Special Issue

Imaging and Modeling Alzheimer's Disease: The Quest for Mechanistic Understanding, Early Diagnosis, and Novel Treatments

Message from the Guest Editor

Alzheimer's disease (AD) is a prevalent and devastating neurodegenerative disorder that represents a grand challenge to human health and society. This Special Issue focuses on the application of multimodal neuroimaging (e.g., structural, diffusion, and functional MRI, MRS, PET, MEG, and EEG), multiscale modeling (molecular, cellular, circuit, network, and system models), and machine learning in order to gain a better mechanistic understanding of AD pathogenesis, identify more sensitive imaging biomarkers for early diagnosis, and infer better and novel treatment modality. Topics of interest include, but are not limited to, the following:
(1) imaging-based connectome analysis (structural and functional);
(2) PET-beta amyloid (Ab) and PET-tau biomarker evaluation;
(3) machine learning-based early detection of AD and prediction of AD progression;
(4) computational modeling and analysis of AD pathology (biophysical models, neural mass models, dynamic causal models, network diffusion models, and epidemic spreading models);
(5) imaging- or modeling-informed developments of novel treatment options such as non-invasive brain stimulation and deep brain stimulation.

Guest Editor

Dr. Guoshi Li

Department of Radiology, University of North Carolina, Chapel Hill, NC 27599, USA

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Biomedicines
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
biomedicines@mdpi.com

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Message from the Editor-in-Chief

Biomedicines (ISSN 2227-9059) is an open access journal devoted to all aspects of research on human health and disease, the discovery and characterization of new therapeutic targets, therapeutic strategies, and research of naturally driven biomedicines, pharmaceuticals, and biopharmaceutical products. Topics include pathogenesis mechanisms of diseases, translational medical research, biomaterial in biomedical research, natural bioactive molecules, biologics, vaccines, gene therapies, cell-based therapies, targeted specific antibodies, recombinant therapeutic proteins, nanobiotechnology driven products, targeted therapy, bioimaging, biosensors, biomarkers, and biosimilars. The journal is open for publication of studies conducted at the basic science and preclinical research levels. We invite you to consider submitting your work to Biomedicines, be it original research, review articles, or developing Special Issues of current key topics.

Editor-in-Chief

Prof. Dr. Felipe Fregni
1. Neuromodulation Center and Center for Clinical Research Learning, Spaulding Rehabilitation Hospital and Massachusetts General Hospital, Harvard Medical School, Boston, MA 02114, USA
2. Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA 02115, USA

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