



materials



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Artificial Intelligence Instruments Applied in Materials Science

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Message from the Guest Editor

Artificial Intelligence (AI) tools are proving useful in various fields, the best known techniques being neural networks, for regression and classification problems, and evolutionary algorithms, for optimization problems. Modelling with neural networks is recommended in situations where the phenomenology of a process is not precisely known, but input–output data are available, reflecting the dependence between variables. Evolutionary algorithms offer a wide range of methods that can be applied to optimize processes or models developed for them. Another important aspect is related to the possibility of combining these techniques in hybrid soft-computing configurations that integrate the advantages of the individual techniques. In the field of materials modelling and optimization, AI techniques may allow both materials synthesis and the study of structure–properties relationships.

Topics of interest include, but are not limited to modelling with neural networks, optimization with evolutionary algorithms, hybrid AI techniques, and other AI activities and techniques applied in the field of materials



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Special issue



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Message from the Editor-in-Chief

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