

Special Issue on
**Computational Tools and Techniques for Early Diagnosis
and Screening of Geriatric Diseases**

CALL FOR PAPERS

The unflinching matter of aging has always been one of the most important issues facing the governments of developed countries. In general, the older segments of the population tend to require more care in the area of health than other age groups and therefore need a greater share of health related expenditure. Despite the generally good piecemeal approaches to prevention, diagnosis, and management of common chronic diseases, such as hypertension, diabetes, or cardiac ischemic diseases, the recognition, prevention, and management of geriatric syndrome are often less well performed. Geriatric syndrome is defined as a set of multifactorial conditions associated with deficits in clinical, psychosocial, and environmental domains. Future care of the elderly should be based on the ability to recognize and quantitatively assess early predictors of geriatric syndrome at the primary healthcare level in order to prevent, or limit, the latter development of geriatric syndrome. In cases where geriatric syndrome is established, quantitative techniques for monitoring the effectiveness of care and treatment of the disease are also necessary.

Usage of computational tools, new technical developments, and improvement in technologies involving wearable devices and sensors hold great promise for advancement of care systems for the elderly. Different academic disciplines have proposed a variety of meaningful advancements for both the initial screening, diagnosis, and care of different age-related diseases and disorders. Future potential exists for early screening and diagnosis of geriatric syndrome based on evaluation of continuous time-series data acquired during daily life, using analytical methods rooted in current mathematical, statistical, and computer science concepts/techniques. Such development of computational tools would herald a new era for both modeling and optimizing treatments of such diseases as sarcopenia, cognitive decline, mood disorder, frailty, and dependency, each of which is considered as a geriatric syndrome. This special issue will feature a number of thoughtful viewpoints on the present application of such computational tools with the goal of evaluating the current status quo through publication of research articles and review papers on the following topics.

Potential topics include but are not limited to the following:

- ▶ Sarcopenia
- ▶ Mild cognitive impairment and dementia
- ▶ Mood disorder
- ▶ Frail and fall
- ▶ Physical and mental health
- ▶ Sleep disorders/problems
- ▶ Parkinson's disease
- ▶ Wearable technology and ICT/IoT based system in disease early screening
- ▶ mHealth technologies for physical activity assessment
- ▶ Computational and statistical methods for early screening of geriatric syndrome
- ▶ Computer applications and mobile applications for healthcare in older people

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

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

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