The Netherlands Innovation Network Germany and JAIN cordially invite you to the:

DUTCH-GERMAN
MINI-SYMPOSIUM
ON "AI BASED-ASSISTANCE TO
PEOPLE WITH DEMENTIA"

19 January 2022 | 10:30 - 12:15 | online

with:
Prof. Dr. Wolfgang Hoffmann,
German Center for Neurodegenerative Diseases
Prof. Dr. Holger Fröhlich, Fraunhofer SCAI
Christl Lauterbach, Future-Shape GmbH
Prof. Dr. Marcel van Gerven, Radboud University
Prof. Dr. Catholijn Jonker, TU Delft
Dr. Erwin Meinders, Mentech Innovation BV

Joint Artificial
JAIN
Intelligence Network

Netherlands
Innovation
Network

Webinar through Zoom

Register here

Background

Dementia has a major impact on the quality of life and entails a high perceived burden of disease. To maintain the quality of life of people with dementia or other cognitive impairments, smart applications need to be developed to provide effective support and keep the health care available and affordable. More than 50 million people worldwide live with dementia. This number will nearly double every 20 years, to 82million by 2030 and 152 million by 2050. Much of the increase will take place in developing countries. The number of people with dementia in Europe will grow rapidly from around 9.7 million in 2020 to more than 18.6 million in 2050. At the same time, the number of people available to provide care - both informal and professional carers - for patients will decrease substantially in the coming decades. Furthermore, older populations with dementia are also more likely to have more severe disease consequences than those without dementia. To maintain the quality of life of people with dementia or other cognitive impairments, smart applications need to be developed to provide effective support, based on artificial intelligence, and keep the health care available and affordable.

Objective

Both in The Netherlands and in Germany, R&D efforts are made to improve the quality of life of people with dementia using technological innovation. Germany and Dutch research institutes and companies are jointly developing new products and services for people living with dementia and their family carers. To be successful, these products need to be attuned to the needs of people with dementia and carers and developed in co-creation. Together with involved stakeholders these new products need to reach the world market of 50 million patients worldwide which is expected to grow. There is an urgent and growing need for effective products. This is what will be addressed in the mini conference on AI and Dementia.

Target audience

German and Dutch companies, care providers, professional carers, universities and research institutes, governmental bodies, and healthcare investors.

Program

Time	Session
10.30-10.35	Welcome & introduction by **Hans Arnold**, JAIN and **Vera Nijveld,** Consulate-General of the Netherlands in Munich
10.35-10.45	*Using AI to Move towards Better Individualized Treatment of Dementia* **Prof. Dr. Holger Fröhlich** Fraunhofer Scientific Computing and Algorithms Institute (SCAI), Sankt Augustin
10.45-10.55	*Human – AI Symbiosis for individual and social wellbeing* **Prof. Dr. Catholijn Jonker** Faculty of Electrical Engineering, Mathematics and Computer Science, Delft University of Technology
10.55-11.05	Q&A
11.05-11.15	*The potential of AI to translate unmet needs into individualized care for people with dementia* **Prof. Dr. Wolfgang Hoffmann** German Center for Neurodegenerative Diseases, Bonn
11.15-11.25	*On the Use of Sensor Technology for Early Notification of Stress in People with Impaired Cognition* **Dr. Erwin Meinders** Mentech Innovation BV, Eindhoven
11.25-11.35	Q&A
11.35-11.45	*AI for Neurotech* **Prof. Dr. Marcel van Gerven** Donders Institute for Brain, Cognition and Behaviour, Nijmegen
11.45-11.55	*Sensor Floors* **Christl Lauterbach** Future-Shape GmbH, Höhenkirchen-Siegertsbrunn
11.55-12.05	Q&A
12.05-12.15	Closing, end of the conference

Biosketches of the speakers

Prof. Dr. Holger Fröhlich
Head of AI & Data Science, Fraunhofer SCAI Scientific Computing and Algorithms Institute

Holger Fröhlich graduated in computer science from the Philipps University Marburg in 2002. In 2006, he received his doctorate in computer science from the Eberhard Karls University in Tübingen with a thesis on machine learning methods in chemo- and bioinformatics. Fröhlich conducted research at the German Cancer Research Center (DKFZ) in Heidelberg on statistical procedures and machine learning methods in biology and medicine.

After working for a biotechnology company, he became professors at the Bonn-Aachen International Center for Information Technology (B-IT) in 2010. Before joining Fraunhofer SCAI, he led an international research group in the field of artificial intelligence at the global pharmaceutical company UCB Pharma in Monheim and Slough. In addition to his work at SCAI, Fröhlich continues to teach at B-IT and also heads the group "Biomedical Data Science (former name: Algorithmic Bioinformatics)" there.

The AI & Data Science group within the Department of Bioinformatics at Fraunhofer SCAI focuses on the development and application of data mining and machine learning methods for early drug discovery and precision medicine with a specific emphasis on neurodegenerative diseases, including Alzheimer's Disease. Holger Fröhlich is a leading expert in the application of machine learning and artificial intelligence methods in bioinformatics.

Prof. Dr. Catholijn Jonker
Interactive Intelligence at the Faculty of Electrical Engineering, Mathematics and Computer Science of the Delft University of Technology

Prof. dr. Catholijn Jonker (Google Scholar H=51) is head of the Interactive Intelligence group at TU Delft and professor of Explainable Artificial Intelligence at Leiden University. She is president of IFAAMAS, board member and a Fellow of EurAI, president of ICT Platform of the Netherlands, member of Academia Europaea, member of the Royal Holland Society of Sciences and Humanities, and member of the CLAIRE National Advisory Board for The Netherlands. She has been chair of the Dutch Network of Female Full Professors and of De Jonge Akademie of the Royal Netherlands Academy of Arts and Sciences.

Her publications address hybrid intelligence and interactive intelligent processes such as negotiation, teamwork and the dynamics of individual agents. In all her research lines Catholijn has adopted a value-sensitive approach. In particular, she works towards intelligent agents that can interact with their users in value-conflicting situations when also meta-values no longer solve the situation.

Prestigious grants for her work are the NWO VICI (1.5 M€, 2007) personal grant negotiation support systems, and NWO Gravitation consortium grants (19 M€, 2019) on "Hybrid Intelligence" of which she is vice-coordinator, and "Ethics of Socially Disruptive Technologies" of which she is co-applicant. Co-applicant of the EC awarded projects HumanE-AI, TAILOR and VISION.

Prof. Dr. Wolfgang Hoffmann
Speaker of the DZNE Rostock/Greifswald, German Center for Neurodegenerative Diseases

Prof. Dr. Wolfgang Hoffmann is Managing Director of the Institute for Community Medicine and professor for Population/based Epidemiology and Health Care and Community Health at the University Medicine of Greifswald, Germany. He is speaker of the Rostock/Greifswald site of German Center for Neurodegenerative Diseases (DZNE).

The German Center for Neurodegenerative Diseases is an interdisciplinary research institution that investigates neurodegenerative diseases such as Alzheimer/dementia and Parkinson's disease in all their facets. The demographic shift and a general increase in life expectancy in Germany will inevitably lead to a sharp increase in the number of people suffering from dementia in Germany. In the coming years, we will therefore have to answer the question of how we can continue to ensure adequate medical, social, and nursing care for older people with dementia in the future, especially in those regions of Germany heavily affected by demographic aging. The researchers at the DZNE site in Rostock and Greifswald are using the model region of Mecklenburg-West Pomerania to investigate topics such as how care networks can improve . Question addressed are, among others: what are the requirements and needs for medical and nursing care of people in the first place? How do care networks and other measures affect the specific local situation? What are the options for developing new care networks, implementing them, and testing their effectiveness? And how can we adequately qualify nursing and medical staff and, at the same time, relieve the burden on people with dementia, their relatives, and the health care system?

Dr. Erwin Meinders
Founder & CEO, Mentech Innovation BV

Dr. Erwin Meinders is an entrepreneur and innovation manager with experience mainly in the fields of advanced manufacturing and 2D/3D printing for emerging flexible electronics applications, smart devices, free-form electronics, medical applications, food printing, and high-tech systems.

Erwin Meinders is founder and CEO of Mentech, a high-tech company focused on emotion sensing for people with an intellectual disability and/or dementia, to improve quality of life and happiness and to increase independency, and CIO at care organization Severinus, responsible for developing and implementing an innovation strategy for Severinus, that contributes to increased self-determination and happiness of people with a mental disability.

Mentech developed the HUME, an emotion artificial intelligence platform based on wearables (for physiology and speech recognition), behavior models and machine learning to facilitate behavioral change, to improve self-management, to enhance quality of life and happiness. The HUME provides vulnerable people with (intellectual) disabilities and limited opportunities to verbally communicate with a voice. Better understanding of their emotions, feelings and unmet needs will lead to better care for less costs and ultimately it will lead to increased quality of life and happiness. The HUME is validated for stress detection and is implemented in care organizations across the Netherlands. Mentech also expands it platform to markets beyond care. https://mentech-hume.nl

Prof. Dr. Marcel van Gerven
Principal Investigator, Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen

Professor Marcel van Gerven is head of the Artificial Intelligence department at the Donders Institute for Brain, Cognition and Behaviour. He is also director of the European Lab for Learning and Intelligent Systems (ELLIS) Nijmegen unit and ELLIS Fellow. His research focuses on bridging the gap between artificial and natural Intelligence using techniques which have their roots in machine learning and computational neuroscience. Van Gerven is a Vidi laureate and recipient of several national and international grants.

Christl Lauterbach
Founder and CEO of Future-Shape GmbH

Future-Shape GmbH, based in Höhenkirchen-Siegertsbrunn near Munich has many years of experience in material science, sensor technology, and radio systems. Their main product is SensFloor®, a large-area sensor floor, which offers a wide range of applications in the areas of health care, retail, security and multimedia. Intelligent algorithms and self-learning systems extract significant activity profiles for ambient assisted living (AAL) and internet of things (IoT) applications. Future-Shape has been awarded twice (2017 & 2012) the Federal Prize for outstanding innovative achievements by the German Federal Ministry of Economics and Energy for its SensFloor system.

Future-Shape GmbH was founded in 2005 by Christl Lauterbach. Christl Lauterbach worked at Infineon Technologies AG, as Corporate Research, Senior Staff Engineer for Emerging Technologies and Project Manager Smart Textiles, and has 22 years of experience at Siemens AG, as Corporate Research and Technology, developer Semiconductor Technology and Circuit Design. Christl Lauterbach has over 200 patents and patent pendings and contributed to more than a 100 scientific publications. She is part of the Science Advisory Board at ITA-Institute of the University RWTH Aachen and member of VDI, DKE AAL Group.

Hans Arnold
Co-founder of JAIN

Hans Arnold is an independent entrepreneur with experience in the field of board decision making, investment management, new business development, international market expansion, knowledge management and ICT. For his relationships by combining different insight of science, processes, and technologies he develops with stakeholder's new business opportunities, validated business models and program-plans. He assists science institutes and companies based on the CSR principle. He is used to work with large and complex organizations, where projects can only be realized by executing dialogue, flexibility and goals projects, capabilities to succeed, coach, delegate and negotiate. He is most confident in environments where international projects with multidisciplinary teams must be realized. Typical complex factors he has supervised and successfully mastered are: working with government organizations and the associated political and administrative matters; external environment factors such as different stakeholders and end users, each with its own culture, design and business cases; wishes, budget holders, clients, customers; the interaction between the project from the management, legal regulations, purchasers and the technical manager; composition of consortium partners and the collaboration, universities, scientific institutes, large and SME companies.