From the need to responsible adoption of (integrated) Social Robotics in long-term care B.M. Hofstede (Convener). *Gerontechnology* 25(s)

Participants: E.J. Oosterglorenwoud (The Netherlands), H.H. Nap & S. Ipakchian Askari (The Netherlands), F. Wang (The Netherlands), S. Freeman & E. Rossnagel (Canada). *Co-authors*: A.Tummers, E. Ágotai, R.H. Cuijpers, W.A. IJsselsteijn, N.E. Stolwijk, T.R.C. van Hoesel, G. Perugia, Y. Feng. **ISSUE** To support older adults in their need to live independently in their own homes as long as possible [1], Socially Assistive Technologies (SATs) offer significant potential. Furthermore, it is widely recognised that SATs can support mitigating challenges related to shortages in healthcare personnel [2,3]. However, the transition from successful pilots to sustainable implementation in long-term care has shown to be complex. Social robots serve as a good example of SATs, for which current implementation challenges include generic interaction styles, lack of integration with existing care ecosystems, ethical concerns regarding deception, and systemic barriers to adoption [4]. This symposium brings together multidisciplinary experts from around the world to shine a light on these issues from different perspectives, presenting a holistic view of the social robot as it is implemented in long-term care. The goal of this symposium is to provide insights into various stages of the social robotics landscape, bridging the gap between individual user needs and systemic adoption. **CONTENT** 1. Hofstede (The Netherlands) will focus on (latent) user needs of older adults during their interaction with robots. Among others, the presentation will highlight the necessity for personalisation based on an ethnographic exploration of communication breakdowns observed in daily care *(N=19)*. 2. Oosterglorenwoud (The Netherlands) will introduce the concept of the 'Emotional Passport' as a method to conserve dignity in the design and deployment of SATs, moving beyond clinical data to capture the person behind the patient. 3. Nap & Ipakchian Askari (The Netherlands) will demonstrate the importance of technical integration between social robots and other healthcare technology such as smart sensors (IoT). They will present findings on how connecting robots to the wider sensor ecosystem enables context-aware and proactive support for older adults. 4. Wang (The Netherlands) will focus on deception in social robots for People Living with Dementia (PLwD). Drawing on a multi-method, multi-stakeholder PhD project, the presentation will bring different and lived perspectives into current debates on Social Robotic Deception and inform ethically responsible social robot design. 5. Freeman & Rossnagel (Canada) will identify systemic facilitators and barriers for the sustainable adoption of SATs, with a specific focus on the unique challenges faced by northern, rural, and remote communities in Canada. **CONCLUSION** This multidisciplinary symposium synthesizes findings from five distinct research initiatives conducted in the Netherlands and Canada, bridging engineering, psychology, ethics, and health sciences. The methodological approaches presented range from ethnographic field studies and Research through Design (RtD) frameworks to technical field trials involving IoT integration and qualitative implementation studies in long-term care settings. Together, these contributions demonstrate that responsible implementation of SATs requires a holistic approach that aligns engineering capabilities with individual user needs, ethical standards and real world care practices. The overarching takeaway is that for the next generation of SATs to succeed, we must move beyond the device itself and keep the entire socio-technical ecosystem in mind when designing and deploying SATs.

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Subsession 1: Uncovering Latent Needs: An Ethnographic Exploration of Communicative Breakdowns in Human-Robot Interaction B.M. Hofstede[1,2], S. Ipakchian Askari[1], E. Ágotai[1,3], R.H. Cuijpers[2], W.A. IJsselsteijn[2], H.H. Nap[1,2]. *Gerontechnology* 25(s)

Purpose Technological innovations like Socially Assistive Robots (SARs) serve as a potential solution to the challenges of double ageing societies [1], supporting older adults to live independently [2,3]. However, adoption lags due to barriers such as doubted usefulness and ethical concerns [4]. While existing research often focuses on usability, it gives limited attention to the underlying communicative aspects, such as interactivity and personalisation [5], that drive social presence and long-term engagement [6]. Moreover, current studies often rely on self-reported data, overlooking the latent needs and subtle interactional breakdowns that occur in real-world contexts [7,8]. This study aims to bridge this gap by utilizing an ethnographic approach to move beyond these surface-level needs and uncover the latent interactional dynamics essential for meaningful care. **Methods** We conducted an ethnographic study approach comprising four observational case studies (n=19) across extramural and intramural care settings in the Netherlands. This methodological choice offered a unique opportunity to uncover latent needs that do not surface through surveys or interviews alone. We observed interactions with three distinct robots (Tinybots Tessa, PARO, SARA Robotics) in naturalistic care settings. Data were collected using the custom-developed 'Vilans Observation Tool for Human-Technology Interaction' (VOTHI) to document verbal and non-verbal patterns, expanded with semi-structured interviews for the first two case studies. **Results and Discussion** Preliminary findings indicate that communicative breakdowns seem dependent on the interplay between care setting, robot design, and individual traits. For example, in terms of care context, intramural interactions frequently suffered from environmental distractions (e.g., other residents), whereas in extramural settings, breakdowns often stemmed from being in another room than the robot. Regarding the robot design, anthropomorphic features like eyes facilitated eye contact, and self-initiated movements were found to keep the interaction going. In contrast, emotional valence (positive vs. negative affect) and intense focus while listening seem more person-dependent. Notably, social behaviours such as social referencing and playfulness were observed across all settings and robots. Together, these findings underscore that effective personalisation requires a multi-layered approach involving adaptation to individual preferences (such as tailoring turn-taking strategies and language formality), optimizing the physical context (for instance, by avoiding interactions in crowded living rooms), and actively leveraging robot capabilities like self-initiated movements to maintain engagement. To conclude, the study provides actionable implications to personalise the interaction between older adults and robots in terms of both robot design as well as deployment.

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Keywords: Social Robotics, Human-Robot Interaction, Observation, Communication breakdowns, Older adults
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Acknowledgement: This research was executed by Vilans in support of the knowledge center subsidy of the Ministry of Health, Welfare, and Sport in the Netherlands.

Subsession 2: Beyond the Clinical File: Designing the "Emotional Passport" for Dignity-Conserving Dementia Care E.J. Oosterglorenwoud[1], A. Tummers[1], H.H. Nap[1,2], W.A. IJsselsteijn[1] . *Gerontechnology* 25(s)

Purpose People living with dementia often lose decisional capacity while their values, communication preferences and culturally shaped ideas of dignity remain poorly documented [1]. Existing advance care planning (ACP) tools and treatment passports offer precedents but largely focus on medical decisions and static forms [2]. In parallel, social robots and AI-enabled conversational agents are entering dementia, yet their potential to support person-centred preference elicitation is under-theorised [3,4]. This work-in-progress presents the conceptual and design groundwork for a standardised “emotional passport”: a structured, longitudinal record of values, joy, identity, communication style and technology preferences, co-produced before and during cognitive decline to guide family caregivers, professionals and care technologies. Spanning seven dementia stages, the Emotional Passport transitions from a person-led tool to a proxy-maintained resource. Care teams utilize its stage-specific cues, ranging from identity anchors to comfort measures, to guide daily routines and transitions. **Methods** We plan to conduct an integrative, theory-driven review across five domains: (1) Dutch and European dementia and long-term care policy, person-centred care frameworks and ACP/treatment passports[2]; (2) international ACP and preference documentation in serious illness, with emphasis on dementia and fluctuating capacity [1]; (3) socially assistive and companion robots in dementia and gerontology [3]; (4) health-care conversational agents, including serious-illness and applications [4]; and (5) conceptual and ethical work on personhood, relational autonomy, dignity, narrative identity and end-of-life meaning-making [5]. Given the anticipated implementation context, we will also attend to European governance and implementation constraints relevant to health data, privacy, and deployment realities (e.g., GDPR-aligned ethics and broader eHealth implementation factors) [6,7]. Using constant comparison, we wish to synthesise convergences, gaps and implications for design. **Anticipated Results and Discussion** ACP literature shows a shift towards relationship-centred, iterative processes in dementia, while person-centred and dignity-conserving frameworks highlight the importance of life story, roles and generativity [1,5]. Existing passports capture treatment and setting preferences but rarely describe communication tone, sensory sensitivities or technology attitudes [2]. Preliminary evidence on socially assistive robots and health-care conversational agents indicates feasibility and acceptability, but limited use for structured preference elicitation [3,4]. From the synthesis we hope to derive design principles for an emotional passport: modular domains; direct, indirect and narrative prompts with cross-validation over time; explicit accommodation of shared and shifting autonomy; data governance and role-based access and GDPR-aligned safeguards; and integration with Dutch long-term care workflows and socially assistive technologies [4,6,7]. Empirical co-design and evaluation with people living with dementia, families and care providers are required. Integrated into Dutch pathways, case managers co-create accessible preferences for daily support. During acute transitions, the system generates bedside “approach cards” to guide de-escalation and delirium prevention.

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Keywords: Dementia care; Person-centred care; Advance care planning; Preference elicitation; Dignity therapy; Conversational agents
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Subsession 3: Context-aware care: making social robots smarter by integrations with sensors and IoT
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Purpose Over the past years, the availability of assistive technologies has increased significantly. While, these devices show potential already to meet diverse end-user needs and to potentially support overcoming shortages in healthcare personnel [1,2], an emerging trend in long-term care is the integration of multiple devices within people's homes. The strength of combining such a bundle of technologies lies in their ability to complement each other in supporting individuals with dementia by combining data [3,4]. Specifically for social robots, integrating them with sensor technologies (e.g., life-pattern monitoring or distress detecting sensor) offers a clear advantage: the robot can gather contextual information and use it to provide alerts and recommendations at appropriate times [5]. **Methods** We present a targeted synthesized analysis of findings from three prior studies conducted by the authors: eWare [5], SmartHug [6], and HAAL [7], allowing for an in-depth analysis of experiences and data based on earlier projects regarding the integration of social robots with sensors and the Internet of Things (IoT). **Results and Discussion** We share an overarching evaluation of the findings of the three projects, discussing the drivers and barriers of implementation of technology integrations, the potential of the implementation of such context aware systems and the future research needed into this field. This synthesis highlights both the potential and the complexity of these integrations. On the one hand, the synthesis shows that integrations of social robots and sensor data (e.g., 'restless sleep detected') provide unique benefits, such as context relevant day structure support by autonomously triggering robot support (e.g., a calming morning greeting). Hence, results indicate that IoT-integration shifts the robot's role from reactive to proactive. On the other hand, the critical lesson learned across all three projects is that realizing these integrations is difficult in practice. We found that coordinating multiple technical developers and aligning their systems creates significant barriers. Therefore, we discuss the implications of technology integrations for reducing care staff workload and the technical challenges of interoperability in legacy care infrastructure. Finally, we present suggestions for future research needed to further develop and scale up these context-aware care solutions.

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Keywords: Dementia care; social robots; IoT; integrations; context-aware
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Acknowledgement: We gratefully acknowledge support from the Active Assisted Living (AAL) Programme, co-financed by the European Commission through the H2020 Societal Challenge: Health, demographic change, wellbeing. In particular, the work reported here has been supported by the AAL eWare project and the AAL HAAL project (AAL-2020-7-229-CP). Furthermore, part of this research was executed by Vilans in support of the knowledge center subsidy of the Ministry of Health, Welfare, and Sport in the Netherlands.

Subsession 4: Deception in Social Robots for People Living with Dementia F. Wang[1], Y. Feng[1], W.A. IJsselsteijn[1], and G. Perugia[1] .*Gerontechnology* 25(s)

Purpose Social robots have shown promise in improving quality of life, psychological well-being, and social engagement for people living with dementia (PLwD) [1–3]. As these technologies increasingly enter dementia care settings [4], concerns about deception are receiving growing ethical attention [5,6]. In social robotics, deception often emerges implicitly through robotic design cues that shape users' expectations and interpretations [7]. However, social robotics currently lacks a nuanced understanding of how specific robotic design cues may elicit misleading perceptions in PLwD, how such perceptions emerge and are experienced in everyday care contexts, and how these insights can inform ethically responsible social robot design. While prior work in Ethics of Technology and Human–Robot Interaction (HRI) has examined the concept and implications of Social Robotic Deception (SRD) [7–12], this work largely remains abstract and detached from the lived realities of PLwD and their caregivers. Drawing on a four-year PhD project, we aim to bridge this gap by situating SRD within the everyday practices of dementia care, using a multidisciplinary and multi-stakeholder approach. **Methods** We adopt a multi-method research design combining a scoping review of 26 empirical studies on interactions between PLwD and physical social robots, semi-structured interviews with 20 experts from HRI, dementia care, ethics, and related fields, and eight focus groups with formal and informal caregivers of PLwD across four countries. In the final phase, we will further gather PLwD's perspectives and incorporate them into co-design workshops involving PLwD, caregivers, and designers. Data are analyzed using thematic analysis. **Results and Discussion** Our literature review synthesizes how PLwD perceive and respond to social robots, revealing consistent patterns of attributing biological traits, social categories, mental states, and relational roles to the robots, often accompanied by expressions of empathy and caregiving behavior. Moreover, PLwD's understanding of a robot's ontological status is frequently ambivalent and subject to fluctuation over time. The interview study further identified key determinants, manifestations, and perceived risks and benefits of SRD. Experts expressed divergent views on the ethical acceptability of SRD and articulated multiple strategies for its responsible management in dementia care contexts. Preliminary insights from our caregivers' study illuminate how SRD is perceived, negotiated, and either deliberately or implicitly enacted in everyday care practices. By integrating perspectives from PLwD, experts, and caregivers, and designers, this project moves SRD from an abstract ethical concept toward a situated, practice-oriented understanding. The co-design workshops will contribute to the development of a design toolkit that supports ethically responsible social robots for PLwD, offering concrete design and implementation guidance for designers, researchers, and care practitioners.

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Keywords: Deception, People with Dementia, Social Robots, HRI, Ethics

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Acknowledgement: This project is facilitated by the Expertise Center for Dementia and Technology (ECDT) and partially supported by funding sources including the China Scholarship Council (202306010082), the Humanity and Social Science Youth Foundation of the Ministry of Education of China (25YJCZH048), and the research programme Ethics of Socially Disruptive Technologies (ESDiT), funded through the Gravitation programme of the Dutch Ministry of Education, Culture, and Science and the Netherlands Organisation for Scientific Research (NWO grant number 024.004.031).

Subsession 5: Barriers and facilitators to social robot adoption in long-term care E. Rossnagel[1], S. Freeman[1] . *Gerontechnology* 25(s)

Purpose The integration of robotics and artificial intelligence with dolls and stuffed animals has garnered much interest for their potential applications in older adults and are becoming increasingly available for personal and commercial use, however, the uptake and integration into daily operations of long-term care (LTC) facilities remains limited. The study addresses a critical gap in understanding the factors influencing the successful adoption of these technologies within Canadian LTC environments, especially in northern, rural, and remote communities. To strengthen practical applicability, this study also highlights key considerations that can guide LTC organizations, policymakers, and technology developers in moving toward sustainable implementation. **Methods** A multi-method approach was used to explore factors influencing the adoption of a featured social robot in LTC settings across northern, rural, and remote British Columbia, Canada. This study utilized a workshop format that included a presentation of the social robot, followed by a facilitated semi-structured discussion, complemented by pre- and post-surveys. Participants were individuals professionally or personally connected with LTC contexts in northern British Columbia. Survey responses were analysed using descriptive statics, while discussion transcripts underwent inductive thematic analysis. **Results and Discussion** Thirty-seven participants took part in three workshops. Participants discussed the potential for social robots to enhance LTC resident well-being by mitigating social isolation, fostering meaningful engagement, and supporting emotional health. Beyond its role as a therapeutic adjunct, the social robot was seen to offer opportunities for reflexive, data-informed care planning through the systematic collection of emotional and behavioural indicators which would facilitate LTC staff buy-in. However, adoption was seen as contingent upon resident preferences, cognitive capacity, and organizational readiness. Concerns regarding data validity, interface usability, and interoperability with existing LTC systems underscored the need for rigorous evaluation and design optimization. Furthermore, successful uptake would require consideration of dementia-specific care needs, infection control standards, personalization features, and operational considerations such as cost, connectivity, and technical support, particularly in rural and remote contexts. **Conclusion** Findings from this study aim to inform recommendations for policy and practice, emphasising the need for organizational readiness assessments prior to deployment. LTC organizations may benefit from conducting structured readiness assessments to evaluate infrastructure capacity, staff preparedness, and resident suitability prior to deployment. Policymakers could support equitable implementation by establishing funding mechanisms and guidelines that extend beyond pilot projects. Technology developers should prioritize usability, interoperability, and adaptability to rural and remote settings in future design iterations. Together, these actions can help transition social robot use in LTC from ad-hoc experimentation toward sustainable, context-responsive integration.

References:

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