



Special Issue “**Design Optimization of Civil and Mechanical Engineering Systems**”

Journal of Structural Design and Numerical Methods (JSDNM)

Guest Editors:

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He is reviewer for many reputed journals like Mechanism and Machine Theory (Elsevier), Journal of Mechanical Science and Technology (Springer and Korean Society of Mechanical Engineers), Journal of Advanced Manufacturing Systems (World Scientific Publishing), Journal of Engineering Design, Engineering Optimization (Taylor and Francis), International Journal of Mechanisms and Robotic Systems (Inderscience Publishers) and Scientia Iranica (Sharif University of Technology, Iran). His areas of interest are Mechanism design, Robotics, Evolutionary optimization techniques and Advance manufacturing methods.

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Call for Papers:

The optimization stage of the engineering design process is a systematic process using design constraints and criteria to allow the designer to locate the optimal solution. In an engineering design approach, both analysis and optimization are employed before any prototype work is started. The purpose of optimization is to achieve the “best” design relative to a set of prioritized criteria or constraints. These include maximizing factors such as productivity, strength, reliability, longevity, efficiency, and utilization. Engineers are often assigned design projects that require them to seek a solution that efficiently locates a design that meets the identified criteria within the given constraints.

The area of design optimization is where the performance of a design can be made drastically better than an initial naive implementation. Design optimization is an engineering design methodology using a mathematical formulation of a design problem to support the selection of the optimal design among many alternatives. Design optimization involves the following stages:

- a) Variables: Describe the design alternatives
- b) Objective: Elected functional combination of variables (to be maximized or minimized)
- c) Constraints: Combination of Variables expressed as equalities or inequalities that must be satisfied for any acceptable design alternative
- d) Feasibility: Values for the set of variables that satisfies all constraints and minimizes/maximizes Objective.

Practical design optimization problems are typically solved numerically and many optimization software exist in academic and commercial forms. There are several domain-specific applications of design optimization posing their own specific challenges in formulating and solving the resulting problems; these

include, shape optimization, wing-shape optimization, topology optimization, architectural design optimization, power optimization, supply chain optimization and flow optimization.

Full-length papers, case studies as well as reviews covering the design optimization of Civil and Mechanical engineering systems are welcome. The goal of this special issue “**Design Optimization of Civil and Mechanical Engineering Systems**” is to bring together the latest advances and developments in the optimization methods to design Civil and Mechanical engineering systems and processes. This special issue seeks to publish papers aimed at addressing significant issues and contributing toward the introduction of new concepts, methodologies, and knowledge in the optimization methods to design Civil and Mechanical Engineering systems and processes. We are happy to invite you to submit an article for the Journal of Structural Design and Numerical Methods (JSDNM) for a special issue “**Design Optimization of Civil and Mechanical Engineering Systems**”.

Original articles in the following topics are welcome for submission.

Civil Engineering: Construction material and Projects, Traffic operations, Economical design of structures and other relevant Civil engineering problems

Mechanical Engineering: Thermal, Fluid, Design and Manufacturing systems and processes and other relevant mechanical engineering problems

Evaluation by EiC:

Since this Special Issue will be organized by journal AEs therefore, the EiC will be responsible for evaluating the papers based on scope, feasibility, and technical merit. The decision on the Acceptance or Revision of Paper will be taken by EiC.

Manuscript Submission (Guidelines):

- Papers will be submitted through regular submission process: author can register by using the link <http://rationalpublication.com/registration.php> choosing **Journal of Structural Design and Numerical Methods**, after reading “Instructions to authors” through <http://rationalpublication.com/cs/es/instruction-to-authors.php> , thereafter, manuscript will be submitted through <http://rationalpublication.com/admin/login> , two files are required for submission: 1) Cover Letter (mention Special Issue “Optimization Techniques in Civil and Mechanical Engineering”); 2) Manuscript.
- The Managing AE will be responsible for organizing the view process. The review process will be the same as for the regular submission.

Suggested Time-line:

- Manuscript Submission Due: 31 October, 2020
- First Review Completed: 30 November, 2020
- Revised Manuscript Due: 31 December, 2020
- Second Revision Completed and Final Decision: 15 January, 2021
- Final Manuscript Due: 31 January, 2021

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