

IEEE Reviews in Biomedical Engineering

Call for Papers

A Special Issue/Section on “**Advanced and Intelligent Technology for Dementia Care: Theory, Methods, and Applications**”

Utilizing modern advanced information and intelligence technology in dementia care has offered promising solutions for efficiently delivering many kinds of health services to dementia patients, related to non-invasive and cost-effective tools for early detection and identification of aetiology and risk factors, innovative systems with application to effectively monitor the progression of disease, new use of design in helping people with dementia to engage socially and improve subjective well-being, cost-effective point-to-care technologies for dementia sufferers. The successful utilization of these technologies in dementia care will enable faster and safer behaviour monitoring and intervention delivery, optimal response to health behaviour trajectory, lower overall cost and enhanced sustainability. While a large volume of high quality, innovative technology research is ongoing to improve dementia care, so far there has been little benefit because research has generally been limited, small scale and methodologically flawed. It is highly demanded to conduct some systematic and in-depth reviews of engineering methodologies and applications in dementia care, to bridge the gap between knowledge and practice.

The special issue aims to publish original and significant papers that present the reviews of theories, methods and applications of utilizing advanced and intelligence technology for improving the efficiency, sustainability and reliability of dementia care. The central theme is on the development and application of *Advanced and Intelligent Technology for Dementia Care*, where current theories, approaches, applications to leverage technology to improve dementia care will be well discussed. The theme of the special issue (SI) is especially focused on the four major aspects: 1) Innovate wearable technology for accurately monitoring functionality decline of dementia patient. 2) Latest image processing technique in early detection and prediction of dementia. 3) Cost-effective platform for enhancing the communication and interaction between dementia patients and their care givers. 4) Intelligent reasoning techniques for offering personalized recommendation to dementia sufferers. The SI aims to present the state-of-the-art research in utilizing advanced and intelligence technology for dementia care, and to provide a forum for experts to disseminate their recent advances and views on future perspectives in the field. We focus on the cross disciplinary approaches, solutions, and initiatives rather than single disciplinary approaches. Submissions of scientific results in academia, industry and clinic research worldwide are strongly encouraged. Topics to be covered include, but are not limited to,

- Advanced behaviour model and theories for understanding dementia symptoms
- Sensing and imaging techniques for detecting and differentiating dementia sub-types
- Innovative wearable techniques for quantitative measurement of disease progression of dementia
- Assistive technologies for improving the quality of life of people with dementia
- Mobile healthcare platforms for dementia patient self-management
- Intelligent reasoning techniques for offering personalized recommendation to dementia sufferers
- Design and development of applications for monitoring daily behaviour for changes
- Machine learning and microsimulation techniques for prognosis of dementia
- Artificial intelligence techniques enabled health informatics for dementia management

Important Dates

Submission deadline: June 30, 2018

Completion of first round of reviews: August 15, 2018

Revised manuscript submission: September 15, 2018

Notification of final decision: October 15, 2018

Final manuscript submission: November 15, 2018

Paper should be submitted with a cover letter that contains the statement: “This manuscript is being submitted to the Special Issue: **Advanced and Intelligent Technology for Dementia Care: Theory, Methods, and Applications**”. For detailed submission information, please refer to “Information for Authors” at <https://rbme.embs.org/information-for-authors/>

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