

## Instructions to Authors

*Advanced Biomedical Engineering* is a vital new journal covering the full range of topics in biomedical engineering. The journal aims to be a forum for its global readership – which includes biomedical engineers, medical doctors, nurses, medical specialists and regulatory authorities – to connect, exchange information and increase their knowledge and skills.

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## AIMS & SCOPE

*Advanced Biomedical Engineering* (ABE) is an international, Open Access and fully peer-reviewed journal covering all areas of biomedical engineering. Supported by the Japanese Society for Medical and Biological Engineering (JSMBE), the journal aims to be a forum for exchanging information on new developments and ideas. ABE welcomes manuscripts describing rigorous research on topics including:

- biomedical signal processing and imaging
- bio-instrumentation and sensors applications
- informatics in healthcare and biomedicine
- cardiovascular and respiratory systems engineering
- neural and rehabilitation engineering
- cellular and tissue engineering
- biomechanics and robotics
- therapeutic and diagnostic technology
- clinical engineering
- regulatory science in biomedical engineering.

ABE publishes Review Papers, Original Papers, Research Letters and Technical Notes, which are freely available online. The journal's broad international audience includes biomedical engineers, clinicians, nurses, medical specialists (co-medicals) and regulatory authorities. Graduate students and young investigators, in particular those from developing countries, are encouraged to submit their manuscripts to ABE.

## MANUSCRIPT TYPES

The journal welcomes four manuscript types, all of which are subject to peer review.

### Review Papers

Review Papers are invited by the Editorial Board to provide comprehensive and insightful overviews of the latest advances in the field's technology and research. In addition, authors can send Review Paper proposals to the Editor-in-Chief. The length of Review Papers can vary depending upon their subject and scope, and is decided by the Editorial Board for each article.

### Original Papers

Original Papers are descriptions of new and significant research. The journal particularly welcomes interdisciplinary manuscripts that address issues of both medicine and engineering. The recommended length is not more than 4000 words.

### Research Letters

Research Letters are designed to present and report new concepts, new experimental phenomena, and other new findings or observations that merit early publication. The recommended length is not more than 2500 words.

Both Original Papers and Research Letters should contain the following elements: (i) purpose of the study and potential benefits in the application of the study's findings; (ii) support or evidence for the originality of the study; (iii) the experimental results or computations; and (iv) main outcomes of the study.

### Technical Notes

Technical Notes present information that is useful to ABE readers: for example, system design parameters and experimental results, as well as survey results related to medical and biological engineering. The recommended length is not more than 1500 words.

## JOURNAL & ETHICS POLICIES

ABE upholds the highest standards regarding research and publishing practice. This comprehensive suite of policies covers the main responsibilities of the journal's authors, reviewers, editors and publisher.

### Author responsibilities

#### Submission

ABE welcomes manuscript submissions from authors anywhere in the world.

Submission to the journal implies that all authors have read and approved the manuscript, have agreed to its submission, and have the right to publish their work.

Submission to the journal also implies that all authors have read and complied with the journal's policies on publication ethics. Authors of submitted manuscripts acknowledge that the journal's editors reserve the right to reject or retract any manuscript that they believe may breach any of these policies.

### Duplicate submission

Authors must not submit manuscripts that have been previously published (in part or in whole, in any language), or that are in press or under consideration for publication elsewhere.

Authors must inform the editors if any related manuscripts are under consideration, in press or published elsewhere. The availability of a manuscript on a publicly accessible preprint server does not constitute prior publication (see 'Preprints').

Note that manuscripts that have been published as Proceedings are considered prior publications. Proceedings articles often contain one or more pages, figures and tables and describe details of the research undertaken. Preprints (see below) or abstracts without figures or tables and less than 400 words are not considered prior publications.

If authors choose to submit their manuscript elsewhere before a final decision has been made on its suitability for publication in ABE, they should first withdraw it from ABE.

### Originality

Submission to the journal implies that the manuscript is original work. The journal may use software to screen manuscripts for unoriginal content. By submitting a manuscript to the journal, authors agree to this screening. Any manuscript with an unacceptable level of unoriginal material may be rejected or retracted at the editors' discretion.

### Preprints

To support the wide dissemination of research, the journal encourages authors to post their research manuscripts on community-recognized preprint servers, either before or alongside submission to the journal. This policy applies only to the original version of a manuscript that describes primary research. Any version of a manuscript that has been revised in response to reviewers' comments, accepted for publication or published in the journal should not be posted on a preprint server. Instead, forward links to the published manuscript may be posted on the preprint server.

### Scooping

When assessing the novelty of a manuscript submitted to the journal, the editors will not be influenced by other manuscripts that are posted on community-recognized

preprint servers after the date of submission to ABE (or after the date of posting on a preprint server, if the manuscript is submitted to the journal within 4 months).

### Authorship

Authors are responsible for their published work and must follow the International Committee of Medical Journal Editors (ICMJE) Recommendations on 'Defining the Role of Authors and Contributors'. The journal's authorship policy follows the four ICMJE author criteria, which are that each author:

- 1) contributed substantially to the conception or design of the work, or the acquisition, analysis, or interpretation of data.
- 2) drafted the work or revised it critically for important intellectual content.
- 3) approved the version to be published.
- 4) agrees to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are addressed appropriately.

Note that authors should meet all the criteria above; those who do not meet all criteria should be mentioned in the Acknowledgements section, not added as an author. In addition, authors must be able to identify who is responsible for all parts of the submitted work.

The corresponding author is the author who takes primary responsibility for communications with the journal's editors or the Editorial Office.

Submission to the journal implies that all authors have seen and approved the author list. Changes to the author list after manuscript submission – such as the insertion or removal of author names, or a rearrangement of author order – must be approved by all authors and the editor.

### Image integrity

Authors may digitally manipulate or process images, but only if the adjustments are kept to a minimum, are applied to the entire image, meet community standards, and are clearly described in the manuscript. All images in a manuscript must accurately reflect the original data on which they are based. Authors must not move, remove, add or enhance individual parts of an image. The editors reserve the right to request original, unprocessed images from the authors. Failure to provide requested images may result in a manuscript being rejected or retracted.

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Copies of all reproduction permissions must be included with the manuscript when it is first submitted to the journal.

### Availability of data and materials

Authors must disclose the source of publicly available data and materials, such as public repositories or commercial manufacturers, by including accession numbers or company details in their manuscript, as appropriate. Uploading the data to the data repository, J-STAGE Data, is recommended. No additional fee will be charged to authors for uploading data to J-STAGE Data.

Authors may make their own data and materials available in Supplementary Material, or by linking from their manuscript to relevant community-recognized public databases or digital repositories. All data sets must be made available in full to the editors and reviewers during the peer review process, and must be made publicly available by the date of publication. Authors commit to preserving their data sets for at least five years from the date of publication in the journal.

The journal encourages authors to grant reasonable requests from colleagues to share any data, materials and experimental protocols described in their manuscript.

### Animal/human experimentation

Authors of manuscripts describing experiments involving humans or materials derived from humans must demonstrate that the work was carried out in accordance with the principles embodied in the Declaration of Helsinki, its revisions, and any guidelines approved by the authors' institutions. Where relevant, the authors must include a statement in their manuscript that describes the procedures for obtaining informed consent from participants regarding participation in the research and publication of the research. Anonymity must be strictly maintained for the protection of personal information.

Authors of manuscripts describing experiments involving animals or materials derived from animals must demonstrate that the work was carried out in accordance with the guidelines approved by the authors' institution(s). In addition, the research must be undertaken in accordance with applicable international and national laws and guidelines.

The Editorial Board reserves the right to reject manuscripts when high ethical standards are not maintained, even if formal approval for work has been obtained.

### Clinical trial registration

The journal adheres to the International Committee of Medical Journal Editors (ICMJE) policy on [Clinical Trials Registration](#) and the [CONSORT statement](#), which recommend that all clinical trials are registered in a public trials registry in a standard format, at or before the time

of first patient enrollment, as a condition of consideration for publication. Manuscripts describing clinical trials must include the registration number of the trial and the name of the trial registry.

### Reporting guidelines

The journal requires authors to follow the EQUATOR Network's [Reporting Guidelines](#) for health research. Study types include, but are not limited to, randomized trials, observational studies, systematic reviews, case reports, qualitative research, diagnostic and prognostic studies, economic evaluations, animal pre-clinical studies and study protocols.

Authors of systematic reviews and/or meta-analyses are required to follow the PRISMA Guidelines.

### Conflicts of interest

In the interests of transparency, the journal requires all authors to declare any conflicts of interest in relation to their submitted manuscript.

A conflict of interest exists when there are actual, perceived or potential circumstances that could influence an author's ability to conduct or report research impartially. Potential conflicts include (but are not limited to) competing commercial or financial interests, commercial affiliations, consulting roles, or ownership of stock or equity. If in any doubt, please contact the journal's Editorial Office.

Each author must complete and submit a Conflict of Interest Disclosure Form, and the corresponding author should upload all the forms as a PDF file when submitting a manuscript. This form can be downloaded from [https://abe-journal.org/COI\\_Form.docx](https://abe-journal.org/COI_Form.docx).

A declaration should also be included in the 'Conflicts of Interest' section of each manuscript (see the Manuscript Preparation section for more details). If the authors have no conflicts of interest, they should declare as follows in the Conflicts of Interest section of the manuscript: "The authors declare no conflicts of interest with any companies or commercial organizations per the definition of Japanese Society for Medical and Biological Engineering."

Authors should list all funding sources for their work in the Acknowledgements. For each funding source, both the research funder and the grant number should be given.

### Confidentiality

The journal maintains the confidentiality of all unpublished manuscripts. Further, ABE recognizes that manuscripts submitted to the journal are privileged communications and are authors' private and confidential property. ABE keeps the editorial process confidential, including whether a manuscript has been received or under review, the contents, the status of review, and any criticism provided by reviewers. Reviewers of ABE also agree to keep the review process confidential.

By submitting their manuscript to the journal, the authors warrant that they will keep all correspondence about their manuscript (from the Editorial Office, editors and reviewers) similarly in strict confidence.

## PEER REVIEW PROCESS

### Editorial and peer review process

The journal uses single-blind peer review. When a manuscript is submitted to the journal, it is assigned to the Editor-in-Chief, who performs initial screening. Manuscripts that do not fit the journal's scope or are not deemed suitable for publication are rejected without review.

The remaining manuscripts are assigned to one of the journal's Editorial Board Members (hereafter the member is referred to as Editor), who is responsible for the peer review process. The assigned Editor invites two reviewers who are selected according to the field of the submitted manuscript. If the opinions of the reviewers diverge greatly, a third reviewer may be asked to review the manuscript. The deadline for submission of the reviewers' reports varies by article type.

When the reviewers' reports are returned, the Editor prepares a decision recommendation based on the manuscript, the reviewers' reports, and the acceptance criteria (as described in the section below). The Editor-in-Chief then makes the first decision. If the decision is to request revision of the manuscript, authors have 3 months to resubmit their revised manuscript. Revised manuscripts submitted after this deadline will be withdrawn and treated as new submissions.

The Editor may send revised manuscripts to peer reviewers for their feedback or may use his or her own judgement to assess if the authors have adequately attended to the Editor's and the reviewers' comments on the original manuscript. The Editor then makes a recommendation to the Editor-in-Chief on the manuscript's suitability for publication. The Editor-in-Chief is responsible for making the final decision on each manuscript. It should be noted that a second round (or more) of revisions may be required if necessary.

The members of the International Advisory and Editorial Boards act in advisory roles, providing feedback as reviewers and making suggestions to improve the journal. In cases where the Editor-in-Chief is an author on a manuscript submitted to the journal, a member of the Editorial Board is responsible for making the final decision on the manuscript's suitability for publication in the journal.

### Acceptance criteria

If a manuscript satisfies the journal's requirements and represents a valuable contribution to the published literature, the Editor may recommend acceptance for publication in the journal.

In brief, the acceptance criteria are that articles published in ABE are:

- within the subject area as outlined in the Aims and Scope
- novel and important to the field
- scientifically, ethically, and otherwise rigorous
- of interest to the journal's broad audience, even if focused on a local or regional scale
- thoughtfully constructed and well written in English

If a manuscript does not meet the journal's requirements for acceptance or revision, the Editor may recommend rejection.

### Reviewer suggestions

When submitting a manuscript to the journal, authors may suggest reviewers that they would like included in or excluded from the peer review process. The Editor may consider these suggestions but is under no obligation to follow them. The selection, invitation and assignment of peer reviewers is at the Editor's sole discretion.

### Reviewer reports

It is the journal's policy to transmit reviewers' comments to the authors in their original form. However, the journal reserves the right to edit reviewers' comments, without consulting the reviewers, if the Editor or Editor-in-Chief judges it necessary. For example, if the comments contain offensive language, confidential information or recommendations for publication.

### Editorial independence

The JSMBE has granted the journal's Editorial Board complete and sole responsibility for all editorial decisions. The society executive will not become involved in editorial decisions, except in cases of a fundamental breakdown of process.

Editorial decisions are based only on a manuscript's scientific merit and are kept completely separate from the journal's other interests. The authors' ability to pay any publication charges has no bearing on whether a manuscript is accepted for publication in the journal.

### Appeals

Authors who believe that an editorial decision has been made in error may lodge an appeal with the Editorial Office. Appeals are considered only if the authors provide detailed evidence of a misunderstanding or mistake by a reviewer or editor. Appeals are considered carefully by the Editor-in-Chief, whose decision is final.

### Editor / publisher responsibilities

#### Confidentiality

The journal maintains the confidentiality of all unpublished manuscripts. Editors will not:

- disclose a reviewer's identity unless the reviewer makes a reasonable request for such

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- discuss the manuscript or its contents with anyone not directly involved with the manuscript or its peer review
- use any data or information from the manuscript in their own work or publications
- use information obtained from the peer review process to provide an advantage to themselves or anyone else, or to disadvantage any individual or organization.

### Conflicts of interest

A conflict of interest exists when there are actual, perceived or potential circumstances that could influence an editor's ability to act impartially when assessing a manuscript. Such circumstances might include having a personal or professional relationship with an author, working on the same topic or in direct competition with an author, or having a financial stake in the work or its publication.

Members of the journal's Editorial Board undertake to declare any conflicts of interest when handling manuscripts. An editor who declares a conflict of interest is unassigned from the manuscript in question and is replaced by a new editor.

### Errata and retractions

The journal recognizes the importance of maintaining the integrity of published literature.

A published article that contains an error may be corrected through the publication of an Erratum. Errata describe errors that significantly affect the scientific integrity of a publication, the reputation of the authors, or the journal itself. Authors who wish to correct a published article should contact the editor who handled their manuscript or the Editorial Office with full details of the error(s) and their requested changes. In cases where co-authors disagree over a correction, the Editor-in-Chief may consult the Editorial Board or external peer reviewers for advice. If an Erratum is published, any dissenting authors will be noted in the text.

A published article that contains invalid or unreliable results or conclusions, has been published elsewhere, or has infringed codes of conduct (covering research or publication ethics) may be retracted. Individuals who believe that a published article should be retracted are encouraged to contact the journal's Editorial Office with full details of their concerns. The Editor-in-Chief will investigate further and contact the authors of the published article for their response. In cases where co-authors disagree over a retraction, the Editor-in-Chief may consult the Editorial Board or external peer reviewers for advice. If a Retraction is published, any dissenting authors will be noted in the text. The decision to publish an Errata or a Retraction is made at the sole discretion of the Editor-in-Chief.

### Editors' own publications in the journal

Any member of the journal's Editorial Board who is an author on a submitted manuscript is automatically excluded from the peer review process. Within the journal's online manuscript submission and tracking system, they will be able to see their manuscript as an author but not as an editor, thereby maintaining the confidentiality of peer review.

Any manuscript authored by an editor of ABE undergoes the same standards of peer review and editorial decision making as any manuscript submitted to the journal.

### Responding to potential ethical breaches

The journal responds to allegations of ethical breaches by following its own policies and, where possible, the [guidelines](#) of the Committee on Publication Ethics.

### Reviewer responsibilities

#### Confidentiality

As part of their responsibilities, reviewers agree to maintain the confidentiality of unpublished manuscripts at all times. By accepting the invitation to review a manuscript, reviewers agree not to:

- disclose their role in reviewing the manuscript
- reveal their identity to any of the authors of the manuscript
- discuss the manuscript or its contents with anyone not directly involved in the review process
- involve anyone else in the review (for example, a post-doc or PhD student) without first requesting permission from the Editor
- use any data or information from the manuscript in their own work or publications
- use information obtained from the peer review process to provide an advantage to themselves or anyone else, or to disadvantage any individual or organization.

#### Conflicts of interest

A conflict of interest exists when there are actual, perceived or potential circumstances that could influence a reviewer's ability to assess a manuscript impartially. Such circumstances might include having a personal or professional relationship with an author, working on the same topic or in direct competition with an author, having a financial stake in the work or its publication, or having seen previous versions of the manuscript.

Editors try to avoid conflicts of interest when inviting reviewers, but it is not always possible to identify potential bias. Reviewers are asked to declare any conflicts of interest to the Editor or Editorial Office, who will determine the best course of action.

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## FEES

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## J-STAGE Data

### Publication of data

Authors can publish the data underlying the reported findings in their manuscript by uploading the data to the data repository (J-STAGE Data), which is operated by the Japan Science and Technology Agency (JST). A DOI will be assigned to the published data.

### Attribution of data

Copyrights of the data belong to the authors or the institution to which the authors belong.

### Data that can be published

The following data that underlie findings reported in a manuscript will be published:

- Data summarized in a general format, including tables and numerical data obtained from surveys, observations, experiments, and analyses
- Graphical data and image data including photographs, still images, and moving images
- Software codes and protocols used in experiments, analyses, and investigations
- Numerical information presented in published papers, books, and other publications, as well as numerical values in materials published by national or local government or other sources, which have been cited by the authors
- Data permitted to be published by the Editorial Board of the JSMBE

### Data that cannot be published

Personal notes, research notebooks, research journals, minutes of meetings of research groups, and data deemed unsuitable for publication by the Editorial Board of the JSMBE will not be published.

### Conditions for data release

Regarding the conditions of data release, if the university or institution to which the author belongs has a data policy, or if there is an agreement on data release in a joint research contract, the author should comply with that policy or agreement. The user license of the data (conditions for use by third parties) is in principle CC BY-NC-ND 4.0 of the Creative Commons license (use of the published article data should be limited to non-commercial purposes, no modification is allowed, and the results should not be used for any other purposes). However, authors may choose to use other Creative Commons licenses. As per the standard condition of Creative Commons licenses, due credit has to be attributed to the author and the source.

### Data loading and review

Authors should upload the data they wish to publish, together with the metadata, to J-STAGE Data using the method specified by the Editorial Board of the JSMBE. The Editorial Board of the JSMBE will review the contents of the metadata and the format of the uploaded data, and may instruct the author(s) to revise and reupload the data as necessary. The contents of the data are the responsibility of the author or the university or institution to which the author belongs.

### Other details

For other details, authors should follow the instructions of the Editorial Board of the JSMBE and the J-STAGE Data Policy stipulated by the JST.

### Self-archiving (Green Open Access) policy

Self-archiving, also known as Green Open Access, enables authors to deposit a copy of their manuscript in an online repository. ABE encourages authors of original research manuscripts to upload their published article to an institutional or public repository immediately after publication in ABE.

## MANUSCRIPT SUBMISSION

All manuscripts must be submitted via the journal's online submission system, Editorial Manager: <http://www.editorialmanager.com/abe/default.aspx>. Authors should convert the submission form (available at the relevant [ABE webpage](#)) manuscript text, and tables and figures into one PDF file for upload to the system.

## MANUSCRIPT PREPARATION

When preparing their manuscript, authors may use a 'format-free' style. See below for more details. Authors unfamiliar with preparing their manuscript can also use the journal template to construct the manuscript, available at the relevant [ABE webpage](#).

### English standard

All manuscripts should be written in clear, grammatically and technically correct English. Authors whose native language is not English must provide a certificate (or invoice) of English editing from a professional editing company, or certification that the manuscript has been English edited by an accredited or specialist editor. If you are unable to submit a certificate, please contact the Editorial Office.

If a manuscript is not clear due to poor English, it may be returned to the authors without peer review.

### Format-free submission

Authors may prepare their manuscript in any format or layout, and may place figures and tables within the text. If using the format-free approach, authors must ensure that their manuscript can be readily assessed by editors

and reviewers.

All manuscripts must contain the essential elements needed to assess its suitability, such as title page, authors and affiliations, keywords, introduction, materials & methods, results, discussion, and figures and tables with captions. More details on these elements are provided in the following sections.

In addition, authors must comply with article length limits, which are provided in the 'Manuscript Types' section of these instructions.

### Title page

The first page should be the title page, which should include the title of the manuscript, the names of the authors, and their affiliations. In addition, you should supply an abbreviated title for the manuscripts, the Abstract and the Keywords.

### Title

The title should be informative, but concise; note that it is important for searching by third-party services. Do not use the same main title with numbered minor (serial) titles, even for a series of manuscripts by the same authors. Do not use abbreviations in the title, except those used generally in related fields.

### Authors

Provide the full given and family names, with initials for middle names, of the author(s). All surnames must be fully capitalized.

### Affiliations

Provide full names and addresses of institutions (including laboratory, department, institute and/or university, city, state and country). When authors belong to different institutions, their respective addresses should be indicated by superscript numbers. When authors have new addresses, they should be given in a footnote and indicated by superscript symbols (such as \* and \*\*).

### Keywords

A maximum of five keywords should be provided. Do not repeat words from the manuscript title.

### Running title

If the title exceeds 50 characters (including spaces), add a running title following the affiliations. The running title should not exceed 50 characters, including spaces.

### Footnotes

Footnotes should be indicated by symbols such as <sup>1</sup> and <sup>2</sup>, and the details placed at the bottom of the relevant page. The use of footnotes should be kept to a minimum.

### Abbreviations and units

Each abbreviation should be defined in parentheses together with its non-abbreviated term when it first appears in the text (except in the Title and Abstract).

SI units must be used when reporting data, as far as is possible. Use italic font for symbols expressing quantities. Use non-italic font for units and symbols of elements.

### Abstract

The Abstract should clearly express the basic content of the manuscript in a single paragraph and should include the problem addressed, experimental approach, main results and conclusions. Abstracts must not exceed 350 words for all article types. Avoid using specific abbreviations or citing figures or tables. Structured abstracts cannot be accommodated. If it is essential to refer to a previous publication, omit the article title (e.g. Kawada T, Mukkamala R, Sugimachi M: *Adv Biomed Eng.* **8**, 110-123, 2019).

### Introduction

The Introduction is important as it allows the reader and reviewers the opportunity to understand the novelty and potential scientific validity of the article.

The Introduction should provide enough background information to allow the reader to understand the aims and purpose of the research and the relationship to previous studies, and to provide a clear definition of the problem identified from those studies. In addition, it can be useful if the author describes the overall strategies used to solve the defined problem.

Extensive reviews of the literature or repetition of well-known concepts and information are not necessary.

### Materials and methods

The description of the methods should be brief, but it must include sufficient detail to enable experiments or procedures to be repeated. The sources of unusual chemicals, animals, microbial strains or equipment should be described, and the location (city, country) of the manufacturer or supplier should be provided in parentheses. Use equations and figures appropriately and describe them concisely.

If theoretical explanations are necessary, only include text relevant to the question(s) being tested in the manuscript and cite appropriate references in lieu of long explanations.

### Results

This section describes the results of the work, particularly those that are later referenced in the Discussion. Tables and figures, including photographs, can be used to present experimental results (see below). Excessive explanations of the data presented in tables and figures should be avoided. If it is necessary to compare multiple sets of results, present them in the same figure or table to facilitate comparison.

### Discussion

In the Discussion, the authors should place their results

into context and assert the validity of their approach. Any limitations to the study, or any contradictory results, should be explained where possible. Avoid repeating information previously presented in the Introduction or Results sections.

### Conflicts of interests

Authors must declare all competing interests, as described in the 'Conflicts of interest' section in these Instructions to Authors.

### Ethics declaration

If the research reported in a manuscript was conducted on animal or human subjects, the authors must include statements concerning their ethical treatment and conduct. Documentary evidence that the authors have complied with research ethics guidelines, such as ethics committee approvals, must be supplied with the manuscript.

Example 1): This study was conducted in accordance with the ethical principles of the Helsinki Declaration, and after obtaining informed consent from each subject. The study was approved by the [ethics committee] of [the affiliated institution].

Example 2): This study was conducted in accordance with the Fundamental Guidelines for Proper Conduct of Animal Experiment and Related Activities in Academic Research Institutions. The study was approved by the [ethics committee] of [the affiliated institution].

Example 3): This study was conducted in accordance with the Ethical Guidelines for Human Genome/Gene Analysis Research by the Ministry of Education, Culture, Sports, Science and Technology; the Ministry of Health, Labour and Welfare; and the Ministry of Economy, Trade and Industry (Japan), and was approved by the [ethics committee] of [the affiliated institution].

### Acknowledgments

This section should be brief. Authors should list all funding sources for their work in the Acknowledgments section.

### References

Authors are encouraged to include as many references as necessary to support statements or facts, establish the precedence of ideas, provide context, and demonstrate community interest in the subject area. In addition, conflicting reports should be noted where and as relevant.

The journal uses a modified Vancouver referencing style. In the main text, cite references in numerical order by order of citation, using square brackets e.g. [1], [3, 4], or [7–10]. References are restricted to scholarly



published material that can be found with standard services. Avoid references that are difficult to access or not easily discoverable. Examples of documents that cannot be cited as references include company data, unpublished manuscripts, unpublished theses, private letters, catalogues, and personal communications.

In the References section, list the surnames and initials of all authors in the author list. Provide the full publication titles, but abbreviate journal names following PubMed style. Write the volume number in bold letters. For details, see the following examples.

#### **Article in journal:**

[1] Hohne KH, Bernstein R: Shading 3D-images from CT using gray-level gradients. *IEEE Trans Med Imag.* **5**(1), 45–47, 1986.

#### **Book:**

[2] Born M, Wolf E: Principles of Medical Engineering, 2nd ed. Pergamon Press, New York, pp. 69–94, 1988.

#### **Chapter in book:**

[3] Chandler S: Adaptive model control applied to real time blood pressure regulation. In: Black C ed. *Pattern Recognition and Machine Learning*, McGraw-Hill, Berlin, pp. 310–324, 1985.

#### **Proceedings and others:**

[4] Heel N: Automated blood pressure control using a self-tuning regulator. *Proc of NCGA'S Computer Graphics Conference '87*, Vol. 2. Am Med Eng Soc., New York, pp. 152–161, 1988.

#### **Patents:**

[5] White AG: US Patent No. 1234567. 1982.

#### **Online article:**

[6] Web page or author (for PDF, etc.): Name of web page or name of document (for PDF, etc.) <Web address> [date accessed].

e.g. Advanced Biomedical Engineering: Instructions to Authors. <<https://abe-journal.org/submission/>> [accessed on January 1, 2020].

#### **Figures and tables**

Embed all figures and tables in the text at appropriate locations in appropriate sizes and formats that mirror the potential appearance in the PDF version.

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