

Candidate for Chair

Tal Rabin
University of Pennsylvania, Philadelphia, PA, USA

BIOGRAPHY

Academic Background:

Ph.D., Hebrew University, 1995, Cryptography.

Professional Experience:

Professor, University of Pennsylvania, Philadelphia, PA, 2020 – 2021;
Head of Research, Algorand Foundation, New York, NY, 2019 – 2020;
Distinguished RSM, Manager, IBM Research, Yorktown Heights, NY, 1996 – 2019.

Professional Interest:

Cryptography.

ACM Activities:

SIGACT, Member at Large, Secretary, 2012 – 2015;

Awards Received:

ACM Fellow, 2018.

STATEMENT

As a community, we should make our field more accessible to youth. I will work to create programs (similar to the PACT program) that are intended to educate students about theoretical computer science.

It has been stated by the board in its last report that income is diminishing due to lost income from publication and membership. I will fundraise to ensure that the activities supported by SIGACT (awards, support of conference, etc.) will have the needed funds to continue operating.

The outgoing board has focused on diversity on the gender front and has made many advances. It is important to continue in this direction, there is room for more to be done, and to expand to other underrepresented minorities.

Candidate for Chair

Mohammad T. Hajiaghayi
University of Maryland, College Park, MD, USA

BIOGRAPHY

Academic Background:

Ph.D., Massachusetts Institute of Technology, 2005, Applied Mathematics & Computer Science.

Professional Experience:

Professor, University of Maryland, College Park, College Park, MD, 2010 – Present;
Amazon Scholar, Amazon, Seattle, WA, 2019 – Present;
Research Scientist, Google, New York, NY, 2017 – 2018.

Professional Interest:

Algorithms, Game Theory, Big Data, Social Networks, Online Learning.

ACM Activities:

Steering Committee, ACM Sym. Parallel Alg. and Arch., SIGACT, 2017 – Present;
PC Chair, ACM Sym. Parallel Alg. and Arch. (SPAA), SIGACT, 2016 – 2017;
ACM Faculty Representative, Chapter of ACM at University of Maryland, 2012 – 2017;
Coach of University of Maryland ACM-ICPC Program. Contest Team, ACM ICPC, 2010 – 2018.

Membership and Offices in Related Organizations:

PC member of SPAA, EC, SODA, STOC, AAI, ICALP, ESA, INFOCOM,, IJCAI, 2008 – Present;
Editor of SIDMA, JCSS, Networks, Algorithmica, TALG, TOPC, Algorithms, 2010 – Present;
Organizer of Flexible Network Design Workshop, Washington DC, 2017 – 2018.

Awards Received:

IEEE Fellow, 2020;
Guggenheim Fellow, 2019;
ACM Fellow, 2018;
EATCS Nerode Prize, 2015.

STATEMENT

It is my great pleasure to be nominated to serve as SIGACT Chair. As a member of TCS for 25 years who published over 270 articles extensively in top TCS conferences and journals, I was recently leading ACM special interest groups by

serving as chair and steering committee member of SPAA. My management experience in both academia and industry (IBM, AT&T, Microsoft, Google, Amazon) gained me deep understanding of diverse cultures of the community. If honored to be elected, my priorities are:

1) With the rise of new technologies and challenges such as e-commerce, BIG data, machine learning, and cryptocurrency, committing to advancing SIGACT to integrate these research areas.

2) Promote stronger collaboration and funding from industry/government while maintaining academic SIGACT's core values and identity.

3) Committing to advocating a Strategic Plan for SIGACT by a consensus to expand field of TCS by welcoming new areas and technologies and enhance diversity and inclusiveness among women and other minorities and follow strongly the directions there.

4) Trying to decrease costs of SIGACT conferences and expansion of student travel awards.

5) Trying to make TCS conferences more inclusive by investigating and adopting measures used by other CS communities.

Candidate for Executive Committee

Vijaya Ramachandran
University of Texas at Austin, TX, USA

BIOGRAPHY

Academic Background:

Ph.D., Princeton University, 1983, Electrical Engineering and Computer Science.

Professional Experience:

Professor, University of Texas at Austin, TX, 1995 – Present;

Associate Professor, University of Texas at Austin, TX, 1989 – 1995;

Assistant Professor, University of Illinois Urbana-Champaign, IL, 1983 – 1988.

Professional Interest:

Theory of parallel and distributed computing, Graph algorithms.

ACM Activities:

Associate Editor, ACM Transactions on Parallel Computing, 2012 – 2021;

Editorial Board, ACM Transactions on Algorithms, 2005 – 2015;

Program Chair, ACM SPAA (Symp. on Parallelism and Algorithms and Architectures), 1999;

Executive Committee, ACM SIGACT, 1993 – 1997.

Membership and Offices in Related Organizations:

Advocate for ACM SPAA, SafeTOC, 2019 – Present;

Editorial Board, SIAM Journal on Computing, 2000 – 2009;

Program Chair, Symposium on Discrete Algorithms (SODA), SIAM and ACM, 1993.

STATEMENT

SIGACT is a well-run organization and I would be honored to serve on its Executive Committee. SIGACT will need to move the community forward effectively when the COVID-19 pandemic ends, in order to maintain the vibrancy of the SIGACT community while improving the climate for diversity. The pandemic has also given us an opportunity to consider improving some of our activities: The online offerings of our major conferences in 2020 were impressive, and I would like to help SIGACT work on incorporating some of those good features into our conferences on an ongoing basis.

Candidate for Executive Committee

Martin Farach-Colton
Rutgers University, New Brunswick, NJ, USA

BIOGRAPHY

Academic Background:

Ph.D., University of Maryland, 1991, Computer Science.

Professional Experience:

Professor, Rutgers University, New Brunswick, NJ, 1994 – Present;
Founder & CTO, Tokutek Inc., New York, NY, 2006 – 2014;
Senior Research Scientist, Google, Mountain View, CA, 2000 – 2002.

Professional Interest:

Algorithms, especially External Memory, Data Structures, Algorithms in Databases and File Systems.

ACM Activities:

PC Chair for SODA, SIGACT, 2003;
PCs for SPAA, SIGACT, 2017, 2021;
PCs for STOC, SIGACT, 1997, 2005;
Editorial Board Member, TALG, SIGACT, 2004 – 2014.

Membership and Offices in Related Organizations:

Founder and Chair of Steering Committee, APOCS, SIAM, 2018 – 2020;
SafeTOC committee member and advocate, Various, 2018 – 2020.

Awards Received:

NetAPP Fellow, 2016;
USENIX FAST Best Paper; also a finalist in 2015, 2018, 2016;
LATIN Test of Time Award, 2012;
Sloan Research Fellowship, 1996.

STATEMENT

I have had many roles in the TOC community. I have worked in mainstream algorithms, primarily in data structures; I've worked in applied algorithms on the algorithms side and on the application side; I've commercialized my algorithms by starting a database company and deploying my software at Cisco and Walmart; I've started an algorithms conference (APOCS) through SIAM - because it is co-located with SODA - though

APOCS also receives SIGACT support; and I've been involved in the SafeTOC effort to make our community safe and welcoming to everyone.

I have an optimistic view of our field. I've seen the most theoretical work become applied and vice versa, which is not to say that either is best but that our field is wonderfully unpredictable. As a SIGACT Executive Committee Member, I would see my role as one of supporting diversity: of ideas, of approaches, of opinions.

Candidate for Executive Committee

Shachar Lovett
University of California, San Diego, La Jolla, CA, USA

BIOGRAPHY

Academic Background:

Ph.D., Weizmann Institute of Science, 2010, Computer Science.

Professional Experience:

Faculty, University of California, San Diego, La Jolla, CA, 2013 – Present;
Postdoc, Institute for Advanced Study, Princeton, NJ, 2010 – 2012.

Professional Interest:

Complexity theory, Pseudo-randomness, Coding theory, Additive combinatorics, High-dimensional geometry.

ACM Activities:

Editorial board, Journal of the ACM, 2020 – Present;
Editorial board, ACM Transactions on Computation Theory, 2018 – Present.

Membership and Offices in Related Organizations:

Editorial board, IEEE Transactions on Information Theory, 2019 – Present;
Treasurer, board of trustees, Computational Complexity Foundation, 2017 – 2020;
Scientific board, Prague summer school on discrete mathematics, 2016 – Present.

Awards Received:

STOC best paper, 2020;
Sloan fellowship, 2015;
NSF CAREER award, 2013.

STATEMENT

I have been involved with many activities that aim to help advance the TCS community in the past decade. My goal is to continue to serve the community by being a member of the SIGACT executive committee. Specific aspects that I would like to strengthen with this position are:

1. Help shape the future of STOC: What is the right balance between increasing participation while keeping its high quality? How to include more broadly the TCS community and adjacent communities? How to get the best of both in-person and online worlds, both now and post-COVID?

2. Help advance the public image of TCS. Some scientific areas, such as pure math or astrophysics, have succeeded in capturing the public imagination, despite being very technical and abstract. We should try to do the same for TCS.

3. Help connect TCS with other scientific areas, either using Theory-Fest or other activities.

Candidate for Executive Committee

Valerie King
University of Victoria, BC, Canada

BIOGRAPHY

Academic Background:

Ph.D., University of California Berkeley, 1988, Computer Science.

Professional Experience:

Professor, University of Victoria, BC, 1992 – Present.

Professional Interest:

Parallel, distributed and fault tolerant computing, Dynamic graph algorithms, Randomized algorithms, Ethical algorithms.

ACM Activities:

Member, ACM Paris Kanellakis Award Committee, 2019 – Present;
Chair, ACM STOC PC, 2017;
Chair, Search Committee for EIC, ACM Transactions on Algorithms, 2014;
Member, ACM PODC PC, 2019.

Membership and Offices in Related Organizations:

Co-organizer, SIAM Simplicity in Algorithms (SOSA), 2021;
Member, Elections BC Panel on Internet Voting, 2012 – 2015;
Co-organizer, BIRS Workshop on Dynamic Graphs, 2015.

Awards Received:

Best Paper Award DISC, 2018;
ACM Fellow, 2014;
Best Paper Award SODA, 2013;
Best Paper Award PODC, 2010.

STATEMENT

I am happy to serve as a member of the SIGACT Executive Committee. I'm committed to the study of theoretical computer science, especially the development of fundamental theoretical discoveries. I believe it is important to encourage breadth and interaction among areas of theory, and also theoretical study of problems which arise from areas outside of computer science. I strongly support the consideration of ethics in our research and in the operations of SIGACT.

Candidate for Executive Committee

Yael Tauman Kalai

Massachusetts Institute of Technology, Microsoft Research, Cambridge, MA, USA

BIOGRAPHY

Academic Background:

Ph.D., Massachusetts Institute of Technology, 2006, Computer Science.

Professional Experience:

Adjunct Professor, Massachusetts Institute of Technology, Cambridge, MA,
2016 – Present;

Principle Senior Researcher, Microsoft Research, Cambridge, MA, 2008 – Present;

Assistant Professor, Georgia Institute of Technology, Atlanta, GA, 2007 – 2008.

Professional Interest:

Cryptography, Complexity theory, Coding theory, Security, Distributed algorithms.

ACM Activities:

STOC PC 2021, 2020 – 2021;

Co-organizer, STOC 2018 workshops, 2018;

STOC PC 2015, 2014 – 2015

Editor, Special issue of SICOMP dedicated to STOC 2015.

Membership and Offices in Related Organizations:

Editor, Theory of Computational Transactions (ToCT) journal, 2018 – Present;

TCC Program Chair, 2017;

Member, ZKProof Steering Committee, 2018 – Present.

Awards Received:

George M. Sprowls award for the best doctoral thesis in computer science, 2007;

I.B.M. Ph.D. Fellowship, 2004;

M.I.T. Presidential Graduate Fellowship, 2003;

Weizmann Institute: Outstanding master's thesis prize, 2001.

STATEMENT

My research is mainly focused on cryptography but also touches upon various other aspects of theoretical computer science, including coding theory, pseudo-randomness, complexity theory, and distributed algorithms. One of the amazing things about cryptography is that it defines and constructs new concepts, ones that we didn't

even conceive as possible, and ones which shape the world we live in. My research is focused precisely on this effort.

The field of cryptography has evolved tremendously over the years. It started as an art for securing communication. In the mid 1970's the field changed from an art to a scientific field, the main goal remaining securing communication, ensuring both confidentiality and authenticity. In recent years, with the immense increase in data, and at the same time the increasing popularity of weak computational devices (such as smart phones and smart watches), new challenges have emerged, which expand the field of cryptography way beyond securing communication, to the realm of securing computation, both in terms of privacy and integrity. My work is focused on identifying and constructing new cryptographic primitives that are needed in today's (and tomorrow's) evolving computational world, and I plan to continue to identify and address new challenges as they arise.

Candidate for Executive Committee

Chris Umans
California Institute of Technology, Pasadena, CA, USA

BIOGRAPHY

Academic Background:

Ph.D., University of California Berkeley, 2000, Computer Science.

Professional Experience:

Executive Officer (Dept. Chair), Caltech Computing and Mathematical Sciences Dept., Pasadena, CA, 2020 – Present;

Deputy Chair, Caltech Engineering and Applied Science Division, Pasadena, CA, 2018 – 2020;

Professor of Computer Science, Caltech, Pasadena, CA, 2010 – Present.

Professional Interest:

Algebraic complexity and algorithms, Randomness in computation, Hardness of approximation, Computational complexity.

ACM Activities:

ACM Doctoral Dissertation Award Committee (member), 2018 – Present;

ACM Transactions on Computation Theory (associate editor), 2013 – Present;

Workshops co-chair, STOC 2014.

Membership and Offices in Related Organizations:

Committee for the Advancement of TCS (member), 2015 – Present;

FOCS 2017 PC Chair, IEEE, 2017;

NSERC Computer Science Evaluation Group, NSERC, 2015 – 2018.

Awards Received:

Northrop Grumman Prize for Excellence in Teaching (Caltech), 2017;

Simons Foundation Investigator in Computer Science, 2015;

ICALP Track A Best Paper Award, 2008;

CCC Best Paper Award, 2007.

STATEMENT

I would be honored to serve as a member of the SIGACT Executive Committee. I do not have a detailed agenda beyond a desire to support the TCS community, ensure it is served by well-run conferences and workshops, promote it to funding agencies, and position TCS within the broader scientific and mathematical community. We have a

unique perspective on so many areas, deep questions, and remarkably creative people. As a SIGACT EC member, I would do my best to ensure that this community has the resources to thrive and grow, in a way that includes all who seek to contribute.

Candidate for Executive Committee

Kenneth L. Clarkson
IBM Research, San Jose, CA, USA

BIOGRAPHY

Academic Background:

Ph.D., Stanford University, 1985, Computer Science.

Professional Experience:

Distinguished Research Staff Member, IBM Research, San Jose, CA, 2014 – Present;
Senior Manager, Theory Group, IBM Research, San Jose, CA, 2008 – 2018;
Distinguished Member of Technical Staff, Bell Laboratories, Murray Hill, NJ, 2000 – 2007.

Professional Interest:

Algorithms, Computational Geometry, Numerical Linear Algebra, Machine Learning.

ACM Activities:

Member, Committee for Advancement of Theoretical Computer Science, 2015 – Present;
PC Member (twice), STOC, 2010 – 2019;
PC Member (three times, chair once), SODA, 1994 – 2009;
PC Member (five times, chair once), SoCG, 1989 – 2014.

Membership and Offices in Related Organizations:

Co-editor-in-chief, Journal of Discrete and Computational Geometry, 2015 – Present;
Co-editor-in-chief, Journal of Computational Geometry, 2009 – Present;
PC Member (three times), FOCS, 1997 – 2013.

Awards Received:

Test of Time Award, SoCG (inaugural), 2020;
Best Paper Award, STOC, 2013;
ACM Fellow, 2008;
Best Paper Award, IEEE Vehicular Technology Conference, 2007.

STATEMENT

As a research staff member at Bell Labs and at IBM Research, I've seen the interaction of theory and practice, often at its best, and participated in that interaction myself. As the manager of the IBM Almaden theory group for many years, part of my job was to encourage that interaction, and to explain as best I could the role and contributions of theory to my colleagues in the broader IBM scientific community. Such engagement, encouragement, and explanation are important to keeping the theory community vibrant

and healthy, by attracting gifted students of all kinds, by helping theorists get hired and promoted, and not least, by helping our community to continue to do profound and beautiful scientific work. It is also important to *be* a community, with interaction among subfields, for many of the same reasons. These are vital issues I would work on, if elected to the SIGACT board, on which it would be an honor to serve.