangju Alzheimer's and Related Dementia Cohort Research Center (RM:324-A)

821 K.H. Lee (Convenor)

Early Prediction and Diagnosis of Alzheimer's Disease Based on Gwangju Alzheimer's and Related Dementia (GARD) Cohort
(Korean Association of Gerontology and Geriatrics)

Prediction of Amyloid β and Tau Pathology Using Deep Learning Based Artificial Intelligence System

K.H. Lee, J. Y Park, E. H. Seo, S.H. Won

Classification of Alzheimer's disease stages by analyzing prefrontal near-infrared signals during olfactory stimulation with machine learning

J.G. Kim, J.W. Kim

Converging multi-modal evidences for the primary prevention of Alzheimer's dementia

J.S. Gim, S.Lee, Y.T. Kim, K.H. Lee

Systems biology of human microbiome for the prediction of Alzheimer's disease prognosis

S.J. Lee, K.H. Lee

Session ID:2508

Symposium 3. Physical and Mental Health by The Korean Society for Gerontology (RM: 323-A)

— **808 J.J. Park** (Convener)

Frontiers in Therapeutic Approaches for Improving Aging-related Diseases

(Korean Association of Gerontology and Geriatrics)

Protein dynamics-based control of proteotoxicity in neurodegenerative diseases

S.B. Lee

Targeting cellular senescence in adipose tissue: a potential treatment for type 2 diabetes

H.B. Jung, E.C. Kim, H.K. Sung, J.R. Kim, S.Y. Park

Drug repositioning for a potential drug to prevent muscle wasting in aged mice

Y.I. Lee

Session ID:2509

Oral 4. Information and Communication – Digital Divide (RM:322-A)

Chair: Johannes Doll (Federal University of Rio Grande do Sul)

— **522**

Building on trusted relationships to overcome resistance to ICTs

P. P. Freddolino, F. Sun, D. Wishart, H. Kim, E. Godek, D. Parrett, M. Bentley, M. Huber

— **584**

Knowledge against indebtedness: financial education mediated by digital technologies

J. Doll, L. Hollerweger

— **806**

Technology anxiety and technology enthusiasm vs digital ageism (Digital equity brought to the attention for sustainable and global aging).

J. Berner, A.L. D. Moraes, P. Andersberg, J.S. Berglund

Session ID:2510

Oral 3. Physical and Mental Health (RM:322-B)

Chair: Henk Herman Nap (Vilans)

— **553**

The exercise load of the elderly with different physical capacity based on PCA and K-means clustering

C.C. Lin, T.S. Cho, Y.S. Lin, JJ Lien, L.C. Kuo, F.C. Su

— **658**

A Study on the Factors Affecting Intention to Work Out in the Gym Among Middle-aged and Older People

C.S. Lin, C.H. Wen

728

Engagement in leisure activities: changes mediated by technologies

T. M. Raymundo, R.G. Ferreira, F.M.S. Ribeiro, L.D. Bernardo

16:00-16:30 Coffee Break

16:30-18:00 6 Parallel sessions

Session ID:2511

Symposium 3. Physical and Mental Health (RM:323-A)

542 S. Baisch (Convener)

The multifaceted construct of attitudes: Age- and gender-related perspectives on AI, robotics and their users

Attitudes towards artificial intelligence: An ageing and gender perspective

T. Kolling (University of Siegen)

Negative attitudes towards robots in the young and old

M.F. Damholdt, J. Seibt, C. Vestergaard

Stereotyping the user: How elders and formal caregivers perceive elder users of companion-type robots.

S. Baisch, J. Klasen

Stakeholder perspectives on care robot users at the intersection of age and gender: Empirical-ethical analysis.

M. Weßel, N. Ellerich-Groppe, F. Koppelin, M. Schweda

Session ID:2512

Symposium 4. Information and Communication (RM:323-B)

587 H.H. Nap (Convener)

HAAL: a healthy ageing eco-system for people with dementia

HAAL: a healthy ageing eco-system for people with dementia

H.H. Nap, D.R.M. Lukkien, C.C. Lin, C.J. Lin, H. F. Chieh, Y.T. Wong, F.C. Su, R. Bevilacqua, G. Amabili, N. Morresi, G.M. Revel, S. Casaccia

The co-design of an AI-driven healthy ageing eco-system: User requirements from dementia formal carers

P. Koowattanataworn, N.E. Stolwijk, H.H. Nap, S. Ipakchian Askari, B.M. Hofstede, R. Bevilacqua, G. Amabili, A. Margaritini, C.C. Lin, C.J. Lin, H. F. Chieh, Y.T. Wong, F.C. Su

Technical development of a holistic platform to monitor people with dementia and measure their well-being.

N. Morresi, G.M. Revel, S. Casaccia

A cross-cultural study on responsible AI innovation in the homecare of people with dementia

D.R.M. Lukkien, H.H. Nap, N.E. Stolwijk, P. Koowattanataworn, W.P.C. Boon, E.H.M. Moors

Session ID:2513

Symposium 6. Governance and Social Policy (RM:324-A)

744 Y.H. Ro(Convenor)

Ageing and Welfare Technology: Policy, Practice and Business in South Korea
(Symposium by IWCR/Wel-Tech, Kangnam University)

Local government-led care services for older adults using technology in community: current trends, issues, and implications

S. W. Kim

Evaluating Effectiveness of Safety and Care Services for Older Adults Living Alone using Living Lab

J.W. Lim

Ageing and Welfare Technology Industry Ecosystem for Small and Midsized Enterprises (SMEs)

Y.H. Ro.

Session ID:2514

Symposium 3. Physical and Mental Health by the Korean Association Geriatric Psychiatry (RM:324-B)

822 H.K. Lim (Convenor)

Recent Updates in Alzheimer's Disease Research - From Basic Science to Clinical Application and Commercialization
(Korean Association of Gerontology and Geriatrics)

Development of Multi-target therapy for Alzheimer's disease using human neural crest-derived stem cells

J.Y. Lim, J.E. Lee, S.H. Yang, H.K. Lim, S.W. Kim

Impact of transcranial direct current stimulation on cognitive function, brain functional segregation, and integration in patients with mild cognitive impairment according to amyloid-beta deposition and APOE ϵ 4-allele

D.W. Kang, S.M. Wang, T.Y. Kim, D.H. Kim, H.R. Na, N.Y. Kim, C.U. Lee, H.K. Lim

Plasma Oligomeric Beta-amyloid is Associated with Cerebral Beta-amyloid Deposition in Cognitively Normal Older Adults.

S.M. Wang, D. W. Kang, Y. H. Um, N.Y. Kim, H.K. Lim

Session ID:2515

Oral 3. Physical and Mental Health – Care/Technology (RM:322-A)

Chair: Chihyung Jeon (KAIST)

520

Informal caregiver burden of disabled residing in a community according to use of care device

G.R.S. Hong, D.H. Won, E.J. Lee, D. Chung

554

Biomechanical benefits of a mobile lift in reducing mechanical loads at the lower back during transfers

S. Lee, K. Lim, W. J. Choi

558

Older peoples' attitudes toward technology (TechPH), digital ageism and assistive technology devices

J. Berner, A. Moraes Dallora, P. Anderberg, J. Sanmartin Berglund

Session ID:2516

Oral 7. Others – Policy (RM:322-B)

Chair: Line Hillersdal (University of Copenhagen)

605

Screen-based home care visits, care work and old age in the Scandinavian welfare state - the case of Denmark

K. Grünberg, L. Hillersdal

636

Perceptions of older adults about the concept of privacy and in terms of video-based AAL technologies.

T. Mujirishvili, M. R. Martinez, J. C. Garcia, F. F. Revuelta

725

A governmental programme to support well-being, ageing and care at home with new technologies

H. Anttila, M. Anttila, M-L. Luoma

18:00-18:45	ISG General Assembly
18:30-20:00	Gala Dinner (Senior Fashion Show) (Hotel Inter-burgo EXCO, Grand Ballroom)
20:00-21:00	Break
21:00-22:00	3 Parallel sessions (Online)

Session ID:2521

On-Symposium 4. Information and Communication

560 Jo. Doll (Convener)

Artist by technology: experiences of mature and older adults in Brazil during the pandemic

CineSênior: stop motion films created by the older person

B.K. Slodkowski, L.R. Machado, P.A. Behar

Podcast Sexagenarte - A Vida Não Para: audio drama creations with old people in the pandemic

R. Teixeira, S. Weber

Some technology contributions to music as a serious leisure activity for mature and older adults

E. Kohlrausch, J. Doll

Session ID:2522

On-Oral 3. Physical and Mental Health – AI

Chair: Taekyung Kim (KAIST)

— 509

Monitorization of Frailty and Dependence with wearables and machine learning

M.J. Rodríguez-Fórtiz, F. García-Moreno, M. Bermúdez-Edo, J.M. Pérez-Mármol, J.L. Garrido-Bullejos

— 556

Co-creating a conceptual AI model to promote personalized communication and engagement for people with dementia

N. Hird, S. Palaniappan, S. Ghosh, Y. Shimizu, R. Ramanathan, V. Karunanidhi, E. Miura, Y. Tsubono

— 634

Dual Depth Camera System for Bed exit and Fall Prevention of Hospitalized Elderly Patients

T.K. Shea, Y.C. Tam, P.H. So, T.C. Chan, H.Y. Mak, K.H. Lai, M.W. Wong, Y.P. Zheng, C.W. Cheung

— 713

Cognitive Behavioral Assistive Technology (CBAT) as AI for Super Aged Society

M. Otake-Matsuura, M. S. Abe, T. Sekiguchi, S. Tokunaga, H. Sugimoto, T. M. Rutkowski, K. W. Miura

Session ID:2523

On-Oral 4. Information and Communication – Robot

Chair: Carla Da Silva Santana Castro (Universidade de São Paulo)

— 510

Development of RobotHub: Integration of External System to Group Conversation System for Older Adults

S. Tokunaga, K. Fukumori, K. Tamura, K. Inoue, T. Kawahara and M. Otake-Matsuura

— 582

Reflections about design principles of environments for elderly people living with dementia

M.B. Dario, C.S.S. Castro

— 673

Can a communication robot contribute to the good relationship between the elderly with dementia and the staff?

T. Yamaguchi, Y. Saito, F. Nakamura, C. Maeda

22:00-23:00 3 Parallel sessions (Online)

Session ID:2524

On-Symposium 3. Physical and Mental Health – Tech Innovations

— 593 **R.F.L. Azevedo** (Convener)
Health Technology Innovations

Exploring the Effects of Indoor Air Quality on Sleep and Sleep Quality of Older People
H.S.M. Kort, M.G.L.C. Loomans

A technology innovation to improve hypertension medication adherence for older adults
J.K. Lee, K.C. Insel, J.S. Nicholas, R.F.L. Azevedo, W.A. Rogers

Socially assistive robot-based alerts on indoor and outdoor air-quality for patients with chronic obstructive pulmonary disease
Y.S. Hwang, H.S. Jo, W.J. Kim, S. Sin

Understanding the Application of Socially Assistive Robots in the Home to Support Healthy Aging
G. Mois, L. G. L. Vergara, A. F. Afsar Ali, V. Rakshe, H. Mahajan, W. A. Rogers

Session ID:2525

On-Oral 3. Physical and Mental Health – Movement

Chair: Keiko Ishihara (Hiroshima International University)

— 545

Development of a PC game to support expiratory muscle training
K. Ishihara, K. Uekado, T. Fukuoka

— 568

Development of rehabilitation training system for spatial recognition and upper limb movement
T. Iwasaki, K. Ishihara, S. Ishihara, K. Matsuura

— 570

An electronic musical instrument approach to training of expiratory and hand muscle movements.
S. Mitsumasu, K. Ishihara

— 684

Influence of cardiovascular risk, hypertension and diabetes in accelerometry features
P. Bet, M.M. Chiudo, P.C. Castro, G.F. Costa, M.A. Ponti, M.S.M.P. Simões, V. Z. Dourado

Session ID:2526

On-Oral 4. Information and Communication – (Digital Use)

Chair: Paula Costa Castro (Universidade Federal de São Carlos – UFSCar)

547

Connected: Mobile technologies and online music-making facilitate learning and a sense of belonging in older adults

A. Lynne, A. Creech

567

Digital engagement and quality of life of participants at a University of the Third Age

L.J. Lorenzi, P.A.R. Alvarez, P. Bet, P.C. Castro

585

Elder's ICT device usage / not-to-use: Survey comparison in Japan, Germany, Sweden, and the US

S. Ishihara, K. Ishihara

734

Role of technology in the relationship between grandparents and grandchildren in Asia

C.K Tan, Coco Liu

23:00-24:00 3 Parallel sessions (Online)

Session ID:2527

On-Symposium 7. Others – Gerontechnology

517 N. Charness (Convener)

The Role of Centers in Advancing Gerontechnology

CREATE: Center for Research and Education on Aging and Technology Enhancement

S. J. Czaja, W. Boot, N. Charness, W. A. Rogers, J. Sharit

Enhancing Neurocognitive Health, Abilities, Networks, & Community Engagement

W.R. Boot, S.J. Czaja, N Charness, S.J. Czaja

TechSage: Rehabilitation Engineering Research Center Technologies to Support Aging-in-Place for People with Long-term Disabilities

J.A. Sanford, W. A. Rogers, T.L. Mitzner

The Institute for Successful Longevity (ISL) at Florida State University, USA

N Charness

CHART: Collaborations in Health, Aging, Research, and Technology

W. A. Rogers, A. Stanfield

Session ID:2528**On-Oral 1. Housing and Daily Living – Community****Chair: Ern Chern Khor (KAIST)****537****Optimal numbers and locations of wearable sensors to enhance the performance of classification models that differentiate injurious versus non-injurious transfers**

K. Lim, S. Lee, W. J. Choi

649**Multi-criteria evaluation of senior housing, based on their future needs**

A. Ptak-Wojciechowska, H. Kort, D. Kasraian, A. Gawlak

689**Human-Computer Interaction in Analyzing Neighborhood Safety**

E. Hwang, A. J. Park, G. Han, E. Song

Session ID:2529**On-Oral 7. Others – Health****Chair: Sue Levkoff (University of South Carolina)****569****Influence of Gender on Accelerometry Patterns**

P.C. Castro, M.M. Chiudo, P. Bet, M.A. Ponti, M.S.M.P. Simões, V. Z. Dourado

586**Developing and selecting images to facilitate comprehension of hypertension educational materials for older adults**

R.F.L. Azevedo, M.T. Harris, Q. Nie, S.A. Al-Saleh, C. Smith, R. Maguire, W.A. Rogers

708**Looking Back at Looking to the Future: Revisiting the 1983 NATO Symposium on Aging and Technological Advances**

H.L. Sterns, R.S. Sterns, A. Sterns

762**A Pioneering Case Study That Applies Complementary and Alternative Medicine to Menopausal Women's Self-health Management**

H. O. Ma, C. J. Chang

Wednesday, 26 October 2022

(KST, UTC+09:00)

08:30-13:00 **Registration (3F Lobby)**

08:30-09:00 **New Board Meeting (RM: 327, Invited only)**

09:00-10:30 **6 Parallel sessions**

Session ID:2601

Symposium 3. Physical and Mental Health (RM: 323-B)

515 W.J. Choi (Convener)

Current understandings and technologies for prevention of fall-related hip fracture in older adults

Science of falling and injury in older adults – Do all falls lead to death?: Literature Review

W. J. Choi, K. Lim, S. Kim, S. Lee

Associations between Fall Characteristics and the Occurrence of Hip Fracture among Older Adults in Long-term Care

Y. Yang, V. Komisar, A. Korall, S.N. Robinovitch

Biomechanics of the trochanteric soft tissue during a fall and hip fracture in older adults

K. Lim, W. J. Choi

Promoting user compliance with wearable hip protectors in older adults through education and technology

C.Y. Ho, X. Song, H. Mo, Y. Yang

Session ID:2602

Symposium 4. Information and Communication (RM: 324-A)

679 S. Chung (Convener)

Digital inclusion for intergenerational solidarity

(Symposium by the Ewha Institute for Age Integration Research (EIAIR))

Mobile application development for older adults to provide information on senior welfare centers: A case study

S.D. Chung, A.Y. Lee, H.J. Lee

Understanding the benefits and roles of mobile instant messaging use for the Korean elderly's mental health: An exploratory study focusing on emotional recovery and suicide prevention

H.N. Lee, S.T. An, S.D. Chung

E-health literacy and associated factors among Korean adults: Three age group differences

S.Y. Park, S.D. Chung

Session ID:2603

Symposium 4. Information and Communication (RM: 324-B)

817 M. Choi (Convener)

Generational differences in experiencing digital technology in the era of AI

Digital divide with a focus on internet use

E.C. Khor, M. Choi

Sense of privacy related to use of healthcare technology among older adults: A focus on the format of data

T.K. Kim, M. Choi

Generational differences in the perception of AI

M. Choi, E.C. Khor, T.K. Kim, T. De Rosa

Session ID:2604

Oral 1. Housing and Daily Living – Assistive Technology (RM: 322-A)

Chair: Gloria M. Gutman (Simon Fraser University)

523

ICT and unpaid carers of people living with dementia: addressing engagement, detachment, and unmet needs

J. Damant, D.King, M.Dangoor, P.Freddolino, B.Hu, K.Lorenz-Dant, R.Wittenberg

507

Technologies to age in place in community-dwelling older adults and family caregivers: A systematic review

A. Moreno, K. Acevedo, H. Sun

697

GUARDIAN: An Assisted Living Social Robotics Eco-System

H.H. Nap, D.R.M. Lukkien, Stal ter, M., R. Bevilacqua, G. Amabili, N. Morresi, G.M. Revel, S. Casaccia, J. Alberts, J. de Koning, A. De Masi, A. V. Naveira, K. Wac, B.M. Hofstede

711

What's in it for me? A retrospective cost-consequence study of a digital assistive technology

K. Baudin, A. Sundstrom, C. Gustafsson, J. Borg

Session ID:2605

Oral 3. Physical and Mental Health – Monitoring (RM: 322-B)

Chair: Yujin Kim (Kyungpook National University)

573

The challenges of multi-disciplinary research in the design and adoption of self-managing technologies

A. Eccles

686

The Effect of Smart Health Care Systems as remote monitoring on Health-Related Quality of Life in the Elderly with Chronic Diseases

C.H. Oak, H.K. Choi, K.Y. Lee

706

Remote Monitoring and AI for Detecting Tardive Dyskinesia and Improving Patient Outcomes

A.A. Sterns, L. Larson, B. Grimm, O.S. Muir

726

Well-being and care at home with new technologies: perspectives of home care personnel

M. Anttila, H. Anttila, M.L. Luoma

Session ID:2606

Oral 3. Physical and Mental Health - (Care) (RM: 323-A)

Chair: Yeh-Liang Hsu (Yuan Ze University)

604

Assistive technology for older persons – analyses of data from WHO's Rapid Assistive Technology Assessment

A.H. Eide, S. Müller, C. Khasnabis, J. Borg, M. Blakstad, H. Mannan, Antypas, K., M. Loeb, W. Zhang

650

A Study on the Scooping and Serving Korean Food using Meal Assistance Robot

J. S. Kim, W.-K. Song, S. R. Han, J. E. Heo, K. J. Lee

653

Usability Evaluation of the Excretion Assist Care Robot for Caregivers and Experts

J. E. Heo, K. Y. Cho, K. J. Lee, W.-K. Song, J. W. Hwang

10:30-11:00	Coffee Break
11:00-12:00	Keynote Speech 5 (RM: 325) Building AgeTech that Works: Lessons Learned and Lessons Still to be Learned - Alex Mihailidis (Professor, University of Toronto / Scientific Director, AGE-WELL)
12:00-12:30	Closing Ceremony & Preview of ISG 2024 (RM: 325)
12:30-13:30	Lunch
13:30-18:00	K-Cultural Tour Daegu K-GT Tour Daegu K-GT Tour Busan K-GT Tour Gyeongnam

Thursday, 27 October 2022

(KST, UTC+09:00)

09:00-18:00 **K-GT Tour Seoul & K-Cultural Tour Seoul**

Friday, 28 October 2022

(KST, UTC+09:00)

09:00-15:00 **K-Cultural Tour (Invited Foreigners only)**

15:00-17:00 **SEED (Invited only)**

POSTER Session

- Type indicates your participation & presentation type.
- Offline Poster session will be displayed in the Lobby, 3rd Floor.
- All posters will be founded at the online ISG 2022 Hybrid website. (www.isg2022.online)
- To access ISG 2022 Hybrid website, you should register.
- Posters session: 12:00-13:00 October 25, 2022.

Number	Type	Abstract ID	Title / Author
1	online	514	Visuomotor control of 3D circular tracking movement in a virtual reality space W. Choi, L. Li, J.H. Lee
2	offline	524	IoT based health monitoring system - Recent trends and directions C.M.B Ho, J.Hana, S.J Park
3	offline	525	Real-time Sleep Monitoring System for Nursing Hospitals C.M.B Ho, J.Hana, S.J Hwang, S.J Park
4	offline	526	Caregiver's experiences in caring for disabled persons using feeding assistive robots N. HIRAYAMA, Y.S. Shin
5	offline	533	Enhanced Behavior System of Service Robots based on BERT, CNN and DQN Y. Zhang, Y. Sung
6	offline	534	Development of a Leisure Aids Rental Service for Elderly through Service Scenario Analysis Y.S. Shin, J.S. Hong, J.H. Kim
7	online	540	Development of a Fall Prevention Device for Older Persons K. Abdul Rahman, S.A. Ahmad, C. Wada, A. Ashari, A. Che Soh, A. A. Gopalai, S. Murugasen
8	offline	543	Older cancer survivors' acceptance and compliance to web-based psychological interventions M. Mehlsen, E. Nissen, M.F. Damholdt
9	offline	559	Companion Robot can be a Health Keeper for the Elderly: the Effects of Daily Use of Companion Robot on Medication Compliance J.C. Yun, S.H. Yu, E. Yi, D.H. Park
10	online	572	Developing Decision Support Algorithms for Use in a Digital Therapeutic System J.K. Lee, J.S. Nicholas, A. Albadawi, K.C. Insel
11	online	583	A Comparative Usability Testing between a Web-based and Non-immersive VR Reminiscence Therapy for Persons with Dementia W. Sun, R. Akhter, A. Quevedo, R. Liscano, D. Presas, S. Hornsburch, R. Shewaga
12	online	596	Cyberschool for grandparents: an innovative crowdfunded intergenerational educational program. Grandparents' baseline features according to web access M. Colombo, A. Guaita, E. Rolandi
13	online	598	Development of a web-based memory check tool using js Psych J. Maruta, K. Uchida, S. Akada, S. Nogi, H. Kurozumi, K. Inoue.

Number	Type	Abstract ID	Title / Author
14	online	610	Cantonese-speaking Smart Doll for Institutionalized Elderlies with All-cause Dementia at Severe Stage Y.T. Ling, M.C. Law, M.Y.M. Chan, P.Y. Wan, H.Y. Mak, Y.P. Zheng
15	offline	615	A Study on Factors Affecting the Outcomes of Information Use by the Elderly - Focusing on the Digital Support J.H. Ko, Y.M. Kim
16	offline	616	Differences in Digital Capital according to Socio-demographic Characteristics of the Elderly. J.H. Ko, Y.M. Kim
17	offline	620	Chronic Disease Self-Management Interventions using Digital Health Technologies for Community-Dwelling Older Adults: A Systematic Review S. Lee, M. Hwang, G. Kim, Y-H. Park
18	online	624	Exploring the value of a proactive telecare system in older adults: a qualitative study L.Fothergill, C.Holland, N. Hayes.
19	offline	625	Emotion Analysis using the interaction with Companion Robot in the depressed elderly in the community H. Hong, D.E. Shin,T.H. Kim.
20	online	626	Two-year Longitudinal Relationships between Frailty, Cognitive Function, and Fall in Community-Dwelling Older Korean Adults N. Kim, G.S. Kim, M. Park, M. Shim
21	offline	632	Barriers and Facilitators of Self-management Using Digital Technology in Older Adults Living Alone G. Kim, M. Hwang, S. Lee, Y.H. Park
22	offline	635	The Impact of Social Capital, Economic resources and Health Behavior on Self-assessed Health of older people in South Korea. S.Y. Lee, M.H. Cha, B.R. Hwang
23	offline	639	A Study On The Formation Of The Elderly Life-Historical Sense Of Place In Urban Poverty J. Oak, K.M. Kang
24	online	641	Designing Smart Display Table for Senior Care Service based on Service Design Research Y.W. Jeong, C.H. Kim, S.J Jeong, J.E. Song, B.R. Hwang
25	online	648	ICT Usage and Health Behavior Among Korean Middle-Aged Men and Women: The Mediating Role of Self-Efficacy Y.S. Cha, K. Kim, G. Han
26	offline	651	A Descriptive Study of Digital Health Literacy and Internet Use of Older Adults Living Alone M. Hwang, G. Kim, S. Lee, Y.H. Park
27	offline	652	Study on the middle aged's Use of and Attitudes toward Kiosk M.J. Kim, Y.A. Hong, Y.J. Lee, G.R. Lee

Number	Type	Abstract ID	Title / Author
28	offline	657	The Effects of the Solitray Deaths and Suicide Prevention Project on Emotional Vitality among Older Adults Y. Kim, S.R. Noh
29	offline	663	The effect of intervention using an emotional recognition coaching companion robot on the depressive elderly K.M. Kim, B.H. Yoon, Y.H. Sea, S.H. Park, J.H. Song, H.J. Yun
30	offline	664	Improvement of the second NRC Smart Care Space based on stakeholders' participation Y.-Y. Cho, K.J. Lee, J.E. Baek, W.-K. Song
31	offline	665	Effects of Age and Familiarity on Visual Word Recognition in Korean: Evidence from a Web-based Large Scale Lexical Decision Task H. Baek, P. C. Gordon, W. Choi
32	online	669	Comparative literature review of assistive technology for dementia care in South Korea, Japan, and Thailand C. Thawisuk, M.J. Kim, K. Inoue
33	online	670	Testing Reciprocal Relationships between Loneliness and Self-Control among Middle-aged and Older Adults: A Random Intercept Cross-lagged Panel Model Using Daily Diary Data S.R. Noh
34	offline	674	What's Needed to Make 'Aging in Place' for Healthy Old Age S. Han, S. I. Nam
35	online	675	The Pre-impact Fall Detection using the Quantization based on ResNet B.M. Koo, J.M. Kim, S.M. Yang, S.H. Lee, M.H. Hong, and Y.H. Kim
36	offline	676	Moderating Effects of Supervision on the Relationship Between Job Performance and Their Geriatric Social Work Competency Among Social Workers in the Individualized Support Service for Older Adults Y. Kim, S.M. Park
37	offline	677	Investigating non-face-to-face service awareness and needs of family caregivers with dementia patients during COVID-19 pandemic M. Park, B.B. Dlamini, T.T.T. Giap, J. Jung, J. P. Kim, J. Kim, T.T. T. Doan
38	online	678	Determination of Gait Parameters based on Multi-Sensors S.M. Yang, J.M. Kim, B.M. Koo, Y.J. Nam, and Y.H. Kim
39	online	683	The home environment as fall risk factors among community-dwelling frail older people: A systematic review M.K. Park, G.S. Kim, N. Kim, M.S. Shim, J.J. Lee
40	online	692	A Conceptual Exploration of Cognition-Motor Dual Task Training for Effective Application in Community-dwelling Older Adults A. Lee, S.H. Park, S.S. Kim, J.H. Kim, Y.R. Koo, H. Kwon, S.H. Ho, Y.H. Bae

Number	Type	Abstract ID	Title / Author
41	online	693	Development of Usability Evaluation Indicator for a Rehabilitation Exercise Enhancement Device Using Cognitive-Physical combined intervention among the Elderly A. Lee, S.H. Park, S.S. Kim, J.H. Kim, Y.H. Bae
42	online	694	Digital Reminders for Everyday Activity Memory (DREAM): Initial Results from a Needs Assessment Study E.C. Sanders, S. Zhang, W.R. Boot
43	online	695	Conceptual Exploration of Service Delivery System to Activate Physical Health Promotion of the Elderly A. Lee, S.H. Park, S.S. Kim, J.H. Kim, Y.R. Koo, H. Kwon, S.H. Ho, Y.H. Bae
44	online	703	Effect of resistance exercise training combined with plant-based protein supplementation on the prevention of sarcopenia in the middle-aged and elderly P.C. Hsieh, C.J. Chang, C.Y. Lin
45	online	707	Adapting smart supportive technology for hospital use: a case report F. Knoefel, L. Ault, C. Wilson, C. Trudel, M. Hamza, R. Wallace, M. Jaana, R. Goubran, H. Sveistrup, P. Tan, N. Thomas
46	offline	712	The effect of digital literacy in the elderly on life satisfaction: Focusing on depression and social participation H. S. KIM, J. S. KIM, K. Y. LEE
47	offline	714	Preliminary results from a technology-integrated health and wellness intervention for seniors in an urban low-income community in Korea J.Y. Yi, E. Kim, H. Choi, Y.I. Jung, H. Kim
48	online	727	USE OF SMARTPHONES BY THE ELDERLY: DIFFICULTIES AND BENEFITS. L.O.B.V. Cliquet, S.S.T. Batistoni, I. Zaine, K.R.H. Rodrigues, M.G.C. Pimentel, M. Cachioni
49	online	729	Digital Communities for Older Adults Deploying Human-Centered Technologies for Super-Smart Society Y.Nameki, N.Kurashima, K.Chin
50	online	737	Technologies for health and wellness in later life R.White, A.Flynn, A.Sixsmith
51	offline	748	Developing Innovative Digitalized Community-Based Senior Exercise Program to Improve Older Adults' Cognitive and Physical Functions K.E. Lee, Y.H. Ro
52	online	754	Effectiveness Assessment of Patient-Centered Measures for Chronic Disease Management during COVID-19 Epidemic A.H. Yang, H.M. Chang, H.L. Chen, S.H. Hsiao
53	offline	771	Effect of VR/MR based Education Program for Managing Behavioral and Psychological Symptoms of Dementia J.A. Song, H. Cheon, J. Kim, S. Jung, I. Kim, Y. Yang, J. Kim

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Welcome! Gerontechnology

GT Zone

GeronTech Exhibition

| 2022 October
| 22nd (Sat) - 25th (Tue)
| EXCO West Wing Hall 1 GT Zone
| Daegu, Republic of Korea



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