

## Evangelos Markakis - Curriculum Vitae

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### PERSONAL DATA

Current Position: Associate Professor  
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### EDUCATION

#### **Georgia Institute of Technology**, Atlanta, Georgia, USA

Ph.D. in Computer Science (Algorithms, Combinatorics, and Optimization Program), 2005.

Dissertation Title: Computational Aspects of Game Theory and Microeconomics

Advisor: Richard J. Lipton

M.Sc. in Computer Science, 2004.

GPA: 4/4

#### **National Technical University of Athens**, Athens, Greece

Diploma (5-year B.Sc. degree with thesis) in Electrical and Computer Engineering, 1995-2000.

Thesis: Logics of Knowledge and Belief - Belief Revision

Advisor: Stathis Zachos

GPA: 9.36/10 (ranked 2nd out of approx. 250 students)

### EMPLOYMENT - POSITIONS HELD

**June 2020 - present:** Associate Professor, Athens University of Economics and Business, Dept. of Informatics, Athens, Greece.

- Courses taught: Data Structures, Game Theory and Decision Theory, Special Topics on Algorithms, Cryptography and Applications (M.Sc. course), Design and Analysis of Algorithms (M.Sc. course), Algorithmic Game Theory (M.Sc. course), Optimization Techniques (M.Sc. course).

**September 2014 - June 2020:** Assistant Professor, Athens University of Economics and Business, Dept. of Informatics, Athens, Greece.

**February 2014 - August 2014:** Visiting Scholar, Stanford University, Palo Alto, California, USA.

**March 2009 - January 2014:** Lecturer, Athens University of Economics and Business, Dept. of Informatics, Athens, Greece (official appointment started in June 2010, hired as visiting professor before that).

**January 2007 - July 2008:** Postdoctoral researcher, CWI (Center for Math and Computer Science), Amsterdam, the Netherlands

- Research supported by the EU Marie-Curie Research Training Network ADONET, and by the NWO research project DIACODEM (Distributed and Adaptive Collective Decision Making).

**August 2005 - December 2006:** Postdoctoral researcher, University of Toronto, Toronto, ON, Canada

- Teaching: Instructor for the course "Introduction to the Theory of Computation", Fall 2005 and 2006.
- Research: Supervised and supported by Prof. Avner Magen.

**August 2000 - August 2005:** PhD candidate, Georgia Institute of Technology, Atlanta, Georgia, USA

- Research supported by NSF grants of Prof. Richard Lipton.

## RESEARCH INTERESTS

1. Theoretical Computer Science, Approximation Algorithms, Combinatorial Optimization,
2. Algorithmic Game Theory, Mechanism Design, Fair Division
3. Applications of the above to auctions, voting, social networks, electronic commerce.

## HONORS AND AWARDS

Best paper award at the conference SAGT 2017: 10th International Symposium on Algorithmic Game Theory, for the paper "Tight Welfare Guarantees for Pure Nash Equilibria of the Uniform Price Auction", co-authored with Georgios Birmpas, Orestis Telelis, Artem Tsikiris.

Recipient of the Microsoft award for the External Research Program: "Beyond Search: Semantic Computing and Internet Economics", jointly with Sander Bohte, Nicole Immorlica and Han La Poutré, 2008.

Best student paper award at the conference EC 2003: 4th ACM Conference on Electronic Commerce, for the paper "On the Core of the Multicommodity Flow Game", co-authored with Amin Saberi.

Dean's fellowship, College of Computing, Georgia Institute of Technology, 2000-2001 (a fellowship intended for 1st year phd students).

Annual scholarship from the State Scholarships Foundation of Greece for high academic performance, 1995-2000.

Annual scholarship from the Bodosakis Foundation for high academic performance, 1995-2000.

Ranked 2nd in nationwide exams for college admission, Greece, 1995.

Award from the Greek Mathematical Society, 1994.

## RESEARCH PROJECTS

- Principal Investigator for the project COMRADE (Combinatorial Reverse Auctions: Design of Efficient Mechanisms for Crowdsourcing Markets), Hellenic Foundation for Research and Innovation (HFRI) 1st Call for proposals for research projects for the support of Faculty members and Researchers. Budget: 165,000. Duration: 19/12/2019 - 19/12/2022.
- Principal Investigator for the project "Game-theoretic Analysis of Multi-unit Auction Formats", AUEB funding program for the support of young faculty members. Budget: 7500. Duration: 1/2/2014 - 31/12/2015.
- Member of the main research team in the project THALIS-AGT (Algorithmic Game Theory), THALIS research funding program (co-financed by the European Social Fund and Greek national funds). Budget: 540,000. Duration: 1/10/2011 - 30/11/2015.
- Member of the main research team in the project THALIS-ALGONOW (Algorithms of today: Social networks, data streaming, resource allocation and power management in communication and computing system), THALIS research funding program (co-financed by the European Social Fund and Greek national funds). Budget: 540,000. Duration: 1/10/2011 - 30/11/2015.
- Project Coordinator in the project DDCOD (Decision Making over Decentralized Combinatorial Domains), funding program for the support of postdoctoral researchers (supported postdoc: Orestis Telelis). Budget: 82,000. Duration: 28/3/2012 - 27/3/2015.
- Member of the main research team in the project INCEPTION (Incentives Driven Participatory Sensing), ARISTEIA research funding program (co-financed by the European Social Fund and Greek national funds). Budget: 200,000. Duration: 15/10/2012 - 15/2/2015.
- Principal Investigator in the project PEBE3: Social Networks - Models and Diffusion Methods, AUEB - Basic Research Funding Program. Budget: 7,500. Duration: 1/3/2011 - 29/2/2012.
- Member of the coordinating team in the project AMESA (Analysis of Mechanisms for Sponsored search Auctions), EU FP7 Network of Excellence EURO-NF, 1-year SJRP, Budget: 45,000. Duration: 1/11/2009 - 31/10/2010.

## MEMBERSHIP IN OTHER EU PROJECTS/NETWORKS

- Management Committee member of COST Action CA16228: European Network for Game Theory (GAMENET), 2017-present.

- Management Committee member of COST Action IC1205 on Computational Social Choice, 2012-2016.
- Management Committee member of COST Action IC0602 on Algorithmic Decision Theory, 2009-2011.

#### PROGRAM COMMITTEE MEMBERSHIPS IN CONFERENCES/WORKSHOPS

SAGT 2020: 13th International Symposium on Algorithmic Game Theory, Augsburg, Germany, September 2020.

IJCAI 2020 (SPC member): 29th International Joint Conference on Artificial Intelligence, Yokohama, Japan, July 2020.

EC 2020: 21st ACM Conference on Economics and Computation, Budapest, Hungary, July 2020.

AAAI 2020 (SPC member): 34th AAAI Conference on Artificial Intelligence, New York, NY, USA, February 2020.

WINE 2019: 15th International Conference on Web and Internet Economics, New York, NY, USA, December 2019.

SAGT 2019 (PC co-chair): 12th International Symposium on Algorithmic Game Theory, Athens, Greece, October 2019.

EC 2019: 20th ACM Conference on Economics and Computation, Phoenix, AZ, USA, June 2019.

ICALP 2019: 46th International Colloquium on Automata, Languages and Programming, Patras, Greece, July 2019.

WINE 2018: 14th International Conference on Web and Internet Economics, Oxford, UK, December 2018.

IJCAI 2018 (SPC member): 27th International Joint Conference on Artificial Intelligence, Stockholm, Sweden, July 2018.

AI<sup>3</sup> 2018: AAMAS-IJCAI Workshop on Agents and Incentives, Stockholm, Sweden, July 2018.

COMSOC 2018: 7th International Workshop on Computational Social Choice, Troy, NY, USA, June 2018.

EC 2018 (SPC member): 19th ACM Conference on Economics and Computation, Ithaca, NY, USA, June 2018.

AAAI 2018: 32th AAAI Conference on Artificial Intelligence, New Orleans, Louisiana, USA, February 2018.

IJCAI 2017: 26th International Joint Conference on Artificial Intelligence, Melbourne, Australia, August 2017.

AGT@IJCAI 2017: 3rd IJCAI Workshop on Algorithmic Game Theory, Melbourne, Australia, August 2017.

WADS 2017: 15th International Symposium on Algorithms and Data Structures, St John's, NL, Canada, August 2017.

EC 2017: 18th ACM Conference on Economics and Computation, Cambridge, MA, USA, June 2017.

WINE 2016, 12th International Conference on Web and Internet Economics, Montreal, Canada, December 2016.

SAGT 2016: 9th International Symposium on Algorithmic Game Theory, Liverpool, UK, September 2016.

AGT@IJCAI 2016: 2nd IJCAI Workshop on Algorithmic Game Theory, New York, NY, USA, July 2016.

AAAI 2016: 30th AAAI Conference on Artificial Intelligence, Phoenix, AZ, USA, February 2016.

WINE 2015 (PC co-chair): 11th International Conference on Web and Internet Economics, Amsterdam, the Netherlands, December 2015.

IJCAI 2015 (SPC member): 24rd International Joint Conference on Artificial Intelligence, Buenos Aires, Argentina, July 2015.

AGT@IJCAI 2015: 1st IJCAI Workshop on Algorithmic Game Theory, Buenos Aires, Argentina, July 2015.

AAMAS 2015: 14th International Conference on Autonomous Agents and Multi-agent Systems, Istanbul, Turkey, May 2015.

WINE 2014: 10th Conference on Web and Internet Economics, Beijing, China, December 2014.

SAGT 2014: 7th International Symposium on Algorithmic Game Theory, Patras, Greece, October 2014.

EC 2014: 15th ACM Conference on Economics and Computation, Palo Alto, CA, USA, June 2014.

WINE 2013: 9th Conference on Web and Internet Economics, Boston, MA, USA, December 2013.

IJCAI 2013: 23rd International Joint Conference on Artificial Intelligence, Beijing, China, August 2013.

EC 2013: 14th ACM Conference on Electronic Commerce, Philadelphia, PA, USA, June 2013.

CoopMAS 2013: 4th Workshop on Cooperative Games in Multi-agent Systems, Saint Paul, Minnesota, May 2013.

WINE 2012: 8th Workshop on Internet and Network Economics, Liverpool, UK, December 2012.

AAAI 2012: 26th AAAI Conference on Artificial Intelligence, Toronto, ON, Canada, July 2012.

EC 2012: 13th ACM Conference on Electronic Commerce, Valencia, Spain, June 2012.

AAMAS 2012: 11th International Conference on Autonomous Agents and Multi-agent Systems, Valencia, Spain, June 2012.

ISCO 2012: 2nd International Symposium on Combinatorial Optimization, Athens, Greece, April 2012.

WWW 2012: 21st International World Wide Web Conference, Track: Internet Monetization and Incentives, Lyon, France, April 2012.

AAAI 2011: 25th National Conference of the American Association for Artificial Intelligence, San Francisco, California, USA, August 2011.

EC 2011: 12th ACM Conference on Electronic Commerce, San Diego, California, USA, June 2011.

AAMAS 2011: 10th International Conference on Autonomous Agents and Multi-agent Systems, Taipei, Taiwan, May 2011.

CoopMAS 2011: 2nd Workshop on Cooperative Games in Multi-agent Systems, Taipei, Taiwan, May 2011.

WINE 2010: 6th Workshop on Internet and Network Economics, Stanford, California, USA, December 2010.

SAGT 2010: 3rd International Symposium on Algorithmic Game Theory, Athens, Greece, October 2010.

EC 2010: 11th ACM Conference on Electronic Commerce, Boston, Massachusetts, USA, June 2010.

CoopMAS 2010: 1st Workshop on Cooperative Games in Multi-agent Systems, Toronto, ON, Canada, May 2010.

EC 2009: 10th ACM Conference on Electronic Commerce, Stanford, California, USA, June 2009.

AAMAS 2009: 8th International Conference on Autonomous Agents and Multi-agent Systems, Budapest, Hungary, May 2009.

SOFSEM 2009: 35th International Conference on Current Trends in Theory and Practice of Computer Science, Track: Game Theoretic Aspects of E-commerce, Spindleruv Mlyn, Czech Republic, January 2009.

WINE 2008: 4th Workshop on Internet and Network Economics, Shanghai, China, December 2008.

COMSOC 2008: 2nd International Workshop on Computational Social Choice, Liverpool, UK, September 2008.

EC 2008: 9th ACM Conference on Electronic Commerce, Chicago, Illinois, USA, June 2008.

WWW 2008: 17th International World Wide Web Conference, Track: Internet Monetization, Beijing, China, April 2008.

WINE 2007: 3rd Workshop on Internet and Network Economics, San Diego, California, USA, December 2007.

WINE 2006: 2nd Workshop on Internet and Network Economics, Patras, Greece, December 2006.

AAAI Workshop on Auction Mechanisms for Robot Coordination, Boston, Massachusetts, USA, July 2006.

EC 2006: 7th ACM Conference on Electronic Commerce, Ann Arbor, Michigan, USA, June 2006.

#### ORGANIZATION AND/OR CHAIRING OF CONFERENCES/WORKSHOPS

- Co-chair (together with Dimitris Fotakis) of SAGT 2019: 12th International Symposium on Algorithmic Game Theory, Athens, Greece, September 30 - October 3, 2019.
- Co-organizer (together with Iannis Caragiannis, Georgios Chalkiadakis, Panagiotis Mertikopoulos, Georgios Piliouras, Marco Scarsini) of 20PoA: Workshop on the Twenty Years of the Price of Anarchy, Chania, Crete, Greece, July 2-5, 2019.
- Member of the organizing committee of ACAC 2009, 2013, 2017, 2020: 4th, 8th, 12th, and 15th Athens Colloquium on Algorithms and Complexity, (August 20-21 2009, August 22-23 2013, August 24-25 2017, August 27-28 2020), Athens, Greece.
- Co-chair (together with Guido Schaefer) of WINE 2015: 11th International Conference on Web and Internet Economics, Amsterdam, the Netherlands, December 9-12, 2015.
- Member of the organizing committee of ISCO 2012: 2nd International Symposium on Combinatorial Optimization, Athens, Greece, April 17-21, 2012.

#### EDITORIAL WORK

- Co-editor, together with Dimitris Fotakis, for the Special Issue by *Theory of Computing Systems (TOCS)* on selected papers from SAGT 2019, forthcoming, 2021.

- Co-editor, together with Dimitris Fotakis, for the proceedings of SAGT 2019: 12th International Symposium on Algorithmic Game Theory, Athens, Greece, September 30 - October 3, 2019. Lecture Notes in Computer Science, volume 11801, Springer 2019, ISBN 978-3-030-30472-0.
- Co-editor, together with Guido Schaefer, for the Special Issue by *ACM Transactions on Economics and Computation* (TEAC) on selected papers from WINE 2015, 2017.
- Co-editor, together with Guido Schaefer, for the proceedings of WINE 2015: 11th International Conference on Web and Internet Economics, Amsterdam, the Netherlands, December 9-12, 2015. Lecture Notes in Computer Science, volume 9470, Springer 2015, ISBN 978-3-662-48994-9.
- Co-editor, together with I. Milis and V. Th. Paschos, for the Special Issue by *Theoretical Computer Science* (TCS) on "Combinatorial Optimization: Theory of Algorithms and Complexity", Elsevier, volumes 540-541, 2014.
- Co-editor, together with A. R. Mahjoub, I. Milis and V. Th. Paschos, of the Proceedings of ISCO 2012: 2nd International Symposium on Combinatorial Optimization, Athens, Greece, April 17-21, 2012. Lecture Notes in Computer Science, volume 7422, Springer 2012, ISBN 978-3-642-32146-7.
- Co-editor, together with I. Milis, of the Proceedings of ACAC 2009: 4th Athens Colloquium on Algorithms and Complexity, Athens, Greece, August 20-21, 2009. EPTCS 4 (Electronic Proceedings in Theoretical Computer Science).

#### TUTORIALS GIVEN AT CONFERENCES/WORKSHOPS/SUMMER SCHOOLS

- Fair Division: Criteria and Algorithms for Divisible and Indivisible Resources. Mini course at Gran Sasso Science Institute (GSSI), L' Aquila, Italy, June 11-13, 2019.
- Fairness with Indivisible Goods: Solution Concepts and Algorithms. Tutorial session of WINE 2017: 13th International Conference on Web and Internet Economics, Bangalore, India, December 17-20, 2017.
- Cooperative Games in Structured Environments, together with G. Chalkiadakis and G. Greco. EASSS 2017: 19th European Agent Systems Summer School, Gdansk, Poland, August 7-11, 2017.
- Diffusion Models in Social Networks: Algorithmic and Game-theoretic Aspects. CretaMASSS 2013: 1st Multi-agent Systems Summer School, Chania, Greece, July 22-26, 2013.
- Computational Complexity in Multi-agent Systems, together with E. Elkind. EASSS 2008: 10th European Agent Systems Summer School, Lisbon, Portugal, May 5-9, 2008.

#### CONTRIBUTED TALKS AT CONFERENCES/WORKSHOPS WITH INVITED PARTICIPATION

- Invited speaker at the ICALP 2019 Workshop on Theoretical Aspects of Fairness, Patras, Greece, July 8, 2019.
- GAMENET COST Action Conference (organized by COST action: European Network for Game Theory), Krakow, Poland, September 17-21, 2018.
- COST Workshop on Algorithmic Game Theory (organized by COST action: European Network for Game Theory), Rome, Italy, March 15-17, 2018.
- Economics and Computation, Simons Institute for the theory of computing, Berkeley, CA, USA, August 19 - December 18, 2015.
- Workshop on Clusters, Games and Axioms, Lorentz Center, Leiden, the Netherlands, June 22-26, 2015.
- Workshop on Strategic Behavior and Phase Transitions in Random and Complex Combinatorial Structures, CRM - Center de Recerca Matematica, Barcelona, June 8-12, 2015.
- Dagstuhl seminar on "Interface of Computation, Game Theory, and Economics", Dagstuhl, Germany, April 14-19, 2013.
- Summer school on Algorithmic Game Theory, University of the Aegean, Samos, Greece, July 14-21, 2012.
- Dagstuhl seminar on "Computation and Incentives in Social Choice", Dagstuhl, Germany, March 4-9, 2012.

- GREAT (Greece Economic and Algorithmic Theory Week), Paros, Greece, July 24-29, 2011.
- Workshop on "Advances in Algorithmic Game Theory", Amsterdam, the Netherlands, September 2-3, 2010.
- Dagstuhl seminar on "Computational Foundations of Social Choice", Dagstuhl, Germany, March 7-12, 2010.
- Dagstuhl seminar on "Fair Division", Dagstuhl, Germany, June 24-29, 2007.
- INFORMS 2005 Annual Meeting, Session: Auctions, San Francisco, November 13-16, 2005.

#### TALKS IN DEPARTMENTS/SEMINARS/WORKSHOPS AND OTHER EVENTS

- University of Patras, Department of Computer and Electrical Engineering, Departmental seminar (CEID social hour), Patras, Greece, May 2019.
- CWI, Center for Math and Computer Science, Amsterdam, the Netherlands, November 2017.
- Luiss University, Department of Economics, Rome, Italy, September 2017.
- Universite Paris-Dauphine, LAMSADE group, September 2016.
- Columbia University, Department of Computer Science, theory seminar, New York, NY, USA, July 2016.
- University of Ioannina, Department of Computer Science and Engineering, departmental seminar, November 2015.
- University of Liverpool, Department of Computer Science, seminar of the Economics and Computation group, May 2015.
- University of Austin, Texas, Department of Electrical and Computer Engineering, Austin, Texas, USA, January 2015.
- University of Patras, Department of Computer and Electrical Engineering, Patras, Greece, October 2014.
- Technicolor Research Bay Area, Los Altos, California, USA, July 2014.
- Stanford University, Department of Computer Science, theory seminar, Palo Alto, California, USA, May 2014.
- University of California - Berkeley, Department of Electrical Engineering and Computer Science, Econ-CS seminar, Berkeley, California, USA, May 2014.
- University of Sydney, School of Information Technologies, Australia, March 2014.
- Singapore University of Technology and Design (SUTD), Singapore, February 2014.
- Nanyang Technological University (NTU), Singapore, April 2013.
- CWI, Center for Math and Computer Science, Amsterdam, the Netherlands, February 2012.
- Luiss University, Department of Economics, Rome, Italy, September 2011.
- Università di Roma La Sapienza, Dipartimento di Ingegneria Informatica, Rome, Italy, September 2011.
- Université Paris-Dauphine, LAMSADE, Paris, France, February 2011.
- London School of Economics, Department of Management, Math. Programming seminar, London, UK, October 2010.
- COMSOC, 3rd International Workshop on Computational Social Choice, Dusseldorf, Germany, September 2010.
- Athens Colloquium on Algorithms and Complexity, Athens, Greece, 2006 - 2010 (annually every August).
- SING6: 6th Spain-Italy-Netherlands Meeting on Game Theory, Palermo, Italy, July 2010.
- Max Planck Institut für Informatik, Saarbrücken, Germany, March 2010.
- Aachen University, Aachen, Germany, June 2009.
- SED (Society for Economic Design) Conference on Economic Design, University of Maastricht, Maastricht, the Netherlands, June 2009.
- University of Amsterdam, Institute of Language, Logic and Computation (ILLC), Amsterdam, the Netherlands, April 2009.
- SING4: 4th Spain-Italy-Netherlands Meeting on Game Theory, Wrocław, Poland, June 2008.
- Università d'Annunzio, Pescara, Italy, April 2008.
- University of Aarhus, Department of Computer Science, Aarhus, Denmark, February 2008.

- University of Maastricht, Department of Quantitative Economics, Maastricht, the Netherlands, October 2007.
- University of Southampton, Department of Electronics and Computer Science, Seminar of the IAM group (Intelligence, Agents and Multimedia), Southampton, UK, September 2007.
- Università d'Annunzio, Pescara, Italy, June 2007.
- Stanford University, Department of Computer Science, Palo Alto, California, USA, May 2007.
- Tilburg University, Department of Econometrics and Operations Research, Game Theory Seminar, Tilburg, the Netherlands, May 2007.
- University of Toronto, Department of Economics, Toronto, ON, Canada, November 2006.
- DIAMANT/Spinoza Intercity Seminar on Algebra and Symmetries in Combinatorics and Optimization, Amsterdam, the Netherlands, June 2006.
- University of Waterloo, Department of Combinatorics and Optimization, Tutte Seminar, Waterloo, ON, Canada, March 2006.
- University of Athens, Department of Computer Science, Theory Seminar, Athens, Greece, February 2006.
- University of Crete, Department of Mathematics, Discrete Math Seminar, Iraklio, Greece, February 2006.
- National Technical University of Athens, Theory seminar, Athens, Greece, February 2006.
- CWI, Center for Math and Computer Science, Amsterdam, the Netherlands, February 2006.
- University of Amsterdam, Institute of Language, Logic and Computation (ILLC), February 2006.
- National University of Singapore, Department of Computer Science, Singapore, December 2005.
- McMaster University, Department of Computing and Software, Hamilton, ON, Canada, October 2005.
- Yahoo Research Labs, Pasadena, California, USA, April 2005.
- University of Waterloo, Department of Combinatorics and Optimization, Algorithms and Complexity Seminar, Waterloo, ON, Canada, March 2005.
- University of Toronto, Department of Computer Science, theory seminar, Toronto, ON, March 2005.

#### OTHER ACTIVITIES

**Journal Reviews:** I have served as a referee for the following journals:

Journal of the ACM, ACM Transactions on Algorithms (TALG), ACM Transactions on Economics and Computation (TEAC), Algorithmica, Theoretical Computer Science (TCS), Mathematics of Operations Research (MOR), SIAM Journal on Computing, INFORMS Journal on Computing, Games and Economic Behavior (GEB), Journal of Artificial Intelligence Research (JAIR), Journal of Discrete Algorithms, Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS), IEEE Transactions on Automation Science and Engineering, IEEE Transactions on Network Science and Engineering, Information Processing Letters (IPL), Operations Research Letters (ORL).

**Seminars:** I have organized or co-organized the following seminars:

- Theory seminar (weekly meeting on theoretical computer science), University of Toronto, Dept. of Computer Science, August 2005 - December 2006.
- Theory tea (weekly meeting on theoretical computer science), Athens University of Economics and Business, Dept. of Informatics, February 2010 - present.

#### SUPERVISION OF STUDENTS AND POSTDOCS

- Ioannis Giotis, Postdoctoral researcher, November 2012 - November 2015.
- Orestis Telelis, Postdoctoral researcher, March 2012 - September 2014.
- Svetlana Obraztsova, Postdoctoral researcher, December 2012 - November 2014.
- Panagiotis Tsamopoulos, PhD candidate, July 2020 - present.
- Georgios Papatotiropoulos, PhD candidate, July 2019 - present.
- Artem Tsikiridis, PhD candidate, June 2018 - present.



- Georgios Mpirmpas, PhD candidate, January 2014 - August 2018.
- Georgios Amanatidis, PhD candidate, June 2014 - August 2017.
- Supervised M.Sc. students: Amalia Mpekiari (2019), Apostolos Ntokos (2018-2019), Nikolaos Kostagiolas (2018), Efstratios Gounidellis (2018), Ioannis Chantzaras (2017-2018), Artem Tsikiridis (2016-2017), Vasileios Rigas (2013-2014), Christos Alatzidis (2011-2012), Penny Samartzi (2011-2012), Angelos Asimakopoulos (2010-2011), Christina Aretha (2010-2011), Maria Sotiri (Fall 2010), Ioanna Anastasopoulou (2009-2010).
- Supervised B.Sc. students: Dimitrios Milakotis (2019-2020), Aristotelis Peri (2018-2019), Aggelos Sfakianos (2018-2019), Georgia Dimaki (2017), Eftychia Vakaliou (2016-2017), Konstantina Makridaki (2016), Leonidas Mpeis (2015-2016), Eleni Evangelatou (2014-2015), Ioannis Tsimalis (2014), Lora Mavrouli (2014), George Theofilis (2013-2014), Michael Despotopoulos (2012-2013), Vasileios Tzoumas (2011-2012), Christos-Alexandros Psomas (2010-2011), Lefteris Mpetsos (2011), Alexandra Papoutsaki (2010-2011), Yanos Sorokos (2010).

## PUBLICATIONS

### Citation indices

- Citations:  $\approx$  3300 (according to Google scholar, July 31, 2020)
- h-index: 30
- i10-index: 50

### Refereed Conference Publications

1. E. Markakis, G. Papatotiropoulos. Computational Aspects of Conditional Minisum Approval Voting in Elections with Interdependent Issues. In *Proceedings of the 29th International Joint Conference on Artificial Intelligence (IJCAI 2020)*, pp. 304-310, 2020.
2. G. Amanatidis, E. Markakis, A. Ntokos. Multiple Birds with One Stone: Beating  $1/2$  for EFX and GMMS via Envy Cycle Elimination. In *Proceedings of the 34th AAAI Conference on Artificial Intelligence (AAAI 2020)*, pp. 1790-1797, 2020.
3. E. Markakis, A. Tsikiridis. On Core-Selecting and Core-Competitive Mechanisms for Binary Single-Parameter Auctions. In *Proceedings of the 15th International Conference on Web and Internet Economics (WINE 2019)*, pp. 271-285, 2019.
4. G. Birmpas, E. Markakis, G. Schaefer. Cost Sharing over Combinatorial Domains: Complement-Free Cost Functions and Beyond. In *Proceedings of the 27th European Symposium on Algorithms (ESA 2019)*, pp. 20:1-20:17, 2019.
5. M. Fasoulakis, E. Markakis. An Improved Quasi-Polynomial Algorithm for Approximate Well-Supported Nash Equilibria. In *Proceedings of the 33rd AAAI Conference on Artificial Intelligence (AAAI 2019)*, pp. 1926-1932, 2019.
6. G. Amanatidis, G. Christodoulou, J. Fearnley, E. Markakis, C.A. Psomas, E. Vakaliou. An Improved Envy-Free Cake Cutting Protocol for Four Agents. In *Proceedings of the 11th International Symposium on Algorithmic Game Theory (SAGT 2018)*, Lecture Notes in Computer Science, volume 11059, pp. 87-99, 2018.
7. G. Amanatidis, G. Birmpas, E. Markakis. Comparing Approximate Relaxations of Envy-freeness. In *Proceedings of the 27th International Joint Conference on Artificial Intelligence (IJCAI 2018)*, pp. 42-48, 2018.
8. G. Amanatidis, G. Birmpas, E. Markakis. On Budget-Feasible Mechanism Design for Symmetric Submodular Objectives. In *Proceedings of the 13th International Conference on Web and Internet Economics (WINE 2017)*, ARCoSS Lecture Notes in Computer Science, volume 10660, pp. 1-15, 2017.

9. G. Birmpas, E. Markakis, O. Telelis, A. Tsikiridis. Tight Welfare Guarantees for Pure Nash Equilibria of the Uniform Price Auction. In *Proceedings of the 10th International Symposium on Algorithmic Game Theory (SAGT 2017)*, ARCoSS Lecture Notes in Computer Science, volume 10504, pp. 16-28, 2017. Winner of the best paper award.
10. G. Amanatidis, G. Birmpas, G. Christodoulou, E. Markakis. Truthful Allocation Mechanisms without Payments: Characterization and Implications on Fairness. In *Proceedings of the 18th ACM Conference on Economics and Computation (EC 2017)*, pp. 545-562, 2017.
11. V. Gkatzelis, E. Markakis, T. Roughgarden. Deferred-Acceptance Auctions for Multiple Levels of Service. In *Proceedings of the 18th ACM Conference on Economics and Computation (EC 2017)*, pp. 21-38, 2017.
12. S. Obraztsova, O. Lev, E. Markakis, Z. Rabinovich, J. S. Rosenschein. Distant Truth: Bias Under Vote Distortion Costs. In *Proceedings of the 16th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2017)*, pp. 885-892, 2017.
13. G. Amanatidis, G. Birmpas, E. Markakis. Coverage, Matching and Beyond: New Results on Budgeted Mechanism Design. In *Proceedings of the 12th International Conference on Web and Internet Economics (WINE 2016)*, ARCoSS Lecture Notes in Computer Science, volume 10123, pp. 414-428, 2016.
14. E. Markakis, O. Telelis. Envy-Free Revenue Approximation for Asymmetric Buyers with Budgets. In *Proceedings of the 9th International Symposium on Algorithmic Game Theory (SAGT 2016)*, ARCoSS Lecture Notes in Computer Science, volume 9928, pp. 247-259, 2016.
15. G. Amanatidis, E. Markakis, K. Sornat. Inequity Aversion Pricing over Social Networks: Approximation Algorithms and Hardness Results. In *Proceedings of the 41st International Symposium on Mathematical Foundations of Computer Science (MFCS 2016)*, pp. 1-13, 2016.
16. E. Markakis, O. Telelis. Item Pricing for Combinatorial Public Projects. In *Proceedings of the 11th International Conference on Algorithmic Aspects in Information and Management (AAIM 2016)*, pp. 1-13, 2016.
17. G. Amanatidis, G. Birmpas, E. Markakis. On Truthful Mechanisms for Maximin Share Allocations. In *Proceedings of the 25th International Joint Conference on Artificial Intelligence (IJCAI 2016)*, pp. 31-37, 2016.
18. E. Elkind, E. Markakis, S. Obraztsova, P. Skowron. Complexity of Finding Equilibria of Plurality Voting Under Structured Preferences. In *Proceedings of the 15th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2016)*, pp. 394-401, 2016.
19. G. Birmpas, C. Courcoubetis, I. Giotis, E. Markakis. Cost-sharing Models in Participatory Sensing. In *Proceedings of the 8th International Symposium on Algorithmic Game Theory (SAGT 2015)*, Lecture Notes in Computer Science, volume 9347, pp. 43-56, 2015.
20. E. Elkind, E. Markakis, S. Obraztsova, P. Skowron. Equilibria of Plurality Voting: Lazy and Truth-Biased Voters. In *Proceedings of the 8th International Symposium on Algorithmic Game Theory (SAGT 2015)*, Lecture Notes in Computer Science, volume 9347, pp. 110-122, 2015.
21. G. Kouroupas, E. Markakis, C. H. Papadimitriou, V. Rigas, M. Sideri. The Web Graph as an Equilibrium. In *Proceedings of the 8th International Symposium on Algorithmic Game Theory (SAGT 2015)*, Lecture Notes in Computer Science, volume 9347, pp. 203-215, 2015.
22. S. Obraztsova, O. Lev, E. Markakis, Z. Rabinovich, J. S. Rosenschein. Beyond Plurality: Truth-bias in Binary Scoring Rules. In *Proceedings of the 4th International Conference on Algorithmic Decision Theory (ADT 2015)*, Lecture Notes in Computer Science, volume 9346, pp. 451-468, 2015.
23. G. Amanatidis, E. Markakis, A. Nikzad, A. Saberi. Approximation Algorithms for Computing Maximin Share Allocations. In *Proceedings of the 42nd International Colloquium on Automata, Languages, and Programming (ICALP 2015)*, Track A, ARCoSS Lecture Notes in Computer Science, volume 9134, pp. 39-51, 2015.

24. G. Amanatidis, N. Barrot, J. Lang, E. Markakis, B. Ries. Multiple Referenda and Multiwinner Elections Using Hamming Distances: Complexity and Manipulability. In *Proceedings of the 14th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2015)*, pp. 715-723, 2015.
25. S. Obraztsova, E. Markakis, M. Polukarov, Z. Rabinovich, N. R. Jennings. On the Convergence of Iterative Voting: How Restrictive should Restricted Dynamics be? In *Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI 2015)*, pp. 993-999, 2015.
26. Z. Rabinovich, S. Obraztsova, O. Lev, E. Markakis, J. Rosenschein. Analysis of Equilibria in Iterative Voting Schemes. In *Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI 2015)*, pp. 1007-1013, 2015.
27. D. Fotakis, T. Lykouris, E. Markakis, S. Obraztsova. Influence Maximization in Switching-Selection Threshold Models. In *Proceedings of the 7th International Symposium on Algorithmic Game Theory (SAGT 2014)*, Lecture Notes in Computer Science, volume 8768, pp. 122-133, 2014.
28. E. Markakis, O. Telelis. Item Bidding for Combinatorial Public Projects. In *Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI 2014)*, pp. 749-755, 2014.
29. J. Diaz, I. Giotis, L. Kirousis, E. Markakis, M. J. Serna. On Second Price Auctions with Budget Constraints. *Proceedings of the 11th Latin American Theoretical Informatics Symposium (LATIN 2014)*, pp. 695-706, 2014.
30. S. Obraztsova, E. Markakis, D. R. M. Thompson. Plurality Voting with Truth-biased Agents. *6th Symposium on Algorithmic Game Theory (SAGT 2013)*, Lecture Notes in Computer Science 8146, pp. 26-37, 2013.
31. B. de Keijzer, E. Markakis, G. Schaefer, O. Telelis. Inefficiency of Standard Multi-unit Auctions. *Proceedings of the 21st European Symposium on Algorithms (ESA 2013)*, ARCoSS Lecture Notes in Computer Science, volume 8125, pp. 385-396, 2013.
32. V. Tzoumas, C. Amanatidis, E. Markakis. A Game-theoretic Analysis of a Competitive Diffusion Process over Social Networks. *8th Workshop on Internet and Network Economics (WINE 2012)*, pp. 1-14, 2012.
33. E. Markakis, O. Telelis. Uniform Price Auctions: Equilibria and Efficiency. *5th Symposium on Algorithmic Game Theory (SAGT 2012)*, pp. 227-238, 2012.
34. Y. Zick, E. Markakis, E. Elkind, Stability Via Convexity and LP Duality in OCF Games, AAAI, pp. 1506-1512, 2012.
35. G. Chalkiadakis, E. Markakis, N. R. Jennings. Coalitional Stability in Structured Environments. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2012)*, pp. 779-786, 2012.
36. E. Bampis, D. Letsios, G. Lucarelli, E. Markakis, I. Milis. On Multiprocessor Temperature-Aware Scheduling Problems. *Joint International Conference on Frontiers in Algorithmics and Algorithmic Aspects in Information and Management (FAW-AAIM 2012)*, pp. 149-160, 2012.
37. E. Markakis, C.A. Psomas. On Worst-Case Allocations in the Presence of Indivisible Goods. *7th Workshop on Internet and Network Economics (WINE 2011)*, pp. 278-289, 2011.
38. K. R. Apt, E. Markakis. Diffusion in Social Networks with Competing Products. *Symposium on Algorithmic Game Theory (SAGT 2011)* pp. 212-223, 2011.
39. N. Immorlica, E. Markakis, G. Piliouras. Coalition Formation and Price of Anarchy in Cournot Oligopolies, *6th Workshop on Internet and Network Economics (WINE 2010)*, pp. 270-281, 2010.
40. E. Markakis, O. Telelis. Discrete Strategies in Keyword Auctions and their Inefficiency for Locally Aware Bidders, *Workshop on Internet and Network Economics (WINE 2010)*, pp. 523-530, 2010.
41. I. Caragiannis, D. Kalaitzis, E. Markakis. Approximation Algorithms and Mechanism Design for Minimax Approval Voting. In *Proceedings of the 24th AAAI Conference on Artificial Intelligence (AAAI 2010)*, pp. 737-742, 2010.

42. R. Gomes, N. Immorlica, E. Markakis. Externalities in Keyword Auctions: an Empirical and Theoretical Assessment, *Workshop on Internet and Network Economics (WINE 2009)*, pp. 172-183, 2009.
43. K. R. Apt, E. Markakis. Sequential Bidding in the Bailey-Cavallo Mechanism, *Workshop on Internet and Network Economics (WINE 2009)*, pp. 483-490, 2009.
44. K. R. Apt, V. Conitzer, M. Guo, E. Markakis. Welfare Undominated Groves Mechanisms. *Workshop on Internet and Network Economics (WINE 2008)*, pp. 426-437, 2008.
45. G. Chalkiadakis, E. Elkind, E. Markakis, N. Jennings. Overlapping Coalition Formation. *4th Workshop on Internet and Network Economics (WINE 2008)*, pp. 307-321, 2008.
46. S. Koenig, X. Zheng, C. Tovey, R. Borie, P. Kilby, E. Markakis, P. Kescinocak. Agent Coordination with Regret Clearing. *AAAI*, pp. 101-107, 2008.
47. Y. Bachrach, E. Markakis, A. D. Procaccia, J. S. Rosenschein and A. Saberi. Approximating Power Indices. *International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, pp. 943-950 2008.
48. H. Bosse, J. Byrka, E. Markakis. New Algorithms for Approximate Nash Equilibria in Bimatrix Games, *3rd Workshop on Internet and Network Economics (WINE 2007)*, *Lecture Notes in Computer Science* 4858, pp. 17-29, 2007.
49. H. Hatami, A. Magen, E. Markakis. Integrality gaps of semidefinite programs for Vertex Cover and relations to  $\ell_1$  embeddability of Negative Type metrics, *APPROX 2007*, pp. 164-179, 2007.
50. G. Chalkiadakis, E. Markakis and C. Boutilier. Coalition Formation Under Uncertainty: Bargaining Equilibria and the Bayesian Core Stability Concept, *Proc. of 6th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2007)*, pp. 64-71, 2007.
51. R. Legrand, E. Markakis, A. Mehta. Approval Voting: Approximation Algorithms and Heuristics for the Minimax Solution, *Proc. of 6th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2007)*, short paper, pp. 198-200, 2007.
52. S. Khot, R. Lipton, E. Markakis, A. Mehta. Inapproximability Results for Combinatorial Auctions with Submodular Utility Functions, *1st Workshop on Internet and Network Economics (WINE 2005)*, *Lecture Notes in Computer Science* 3828, pp. 92-101, 2005.
53. R. Lipton, E. Markakis, A. Mehta, N. Vishnoi. On the Fourier Spectrum of Symmetric Boolean Functions with Applications to Learning Symmetric Juntas, *IEEE Conference on Computational Complexity (CCC 2005)*, pp. 112-119, 2005.
54. M. Lagoudakis, E. Markakis, D. Kempe, P. Keskinocak, S. Koenig, C. Tovey, A. Kleywegt, A. Meyerson, S. Jain. Auction-based Multi-robot Routing, *Robotics: Science and Systems*, pp. 343-350, 2005, also appeared as nectar paper in *AAAI 2006*.
55. R. Lipton, E. Markakis, E. Mossel, and A. Saberi, On Approximately Fair Allocations of Indivisible Goods, *5th ACM Conference on Electronic Commerce (EC 2004)*, pp. 125-131, 2004.
56. R. Lipton, E. Markakis. Nash Equilibria via Polynomial Equations, *6th Latin American Theoretical Informatics (LATIN 2004)*, *Lecture Notes in Computer Science* 2976, pp. 413-422, 2004.
57. E. Markakis, A. Saberi. On the Core of the Multicommodity Flow Game, *4th ACM Conference on Electronic Commerce (EC 2003)*, pp. 93-97, 2003. Recipient of the best student paper award. Invited for publication in special issue of *Decision Support Systems*.
58. R. Lipton, E. Markakis, A. Mehta. Playing Large Games using Simple Strategies, *4th ACM Conference on Electronic Commerce (EC 2003)*, pp. 36-41, 2003.
59. M. Mahdian, E. Markakis, A. Saberi, V. V. Vazirani. A Greedy Facility Location Algorithm Analyzed using Dual Fitting. In *Proceedings of the 4th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2001)*, *Lecture Notes in Computer Science*, volume 2129, pp. 127-137, 2001.

## Journal Publications

1. G. Amanatidis, G. Birmpas, E. Markakis. A Simple Deterministic Algorithm for Symmetric Submodular Maximization Subject to a Knapsack Constraint, *Information Processing Letters (IPL)*, accepted, 2020.
2. G. Amanatidis, E. Markakis, A. Ntokos. Multiple Birds with One Stone: Beating  $1/2$  for EFX and GMMS via Envy Cycle Elimination, *Theoretical Computer Science (TCS)*, accepted, 2020.
3. Y. Zick, G. Chalkiadakis, E. Elkind, E. Markakis. Cooperative games with overlapping coalitions: Charting the tractability frontier, *Artificial Intelligence (AIJ)*, 271, pp. 74-97, 2019.
4. G. Birmpas, E. Markakis, O. Telelis, A. Tsikiridis. Tight Welfare Guarantees for Pure Nash Equilibria of the Uniform Price Auction, *Theory of Computing Systems (TOCS)*, 63(7), pp. 1451-1469, 2019.
5. G. Amanatidis, E. Markakis, A. Nikzad, A. Saberi. Approximation Algorithms for Computing Maximin Share Allocations, *ACM Transactions on Algorithms (TALG)*, 13(4), pp. 52:1-52:28, 2017.
6. E. Markakis, O. Telelis. Item Bidding for Combinatorial Public Projects, *Theoretical Computer Science (TCS)*, 678, pp. 40-55, 2017.
7. G. Greco, G. Chalkiadakis, E. Markakis. Characteristic function games with restricted agent interactions: Core-stability and coalition structures, *Artificial Intelligence (AIJ)*, 232, pp. 76-113, 2016.
8. J. Diaz, I. Giotis, L. M. Kirousis, E. Markakis, M. J. Serna. On the Stability of Generalized Second Price Auctions with Budgets, *Theory of Computing Systems (TOCS)*, 59(1), pp. 1-23, 2016.
9. K. R. Apt, E. Markakis, S. Simon. Paradoxes in social networks with multiple products, *Synthese*, 193(3), pp. 663-687, 2016.
10. E. Markakis, O. Telelis. Uniform Price Auctions: Equilibria and Efficiency, *Theory of Computing Systems (TOCS)*, 57(3), pp. 549-575, 2015.
11. Y. Zick, E. Markakis, E. Elkind. Arbitration and Stability in Cooperative Games with Overlapping Coalitions, *Journal of Artificial Intelligence Research (JAIR)*, 50, pp. 847-884, 2014.
12. K. R. Apt, E. Markakis. Social Networks with Competing Products. *Fundamenta Informaticae*, 129(3), pp. 225-250, 2014.
13. E. Bampis, D. Letsios, G. Lucarelli, E. Markakis, I. Milis. On Multiprocessor Temperature-Aware Scheduling Problems, *Journal of Scheduling*, 16(5), pp. 529-538, 2013.
14. M. Guo, E. Markakis, K. R. Apt, V. Conitzer. Undominated Groves Mechanisms, *Journal of Artificial Intelligence Research (JAIR)*, 46, pp. 129-163, 2013.
15. G. Chalkiadakis, E. Elkind, E. Markakis, M. Polukarov, N. Jennings. Cooperative Games with Overlapping Coalitions, *Journal of Artificial Intelligence Research (JAIR)*, 39, pp. 179-216, 2010.
16. H. Bosse, J. Byrka, E. Markakis. New Algorithms for Approximate Nash Equilibria in Bimatrix Games, *Theoretical Computer Science (TCS)*, 411(1), pp. 164-173, 2010.
17. Y. Bachrach, E. Markakis, A. D. Procaccia, E. Resnick, J. S. Rosenschein and A. Saberi. Approximating Power Indices, *Journal of Autonomous Agents and Multiagent Systems (JAAMAS)*, 20(2), pp. 105-122, 2010.
18. G. Chalkiadakis, E. Elkind, E. Markakis, M. Polukarov, N. Jennings. Stability of Overlapping Coalitions, *SIGecom Exchanges* 8(1), 2009.
19. M. Kolountzakis, R. Lipton, E. Markakis, A. Mehta, N. Vishnoi. On the Fourier Spectrum of Symmetric Boolean Functions, *Combinatorica*, 29(3), pp. 363-387, 2009.
20. H. Hatami, A. Magen, E. Markakis. Integrality gaps of semidefinite programs for Vertex Cover and relations to  $l_1$  embeddability of Negative Type metrics, *SIAM Journal on Discrete Mathematics*, 23(1), pp. 178-194, 2008.
21. S. Khot, R. Lipton, E. Markakis, A. Mehta. Inapproximability Results for Combinatorial Auctions with Submodular Utility Functions, *Algorithmica*, 52(1), pp. 3-18, 2008.

22. E. Markakis, A. Saberi. On the Core of the Multicommodity Flow Game, *Decision Support Systems*, 39(1), pp. 3–10, March 2005.
23. K. Jain, M. Mahdian, E. Markakis, A. Saberi, V. V. Vazirani. Greedy Facility Location Algorithms Analyzed using Dual Fitting with Factor-Revealing LP, *Journal of the ACM*, 50 (6), pp. 795–824, November 2003.

## **Book chapters/Surveys**

E. Markakis. Approximation Algorithms and Hardness Results for Fair Division with Indivisible Goods. Chapter 12 in "Trends in Computational Social Choice", 2017.

P. Maille, E. Markakis, M. Naldi, G. D. Stamoulis, B. Tuffin. Sponsored Search Auctions: An Overview of Research with Emphasis on Game Theoretic Aspects. *Journal of Electronic Commerce Research (ECR)*, 12(3), pp. 265-300, 2012.

E. Elkind, E. Markakis. Game-theoretic Foundations of Multiagent Systems. Chapter 17 in "Multi-Agent Systems", edited by Gerhard Weiss, MIT Press, 2012.

## **Theses**

E. Markakis. Computational Aspects of Game Theory and Microeconomics. PhD thesis, Georgia Institute of Technology, 2005.

E. Markakis. Logics of Knowledge and Belief - Belief Revision. Bachelor's thesis, National Technical University of Athens, 2000.