Panel ABSTRACT

Panel 08: Bridging the Divide: Connecting Humans and Technology in Algorithmic Cultures

Organizer: Zongtian Guo, Michal Frumer, Mette Høybye

Abstract: As a wave of health technologies—from wearable sensors and clinical decision-support algorithms to predictive AI—reshapes contemporary medicine, critically examining their epistemologies, promises, and consequences has never been more urgent. Adopting a medical anthropological perspective, this panel aims to interrogate how these innovations transform what counts as knowledge, who holds expertise, and how bodies and health are defined, managed, and made sense of. We welcome contributions that investigate how algorithmic cultures and their emergent valuation practices co-produce the conditions of healthcare, while also introducing novel uncertainties, ethical dilemmas, and inequalities.

Reflecting our theme, we draw inspiration from scholarship that illuminates how algorithms become cultural artifacts shaping medical work; how professionals confront their opacity in critical diagnostic judgments; how human and AI collaboration in clinical documentation or decision-making reveals new styles of valuation; and how healthcare organizations negotiate the legitimacy of algorithmic interventions amid imaginaries of disruptive innovation and calls for continuity, repair, and care.

We particularly encourage submissions that are ethnographically grounded and methodologically innovative, illuminating how cultural, political, and economic contexts shape the development, deployment, and interpretation of algorithmic systems. By bringing together diverse voices from within and beyond academia, this panel aims to foster a critical, constructive dialogue about how humans and technologies co-constitute the future of healthcare. We welcome submissions on topics including but not limited to:

- Ethnographic studies of AI-driven diagnostic or therapeutic technologies
- Valuation practices and ethics of data-driven health interventions
- Reconfigurations of expertise and organizational negotiations
- Algorithmic concepts of normality and abnormality

SESSION SCHEDULE

18.09.2025 | Slot 4| 4-0-4

Ismail Umar: Imagining AI Futures: Socio-Technical Imaginaries Among Healthcare Professionals in a Dutch Hospital

Matteo Valoncini: Algorithmic identities and the digitalization of care: an ethnography of General Practice in Italy

Sophie Wagner: Living in the Loop: Tech Imaginaries and Patient Labor in Type 1 Diabetes Care

Klara-Aylin Wenten: Feeling Technology: How Emotion AI Rewrites Bodies, Emotions and Genders

SESSION PAPERS

Imagining AI Futures: Socio-Technical Imaginaries Among Healthcare Professionals in a Dutch Hospital

Ismail Umar

This paper explores the socio-technical imaginaries shaping healthcare professionals' perceptions of artificial intelligence (AI) in clinical practice. Drawing on several months of ethnographic fieldwork in a Dutch hospital—including in-depth interviews and observations—this study examines how medical practitioners construct and negotiate visions of AI-infused healthcare futures. Central to this research is the question: How do imagined technological futures reveal healthcare professionals' perspectives on their roles, clinical decision-making, and patient-provider relationships?

Employing an anthropological lens, the study foregrounds how medical professionals anticipate that AI will alleviate administrative burdens, potentially saving time and energy and enabling more meaningful interpersonal engagement with patients. Yet these optimistic visions are simultaneously marked by anxieties concerning accountability, transparency, and the possible erosion of clinicians' embodied and experiential knowledge. Ethical tensions surrounding algorithmic decision-making further complicate practitioners' attitudes towards integrating AI into clinical care. Additionally, generational differences emerge distinctly: younger healthcare providers, familiarized through lifelong exposure to digital tools, are perceived as more readily embracing both the opportunities and risks associated with AI compared to their senior colleagues.

Situating this study within broader theoretical discussions on socio-technical imaginaries (Jasanoff & Kim, 2015), the paper demonstrates how imagined technological futures reveal implicit ideas about present-day professional identities, clinical practices, and

conceptions of care, illuminating deeper sociocultural tensions between technological optimism, human agency, and embodied medical expertise.

Algorithmic identities and the digitalization of care: an ethnography of General Practice in Italy

Matteo Valoncini

As algorithmic and digital infrastructures increasingly shape healthcare systems, general practice emerges as a key field where clinical expertise and digital governance intersect. In Italy, General Practitioners (GPs) are gatekeepers of the National Health Service (SSN), and in delivering care, they consult and generate informational flows fundamental to the governance of the SSN itself. Drawing on a two-year, in-depth ethnography conducted in four general practice clinics in Bologna, this paper investigates how the digitalization of outpatient care reshapes clinical practice and institutional expectations, particularly as Electronic Medical Records (EMRs) become central actors in both patient care and the production of knowledge about bodies and diseases. EMRs do more than record care; they actively participate in co-producing clinical knowledge, operating within an onto-epistemic loop that both demands and sustains the existence of provisional algorithmic identities. This introduces new forms of accountability and epistemic tension, as practitioners navigate between the contingencies of care and the demands of algorithmically mediated documentation.
Using frameworks from medical anthropology and critical data studies, this paper argues that the clinic is a contested epistemic field in which identities and 'legitimate' forms of knowledge are continuously negotiated, concerning both patients and healthcare professionals confronting sociotechnical systems. It highlights how practitioners engage with, resist, or accommodate algorithmic demands, revealing a complex politics of valuation and care. In doing so, it contributes to ongoing debates on how algorithmic cultures co-produce clinical outcomes, the conditions under which healthcare is provided, and identities are co-constructed.

Living in the Loop: Tech Imaginaries and Patient Labor in Type 1 Diabetes Care

Sophie Wagner

In this paper, I draw on my PhD research with type 1 diabetes patients who use hybrid closed-loop (HCL) systems – semi-automated, wearable technologies that algorithmically deliver insulin based on real-time glucose data. While these systems promise greater efficiency and precision, they are embedded in dominant tech-solutionist imaginaries that valorize AI, self-optimization, and individual responsibility. As such, they shape normative expectations around health, self-care, and the "ideal patient." I examine three interconnected domains where these algorithmic cultures and their valuation practices affect patient lives: subjectivity and self-understanding, access to disability recognition and funding, and clinical care.
Patients describing these technologies often speak of ongoing efforts regarding the

managing of, and intervening in these systems – labor that is largely rendered invisible. They feel pressur to appear as seamlessly merging with the devices and to perform technological competence, while masking the emotional and physical strain involved. The expectations regarding the power and effects of algorithm-driven care-technology also shape disability support, where metrics like “good” glucose numbers are privileged over lived experience and suffering. In clinical encounters, digital blood sugar profiles – composed of graphs and statistics – dominate as evidence, offering an illusion of transparency and reinforcing a reductive equation: good numbers equal wellbeing.
Through ethnographic engagement, I argue that HCL systems co-produce a technocentric model of care that marginalizes experiential knowledge, reinforces data-centric epistemologies, and reconfigures the politics of evidence in chronic illness management. This paper contributes to critical debates on algorithmic health technologies, patient subjectivity, and care-futures.

Feeling Technology: How Emotion AI Rewrites Bodies, Emotions and Genders

Klara-Aylin Wenten

This presentation engages with the socio-technical reconfiguration of care in Emotion AI – an emergent technology designed to recognize, simulate, and respond to human emotions – within the context of mental health support. Framed by an ethnographic engagement with an AI-mediated chatbot used in romantic and therapeutic settings, the study critically interrogates how algorithmic systems mediate emotional expressions, reframe relational care and reconstitute norms around mental wellness, the body and emotions. Drawing on concepts from Science and Technology Studies and emotion research, the presentation investigates how Emotion AI technologies not only shape new affective and intimate terrains within healthcare but also embed and reproduce normative assumptions, particularly around gender, embodiment and emotional legibility. By foregrounding the entanglements between technical design, socio-cultural imaginaries and everyday use, the work reveals how care becomes algorithmically enacted by reinscribing heteronormative and binary gender norms in the guise of personalization and therapeutic neutrality. The analysis is grounded in auto-ethnographic fieldwork, offering a situated perspective on how users interact with and make sense of AI-driven emotional support. This empirical lens enables a critical perspective on how such technologies contribute to shifting valuations of expertise, emotional labor and the very definitions of what constitutes care, health, the body and emotions in the digital age.