

CURRICULUM VITAE

Endre Boros

MSIS Department and RUTCOR
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Education

MS. in Mathematics, Eötvös Loránd University, Budapest, Hungary, 1978;
Thesis title: *On Sperner Spaces*; advisor: Ferenc Kárteszi
Doctorate (Ph.D.) in Mathematics, Eötvös Loránd University, Budapest, Hungary, 1985;
Thesis title: *Surrogate Constraints in 0-1 Programming*; advisor: András Prékopa

Employment

Permanent positions

MSIS Department and RUTCOR, Rutgers University, New Brunswick, NJ, USA.
Distinguished Professor and Director of RUTCOR 2007 - ; Full Professor 1996-2007;
Associate Professor 1989-1996; Post-Doctoral Fellow, 1986-1989.
Department of Operations Research, Computer and Automation Institute, Hungarian
Academy of Sciences, Budapest, Hungary. Research Associate 1978-1989.
(On leave, 1986-1989.)

Part-time positions

Lecturer, Eötvös Loránd University, Budapest, Hungary. 1978-1986.
Lecturer, Technical University of Budapest, Hungary. 1976-1978.

Visiting Professor positions

University of Rome "*La Sapienza*", Rome, Italy June-July, 2021
RIMS, Kyoto University, Kyoto, Japan January, 2020
University of Rome "*La Sapienza*", Rome, Italy June-July, 2018
University of Primorska, Koper, Slovenia May, 2018
RIMS, Kyoto University, Kyoto, Japan January, 2017
University of Rome "*La Sapienza*", Rome, Italy June-July, 2016
RIMS, Kyoto University, Kyoto, Japan September-December, 2015
Kyoto University, Kyoto, Japan January, 2014
University of Rome "*La Sapienza*", Rome, Italy June - August, 2013
Tokyo University, Tokyo, Japan December 2012
UPMC, Sorbonne, Paris, France June - July 2012
University of Rome "*La Sapienza*", Rome, Italy June - July, 2011
Tokyo University, Tokyo, Japan December 2009
Tokyo University, Tokyo, Japan December 2008
Tokyo University, Tokyo, Japan December 2007
University of Rome "*La Sapienza*", Rome, Italy, June - August 2007.
Kyoto University, Kyoto, Japan, April - June 2003.
University of Rome "*La Sapienza*", Rome, Italy March 2003.
Eötvös Loránd University, Budapest, Hungary February 2003.
Kyoto University, Kyoto, Japan, January - March 1999.
University of Cologne, Cologne, Germany, May 1998.
University of Rome "*La Sapienza*", Rome, Italy May - July 1997.
IMAG, CNRS, Grenoble, France, September - December 1995.
Tel Aviv University, Tel Aviv, Israel, June 1995.
Kyoto University, Kyoto, Japan, March 1995.
Kyoto University, Kyoto, Japan, September 1994.

Honors

- Awarded a Dagstuhl Seminar on “Enumeration in Data Management”, May 19-24.2019, co-organized by [Benny Kimelfeld](#) (Technion – Haifa, IL), [Reinhard Pichler](#) (TU Wien, AT), and [Nicole Schweikardt](#) (HU Berlin, DE)
- **Foreign Member** of the Hungarian Academy of Sciences, elected in May 2016, inducted on June 7, 2017.
- Lorentz Center, Leiden, The Netherlands, Award to co-organize a one-week fully supported workshop, August 24-28, 2015
- RIP award to spend 3 weeks at the Mathematical Research Center in Oberwolfach, Germany, July-August 2015.
- BIRS (Banff International Research Station, University of British Columbia, Vancouver) Award to organize a one-week workshop September 18-25, 2011.
- Homeland Security Best Paper Award at the 2015 Institute of Industrial Engineering Conference and Expo (ISERC 2015)
- Top Cited Article in Discrete Optimization (2007-2011) – DO 5 (2), 2008, pp. 501-529
- RIP Award to spend two weeks at The Mathematical Research Institute of Oberwolfach, Germany, March 2011.
- RIP Award to spend two weeks at The Mathematical Research Institute of Oberwolfach, Germany, March 2010.
- Bright Idea Award in Operations Management sponsored by Stillman School of Business at Seton Hall and the NJPRO Foundation (the public policy research affiliate of NJ Business and Industry Association) in September 2009 selected for: E.Boros, L.Lei, Y.Zhao, H.Zhong: Scheduling vessels and container-yard operations with conflicting objectives.
- Paul Erdős Visiting Professor, Eötvös Loránd University, Budapest, Hungary, 2003.
- Japan Society for the Promotion of Science Fellowship, Kyoto University, Japan, 1995.
- CNRS Visiting Fellow, Grenoble University, France, 1995.
- J. Farkas Prize of the János Bolyai Mathematical Society, Hungary, 1985.
- Outstanding Young Researcher Award, Computer and Automation Institute, Hungarian Academy of Sciences, 1981.

Editorship

Editor-in-Chief of *Discrete Applied Mathematics* (2007-) and *Annals of Operations Research* (2007-).

Associate Editor of the *Annals of Mathematics and Artificial Intelligence* (1999-), *Computational Management Science* (2003-), and *Discrete Optimization* (2003-).

Member of the Editorial Boards of *Constraints* (1995-2005), *Journal of Combinatorial Optimization* (1995-).

Guest Editor of *Computer Vision and Image Understanding Journal*, special issue on *Inference and Learning of Graphical Models: Theory and Applications in Computer Vision and Image Analysis* (2014-15.)

Refereeing

Algorithmica, *European Journal of Operations Research*, *Journal of the ACM*, *Journal of Graph Theory*, *Linear Algebra and Its Applications*, *Management Science*, *Mathematics of Operations Research*, *Mathematical Programming*, *Operations Research Letters*, *SIAM Journal on Computing*, and *Theoretical Computer Science*

Reviewer and/or on site panel member

Austrian Science Fund (2009, 2014, and 2018), London School of Economics (2016-17,2019,2020,2021), the Israel Science Fund (2011), Luxembourg Research Fund (2014), NSF (2010), NSA (2011), MITACS-NCE (2008-13), NSERC, Canada, (2019, 2020), Canada Research Chair (2011), MacArthur Foundation (2009), German Research Foundation (DFG, 2008), etc.

Professional Service

Judge for INFORMS Best DM Paper Competition, October 22-25, 2017, Houston.

Chair of the “INFORMS Young Researcher Award” Committee, 2012.

Member of the “INFORMS Young Researcher Award” Committee, 2011.

Member/Chair of Conference Program Committees:

- ISAIM 2020, January 6-8, 2020. Fort Lauderdale, Florida, USA

- VOCAL 2018, Chair, December 10-12, 2018, Esztergom, Hungary
- WEPA 2018, November 5-8, 2018, Pisa, Italy
- ISAIM 2018, January 3-5, 2018, Fort Lauderdale, Florida, USA
- Boolean Seminar, March 12-16, 2017, Chateau Liblice, Czech Republic
- ICORES 2017, February 23-25, 2017, Porto, Portugal
- VOCAL 2016, Chair, December 12-15, 2016, Esztergom, Hungary
- WEPA 2016, November 21-22, 2016, Clermont-Ferrand, France
- AMNS 2016, May 26-29, 2016, Kathmandu, Nepal
- ICORES 2016, February 23-25, 2016, Rome Italy
- ISAIM 2016, January 4-9, 2016, Fort Lauderdale, Florida, USA
- ICORES 2015, January 10-12, 2015, Lisbon, Portugal
- APMOD 2014, April 9-11, 2014, Warwick, England
- ICORES 2014, March 6-8, 2014, Barcelona, Spain
- ISAIM, January 5-8, 2014, Fort Lauderdale, Florida, USA
- ICORES 2013, February 16-18, 2013, Barcelona, Spain
- ICORES 2012, Vilamoura, Portugal, February 4-6, 2012
- ISAIM, January 6-9, 2012, Fort Lauderdale, Florida, USA
- CMMSE 2011, Almeria, Spain, June 26-29, 2011
- INFORMS 2011 Northeastern Conference, Amherst, May 6-7, 2011

Organization of conferences, tracks, and sessions:

ISAIM 2020, Ft. Lauderdale, FL, January 6-8, 2020. Co-Organizer of the track on Boolean and Pseudo-Boolean Functions; Member of Program Committee of Conference; <http://isaim2020.cs.ou.edu/index.html>

Organizer of **Dagstuhl Seminar 19211**, “Enumeration in Data Management”, May 19 – 24 , 2019, Dagstuhl, Germany (jointly with Benny Kimelfeld, Reinhard Pichler, and Nicole Schweikardt); <https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=19211>

Program Chair of the **8th VOCAL Optimization Conference: Advanced Algorithms**, Esztergom, Hungary, December 10-12, 2018; <http://vocal.p-graph.org/index.php/conference-venue>

WEPA 2018, Pisa, Italy, November 5-8. Program Committee Member. <http://wepa2018.di.unipi.it/>

ISAIM 2018, Ft. Lauderdale, FL, January 3-5, 2018. Co-Organizer of the track on Boolean and Pseudo-Boolean Functions; Member of Program Committee of Conference; <http://isaim2018.cs.virginia.edu/>

Program Chair of the **7th VOCAL Optimization Conference: Advanced Algorithms**, Esztergom, Hungary, December 12-15, 2016; <http://vocal.p-graph.org/>

ISAIM 2016, Ft. Lauderdale, FL, January 4-6, 2016. Co-Organizer of the track on Boolean and Pseudo-Boolean Functions (2 sessions); Member of Program Committee of Conference; <http://isaim2016.cs.virginia.edu/>

Enumeration Algorithms Using Structure, Lorentz Center, Leiden, The Netherlands, August 24-28, 2015, Co-Organizer; <https://www.lorentzcenter.nl/lc/web/2015/701/poster.pdf>

EURO XXVII, Glasgow, July 12-15, 2015. Organized a session on Boolean and Pseudo-Boolean functions; <https://www.euro-online.org/conf/euro27/streams>

Summer School on Polyhedral Combinatorics (PoCo 2015), Pittsburgh, July 8-12, 2015. Co-Organizer; <http://poco2015.org/>

DIMACS Workshop in Honor of Alan Hoffman, New Brunswick, NJ, September 19-20, 2014. Co-Organizer;
<http://dimacs.rutgers.edu/Workshops/Hoffman/>

SIOPT 2014, San Diego, CA, May 19-22, 2014. Organizer of a Mini-Symposium on “New Approaches to Hard Discrete Optimization Problems.” http://meetings.siam.org/sess/dsp_programsess.cfm?SESSIONCODE=18579

GTD #67, Rutgers University, April 26, 2014. Co-Organizer of Graph Theory Day #67;
<http://dimacs.rutgers.edu/Workshops/GraphTheoryDay/program.html>

ISAIM 2014, Ft. Lauderdale, FL, January 5-8, 2014. Co-Organizer of the track on Boolean and Pseudo-Boolean Functions (4 sessions); Member of Program Committee of Conference; <https://www.cs.uic.edu/Isaim2014/>

2nd Rutgers Applied Probability Conference, Piscataway, December 6-7, 2013, Organizing Committee Member.

EURO XXVII/INFORMS Joint International Meeting, Rome, Italy, July 1-4, 2013. Organizer of the stream on *Boolean and Pseudo-Boolean Optimization* (4 sessions.)

EURO XXV, Vilnius, Lithuania, July 8-11, 2012. Organizer of the stream on *Boolean and Pseudo-Boolean Optimization*.(4 sessions.)

ISAIM 2012, Ft. Lauderdale, FL, January 2012. Co-Organizer of the track on *Boolean and Pseudo-Boolean Functions* (4 sessions); Member of Program Committee Conference;
<https://www.cs.uic.edu/bin/view/Isaim2012/SpecialSessions - Boolean>

Workshop on Stochastic Networks (DIMACS/RUTCOR), October 2011. Co-organizer with M. Tortorella, A. Prekopa, and F. Roberts.

CTW 2011, Frascati, Italy, June 14-16, 2011. Organizer (with Marty Golumbic) of the Memorial Sessions dedicated to the memory of Bruno Simeone.

AIRO Winter, La Sapienza – University of Rome, Italy, February 2011. Special session in memory of Bruno Simeone.

EURO XXIV, Lisbon, Portugal, July 2010. Organizer of the stream on *Boolean Programming* with eight sessions.

ISIAM 2010, Ft. Lauderdale, FL, January 2010. Organizer of the stream on *Boolean and Pseudo-Boolean Functions* within the 11th International Symposium on Artificial Intelligence and Mathematics (4 sessions.)

EURO XXIII, Bonn, July 2009. Organizer of the Stream on *Boolean Programming* with six sessions.

DIMACS Workshop on Algorithmic Challenges in Optimization, Game Theory and Computer Science: in Memory of Leo Khachiyan, March 9-10, 2009. Organized workshop and secured funding.

DIMACS/RUTCOR Workshop on Boolean and Pseudo-Boolean Functions in Memory of Peter L. Hammer, January, 2009, organizer and fund raiser.

Colloquium Celebrating Peter L. Hammer, RUTCOR, January 2009.

INFORMS Annual Fall Meeting, Washington, D.C., October 2008. Organized session: *Pseudo-Boolean Optimization in Memory of Peter L. Hammer*.

INFORMS Annual Fall Meeting, Seattle, November 2007. Organized two sessions: *In Memory of Peter L. Hammer and Discrete Optimization in Memory of Peter L. Hammer*

EURO XXII, Prague, July 2007. Two Invited Sessions: *Everything Looking Boolean I and II* (dedicated to the memory of Peter L. Hammer).

Peter L. Hammer Memorial Colloquium, RUTCOR, April 20, 2007

Cluster Chair of the *AI-track*, **INFORMS**, Denver, 2004.

Co-Chair of the **Conference on Discrete Optimization**, Rutgers University, 1999.

Local Chair of the 1998-99 **DIMACS Special Year** on *Large Scale Discrete Optimization*.

Cluster Chair of the *AI-track*, **INFORMS**, Cincinnati, 1999.

Organizer of the tutorial series **Selected Topics in Large Scale Discrete Optimization**, Rutgers University, 1999.

Co-Chair of the *Mini-Symposium on Boolean and Pseudo-Boolean Functions*, Rutgers University, 1998.

Program Co-Chair of the **Fifth International Symposium on Artificial Intelligence and Mathematics**, Fort Lauderdale, Florida, 1998.

Co-organizer of the **Boolean Mini-Workshop**, Jerusalem, Israel, 1995.

Invited Lectures

Plenary Lecture: *International Workshop on Combinatorial Optimization and Algorithmic Game Theory*, Kyoto, Japan, January 12-13, 2020: "Two-person zero-sum stochastic mean payoff games: a pseudo-polynomial algorithm in case of limited randomness via convex programming" <http://imi.kyushu-u.ac.jp/~kamiyama/iwcoagt.html>

Keynote Lecture: *Taiwanese OR Society Conference*, Taipei, November 8, 2019. "Polynomially computable sharp probability bounds" <https://orstw2019.conf.tw/site/page.aspx?pid=34&sid=1306&lang=cht>

INFORMS, Seattle, WA, October 20-23, 2019. Invited talk: "What to learn and what not to learn."

Invited Tutorial: Dagstuhl Seminar 19211, "Enumeration in Data Management", May 19 – 24 , 2019, Dagstuhl, Germany: "*Hypergraphs Transversals*"; <https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=19211>

Plenary Lecture (4 hours): AIROYoung – Third Workshop and PhD School, March 26-29, 2019, Rome, Italy: "*Partially defined Boolean functions and logical analysis of data: what is ethical machine learning?*"; <https://workshop.airoyoung.org/>

Plenary Lecture: Set Functions in Games and Decision, Linz, Austria, February 5-8, 2019: "*What to learn and what not to learn: a mathematical view on ethical learning*"; <https://www.flll.jku.at/linz2019/program.php>

Department of Industrial and Mechanical Engineering, Northeastern University, February 1, 2019: Invited Seminar Talk: "*Quadratization of Pseudo-Boolean Functions*"

VOCAL 2018, Esztergom, Hungary, December 10-12, 2018: Invited lecture: "*Markov decision processes with total effective payoff*".

Plenary Lecture: WEPA 2018, University of Pisa, Italy, November 5-8, 2018: "*Parallel Hypergraph Dualization*".

William and Mary, Department of Mathematics, October 5, 2018. Invited Seminar Talk: "*Hypergraph Combinations of Impartial Games*."

DIAG, "La Sapienza" University of Rome, Italy, June 26, 2018. Invited Seminar Talk: "*Justifiable and ethical learning – a mathematical view*."

Invited Short Course: FAMNIT, University of Primorska, Koper, Slovenia, May - June, 2018 “Discrete Optimization”

FAMNIT, University of Primorska, Koper, Slovenia, May 7, 2018. Invited Seminar Talk: “NIM and its generalizations.”

ISAIM 2018, Fort Lauderdale, Florida, January 3-6, 2018. Invited Talk: “Quadratizations of symmetric pseudo-Boolean functions: sub-linear bounds on the number of auxiliary variables.”

Keynote Lecture: 12th INFORMS Workshop on Data Mining & Decision Analytics Workshop, October 21, 2017, Houston: “Justifiable and Ethical Learning: A Mathematical View.”

XXXII. Conference of the Hungarian Operations Research Society, June 14, 2017. Invited Talk: “Discrete Moment Problems – in Memory of András Prékopa.”

Inauguration Lecture: Hungarian Academy of Sciences, June 7, 2017: “Quadratic Binary Optimization and Digital Image Processing.”

Rényi Alfréd Institute for Mathematics, Hungarian Academy of Sciences, June 1, 2017. Invited Seminar: “JM hypergraphs.”

Plenary Lecture: Boolean Seminar Liblice, Czech Republic, March 12-16, 2017: “Generating maximal irredundant and minimal redundant subfamilies of a hypergraph.”

RIMS, Kyoto University, January 5, 2017. Invited Seminar Talk: “Generating maximal irredundant and minimal redundant subfamilies of a hypergraph.”

Plenary Lecture: VOCAL 2016, Esztergom, Hungary, December 12-15, 2016: “In Memory of András Prékopa: Discrete Moment Problems.”

Plenary Lecture: WEPA 2016, Clermont-Ferrand, France, November 21, 2016: “Generating maximal irredundant and minimal redundant subfamilies of a given hypergraph.”

Seoul National University, Seoul, Republic of Korea, October 28, 2016. Invited Seminar Talk: “Quadratization of Nonlinear Binary Optimization Problems”

Keynote Lecture: OUSMI 2016, Rochester, MI, August 9, 2016: “Stone age games: how difficult it can get?”

Plenary Lecture: Kolloquium SATSim 2016, Cologne, Germany, March 18, 2016: “Horn functions and a new min-max theorem.”

ISAIM 2016, Fort Lauderdale, Florida, January 3-6, 2016. Invited Talk: “A combinatorial min-max theorem related to Horn minimization.”

ISAAC Pre-Workshop, Kyoto, Japan, December 6-7, 2015. Invited Talk: “A combinatorial min-max theorem for the minimization of Horn CNF-s.”

Hokkaido University, Graduate School of Information Science and Technology, Sapporo, Japan, October 23, 2015. Invited Seminar Talk: “Generating Bodies, Simplices, and Vertices of Polyhedra”
<https://www-erato.ist.hokudai.ac.jp/html/php/seminar.php?language=en&day=20151023>

Nagoya University, Department of Computer Science and Mathematical Informatics, October 5, 2015. Invited Seminar Talk: “Quadratization of Pseudo-Boolean Functions.”

Invited Tutorial: Lorentz Center, Leiden, Netherlands, August 24-28, 2015: “Generation Problems and Vertices of Polyhedra.” <https://www.lorentzcenter.nl/lc/web/2015/701/poster.pdf>

Plenary Lecture: AGTAC 2015, Koper, Slovenia, June 16-19, 2015: “Generation of monotone graph structures.”
<https://conferences.matheo.si/event/6/page/1>

Eötvös Loránd University, Institute of Mathematics, Budapest, Hungary, May 19, 2015. Invited Seminar Talk: "Stochastic games with perfect information" (in Hungarian.)

Alfréd Rényi Institute of Mathematics, Budapest, Hungary, May 21, 2015. Invited Seminar: "NIM variations" (in Hungarian.)

"Fejes Toth" Lecture: University of Calgary, Canada, March 27, 2015: "Simplices, Bodies, and Vertices of Polyhedra." <https://math.ucalgary.ca/ccdg/node/587>

University of Calgary, Canada, March 27, 2015. Invited Seminar, Department of Mathematics: NIM, co-NIM and Ex-co-NIM.

STACS 2015, Munich, March 4-7, 2015. Invited Talk: "Markov Decision Processes and Stochastic Games with Total Effective Payoff"

Plenary Lecture: DA2PL, Paris, November 20-21, 2014: "Learning and indentifying monotone boolean functions" <http://www.lgi.ecp.fr/~mousseau/DA2PL-2014/pmwiki.php/Main/InvitedTalks>

INFORMS, San Francisco, CA, November 9-12, 2014. Invited talk: "Quadratizations of Pseudo-Boolean Functions."

SIAM Conference on Optimization, May 19-22, 2014. Invited Talk: "Effective Quadratzation of Nonlinear Binary Optimization Problems."

Invited Tutorial: Horn Functions, Dagstuhl, Germany, May 11-16, 2014: *Horn functions: a combinatorial view* <https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=14201>

RIMS, Kyoto, Japan, January 14, 2014. Invited seminar talk: "Quadratization of nonlinear functions in binary variables"

2nd Rutgers Applied Probability Conference, December 7, 2013. Invited Talk: "Markov Decision Processes with Total Effective Rewards"

INFORMS NJ Chapter Meeting, October 24, 2013. Invited Talk: "Quadratization of Pseudo-Boolean Functions"

INFORMS, Minneapolis, MN, October 6-10, 2013. Invited talk: "Bounds on the Size of Quadratizations of Pseudo-Boolean Functions"

IASI, Rome, Italy, June 20, 2013. Invited seminar talk: "Quadratization of Pseudo-Boolean Functions"

DIMAP, Warwick, England, June 8, 2013. Invited seminar talk: "k-Total reward games"

Boolean Seminar Liblice, Czech Republic, April 13-14, 2013. Two invited talks on "Quadratization of pseudo-Boolean functions"

Peter L. Hammer Memorial Lecture: Charles University, Czech Republic, April 12, 2013: "Pseudo-Boolean Optimization." <http://ktiml.mff.cuni.cz/booleanseminar2013/index.php?page=program>

University of Primorska, Slovenia, November 19, 2012. Seminar talk: "Quadratization of Pseudo-Boolean Functions."

GERAD, University of Montreal, November 8, 2012. Seminar talk: "Quadratization of Pseudo-Boolean Functions"

Lehigh University, PA, November 7, 2012. Seminar talk: "Quadratization of Pseudo-Boolean Functions."

Keynote Lecture: ECCV 2012 Workshop on Higher-Order Models and Global Constraints in Computer Vision, Florence Italy, October 13, 2012: "Quadratization of higher degree binary optimization problems". <https://sites.google.com/a/ttic.edu/eccv-2012-workshop-hipot/>

DIMACS, September 24, 2012. Seminar: "Interdiction problems and total-reward games"

MATCH-UP 2012 – the Second International Workshop on Matching Under Preferences, Budapest, July 2012:
Invited talk: *On Rank-profiles of Stable Matchings*.

UPMC, Sorbonne, Paris, June 2012. Invited lecture: *Quadratization of Pseudo-Boolean Functions*.

Plenary Lecture: 3-ADM: International Workshop on Three Approaches to Data Mining: Test Theory, Rough Sets and Logical Analysis of Data: Logical Analysis of Data, KAUST, June 8-11, 2012.

CCICADA Research Retreat, March 2012, University of Illinois at Urbana. Invited talk: Optimal Layered Security For Site Protection (Tsvetan Asamov, Emre Yamangil, Endre Boros, Paul Kantor, Fred Roberts).

ISAIM 2012, Ft. Lauderdale, FL, January 2012. Two talks at the 12th International Symposium on Artificial Intelligence and Mathematics: *On quadratizations of pseudo-Boolean functions* and *Hardness results for approximate pure Horn CNF formulae minimization*.

Keynote Lecture: The First 3-C Risk Forum & 2011 International Conference on Engineering and Risk Management (ERM), Fields Institute, Toronto, October 2011: *How to mitigate the risk of blowing up and the cost of being too cautious*.

London School of Economics, Department of Mathematics, October 2011. Invited talk: *Stochastic games*.

University College of London, Department of Mathematics, October 2011. Invited talk: *Parallel-dualization*.

ICALP 2011, Zurich, Switzerland, July 2011. *Stochastic mean payoff games: Smoothed analysis and approximation schemes* (co-authors: K. Elbassioni, Mahmoud Fouz, V. Gurvich, K. Makino, and Bodo Manthey).

CTW 2011, Frascati, Italy, June 2011. *Incompatibility Graphs & Data Mining*.

La Sapienza, University of Rome, June 2011. Seminar: *Every stochastic game with perfect information admits a canonical form*.

IASI- CNR, Rome, June 2011. Seminar: *Quadratization of higher degree pseudo-Boolean functions*.

NSF-Sponsored CMMI Research and Innovation Conference, Atlanta, GA, January 2011 (going as PI).

INFORMS Annual Fall Meeting, Austin, TX, November 2010 (Two talks): *Robust classification by orthogonalization* and *Planning for extreme heat events*

EURO XXIV, Lisbon, Portugal, July 2010. [*Essential sets and Horn minimization*](#)

IPCO 2010, Lausanne, Switzerland, June 2010. *A Pumping Algorithm for Ergodic Stochastic Mean Payoff Games with Perfect Information*.

International Workshop on Computer Vision 2010, Salerno, Italy, May 2010. Committee on Discussion Panel: *Linear Inverse Systems with Priors*.

University of Paris, March 2010. *Polynomially computable sharp probability bounds*

Workshop in Graph Theory and Combinatorics in Memory of Uri Peled, University of Illinois at Chicago, February 2010. *Incompatibility Graphs*.

11th International Symposium on Artificial Intelligence and Mathematics, Ft. Lauderdale, January 2010. *Cones of non-negative quadratic pseudo-Boolean functions*.

University of Tokyo, Japan, December 2009. Invited seminar: *On terminal games with 3 terminals*.

International Colloquium on Stochastic Modeling and Optimization dedicated to the 80th birthday of Professor Andras Prekopa, RUTCOR, November 30-December 1, 2009. *Polynomially computable sharp probability bounds.*

INFORMS Annual Fall Meeting, San Diego, October 2009. Invited talk at Data Mining Workshop: *What Can and What Should Not Be Learned from Data.*

INFORMS Annual Fall Meeting, San Diego, October 2009. Invited talk: *Optimal Sensor Sequencing.*

DIMACS/CCICADA Student-organized Seminar Series, October 2009. [Sequential decision making for container inspection](#)

EURO XXIII, Bonn, July 2009. (Three talks): *Cones of nonnegative quadratic pseudo-Boolean functions and lift-and-project hierarchies. Boolean optimization methods for linear inverse systems with edge-preserving priors. A restricted Boolean consensus method for the transitive closure of a digraph.*

ICALP Conference 2009, July 2009, Rhodes, Greece: Invited Talk: *A Fast and Simple Parallel Algorithm for Monotone Dualization.*

Eotvos Lorand University, Budapest, Hungary, July 2009. Seminar Presentation: *Quadratic Programming and Image Enhancement.*

Venice, Italy, May 2009. Conference on Graph Cuts.

IASI, Rome, May 2009. Seminar: *Polynomially computable sharp probability bounds.*

ARI Grantees Conference, Washington, April 2009 (talk with Paul Kantor).

Carnegie Mellon University, Pittsburgh, March 2009. Seminar: *Polynomially computable bounds for the probability of a union of events.*

DIMACS/DyDan Seminar, March 2009. *Sensor sequencing and LP.*

University of Tokyo, Japan, December 2008. *Applications of autarkies and persistencies in quadratic unconstrained binary optimization.*

DIMACS/DyDan Workshop on Mathematical Science Methods to Enhance Nuclear Detection, November 2008. Kantor/Boros group presentation: *Optimal sensor sequencing for container inspection.*

Bonn Workshop on Combinatorial Optimization, November 2008. *Quadratic unconstrained binary optimization and its applications.*

INFORMS Annual Fall Meeting, Washington, D.C., October 2008. Organized session: *Pseudo-Boolean Optimization in Memory of Peter L. Hammer.* Talk: *Applications of autarkies and persistencies in quadratic unconstrained binary optimization.*

Toronto, Ontario, Fields Seminar, October 7-8, 2008. *Quadratic binary optimization and its applications.*

Lausanne, Switzerland, De Werra-Liebling Workshop, June 2008. *What remains open in vertex generation.*

Venice, Italy, Image Workshop, May 27-29, 2008. *Preprocessing and probing for image enhancement.*

GERAD Workshop, Montreal, Canada, May 5-9, 2008. Lecture series on *Partially defined Boolean functions and logical analysis of data* (6 hours).

DNDO PI-Workshop, Washington, April 21-22, 2008. *Sensor sequencing.*

DOD SAT Workshop, Baltimore, MD, March 2008. *Persistencies for MAXSAT problems.*

University of California, IPAM (Institute for Pure and Applied Mathematics), Workshop on Graph Cuts and Related Discrete or Continuous Optimization Problems, Los Angeles, February 2008. *A strongly polynomial preprocessing for quadratic binary optimization.*

The Technion, TECHNION MATHEMATICS NET, Haifa, January 2008. *The polytope of decision trees with an application for container inspection.*

University of Haifa, Expert Workshop on Boolean Functions in Memory of Peter L. Hammer, January 2008. Two talks: *Peter L. Hammer and Pseudo-Boolean Optimization* and *A New Parallel Dualization Algorithm.*

University of Tokyo, Japan, December 2007. Invited talk.

INFORMS Annual Fall Meeting, Seattle, November 2007. Two Invited Sessions: *In Memory of Peter L. Hammer* and *Discrete Optimization in Memory of Peter L. Hammer*. Two talks: *Everything Looks Like Boolean...* and *Preprocess or Not to Preprocess: That is the Question.* (Talk by co-author: *Container Vessel Scheduling: Some Solvable Cases.*)

McMaster University, Hamilton, Ontario, November 2007. Seminar: *Optimizing sensor sequencing.*

Queens College, Brooklyn, NY, October 2007. Seminar: *Criteria of solvability of bimatrix games based on excluding certain 2 x 2 subgames.*

EURO XXII, Prague, July 2007. Two Invited Sessions: *Everything Looking Boolean I* and *II* (dedicated to the memory of Peter L. Hammer). Two talks: *Success of pseudo-Boolean optimization* and *How to approximate an unknown Boolean function.*

External Grants:

- Slovenian Science Fund, bilateral research project on equitable, strongly equitable and CIS graphs, Co-PI with Martin Milanic, University of Primorska, (2018-19; €3030)
- Slovenian Science Fund, bilateral research project on equitable, strongly equitable and CIS graphs, Co-PI with Martin Milanic, University of Primorska, (2016-17; €3030)
- NSF, *RI: Medium: Collaborative Research: Graph Cut Algorithms for Domain-specific Higher Order Priors* (with Cornell University), PI (Rutgers portion of budget \$354,980; June 1, 2012 – May 31, 2016)
- NSF, *Discrete Moment Problems and Applications*, Co-PI with A. Prékopa (\$299,980; August 15, 2009 – July 31, 2014)
- Slovenian Science Fund, bilateral research project on graph classes, Co-PI with Martin Milanic, University of Primorska, (2014-15; €5000)
- NSF, *Collaborative Research: Graph Cut Algorithms for Linear Inverse Systems* (with Cornell University), PI (Rutgers portion of budget \$348,732; May 1, 2008 – April 30, 2012)
- ONR, *Optimization Problems for Detection Systems*, Investigator (\$224,863; November 20, 2006 – January 31, 2010; PI: Fred S. Roberts)
- NSF, *ARI-SA: Deceptive Detection Strategies: Optimizing the Value of Sensor Information*, Co-PI with P.B. Kantor (\$159,543; September 1, 2008 – August 31, 2009)
- NSF, *A Decision Logic Approach to the Port-of-Entry Inspection Problem*, Investigator (1 summer month); (\$349,999; September 16, 2005 -- August 31, 2006; PI: Fred S. Roberts)
- ONR, *Port-of-entry Inspection Models*, Investigator (GA support for Liliya Fedzhora); (\$60,000; January 1, 2005 -- December 31, 2006; PI: Fred S. Roberts)
- NSF, *Identification of Threshold, Regular and Submodular Monotone Systems: Theory and Algorithms*, co-PI with V. Gurvich and L. Khachiyan. (\$353,623; December 1, 2001 -- November 30, 2005)
- ONR, *Satisfiability and Generalized Inference Problems*, co-PI with P.L. Hammer. (~\$1,100,000; October 1, 1996 -- September 30, 2003)
- DARPA, *A Novel Approach to Information Finding in Networked Environments*, co-PI with P.B. Kantor (SCILS) and B. Melamed (SOB). (\$1,056,168; July 1, 1997 -- December 31, 2000)
- NSF, *Pseudo-Boolean Function: Representations and Optimization*, co-PI with P.L. Hammer. (\$393,031; July 1, 1998 -- June 30, 2001)
- NSF, *Support for the conference DO'99*, co-PI with P.L. Hammer. (\$15,000; May 1, 1999 -- April 30, 2000)
- NSF, *US - Belgium Scientific Cooperation Research Grant*, co-PI with P.L. Hammer. (\$15,000; February 1, 1995 -- January 31, 1998)
- ONR, *Logical Analysis of Data*, co-PI with P.L. Hammer. (\$415,381.00, Sep 92 -- Dec 96)
- ONR, *AASERT, Augmentation Award for Science and Engineering Research Training Award*, co-PI with P.L. Hammer.

(\$218,000.00, Jun 93 -- May 96)

- AFOSR, *Optimization and Artificial Intelligence*, co-PI with P.L. Hammer and F. Roberts. (\$40,000.00, Mar 95 -- Feb 96)
- NATO, *Binary Optimization*, Cooperative Research Grant, co-PI with Y. Crama and P.L. Hammer. (July 93 -- June 96)
- NSF, SCREMS Equipment Grant, co-PI with P.L. Hammer, A. Kogan, D. Shanno and A. Prékopa, (\$28,000; July 94 -- June 95)
- HEFT Equipment Grant, NJ State, co-PI with P.L. Hammer, (\$50,000; June 94 -- June 95)
- ELF Facility Improvements Grant, NJ State, co-PI with P.L. Hammer, (\$40,000; June 94 -- June 96)

Service (recent) to Rutgers:

Member of Executive Board, DIMACS (1996-)

Vice-Chair of MSIS, 2014-15; 2016-2023.

Director of RUTCOR (January 1, 2007 -)

Served on MSIS FCP Committee, S2020.

Served on RBS A&P Committee, 2017-19, 2020-21.

Served on numerous adhoc A&P committees in 2014, 2015, 2016, and 2019.

Served on the NB Undergraduate Program Committee, 2019-2022.

Served on the RBS-MGB promotion committee, 2019.

Served on the RBS Library Advisory Board, 2018-

Served on the RBS taskforce on **Flexible Teaching Assignments**, Summer-Fall, 2014.

Served on the RBS subcommittee on **Social Impact**, 2015.

Served on IMRT awards panel, 2015, 2016, and 2017.

Served on the RBS **Compensation Review Committee**, S2016.

Served on and chaired the RBS **Research Resources Committee**, S2016.

Served on CRC committee, 2016, 2017.

Served on RRC committee, 2017.

Teaching

Courses Taught

01:711:453 Theory of Linear Optimization (many times before 2010)

01:711:465 Integer Programming (many times before 2010)

16:711:513 Discrete Optimization (F2010, F2011, F2012)

16:711:517 Computational Methods of Operations Research (S2010, S2011, S2012, S2013)

16:711:553 Theory of Boolean Functions (many times before 2010)

16:711:611 Pseudo-Boolean Functions (many times before 2010)

26:711:651 Linear Programming (S2015)

26:711:653 Discrete Optimization (S2014, S2016, S2017, S2018, S2019, S2020)

33:136:486 Optimization Modeling (F2013, F2014, F2016, F2017, F2018, F2019, F2020)

Advisor of Post-Doctoral Fellows

Khaled Elbassioni (2003-2005; supported by NSF grant on *Identification of Threshold, Regular and Submodular Monotone Systems: Theory and Algorithms*; jointly advised with L. Khachiyan and Vladimir Gurvich)

Eddy Mayoraz (1993-1994; supported by ONR project on *Logical Analysis of Data*; jointly advised with Peter L. Hammer)

Advisor of Ph.D students

Peter Mursic (PhD. January 2019) *Hypergraph NIM*.

Kwon Gi Mun (Ph.D. 2016): *Designing energy and water supply chains for prosperity*.

Emre Yamangil (Ph.D. 2015): *Valid Inequalities for mixed integer linear programming problems*.

Aritanan Gruber (Ph.D. 2014): *Algorithmic and Complexity Results for Boolean and Pseudo-Boolean Functions*

Selim Bora (Ph.D. 2012): *Inventory and scheduling problems in supply chain management*

David Neu (Ph.D. 2012): *Feature Selection with Applications to Text Classification*

Anupama Reddy (Ph.D. 2009): *Combinatorial Pattern-based Survival Analysis with Applications in Biology and Medicine*

Liliya Fedzhora (Ph.D., 2008): *A linear programming model for sequential testing*

Gabriel Tavares (Ph.D., 2008: *New algorithms for quadratic unconstrained binary optimization (QUBO) with applications in engineering and social sciences*)
Konrad Borys (Ph.D., 2006: *On Generation of cut conjunctions, minimal k-connected spanning subgraphs, minimal connected and spanning subsets and vertices*)
Ying Liu (Ph.D., 2003: *Combinatorial box partitioning, box packing and their applications*)
Pierangela Veneziani (Ph.D., 2002: *Combinatorics of Boole's Problem*)
Lijie Shi (Ph.D., 2001: *Bounds on the Size of Turán Type Families and Data Mining*)
Tonguç Ünlüyürt (Ph.D., 1999: *Boolean Functions and Diagnosis Problems*)
Therese C. Biedl (Ph.D., 1997: *Orthogonal Graph Visualization: The Three-Phase Method With Applications*)
Tamás Badics (Ph.D., 1996: *Approximation of some Nonlinear Binary Optimization Problems*)
Arun Balakrishnan (Ph.D., 1996: *Graph Techniques for Sequential Logic Testing*)
Ondrej Cepek (Ph.D., 1995: *Structural Properties and Minimization of Horn Boolean Functions*)

Advisor of Capstone Projects for MITA students

Rijul Damodar Bhagat (2018)
Bhavin Parmal (2018)
Adit Purohit (2018)
Priyanka Kurkure (2019)
Saurabh Sankhe (2019)
Gaurav Sahil Rodrigues (2019)
Sagar Srinivas Vasaikar (2019)
Akhsada Iyer (2019)
Hao Li (2020)
Roysten Rajesh Menezes (2020)
Deepak Kumar Shukla (2020)

Advisor of Capstone Projects for BAIT/SAS Honors students (2 semester course)

Joel Anthony Pena (2019-2020)
Paulina Portnoy (2019-2020)
Jere Xu (2019-2020)
Sri Narayan (2020-2021)

Advisor of Visiting (on their own support) graduate students

Nina Chiarelli (Fall, 2013; from University of Primorska, Slovenia)
Thomas Bellitto (Spring, 2015; from University of Bordeaux, France)

Advisor of Masters students

Ali Unlu (MS., 2005)
Murat Akarca (MS., 2004)
Anna Oliecka (MS., 1999)
Goksel Goncu (MS., 1997)

Advisor of REU and other students

Brandon Blakeley (Texas), Amanda Olsen (Georgia) and Robert Rand (Toronto), REU students, DIMACS, Summer 2009
Alex Waldron, REU student, DIMACS, Summer 2006
Kathryn Davidson, REU student, DIMACS, Summer 2005.
Elizabeth Hayden, REU student, DIMACS, Summer 2005.
Daniel P. Macdonald, REU student, DIMACS, Summer 2005.
Craig Bowles, REU student, DIMACS, Summer 2005.
Logan Everett, REU student, DIMACS, Summer 2004.
Daniel Krasner, REU student, DIMACS, Summers of 2002 and 2003.
Ricardo Collado, REU student, DIMACS, Summer 2001.

Jarl Friis, Danish student visitor at RUTCOR and DIMACS, 1999-2000.
 Ranjit Gopala, undergraduate, practical training at Prudential Securities, portfolio selection
 with AMPL, 2 credits, Summer-Fall 1998.
 Winnie Yau, REU student, DIMACS, Summer 1998.
 Mark Krosky, REU student, DIMACS, Summer 1994.
 Joel Sokol, REU student, DIMACS, Summer 1993.

Member/Chair of Doctoral Thesis Committees outside of Rutgers

Michal Mankowski, KAUST, October 2020. Elisabeth Rodriguez Heck, HEC Liege, Management School, August 2018. Mohammad Mohiuddin Azad, KAUST, April, 2018. Tatiana Romina Hartinger, UP FAMNIT, July 2017. Talha Amin, KAUST, May 2017. Shahid Hussain, KAUST, July, 2016. Alex Fix, Cornell University, December, 2013; Deborah Kletenik, Polytechnic Institute of NYU, December, 2013; Imran Rauf, University of Saarlandes, Saarbrucken, Germany, October, 2011; Vincenzo Spinelli, Andrea Raiconi, and Francesco Rinaldi, May 2009; Miguel F. Anjos, University of Waterloo, 2001.

PUBLICATIONS LIST

Endre Boros

Books, Chapters and Edited Volumes:

1. Diogo V. Andrade, Endre Boros and Vladimir Gurvich: "On graphs whose maximal cliques and stable sets intersect", in *Optimization Problems in Graph Theory* (B. Goldengorin, ed.), pp. 3-66, Springer Verlag, 2018.
2. Chaohui Wang, Nikos Komodakis, Hiroshi Ishikawa, Olga Veksler, Endre Boros, Editors: Inference and Learning of Graphical Models: Theory and Applications in Computer Vision and Image Analysis. Volume 143 of *Computer Vision and Image Understanding*, 2016.
3. Boros, E., Horn Functions, In: *Boolean Functions: Theory, Algorithms, and Applications* (Y. Crama and P.L. Hammer, eds.) Cambridge University Press, 2011.
4. E. Boros, Y. Crama, D. de Werra, P. Hansen, F. Maffray, Editors. *The Mathematics of Peter L. Hammer (1936-2006): Graphs, Optimization, and Boolean Models*, volume 188 of *Annals of Operations Research*, Springer, New York, NY, 2011, 427 pages.
5. D. de Werra, E. Boros, A. Hertz, M. Widmer, J. Carlier, editors. In *Fifth International Conference on Graphs and Optimization 2006*, volume 156 (13) of *Discrete Applied Mathematics*, Amsterdam, Lausanne, New York, Oxford, Shannon, Singapore, Tokyo, July 2008. Elsevier Science, pp. 2437-2580.
6. E. Boros and V. Gurvich, editors. In *Memory of Leonid Khachiyan (1952 - 2005)*, volume 156 (11) of *Discrete Applied Mathematics*, Amsterdam, Lausanne, New York, Oxford, Shannon, Singapore, Tokyo, June 2008. Elsevier Science, pp. 1957-2240.
7. M. Anthony, E. Boros, P.L. Hammer, and A. Kogan, editors. *Discrete Mathematics and Data Mining II*, volume 156 (6) of *Discrete Applied Mathematics*, Amsterdam, Lausanne, New York, Oxford, Shannon, Singapore, Tokyo, March 2008. Elsevier Science.
8. M. Anthony, E. Boros, P.L. Hammer, and A. Kogan, editors. *Discrete Mathematics and Data Mining II*, volume 154 (7) of *Discrete Applied Mathematics*, Amsterdam, Lausanne, New York, Oxford, Shannon, Singapore, Tokyo, May 2006. Elsevier Science.
9. Boros, E., Hammer, P. & Ibaraki, T. Logical Analysis of Data. In: *Encyclopedia of Data Warehousing and Mining*, (J. Wang, ed.) Idea Group Reference, (2005), pp. 689-692.
10. M. Anthony, E. Boros, P.L. Hammer, and A. Kogan, editors. *Discrete Mathematics and Data Mining*, volume 144 (1-2) of *Discrete Applied Mathematics*, Amsterdam, Lausanne, New York, Oxford, Shannon, Singapore, Tokyo, September 2004. Elsevier Science.
11. E. Boros and P.L. Hammer, editors. *Workshop on Discrete Optimization DO'99 – Contributions to Discrete Optimization*, volume 124 of *Discrete Applied Mathematics*, Amsterdam, Lausanne, New York, Oxford, Shannon, Singapore, Tokyo, December 2002. Elsevier Science.
12. E. Boros and P.L. Hammer, editors. *Workshop on Discrete Optimization DO'99: Surveys on the State of the Art*, volume 123 of *Discrete Applied Mathematics*, Amsterdam, Lausanne, New York, Oxford, Shannon, Singapore, Tokyo, November 2002. Elsevier Science.
13. E. Boros, John Franco, Eugene Freuder, Martin C. Golumbic, R. Greiner, and E. Mayoraz, editors. *Artificial Intelligence and Mathematics IX.*, volume 26 of *Annals of Mathematics and Artificial Intelligence*. Baltzer Science Publishers, December 1999.

14. J.V. Franco, G. Gallo, H.K. Büning, E. Speckenmeyer, E. Boros, and P.L. Hammer, editors. *The Satisfiability Problem/Boolean Functions*, volume 96-97 of *Discrete Applied Mathematics*, Amsterdam, Lausanne, New York, Oxford, Shannon, Singapore, Tokyo, November 1999. Elsevier Science.
15. E. Boros and P.L. Hammer, editors. *Boolean Functions*, volume 10 of Topics in Discrete Mathematics, Amsterdam, Lausanne, New York, Oxford, Shannon, Singapore, Tokyo, December 1999. Elsevier Science.
16. E. Boros, J. Franco, E. Freuder, M.C. Golumbic, R. Greiner, and E. Mayoraz, editors. *Artificial Intelligence and Mathematics VIII.*, volume 24 of Annals of Mathematics and Artificial Intelligence. Baltzer Science Publishers, December 1998.
17. E. Boros and R. Greiner, editors. *Artificial Intelligence and Mathematics*, December 1997. Electronic Proceedings of the Fifth International Symposiums on Artificial Intelligence and Mathematics, Fort Lauderdale, Florida, January 4-6, 1998.
18. E. Boros and M.C. Golumbic, editors. *Artificial Intelligence and Mathematics V.*, volume 17 of Annals of Mathematics and Artificial Intelligence. Baltzer Science Publishers, December 1996.
19. E. Boros, editor. ARIDAM VI and VII, volume 60 of *Discrete Applied Mathematics*. Elsevier Science, June 1995.

Publications in Refereed Journals and Conference Proceedings:

1. E. Boros and Z. Füredi. Su un teorema di Karteszi nella geometria combinatoria. *Archimede*, XXIX(2):71-76, 1977. (in Italian).
2. E. Boros. On the number of subdivisions of the unit square. In A. Hajnal, L. Lovász, and V.T. Sós, editors, *Finite and Infinite Sets*, number 37 in *Colloquia Mathematica Societatis János Bolyai*, pages 893--898, Amsterdam - New York, 1981. North Holland. Sixth Hungarian Combinatorial Colloquium, Eger, Hungary, July 6-11, 1981.
3. E. Boros, F. Inotay, and L.B. Kovács. A two stage approach for large scale sewer systems design with application to the Lake Balaton resort area. In L. Somlyódi, S. Heródek, and J. Fisher, editors, *Eutrophication of Shallow Lakes: Modelling and Management; The Lake Balaton Case Study*, number CP-83-S3 in IIASA Collaborative Proceedings Series, pages 315--333, Laxenburg, Austria, 1983. International Institute for Applied Systems Analysis. Veszprém, Hungary, August 29 - September 3, 1982.
4. M. Bíró and E. Boros. Network flows and non-guillotine cutting patterns. *European Journal of Operations Research*, 16:215--221, 1984.
5. E. Boros and Z. Füredi. The number of triangles covering the center of an n-set. *Geometriae Dedicata*, 17:69--77, 1984.
6. E. Boros, F. Inotay, and L.B. Kovács. A two stage mathematical model and an interactive program system for sewer system design. *Alkalmazott Matematikai Lapok*, 10:87--102, 1984. (in Hungarian).
7. E. Boros. Analysis and short-term forecasting of daily electric load. *Zeitschrift für Angewandte Mathematik und Mechanik*, 66:T340--T342, 1986.
8. E. Boros. On the complexity of the surrogate dual of 0-1 programming. *Zeitschrift für Operations Research, Serie (A)*, 30:145--154, 1986.
9. E. Boros, F. Inotay, and L.B. Kovács. A two stage approach for large scale sewer system design with application to the Lake Balaton area. *European Journal of Operations Research*, 23:169--178, 1986.
10. E. Boros and T. Szönyi. On the sharpness of a theorem of B. Segre. *Combinatorica*, 6:261--268, 1986.
11. E. Boros. On a linear Diophantine problem for geometrical type sequences. *Discrete Mathematics*, 66:27--33, 1987.
12. E. Boros, T. Szönyi, and F. Wetzl. Sperner extensions of affine spaces. *Geometriae Dedicata*, 22:163--172, 1987.
13. E. Boros. $PG(2, p^s)$, $p > 2$ has property $B(p+2)$. *Ars Combinatoria*, 25:111--113, 1988.
14. E. Boros and Z. Füredi. Rectangular dissections of a square. *European Journal of Combinatorics*, 9:271--280, 1988.
15. E. Boros, Z. Füredi, and J. Kahn. Maximal intersecting families and affine regular polygons in $PG(2, q)$. *Journal of Combinatorial Theory (A)*, 52:1--9, 1989.
16. E. Boros, Z. Füredi, and L.M. Kelly. On representing Sylvester-Gallai designs. *Discrete and Computational Geometry*, 4:345--348, 1989.
17. E. Boros and P.L. Hammer. On clustering problems with connected optima in euclidean spaces. *Discrete Mathematics*, 75:81--88, 1989.
18. E. Boros and A. Prékopa. Closed form two-sided bounds for probabilities that at least r or exactly r out of n events occur. *Mathematics of Operations Research*, 14:317--342, 1989.
19. E. Boros and A. Prékopa. Probabilistic bounds and algorithms for the maximum satisfiability problem. *Annals of Operations Research*, 21:109--126, 1989.

20. E. Boros and A. Prékopa. Availability analysis and the method of binomial moments to evaluate reliability of power systems. In *Resource Planning Under Uncertainty for Electric Power Systems*, pages 197--215. Stanford University, 1989.
21. E. Boros and A. Prékopa. Aczel's Inequality: A solutions to a problem posed by A. Lupas (E3222, 1987, 681). *American Mathematical Monthly*, **97**(2), pp. 1562 (1990).
22. E. Boros, Y. Crama, and P.L. Hammer. Upper bounds for quadratic 0-1 maximization. *Operations Research Letters*, **9**:73--79, 1990.
23. E. Boros, Y. Crama, and P.L. Hammer. Polynomial-time inference of all valid implications for Horn and related formulae. *Annals of Mathematics and Artificial Intelligence*, **1**:21--32, 1990.
24. E. Boros. On shift stable hypergraphs. *Discrete Mathematics*, **87**:81--84, 1991.
25. E. Boros, D. Jungnickel, and S.A. Vanstone. The existence of non-trivial hyperfactorizations of K_{2n} . *Combinatorica*, **11**:9--15, 1991.
26. E. Boros and P.L. Hammer. The max-cut problem and quadratic 0-1 optimization, polyhedral aspects, relaxations and bounds. *Annals of Operations Research*, **33**:151-180, 1991.
27. A. Prékopa and E. Boros. On the existence of a feasible flow in a stochastic transportation network. *Operations Research*, **39**(1):119--130, 1991.
28. E. Boros, P.L. Hammer, T. Ibaraki, and K. Kawakami. Identifying 2-monotonic positive Boolean functions in polynomial time. In W.L. Hsu and R.C.T. Lee, editors, *ISA'91 Algorithms*, number **557** in *Lecture Notes in Computer Science*, pages 104--115, Berlin - New York, 1991. Springer-Verlag. 2nd International Symposium on Algorithms, Taipei, Taiwan, 1991.
29. E. Boros, Keh-Wei Lih, and A. Prékopa. The use of binomial moments for bounding network reliability. In F.Hwang, C. Monma, and F.S. Roberts, editors, *Reliability of Computer and Communication Networks*, number **5** in *DIMACS Series in Discrete Mathematics and Theoretical Computer Science*, pages 197--212, Providence, Rhode Island, 1991. American Mathematical Society, Association for Computing Machinery.
30. E. Boros, Y. Crama, and P.L. Hammer. Chvatal cuts and odd cycle inequalities in quadratic optimization. *SIAM Journal on Discrete Mathematics*, **5**:163--177, 1992.
31. E. Boros, P.L. Hammer, and R. Shamir. A polynomial algorithm for balancing acyclic data flow graphs. *IEEE Transactions on Computers*, **41**:1380--1385, 1992.
32. E. Boros, Y. Crama, P.L. Hammer, and M. Saks. A complexity index for satisfiability problems. In E. Balas, G. Cornuejols, and R. Kannan, editors, *Integer Programming and Combinatorial Optimization*, pages 220--226, Pittsburgh, Pennsylvania, 1992. Carnegie Mellon University. 2nd IPCO.
33. E. Boros and P.L. Hammer. Cut-polytopes, Boolean Quadric polytopes and nonnegative quadratic pseudo-Boolean functions. *Mathematics of Operations Research*, **18**:245-253, 1993.
34. T. Badics and E. Boros. Implementing a maximum flow algorithm: Experiments with dynamic trees. In D.S. Johnson and C.C. McGeoch, editors, *Network Flows and Matching*, number **12** in *DIMACS Series in Discrete Mathematics and Theoretical Computer Science*, pages 43--64, Providence, Rhode Island, 1993. American Mathematical Society, Association for Computing Machinery.
35. E. Boros, Y. Crama, P.L. Hammer, and M. Saks. A complexity index for satisfiability problems. *SIAM Journal on Computing*, **23**:45--49, 1994.
36. E. Boros, P.L. Hammer, M. Hartman, and R. Shamir. Balancing problems in acyclic networks. *Discrete Applied Mathematics*, **49**:77--93, 1994.
37. E. Boros, P.L. Hammer, and J.N. Hooker. Predicting cause-effect relationships from incomplete discrete observations. *SIAM Journal on Discrete Mathematics*, **7**:481--491, 1994.
38. E. Boros, P.L. Hammer, and X. Sun. Recognition of q-Horn formulae in linear time. *Discrete Applied Mathematics*, **55**:1--13, 1994.
39. E. Boros, V. Gurvich, P.L. Hammer, T. Ibaraki, and A. Kogan. Decomposability of partially defined Boolean functions. *Discrete Applied Mathematics*, **62**:51--75, 1995.
40. E. Boros, P.L. Hammer, and J.N. Hooker. Boolean regression. *Annals of Operations Research*, **58**:201--226, 1995.
41. E. Boros, A. Recski, and F. Wetli. Unconstrained multilayer switchbox routing. *Annals of Operations Research*, **58**:481--491, 1995.
42. E. Boros and V. Gurvich. Perfect graphs are kernel solvable. *Discrete Mathematics*, **159**:35--55, 1996.
43. E. Boros and F.K. Hwang. Optimality of nested partitions and its application to cluster analysis. *SIAM Journal on Optimization*, **6**:1153--1162, 1996.
44. E. Boros and R. Meshulam. On the number of flats spanned by a set of points in $PG(d,q)$. *Discrete Mathematics*, **150**:407--409, 1996.
45. E. Boros, V. Gurvich, P.L. Hammer, T. Ibaraki, and A. Kogan. Decompositions of partially defined Boolean functions. In H. Imai, W.F. Wong, and K.F. Loe, editors, *Advances in Computing Techniques*. World Scientific, Singapore, 1996.
46. E. Boros, T. Ibaraki, and K. Makino. Boolean analysis of incomplete examples. In Rolf Karlsson and Andrzej Lingas, editors, *Algorithm Theory -- SWAT'96*, number **1097** in *Lecture Notes in Computer Science*, pages 440-

- 451, Berlin - New York, 1996. Springer Verlag. 5th Scandinavian Workshop on Algorithm Theory, Reykjavik, Iceland, 1996.
47. E. Boros and O. Cepek. Perfect 0,+1,-1 matrices. *Discrete Mathematics*, **165/166**(1-3):81—100, March 1997.
 48. A.O.L. Atkin, E. Boros, K. Cechlarova, and U.N. Peled. Powers of circulants in bottleneck algebra. *Linear Algebra and Its Applications*, **258**(1-3):137--148, June 1997.
 49. E. Boros, P.L. Hammer, T. Ibaraki, and K. Kawakami. Polynomial time recognition of 2-monotonic positive Boolean functions given by an oracle. *SIAM Journal on Computing*, **26**:93--109, 1997.
 50. E. Boros, P.L. Hammer, T. Ibaraki, and A. Kogan. Logical analysis of numerical data. *Mathematical Programming, Series B*, **79**:163--190, August 1997.
 51. E. Boros, V. Gurvich, and A. Vasin. Stable families of coalitions and normal hypergraphs *Mathematical Social Sciences*, **34**(2):107--123, October 1997.
 52. E. Boros, T. Ibaraki, and K. Makino. Monotone extensions of Boolean data sets. In Ming Li and Akira Maruoka, editors, *Proceedings of the 8th International Workshop on Algorithmic Learning Theory (ALT-97)*, volume **1316** of *Lecture Notes in Artificial Intelligence*, pages 161--175, Berlin, New York, Tokyo, October 1997. Springer Verlag.
 53. E. Boros and V. Gurvich. A corrected version of the Duchet Kernel Conjecture. *Discrete Mathematics*, **179**(1-3):231--233, January 1998. (Selected as Editor's Choice, *Discrete Mathematics*, 1998.).
 54. E. Boros, T. Ibaraki, and K. Makino. Error-free and best-fit extensions of partially defined Boolean functions. *Information and Computation*, **140**(2):254--283, February 1998.
 55. T. Badics and E. Boros. Minimization of half-products. *Mathematics of Operations Research*, **23**(3):649--660, August 1998.
 56. E. Boros, O. Cepek, and A. Kogan. Horn minimization by iterative decomposition. *Annals of Mathematics and Artificial Intelligence*, **23**(3-4):321--343, September 1998.
 57. E. Boros, V. Gurvich, and P.L. Hammer. Dual subimplicants of positive Boolean functions. *Optimization Methods and Software*, **10**:147--156, December 1998.
 58. G. Bacsó, E. Boros, V. Gurvich, F. Maffray, and M. Preissmann. On minimal imperfect graphs with circular symmetry. *Journal of Graph Theory*, **29**(4):209--226, December 1998.
 59. E. Boros, P.L. Hammer, M. Minoux, and D. Rader. Optimal cell flipping to minimize channel density in VLSI design and pseudo-Boolean optimization. *Discrete Applied Mathematics*, **90**(1-3):69--88, January 1999.
 60. E. Boros, T. Ibaraki, and K. Makino. Logical analysis of binary data with missing bits. *Artificial Intelligence*, **107**(2):219--263, February 1999.
 61. E. Boros. Maximum renamable Horn sub-CNFs. *Discrete Applied Mathematics*, **96-97**(1-3):29--40, October 1999.
 62. E. Boros, A. Recski, T. Szkaliczki, and F. Wettl. Polynomial time Manhattan routing without doglegs - a generalization of Gallai's algorithm. *Computing and Informatics*, **18**(4):403--413, November 1999.
 63. E. Boros and T. Ünlüyürt. Diagnosing double regular systems. *Annals of Mathematics and Artificial Intelligence*, **26**(1-4):171--191, December 1999.
 64. E. Boros and T. Ünlüyürt. Sequential testing of series-parallel systems of small depth. In Manuel Laguna and eds. Jose Luis Gonzales Velarde, editors, *OR Computing Tools for the New Millennium.*, pages 39--74, January 2000. Conference of the INFORMS Computing Society, Cancun, Mexico, January 5-7, 2000.
 65. E. Boros and V. Gurvich. Stable effectivity functions and perfect graphs. *Mathematical Social Sciences*, **39**:175--194, February 2000.
 66. E. Boros, Y. Crama, O. Ekin, P.L. Hammer, T. Ibaraki, and A. Kogan. Boolean normal forms, shellability and reliability computations. *SIAM Journal on Discrete Mathematics*, **13**(2):212--226, May 2000.
 67. E. Boros, P.L. Hammer, T. Ibaraki, A. Kogan, E. Mayoraz, and I. Muchnik. An implementation of logical analysis of data. *IEEE Transactions on Knowledge and Data Engineering*, **12**(2):292--306, May 2000.
 68. E. Boros, V. Gurvich, L. Khachiyan, and K. Makino. Generating partial and multiple transversals of a hypergraph. In J.D.P. Rolim U. Montanari and E. Welzl, editors, *Automata, Languages and Programming, 27th International Colloquium, ICALP 2000*, volume **1853** of *Lecture Notes in Computer Science*, pages 588--599, Berlin, Heidelberg, New York, July 2000. Springer Verlag.
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