

Embedded workshop – Technology for elderly (GeronCAS)

Introduction

The Embedded workshop on Technology for elderly is one of the special initiatives during ISCAS 2024 and aligns with the overall theme of ISCAS 2024 – “circuits and systems for sustainable development”

Issues pertaining to aging are directly linked to the Sustainable Development Goals (SDGs), which explicitly address the well-being of older women and men. This is evident through the call to end poverty for all (SDG 1), the inclusion of targets that remove historical age-caps on data collection for gender-based violence (SDG 5), and the specification of the right to health "for all at all ages" (SDG 3). Additionally, the SDGs advocate for "lifelong" learning (SDG 6), the development of sustainable, inclusive, and accessible urban environments, including those for older persons (SDG 11), and the reduction of all forms of violence, whether physical, psychological, or sexual, among all individuals, irrespective of age (SDG 16).

The overall aim of this Embedded workshop is to advance the ICT community’s understanding of the role of circuits and systems in GeronCAS - both as part of the solutions to technology for healthy aging and as contributors to precision aging. The workshop intends to improve understanding on both these aspects, and thereafter, see how participants can better integrate considerations of GeronCAS into their work on circuits and systems.

The workshop is timely, as the need has never been greater to design, implement, and scale up high-impact actions to address technology for older adults. It is also opportune – making use of the high scientific credibility, quality, and visibility of ISCAS to elevate the technology for the elderly agenda within the community working on information and communications technologies, including circuits and systems.

The workshop is designed to complement the other contents of ISCAS related to technology for the elderly and/or biomedical engineering - while the special thematic sessions will present current research on the theme, the workshop will provide a space for collective reflection.

The workshop builds on the success of previous editions of GeronCAS workshops organized by the IEEE Circuits and Systems Society – in 2020, 2021, and 2023.

Outcomes

The workshop aims to produce the following outcomes:

- **Generate Creative and Innovative Assistive Technology Designs:** The workshop endeavors to stimulate the creation of imaginative and innovative assistive technology designs that specifically target challenges faced by the elderly. This approach aims to foster the development of new and effective solutions to enhance the quality of life for older individuals.
- **Provide a Platform for Professional Connections:** The workshop seeks to establish a platform for connections among professionals, industry experts, and potential employers. By facilitating networking opportunities, it aims to open doors to potential

career paths within the gerontechnology field. This networking can lead to collaborations and the exchange of valuable insights.

- **Showcase Positive Impact on Elderly Lives:** The workshop intends to showcase the potential positive impact of assistive products on the lives of the elderly. By highlighting success stories and practical applications, it aims to raise awareness about the significance of addressing the unique needs of this specific population.

All of these outcomes will be meticulously documented in the form of a comprehensive white paper. This document will be widely disseminated within the Circuits and Systems Society (CASS) and the Institute of Electrical and Electronics Engineers (IEEE) to inform and inspire other researchers, fostering a broader understanding and appreciation for advancements in gerontechnology.

Organiser

The workshop is being organized by Mohd Nazim Mohtar, PhD. Dr. Nazim earned his PhD in Biomedical Engineering from the University of Surrey, UK, in 2013, and subsequently conducted postdoctoral research at the University of Cambridge in 2014. Prior to that, he obtained his BEng in Medical Engineering from the University of Surrey, UK, in 2006, and an HND in Medical Electronics Engineering from the British Malaysian Institute in 2003. Currently serving as a Senior Lecturer at Universiti Putra Malaysia, Dr. Nazim holds the position of Head of the Laboratory for the Laboratory of Medical Gerontology and Gerontechnology at the Malaysian Research Institute on Ageing (MyAgeing™). His involvement includes the organization of previous editions of GeronCAS.

Programme

The workshop will take place on 19 May 2024. The programme of the workshop is as follows.

Embedded Workshop on Technology for elderly 19 May 2024; 1.30pm – 5.00pm
1.30pm – 1.45pm: Opening remarks by organiser <ul style="list-style-type: none">- Key findings from IEEE CASS white papers on GeronCAS- Importance of this workshop and structure
1.45 pm – 2.45pm: Circuits and systems in Gerontechnology for healthy aging <ul style="list-style-type: none">- Framing presentations by 2 speakers (15mins each)- Panel discussion (30mins)
2.45pm – 3.00pm: Break
3.00pm – 4.00pm: Circuits and systems as contributor for precision aging <ul style="list-style-type: none">- Framing presentations by 2 speakers (15mins each)- Panel discussion (30mins)
4.00pm – 4.30pm: Group work <ul style="list-style-type: none">- Guiding question – How to extend/adapt your current work in GeronCAS
4.30pm – 5.00pm: Conclusions and closing <ul style="list-style-type: none">- Report back from group work- Next steps and closing

Framing presentations

The framing presentations during the workshop will be conducted by experts in the field of gerontechnology. This will encompass two categories of speakers: those possessing a robust understanding and experience in gerontechnology, and those whose ICT work has already integrated considerations of GeronCAS.

To optimize expenditure, priority will be given to speakers from the region. This may include individuals from countries such as Singapore, Indonesia, Malaysia, Japan, and Australia, ensuring a diverse and regionally relevant perspective.

Participants

The target audience for this workshop comprises a subset of ISCAS 2024 attendees who possess a strong interest and/or some experience in adapting ICT for gerontechnology. This audience will consist of a mix of early- and late-career researchers. For early-career researchers, the workshop offers an opportunity for reflection on integrating GeronCAS into their individual work. For late-career researchers, who often hold higher decision-making positions, the workshop serves as a valuable platform for charting a path to adapt the work of their teams to incorporate GeronCAS.

The workshop will not issue a call for papers but instead issue a call for participation. Expressions of interest will be evaluated to determine the final list of participants. The call for participation will include inquiries about the current and future scope of applicants' work related to integrating GeronCAS.

The optimal size for the workshop is set at 30 participants, excluding keynote speakers. This approach ensures a focused and interactive environment conducive to meaningful discussions and engagement among the attendees.