

Journal of Artificial Intelligence Research

2011 Annual Report

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July 1, 2011

Executive summary

We are pleased to present the annual report on the status of JAIR. The report covers the activities of the journal in 2010 and the first half of 2011.

Our many thanks to Adnan Darwiche whose term as Editor-in-Chief ended on December 31, 2010. JAIR benefited tremendously from his hard work and initiatives, which helped improve both the editorial processes and the system we use to manage submission and production. Shlomo Zilberstein took over from Adnan as Editor-in-Chief, and Craig Boutilier took over as Associate Editor-in-Chief. Craig will become Editor-in-Chief on January 1, 2013 when Shlomo steps down after the usual two year term.

We also express our deep gratitude to Steve Minton for his continued service as Managing Editor, and to Lillian Bluestein for her outstanding service as Production Supervisor.

JAIR has recently recruited seven new Associate Editors and 22 new Editorial Board Members, whose terms have just started (as of July 1, 2011). Our goal is to increase the size of the Editorial Board to approximately 75 members over the next two years. This will make it easier to find suitable reviewers for submissions among editorial board members.

In 2010, we recruited Daniel Bryce to be our first Electronic Publishing Editor. Dan has led several important initiatives to increase the breadth and quality of the dissemination of JAIR articles. As part of this effort, we have instituted an Open Archives server for metadata harvesters and have started digitally archiving articles with arXiv.org. These initiatives will increase the reach of JAIR by providing paper metadata in a structured format that can be more easily indexed and searched by a number of services. Dan worked on the Open Archives initiative with a committee that included Toby Walsh, Diana Spears, and the Editorial Staff. Another initiative with arXiv was also led by Dan, in consultation with Joseph Halpern and the Editorial Staff.

The journal published 46 papers in 2010, compared to 52 papers in 2009 (the all-time peak was 58 published papers in 2008). We received 261 submissions in 2010, compared to 232 submissions in 2009. The reduced number of published articles in 2010 is a consequence of a somewhat lower acceptance rate, rather than a smaller number of submissions. We have received 151 submissions to date in the first half of 2011, compared to 122 submissions during the same period of 2010.

The 2010 IJCAI-JAIR Best Paper Prize will be announced during the IJCAI-11 opening ceremony. The 2011 prize was awarded to “Computationally Feasible VCG Mechanisms,” by N. Nisan and A. Ronen, published in 2007. An Honorable Mention was given to “Approximate Policy Iteration with a Policy Language Bias: Solving Relational Markov Decision Processes,” by A. Fern, S. Yoon and R. Givan, published in 2006. A new innovation for the IJCAI-JAIR Best Papers this year is the presentation of the prize-winning papers and honorable mentions from 2010 and 2011 at IJCAI, during its *Best Paper Track*. The invitations from IJCAI Program Chair Toby Walsh to the authors of all four papers have been accepted, so all four will be presented, increasing the exposure of these already high-profile articles.

In 2010, we recruited Adele Howe to help manage a new track designed to attract the submission of award-winning papers from leading AI conferences. This initiative promises to further increase the number of high-quality submissions to JAIR. We promise an expedited review process to authors of these submissions, as well as appropriate acknowledgement of the special status of papers accepted to this track on the JAIR website. In 2010, we received six submissions: two from AAAI and six from AAMAS. In 2011, we expect submissions from ICAPS, AAMAS, IJCAI, AAAI and EMNLP. We have not accepted any papers in this track to date (several of the first submissions are under revision), so the Award-winning Paper Track is not yet shown on the JAIR website.

JAIR will also publish a special track on Nonmonotonic Logic, edited by Gerhard Brewka, Victor Marek and Mirek Truszczynski, to mark the thirtieth anniversary of the initiation of the field. The editors of the track expect to conclude the reviewing process soon. The bulk of the decision notifications for submissions to the track have been sent already, and we expect it to appear later this year. In this connection, JAIR has also updated and refined the guidelines for special issues to provide more guidance for editors.

The rest of the report provides more detailed statistics about the journal’s activities. Please do not hesitate to contact either of us for more information, or if you have any feedback or comments.

Publication statistics

JAIR published 46 papers in 2010, compared to 52 papers in 2009 (the all-time peak was 58 papers in 2008). In the first half of 2011, we published 32 papers and accepted 17 papers, compared to 20 papers published and 15 accepted in the same period in 2010.

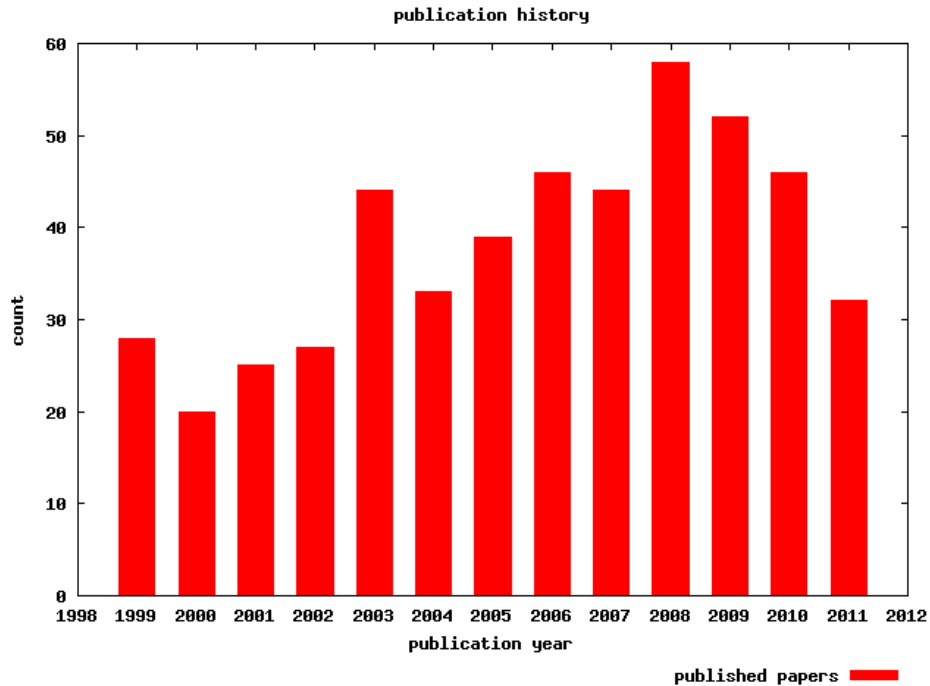


Figure 1: Published papers in JAIR by publication date.

Submission statistics

We received 261 submissions in 2010, which represents a roughly 12% increase from 2009. We have also received 151 submission in the first six months of 2011, which is about a 24% increase compared to the same period in 2010. Contributing to the increase in submissions for the first half of 2011 is the Special Track on Nonmonotonic Reasoning, which attracted 25 submissions between February and April 2011.

The acceptance rate for all submissions remained essentially the same in 2010 (19.5%) compared to 2009 (19%). Of papers sent out for review, the acceptance rate remained relatively stable at approximately 29% in 2010 and 2009, down from 34% in 2008. If we do not count resubmissions, the acceptance rate in 2010 decreased to 34% from 42% in 2009 and 2008. For resubmitted papers, the acceptance rate in 2010 dropped to 68% from 87% in 2009. The new rate is close to the 67% in 2008 and more consistent with the historical average.

Regional statistics

The general patterns of regional submissions remain roughly the same as in previous years. Most of our submissions come from Europe and North America, followed by Asia, the Middle East and Australia. In 2010, we saw a slight decrease in submissions from Europe, and an increase from the four other main regions. Overall, submissions from Asia and the Middle East are near their all-time highs, while submissions from other regions are slightly below their all-time highs.

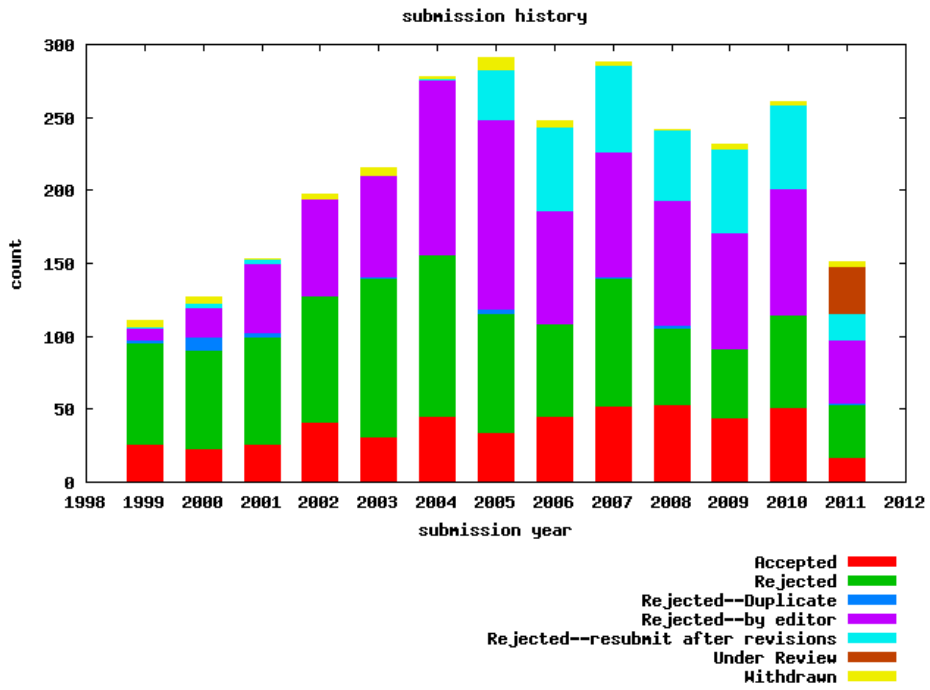


Figure 2: Submitted papers to JAIR by submission date.

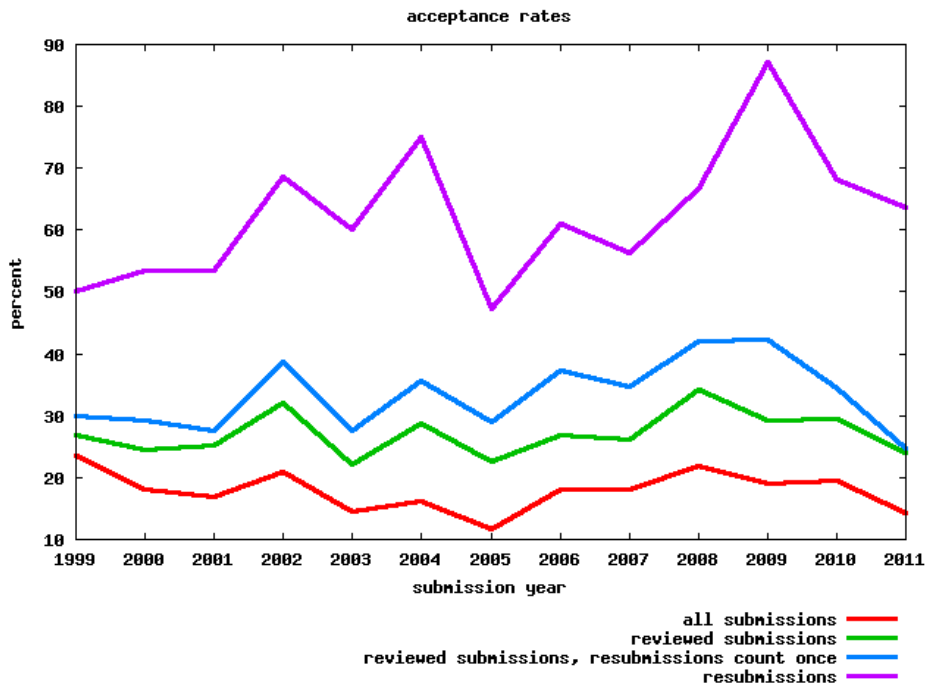


Figure 3: Acceptance rates by submission date.

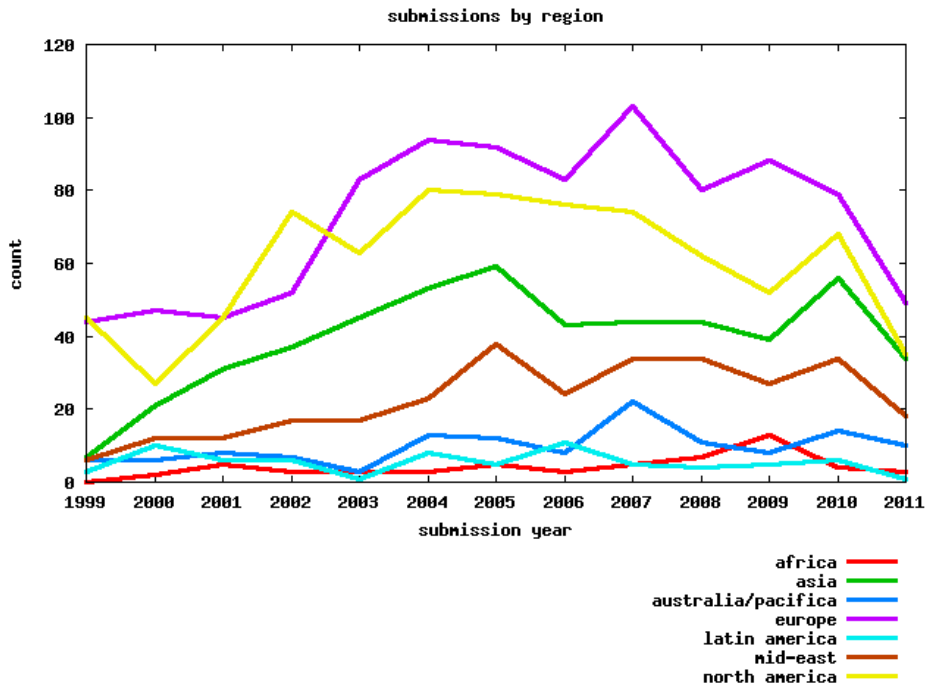


Figure 4: Submissions by region organized by submission date.

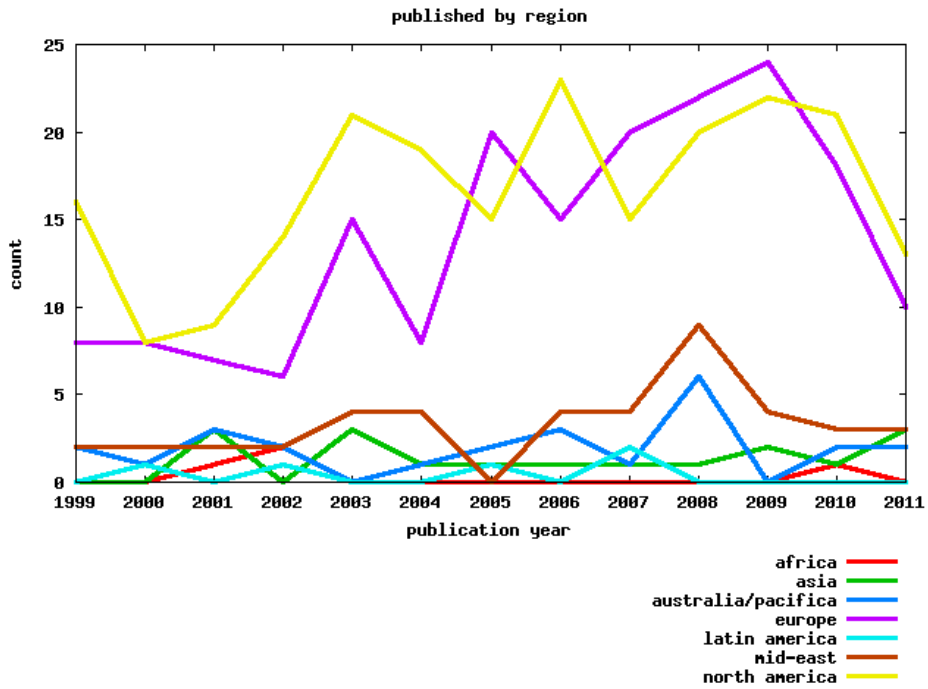


Figure 5: Published papers by region organized by submission date.

Subject statistics

In terms of topics, KR, MAS, ML, NLP, Planning & Scheduling, Probabilistic Reasoning, and Search/CSP remain the main topics of submissions. MAS, ML, Planning & Scheduling, and Probabilistic Reasoning witnessed relatively significant increases in submissions from 2009 to 2010. MAS went up to 51 from 35, ML to 34 from 25, Planning & Scheduling to 21 from 12, Probabilistic Reasoning to 23 from 14. Search/CSP remain stable with 30 submissions in 2010, the same as in 2009. In NLP, we witnessed a decrease in submissions to 23 in 2010, versus the all-time high of 34 in 2009. These statistics should be taken with a grain of salt since many papers overlap several areas (e.g., NLP and ML, or Search/CSP and Planning), while the JAIR system requires the assignment of a single primary category.

As for published papers in 2010, the most popular topics were Search/CSP at 10, followed by MAS, KR and ML at 7-8 papers each. The biggest increase in published papers was in Probabilistic Reasoning (going up from 2 to 6) and Search/CSP (going from 7 to 10). The biggest decrease in published papers was in NLP (going down from 11 to 7), Planning and Scheduling (going from 8 to 4), MAS (going from 11 to 8), and ML (going from 6 to 3). Because the numbers of published papers in any given area is so small, one should not read too much significance in changes of 3 or 4 accepted papers in either direction.

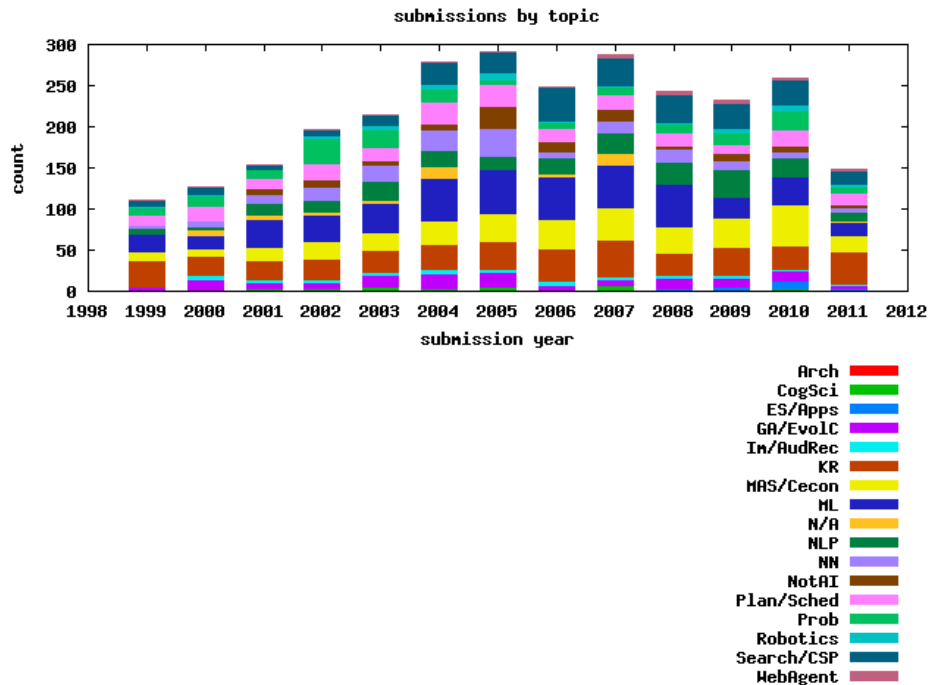


Figure 6: Submissions by topic organized by submission date.

Topic	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Arch	0	0	0	0	0	0	0	0	0	0	0	0	2
CogSci	2	2	3	3	6	4	6	1	7	2	1	4	0
ES/Apps	0	0	0	0	0	0	0	0	0	2	5	9	1
GA/EvolC	3	13	8	8	13	17	17	6	8	12	10	12	5
Im/AudRec	0	5	4	4	5	6	3	6	3	3	4	2	1
KR	32	22	22	25	26	30	35	38	44	28	34	28	40
MAS/Cecon	11	9	16	20	22	28	33	36	39	32	35	51	18
ML	21	17	34	33	35	53	54	52	52	52	25	34	17
NLP	7	4	15	14	23	21	16	19	25	27	34	23	12
NN	4	6	11	16	19	24	33	8	15	16	10	7	4
Plan/Sched	11	19	13	21	16	26	27	16	18	15	12	21	13
Prob	9	12	10	30	22	17	6	7	10	11	14	23	8
Robotics	2	2	0	3	4	5	8	3	1	3	6	7	3
Search/CSP	8	9	5	8	14	26	25	40	34	34	30	30	16
WebAgent	0	0	0	0	0	0	0	0	4	2	3	2	2
NotAI	0	0	7	9	6	8	27	12	14	4	8	6	5
N/A	1	7	5	3	4	13	1	4	14	0	1	0	1

Table 1: Submissions by topic organized by submission date.

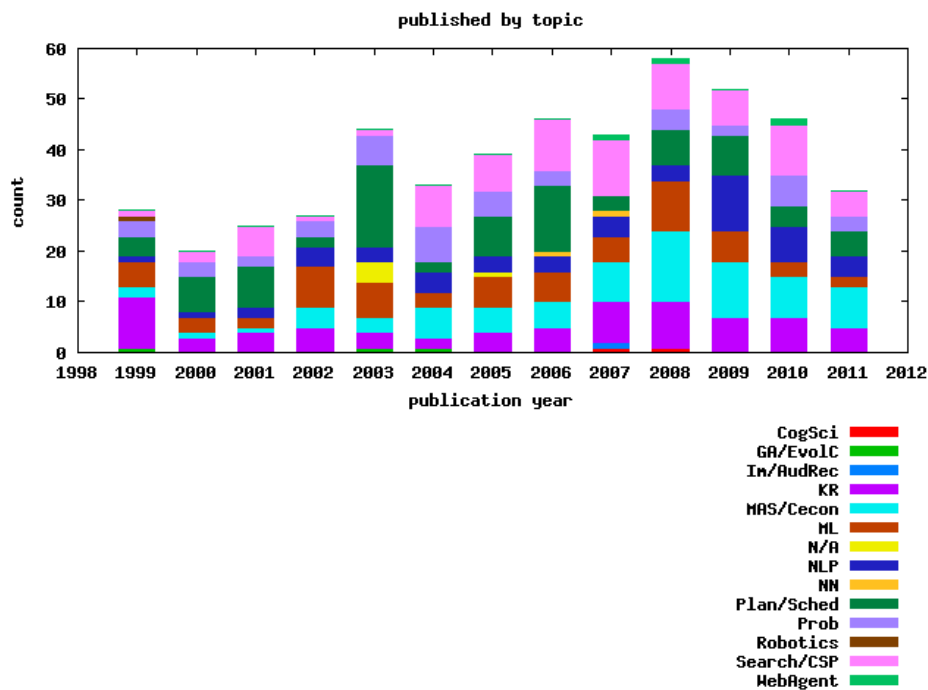


Figure 7: Published papers by topic organized by submission date.

Topic	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
CogSci	0	0	0	0	0	0	0	0	1	1	0	0	0
ES/Apps	0	0	0	0	0	0	0	0	0	0	0	0	0
GA/EvoIC	1	0	0	0	1	1	0	0	0	0	0	0	0
Im/AudRec	0	0	0	0	0	0	0	0	1	0	0	0	0
KR	10	3	4	5	3	2	4	5	8	9	7	7	5
MAS/Cecon	2	1	1	4	3	6	5	5	8	14	11	8	8
ML	5	3	2	8	7	3	6	6	5	10	6	3	2
NLP	1	1	2	4	3	4	3	3	4	3	11	7	4
NN	0	0	0	0	0	0	0	1	1	0	0	0	0
Plan/Sched	4	7	8	2	16	2	8	13	3	7	8	4	5
Prob	3	3	2	3	6	7	5	3	0	4	2	6	3
Robotics	1	0	0	0	0	0	0	0	0	0	0	0	0
Search/CSP	1	2	6	1	1	8	7	10	11	9	7	10	5
WebAgent	0	0	0	0	0	0	0	0	1	1	0	1	0
NotAI	0	0	0	0	0	0	0	0	0	0	0	0	0
N/A	0	0	0	0	4	0	1	0	0	0	0	0	0

Table 2: Published papers by topic organized by submission date.

Temporal statistics

Over the past few years, we have made concerted efforts to improve our editorial processes. We introduced stricter measures for tracking progress in reviewing and production. We streamlined the production steps and reduced the time given to authors to revise their papers from 3 months to 2 months. Additionally, we now allow Associate Editors to pre-approve papers that require very minor changes and instruct the authors to submit their revised versions directly to production. These measures have positively contributed to the reduction in processing times.

The average time from submission to a decision for *reviewed* papers reached an all-time low of 83 days in 2010, down from 87 days in 2009. For the first six months of 2011, the number of days was 71. This outstanding achievement is largely due to the excellent work of our editors and reviewers, as well as Lillian’s stellar job of promptly issuing reminders and identifying problems that require attention.

The average time to return a decision across *all submissions* was also improved in 2010. It was 58 days in 2010 versus 61 days in 2009, a bit over the all-time low of 56 days in 2005. For the first six months of 2011, the number was at 45 days. We have seen a consistent improvement in these numbers since they reached 69 days in 2008.

For papers published in 2010, the average time to review dropped to 88 days, down from 102 days in 2009. This average is close to the all-time low of 84 days in 2000. We are pleased to see the average time in 2010 return closer to the lowest turnaround time. For the papers published so far in 2011, the average time to review was 76 days.

The time from decision to publication reached an all-time low of 116 days in 2010, down from 132 days in 2009. We are pleased to see a continued reduction in the period from decision to publication since it reached its all-time high of 189 days in 2006. For the first half of 2011 it was at 109 days.

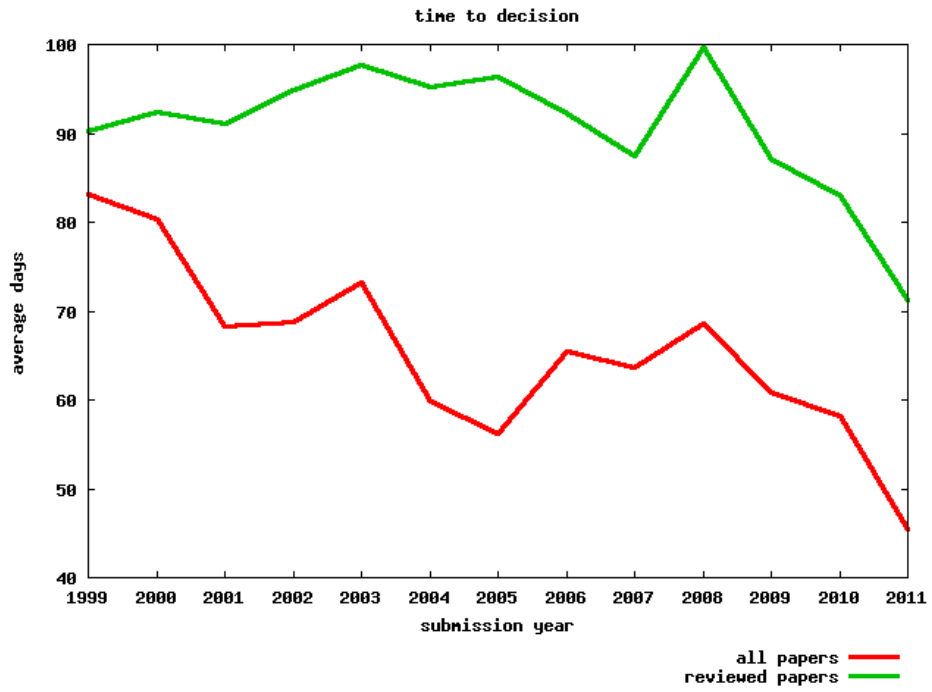


Figure 8: Time to a decision by submission date.

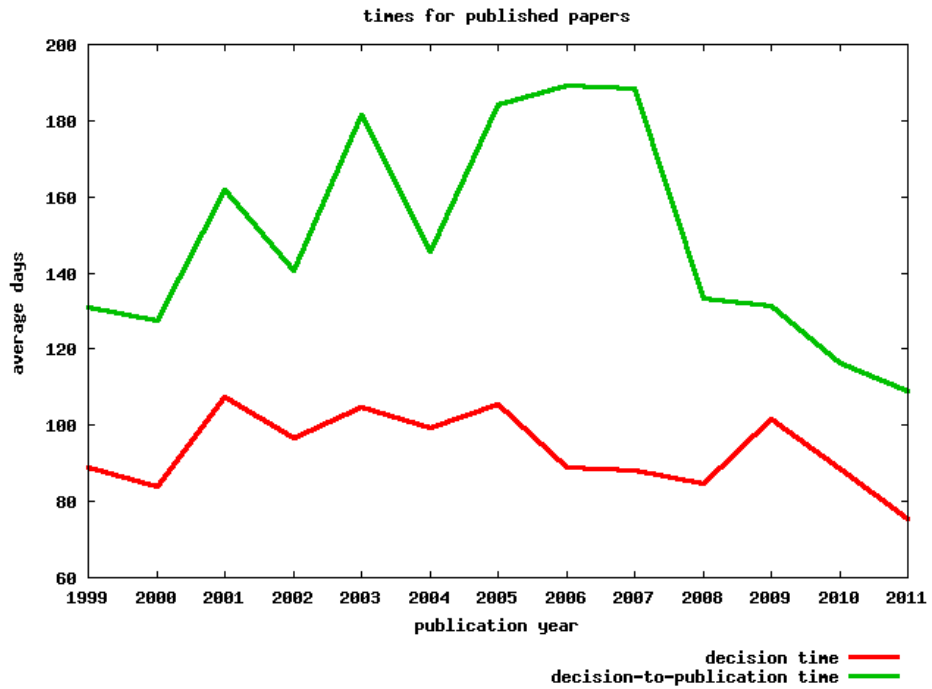


Figure 9: Time to publication by submission date.