

# The *SPM* Bulletin: History and future

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**Abstract.** Now, after 18 issues and over four years of publication, the *SPM* Bulletin can be considered a successful endeavor. Following an invitation of Professor Cosimo Guido, we give a brief report on the birth, development, and aims of this bulletin, as well as some interesting statistical information.

## 1 History

The *SPM Bulletin* is an informal electronic bulletin dedicated to Selection Principles in Mathematics (SPM), more specifically in topology, real analysis, and infinite combinatorics.

The term SPM was coined by Babinkostova and Scheepers as a name for the unified field arising from the studies of Scheepers and his colleagues, starting at the early nineties (of the previous century). Today, there are several good introductions to and surveys on the field, e.g., [4, 2, 5, 3].

### Birth of the Bulletin

The starting impulse for the establishment of this bulletin was the first Lecce Workshop on *Coverings, Selections, and Games in Topology* (June 2002), organized by Cosimo Guido, Ljubisa D.R. Kocinac, and Marion Scheepers. This workshop concluded with a panel discussion on the present and future of SPM, and it was felt that a bulletin dedicated to the topic could be useful for mathematicians working on, or potentially interested in, SPM. The present author decided to give this a try.

In their preface to the workshop's proceedings volume [1], Guido, Kočinac, and Scheepers describe this as follows:

Also, it was planned to edit the *SPM Bulletin*, an electronic bulletin dedicated to the field with announcements of new results as

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well as with open problems.

This bulletin began as plain-text e-mails sent to a small list of colleagues. The majority of this list consisted of participants of the mentioned Lecce workshop.

### The Bulletin grows up

We have later decided to extend it in two respects:

- (1) Make it accessible to a larger family<sup>1</sup> of mathematicians;
- (2) Change its format into journal-like issues prepared using L<sup>A</sup>T<sub>E</sub>X.

This is when the counting of the issue numbers started.

The mailing list is moderated manually, where each potential member (sometimes suggested to us by existing members in the list) is contacted personally by the author with a suggestion to join us.<sup>2</sup> The initial expanded list consisted of 40 mathematicians, and it kept growing steadily. Today we have 111 mathematicians in the list, and we believe that this number will keep growing.

Starting with the first issue, we have also uploaded each issue the Mathematics ArXiv (<http://arxiv.org>), in addition to sending it to the members of the list. A direct link to all issues is [6]. This has several advantages: The ArXiv has established itself as a respectful place for online papers and journals, with a professional maintenance. It allows downloading the bulletin in almost any format the reader wishes, and exposes it to a larger audience. Moreover, it allows for updates (this is sometimes crucial – see Issue 5 of the SPM Bulletin at [6]).

### Frequency

In the beginning there was no defined frequency for the dispatch of the Bulletin's issues. Following are the dates for issues 1–18

*2003.* January, February, March, April, May, November.

*2004.* January, March, June, September.

*2005.* January, April, July, September, December.

*2006.* March, June, September.

Since 2006, the Bulletin became a quarterly bulletin.

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<sup>1</sup>The term *family* for the mathematicians in the field is not accidental. Indeed, this is a very friendly team of mathematicians that despite its big size and the high mathematical level of its members, maintains a good and collaborative atmosphere.

<sup>2</sup>Membership in the list is open to everyone interested in the field, by emailing the present author.

## Moving to the ArXiv

Starting at Issue 16, we decided to stop sending the entire issues by email, and instead send a *link* to the ArXived issue, together with the table of contents and often some useful information on SPM that is of immediate importance but is not put in the bulletin's issue since it becomes obsolete after some time (e.g., announcements of workshops in the field and other timely opportunities).

## 2 Aims

The text messages that we send to the members of the mailing list contain, in addition to the link to the new issue, announcements of conferences, workshops, and other useful information related to SPM. The “formal” issue, however, is targeted at two aims.

### Announcements of new results

The *SPM Bulletin* is intended to be a quick and informal (and free of charge) mean to transmit knowledge between mathematicians working in the field. Being purely electronic, and having its focused audience, we try to be among the first to report new results in the field, and to stimulate discussions and further research. It could also be useful in setting priorities on results.

### Open problems

Another goal is to discuss various open problems in the field. Problems presented in the Bulletin do not have to be very difficult – it may be the case that the one presenting them overlooked something or just does not know of a result which implies an answer. The solutions to problems (if found) and related suggestions are announced in following issues. A special section in each issue is dedicated to a selected problem of particular interest and importance. The last page of each issue contains a list of those of these selected problems that were not solved yet.

## 3 Scope

The Bulletin is supposed to deal with topics from SPM in its broad sense, including for example diagonalization arguments (especially in topology), covering properties (of topological spaces, groups, etc.), infinite combinatorics (mainly cardinal characteristics of the continuum), function spaces, infinite game theory, etc. This also includes the more classical occurrences of this field, e.g.,

Menger and Hurewicz properties, Rothberger property  $C'''$ , Gerlits-Nagy  $\gamma$ -sets, and more generally, special (or: totally imperfect) sets of reals.

As the time progressed, it became clear to us that it is very difficult to draw a borderline between what is SPM and what is not, especially in fields like set theory and general topology. We have therefore adopted an informal strategy, that we try to deal with topics that are of interest to the recipients of the Bulletin, and that seem related to SPM.

Readers could instead subscribe to several mailing lists of electronic archives, but we spare them the process of finding items of interest in the big lists sent out every now and then. The price for that is that we sometimes miss items that could be of interest. This is the standard problem in both manual and automatic contents-selection procedures (selection principles *not* covered in the Bulletin), and concerning which we can say that if one thinks that a result of his or her may be interesting for readers of the Bulletin, one must not trust the archives and (in addition to posting to archives) should inform us about it.

## Contributions

Our initial expectation was that most of the contributions (announcements, discussions, and open problems) will come from the recipients of this bulletin. Unfortunately, this is still not the case. Most of the announcements, despite credited to their authors, were obtained by the editor from various online public sources. We hope that this will change in the future, as mathematicians in the list realize the importance of making their knowledge and results better known.

Contributions to this bulletin do not require any transfer of copyright, and material presented there can be edited and published elsewhere.

## 4 Statistics

### Actual usage

At the time where Issue 16 was dispatched, we asked the Bulletin's list members whether they wish to continue receiving our announcements. Out of more than 100 recipients, only one replied that since the issues are announced by the ArXiv mailing list to which he is subscribed, he can be removed from the list. This could mean that the rest of the recipients do not read our bulletin emails, but this is fortunately not the case, since every now and then we meet in conferences and workshops mathematicians who thank us for the bulletin's issues. There are additional ways to verify our optimistic claim.

## Web hit counts

*CiteBase* (<http://www.citebase.org/>) is an autonomous service of downloads counter, giving a partial coverage of papers submitted to the ArXiv. This service only counts downloads from the ArXiv's UK mirror site, and does not include accesses to the other 17 mirror sites, including the main, US-based, arXiv.org site. Several side checks that we have made suggest that the total number of downloads in all 17 mirror sites is at least 10 times larger than the number of downloads in the UK mirror site, i.e., the number reported by CiteBase.

CiteBase's title matching has considered 15 issues of the SPM Bulletin as the same work, and recorded 185 full downloads for these, which means  $185/15 \approx 12$  downloads on average per issue in UK. This suggests that the true number of downloads is somewhere between 100 and 300.

Another way to estimate CiteBase's numbers for the *SPM Bulletin* is to compare them to numbers of some important papers in the field. For example, Moore's *A solution to the L space problem and related ZFC constructions* reports 7 downloads in CiteBase, and Woodin's paper for the Beijing 2002 ICM *Beyond  $\Sigma_1^2$  absoluteness* reports 4 downloads. The fundamental SPM paper *The combinatorics of open covers (II)*, by Just, Miller, Scheepers, and Szeptycki, has 10 downloads in CiteBase. We have checked several other papers and none of them obtained more than 12 downloads in the UK-based mirror site. This shows that the Bulletin is quite popular.

To get some impression as to which percentage of the members of the mailing list download the issue soon after it is announced by mail, we sent out the 18th issue with a download link that also counts the number of visitors. Not counting duplicate downloads, there were 54 downloads. These downloads came from the following origins (the indicated percentages are approximate):

- (1) USA (15%),
- (2) Poland (13%),
- (3) Israel (11%),
- (4) Hungary (7%),
- (5) Switzerland, Slovak Republic, and Canada (4% each),
- (6) Austria, Brazil, Czech Republic, France, Italy, Japan, Mexico, New Zealand, Serbia, South Africa, and United Kingdom (2% each).

The addresses of the remaining downloads (e.g., .net) could not be assigned confidently.

## Contributions and announcements

314 contributions/announcements were made in the first 18 issues of the *SPM Bulletin*, of works by 145 mathematicians. The leading mathematicians in terms of their contributions or announcements of their works are the following ones. The names are divided to groups by the number of contributions. A group whose members have a higher number appears first:

- (1) Boaz Tsaban;
- (2) Saharon Shelah;
- (3) Arnold Miller;
- (4) Lyubomyr Zdomskyy;
- (5) Lev Bukovský, Kenneth Kunen, Justin Moore;
- (6) Krzysztof Ciesielski, Mirna Džamonja, Istvan Juhaász, Wiesław Kubiś;
- (7) Liljana Babinkostova, Taras Banakh, Tomek Bartoszyński, Ondrej Kalenda, Szymon Plewik, Zoltan Szentmiklóssy.

While the list consists of very strong mathematicians in the field, some of the leading mathematicians in the field are missing in this “leaders” list. We hope that this will improve in the future.

## Problem of the issue

17 problems were posed as *Problem of the issue* thus far, out of which 2 were solved and 1 was “half-solved”. We urge the readers to consider these problems seriously. Even if not solved, the study of these problems should lead to important new insights.

## 5 Conclusions

The *SPM Bulletin* has successfully passed its pilot experiment quite a while ago, and is a well established bulletin now.

Currently, practical information is sent as text messages, and information of more long-lasting importance is put in the “formal” issues and can be downloaded at any time in the future. We believe that this is the optimal mode of operation for this type of bulletin.

Several points require improvement: More submissions by the SPM community should be made, and additional attention should be given to the issue's selected problems.

We would be glad to receive new submissions and subscription requests.

## References

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