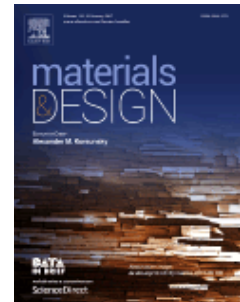




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### DESCRIPTION

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#### Aims & Scope of Materials & Design

Modern engineered materials play a central role in enabling technological designs that underpin, advance and revolutionise engineering practice. *Materials & Design* seeks to publish reports of materials research that present applicable advances in the insight into structure and function, and provide useable and reproducible recipes for the synthesis, preparation, characterisation, modelling and exploitation of new metallic alloys, ceramics, polymers, coatings, composites and bio-materials systems.

Today's products and their constituent components and structures have to meet increasingly stringent requirements during operation. The economic and human costs of failure during service impose a great deal of responsibility on organisations and individuals who select and integrate materials in a final engineering design. A critical feature of successful product development is the judicious selection of the best materials based on informed awareness of the capabilities and opportunities afforded by all candidates, coupled with a design that takes full advantage of their properties. A further aim of *Materials & Design* is to promote a greater knowledge and understanding of the attributes and capabilities of all types of modern engineering materials in the context of **engineering design**.

*Materials & Design* publishes a range of high quality peer reviewed research articles including full papers, short communications and technical reports, and occasional special issues, that investigate the **properties** of materials that influence or control any practical design. All types of **engineering materials** are considered, and all scales of **processing, analysis and design** from nano- and micro-scale devices and systems to large structural components. The content is broad and widely relevant to materials researchers, engineers and designers in academia and in industry.

The emphasis is placed on developing both practice and theory relevant to the field of **materials engineering and science**, with appropriate links established to processing, characterisation and simulation. To reflect the multidisciplinary nature of design, submissions to *Materials & Design* should offer information useful to professionals working in fields related to the immediate subject of the article.

Materials & Design brings together the overriding interest in the inherent architecture of solid matter with the practical need to know and use its properties to perform certain roles in service, either structural or functional. In reflection of this title, the journal is focused on the studies of natural and engineered materials, with particular emphasis on the elucidation of their structure and properties at

all scales, from nuclear and electronic to amorphous and crystalline levels of organisation, to nano-scale and micro-structuring aspects, and ultimately to the manner in which this manifests itself in the suitability and performance of materials in various natural and man-made systems and applications.

In order to help the authors, reviewers and editors identified those directions of research that match the existing and future thematic threads in Materials & Design, to compile a list of priority areas that are of particular interest to the readers of the journal. These are: Micro- and nano-scale multi-physics phenomena, and the analysis structure, morphology, and the role of interfaces in relation to design at all scales, e.g. electrochemical energy storage, phase transformation and associated processes Operando and in situ studies of processes and structural evolution Processing of alloys and compounds for microstructure and property control, e.g. friction stir and severe plastic deformation Lightweight materials, e.g. alloys containing magnesium and lithium, as well as composites of all types of matrix (polymer, metal and ceramic) and reinforcement, including continuous and discontinuous fibres, low aspect ratio inclusions and nano-structured reinforcements Multifunctional materials, e.g. alloys, polymers and ceramics displaying shape memory effects, as well as bio-composites, composites of green or sustainable origin, and biomimetic materials Intelligent materials design to optimise performance, including hierarchical microstructural optimisation, self-healing, energy absorption, for durability, against damage and environmental extremes

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## AUDIENCE

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Engineering scientists and materials researchers, design engineers, consulting engineers, project managers and technical managers.

## IMPACT FACTOR

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2015: 3.997 © Thomson Reuters Journal Citation Reports 2016

## ABSTRACTING AND INDEXING

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Original articles may also be forwarded to the journal as contributions to Special Issues and Virtual Special Issues, to which the same criteria apply as for regular original articles.

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The editors of *Materials & Design* may from time to time extend invitations to contribute **Review Articles** to prominent leaders in their respective research fields. Particular attention is also paid to articles that are not submitted as review type, but purport to present an overview, state-of-the-art summary, current opinion, etc. Such articles ought not simply to summarise the content of other publications on the subject, but contribute to the literature through being authoritative, critical, and preferably containing a re-assessment of published material through proposing new composite quantitative measures, re-classification of results, evaluation of performance of different solutions, etc.

For the reasons listed above, the editors prefer to invite subject-specific reviews, rather than receive them through the normal submission channel reserved for original articles. The invitation route ensures that the authors asked to submit reviews have appropriate track record of high visibility, high impact publication, and enjoy the standing in the field that will ensure that their opinion is received and read with interest, and cited by other researchers.

Review articles must contain a critical assessment of methods, approaches, published results and their reliability, rather than simply a compendium of articles and summary of their contents. In other words, a review must not only provide a snapshot of state of the art in the field, but also contain authoritative judgements (firmly based on the authors track record of publishing on the topic) and contribute to the consolidation of knowledge in the relevant area.

Authors submitting their work are encouraged to identify how their studies correspond to the priority areas of the journal, by indicating it in the Cover Letter and the text of their manuscript, referring to the [Editorial Note](#)

**Express Articles** contain short communications of particularly timely, innovative and exciting developments in materials science, engineering and design, usually of experimental nature. They must be extremely concise (not exceeding 1000 words) and contain a single illustrative image (Graphical Abstract in the form of a single high quality, high resolution image in portrait orientation, 2000x1000 pixels) that tells the story in a clear and visually striking way.

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[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, *J. Sci. Commun.* 163 (2010) 51–59.

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[2] W. Strunk Jr., E.B. White, *The Elements of Style*, fourth ed., Longman, New York, 2000.

Reference to a chapter in an edited book:

[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), *Introduction to the Electronic Age*, E-Publishing Inc., New York, 2009, pp. 281–304.

Reference to a website:

[4] Cancer Research UK, Cancer statistics reports for the UK. <http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/>, 2003 (accessed 13.03.03).

Reference to a dataset:

[dataset] [5] M. Oguro, S. Imahiro, S. Saito, T. Nakashizuka, Mortality data for Japanese oak wilt disease and surrounding forest compositions, Mendeley Data, v1, 2015. <http://dx.doi.org/10.17632/xwj98nb39r.1>.

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