

12 JUNE 2025 09.00 - 11.00

## Panel 7. Who Cares About AI? Navigating the challenges of AI in Health Practices

Convenors:

*Veronica Moretti, Università di Bologna*

*Francesco Miele, Università di Trieste*

**Keywords: Artificial Intelligence (AI), Care Practices, Human-Machine Interaction, Vulnerability of technology**

Over recent years, Artificial Intelligence (AI) has rapidly become a buzzword circulating throughout society, permeating various social spheres and attracting both material and symbolic resources. This panel seeks to shed light on the intricate relationship between AI and care, defined, in the well-known terms of Tronto and Fisher (1993), as "a species of activity that includes everything we do to maintain, contain, and repair our 'world' so that we can live in it as well as possible."

The relationship between care and AI is at least twofold. First, AI technologies have been developed and deployed to assist or even replace human actors in care practices that target various groups identified as 'people in need,' such as non-autonomous older adults, patients with chronic conditions, or those with other vulnerabilities (Miele and Giardullo, 2024). This includes robotics programmed for surgical procedures or cognitive stimulation for individuals experiencing cognitive decline, as well as virtual companions designed to provide moral support and empathize with individuals whose needs might not otherwise be considered problematic by society. The introduction of AI into a field historically associated with empathy, emotion, and affect highlights the need to examine, on one hand, the quality of interactions between human and machine bodies and, on the other, the consequent shifts in the geography of responsibilities within AI-supported care practices. Second, AI technologies, like other machines, require ongoing care to ensure their repair and maintenance. As previously noted, maintenance and repair are deeply embedded within a logic of care, grounded in the understanding that even groundbreaking, innovative machines are vulnerable to decay (Denis et al., 2015). This vulnerability can manifest in healthcare organizations as well as in other work settings when AI systems fail to perform as expected, conflict with other technologies, or act in ways deemed unsafe (e.g., suggesting erroneous decisions) or unethical (e.g., failing to protect private data). Examining the care directed toward AI, given the opacity that characterizes its procedures and decision-making processes, necessitates an in-depth look at the maintenance and repair practices enacted by professional communities. These professionals, drawing on codified knowledge, work to understand the fragility of AI systems and take care of their artificial bodies.

The session is intended to promote reflection on the various dimensions of the AI-care relationship. We invite both empirical and theoretical contributions that explore how AI technologies are reshaping care practices, the implications for human interaction, and the broader societal consequences. The following areas and perspectives of analysis will be privileged:

- The impact of AI technologies on caregiving practices for vulnerable populations;
- Ethical considerations surrounding AI in care;
- Quality of human-machine interactions and their effects on emotional support and trust;
- Maintenance and repair practices for AI systems in healthcare settings;
- Vulnerability of AI technologies and their implications for care delivery;
- Empirical experiences and personal narratives from caregivers and patients using AI;
- Future directions for AI in care, focusing on emerging technologies and societal implications;
- Comparative analysis of traditional care practices versus AI-supported care methods.



12 JUNE 2025 09.00 - 11.00

## ID 140 - Empowering Self-Care: Exploring Use to Co-Design an AI-powered Virtual Coach for People living with Parkinson.

*Sylvie Grosjean, University of Ottawa*

**Keywords:** AI-powered self-care technology, Parkinson Disease, Co-design, Usage Diary Study, Self-care practices

Self-care in Parkinson's Disease (PD) is a key care strategy for people living with PD that provides confidence and knowledge about managing their disease. Self-care refers to the activities that patients undertake to manage their condition as part of their everyday life that is not implemented by a healthcare professional. There is evidence indicating that health technologies are promising enablers of self-care in PD. They offer the opportunity for patients to collect and track relevant information and obtain personalized support and advice on living with PD. While researchers have identified the need for such technologies to adapt to the unique care needs and changing conditions of each individual with PD, research is needed to develop self-care technologies that are more personalized and help individuals manage these changes. Furthermore, technologies frequently fail to support self-care due to a lack of attention to the complex relationships between technology and individuals within their social, cultural, and economic contexts during the design process. We posit that self-care technologies have the potential to support people with PD in their daily self-care processes by facilitating lifestyle changes or the overall management of mundane issues (e.g., cooking or pursuing social activities to maintain mental well-being). To do so, we need to design technologies that are interactive (allowing users to have access to personalized care resources), immediate (increasing user interest in and exposure to system-based messages), and adaptive (intelligent learning systems that adapt to user needs and preferences over time).

The purpose of this communication is to explore how a usage diary study of a virtual coach (eCARE-PD) could inform the design process of an AI-powered self-care technology. eCARE-PD has been designed to assist patients in managing their condition by providing automated or manual tracking, informative resources and practical self-care tips. This qualitative study was designed to learn how patients (n=20) interact with eCARE-PD (during 3 months) and integrate it into their daily routines and self-care practices. Depending on the level of personalization and user experience, the attractiveness (and effectiveness) of this tool may vary. We found that some content was more applicable to patients in the early stages of the disease, and it was suggested that more tailored information be made available for individuals at different stages of the disease. Patients expressed a desire for a virtual coach to help them actively manage the many aspects of living with the disease, including its inherent unpredictability and variability. PD presents a broad spectrum of symptoms and the progression varies from person to person. This diversity makes it difficult for self-care technologies to offer one-size-fits-all solutions. Such technologies must be designed to continuously adapt to an individual's evolving condition. Based on the results of this study, we will explore a possible solution using artificial intelligence to provide personalized support based on patient data. The development of a Conversational Recommender System specialized in PD will be discussed, with particular attention to the potential role of LLMs (large language models) in this process.

12 JUNE 2025 09.00 - 11.00

## ID 148 - Automating dementia care training: The socio-technical design of an e-learning AI-powered chatbot

*Riccardo Pronzato, Università di Bologna*

**Keywords:** caregiving, dementia, artificial intelligence, co-design, ethnography

In the last decade, there has been a growing interest in the development and deployment of AI-based system in healthcare. These technologies are designed to either support or replace human figures, to streamline diagnosis, treatment and monitoring processes, and, ultimately, to facilitate automation in de-



cision-making, therapy and care (see Miele and Giardullo, 2024). Thus, it emerged the need to investigate how AI systems are designed and used in practice (Watson and Wozniak-O'Connor, 2024).

Given this scenario, this contribution investigates the development of an e-learning AI-powered chatbot designed for formal and informal caregivers of patients with dementia, thus focusing on the socio-technical production and enactment of AI-based technologies in healthcare.

Specifically, this study analyses the co-design process underlying the production of the aforementioned AI-based chatbot. In recent years, co-design has emerged as an institutionalised participatory approach to engage diverse stakeholders in producing eHealth technologies and adapting them to users' environments and conditions (Noorbergen et al., 2021; Talevski et al., 2023). Whereas co-design is frequently presented as a participatory and inclusive practice, critical technology studies have highlighted that the production and implementation of a technological artifact is a complex socio-technical assemblage rather than a linear procedure (Seaver, 2019; Schwennesen, 2019). Indeed, technological production is always intertwined with power asymmetries, cultural values, social narratives, inequalities and relationships involving both human and non-human elements.

Within this framework, this contribution aims to examine how co-design unfolds in practice. To do so, it draws on a multisited ethnography (Marcus, 1995; Seaver, 2017). The goal is to scrutinise the co-design process of an e-learning chatbot directed at dementia caregivers from the data collection phase—where caregivers' needs are gathered by the research team—to the implementation phase conducted by a private company that was contracted to design the platform. Tracing the chatbot's development throughout different phases of the process will allow to better understand the different human and non-human actors involved and how various figures, i.e., researchers, tech workers, patients, caregivers, physicians contribute to the enactment of the technological artifact.

In this sense, this contribution builds on Seaver's (2017) ethnographical approach to algorithms and on the following research endeavours drawing on his work (Bonini and Gandini, 2019; Kotras, 2020; Pronzato, 2023), with the aim to examine AI-based systems "in practice," thereby addressing the issue of context by looking at "the work practices that surround algorithmic technologies" (Christin, 2017: 11).

Findings will shed light on how the e-learning AI-powered chatbot directed at dementia caregivers is enacted by different activities and negotiations, showing the complexities involved in development and implementation of this artifact.

The project is part of a broader interdisciplinary collaboration aimed at designing an e-learning platform aimed at formal and informal caregivers of people with dementia (project AGE-IT, PNRR PEB "Age-It", Next Generation EU).

12 JUNE 2025 09.00 - 11.00

## **ID 253 - What if care robots need care? An analysis of vulnerabilities, maintenance and repair**

*Victoria Kontrus, VICESSE Research GmbH*

*Roger Von Laufenberg, VICESSE Research GmbH*

**Keywords: care robots, artificial intelligence, vulnerability, maintenance, long-term care**

AI applications seem to multiply by the second and pervade all domains of life. Against the backdrop of an ageing population, fueled by virulent techno-solutionism surrounding the "care crisis", older adults and the care sector have become a profitable market for AI-based technologies. As a result of this "silver economy", a wide array of AI applications can nowadays be found in long-term care (LTC) settings, ranging from administrative tasks like documentation or shift planning to pain recognition, fall detection and robotics.

While it is most often LTC residents who vulnerability and care needs are ascribed to, our contribution seeks to draw attention to the many vulnerabilities and care needs of care robots, which often remain obscured. Care robots are complex technologies entangled in supply chains and interconnected with



elaborate infrastructures. This makes them highly vulnerable and accordingly, they require considerable amounts of care in the form of maintenance and repair. Our contribution thus seeks to make visible the vulnerabilities of care robots through the care practices that cater to them. We examine how this care work is distributed and coordinated across a diverse network of actors and analyze the implications which result for those involved in care.

Our contribution draws on an empirical study set in Austria, which explores two care robots for LTC settings: Pepper and Paro. Pepper is a humanoid robot with a variety of AI-based functions, including navigation, facial recognition and natural language processing and was designed to entertain LTC residents with puzzles, games and gymnastics. Paro is a fluffy robot in the shape of a baby seal equipped with algorithmic features to recognize speech and adapt its behavior. Our multi-perspective case study includes qualitative interviews with LTC staff, residents, and technology developers as well as participant observation in an LTC facility.

Firstly, our findings reveal the manifold vulnerabilities of the two robots. These range from fragile hardware such as broken limbs to software failures, which may lead to both minor disruptions as well as total breakdowns of service. Secondly, we found that both robots are recipients and beneficiaries of a wide variety of care practices targeted at mitigating vulnerability and preventing or restoring harm. In both cases, the care workers play a paramount role as "maintainers-users" (Denis, 2017, p. 6). However, as the two robots have different vulnerabilities and needs, the care practices differ between them. Each robot mobilizes its own distinct network of human and non-human actors, including care staff of LTC facilities, software developers, product distributors and hardware manufacturers, but also keys, lists, blankets and closets. Thirdly, the ascribed vulnerability of the robots heavily shapes whether and how the robots are used. Finally, we conclude that the care work required by care robots fundamentally impacts care workers and their role. While according to their job description, LTC staff are supposed to tend to humans and their needs, care robots place them in a delicate balancing act, navigating both human and non-human care needs.

12 JUNE 2025 09.00 - 11.00

## ID 320 - From AI Promises to Care Practices: Differing Expectations on Integrating Predictive Models in Telecare

Lorenzo Carta, *Università di Trieste*

**Keywords:** Artificial Intelligence, Expectations, Care Practice, Elderly Care, Gerontechnology

AI is increasingly promoted by companies and public healthcare institutions as an effective tool to support vulnerable populations, particularly in elderly care. Promissory discourses around technology and aging often frame machine learning (ML) systems as a cost-effective solution for reducing care expenses while addressing issues like loneliness and fall prevention through personalized care. This is done following an increasing datafication of older people's bodies and daily activities. While AI is increasingly proposed as a solution for the "care crisis" posed by an aging population, there is limited understanding of how these societal and organizational expectations shape the design and implementation of specific AI-based assistive technologies. In particular, on how actors envision changes in pre-existing care practices and sociomaterial configurations.

To address this issue, this study examines an Italian company's attempt to integrate predictive models into an existing telecare service, which serves both public healthcare institutions and private clients. The models aim to predict fall risks while using synthetic data processing to anonymize sensitive information. Through semi-structured interviews with managers and operational staff, complemented by participant mapping, the case study reveals tensions between differing visions for the application of predictive ML systems and the complexities of integrating such technologies into a service already in operation.

Preliminary findings reveal tensions between two distinct roles of the predictive system. First, it serves as a strategic asset in the company's data-driven ambition to position itself as a central and innovative actor in the healthcare ecosystem. Second, it serves as a technological response to fall risk, which—based



on the company's experience and public institutions' perspectives—is recognized as one of the primary vulnerabilities among elderly people due to the frequency and the severity of consequences in terms of assistance and quality of life.

Regarding expectations about changes in care practices and the integration of predictive models, two key aspects emerged from the interviews. The first relates to the data collection phase, which requires expansion through a structured questionnaire and the potential integration of sensors. This could conflict with the affective and trust-based relationship between telecare operators and users. Secondly, the analysis reveals how different interviewees assign conflicting roles to the ML system, particularly regarding response protocols for risk alerts. These divergent interpretations expose uncertainties about how the system could reshape the pre-existing "geography of responsibility" of telecare practices.

12 JUNE 2025 09.00 - 11.00

## ID 331 - Technogeographies of care: how digital technologies and AI are reshaping dementia care in residential and home settings

*Ludovica Rubini, Università di Trieste*

*Martina Consoloni, Università di Bologna*

*Francesco Miele, Università di Trieste*

*Veronica Moretti, Università di Bologna*

*Andrea Di Leo, Università di Bologna*

**Keywords: digital technologies and AI, dementia care, technogeographies of care, algorithmic work, algorithmic accountability**

Dementia is a condition characterized by the progressive decline of cognitive functions, often caused by neurodegenerative diseases, which significantly affects the quality of life for older individuals and their caregivers. Despite its growing prevalence, welfare systems struggle to address emerging health needs, while family networks face increasing fragility. In this context, digital technologies—especially those based on artificial intelligence (AI)—have been proposed as solutions that combine accessibility to high-quality care with welfare cost containment. However, these technologies raise significant issues, such as ethical concerns, discrepancies between intended and actual use, and the reconfiguration of the relationship between caregivers and those they care for.

This contribution presents preliminary findings from the Prin-Pnrr project ANTICIPATE (Artificial Intelligence and Dementia Care in Practice). Based on a theoretical framework combining Science & Technology Studies, Organizational Studies, and the Sociology of Health, the project examines the role of "intelligent machines" in reshaping dementia care practices in residential and home-based settings. The research employs a mixed-method approach, including mapping digital technologies and AI applications for dementia care, a national survey, semi-structured interviews with informal caregivers, ethnographic studies in nursing homes, and co-design workshops with caregivers and designers.

To explore how dementia care is reshaped in different environments, we use the concept of "technogeographies of care," emphasizing the importance of space in reconfiguring care practices. This involves examining changes in two distinct settings: residential care homes and private residences. Additionally, we analyze how technologies designed for surveillance transform caregiver-caretaker relationships, giving rise to new practices.

First, we illustrate how the introduction of a telemonitoring AI-based system in a nursing home during night shifts is influenced by the ward's physical layout and the need to support the single caregiver on duty. This system assists healthcare professionals in tasks like monitoring health and preventing falls, potentially creating a conflict between the 'human' practical knowledge of the staff and the 'artificial' practical knowledge of the system. Simultaneously, staff engage in "algorithmic work" to support the proper functioning of the system alongside caregiving duties. This new configuration also changes the interaction



with people with dementia (PWD), altering the rhythms of care and affecting their autonomy of movement within the ward.

Similarly, in home-based care, the use of location-tracking devices to monitor PWD movements create new "geographies of responsibility", redistributing caregiving burdens across people, places, and devices. These technologies enable remote monitoring, offering safety and autonomy for both parties. However, they also reshape the spatial dynamics of care by embedding responsibility within the technological infrastructure and altering the ways in which caregivers interact with the care environment. Caregivers engage with "algorithmic accountability", interpreting alerts and making decisions based on data, which transforms caregiving practices and dynamics.

These findings highlight the complex entanglement between technologies, spaces, and care relationships. By reshaping caregiving dynamics, AI and digital tools challenge traditional practices and demand a critical understanding of their ethical and relational implications.

12 JUNE 2025 09.00 - 11.00

## ID 622 - From 'speaking for' to 'speaking with': The conceptualization of trust in the practices of in silico medicine

*Zita Van Horenbeeck, Katholieke Universiteit Leuven*

*Elisa Lievevrouw, Katholieke Universiteit Leuven*

*Ine Van Hoyweghen, Katholieke Universiteit Leuven*

**Keywords: trust, in silico medicine, societal challenges, patient and public involvement**

In silico medicine is an emerging field within computational medicine that integrates computer models for the prediction, diagnosis and management of diseases. In silico medicine is gaining traction in the scientific domain for its potential to reduce time and costs compared to for example traditional clinical trials and enable more personalized care. In silico medicine includes but at the same time extends artificial intelligence (AI) by integrating both data-driven and knowledge-driven approaches. In addressing the societal challenges of in silico medicine, trust evolved into a central yet contested topic in the in silico medicine community. Within this community, trust is often defined as 'credibility established through a collection of evidence for a specific context of use.' According to Science & Technology Studies (STS), such a scientific conceptualization not only frames trust as something objective, indisputable, and absolute, but also reflects deficit thinking, assuming distrust to be a consequence of a lack of public understanding and knowledge, rather than stemming from the uncertainties inherent to science (Porter, 1995; Wynne, 2006). Such trust conceptualizations therefore have shaped how and why public and patient involvement (PPI) is organized today, often in a top-down approach, adopting a 'speaking for' mindset with no attempt for genuine dialogue between stakeholders. Moreover, this framing externalizes the responsibility for trust-building from the scientific community onto the engaged publics.

Combining insights from STS with empirical research based on observations during meetings, symposiums, and collaboration with in silico researchers, this paper documents the various trust conceptualizations in the in silico medicine scientific community, and their relation to the ways different publics get engaged in in silico medicine. From this, this paper critically reflects on the dominant framing of trust as something that can and should be secured solely through validation and uncertainty quantification. Such top-down trust conceptualizations can risk reducing PPI to a procedural exercise aimed at persuading publics of the technology's robustness and objectivity, rather than creating the spaces for meaningful exchanges that drive in silico research in line with societal needs.



## ID 672 - Does healthcare technology using AI pose exceptional ethical questions?

Noa Cohen, Libera Università Maria Santissima Assunta

**Keywords: Healthcare technology, Epistemic pollution, AI over-exceptionalism, Medical ethics**

While the ongoing debate surrounding the introduction of AI into healthcare practices raises crucial issues regarding human rights protection and maintaining standards of patient care, it must also acknowledge that some of the topics addressed have long been debated within the context of prevalent bioethical, legal and regulatory practices. Normative bases, rights of patients and the duties of physicians associated with caring for patient wellbeing may be challenged by emerging technology, however ethical discourse must insist on relevant and evidence-based claims when advancing the notion of novel risks. Instead, the prevailing discourse exemplifies a current tendency to view some common practices as posing novel ethical challenges when involving the use of AI, overlooking substantial previous work done in the field. Meanwhile, these discussions leave unclear in which fundamental way, theoretically or empirically, the introduction of AI based technology demands a separate debate.

In the effort for attaining public trust, funds and attention, the question of resource allocation becomes invaluable. Cultivating and supporting redundant debates creates a type of discourse bubbles (Gilbert et al., 2021), which do not promote applicable solutions, and may instead lead to misdirected resources and research efforts (Hansson, 2020). Furthermore, the accumulation of irrelevant information undermines scientific discussions (Forlini, 2023) and promotes distrust in scientific experts and knowledge. Notably, such debates are often perpetuated by those in position of epistemic authority such as decision makers and academic scholars (Levy, 2021). In this recent book, Neil Levy shows how types of unfounded information can constitute "epistemic pollution" and underly the current environment of epistemic degradation, which makes caring for one's health significantly more difficult (Levy, 2018). Within today's healthcare culture, which shifts more responsibility for decision-making towards the individual patient, this could result in suboptimal care.

Drawing a parallel with speculative ethics, this talk will address the roots of AI "over-exceptionalism" as based in contemporary information practices and describe some potential negative implications. Notwithstanding, the talk will also present how this discourse may inadvertently offer an opportunity to confront longstanding issues in medical ethics. Primarily, critically engaging established practices and norms implicating human wellbeing may have positive implications by uprooting deeply seated biases and uncovering blind spots. In the case of clinical care, longstanding and evolving issues of discrimination, literacy, capacity and epistemic injustice need attention as they continue to inflict harm on vulnerable populations, while the additional complexity and opacity of AI threatens to exacerbate these harms by increasing inequalities (Reddy et al., 2020). Accordingly, alongside the crucial task of maintaining an academic discourse which is aligned with professional standards and public interests, it is useful to encourage the utilization of the current rise in public interest and funding invested in AI ethics as an opportunity for promoting awareness and incentivizing action to confront existing social and epistemic issues in healthcare.

