

# Instructions for Invited Lectures

ICM2010 Publications Committee\*

**Abstract.** This document explains how to prepare the text of your Invited Lecture for publication in the Proceedings of the ICM 2010.

**Mathematics Subject Classification (2000).** Primary 00A05; Secondary 00B10.

**Keywords.** General mathematical documents preparations, articles, TeX.

## 1. Class File and Submission Instructions

We would appreciate it if your contribution is written keeping a general mathematical readership in mind. The background and ideas behind the main results should be explained as clearly as possible. Papers published in the proceedings of the ICMs are widely read by graduate students.

Authors are requested to submit their manuscripts in (standard)  $\text{\LaTeX}$  with the class file **icm2010.cls**. The class file as well as these instructions and a basic template file can be found at the webpage

<http://www.icm2010.org.in/publications/plenary.php>

Instructions for submission are in the webpage mentioned above as well as in the website

<http://www.editorialmanager.com/icm2010>

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We kindly request you to submit your paper by March 15, 2010, to help us to print the proceedings before the beginning of ICM2010.

## 2. The Beginning of the $\text{\LaTeX}$ Source

The `icm2010.cls` file is a modified version of the `article.cls` file, with `amsmath`, `amsfonts`, `amssymb`, `latexsym` and `amsthm` included, so authors used to the article class with the extra AMS symbols should have no problem in preparing the manuscript.

1. The first line of your  $\text{\LaTeX}$  file should be

```
\documentclass{icm2010}
```

2. Options (enclosed by square brackets) about paper and fonts size will be removed in the preparation of the proceedings. If you have problems with small fonts you can use the options, but please do not be surprised when the final document looks slightly different. To use one option, for example A4 paper with 12 point fonts, you can change the above line to

```
\documentclass[a4paper,12pt]{icm2010}
```

3. If you want to add any general command (modifications of the theorem style to include propositions, corollaries, etc or some operators like `\Hom`, `\Ker`, etc) please do it next. See section 3 for more details.
4. After your commands include the following line:

```
\begin{document}
```

5. Next put the author(s) name(s) and contact addresses in the following way:

```
\author{The Author(s) Name(s)}  
\contact[e-mail address]{Address}
```

If there is more than one author please use only one `\author` command but use separate `\contact` lines for each author:

```
\author[P. Ar\’es \and P. Gastesi]{Pablo Ar\’es \and Pedro Gastesi}
\contact[pablo@math.tifr.res.in]{School of Mathematics\\ Tata
Institute of Fundamental Research\\ Mumbai, INDIA}
\contact[pedro@math.university.edu]{Department of Mathematics\\
My University, USA}
```

6. Next should come the abstract in this format:

```
\begin{abstract}
This document explains how to prepare the text of your Invited Lecture
for publication in the proceedings of the ICM 2010.
\end{abstract}
```

7. Next add the AMS Mathematics Classification as follows:

```
\begin{classification}
Primary 00A05; Secondary 00B10.
\end{classification}
```

8. Then add keywords as follows:

```
\begin{keywords}
General mathematical documents preparations, articles, TeX.
\end{keywords}
```

### 3. Theorems

The `amsthm` file is loaded into the `icm2010` class file, so you can use the “theorem style” to produce theorems, propositions, lemmas, etc.

1. To use the `amsthm` environment you have to include the following commands (or similar ones) in the preamble, before the `\begin{document}` statement:

```
\newtheorem{theorem}[section]{Theorem}
\newtheorem{prop}[section]{Proposition}
```

Then you can use them in the text as follows:

```
\begin{theorem}Any surface is simply connected.\end{theorem}
\begin{prop}No surface is simply connected.\end{prop}
```

This will produce the following:

**Theorem 3.1.** *Any surface is simply connected.*

**Proposition 3.2.** *No surface is simply connected.*

2. The above commands number theorems and propositions (and anything else you add with the `[theorem]` option) consecutively within the section. If you want separate counters for different statements, and the counting be kept from section to section, omit the `[theorem]` statement as in this example:

```
\newtheorem{prop}{Proposition}
\newtheorem{lemma}{Lemma}
```

3. Definitions will work in a similar way by including this command in the preamble:

```
\theoremstyle{definition}
\newtheorem{definition}[theorem]{Definition}
```

4. If you want definitions to be numbered in a counter different from the theorems then replace the above statement by this:

```
\newtheorem{definition}{Definition}[section]
```

or this (as in the case of propositions, lemmas, etc):

```
\newtheorem{definition}{Definition}
```

5. Extra arguments can be enclosed by square brackets; for example the command:

```
\begin{theorem}[The most important theorem, 1945]Any surface is
simply connected.\end{theorem}
```

produces the following:

**Theorem 3.3** (The most important theorem, 1945). *Any surface is simply connected.*

6. To get statements without numbers, for example corollaries, define them in the following way in the preamble:

```
\newtheorem*{cor}{Corollary}
```

and in your text put something like this:

```
\begin{cor}Surfaces are simply connected and not simply
connected.\end{cor}
```

You will get the following:

**Corollary.** *Surfaces are simply connected and not simply connected.*

7. Proofs use the proof environment as follows:

```
\begin{proof}It has to be true, therefore it is true.\end{proof}
```

The symbol  $\square$  is set automatically in this environment. Here is the output of the example:

*Proof.* It has to be true, therefore it is true.  $\square$

## 4. Equations

1. To display formulae use the align environment (it gives better spacing than the eqnarray environment) like this:

```
\begin{align}...\end{align}
```

Use the symbol & to align the symbols in your displayed equation properly. Two backslash symbols (\\) are used to separate lines within a displayed equation. For example:

```
\begin{align}
A &= f(x) = \cos(3x)\\
B &= g(x) = \log\sin(4x)
\end{align}
```

The result is the following:

$$A = f(x) = \cos(3x) \tag{1}$$

$$B = g(x) = \log \sin(4x) \tag{2}$$

2. If you do not want a number in a particular line you can use \nonumber at the end of that line.
3. To number equations of the form (4.1), (4.2),..., put the following line in the preamble:

```
\numberwithin{equation}{section}
```

## 5. References

1. Here are a few samples of bibliographical references:

- [1] L.V. Ahlfors, *Complex analysis*, Mc-Graw Hill, New York, USA, 1979.
- [2] J.B. Conway, *Functions of one complex variable*, Graduate Texts In Mathematics, vol. 11, Springer-Verlag, Berlin and New York, 1973.
- [3] C.J. Earle, *Some intrinsic coordinates on Teichmüller space*, Proc. Amer. Math. Soc. **83** (1981), 527–531.

The L<sup>A</sup>T<sub>E</sub>X source for the above references is the following:

```

\begin{thebibliography}{a}
\bibitem{ahlfors}L.V. Ahlfors, \emph{Complex analysis}, Mc-Graw
Hill, New York, USA, 1979.

\bibitem{conway}J.B. Conway, \emph{Functions of one complex variable},
Graduate {T}exts {I}n {M}athematics, vol.~11, Springer-Verlag, Berlin
and {N}ew {Y}ork, 1973.

\bibitem{earle}C.J. Earle, \emph{Some intrinsic coordinates
on Teichm\"uller space,} Proc. Amer. Math. Soc. \textbf{83}
(1981), 527--531.
\end{thebibliography}

```

2. You can use cross-references within the document with the `\cite` command, which takes optional arguments. For example:

```

Ahlfors' book \cite{ahlfors} is a nice introduction to Complex Analysis;
theorem 1 in \cite[pg. 528]{earle} is also nicely written.

```

It produces the following:

Ahlfors' book [1] is a nice introduction to area of Complex Analysis; theorem 1 in [3, pg. 528] is also nicely written.

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