

Vasilis Gkatzelis

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Employment History

Drexel University, Computer Science - Assistant Professor (June 2016 - present)

UC Berkeley, EECS & ICSI - Postdoctoral Scholar (Jan. 2016 - May 2016)

UC Berkeley, Simons Institute - Research Fellow (Aug. 2015 - Dec. 2015)

Stanford University, Computer Science - Postdoctoral Scholar (2013 - 2015)

Google, New York - Engineering Intern (September 2012 - December 2012)

Hewlett Packard Labs, Palo Alto - Research Intern (May 2012 - August 2012)

Microsoft Research, Mountain View - Research Intern (May 2011 - August 2011)

Education

New York University, Courant Institute of Mathematical Sciences
Ph.D. in Computer Science (2008 - 2013)

New York University, Courant Institute of Mathematical Sciences
M.Sc. in Computer Science (2010)

University of Patras, Computer Engineering and Informatics Department
Diploma (2002 - 2007)

Research Interests

Algorithmic Mechanism Design, Multiagent Resource Allocation, Approximation Algorithms

Journal Publications

“Nash Social Welfare Approximation for Strategic Agents”

S. Branzei, V. Gkatzelis, and R. Mehta

Operations Research

“Approximating the Nash Social Welfare with Indivisible Items”

R. Cole and V. Gkatzelis

(invited to special issue featuring selected ACM STOC 2015 papers)

SIAM Journal on Computing

“Optimal Cost-Sharing in General Resource Selection Games”

V. Gkatzelis, K. Kollias, and T. Roughgarden

Operations Research

“The Performance of Deferred-Acceptance Auctions”

P. Dütting, V. Gkatzelis, and T. Roughgarden

Mathematics of Operations Research

“Pricing Private Data”

V. Gkatzelis, C. Aperjis, and B.A. Huberman

(invited to special issue on Markets for Personal Data)

Electronic Markets - Int. Journal on Networked Business

“Decentralized Utilitarian Mechanisms for Scheduling Games”

R. Cole, J.R. Correa, V. Gkatzelis, V. Mirrokni, and N. Olver

(invited to special issue featuring selected STOC/FOCS/SODA 2011 papers)

Games and Economic Behavior

“The Impact of Social Ignorance on Weighted Congestion Games”

D. Fotakis, V. Gkatzelis, A. Kaporis, and P. Spirakis

Theory of Computing Systems

Conference Publications

“Online Nash Social Welfare Maximization with Predictions”

S. Banerjee, V. Gkatzelis, A. Gorokh, and B. Jin

33rd ACM-SIAM Symposium on Discrete Algorithms

SODA 2022

Deterministic Budget-Feasible Clock Auctions

E. Balkanski, P. Garimidi, V. Gkatzelis, D. Schoepflin, and X. Tan

33rd ACM-SIAM Symposium on Discrete Algorithms

SODA 2022

“Prior-Free Clock Auctions for Bidders with Interdependent Values”

V. Gkatzelis, R. Patel, E. Pountourakis, and D. Schoepflin

14th International Symposium on Algorithmic Game Theory

SAGT 2021

“Resource-Aware Cost-Sharing Mechanisms with Priors”

V. Gkatzelis, E. Pountourakis, and A. Sgouritsa

22nd ACM Conference on Economics and Computation

EC 2021 (<https://dl.acm.org/doi/10.1145/3465456.3467650>)

“PROPm Allocations of Indivisible Goods to Multiple Agents”

A. Baklanov, P. Garimidi, V. Gkatzelis, and D. Schoepflin

30th International Joint Conference on Artificial Intelligence

IJCAI 2021 (<https://www.ijcai.org/proceedings/2021/4>)

“Fair and Efficient Online Allocations with Normalized Valuations”

V. Gkatzelis, A. Psomas, and X. Tan

35th AAAI Conference on Artificial Intelligence

AAAI 2021 (<https://ojs.aaai.org/index.php/AAAI/article/view/16685>)

“Achieving Proportionality up to the Maximin Item with Indivisible Goods”

A. Baklanov, P. Garimidi, V. Gkatzelis, and D. Schoepflin

35th AAAI Conference on Artificial Intelligence

AAAI 2021 (<https://ojs.aaai.org/index.php/AAAI/article/view/16650>)

“Resolving the Optimal Metric Distortion Conjecture”

V. Gkatzelis, D. Halpern, and N. Shah

61st IEEE Symposium on Foundations of Computer Science

FOCS 2020 (<https://ieeexplore.ieee.org/document/9317887>)

- “Resource-Aware Protocols for Network Cost-Sharing Games”
G. Christodoulou, V. Gkatzelis, A. Sgouritsa, and M. Latifian
21st ACM Conference on Economics and Computation
EC 2020 (<https://dl.acm.org/doi/10.1145/3391403.3399528>)
- “A Truthful Cardinal Mechanism for One-Sided Matching”
R. Abebe, R. Cole, V. Gkatzelis, and J. Hartline
31st ACM-SIAM Symposium on Discrete Algorithms
SODA 2020 (<https://epubs.siam.org/doi/10.1137/1.9781611975994.129>)
- “Balanced Ranking with Diversity Constraints”
K. Yang, V. Gkatzelis, and J. Stoyanovich
28th International Joint Conference on Artificial Intelligence
IJCAI 2019 (<https://www.ijcai.org/proceedings/2019/836>)
- “Fair and Efficient Memory Sharing: Confronting Free Riders”
E.J. Friedman, V. Gkatzelis, C.A. Psomas, and S. Shenker
33rd AAAI Conference on Artificial Intelligence
AAAI 2019 (<https://www.aaai.org/ojs/index.php/AAAI/article/view/4024>)
- “Coordination Mechanisms, Cost-Sharing, and Approximation Algorithms for Scheduling”
I. Caragiannis, V. Gkatzelis, and C. Vinci
13th International Conference on Web and Internet Economics
WINE 2017 (https://link.springer.com/chapter/10.1007%2F978-3-319-71924-5_6)
- “Deferred-Acceptance Auctions for Multiple Levels of Service”
V. Gkatzelis, E. Markakis, and T. Roughgarden
18th ACM Conference on Economics and Computation
EC 2017 (<https://dl.acm.org/citation.cfm?doid=3033274.3085142>)
- “Cost-Sharing Methods for Scheduling Games under Uncertainty”
G. Christodoulou, V. Gkatzelis, and A. Sgouritsa
18th ACM Conference on Economics and Computation
EC 2017 (<https://dl.acm.org/citation.cfm?doid=3033274.3085151>)
- “Convex Program Duality, Fisher Markets, and Nash Social Welfare”
R. Cole, N.R. Devanur, V. Gkatzelis, K. Jain, T. Mai, V.V. Vazirani, and S. Yazdanbod
18th ACM Conference on Economics and Computation
EC 2017 (<https://dl.acm.org/citation.cfm?doid=3033274.3085109>)
- “Nash Social Welfare Approximation for Strategic Agents”
S. Branzei, V. Gkatzelis, and R. Mehta
18th ACM Conference on Economics and Computation
EC 2017 (<https://dl.acm.org/citation.cfm?doid=3033274.3085143>)
- “Participation Incentives on a Wireless Random Access Erasure Collision Channel”
V. Gkatzelis and S. Weber
12th Workshop on the Economics of Networks, Systems and Computation
NetEcon 2017 (<https://dl.acm.org/citation.cfm?doid=3106723.3106726>)
- “Approximating the Nash Social Welfare with Indivisible Items”
R. Cole and V. Gkatzelis
47th ACM Symposium on Theory of Computing
STOC 2015 (<http://dl.acm.org/citation.cfm?doid=2746539.2746589>)

“Optimal Cost-Sharing in Weighted Congestion Games”

V. Gkatzelis, K. Kollias, and T. Roughgarden

10th Conference on Web and Internet Economics

WINE 2014 (http://dx.doi.org/10.1007/978-3-319-13129-0_6)

“The Performance of Deferred-Acceptance Auctions”

P. Dütting, V. Gkatzelis, and T. Roughgarden

15th ACM Conference on Economics and Computation

EC 2014 (<http://dl.acm.org/citation.cfm?doid=2600057.2602861>)

“Mechanism Design for Fair Division”

R. Cole, V. Gkatzelis, and G. Goel

14th ACM Conference on Electronic Commerce

EC 2013 (<http://dl.acm.org/citation.cfm?id=2482582>)

“Positive Results for Mechanism Design without Money”

R. Cole, V. Gkatzelis, and G. Goel

12th International Conference on Autonomous Agents and Multiagent Systems

AAMAS 2013 (<http://dl.acm.org/citation.cfm?id=2485123>)

“Inner Product Spaces for MinSum Coordination Mechanisms”

R. Cole, J.R. Correa, V. Gkatzelis, V. Mirrokni, and N. Olver

43rd ACM Symposium on Theory of Computing

STOC 2011 (<http://portal.acm.org/citation.cfm?id=1993708>)

“The Impact of Social Ignorance on Weighted Congestion Games”

D. Fotakis, V. Gkatzelis, A. Kaporis, and P. Spirakis

5th International Workshop on Internet and Network Economics

WINE 2009 (<http://www.springerlink.com/content/nt13779752r63331/>)

Honors and Awards

“**Faculty Early Career Development Program (CAREER) Award**”

by the National Science Foundation (2021)

“**Faculty Research Excellence Award**”

by the Drexel University College of Computing and Informatics (2021)

“**Janet Fabri Prize**” *for the department’s most outstanding dissertation*

by the Courant Institute of Mathematical Sciences (2014)

“**Dean’s Dissertation Fellowship**” *for selected students writing their dissertation*

by the NYU Graduate School of Arts & Science (2012-2013)

“**Henning Biermann Award**” *for outstanding contributions to education*

by the Courant Institute of Mathematical Sciences (2011)

“**Andreas Mentzelopoulos Scholarship**” (supplemental financial support)

by the University of Patras (2008-2010)

Tutorials and Workshops

“Understanding the power and limitations of clock auctions” (Aarhus, 2021)

Tutorial at 14th International Symposium on Algorithmic Game Theory (SAGT)

(<https://events.au.dk/sagt2021/>)

“Nash Welfare, Market Equilibrium, and Stable Polynomials” (Phoenix, 2019)
Workshop at 51st Annual ACM Symposium on the Theory of Computing (STOC)
Organizers: Nima Anari, Jugal Garg, and Vasilis Gkatzelis
(https://www.cs.drexel.edu/~gkatz/STOC19_NSW.html)

“Appeal and challenges of competitive approach to fair resource allocation” (Rome, 2019)
Tutorial on fair division preceding De Aequa Divisione workshop
Organizers: Vasilis Gkatzelis and Fedor Sandomirskiy
(<https://sites.google.com/view/deaequadivisione/home>)

Teaching

CS457 “Data Structures and Algorithms I” (every Fall 2016-2020)
CST680 “Economics and Computation” (Spring 2017)
CS525 “Theory of Computation” (Spring 2018)
CS618 “Algorithmic Game Theory” (Spring 2019 and 2021)
CS621 “Approximation Algorithms” (Spring 2020)

Service for Conferences and Journals

Editor:

- Associate Editor at the ACM Transactions on Economics and Computation journal

Chair:

- Poster session chair at 20th ACM Conference on Economics & Computation (EC 2019)
- Poster session chair at 12th Conference on Web and Internet Economics (WINE 2016)
- Session chair at 22nd International Symposium on Mathematical Programming (ISMP 2015)

Program Committees:

- 36th Conference on Artificial Intelligence (AAAI 2022)
- 33rd ACM-SIAM Symposium on Discrete Algorithms (SODA 2022)
- 17th Conference on Web and Internet Economics (WINE 2021)
- 22nd ACM Conference on Economics & Computation (EC 2021)
- 30th Int. Joint Conference on Artificial Intelligence (IJCAI 2021)
- 35th Conference on Artificial Intelligence (AAAI 2021)
- 16th Conference on Web and Internet Economics (WINE 2020)
- 21st ACM Conference on Economics & Computation (EC 2020)
- 29th Int. Joint Conference on Artificial Intelligence (IJCAI 2020)
- 34th Conference on Artificial Intelligence (AAAI 2020)
- 15th Conference on Web and Internet Economics (WINE 2019)
- Workshop on Theoretical Aspects of Fairness (WTAF 2019)

- Workshop on Fair Allocation in Multiagent Systems (FAMAS 2019)
- 20th ACM Conference on Economics & Computation [Senior PC] (EC 2019)
- 28th International World Wide Web Conference (WWW 2019)
- AAAI/ACM Conf. on Artificial Intelligence, Ethics, and Society (AEIS 2019)
- 14th Conference on Web and Internet Economics (WINE 2018)
- 19th ACM Conference on Economics & Computation (EC 2018)
- 27th Int. Joint Conference on Artificial Intelligence (IJCAI 2018)
- 27th International World Wide Web Conference (WWW 2018)
- 11th International Symposium on Algorithmic Game Theory (SAGT 2018)
- 32nd Conference on Artificial Intelligence (AAAI 2018)
- 13th Conference on Web and Internet Economics (WINE 2017)
- 18th ACM Conference on Economics & Computation (EC 2017)
- 26th Int. Joint Conference on Artificial Intelligence (IJCAI 2017)
- 16th Int. Conf. on Autonomous Agents & Multiagent Systems (AAMAS 2017)
- 26th International World Wide Web Conference (WWW 2017)
- 12th Conference on Web and Internet Economics (WINE 2016)
- 17th ACM Conference on Economics & Computation (EC 2016)
- AGT Workshop at Int. Joint Conference on AI (AGT@IJCAI 2016)
- 25th Int. Joint Conference on Artificial Intelligence (IJCAI 2016)
- 11th Conference on Web and Internet Economics (WINE 2015)
- 16th ACM Conference on Economics & Computation (EC 2015)
- AGT Workshop at Int. Joint Conference on AI (AGT@IJCAI 2015)
- 10th Conference on Web and Internet Economics (WINE 2014)

Journal Reviewer: SIAM Journal on Computing, Operations Research, Mathematics of Operations Research, Games and Economic Behavior, Journal of Economic Theory, Algorithmica, Discrete Optimization, Transactions on Economics and Computation, Theory of Computing Systems, Information Processing Letters, Journal of Machine Learning, Mathematical Social Sciences, Information and Computation, IEEE Transactions on Parallel and Distributed Systems, Mathematical Methods of Operations Research

Conference Reviewer: ACM Symposium on Theory of Computing, ACM Conference on Economics & Computation, ACM-SIAM Symposium on Discrete Algorithms, International Colloquium on Automata, Languages, and Programming, Conference on Web and Internet Economics, European Symposium on Algorithms, International Symposium on Algorithmic Game Theory, Symposium on Theoretical Aspects of Computer Science, International Conference on Algorithms and Complexity, Latin American Theoretical Informatics Symposium, ACM Symposium on Parallelism in Algorithms and Architectures

Funding

1. “CAREER: Optimal Mechanism Design without Monetary Transfers”, February 2021
NSF CCF Algorithmic Foundations: 600,000 (Single PI)
https://www.nsf.gov/awardsearch/showAward?AWD_ID=2047907

2. "The Efficiency of Clock Auctions", July 2020
NSF CCF Algorithmic Foundations: 358,000 (Single PI)
https://www.nsf.gov/awardsearch/showAward?AWD_ID=2008280
3. "Practical Auction Design Using the Deferred-Acceptance Framework", January 2018
NSF (CISE) Research Initiation Initiative (Algorithmic Foundations): 183,000 (Single PI)
https://www.nsf.gov/awardsearch/showAward?AWD_ID=1755955