



COMPUTATIONAL COMPLEXITY FOUNDATION

Proceedings of the 2018 Business Meeting

Date: June 22, 2018, 5:15pm-6:30pm

Location: University of California, San Diego, USA

Chair: Dieter van Melkebeek, President of CCF

Scribe: Sevag Gharibian, Secretary of CCF. Edited by the Chair. Approved by the Board.

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Convention for attributing quotes:

C: Chair

S: Speaker for the topic (indicated if other than the Chair)

O: Other participant

CCC'18 PC Report and Awards

Speaker: Rocco Servedio, Program Committee Chair for CCC'18

- Thanks to other PC members: Eric Allender, Paul Beame, Eric Blais, Mark Braverman, Michael A. Forbes, Shafi Goldwasser, Srikanth Srinivasan, Thomas Thierauf, Madhur Tulsiani, Henry Yuen
- Acceptances and submissions
 - 28 acceptances out of 74 submissions (38%)
 - Comparison to recent years
 - 2017: 33/98 (34%)
 - 2016: 34/91 (37%)
 - 2015: 30/110 (27%)
 - 2014: 29/94 (31%)
 - 2013: 29/90 (32%)
 - 2012: 34/119 (29%)
 - 2011: 30/83 (36%)
 - Moderate number of accepts yielded relax schedule and 2 hours of tutorials
- PC process
 - Each paper assigned to 3 PC members, for a total of 20-21 papers per member
 - 10 weeks from submission deadline to notification date, sufficient time
 - To accommodate STOC notifications + 5-day turnaround, would have had exactly 7 weeks (too rushed)
 - 5 days for paper bidding/assignments
 - 6.5 weeks for reviews/subreviews (“shell reviews” due after 1 week)
 - 2+ weeks of online discussions and decisions, meeting via Google Hangout to make final decisions
 - Few days to sanitize reviews, discuss award papers, special issue papers, etc
- Submissions by topic (some papers in multiple categories):
 - Pseudorandomness and derandomization: 11 (5 accepted, 45%)
 - Circuit complexity: 7 (3 accepted, 43%)
 - Communication complexity: 4 (2 accepted, 50%)
 - Reducibility and completeness: 4 (1 accepted, 25%)
 - Algebraic complexity: 6 (4 accepted, 67%)
 - Quantum computation: 9 (3 accepted, 33%)
 - Coding theory: 3 (1 accepted, 33%)
 - Interactive and probabilistic proof systems: 5 (1 accepted, 20%)
 - Sublinear computation: 5 (3 accepted, 60%)
 - Average case complexity: 5 (1 accepted, 20%)
 - Cryptography: 4 (1 accepted, 25%)
 - Learning theory: 2 (0 accepted, 0%)
 - Constraint satisfaction problems 4 (0 accepted, 0%)

- Submissions by country (authors):
 - USA 76
 - All Europe 15
 - Israel 20
 - India 15
 - Canada 6
 - Japan 5
 - Netherlands 4
 - Singapore 4
 - Germany 3
 - Russia 3
 - UK 3
 - China 2
 - France 2
 - Taiwan 2
 - Denmark 1
 - South Korea 1
 - Sweden 1
 - Switzerland 1

- Score distributions: 3.0 (none), 2.1 - 2.7 (6/6 accepted), 2.0 (11/11 accepted), 1.7-1.9 (7/7 accepted), 1.3-1.4 (2/11 accepted), 1-1.2 (2/14 accepted), 0-0.9 (13 rejected), -1 - -0.1 (7 rejected), -3 - -1.1 (5 rejected). Median score: 1.2
- Best student paper award: “On the complexity of the Cayley semigroup membership problem”, Lukas Fleischer.
- Thanks to: All authors who submitted, PC committee, subreviewers, CCF Board of Trustees, especially CCF president Dieter van Melkebeek, Local Arrangements (LA) Committee, especially LA chair Shachar Lovett, Andrei Krokhin for tutorial lectures, Rahul Santhanam and Michael Wagner for proceedings, and attendees!

C: Thanks to Rocco and rest of PC!

CCC'18 Local Arrangements Report

Speaker: Shachar Lovett, Local Arrangements Committee Chair for CCC'18

- Registration: Total of 81, of which 47 students and 34 others. Early registration: 77 (46 students and 31 others). Not-early registration: 4 (1 students and 3 others).
- Affiliation of registrants:
 - USA: 52
 - Sweden: 6
 - Germany: 5
 - India: 5

- Israel: 4
- Canada: 2
- China: 1
- Japan: 1
- Russia: 1
- Singapore: 1
- Taiwan: 1
- UK: 1
- Social events
 - Reception (Thu June 21)
- Budget overview (in USD)

○ Attendance:	100 planned	81 actual
○ Registration fee revenue:	21,000 planned	15,950 actual
○ Shuttle fee revenue:	1,000 planned	1,070 actual
○ Total Revenue:	22,000 planned	17,020 actual
○ Expenses:	21,874 planned	16,824 actual (estimated)
○ Balance:	126 planned	196 actual
○ S: Lower revenue but also lower expenses		
- Registration fees (in USD):
 - Early: 250 regular, 150 student
 - Late: 350 regular, 250 student
- Budget expenses (in USD):

○ Conference room:	4804	(28% of total)
○ Food:	4386	(26% of total)
○ Reception:	3389	(20% of total)
○ Proceedings:	1525	(9% of total)
○ Shuttle to LA	1070	(6% of total)
○ Registration payment handling:	907	(5% of total)
○ CCF insurance:	700	(4% of total)
○ Recording tutorial	282	(2% of total)
- Support: CalIT2
- Other LA committee members: Sam Buss

C: Thanks to Shachar and rest of LA team!

CCC'19 Local Arrangements

Speaker: Eric Allender, Local Arrangements Chair for CCC'19

- Dates: July 18-20, 2019 (with a reception on the evening of July 17, and possibly a pre-conference workshop earlier that day)
- Location: New Brunswick, home of Rutgers and site of FOCS 2012/2016

- LA Committee: Eric Allender (chair), Swastik Kopparty, Periklis Papakonstantinou, Mike Saks, Shubhangi Saraf, Mario Szegedy, Rebecca Wright (and DIMACS)
- Hotel: Hyatt New Brunswick, 2 blocks from train station, \$170. Also other cheaper but less convenient options.
- Venue:
 - Rutgers (no cost?), 1 km from hotel.
 - Nice lecture halls
 - New Brunswick voted No. 6 most exciting place in NJ (as reported by Movoto.com)
 - Cannot book room until March 2019, a backup plan is in place but that will require asking CCF for additional funding.
- Transportation
 - NY/Newark is well-connected internationally
- Budget
 - May skip banquet to keep registration cost very low.

CCC'19 PC

- Chair: Amir Shpilka
- Other members: Andrej Bogdanov, Irit Dinur, Yuval Filmus, Pavel Hrubes, Valentine Kabanets, Gillat Kol, Troy Lee, Raghu Meka, Ramprasad Satharishi, Madhu Sudan

CCC'20 Bids and Discussion

According to the CCF Policies and Procedures, CCC is supposed to be organized in Europe one out of three to four years. The last few times CCC was in Europe were: 2017 (Riga), 2012 (Porto), and 2009 (Paris).

Bid from Oxford

Speaker: Rahul Santhanam, who would be the local arrangements chair

- One of world's oldest universities, but newest Algorithms & Complexity groups (formed in 2012)
- CCC held 9 times in Europe, but not yet in UK
- Algorithms and complexity group: Edith Elkind, Andreas Galanis, Leslie Goldberg, Paul Goldberg, Georg Gottlob, Peter Jeavons, Varun Kanade, Elias Koutsoupias, Joel Ouaknine, Rahul Santhanam, Standa Zivny
- Friends in mathematics: David Conlon, Ben Green, Peter Keevash, Oliver Riordan, Tom Sanders, Alex Scott (Combinatorics); James Martin, Colin McDiarmid (Probability); Ehud Hrushovski (Logic)

- Other LA committee members: Standa Zivny
- Dates: 27-29 July 2020, reception on the 26th
 - Avoids conflicts with TheoryFest (likely 3rd/4th week of June) and ICALP (July 9-12 in Shanghai)
 - Hopefully will not have STOC notification conflict
- Two possible venues: Worcester College and Mathematical Institute
 - Worcester College: More scenic, 150-170 ppl.
 - Mathematical Institute: State of the art facility completed 2013, lower floor used for conferences, holds ~200 ppl, nice common room for discussion
- Costs (in GBP):
 - Worcester College:
 - Fixed cost (facilities, paper handling, insurance): 11000
 - Variable cost per person (refreshments, lunch, reception): 100
 - Early registration fees (assuming 40 students, 60 regular): 150 per student, 250 per regular
 - Oxford Mathematical Institute
 - Fixed cost: 8000
 - Variable cost: 100
 - Early registration fees: 120 per student, 220 per regular
 - Air travel: From US 1000, Canada 700-800, Europe 200-300, Israel 400, India 600
 - Accommodation:
 - Hotel & B&B accommodation in Oxford/London
 - In summer, some college rooms available
 - If Worcester is chosen, need to book 45-60 single ensuite rooms at 85 per night
 - If Maths Institute chosen, looking into block bookings of college rooms
 - Can stay in London and commute. There is a shuttle from London to Oxford.

O: Is there a preference between the two venue options?

S: Know Math Institute better, professional environment. Worcester more exciting, but are ppl willing to pay extra for that experience?

O: At Worcester the cost for lodging is 85. What about at Math Institute?

S: Will book block of college rooms.

Bid from Saarbruecken

Speaker: Markus Blaeser, who would be the local arrangements chair

- Venue: Saarland University Campus (facilities of university/Max-Planck)
- Local arrangements: Markus Blaeser (chair)
- Regular conference fee: ~230 EUR
- Fixed costs: 6000 EUR

- Variable costs: 130 EUR (including lunch as campus is isolated)
- Preferred dates: June 17-20, 2020, or June 24-27, 2020, but second half of Jan or later in summer also possible. Could align to theoryfest if desired. Winter is less nice, snow, STACS held there recently.
- More on venue: one of largest CS campuses in Europe, many research institutes, more than 350 PhD students (of which 60-70 are theory students), various canteens, bistros, restaurants on campus, hosted ALGO 2011, ETAPS 2011, EURO-SP 2016.
- Travel: Nearest airports are Frankfurt, Paris (there is also a small local airport). ICE train connections to Frankfurt/Mannheim and Paris (~2 hrs each).
- Accommodation: Many hotels in city center from 45-100 EUR (~20 EUR for youth hostels). Takes 10-15 mins from city center to campus by public transport.
- Activities: Warm and pleasant summers, very good restaurants, great hiking, Luxembourg less than an hour away, etc
- O: This is Saarbruecken's third bid.
- C: 2021 no FCRC, CCC will be in the US. Chicago and Pittsburgh have been contacted for bids.

Straw Poll

By show of hands:

9 votes for Oxford

11 votes for Saarbruecken

Treasurer's Report

Speaker: Shachar Lovett, Treasurer of CCF

- Balance as of June 26, 2017: 58,762 USD
- Balance as of June 1, 2018: 59,365 USD (excludes CCC18 income + expenses)
- Aim is to keep our initial reserve steady
- Income: 1528 USD (1498 CCC 2017 reconciliation, 30 interest)
- Expenses: 923 (750 insurance, 93 website hosting, 25 charity renewal fee, 55 misc - ACH fees, printing etc).
- Everything is stable!

President's Report

- Status: CCC and CCF are healthy.
- Two special motions adopted in the past year: one on discrimination and harassment, and one on data privacy.

- Discrimination and Harassment. Added the following text to CCF Bylaws, which are henceforth required to appear on each LA page:
“The open exchange of ideas and the freedom of thought and expression are central to the aims and goals of the Foundation. These require an environment that recognizes the inherent worth of every person and group, that fosters dignity, understanding, and mutual respect, and that embraces diversity. In particular, the Board is committed to providing an environment at the Conference that is free of discrimination and harassment, and expects all participants to honor that commitment.”
- C: Not clear if other conferences have a good or standardized way of dealing with issues regarding harassment, no current rules in the bylaws.
- Data Privacy (compliance with General Data Protection Regulation for EU). Added the following text to CCF Policies and Procedures:
“The registration information is used by the conference organizers to facilitate communication of registration confirmation and conference details, and for planning and running the event. Name, email address, status, and affiliation are shared with the executive committee of CCF. Name and email address are used to determine the electorate for the CCF Board elections and for generating the ballots. Status and affiliation are used for statistics about conference attendance. Individual records are kept for no more than 4 years. Statistical data are kept indefinitely.”

Timing of Future CCCs

- Tradition: Submissions a few weeks after STOC, conference a few weeks after STOC
- Informal recent attempts to improve participation: Later submissions (sometimes after STOC notification), co-location with STOC
 - This year not possible to allow submissions after STOC notification, but last year we managed
 - Cannot co-locate with STOC if we want submission after STOC notification
 - This has caused submission conflicts with ICALP
- Outcome of discussion at CCC16: recommendation to co-locate with STOC when in North America but maintain relaxed atmosphere
- Initial board discussion this year yielded three options moving forward regarding timing: (S) Status-Quo, (L) Late Summer, (W) Winter.
 - Status-Quo (June through first half of July)
 - Pros: Option of being part of theory fest; less conflicts with teaching and easier use of university facilities; good weather
 - Cons: Submission conflicts with STOC and ICALP; expensive travel
 - Late Summer (second half/end of July through August):
 - Pros: Avoid submission conflicts with STOC and ITCS; less conflicts with teaching and easier use of university facilities; good weather

- Cons: Submission conflicts with FOCS, ICALP, Random; somewhat narrow window for scheduling conference; expensive travel
 - Winter (January - February)
 - Pros: Avoid submission conflicts with STOC, FOCS, ICALP, Random; enable co-location with a complementary conference like SODA; cheaper travel; flexibility in review period (18 vs 8 weeks avoiding conflicts with STOC/FOCS)
 - Cons: More conflicts with teaching and harder to use university facilities; submission conflict with ITCS; winter weather; transition year with only half a year between successive CCCs.
- Subsequent online forum discussion yielded additional considerations:
 - Conflicts with more specialized conferences
 - Change to winter may affect atmosphere
 - International character
 - Option of switching back to submissions a few weeks after STOC and have no conflict with ICALP
 - CSL recently switched from summer to winter to have more separation from LICS
 - TCC changed their timing a couple of years ago by half a year in order to better position itself
- Result of the poll among the CCF membership:
 - 83 votes (vs 189 for independence, but independence poll was sent to a much broader list than the CCF membership)
 - Counts for the 6 orderings of preference (most preferable to least preferable, left to right):
 - SLW: 21
 - SWL: 12
 - LSW: 13
 - LWS: 10
 - WSL: 5
 - WLS: 22
 - Status-quo wins instant runoff, but in terms of orderings, it is quite close between S and W.
- Further discussion at the business meeting:
 - O: STACS omitted from conference list.
 - O: Winter option seems less well defined (early Jan vs Feb?)
 - C: Either co-locate with SODA or ITCS, or else stay away further from them (end of Feb). For some early Jan is better because they have no classes then. Most feedback says end of Feb is less conflict-prone for teaching.
 - O: End of March-April?
 - C: Main constraint is on the review period, which needs to fall within the 18 weeks between FOCS notification and STOC submission. March-April starts losing advantage of lower cost, but weather is becoming better.

- O: Strong preference for co-locating CCC with SODA.
- O: Co-locating with STOC doesn't seem to increase attendance.
 - C: Perhaps it is more attractive for those outside the US.
- O: Usually inertia should be considered when making a difficult decision, there should be strong support to force a significant change
 - O: Perhaps need a poll to ask how many are in favor of change vs no change, as opposed to having 3 options SLW.
 - O: "Change" has 50 votes.
 - C: Have tried a number of approaches to improve things that didn't involve the radical change. Co-locating with STOC and preventing STOC submission conflicts are not simultaneously possible.
 - C: The W option was suggested two years ago. It's a radical change but could help with cost and seems to be only option if we want to avoid submission conflicts with both STOC and FOCS.
- O: Late summer has fewer votes strongly against, i.e., min number of 3rd place votes.
 - C: True that late summer is placed last by the fewest voters, but not sure about *strongly* against, nor what conclusion to draw from that.
- O: Late summer is easier to try out (next year second half of July), should be compatible with STOC notification
- O: FOCS PC adjacent to STOC, a reason not to co-locate with STOC
- O: CCC suffers from competing with STOC/FOCS. SODA doesn't compete with the latter two, big difference.
 - O: Moving 3 weeks earlier wouldn't cause STOC submission conflict.
 - O: People may skip submitting CCC to try their luck at FOCS.
- By show of hands, only 8 of the attendees did not respond to online poll. No straw poll was conducted at the meeting.

Venue special issue CCC'19-'21

- Three bids: Computational Complexity, Transactions on Computation Theory, and Theory of Computing
- **Computational Complexity**
Markus Blaeser on behalf of EiC Peter Buerigisser
 - Founded 1991 by Joachim von zur Gathen
 - Focus of CC and CCC is the same, more specific than a general theory of computing journal
 - Publisher Birkhaeuser/Springer
 - Copies of papers can be put into repositories/on homepages

- Pros: Long tradition, perfect thematic focus (a defining journal of the field)
- **ACM Transactions on Computation Theory**

Shachar Lovett on behalf of EiC Venkatesan Guruswami

 - Only ACM journal focused on computational complexity theory
 - Established 2009
 - 39 issues so far, on average ~4 issues/year, 4-5 papers per issue
 - Top quality complexity-focused editorial board whose members actively engaged with CCC
 - Recent additions to editorial board: Martin Grohe, Yael Kalai, Shachar Lovett, Ryan Williams
 - Statistics: # submissions 57 (2016) 47 (2017), # published papers 18 (2016) 20 (2017), avg time to first decision 165 (2016) 146 (2017), avg reviewer turnaround time 90 (2017)
 - A special case for ToCT as a society journal:
 - ACM - main professional society in CS, significantly supports CS research and sponsors awards/events
 - Flagship journal devoted to computational complexity under ACM is valuable and healthy for our field
 - With independence of CCC, a tie to ACM would be valuable, and ToCT would benefit from pipeline of high quality CCC papers.
- **Theory of Computing**

Madhur Tulsiani on behalf of EiC Lac Babai

 - Content highly relevant to CCC community
 - Superb service to authors (copyediting by peers, typesetting, multi-round interaction with authors, bibliography service)
 - Free journal (free to readers and authors, no paywall or passwords, global distribution)
 - More than 50% of papers in category “complexity theory” (not counting CCC special issues)
 - ToC: current publisher of CCC special issues 2016-2018
 - Independently high quality journal (without spec issues)
 - Significant experience publishing special issues (6 in total: in honor of Rajeev Motwani, analysis of Boolean functions, APPROX-RANDOM 2012-2015)
 - CCC’16: nearly complete
 - 4 out of 5 articles published
 - 1 article in review by Guest Editor
 - Rolling publication (others did not wait for outlier)
 - CCC’17: in progress
 - 3 out of 5 already published
 - Thanks in part to very efficient Guest Editors Shachar Lovett and Ryan O’Donnell

- 2 still in review by Guest Editors
 - For CCC special issue articles revised, published median time: 36 days
 - Copyediting for grammar/style by peers who understand math (ToC Guardian of Style: John Watrous). Comments supported by detailed explanations, median # comments on grammar/style: over 75
 - Copyediting often catches typos that change meaning
 - Unmatched bibliography service:
 - Uniform names of journals, conferences
 - Full names of authors (we track down hard-to-find first names)
 - We find conference versions, journal versions, upgrade items to journal version, keep/add link to conf
 - Add DOI links the authors missed, links to conference versions, open-access archives
 - ToC Quality Control Assistant: Ishay Haviv
 - ToCTeX adopted by free journals in mathematics (started by Tim Gowers) - Discrete Analysis, Advances in Combinatorics (in prep)
 - ToC's longevity:
 - Permanent Archiving (PA): will the existing articles be available in perpetuity?
 - Permanent Organization (PO): will the journal as an organization exist in perpetuity, will new articles be published and top standards maintained?
 - J. Algorithms, J. Topology vanished. Even commercial journals may vanish as European and perhaps US open-access mandates become stronger.
 - PA: We put ToC on arXiv. Huge community behind arXiv.
 - PO: growing community, robust organization. Robust backup system (Chicago + NYU under Oded Regev). Editorial correspondence monitored by ToC team (9 people). No cash flow, hence less administration.
 - Free global dissemination of research in theoretical computer science. Top two articles downloaded over 1000 times. All articles get same circulation.
- Straw poll
 - By show of hands:
 - 3 votes for Computational Complexity
 - 5 votes for Transactions on Computation Theory
 - 10 votes for Theory of Computing

Changes to the Board

- The composition of the Board right before CCC'16 was: Dieter van Melkebeek (President), Shachar Lovett (Treasurer), Sevag Gharibian (Secretary), Ryan O'Donnell (Budget Chair), Rahul Santhanam (Paper Chair), Rocco Servedio (Awards Chair), Boaz

Barak (Registration Chair), Eric Allender (Past Treasurer), Jacobo Toran (Past Paper Chair).

- Eric Allender and Jacobo Toran have now fulfilled their duties and are stepping down.
- Positions that are changing this year are: President, Secretary, and Registration chair.
- President is elected by Board. President then nominates Secretary to be approved by Board. New President will be Venkat Guruswami. New Secretary will be Ashwin Nayak.
- Winner of the CCF membership vote for the election of the new Registration chair is Ronen Shaltiel.
- Welcome to Venkat, Ashwin, and Ronen!
- Thanks to Sev and Boaz!
- Thanks to Eric and Jacobo!

- O: Thanks to Dieter!