Twenty-Ninth International Conference on Machine Learning

Business Meeting

John Langford and Joelle Pineau, Program Chairs
Andrew McCallum, General Chair
Charles Sutton, Local Chair
William Cohen, President of the IMLS Board

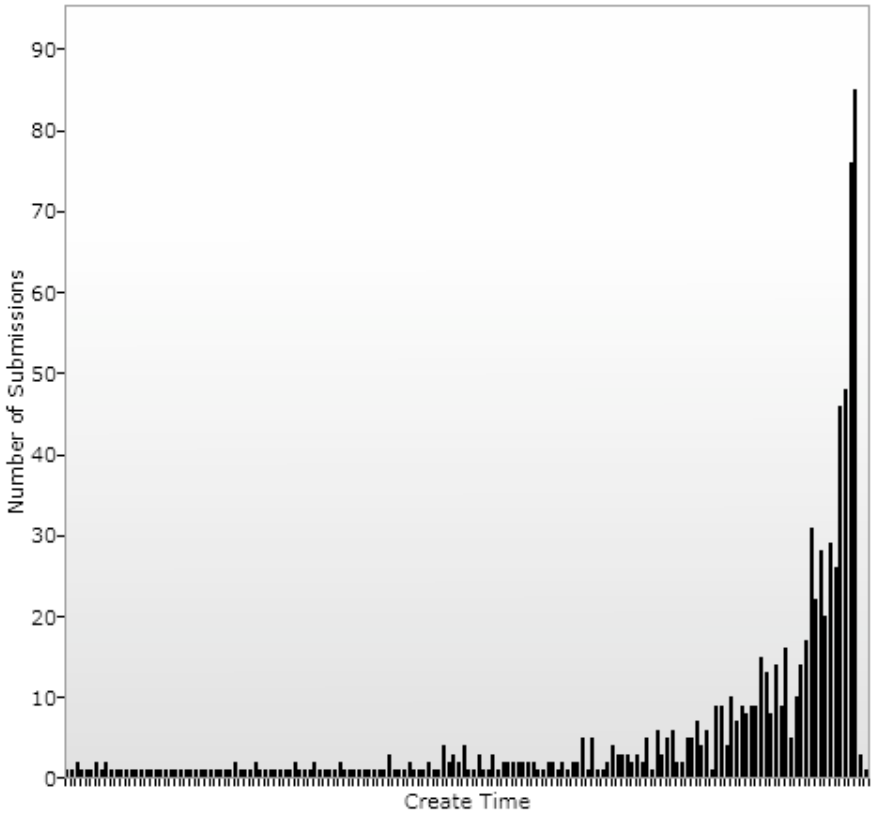
Thanks to our sponsors:

ICML 2012 by the numbers

- Registrations (as of this morning):
  - 744 delegates for main conference
  - 639 delegates for workshops
- 4 invited speakers, co-location with COLT
- 9 tutorials, 18 workshops
- 890 submissions, 242 accepted papers
  - +5 Invited applications papers
- 50 area chairs, 470 PC members

Submissions flowing in...

Time	# submissions created
Feb.10, 8pm	30
Feb.17, 8pm	81
Feb.22, 8pm	200
Feb.23, 8pm	322
Feb.24, 8am	458
Feb.24, noon	560
Feb.24, 4pm	693
Feb.24, 6pm	816
Feb.24, 8pm	942

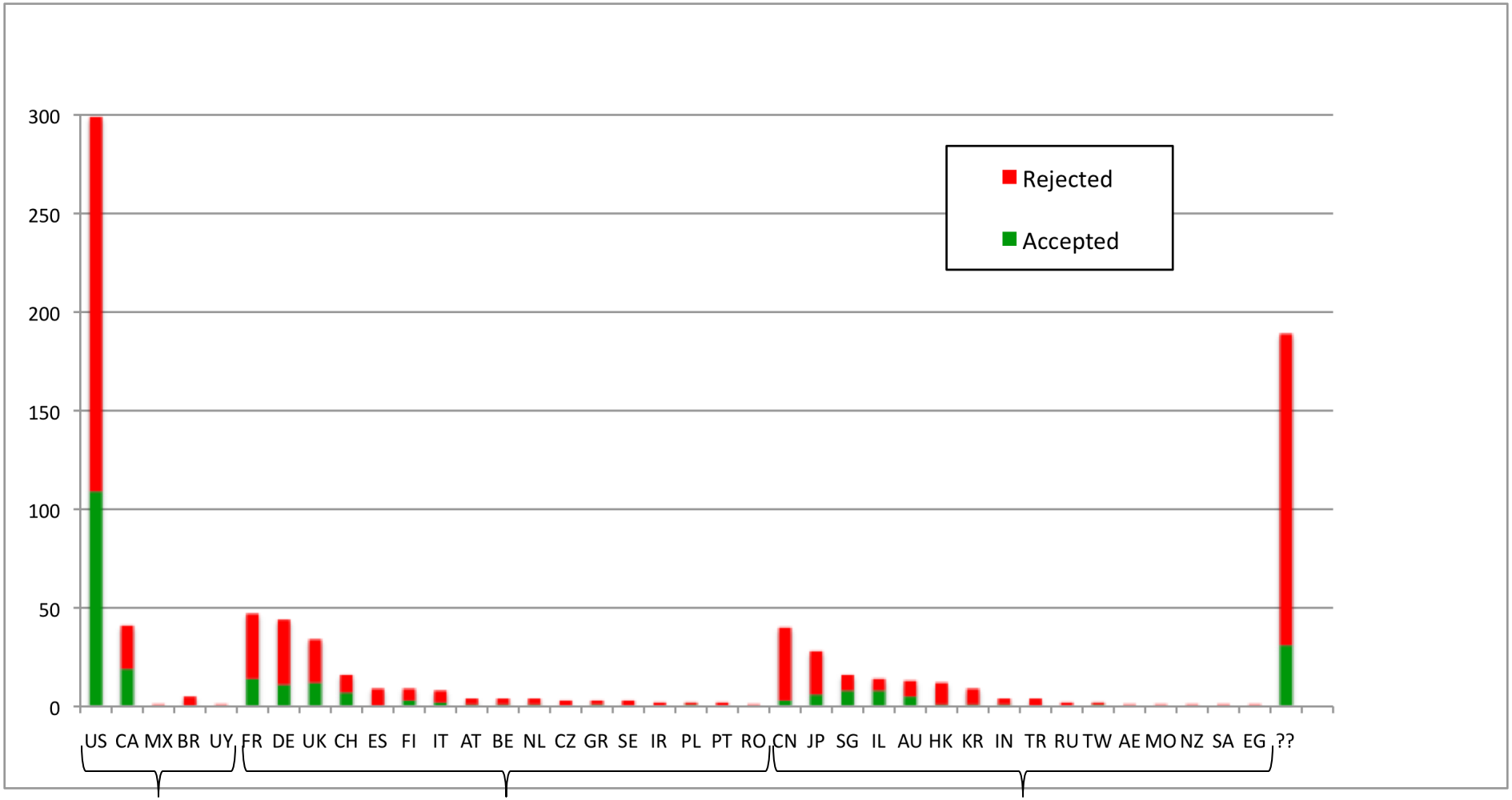


Submissions and Accepted Papers

	2008	2009	2010	2011	2012
Submissions	583	595	594	589	890
Accepted	158	160	152	152	242
Acceptance Rate	27.1%	26.9%	25.9%	25.8%	27.2%

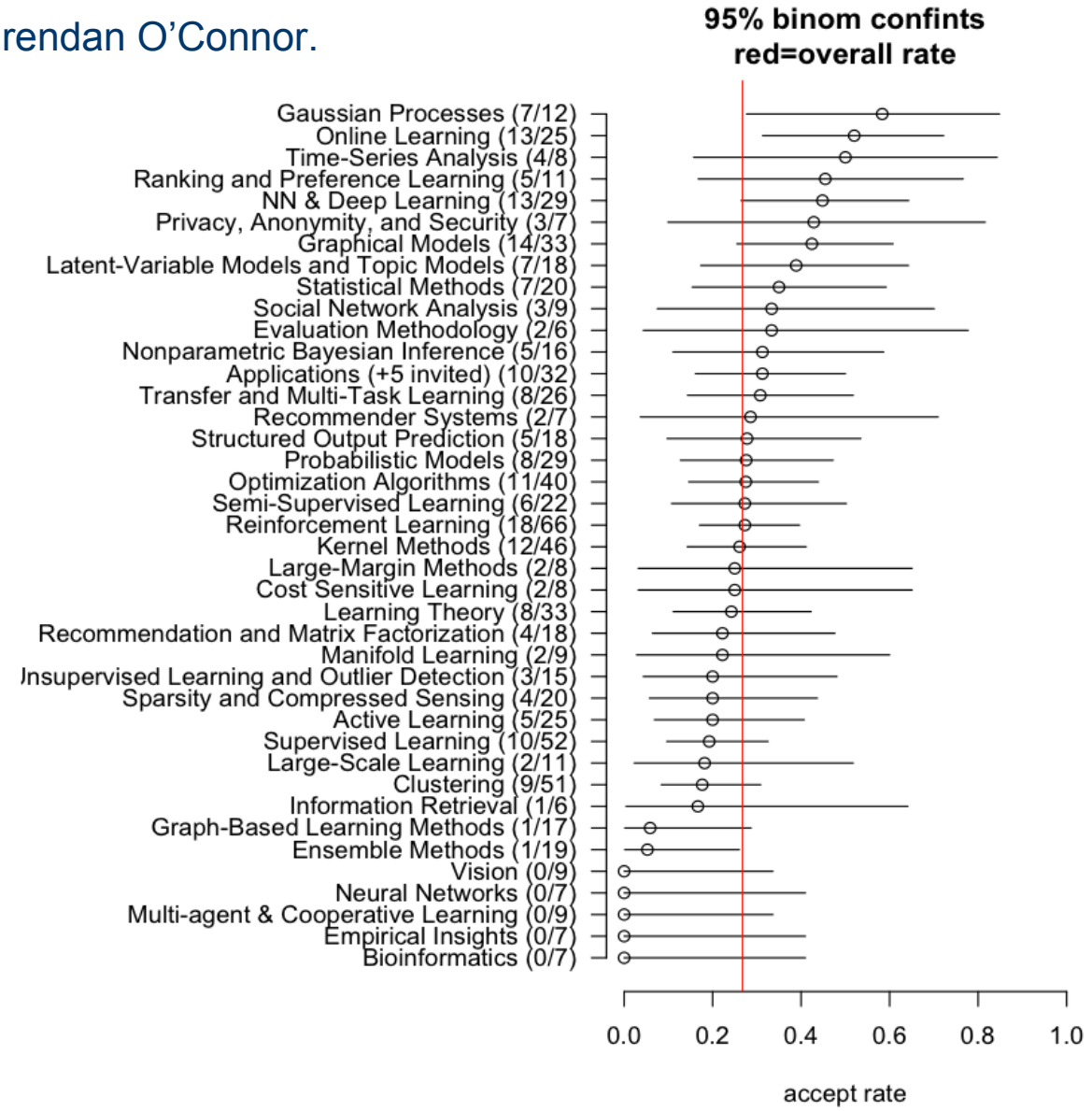
Submissions by Geographic Regions

By domain name of primary contact author.



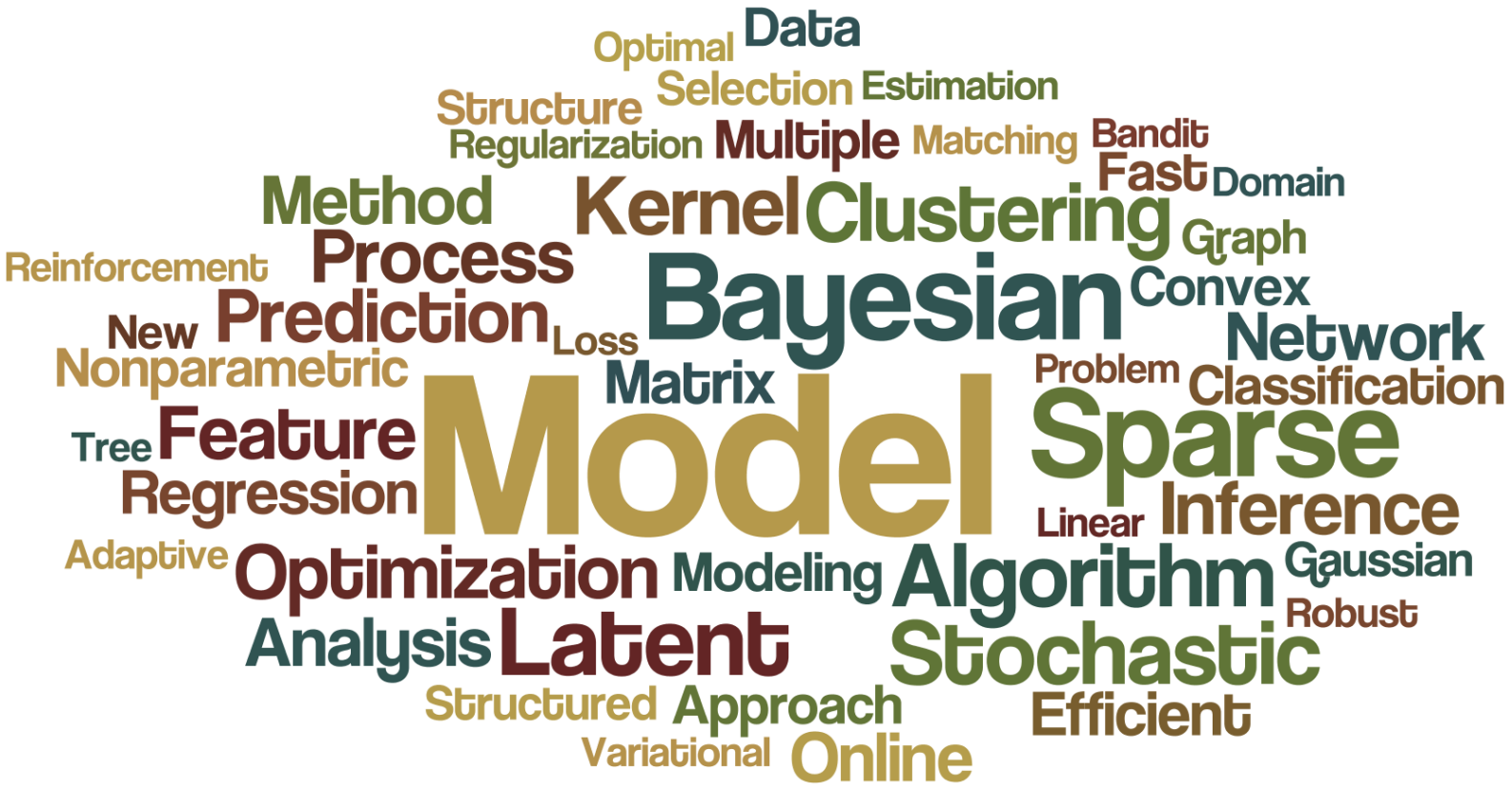
Submissions by subject area

Visualization by Brendan O'Connor.



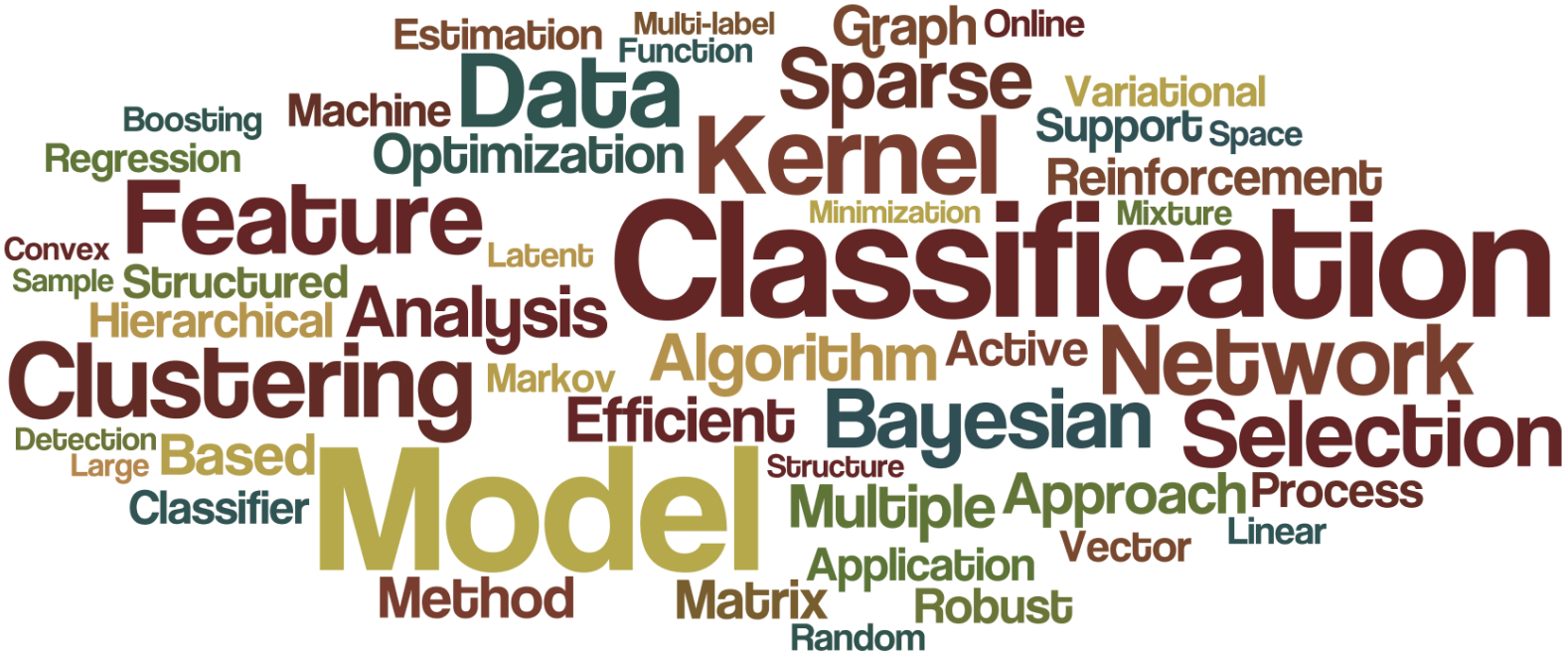
Accepted Titles

Visualization by Mahdi Milani Fard.



Rejected Titles

Visualization by Mahdi Milani Fard.



DECISION PROCESS

Area chairs and program committee.

- **Area chairs**: 69 invited, 50 accepted
- **Reviewers**: ~700 invited, 389 accepted
  - More were recruited for 1-2 papers
  - Total = 470 reviewers
- **PC composition**: 80% researchers, 18% students, 2% other

- **Issue**: Many reviewers want to handle fewer papers. Authors want highly-qualified reviewers. Submissions are on the rise. Where do we get many more highly-qualified reviewers?
- **Hint**: Stop sending so many papers, or accept to review more!

Reviewing process overview

- **Fall 2011**: Generate list of subject areas. Recruit PC. Send out call for papers. Open submission site.
- **February 10**: Workshop and tutorial deadline.
- **February 24**: Paper submission deadline.
- **March 2**: Bidding deadline for ACs and reviewers.
- **March 6**: 1 reviewer + 2 ACs assigned per paper, using automated system.
- **March 13**: 2nd and 3rd reviewer per paper assigned manually by ACs.
- **March 30**: Reviews due.
- **April 9-12**: Author response period.
- **April 13-23**: Discussion period.
- **April 23**: Meta-reviews due.
- **April 30**: Author notification.

Automated paper matching

- Integrated Toronto Matching Service (TMS), by Laurent Charlin and Rich Zemel, within CMT, to:
  - Generate bid lists for ACs and reviewers
  - Find first automated assignment (1 reviewer + 2 ACs per paper).
  - Generate suggestion lists of candidate reviewers (10 per papers) to help ACs manually assign 2nd and 3rd reviewer.

AC and Reviewer assignment

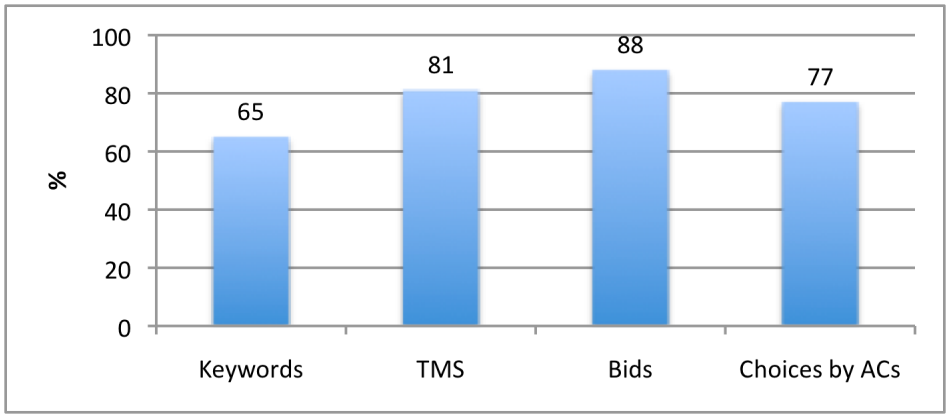
- **Objective:** To have high-quality reviews for all papers. (Expertise to achieve good decision + diversity to reduce noise).

- **Process**:
  - Single round of reviewing, 3 (double-blind) reviews per paper.
  - 1 reviewer and 2 ACs were assigned automatically (with manual tuning) using TMS scores, bids, keywords.
  - 2 more reviewers were manually assigned (one per AC), based on a candidate suggestion list.

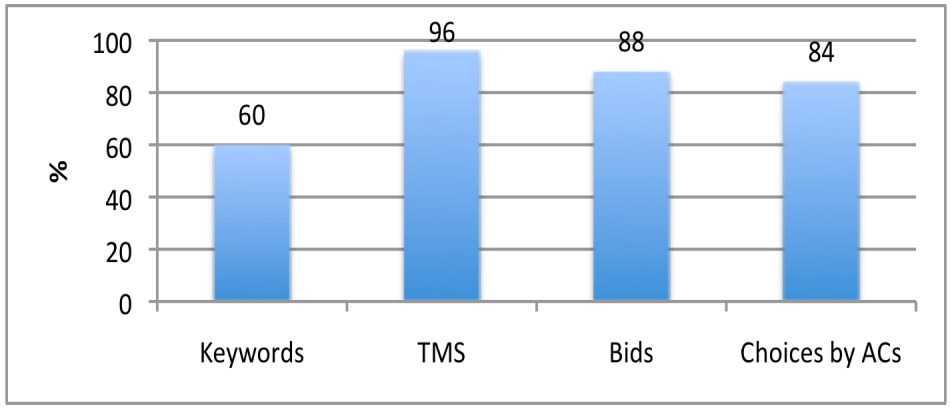
- **Observation**: Many ACs reached outside the PC to seek high-quality reviews for specific papers.

Survey says:

"Which information do you support using for assignment of papers to PC members? (choose all that apply)"



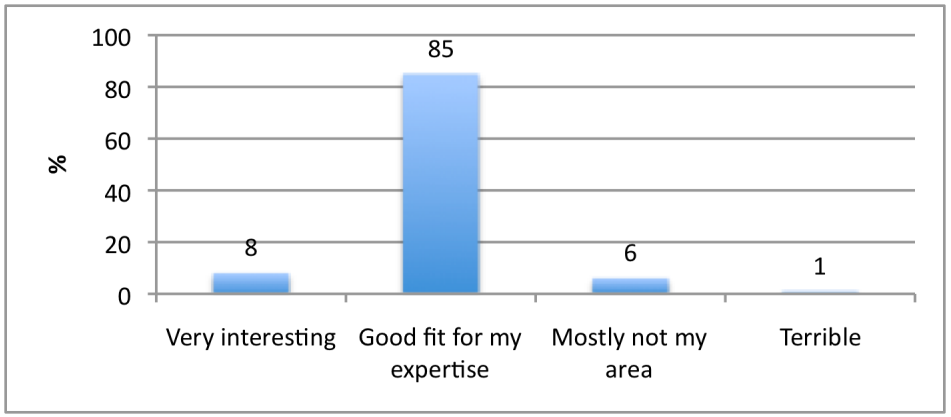
ACs, PC (n=195)



ACs only (n=25)

Survey says:

"How did you like your assignments"

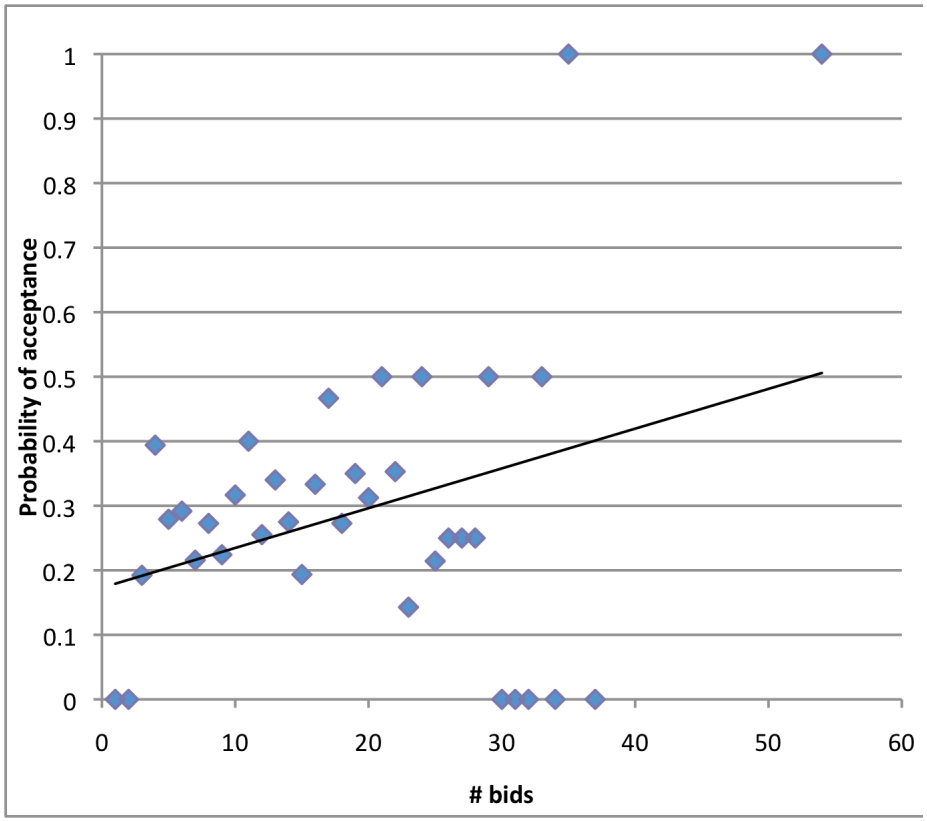


ACs, PC (n=197)

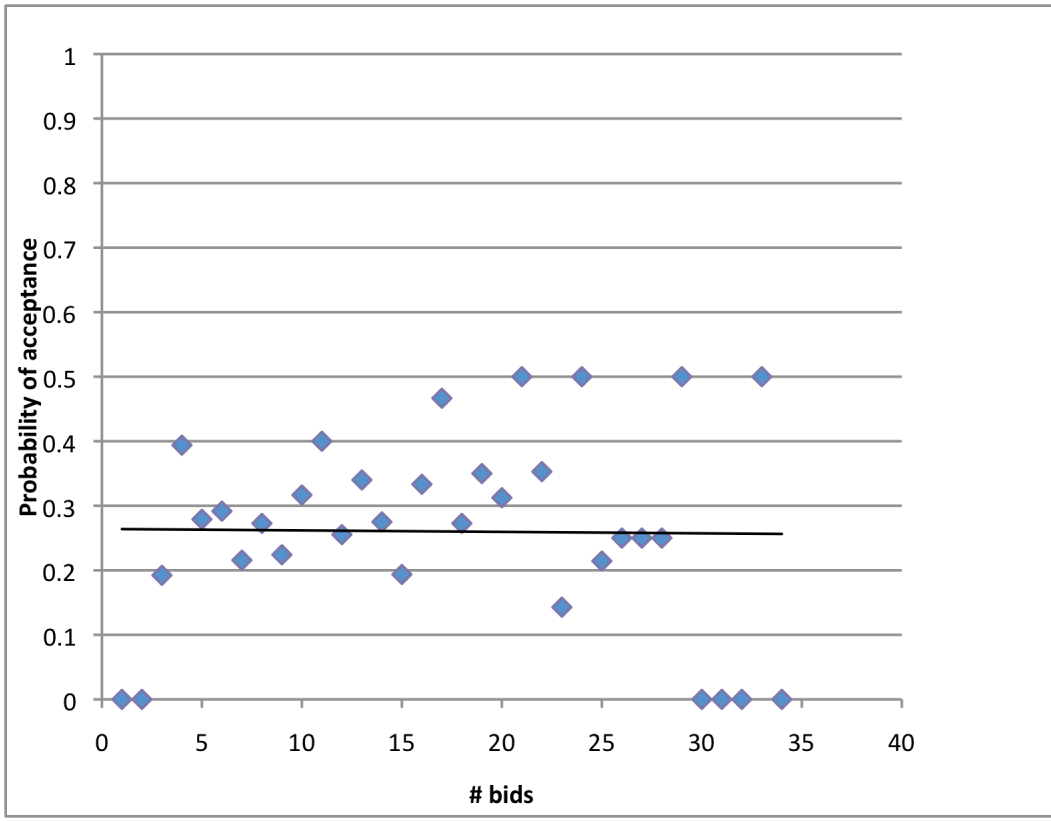
ACs only (n=25)

Do we really need to review the papers?

The predictive power of bids…



removing the outliers…

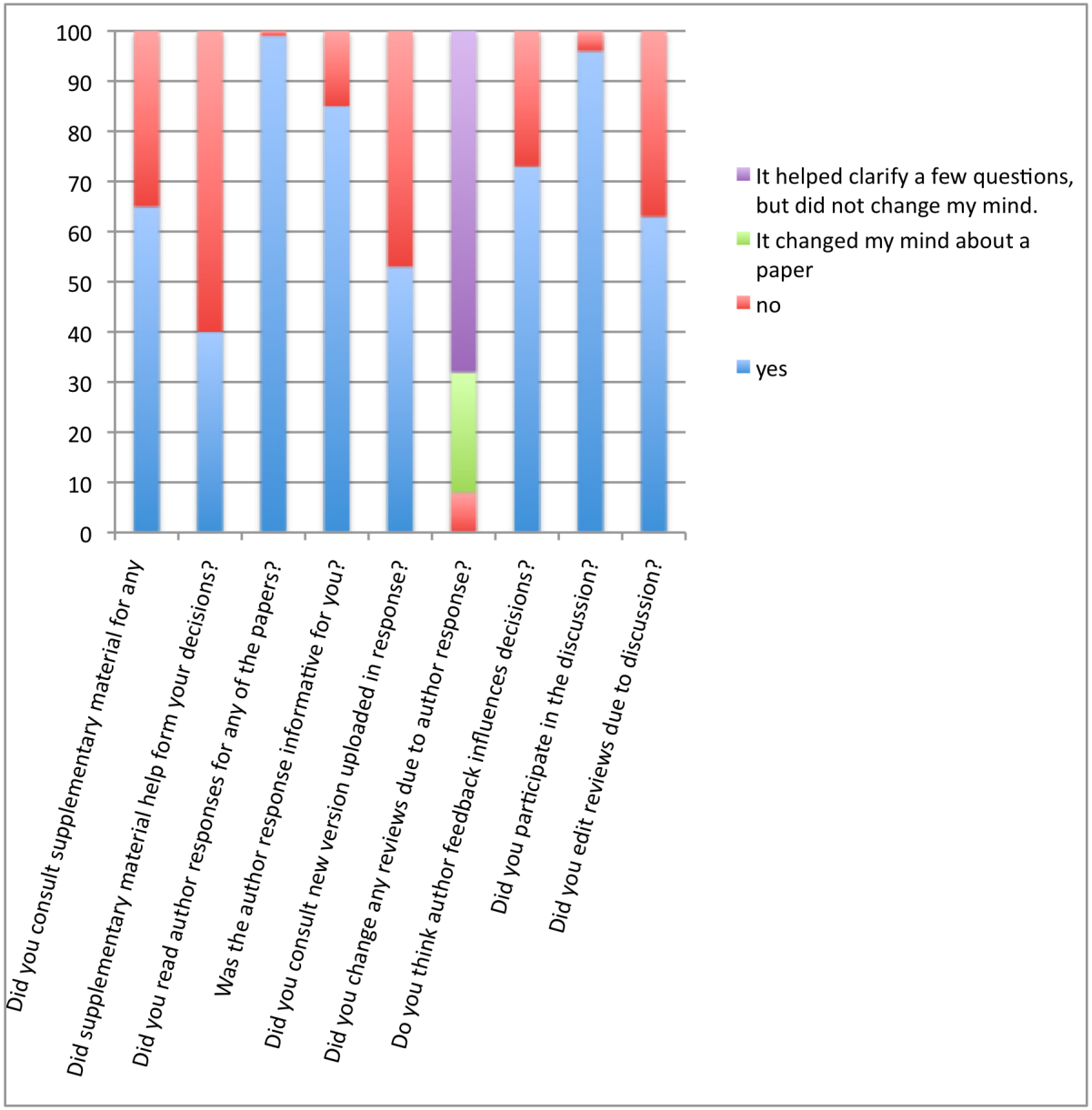


Reviewing & Discussion Process

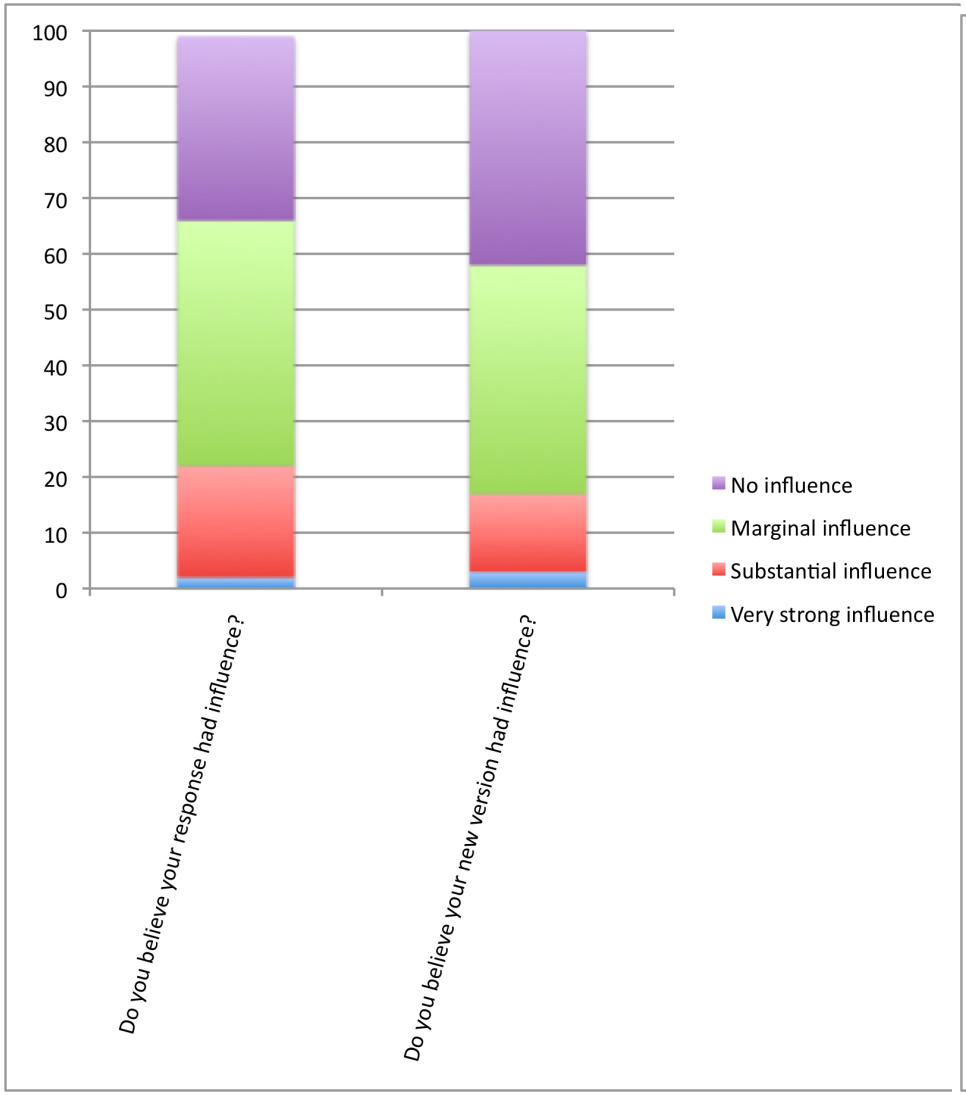
- Single round of reviewing this year.
  - Why? Few decisions were made in first round in previous years.
- Author feedback: 4000 characters + upload new version.
- Discussion encouraged after author response, initiated by either ACs or PC (sometimes by program chairs).

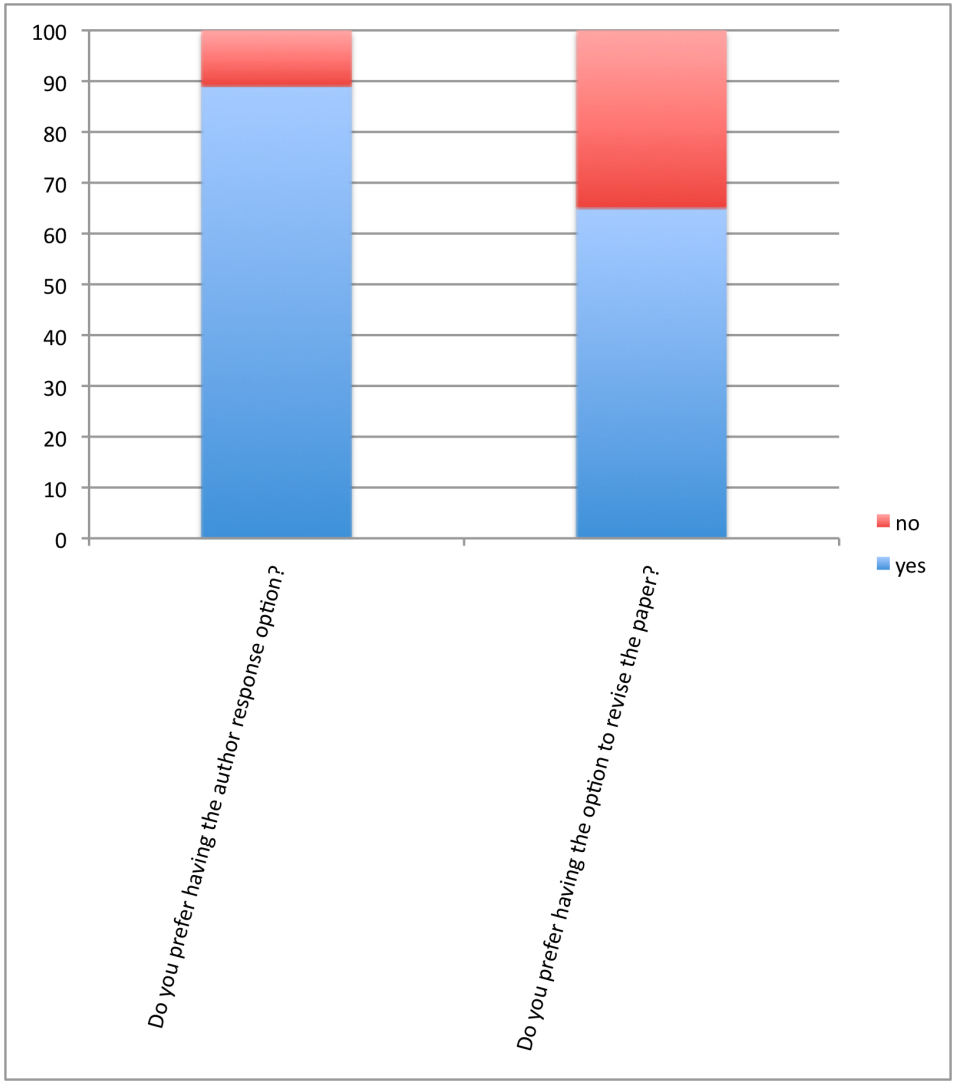
Survey says:

ACs, PC (n=[189,198])



Survey says:





Authors (n=[365,461])

Decision Process

- **Objective**: To ensure fair and robust decisions for all papers; to give a chance to controversial papers.

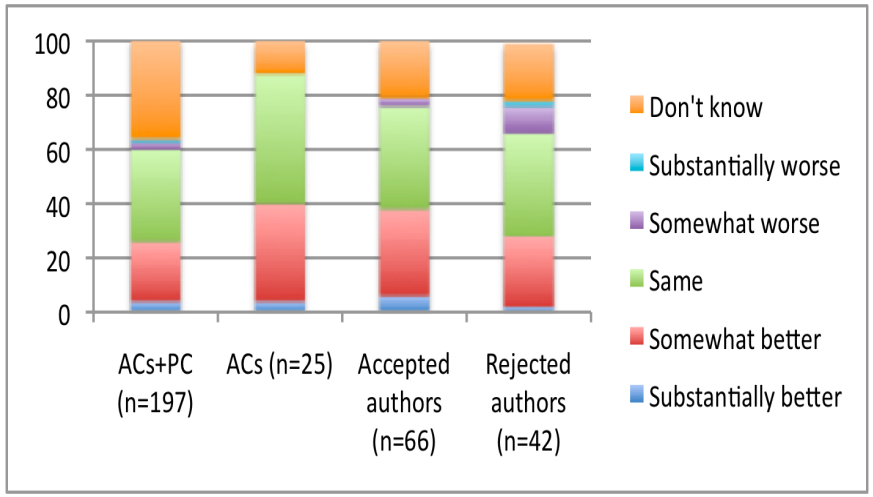
- **Process**:
  - Each paper received a meta-review by primary AC.
  - If reviewers disagreed (mix of accept/reject), second meta-review (independently) by the secondary AC.
  - If ACs disagreed (mix of accept/reject), discussion of both ACs with the program chairs.
  - All meta-reviews were reviewed by program chairs.

- **Issue**: Substantial work for Acs!

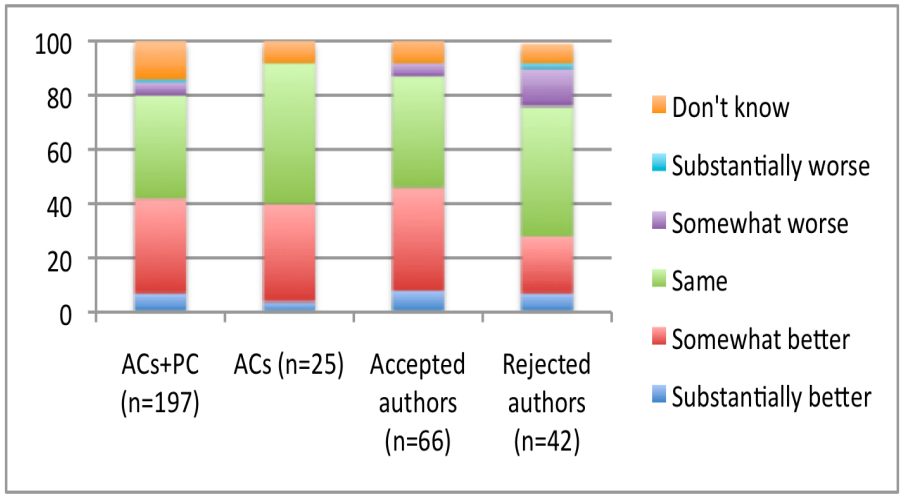
Survey says:

"Do you think the ICML 2012 reviews were different in quality from the reviews at....

previous ICMLs

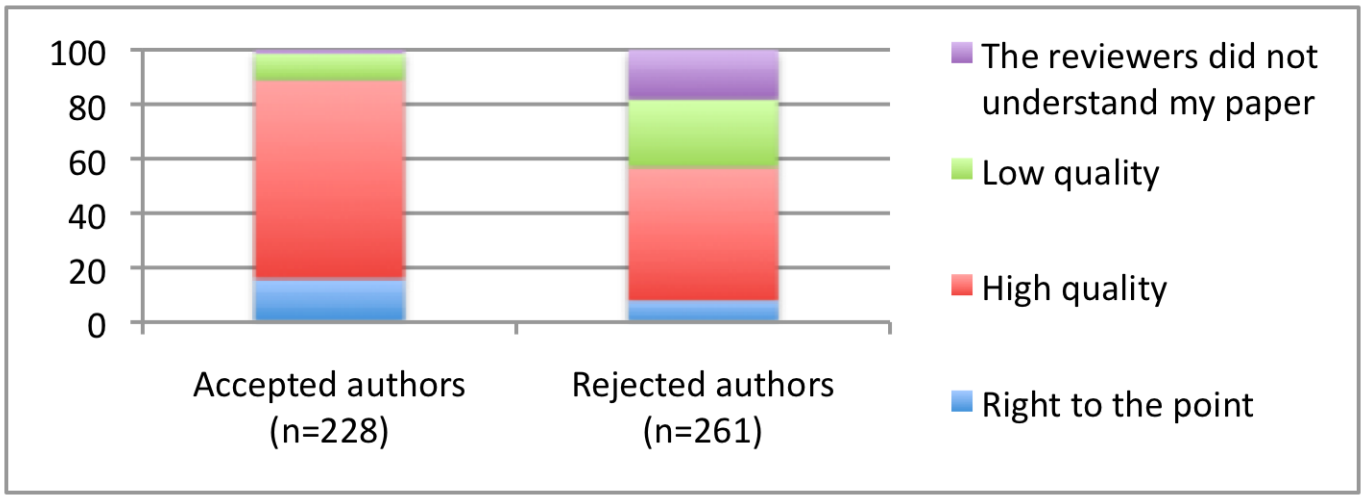


other similar conferences"



Survey says:

"The majority of the reviews of your paper were:…."

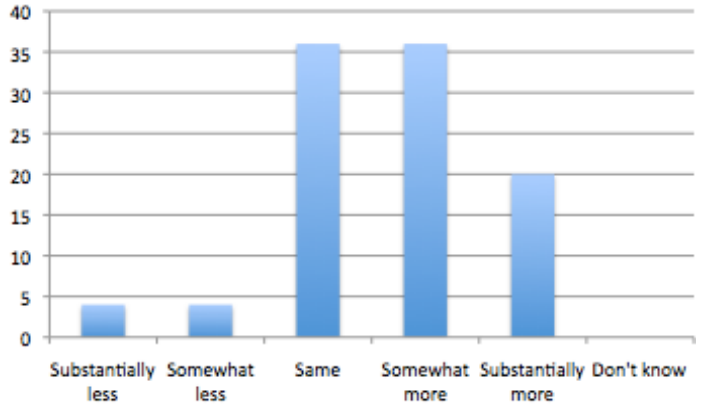


Reviewing Load

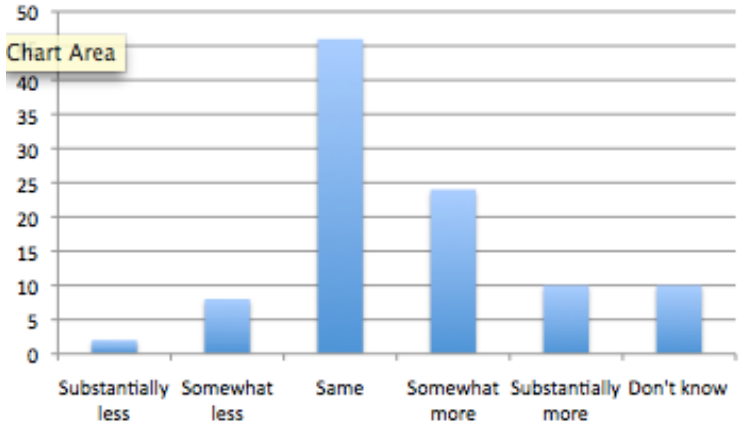
- Area Chairs:
  - Number of papers to review:
    - ★ Median = 34 primary+secondary (Min: 21; Max: 39)
  - Time spent on the reviewing process:
    - ★ Mean = 43hrs (n=13)

Survey says:

"Compared to other conferences, how much effort was it to participate in the program committee for ICML 2012?"



- PC Members:
  - Number of papers to review:
    - ★ Median = 6 (Min: 1; Max: 9)
  - Time spent on the reviewing process
    - ★ Mean = 27hrs (n=148)



Best Papers

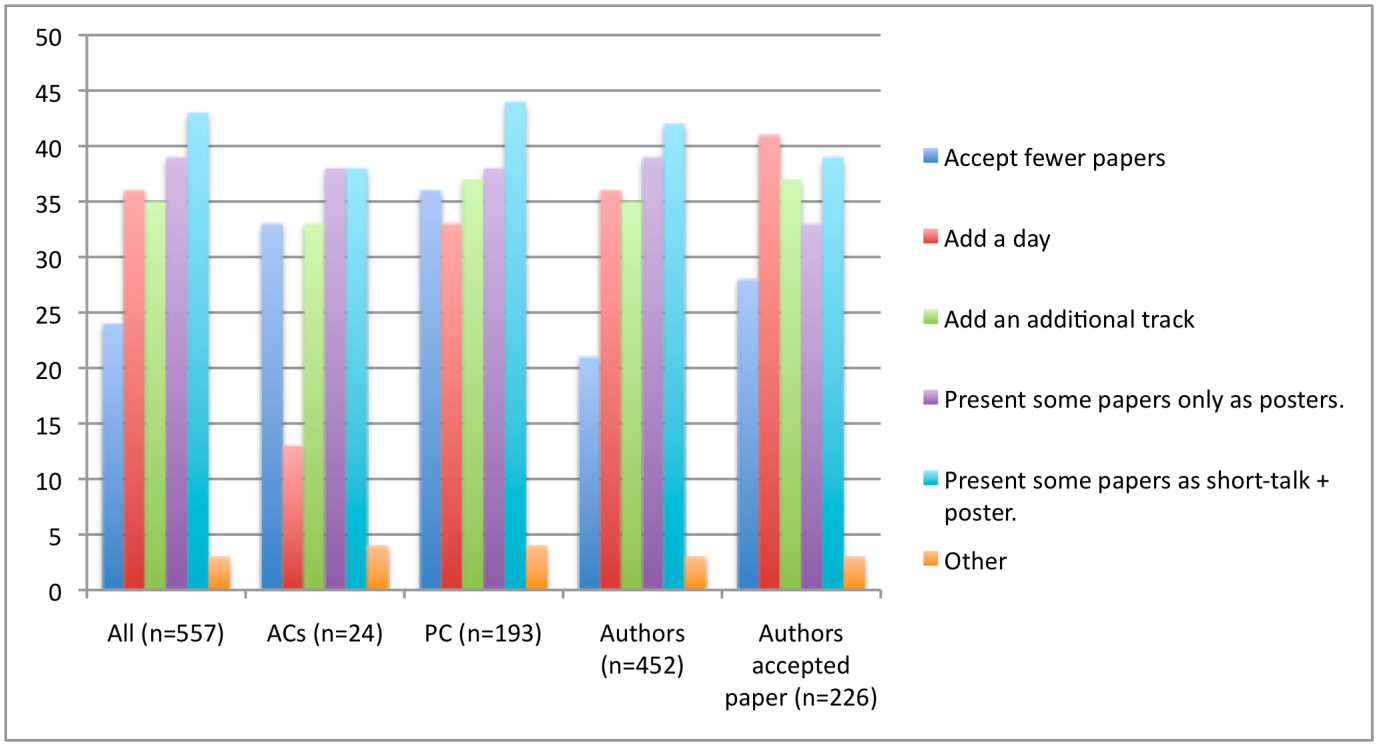
- Best Paper Committee: all ACs.
- Test-of-Time Award:
  - A few nominations, but strong support for winner
- Best Paper Award:
  - 9 papers nominated by ACs
  - Ran error-correcting tournament asking ACs to compare pairs of papers.
  - 2 strong contenders emerged.
  - Program chairs made final decision.
- Student Authors of Best Paper and nominated best papers received awards sponsored by MLJ.

Invited Applications Papers (previously Cross-Conference Track)

- Continued tradition started in 2010.
- Commmittee of AC members with links to other communities.
  - Drew Bagnell, Samy Bengio, Hal Daume, Thorsten Joachims
- Committee selected papers in past 1-2 years (mostly conference papers), from a variety of related fields.
  - Vision, robotics, natural language, HCI, databases, etc.
- Five invited papers were presented in a parallel session.

Scheduling

"With 242 accepted papers, ICML can no longer offer a full talk to all accepted papers (assuming 5 parallel tracks over 3 days). Which of the following do you support (choose all that apply):"



The workshop program has been extended to 2-days. What is your opinion of this new format? 61% for, 7% against, 32% don't care.

Summary: What's new this year

- **Submissions**:
  - Later submission deadline.
  - 50% submission increase.
  - Not-for-proceedings papers. AIStats resubmissions.

- **Reviewing**:
  - Overall, significantly more transparent process.
  - Using TMS for shortlisting, assignments, and recommendations.
  - Primary and secondary AC assigned to each paper.
  - Diverse reviewer assignment, incl. AC-reviewer assignments.
  - Back to single phase of reviewing.
  - Option to upload new version of paper during author response period.
  - Doubly-robust decisions (need 3 mistakes to reach a wrong decision.)
  - Error-correcting tournament best paper award selection.

- **Conference**:
  - Joint ICML/COLT day. Open-problem session (with COLT).
  - Mixed invited / submitted tutorials.
  - Regular and short talks during technical program.
  - Added third night of posters.
  - Two days of workshops. Workshop banquet.
  - Setting up icml.cc, including per-paper discussion pages.
  - Papers on arXiv.

THANK YOUS

Organization

General Chair:	Andrew McCAllum (University of Massachusetts Amherst)
Program Chairs:	John Langford (Yahoo! Research -> Microsoft Research)
	Joelle Pineau (McGill University)
Local Chair:	Charles Sutton (University of Edinburgh)
Workshop Chairs:	Francis Bach (INRIA)
	Irina Rish (IBM Research)
Tutorial Chairs:	Olivier Chapelle (Yahoo! Research -> Criteo)
	Robert Schapire (Princeton University)
Publication Chairs:	Kilian Weinberger (Washington University, St. Louis)
	Amir Globerson (Hebrew University of Jerusalem)
Volunteers Chair:	Iain Murray (University of Edinburgh)
Scholarship Chair:	Jesse Davis (Katholieke Universiteit Leuven)
Publicity Chair:	Jingrui He (IBM Research)
Funding Chair:	SVN Vishwanathan (Purdue University)
Workflow manager:	Mahdi Milani Fard (McGill University)
Webmaster:	Francesco Figari (University of Edinburgh)
Local organizing committee:	Chris Williams, Amos Storkey, Guido Sanguinetti, Sethu Vijayakumar
Last year‘s PC-chairs:	Lise Getoor, Tobias Scheffer

Thanks to

- The Area Chairs!
- The PC Members!
- Our sponsors!
- IMLS board!
- The Student volunteers!
- The Authors!
- All conference attendees!