Special Issue

AI-Based Holistic Structural Analysis and Designs

Message from the Guest Editor

Artificial neural network (ANN)-based designs are receiving attentions from many researchers around the world recently. ANNs demonstrate a learning and memory capability similar to that of the human brain, and we can use this extraordinary capability when designing structural systems. ANNs are developed to map inputs into outputs based on large structural design datasets for engineering applications rather than being based on structural mechanics or knowledge. This Special Issue invites papers investigating holistic structural designs with engineering applications based on ANNs. During designs, cost of materials and manufacture of concrete beam and columns can be also optimized, while considering constraints according to design codes and engineer's needs. Large datasets are generated based on structural mechanics-based software to train ANNs to optimize objective functions.

Guest Editor

Prof. Dr. Won-Kee Hong
College of Engineering, Kyung Hee University, Seoul, Korea

Deadline for manuscript submissions

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

mdpi.com/journal/materials

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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