IEEE INFOCOM 2019
TPC Informational Meeting
Honolulu, HI
April 18, 2018

Technical Program Committee Co-Chairs
Wenjing Lou (Virginia Tech)
Giovanni Pau (Sorbonne Université / UCLA)
Tilman Wolf (University of Massachusetts)

TPC Vice Chair for Information Systems
Jian Tang (Syracuse University)
Goals for INFOCOM 2019

• Continue the success of previous INFOCOMs
• Our responsibility: strong technical program
  • Attract high-quality submissions
  • Ensure high-quality, constructive reviews
  • Implement a fair selection process
Outline

• Review process overview
• Specific duties
  • Area TPC chairs
  • Regular TPC members
  • Advisory TPC members
• Reviews and ranking
Review Process in a Nutshell

Phase 1: Assignments to ATPCs

TCP Co-Chairs

Phase 2: Early rejects

Phase 3: Assign 3 reviews to each paper

Phase 4: Online discussion/meta reviews

Phase 5: ATPC recommendations

Phase 6: TPC meeting
## Technical Program Committee

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## TPC Diversity Statistics – Area Chairs

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# Workload

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TPC Area Chair Tasks

• Upload your signature papers (May 15)
• Oversee the review of about 30 papers
• “Early reject”
  • Clearly out of scope
  • Violating the double-blind policy
• Identify low-quality reviews
  • Lacking on substance
  • Request the reviewers to revise and substantiate their reviews
TPC Area Chair Tasks

• Supervise the discussions
  • Intervene if the TPC-Lead is not effective

• Ensure meta review quality
  • Consistent with the reviews and discussions

• Assign additional reviews from advisory TPC
  • If existing reviews do not reach consensus
  • To make up missing reviews
    • Three or more reviews for each paper

• Communicate problems to the TPC co-chairs as early as possible
TPC Area Chair Tasks

• Recommendations to the TPC Co-Chairs
  • Accept, reject, discuss at the TPC meeting

• Participate in the TPC meeting
  • Lead group discussions
  • Tempe, AZ, USA at Arizona State University

• Rate the reviews

• Serve as session chair
Regular TPC Member Tasks

• Upload your signature papers (May 15)
• Review about 12 papers
  • Cannot decline the review assignments ...
  • ... unless COI not recorded in EDAS (let us know ASAP)
• Can delegate up to 4 papers to experts
  • Not your students, please
• Serve as TPC-lead (meta reviewer)
  • About 4 papers
• Start and participate in discussion
  • TPC-lead responsible for driving discussion
  • Fine to change your review/scores, if appropriate
Regular TPC Member Tasks

• Rate the peer reviews
• Rank your papers
  • Baochun will explain more later ...
• Attend the TPC meeting if not impossible
  • Tempe, AZ, USA at Arizona State University
Advisory TPC Member Tasks

• Upload your signature papers (May 15)
• Will be assigned reviews during discussion phase
• Review about ≤ 5 papers
  • Cannot decline the review assignments
• Your review is critical:
  • Papers with controversial existing reviews, missing reviews
  • IEEE ComSoc requires 3 reviews for each submission
• Join the discussion after completing review
• Rate the peer reviews
• Rank your papers
• Attend the TPC meeting if possible
Important Dates

• Upload your papers: May 15
• Paper registration/submission: July 24/31
• Paper review assignments
  • To ATPC: August 7
  • Early rejects: August 14
  • Assignment to regular TPC members: August 21
• Reviews
  • Reviews due: October 5
  • Online discussion: October 6 – October 21
  • Meta-reviews due: October 22
  • ATPC recommendation due: October 29
• TPC meeting in Tempe, AZ: November 17
• Notification: November 30
Conflict of Interest and Triple-Blind Review Policy

- COI is taken into account in review assignments
- Author names are blind to ATPCs and TPC members
- Reviewer names are blind to authors
- Reviewer names are blind to ATPCs and peer reviewers
- You can still send email to a specific TPC member through EDAS
Review Assignments

• Upload your signature papers (Deadline: May 15)
  • Select ~ 30 papers that best represent your expertise and interest
    • Can be published at any time, but must be your own papers
  • Upload the PDF files to a server
  • Existing TPC members: time to update your files
  • Key step for high quality reviews

• Make sure your email (as in EDAS) works
  • Full mailbox? Email alias? Spam filter ...
  • Emergency contact information is strongly encouraged

• Update your COI information in EDAS
Review Assignments

- **Erie** review assignment system

- Use **Latent Semantic Indexing** to compute the suitability score between a submitted paper and a reviewer's representative papers

- Solve an optimization problem that maximizes the total suitability score across all submitted papers to the conference

- Fully tested at INFOCOM 2015, 2016, 2017, 2018

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Ranking Papers

Each TPC member rank his/her own batch of papers to be reviewed

Use an algorithm to convert local to global ranking.

Paper #1: (3, 3, 2), ranked 136
Paper #2: (3, 2, 2), ranked 457
Paper #3: (3, 3, 3), ranked 980
EDAS: ranking papers

In the paper review form, you may enter an initial rank for each paper —

*Ranking: Ranking - unique across your papers

-- not ranked yet --

1st
2nd
3rd

Save
EDAS: hidden treasure

Can you find a **double arrow** in this figure?
EDAS: ranking papers

Hidden treasure in EDAS: an easy-to-use drag-and-drop interface to adjust your own rankings of papers
INFOCOM 2018 TPC meeting: the Schulze method

Widely used algorithm to solve this well-known problem in social choice theory

Polynomial time algorithm: $O(n^3)$, where $n$ is the number of papers — took 1.5 hours for 1600 papers and 19000 preference pairs

A long list of desirable properties

Used by hotcrp.com as its default ranking algorithm
Maximum Distance Bonus = 0.5

Distance bonus
Use the Floyd-Warshall algorithm to find the strongest path between all pairs of papers.

For every pair of papers, compare the strongest path in both directions to see who the winner is.

Rank papers based on the number of wins against all other papers.
INFOCOM 2019 TPC meeting: New ranking algorithm based on spectrum ranking
Spectrum Ranking

- **PageRank** (Page, *et al.*, 1998): ranks web pages according to the stationary distribution of a random walk on the hyperlink graph.


- **Luce Spectrum Ranking** (Maystre *et al.*, NIPS 2015): extending Rank Centrality for aggregating partial rankings — it’s not a good idea to simply break them into pair-wise rankings.
Luce Spectrum Ranking


- **Key insight:** Builds a Markov chain that breaks rankings into pairwise rate contributions, but weights the contributions differently depending on the rank of the winning item.
Luce Spectrum Ranking

- Computationally efficient with large datasets

- The key step, finding a stationary distribution, can be offloaded to commonly available linear-algebra primitives

- By leveraging a connection between the maximum-likelihood (ML) estimate and the stationary distribution of a Markov chain
Applying Luce Spectrum Ranking on 1600 papers and 19000 pairwise comparisons: 0.23 seconds
Comparison: Schulze vs. LSR

Schulze

Luce Spectrum Ranking
Comparison: Schulze vs. LSR

the **average rank** of all accepted papers in INFOCOM 2018

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<tr>
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High-Quality and Timely Reviews

• Critical for the success of the conference
• Please do your reviews and meet the deadline
• Review with the quality that you would like to receive for your own papers
• Be fair and open-minded
  • Papers that reflect forward thinking on emerging topics, more likely to attract audiences and citations
  • Papers that involve rigorous real-world system implementations
  • Papers that propose sound theoretical contributions with practical implication
High-Quality and Timely Reviews

• Keep your assignments/reviews confidential
• Delegate to qualified (non-student) reviewers under the following conditions
  • Done within two weeks of the review assignment
  • Personally ensure the delegated review quality
    • Timely and high-quality review
  • Present opinion of delegate reviewer if the paper is discussed at TPC meeting
Rate Reviews

• Reviews will be rated
  • Ratings by Regular/Advisory TPC members and ATPCs

• Distinguished TPC members will be recognized
  • Based on own reviews as well as delegated reviews
  • Identified on conference website
Questions?

• Contact us anytime
  • Wenjing Lou: wjlou@vt.edu
  • Giovanni Pau: giovanni.pau@upmc.fr
  • Tilman Wolf: wolf@umass.edu