

## Technology aiding seniors at risk of dementia to reach their goals

A CODATA workshop: Creative Living and Aging through Cross-disciplinary Utilization of Data

<https://codata.org/initiatives/working-groups/creative-living-and-aging-through-cross-disciplinary-utilization-of-data/>

Date: Sept. 26th , 2022

Location: Online – Start 03:00 pm (JST) / 08:00 am (MESZ)

Zoom Link: <https://unibe-ch.zoom.us/j/69911218990?pwd=VGY5TFIYMFIHRkg5YWNCcFhKbEtFQT09>

## Program

### Session 1 How to use sensor systems and digitalisation to identify goals and values [activities and things reason to value] of senior citizens at risk of dementia

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03:00 – 03:05 pm (JST) 08:00 – 08:05 am (MESZ)	<b>Toshihiro Ashino:</b> Welcome Address from CODATA Executive Committee and National Delegate of Japan
03:05 – 03:40 pm (JST) 08:05 – 08:40 am (MESZ)	<b>Mike Martin:</b> Towards a value-based system in the care of senior citizens
03:40 – 04:15 pm (JST) 08:40 – 09:15 am (MESZ)	<b>Stefan Klöppel:</b> Non-pharmacological interventions against cognitive decline: Aligning with a value-based system.
04:15 – 04:50 pm (JST) 09:15 – 09:50 am (MESZ)	<b>Tobias Nef:</b> Behavioural aspects of Neurodegeneration – Can sensor-based assessments in patient's home guide treatment?
04:50 – 05:00 pm (JST) 09:50 – 10:00 am (MESZ)	Break

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### Session 2 New technology to improve patient-centered outcomes for those at risk of dementia

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05:00 – 05:35 pm (JST) 10:00 – 10:35 am (MESZ)	<b>Kristina Yordanova:</b> Automatic Detection and Understanding of Everyday Behaviours
05:35 – 06:10 pm (JST) 10:35 – 11:10 am (MESZ)	<b>Mihoko Otake-Matsuura:</b> Cognitive Intervention through Photo-Integrated Conversation Moderated by Robots (PICMOR) Program
06:10 – 06:40 pm (JST) 11:10 – 11:40 am (MESZ)	<b>General Discussion:</b> CODATA perspective: Data requirements for useful AI. Acceptance of Technology in different cultures. Topics of hackathon/ publications? Interest in subsequent workshop?
	<b>Closing</b>

## Abstracts

Mike Martin (University of Zurich, Switzerland)

According to the WHO, healthy aging is defined by ability “to do what one has reason to value”. It is therefore not defined by the absence of disease. Globally, health systems instead focus on the treatment of disease. While this is a societal discussion, technology may help to identify what somebody value but ensure that it is maintained as treatment goal.

Stefan Klöppel (University of Bern, Switzerland)

As detailed in the previous presentation, value-based therapies are warranted given the definition of health aging. On the other hand, only a tiny fraction of trials considers such outcomes. I would like to present interventions which benefit patient related outcome measure and illustrate which role technology should take to support the further development.

Tobias Nef (University of Bern, Switzerland)

“Longitudinal sensor-based assessment of neurocognitive function, psychiatric and behavioral symptoms and activities of daily living related behavior can give us an insight into the patient-individual quality of life. In the presentation, we will also discuss potential applications as an outcome measure for clinical studies and to guide treatment.”

Kristina Yordanova (University of Greifswald, Germany)

Intelligent systems that are able to assist the user in their everyday activities or to monitor their health status are on the rise. One important aspect of such systems is the ability to reason about the observed behaviour, any errors in the executed activities and the corresponding causes. In this talk we will discuss how we can infer the user's behaviour, errors, and causes based on often incomplete or unreliable observations and the applications of such approaches in healthcare.

Mihoko Otake-Matsuura (RIKEN, Japan)

Social interaction might prevent or delay dementia, but little is known about the specific effects of various social activity interventions on cognition. We have developed a group conversation intervention program named PICMOR for resilience against cognitive decline and dementia. We report the evidence of PICMOR and discuss the potential of assistive technologies supporting everyday activities towards creative living and aging as well as maintaining cognitive functions.