

# Journal of Biomimetics, Biomaterials, and Tissue Engineering

Online available at <http://www.scientific.net>

## JBBTE Chief Editor:

A.J. Ruys, Biomedical Engineering, AMME J07, University of Sydney, NSW 2006, Australia.  
a.ruys@aeromech.usyd.edu.au

## JBBTE Editors:

S.X. Miao, Institute of Health and Biomedical Innovation (IHBI) and School of Engineering Systems, Queensland University of Technology, GPO Box 2434, Brisbane QLD 4001, Australia. x.miao@qut.edu.au

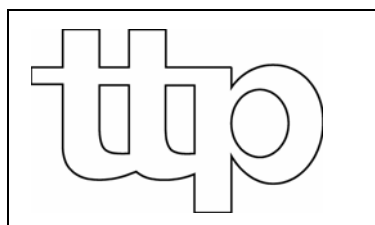
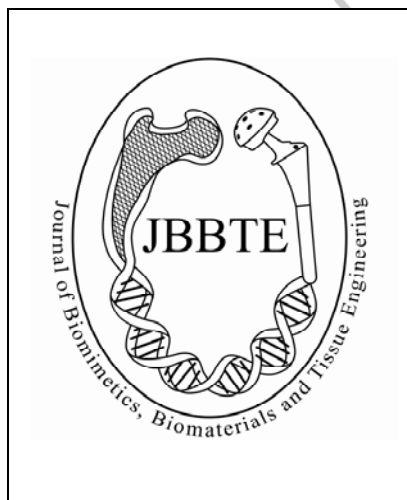
M. Wang, The University of Hong Kong, Department of Mechanical Engineering, Pokfulam Road, Hong Kong, China P.R. memwang@hku.hk

J. Whitelock, Graduate School of Biomedical Engineering, University of NSW, NSW 2052, Australia.  
j.whitelock@unsw.edu.au

H. Zreiqat, Biomedical Engineering, AMME J07, University of Sydney, NSW 2006, Australia.  
hzreiqat@usyd.edu.au

## JBBTE Editorial Board:

Khor Khiam Aik	Nanyang Technological University, Singapore
Besim Ben-Nissan	University of Technology Sydney, Australia
Colin Dunstan	University of Sydney, Australia
Margaret Evans	CSIRO Biomolecular Engineering, Australia
Qingling Feng	Tsinghua University, China
Takao Hanawa,	Tokyo Medical and Dental University, Japan
Luke Hanley	University of Illinois, USA
John Hunt	University of Liverpool, UK
Hyoun-Ee Kim	Seoul National University, Korea
Qing Li	University of Sydney, Australia
Simon X. Miao	Queensland University of Technology, Australia
Veronique Migonney	University of Paris 13, France.
Bruce Milthorpe	University of NSW, Australia
Toshiki Miyazaki	Kyushu Institute of Technology, Japan
Tan Lay Poh	Nanyang Technological University, Singapore
Laura Poole-Warren	University of NSW, Australia
Andrew Ruys	University of Sydney, Australia
Anne Simmons	University of NSW, Australia
Charles C. Sorrell	University of NSW, Australia
Vinoy Thomas	University of Alabama at Birmingham (UAB), USA
Min Wang	University of Hong Kong, Hong Kong
Mei Wei	University of Connecticut, USA
Wenjian Weng	Zhejiang University, China
John Whitelock	University of NSW, Australia
Chengtie Wu	University of Sydney, Australia
Yu Yan	University of Leeds, UK
Hong Zhou	Anzac Research Institute, Sydney, Australia
Hala Zreiqat	University of Sydney, Australia



TransTech Publications Ltd

105 Springdale Lane  
Millersville, PA 17551  
U.S.A.

Brandrain 6  
CH-8707 Uetikon-Zurich  
Switzerland

Email: [ttp@ttp.net](mailto:ttp@ttp.net)  
Fax: +1 717 872 4327  
<http://www.ttp.net>

# Journal of Biomimetics, Biomaterials, and Tissue Engineering

Online available at <http://www.scientific.net>

## Introduction

*Journal of Biomimetics, Biomaterials, and Tissue Engineering (JBBTE)* is an international journal published by TransTech Publications Ltd – one of the leading scientific publishers in the advanced materials realm. JBBTE reports the current achievements and forecast research trends in biomaterials and tissue engineering, which are underpinned by the scientific and engineering inspiration to be gleaned from biomimetics.

## Scope and Background

JBBTE is dedicated to publishing original research and expert review papers in the general areas of biomimetics, biomaterials, and tissue engineering. JBBTE is thus a multidisciplinary journal intersecting the areas of biology, biochemistry, materials science and engineering. While the editors will consider all manuscript submissions in these general areas, the intention of this journal is to explore the field of biomimetics and how it can be the key to scientific progress in the related areas of biomaterials and tissue engineering:

**Biomimetics** involves taking inspiration from nature in the development of technology. While the term "biomimetics" was coined some time ago, as a research field it is very new. Biomimetics involves the study and mimicking of natural processes, which may be useful in drug research, biomedical engineering, and unravelling the nanomachinery of life in general. Applied biochemistry and also mathematical and computational biochemistry are key tools in this regard. Biomimetics involves not only the design of new materials, but is also concerned with understanding the mechanisms by which natural materials achieve their material properties, from the information in the genome, to the nanostructure of life-forms and tissues, right up to the micro and macrostructure of natural biological structures. Biomimetics is a broad area, therefore the scope of this Journal will be principally confined to biomimetics as it relates to the fields of biomaterials and tissue engineering. However, broader research in the biomimetics field is also welcome.

**Biomaterials** relates to the study of biocompatible materials used for biomedical applications. It involves not only synthetic materials (e.g., biometals, biopolymers, bioceramics, and biocomposites), but also biological materials (e.g., proteins, cells, natural tissues, etc.). Biomaterials research encompasses various topics including: materials synthesis and characterisation, surface modification, biostability and biodegradation, and cell-material and/ or tissue-implant interactions. Typical biomaterials out of biomimetics include, but are not limited to, nano-biomaterials, smart biomaterials, hybrid biomaterials, nano-biocomposites, and hierarchically porous biomaterials.

**Tissue Engineering** is a newly emerging field that offers hope to people with compromised tissue function. Tissue engineering focuses on the construction of biological substitutes containing viable and functioning cells for the restoration, maintenance or improvement of tissue function. Tissue engineering embraces many research areas including: biomaterial scaffolds, stem cells, bioreactors, and cell biology. Tissue engineering is biomimetic in the sense that autografts are still the gold standard and the human body is a complex and sophisticated bioreactor.

## Peer Review

(JBBTE) is a periodical published biannually. Interested authors are requested to comply with the attached instructions for authors. Duplicate hard copies should be sent to the Chief Editor or the relevant Section Editors and a separate email containing soft copy sent to the Chief Editor.

## Internet

Journal of Biomimetics, Biomaterials, and Tissue Engineering is available online (<http://www.scientific.net>)

## Subscription Information

Journal of Biomimetics, Biomaterials, and Tissue Engineering (JBBTE) is a periodical published biannually by TransTech Publications Ltd. who can be contacted at <http://www.ttp.net>.

# Journal of Biomimetics, Biomaterials, and Tissue Engineering

## Instructions to Authors

### Author's checklist

- I followed TTP's author-instructions/sample-article. Please use only the fonts Times Roman (Times New Roman) and Helvetica (Arial) for the entire document including special characters (character map). Other fonts will cause the paper to reproduce incorrectly or may change a special character to a "square".
- I set the page settings of my word processor to the A4 format; with the margins: bottom 1.5 cm and top 2.5 cm or bottom 0.6 in and top 1 in. (**We shall be able to produce a pdf file from your paper only if the paper format and the margins are correct.**)
- I used good-quality white paper of approximately 21 x 29.7 cm or 8.2 x 11.6 in to print my paper (*please do not change the document setting from A4 to any other format as the article will print satisfactorily onto either of the above-mentioned paper sizes*).
- I sent an identical electronic file (RTF, MS Word, LaTeX) together with the hardcopy. (If the paper size and page set-up are not as described above, we shall be unable to publish your paper in electronic form on our web page: <http://www.scientific.net>. We shall then have to scan it which, when compared with an electronic version, results in very poor quality.)
- I have always used the same version of the name(s) (i.e. either F.A. Miller or Fred A. Miller or Fred Miller but not various versions alternately), as only the exact agreement of email and name will allow me to access my paper on the web.
- I included my email address and email addresses of co-authors in the paper.
- I filled out and signed the proper copyright transfer agreement (*mandatory*).
- I sent all of the above-mentioned documents to the corresponding editor**
- I filled out an offprint order form.
- I included color pictures and wish to have these printed in full color. Please bill me the additional charge of Euro 980.00 per page (*must be prepaid*).
  - I would like to also order \_\_\_\_\_ offprints (*these must be ordered before printing we will send you an invoice, post-printing orders will be reproduced in black and white only*)

Name/signature \_\_\_\_\_

Date \_\_\_\_\_

*Please transmit color page charges to*

Credit Suisse, Branch Meilen, 8706 Meilen, Switzerland, Clearing No. 4823: Account No. 339209-92-1, SWIFT Code: CRESCHZZ63A, IBAN CH60 0482 3033 9209 9200 1  
Or: Postal Checking Account: No. 45-982.1, Solothurn, Switzerland  
Our VAT No.: MWST 265 430

# Your Paper's Title Starts Here: Please Center use Helvetica (Arial) 14

First Author<sup>1, a</sup>, Second Author<sup>2, b</sup> and Others<sup>3, c</sup>

<sup>1</sup>Full address of first author, including country

<sup>2</sup>Full address of second author, including country

<sup>3</sup>List all distinct addresses in the same way

<sup>a</sup>email, <sup>b</sup>email, <sup>c</sup>email

**Keywords:** List the keywords covered in your paper. These keywords will also be used by the publisher to produce a keyword index.

*For the rest of the paper, please use Times Roman (Times New Roman) 12*

**Abstract.** This document explains and demonstrates how to prepare your camera-ready manuscript for *Trans Tech Publications*. The best is to read these instructions and follow the outline of this text. The text area for your manuscript must be 17 cm wide and 25 cm high (6.7 and 9.8 inches, resp.). Do not place any text outside this area. Use good quality, white paper of approximately 21 x 29 cm or 8 x 11 inches (please do not change the document setting from A4 to letter). Your manuscript will be reduced by approximately 20% by the publisher. Please keep this in mind when designing your figures and tables etc.

## Introduction

All manuscripts must be in English. Please keep a second copy of your manuscript in your office (just in case anything gets lost in the mail). When receiving the manuscript, we assume that the corresponding authors grant us the copyright to use the manuscript for the book or journal in question. Should authors use tables or figures from other Publications, they must ask the corresponding publishers to grant them the right to publish this material in their paper.

Use *italic* for emphasizing a word or phrase. Do not use boldface typing or capital letters except for section headings (cf. remarks on section headings, below). Use a laser printer, not a matrix dot printer.

## Organization of the Text

**Section Headings.** The section headings are in boldface capital and lowercase letters. Second level headings are typed as part of the succeeding paragraph (like the subsection heading of this paragraph).

**Page Numbers.** Do *not* print page numbers: Please number each sheet toward the middle near the bottom (outside the typing area) with a soft pencil.

**Tables.** Tables (refer with: Table 1, Table 2, ...) should be presented as part of the text, but in such a way as to avoid confusion with the text. A descriptive title should be placed above each table. The caption should be self-contained and placed *below or beside* the table. Units in tables should be given in square brackets [meV]. If square brackets are not available, use curly {meV} or standard brackets (meV).

**Figures.** Figures (refer with: Fig. 1, Fig. 2, ...) also should be presented as part of the text, leaving enough space so that the caption will not be confused with the text. The caption should be self-contained and placed *below or beside* the figure. Generally, only original drawings or photographic reproductions are acceptable. Only very good photocopies are acceptable. Utmost care must be taken to *insert the figures in correct alignment with the text*. Half-tone pictures should be in the form of glossy prints. If possible, please include your figures as graphic images in the electronic version. For best quality the pictures should have a resolution of 300 dpi(dots per inch

**Equations.** Equations (refer with: Eq. 1, Eq. 2, ...) should be indented 5 mm (0.2"). There should be one line of space above the equation and one line of space below it before the text continues. The equations have to be numbered sequentially, and the number put in parentheses at the right-hand edge of the text. Equations should be punctuated as if they were an ordinary part of the text. Punctuation appears after the equation but before the equation number, e.g.

$$c^2 = a^2 + b^2. \quad (1)$$

### Literature References

References are cited in the text just by square brackets [1]. (If square brackets are not available, slashes may be used instead, e.g. /2/.) Two or more references at a time may be put in one set of brackets [3,4]. The references are to be numbered in the order in which they are cited in the text and are to be listed at the end of the contribution under a heading *References*, see our example below.

### Summary

On your floppy disk, please indicate the format and word processor used. Please also provide your phone number, fax number and e-mail address for rapid communication with the publisher. Please *always* send your disk along with a hard copy that must match the disk's content *exactly*. If you follow the foregoing, your paper will conform to the requirements of the publisher and facilitate a problem-free publication process.

### References

- [1] Dj.M. Maric, P.F. Meier and S.K. Estreicher: Mater. Sci. Forum Vol. 83-87 (1992), p. 119
- [2] M.A. Green: *High Efficiency Silicon Solar Cells* (Trans Tech Publications, Switzerland 1987).
- [3] Y. Mishing, in: *Diffusion Processes in Advanced Technological Materials*, edited by D. Gupta Noyes Publications/William Andrew Publising, Norwich, NY (2004), in press.
- [4] G. Henkelman, G.Johannesson and H. Jónsson, in: *Theoretical Methods in Condensed Phase Chemistry*, edited by S.D. Schwartz, volume 5 of *Progress in Theoretical Chemistry and Physics*, chapter, 10, Kluwer Academic Publishers (2000).
- [5] R.J. Ong, J.T. Dawley and P.G. Clem: submitted to *Journal of Materials Research* (2003)
- [6] P.G. Clem, M. Rodriguez, J.A. Voigt and C.S. Ashley, U.S. Patent 6,231,666. (2001)
- [7] Information on <http://www.weld.labs.gov.cn>