

Review of the Scientific Report 2012 of CMA

By the Members of the External Advising Committee (EAC)

The report is very informative and clear for which we congratulate the author(s). The 2012 CMA Scientific report documents a productive year for the Centro de Matemática e Aplicações. This has been achieved despite the adverse circumstances regarding teaching load that were mentioned in previous reports. Apparently CMA is on a good development path, which will be even more apparent in the current year 2013.

More published papers appeared in the year 2012 and considerably more in prestigious journals with high scientific level. Moreover, all groups are much more active in international conferences and also in organizing national and international conferences.

The average number of international publications per researcher is not far below 2 per year. Generally the papers have appeared in quality journals, some with impressive impact factors. One paper in particular received a best paper award. We also note with pleasure an increase in the number of students who have completed their Ph.D. programs under the guidance of CMA researchers.

The "Statistics and Risk Management Team (28 Integrated Members and 14 Collaborators Members) have published 42 papers. Moreover, 16 papers are additionally published in Conference Proceedings with Peer Review.

International activity both in presenting results and organizing of the international and national conferences of this group is also very good. Members of this group participated in organizing 16 international conferences both as members of scientific committees, organizers of sessions and as members of organizing committees. They also have presented 30 lectures at international conferences.

The OR group also has impressive achievements. The conference ICCOPT 2013 (one of the largest one hosted by UNL so far) was an enormous success both from participation and quality point of view, and continues to receive very positive feedback from inside the scientific community;

Two notable successes with regard to publications merit particular mention.

In the leading Optimization journal, Mathematical Programming Series A, with a current impact factor over 2, the Full Length Paper "Co positivity and constrained fractional quadratic problems" co-authored by a member (P. Amaral), was submitted 2010 and only now is published online under the DOI 10.1007/s10107-013-0690-8.

The prestigious European Journal of Operational Research (again, a leading periodical in Operational Research, IF > 2) best paper award of EURO in the category "Theory and Methodology" went to another member (I. Gomes) as a co-author of the article "Simultaneous design and planning of supply chains with reverse flows: A generic modeling framework"; the prize was awarded in July 2013 in this years' EURO conference in Rome.

There was good news from the Differential Equations group. One member of the group (Chalub) will work only in research in the next five years and there will be two new members (Karlovyh, Lu). Professor Ortega, in particular, was pleased to note that Rogério Martins has been chosen as one of the top 100 people that impact Portugal, since he is his former Ph D student.

Although the number of papers per person per year in ISI journals has risen, it still would be desirable to improve it. This is certainly related to the recurrent problem, the excessive amount of time that the members of the group have to devote to teaching. The teaching

charge as described in page 6 as enormous but specific details regarding within group implementation of the charge is not provided. Nevertheless, we continue to lament that it has not been possible to make progress in dealing with this issue.

Perhaps it would interesting to incorporate in the report some information on this point, together with some discussion regarding the proportion: productivity versus number of teaching hours

We strongly support the statement in page 7, "Promote, whenever it is possible, the reduction of the teaching charge for active researchers with outstanding scientific projects"

Though we feel that this should also apply to researchers with high productivity and/or high quality level of publication. Perhaps a first step could be to include in future reports some quantitative information and an estimate/proposal on the possible number of candidates for this reduction.

We have two other minor suggestions regarding the format of the report. First, it might be worthwhile to adjust the productivity graphs (for publications and projects) for the number of integrated members in each group. As it is the SRM group looks very impressive in the graphs, but this is somewhat misleading since they actually comprise about 50% of the total number of integrated members in the four groups combined.

Recognizing the difficulties faced by researchers in the pursuit of external research funding, we considered the desirability of including in the report information on unsuccessful funding submissions, to indicate at least that efforts are being made to secure outside money. There are arguments in favor and against including such information, and the decision should be left in the hands of the CMA. Such information would be useful internally in the CMA, but it is not clear whether it should be included in future reports. A relevant question is: Do other research units commonly include such information in their reports?

In summary, we view the report as one which documents commendable progress and which augers well for the future of CMA.

The members of the External Advising Committee

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