

## Special Issue on **Speech and Language in Age-Related Cognitive Impairments**

# CALL FOR PAPERS

Recent research on brain aging has increased its focus on detecting the earliest stages of incipient dementia as many clinical interventions have changed from treating severe symptoms to delaying their onset. Biomarkers such as beta amyloid or neuroimaging markers have been extensively examined as early indicators of the pathological process for dementia. However, assessing these biomarkers is expensive and challenging to apply in the larger community of presymptomatic older adults.

An alternative to biomarkers is behavioral markers which are much more easily obtained especially in large populations. Although the most common early deficits in cognition are observed in the memory domain, disruption in typical patterns of speech and language production and processing are widely observed in patients with Alzheimer's disease (AD) as well as in individuals in prodromal dementia states such as mild cognitive impairment.

These findings along with recent technological advances in the area of speech and natural language processing have opened a new research avenue of computer-aided diagnosis and assessment of age-related cognitive impairment. Computer-based assessment has significant advantages over conventional assessment including the reliability of objective scoring and reduced reliance on highly-trained personnel.

The objective of this special issue is to bring together scholars from speech and language processing, machine learning, and human-computer interaction with clinical researchers in neurology, psychology, and gerontology to form a cross-disciplinary forum for exchanging their recent findings related to speech, language, and cognitive impairments.

The scope of this special issue aims to cover various aspects of speech and language analysis in cognitive impairments with a focus on both basic and applied research in biomedical and human health applications.

Potential topics include but are not limited to the following:

- ▶ Speech and language biomarkers for detecting Alzheimer's disease, mild cognitive impairments (MCI), and age-related aphasia
- ▶ Automatic speaker recognition for older adults with neurodegenerative conditions
- ▶ Automatic assessment of verbal neuropsychological tests
- ▶ Computer-aided diagnosis of cognitive impairments based on speech and language
- ▶ Longitudinal analysis of speech measures in cognitively impaired individuals
- ▶ Speech and language assessment for early detection of neurological disorders in general (e.g., Alzheimer's, Parkinson, epilepsy, autism, and schizophrenia)
- ▶ Augmentative and alternative communication (AAC) for people with dementia

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/bn/slci/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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