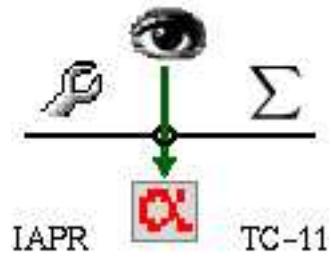


TC-11 Biannual report
June 2004

prof. dr. Lambert Schomaker
chair of TC-11
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vice chair of TC-11



June 7, 2004

1 TC-11: the research field

The field has focused on difficult challenging areas which have remained after the successes of general optical-character recognition and postal applications. At the same time new areas are being targeted such as text recognition in streaming video and in web-based images, historical document analysis, free-style script recognition as well as forensic document analysis. Also, new applications emerge in camera-based reading systems, such as in support systems for the blind, robotic navigation, advanced license-plate reading and camera-based reading in the environment. On-line pen-based computing on handheld computers remains a stable focus of attention. At the successful ICDAR'03, several benchmark tests were organized, which is another sign for the increased maturity of this field.

2 Processes

2.1 The ICDAR Award nomination process was coordinated by Josep Lladós (TC-10) and the current TC-11 chair. The ICDAR'2003 Award for Outstanding Contributions has been presented to Henry Baird (Xerox), who was selected by a committee of seven well-known members from the community, from a select list of several nominees. The traditional title of "Lifetime award" was considered less appropriate in this case, considering this candidate's age. Consequently, the award was renamed for the occasion. The ICDAR'2003 Young Researcher Award was presented to two researchers: Dr. Liu Wenyin (City University of Hong Kong) and Dr. Umadapa Pal (Indian Statistical Institute).

2.2 At the ICDAR'2001, it was decided to appoint an ICDAR Advisory Board, consisting of the TC-10 and TC-11 chairs, together with a former ICDAR organizer. The ICDAR Advisory Board monitors the organization process of the coming ICDAR conference from a relative distance, in order to guarantee continuity over the ICDAR series. The ICDAR Advisory Board currently consists of:

- Josep Lladós (TC-10 chair),
- Andreas Dengel (former ICDAR organizer),
- Lambert Schomaker (TC-11 chair).

2.3 The ICDAR Advisory Board is very content with the way in which the ICDAR'03 was organized.

2.4 The call for hosting bids of the 8th ICDAR was sent out on June 3rd 2003, two months before the 7th ICDAR (6-8 August), in a joint effort by Schomaker/Lladós/Downton. Unfortunately, some members of the community may have missed this call due to the used distribution list which contained at least all several hundreds of ICDAR'03 participants, however, potentially being smaller than the joint TC10+TC11 lists. A bid was prepared and presented by the University of Parana, Curitiba, Brazil. The acceptance of a single bid was met with some reserve by part of the TC-11 community at ICDAR'03. The bidders enthusiastically prepared an extended document with a convincing description of their plans for the conference. The TC10+TC11 chair subsequently requested feedback on this bid from the TC10+11 communities. No objections were received and the bid was ratified 29th of August 2003.

2.5 The web site for TC-11 is regularly updated, including a list of current and relevant conferences: <http://www.ai.rug.nl/iapr/tc-11/>

2.6 The TC-11 distribution currently contains 488 email addresses, using a Linux script for distribution in view of earlier problems with *Majordomo* software.

3 Events

This is a non-exhaustive list of events:

- ICDAR'07 (9th) Curitiba, Brazil, 2007
- ICDAR'05 (8th) Seoul, Korea, 2005
- 9th IWFHR/9th International Workshop on Frontiers in Handwriting Recognition, 2004, Oct. 26-28, Kokubunji/Tokyo, Japan
- 10th IWFHR/10th International Workshop on Frontiers in Handwriting Recognition, 2006, Oct. 3-5, Le Croisic, France
- DIAL2004 was held in Palo Alto, CA, USA, Jan. 23-24 2004 (International Workshop on Document Image Analysis for Libraries)
- DAS'2004 will be held in Florence, Italy, Sep. 8-10, 2004 (IAPR Workshop on Document Analysis Systems)

4 International Unipen Foundation (iUF), concise report - 2003/2004

As usual, added to this document is a brief report concerning the International Unipen Foundation (iUF), an activity in the area of on-line handwriting recognition databases and benchmarks which was initiated from within IAPR/TC-11.

- chair: L. Schomaker
- co-chair: I. Guyon
- treasurer: L. Vuurpijl,
- advisory board: prof. R. Plamondon and prof. G. Lorette

There is still a regular community interest in the Unipen database of on-line handwriting and the software developed by the iUF for accessing Unipen data. There is a W3C standardization effort, InkXML, which in its beginning received input from the iUF. However, the development of this on-line data format for pen computing was considered to be located in the ballpark of multimodal interaction by the W3C consortium. There is progress but the process has slowed down, because a complete multi-modal dialog formalism is being developed. The iUF regularly receives questions concerning a migration of the current Unipen standard to XML.

Current iUF activities concern standardization in forensic handwriting data analyses and formats. A research grant (1 person year) in this research field was obtained in autumn 2002 and completed in 2003, yielding the WandaML XML format for forensic script annotation.

5 TC-11 SWOT: Strengths, Weaknesses, Opportunities, Threats

5.1 Strengths

The TC-11 community is thriving. Strong conferences and stable workshops exist (ICDAR, DAS, IWFHR, WDA and others) which attract many researchers in the field.

5.2 Weaknesses

There is a continuous need for input from theoretical pattern recognition, cognitive science, AI, image processing, and even computer vision (due to the increased importance of camera input).

5.3 Opportunities

The clear vision of concrete pattern-recognition tasks for reading systems will remain appealing to new generations. Benchmarking and standardized evaluation procedures will improve the interpretability of research results. The amount of text which is present in the man-made environment, on web-based images, in video streams and in historical documents will continue to elicit ideas for applications.

5.4 Threats

Some workshops in this community have evolved into important events with a high-quality output. Consequently, there is a risk of the workshops becoming primary events, while ICDAR and ICPR receive (marginally modified and improved) copies of original work. Additionally, there is a risk that the large conferences are skipped altogether: The ideas which are developed in our community may evolve from workshop status to journal-article level, bypassing the important large-scale IAPR events. A copy of an on-going discussion is presented as an Appendix. A salient point in the discussion, on which I did not elaborate, concerns the height of current conference fees.

6 Plans for TC-11

Dr Jianying Hu (IBM/Watson), the current vice chair of TC-11 will be proposed as next TC-11 chair, provisionally starting in August 2004. Dr. Apostolos Antonacopoulos (University of Liverpool) will be proposed as next TC-11 vice chair, provisionally starting in August 2004. It has been difficult to find successors, the current chair is very content with the willingness of Drs. Hu and Antonacopoulos to take up these important tasks. The detailed plans for the TC-11 future have been laid out by Dr. Hu in the previous report (TC-11/2003).

7 Conclusion

In our view, TC-11 will remain to represent an important research area in the coming years. We will continue to support the community, modernize the web site and collect and disseminate community information.

Lambert Schomaker

Jianying Hu

8 Appendix: TC-11 Opinion Corner

<http://www.ai.rug.nl/iapr/tc-11/newsletters/2004/opinion-qas-iapr.html>

8.1 FFT on conference-quality control in the near future

The abbreviation **FFT** in the title refers in this case, not to the useful Fast-Fourier Transform but to: **Food For Thought**. The upcoming conference season has stimulated a few thoughts among members of the TC-11 community on a worrying topic: the value of conference publications in this day and age.

Increasingly, research output is quantified in strict manners by university faculty deans and by corporate R&D managers. As one university dean put it: If quality is low, one must strongly hope that quantity is likewise. At the same time, the work of (spamming) commercial conference organizations is causing a serious devaluation of the concept of "conference paper" as a solid product of research.

Under these conditions, it becomes increasingly important to maintain quality standards within our own community, within TC-11 and within the IAPR as a whole. Already, the IAPR is considering possible scenarios for quality measurement and assurance. Please consider the following sketched outline, which may just serve as a stimulus for the formation of your opinion.

Journal articles will remain to be our ultimate target platform, and dedicated journals such as the IJDAR will need to obtain ISI status. For the conferences, the IAPR might install a method of quality stamps, or "stars". Each number of stars corresponds to specific criteria with respect to the rigor of the reviewing procedure and the nature of the organizational components of a conference event.

In such a system (Table 1), the ICPR conference would represent a four-star event, with an output value per article which is comparable to a journal contribution. Medium-scale regular conferences such as the ICDAR would represent three stars. Satellite conferences and workshops with a stable and long history and sufficient quality control would obtain two stars, whereas improvised low-threshold workshops sponsored by IAPR would obtain one star. The regulations should make explicit the detailed criteria for paper and poster contributions, for each level of event prestige.

Table 1: Possible, future system for quality control (not entailing a judgment on existing quality levels)

Stars	Conference	Goal
****	ICPR	Disseminate findings relevant to PR at large
***	ICDAR	Solid findings and designs in TC10+TC11
**	stable satellites	Experimental work, PhD student maiden voyages
*	improvised workshops	Focused new developments, round-table discussions

These views are not only my own, but are based on numerous discussions. We need to form our opinions and design a solution in view of the ongoing changes in research management. Whatever comes out of this, clear results have already emerged: The criteria and measuring sticks are becoming increasingly clear and explicit. This will be beneficial to all of us, PhD student and senior researcher alike. In the presence of an IAPR quality assurance mechanism, we will have our clear and testable answers ready when a skeptical instance asks us individually "why we needed to fly to X last year", where X denotes an element of the set of attractive conference destinations. More importantly, we will be able to defend our basic conviction that conference papers constitute an essential component of scientific

productivity in technology research. Only then we will meet a willingness at high administrative levels to include an IAPR/TC-11 conference paper in the research-finance spreadsheets, with a sufficient and reasonable weight attached to it, in recognition of the quality of our work. Under such conditions, the negotiation of your travel budget including current conference fees will be greatly facilitated.

Lambert Schomaker, chair of TC-11
21 May 2004

8.2 Received Comments

Commentator A (USA)

I think quality is very important in everything, including conferences. I know I have my own internal ranking of how good the conferences I attend and have contact with are. The same with journals. I use that when I evaluate the people I meet at these conferences, and for journals when we interview job candidates

Your idea of having a rating, is good, but I don't know if it can be implemented, or if it were to be implemented whether it would have any validity. I'm sure that you are aware that some papers presented in lower ranking conferences and workshops are better than some at high end workshops. I went to ICPR for the first time 2 years ago (...). While there were many good papers, I felt on a whole very disappointed given the reputation of the conference. You have your table of rankings on the TC-11 opinion corner webpage, and you list ICDAR as lower than ICPR, but on a whole I found the ICDAR papers last year better (on average) than the papers I saw at ICPR 2 years ago. I think I can say the same with the papers at ICDAR 01 also.

Also a bigger threat to quality is repetition of papers. 2 years ago I saw one paper at ICPR and saw almost (I mean very almost - same slides, 100% match in meaningful content, certainly no new results- the written documents aren't verbatim, but match more than 80at (workshop). So combining these two effects (...), my ranking of ICPR went way down from what I had been lead to believe from hearsay (and my ranking of that author really plummeted).

[Actually, the observation that paper versions were submitted with a very limited edit distance is one of the triggers of the ongoing discussion (LS)]

Also if you are going to look at ranking, I'm not sure how ranking within one sponsor organization will help overall when the real problem is so many conferences across a range of sponsoring organizations. Good luck on this project. If quality isn't discussed, it will only be attained by chance.

Commentator B (India)

I wish to add my two bits worth for the FFT. Recently in our field conferences like ICDAR want registration fee to be paid so that papers get included into the conference proceedings. I think this will reduce the academic worth of the proceedings. My apprehension is that proceedings contents will be dominated by the papers of richer authors. Papers from [financially] poorer authors shall fail to find expression. Therefore I would give a higher star rating to a conference which would publish the **best** papers.

Commentator C (Europe)

[edited (LS)] Conference Proceedings that are published by Springer LNCS already have higher status than a limited-edition proceedings without ISBN which is printed locally by the organizers. This is a status-enhancement solution by many workshops.

[yes..., but the actual quality control has to be determined by the criteria for quality which exist in our actual community, the IAPR (LS)]

I consider [favorite workshop] a 'stable satellite'. I will tell my dean and director (...) that in order to remain visible in this field I HAVE to visit [favorite workshop]. Since such a specialized event is visited by all other Experts of the World in that area and at least three Experts review each paper, the status should be at least three stars.

Commentators D+E (Europe, they sent in a joint comment)

In general, we support your idea, however there are some questions:

(1) who is the "Michelin" to decide on four stars?

[The IAPR, that is us! (LS)]

(2) who is willing to disregard his event as a two-stars-only thing in advance?

[there seems to be a need for quality and status as well as for informal discussion and low thresholds for beginners in a field (LS)]

(3) what are the criteria - number of submissions, number of published pages, number of reviewers?

[these could be made explicit by our central organization, the IAPR (LS)]

(4) what about costs/ressources/quality balance when organizing a meeting?

(5) do you intent to propose this issue to IAPR? - so it needs to propose/organize a formal procedure as well, like a voting-page using php.

- we think, for given reasons, one can not decide on quality freely. It is a long-term process.

- someone might think that the "stable satellites" should be four star events, and not the mass meeting.

[indeed: they often are, but it might imply that the big conferences are losing their status. There is a need for centripetal forces to keep the field together. Concentration of quality could be a solution (LS)]

- in order to ensure quality assurance, we might better use new technologies more extensively., e.g., providing authors with the possibility to inspect and comment reviewers comments before the PC hammer falls (as it was seen at ECCV'04) , or to check CRPs whether reviewer comments have been considered.

- computer-science conferences seem still to have higher quality procedures than conferences in other fields, e.g., not like deciding on abstracts in the manner of "quickly submitting my abstract before leaving to the airport" which luckily not yet established firm grounds in computer science conferences.

[I completely agree with this latter point. However, it is exactly for this reason why deans and directors do not easily believe that our conference papers are of higher quality than is the case in more lenient/slack scientific arenas (LS)]

[accompanying email to the comments]

Dear colleagues,

we have obtained a number of reactions on my provocative opinions on conferences and quality within IAPR & TC-11. All in all the commentators agree with the observed problems, but there does not seem to be much enthusiasm for the proposed cure. All commentators but one have expressed a preference to remain anonymous. Therefore, I have decided to enter all comments anonymously.

Lambert Schomaker

Mon May 31 13:57:11 CEST 2004

8.3 Discussion Summary

There seems to be a concensus that quality control is an important issue. At the same time, existing problems are becoming more clear. Those who have invested in workshops as their favorite platform will note the advantage of focused discussion, which is accompanied by an increasing level of quality in some areas. However, I would like to stress (knowing that I am on ice here) that it is important not to trick PhD students into believing that all is extremely well if their thesis consists essentially of one or two workshop contributions. The presence of an intermediate level of status between workshop paper and journal article could be provided by high-status IAPR conferences, constituting a stepping stone towards the journal paper.

A possible solution would consist of reformatting ICPR and ICDAR as umbrella events for workshops organized at the same, or very close to the same, venue. New options would consist in positioning the best papers submitted to the workshops as plenary oral presentations of the larger event. This approach would also prevent double submissions of papers. However, workshop organizers have complained that such a solution would cream off the best contributions and would reduce their freedom in selecting attractive small-scale venues with lively discussions in "forced isolation".

Conclusion

We cannot produce a clear-cut solution to these difficult problems within the framework of this TC-11 Opinion Corner. Still, I think the exchange of opinions has been very fruitful, making the important issues more explicit. Therefore, I would like to thank all commentators.

[LS, May 31 2004]