



*LaTeX 2<sub>ε</sub> class file*

## How to use `bppb.cls` for the Biophysics and Physicobiology

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The biophysical society of Japan provides a  $\text{LaTeX}$  2<sub>ε</sub> class file, named `bppb.cls`, for the Biophysics and Physico-biology (BPPB). This document describes how to use the class file. `pdflatex` is recommended when compiling. It is faster than `(u)platex`. But, remember the followings, `pdflatex` can't understand 'zw' unit of measure. Therefore, errors will occur when compiling by loading Japanized style files.

**Key words:**  $\text{LaTeX}$  2<sub>ε</sub>, class file

### ◀ Significance ▶

This document does not explain the general usage of  $\text{LaTeX}$  2<sub>ε</sub>. For information on how to use  $\text{LaTeX}$  2<sub>ε</sub>, it is recommend for you to refer to the following URL (in Japanese).

<https://texwiki.texjp.org/>

## Introduction

This document is written toward authors who have already read “Instructions for Authors” ([https://www.biophys.jp/biophysics\\_and\\_physicobiology03.html](https://www.biophys.jp/biophysics_and_physicobiology03.html)).

Subsection “Some Example about `\(C)authorentry` and `\(C)affiliate`” explains how to typeset those commands in some exceptional cases.

## How to Typeset Manuscript

`template.tex` distributed with `bppb.cls` can be used.

### How to Typeset a Preamble

```
\documentclass[fleqn]{bppb}
\usepackage{amsmath}
\usepackage[defaultsup]{newtxtext}
\usepackage[varg]{newtxmath}
\usepackage{bm}
\usepackage{graphicx}% for pdflatex LuaLatex
%\usepackage[dvipdfmx]{graphicx}% for (u)platex
\usepackage{tikz}
\usepackage{tcolorbox}\tcbuselibrary{skins,breakable}
%\usepackage{xcolor}
```

Corresponding author: Taro Kagaku, Affiliation, City, Prefecture and Postcode, Country. ORCID iD: <https://orcid.org/0000-0000-0000-0000>, e-mail: name@address

```
%\usepackage{array}
%%
\usepackage[pdftencoding=auto]{hyperref}% for pdflatex, Lualatex
%\usepackage[dvipdfmx, setpagesize=false]{hyperref}% for (u)platex
\hypersetup{%
  setpagesize=false,
  colorlinks=true,
  colorlinks=false,
  pdfborderstyle={/S/U/W 1},
  urlcolor=blue,
  urlbordercolor=blue,
  citecolor=black,
  citebordercolor=white,
  linkcolor=black,
  linkbordercolor=white,
}
\usepackage{cite}
```

- The fleqn option of \documentclass is required when you write displayed formulas.
- amsmath package is recommended for writing math formulas.
- newtxtext and newtxmath packages are required for typesetting by the Times font.
- bm package is required for producing bold mathematical symbols.
- graphicx package is useful if you want to insert some images in a document.

When you compile a document by using (u)platex, the following description is recommended.

```
\usepackage[dvipdfmx]{graphicx}
```

“dvips” option is not supported.

- tikz and tcolorbox packages are required for producing the title heading of the first page and the frame of “Significance”.
- color or xcolor, and array packages are not always necessary.
- hyperref package should be required for hyperlinked.

When you compile a document by using (u)platex, add the following options to hyperref.

```
\usepackage[dvipdfmx, setpagesize=false]{hyperref}
```

- cite package could be required. It compresses three or more consecutive numbers into a range using an en-dash, for example, from [1,2,3,4] to [1–4].

### How to Make the First Page

```
\begin{document}
%\Vol{19}
%\bpbdoi{0005}
\bppbcategory{Regular Articles}
\title[title for header]
  {Main title}
%\subtitle{}
\authorlist{%
  \authorentry{Hanako Butsuri}{BSJ}
  \Cauthorentry{Taro Kagaku}{BSJ}{https://orcid.org/0000-0000-0000-0000}{e-mail address}
}
\affiliate[BSJ]
  {affiliation and address (only city, prefecture and postcode, country)}
\Caffiliate[BSJ]
  {affiliation and address (only city, prefecture and postcode, country)}
  {affiliation and address (street address and number, town, city,
```

```

    prefecture and postcode, country))
%\breakauthorline{1,2,3}
%\received{2021}{11}{19}
%\accepted{2022}{3}{31}
%\released{2022}{4}{18}
%\Abbreviations{}
%\edited{Name}
\maketitle

\begin{abstract}
abstract here
\end{abstract}
\begin{keywords}
key words here
\end{keywords}

\begin{significance}
some significant texts
\end{significance}

\section{Introduction}
...
\section{Conflict of Interest}
...
\section{Author Contributions}
...
\section{Acknowledgements}
...
\begin{thebibliography}{99}
\bibitem{}
\end{thebibliography}

```

- \Vol command is not always necessary to be described in a submitted manuscript. It is prepared for a running head.
- \bppbdoi command is also prepared for the running head of the first page. It is not necessary for you to fill numbers before the manuscript is accepted.
- \bppbcategory command is prepared for categories of the journal, for example, “Regular Articles”, “Review Articles”, “Notes”, “Methods and Protocols”, “Databases and Computer Programs”, “Commentary and Perspective”, and “Editorial”.
- \title command is for the article title. You may use ‘\’ to break a long title.
  - Two arguments of the \title are used for the article title and the running title of odd pages. You don’t have to write an author’s name in the latter.  
`\title[running title]{title}`
  - The \subtitle command could be specified if required. You will get the following output.  
**Title: Subtitle**
- Outputs of author name(s), marks (number) of affiliation(s), affiliation(s) and address(es) are automatically generated by using \authorlist and \authoreentry commands.
  - \authoreentry or \Cauthoreentry must be described as arguments of the \authorlist command.
  - \authoreentry is used for an author who is not “Corresponding author”.  
`\authoreentry{name}{label}`  
 For example, it could be typeset as follows.  
`\authorlist{%  
 \authoreentry{Hanako Butsuri}{BSJ}  
 }`  
 The second argument is assigned for the label of author’s affiliation, corresponding to the label of \affiliate

command (described later). For example, an abbreviation can be given. No extra spaces should be added inside braces. For example, {BSJ} and {BSJ\_} are regarded as different labels.

When an author has two or more affiliations, the labels can be specified separated by commas (spaces should not be added).

```
\authorlist{%
\authorentry{Hanako Butsuri}{BSJ,BPPB}
}
```

- \Cauthorentry is used for an author who is “Corresponding author”. It is corresponding to a \Caffiliate command (described later).

```
\Cauthorentry{name}{label}{ORCID iD}{e-mail address}
```

For example, it could be typeset as follows.

```
\authorlist{%
\Cauthorentry{Taro Kagaku}{BSJ}
{https://orcid.org/0000-0000-0000-0000}
{name@address}
}
```

Third argument of \Cauthorentry is for ORCID iD which is hyperlinked to a specified URL. Forth argument is for an author’s e-mail address. Both arguments could be omitted.

After combining an author’s name and address which are specified by \Caffiliate, they are outputted on footer of the first page.

- Authors’ names are also used to generate headers of odd pages.

If there are two authors, for example, “Butsuri and Kagaku: Title” will be generated on headers of odd pages.

If there are three or more authors, for example, “Butsuri et al.: Title” will be generated.

- In the case of author’s name with a middle name, and number of authors is less than three, you must typeset as follows.

```
\(C)authorentry{First~Middle Second}
```

Keep in mind that you need to connect your first and middle names by tie ‘~’.

- \breakauthorline command is provided, if you would like to break the line of many author’s lists at any points.

```
\breakauthorline{num,num,num,...}
```

num must be a positive integer. If “3” is specified, the line-break will be occurred after the third author. If “3,6” is specified, line-breaks will be occurred after the third and sixth authors.

- Author’s affiliation and address is specified by using \authorlist or \Cauthorlist.

- Author’s affiliation and address which is not “Corresponding author” are described in the \affiliate as follows.

```
\affiliate[label]{affiliation and address}
```

The second argument is filled with an author’s affiliation and an address (only city, prefecture and postcode, country). Information about them is generated below author’s name(s) in the article title part.

- Corresponding author’s affiliation and address are described in the \Caffiliate as follows.

```
\Caffiliate[label]{affiliation and brief address}{affiliation and full address}
```

The second argument is same as \affiliate. The third argument is filled with the author’s affiliation and address (street address and number, town, city, prefecture and postcode, country). Information about them is generated on footer of the first page with author’s name, address, ORCID iD, and e-mail address.

\* The entry of \((C)affiliate must be put in the same order as labels of \((C)authorentry lists.

\* The first argument label must be the same as the 2nd argument of the \((C)authorentry.

If any labels of \((C)affiliate are different from those of \((C)authorentry, there will come a warning message on your terminal.

- \received command is provided to generate a date of receipt of a manuscript. \accepted command is provided to generate a date of an acceptance of a manuscript. In the case of “Released online in J-STAGE”, \released command is provided.

These descriptions is in the order of year/month/day. For example, information of them is assigned as follows.

```
\received{2021}{11}{19}
\accepted{2022}{3}{31}
\released{2022}{4}{18}
```

These commands should be commented out or left blank.

- `\Abbreviations` command is provided. If you want to write some abbreviations, it is useful. This abbreviations are outputted on footer of the first page
- `\edited` command is provided. It will be filled with editor's name after your paper is accepted for publication. It should be commented out or left blank.
- `\maketitle` command must come after these commands just before the main text begins.
- An abstract is described by the `abstract` environment. The length of abstract is no more than 250 words.
- Keywords are described by the `keywords` environment (up to five keywords).
- "Significance" is described by the `significance` environment.

#### Some Examples about `\(C)authorentory` and `\(C)affiliate`

- How to typeset "These authors contributed equally." on the footer of page 1 (from [18\\_bppb-v18.037.pdf](#)):

```
\authorlist{%
\authorentory{Hiroaki Hata\Note}{A}% <- \Note
\authorentory{Duy~Phuoc Tran\Note}{A}% <- \Note
\authorentory{Mohamed~Marzouk Sobeh}{A,B}
\Cauthorentory{Akio Kitao}{A}{https://orcid.org/0000-0002-5221-0806}
{akitao@bio.titech.ac.jp}
}
\Caffiliate[A]{School of Life Science and Technology, ...
Tokyo 152--8550, Japan}{School of Life Science and Technology, ...
Tokyo 152--8550, Japan}
\affiliate[B]{Physics Department, ... Egypt}
\bppbnote{These authors contributed equally.}% <- \bppbnote
```

`\Note` and `\bppbnote` commands are provided.

- In the case of many authors (from [19\\_e190003.pdf](#)):

```
\authorlist{%
\authorentory{Yuka Oka}{A}
\Cauthorentory{Shota Ushiba}{A}{https://orcid.org/0000-0001-7652-081X}
{shota.ushiba@murata.com}
\authorentory{Naruto Miyakawa}{A}
\authorentory{Madoka Nishio}{A}
\authorentory{Takao Ono}{B,C}
\authorentory{Yasushi Kanai}{B}
\authorentory{Yohei Watanabe}{D}
\authorentory{Shinsuke Tani}{A}
\authorentory{Masahiko Kimura}{A}
\authorentory{Kazuhiko Matsumoto}{B}
}
\Caffiliate[A]{Murata Manufacturing Co., Ltd., Nagaokakyo, Kyoto 617-8555, Japan}
{Murata Manufacturing Co., Ltd., 1-10-1 Higashikotari, Nagaokakyo, Kyoto 617-
8555, Japan}
\affiliate[B]{SANKEN, Osaka University, Ibaraki, Osaka 567-0047, Japan}
\affiliate[C]{JST, PRESTO, Kawaguchi, Saitama 332-0012, Japan}
\affiliate[D]{Department of Infectious Diseases, Graduate School of Medical Science,
Kyoto Prefectural University of Medicine, Kyoto 602-8566, Japan}
```

- In the case that all authors are same affiliation, and two "Corresponding authors" (from [19\\_e190001.pdf](#)):

```
\authorlist{%
\Cauthorentory{Takashi Fujishiro}{A}
{https://orcid.org/0000-0001-7967-8380}{tfujishiro@mail.saitama-u.ac.jp}
\authorentory{Ryosuke Nakamura}{A}
\authorentory{Kouhei Kunichika}{A}
```

```
\Cauthoreentry{Yasuhiro Takahashi}{A}
{https://orcid.org/0000-0002-0588-6045}{ytaka@mail.saitama-u.ac.jp}
}
\Caffiliate[A]{Department of Biochemistry and Molecular Biology, ...
Saitama 338-8570, Japan}{Department of Biochemistry and Molecular Biology, ...
Shimo-okubo 255, Sakura-ku, Saitama 338-8570, Japan}
\Caffiliate[A]{Department of Biochemistry and Molecular Biology, ...
Saitama 338-8570, Japan}{Department of Biochemistry and Molecular Biology, ...
Shimo-okubo 255, Sakura-ku, Saitama 338-8570, Japan}
```

The above two \Caffiliates are the same.

- In the case of one author with two affiliations (from [18\\_bppb-v18.033.pdf](#)):

```
\authorlist{%
\Cauthoreentry{Katsumasa Irie}{A,B}
{https://orcid.org/0000-0002-8178-1552}{kirie@wakayama-med.ac.jp}
}
\Caffiliate[A]{Department of Biophysical Chemistry, ... Wakayama 640-8156, Japan}
{Department of Biophysical Chemistry, ... Shichibancho, Wakayama, 640-8156, Japan}
\affiliate[B]{Cellular and Structural Physiology Institute (CeSPI), ... Japan}
```

- In the case of “Special Issue” (from [18\\_bppb-v18.s001.pdf](#)):

```
\bppbcategory{Special Issue: The Oosawa Lectures on DIY Statistical Mechanics}
\title[Editorial: English translation of ‘‘The Oosawa Lectures’’
on DIY Statistical Mechanics’']
{Editorial: English translation of ‘‘The Oosawa Lectures on DIY\
Statistical Mechanics’’}
\authorlist{%
\Cauthoreentry[Kiyoshi Ohnuma]{Editorial team for the Special Issue
on Oosawa’s Lectures}{E}{https://orcid.org/0000-0002-2272-3643}
{oosawastat@gmail.com}
}
\Caffiliate[E]{}{Nagaoka University of Technology, ... Japan}
```

[Kiyoshi Ohnuma] of \Cauthoreentry is used for the name of “Corresponding author” (footer of page 1) and the running title of odd pages.

- In the case of “Special Issue”, another example (from [18\\_bppb-v18.s002.pdf](#)):

```
\bppbcategory{Special Issue: The Oosawa Lectures on DIY Statistical Mechanics}
\title[Preface and Introduction]
{Oosawa’s Preface}
\authorlist{%
\authoreentry{Oosawa F.}{Editorial team for the Special Issue
on Oosawa’s Lectures\Note}{}% <- \Note
}
\bppbnote{Editorial team for the Special Issue on Oosawa’s Lectures: ...
Author names are listed in alphabetical order
(with all authors having contributed equally)}
```

### Some Notes about footnote and float

- Footnotes are not allowed.  
“Instructions for Authors” of BPPB advises that “Text footnotes are not allowed at all from page 2 onwards”.
- How to wrap text around an object?  
wrapfig package and emathMw.sty of emath package (<http://emath.s40.xrea.com/>) are useful for wrapping text around an object.  
You can get the instruction of wrapfig by typing on terminal.

`$ texdoc wrapfig`

The latter is recommended, but the instruction is in Japanese only, And errors occur when compiling with `pdflatex` (`pdflatex` can't understand 'zw' unit of measure). Therefore you must use `uplatex` or `platex` when compiling.

```
\usepackage{emathMw}
\MWsep{20pt}
```

`\MWsep` command sets the horizontal distance between text and object.

A simple example is following.

```
\begin{Fmawarikomi}(0mm,0mm){50mm}{%
\includegraphics{file.pdf}
\caption{How to wrap text around an object?}
}
Text text text text text text text text text
text text text text text text text text text.
\end{Fmawarikomi}
```

If further information is required, see [sampleMw.pdf](#) (files here are a little bit old, but no problem).

- There are no need to typeset vertical rules '|' inside a table environment (see Table 1).

**Table 1** Examble of table.

Column1	Column2 <sup>1)</sup>	Column3	Column4	Column5	Column6	Column7
1	a1	b1	c1	d1	e1	f1
2	a2	b2	c2	d2	e2	f2

<sup>1)</sup> Foot notes for the Table contents can be shown here.

## References

- [1] T<sub>E</sub>X Wiki (<https://texwiki.texjp.org/>).
- [2] Knuth, D.E. The T<sub>E</sub>Xbook (Addison-Wesley, 1986).
- [3] Abrahams, P.W. T<sub>E</sub>X for the Impatient, Addison-Wesley, (1992).
- [4] Lamport, L. L<sup>A</sup>T<sub>E</sub>X, A Document Preparation System, Second Edition (Addison-Wesley, 1994).
- [5] Goossens, M., Mittelbach, F., Samarin, A. The L<sup>A</sup>T<sub>E</sub>X Companion (Addison-Wesley, 1994).
- [6] Goossens, M., Rahts, S., Mittelbach, F. The L<sup>A</sup>T<sub>E</sub>X Graphics Companion (Addison-Wesley, 1997).
- [7] Goossens, M., Rahts, S. The L<sup>A</sup>T<sub>E</sub>X Web Companion (Addison-Wesley, 1999).