

THE NATIONAL ROBOTARIUM

PEOPLE CENTRED :: INTELLIGENCE DRIVEN

Robotics, AI and IoT for Independent Living

Dr. Mauro Dragone, Associate Professor
Robotic Assisted Living Testbed ([RALT](#))
Institute Sensors, Signals and Systems, School of Engineering & Physical Science
Heriot-Watt University



Robotic Assisted Living Testbed @ HWU



Testing and Validation



Training



The 1st **SICSA AAL Summer School**
designed to allow students to explore key concepts for
the design of advanced AAL systems.

Co-design



User studies, stakeholders focus groups and
workshops for connected social care

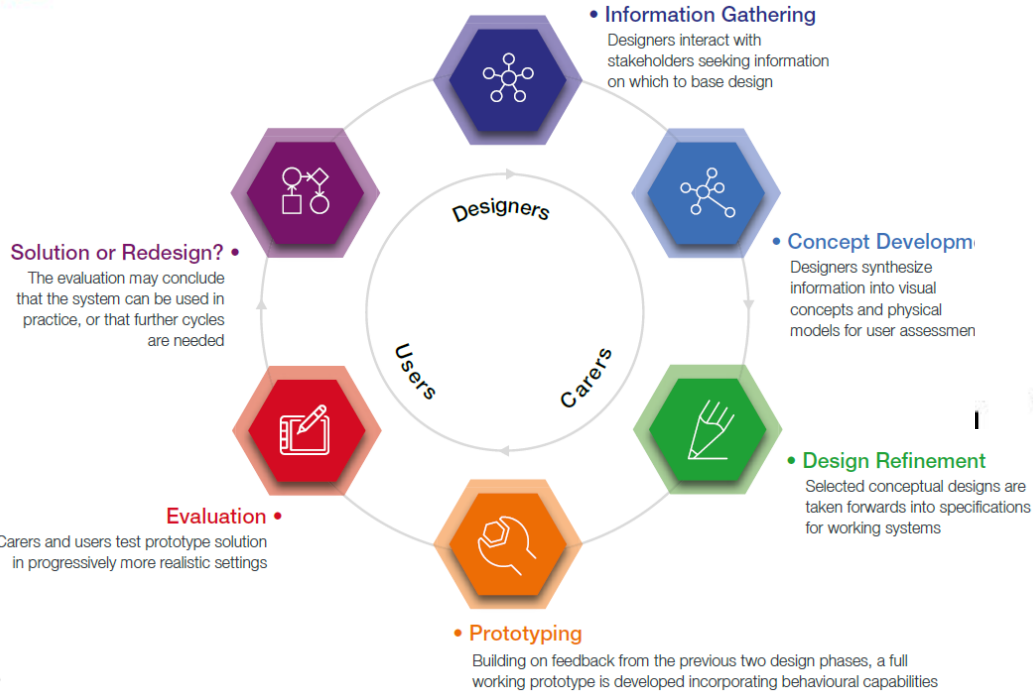
Participatory Design Approach

Blackwood
homes | care | support

HANOVER SCOTLAND

Loretto Care

Alzheimer Scotland
Action on Dementia



NHS
Lothian

ALLIANCE
HEALTH AND SOCIAL CARE
ALLIANCE SCOTLAND
people at the centre

CPS
COUNCIL OF CARE AND SUPPORT ORGANISATIONS
IN SCOTLAND

Voluntary Action Scotland

The Scottish Government
Riaghaltas na h-Alba

The programme is supported by a grant from the Scottish Government.

DIGITAL HEALTH & CARE INSTITUTE

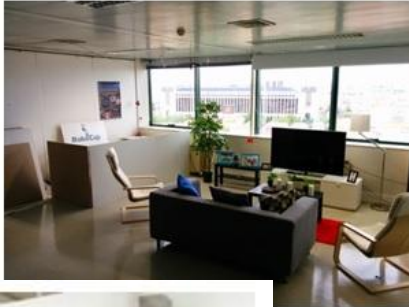
U3A
THE UNIVERSITY OF THE THIRD AGE

THE DATA LAB
value from data

CONSTRUCTION SCOTLAND INNOVATION CENTRE

CENSIS

An International Network of Research Laboratories for Assistive Robotics



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The image is a screenshot of the BBC iPlayer website. At the top, there is a navigation bar with the BBC logo, a 'Your account' link, and a menu with options: Home, News, Sport, Weather, iPlayer, TV, Radio, CBBC, and More. A search bar for 'Search BBC iPlayer' is on the right. Below the navigation bar, the 'iPlayer' logo is on the left, and 'Channels', 'Categories', 'A-Z', 'TV Guide', and 'My Programmes' are on the right. The main content area features a video player showing an elderly man with white hair and glasses, wearing a dark sweater with a light-colored pattern, sitting at a wooden table in a kitchen. He is looking down at a newspaper or magazine on the table. A cup of coffee is also on the table. The video player has a black bar at the bottom with the following text:

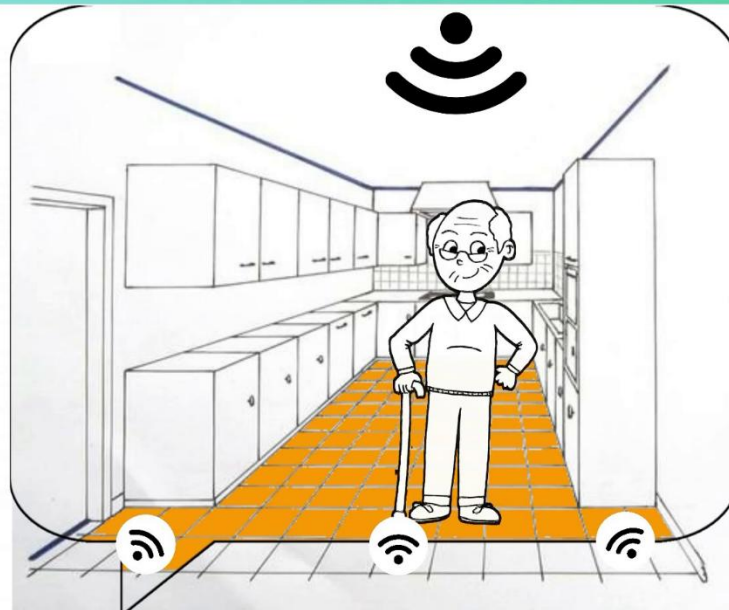
NOW WATCHING 19:30 - 20:00
Timeline
Series 2: 28/09/2017

ON NEXT 20:00 - 21:00
The Big Family Cooking ...
Series 1: Episode 7

Device-free Sensing @ HWU

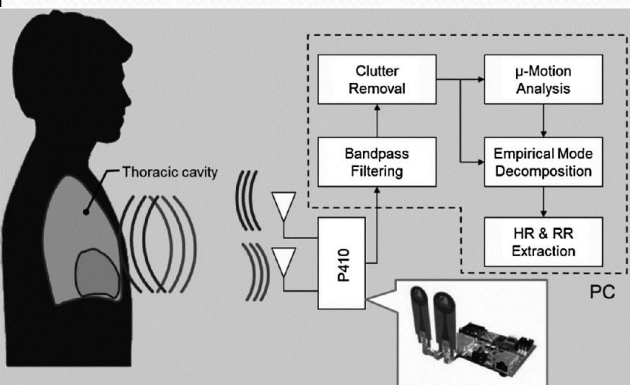
- No need for wearable devices
- Based on RFID/ WiFi technology
- Low cost
- Easily deployed in a smart home
- High accuracy localisation for ADL monitoring and fall detection

TRACKING OF A PERSON WITH NON-INTRUSIVE SYSTEM



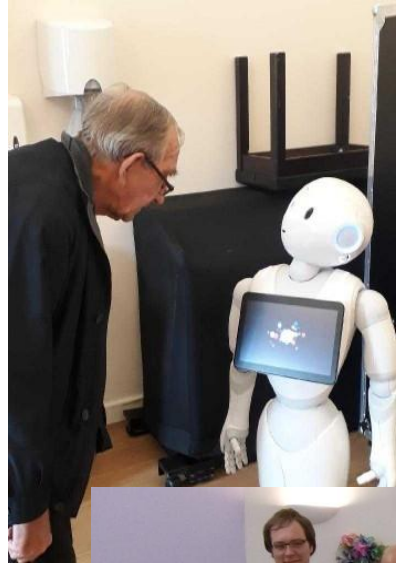
Ding et al.

- Non-contact, radar sensing of vital signs in Assisted Living Applications



Anagnostou et al.

Beyond short-term laboratory studies: Robots as (semi-autonomous) Tools

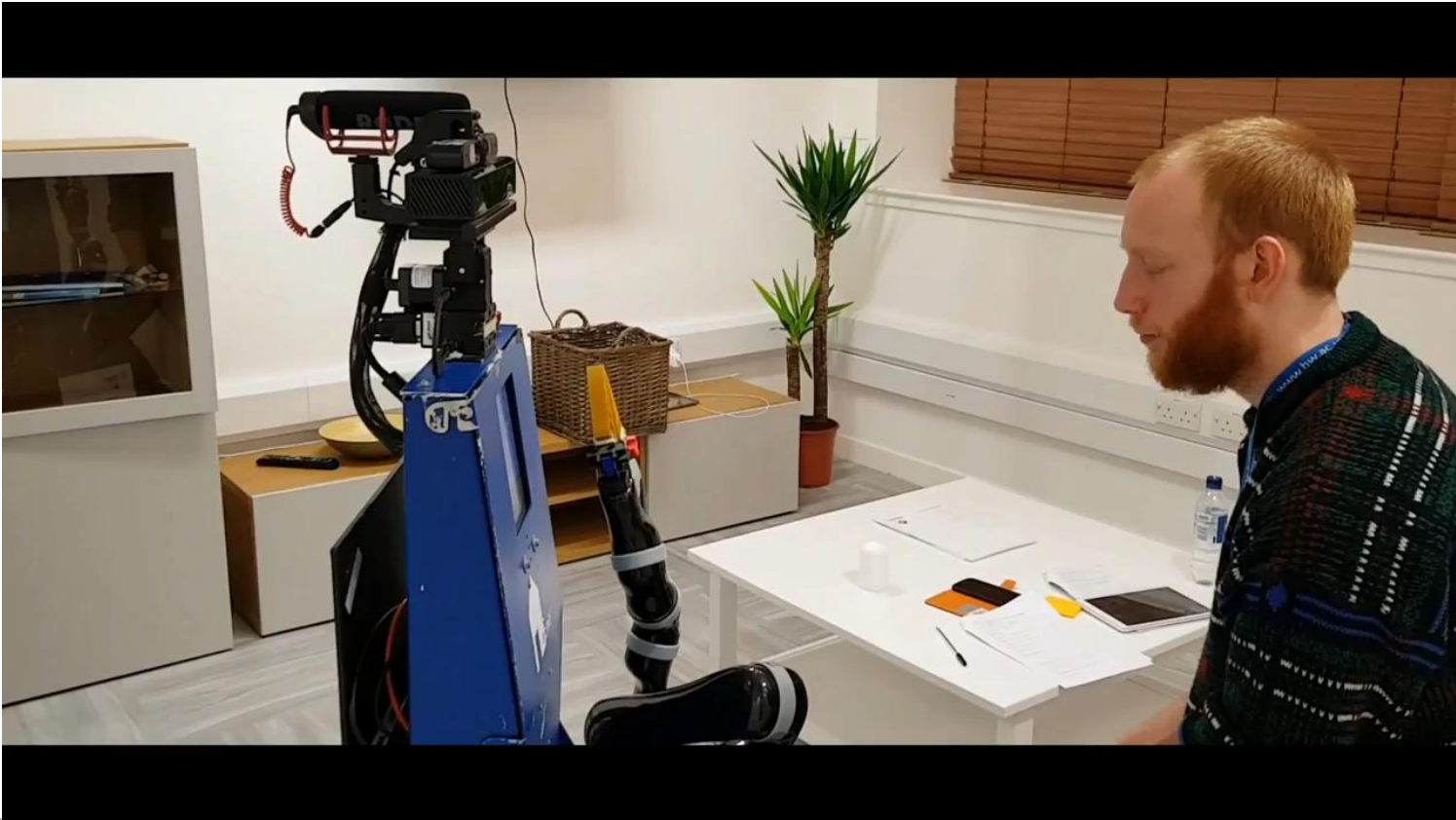


LifeCare 
extra years of zest

HERIOT
WATT
UNIVERSITY



EU Benchmarking Actions- Domestic / Consumer Robotics Competitions



Horizon 2020
Programme



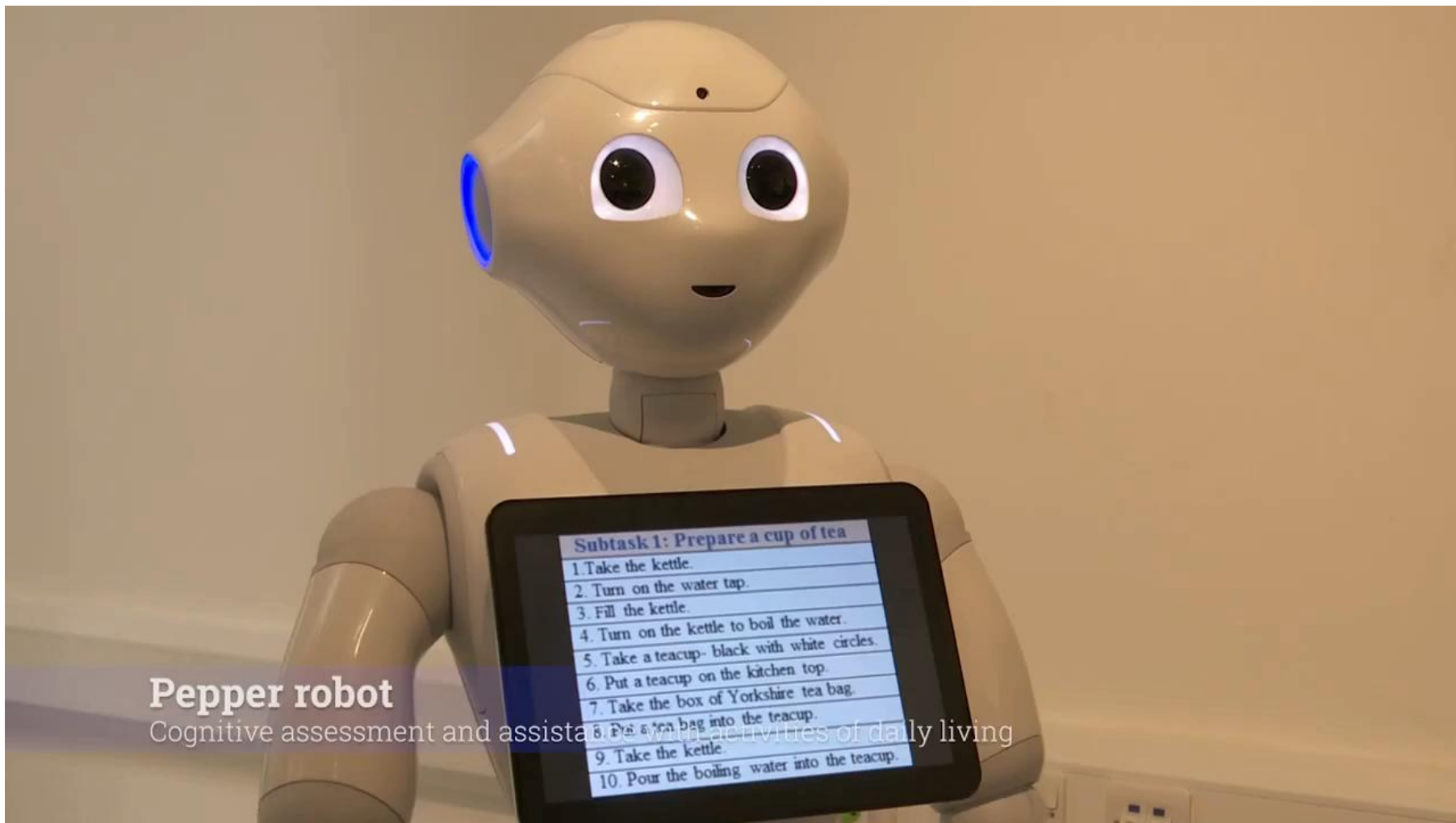
Example : Telepresence Robotics

From traditional tele-presence to tele-existence robotics



A screenshot of a Zoom meeting interface. The main video feed shows a white Pepper robot standing in a room with wooden floors and tables. The robot has a tablet on its chest. In the bottom right corner, there is a smaller video feed of a man wearing VR goggles, labeled "Daniel Camilleri". The Zoom interface includes a top bar with a search bar, a "Picture in Picture" button, and "Log in" and "Sign up" buttons. The bottom bar contains icons for "Cam", "Mic", "Share", "Chat", "Leave", "Options", and "Capture". The name "Meriam Moujahid (you)" is visible in the bottom left corner.

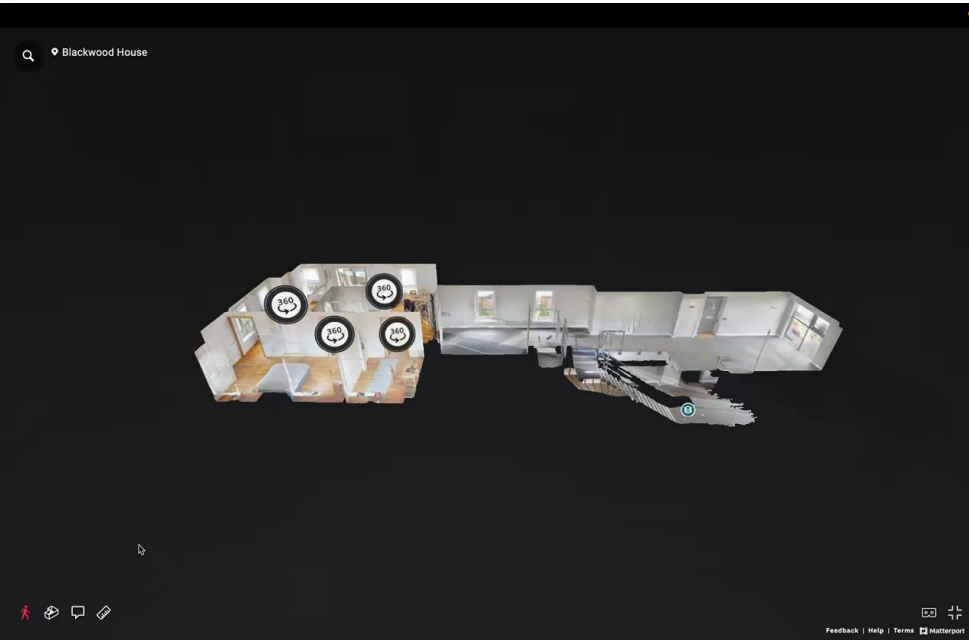
Example: Social Assistive Robotics



Pepper robot

Cognitive assessment and assistance with activities of daily living

Example: Robotics for Telecare



Digital Twin { Robot simulation
Software testing
Service evaluation



Thank you!

Contact:

Dr. Mauro Dragone m.dragone@hw.ac.uk

Prof. M. Suphi Erden: m.s.erden@hw.ac.uk



Innovate UK

Knowledge Transfer Network



EPSRC

Engineering and Physical Sciences
Research Council



EDINBURGH CENTRE FOR
ROBOTICS

