



## Mathematical Problems in Materials Science

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### **Message from the Guest Editor**

Nowadays, material science has arrived into a new Era, where mathematics is a real challenge to get to the next level of understanding and predicting the material behaviours. These challenges are often focusing on the building of numerical models for materials at different scales from Macro, Meso to Nano scales that can help to predict the material responses efficiently. Metamodels often need to be updated to fit the experimental analysis and testing. Many approaches combined to finite element analysis are used at this stage to solve the parameter identification problems for instance. Among these methods : neural network, optimization methods either based on gradient or heuristic methods, artificial intelligence, deep learning, hybrid et multiscale analysis, inverse problem, image processing etc.

The purpose of this Special Issue is to gather a collection of articles presenting recent research dealing with Mathematical Problems in Materials Science. The contribution should underline the mathematical problem and the solution. Industrial applications that show the mathematical aspects in Materials Science are also welcome.





## Editor-in-Chief

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## Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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