

Christos-Alexandros Psomas

PERSONAL DATA	Gates-Hillman Center Office #9116 Pittsburgh, PA 15213	<i>E-mail:</i> cpsomas@cs.cmu.edu http://www.cs.cmu.edu/~cpsomas/
EMPLOYMENT	Carnegie Mellon University , Pittsburgh PA, USA <i>Post Doctoral Fellow</i> hosted by Ariel Procaccia.	2017-present
	Microsoft Research , Redmond WA, USA <i>Research Internship</i> under the supervision of Nikhil R. Devanur.	Summer 2015
	International Computer Science Institute (ICSI) , Berkeley CA, USA <i>Research Internship</i> under the supervision of Eric J. Friedman.	Summers 2013 and 2014
	National Center for Scientific Research (NCSR) "Demokritos" , Athens, Greece <i>Research Internship</i> under the supervision of Sergios Petridis.	March, 2011 - July, 2011
EDUCATION	University of California, Berkeley , USA Ph.D. in Computer Science Thesis: Algorithmic Mechanism Design in Dynamic Environments Advisor: Christos H. Papadimitriou	2012-2017
	University of Athens , Greece M.Sc. in Logic, Algorithms and Computation GPA: 8.62/10 Thesis: Strategyproof Allocation of Multidimensional Tasks on Clusters	2011-2012
	Athens University of Economics and Business , Greece B.S. in Computer Science GPA: 9.18/10 (ranked 1 st in a class of more than 200 students)	2007-2011
TEACHING EXPERIENCE	Carnegie Mellon University , USA Instructor for the course <i>Truth, Justice, and Algorithms</i> . Course website: http://www.cs.cmu.edu/~15896/	Fall 2018
	University of California, Berkeley , USA Instructor for the course <i>Discrete Mathematics and Probability Theory</i> . Course website: https://inst.eecs.berkeley.edu/~cs70/su16/	Summer 2016
	Teaching assistant and tutor in the CS Scholars Program at UC Berkeley (https://eecs.berkeley.edu/cs-scholars) for the course <i>Discrete Mathematics and Probability Theory</i> .	Spring 2016
	Teaching assistant for the course <i>Efficient Algorithms and Intractable Problems</i> .	Spring 2015
	Athens University of Economics and Business , Greece Teaching assistant for the course <i>Computational Mathematics and Scientific Calculations</i> .	Spring 2009, Spring 2010

PUBLICATIONS

(Unless specified otherwise, authors in all papers are listed in alphabetical order.)

12. *Fair and Efficient Memory Sharing: Confronting Free Riders.*
Eric J. Friedman, Vasilis Gkatzelis, Christos-Alexandros Psomas, Scott Shenker.
In the 33rd AAAI Conference on Artificial Intelligence (**AAAI**), 2019.
11. *An Improved Envy-Free Cake Cutting Protocol for Four Agents.*
Georgios Amanatidis, George Christodoulou, John Fearnley, Evangelos Markakis, Christos-Alexandros Psomas, Eftychia Vakaliou.
In the 11th International Symposium on Algorithmic Game Theory (**SAGT**), 2018.
10. *How to Make Envy Vanish Over Time.*
Gerdus Benade, Aleksandr M. Kazachkov, Ariel D. Procaccia, Christos-Alexandros Psomas.
In the 19th ACM Conference on Economics and Computation (**EC**), 2018.
9. *On the Competition Complexity of Dynamic Mechanism Design.*
Siqi Liu, Christos-Alexandros Psomas.
In the 29th ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2018
8. *Optimal Multi-Unit Mechanisms with Private Demands.*
Nikhil R. Devanur, Nima Haghpanah, Christos-Alexandros Psomas.
In the 18th ACM Conference on Economics and Computation (**EC**), 2017.
Under review in Games and Economic Behavior (**GEB**).
7. *Controlled Dynamic Fair Division.*
Eric J. Friedman, Christos-Alexandros Psomas, Shai Vardi.
In the 18th ACM Conference on Economics and Computation (**EC**), 2017.
6. *Sample Complexity of Auctions with Side Information.*
Nikhil R. Devanur, Zhiyi Huang, Christos-Alexandros Psomas.
In the 48th ACM Symposium on Theory of Computing (**STOC**), 2016.
Under review in the Journal of the ACM (**JACM**) .
5. *On the Complexity of Dynamic Mechanism Design.*
Christos H. Papadimitriou, George Pierrakos, Christos-Alexandros Psomas, Aviad Rubinfeld.
In the 27th ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2016.
Invited to the Special Issue of Games and Economic Behavior (**GEB**) for best algorithmic game theory papers from STOC/FOCS/SODA 2016-2017.
4. *Dynamic Fair Division with Minimal Disruptions.*
Eric J. Friedman, Christos-Alexandros Psomas, Shai Vardi.
In the 16th ACM Conference on Economics and Computation (**EC**), 2015.
3. *Strategyproof Allocation of Discrete Jobs on Multiple Machines.*
Eric J. Friedman, Ali Ghodsi, Christos-Alexandros Psomas.
In the 15th ACM Conference on Economics and Computation (**EC**), 2014.
2. *Probabilistic extension of Allen's relations using the Hourglass model.*
Sergios Petridis, Christos-Alexandros Psomas.
In the 24th IEEE International Conference on Tools with Artificial Intelligence (**ICTAI**), 2012.
1. *On Worst-Case Allocations in the Presence of Indivisible Goods.*
Evangelos Markakis, Christos-Alexandros Psomas.
In the 7th Workshop on Internet and Network Economics (**WINE**), 2011.

WORKING PAPERS
AND MANUSCRIPTS

- *WeBuildAI: Participatory Framework for Fair and Efficient Algorithmic Governance.*
Min Kyung Lee, Daniel Kusbit, Anson Kahng, Ji Tae Kim, Xinran Yuan, Allissa Chan, Ritesh Noothigattu, Daniel See, Siheon Lee, Christos-Alexandros Psomas, Ariel D. Procaccia. (Not in alphabetical order)
Submitted/Under Submission.

- *Statistical Foundations of Virtual Democracy.*
Anson Kahng, Min Kyung Lee, Ritesh Noothigattu, Ariel D. Procaccia, Christos-Alexandros Psomas
Submitted/Under Submission.
- *Formal Barriers to Proof-of-Stake Protocols.*
Jonah Brown-Cohen, Arvind Narayanan, Christos-Alexandros Psomas, S. Matthew Weinberg.
Submitted/Under Submission.
- *Smoothed Analysis of Multi-Item Auctions with Correlated Values.*
Christos-Alexandros Psomas, Ariel Schwartzman, S. Matthew Weinberg.
Submitted/Under Submission.
- *Reductions in PPP.*
Frank Ban, Kamal Jain, Christos Papadimitriou, Christos-Alexandros Psomas, Aviad Rubinstein.
Submitted/Under Submission.
- *How to Hire Secretaries with Stochastic Departures.*
Thomas Kesselheim, Christos Alexandros Psomas, Shai Vardi.
Submitted/Under Submission.
- *Persuasion and Incentives Through the Lens of Duality.*
Shaddin Dughmi, Rad Niazadeh, Christos-Alexandros Psomas, S. Matthew Weinberg.
Submitted/Under Submission.
- *Robust Mechanisms for a Prospect-Theoretic Buyer.*
Siqi Liu, J. Benjamin Miller, Christos-Alexandros Psomas

HONORS AND AWARDS

- Outstanding Graduate Student Instructor Award in 2016-2017, by the Graduate Division of UC Berkeley.
- Leventis foundation scholarship for the academic years 2013-2014, 2014-2015, 2015-2016.
- 2010: Mixalis Mytilinaios award, by the Department of Informatics of AUEB, awarded to the third year student with the best performance in courses Automata and Complexity, Logic and Computability.
- 2010: Georgios Xalkiopoulos Foundation award, for high academic performance in the second year of studies.
- 2008: Maria Dimopoulou award, by the Department of Informatics of AUEB, awarded to the first year student with the best performance in courses Discrete Mathematics, Linear Algebra and Mathematical Analysis.
- 2007: Award for the high performance in the nationwide exams for college admission by the Department of Informatics of AUEB (ranked 5th).
- 2008, 2010, 2011: Scholarships from the State Scholarships Foundation of Greece for high academic performance in first,third and fourth year of undergraduate studies.

SELECTED TALKS

- Fair Resource Allocation: From Theory to Practice, **Duke University** CS-Econ seminar (Nov 2018)
- Fair Resource Allocation: From Theory to Practice, **University of Maryland** CS Department talk (Nov 2018)
- Formal Barriers to Proof of Stake Protocols, **INFORMS** Annual Meeting (Nov 2018)
- How To Make Envy Vanish Over Time, **INFORMS** Annual Meeting (Nov 2018)
- On The Competition Complexity Of Dynamic Mechanism Design, **INFORMS** Annual Meeting (Nov 2018)
- Fair Resource Allocation: From Theory to Practice, **UC Irvine** AI/ML Seminar Series (Oct 2018)
- On Dynamic Mechanism Design, **Carnegie Mellon University** Theory lunch (Dec 2017)
- Controlled Dynamic Fair Division with Applications to Multiple Resources, **Carnegie Mellon University** Theory lunch (Jan 2017)

- Controlled Dynamic Fair Division with Applications to Multiple Resources, **University of Pennsylvania** Theory lunch (Jan 2017)
- Sample Complexity of Auctions with Side Information, **STOC** (June 2016)
- On Dynamic Fair Division, **UC Berkeley** Theory lunch (Oct 2016)
- On the Complexity of Dynamic Mechanism Design, **SODA** (Jan 2016)
- On the Complexity of Dynamic Mechanism Design, **Stanford University** Theory lunch (May 2015)

ACADEMIC SERVICE

- **Programming Committee member:**
Conference on Economics and Computation (EC) 2018
- **Journal Reviewer:**
Journal of Artificial Intelligence (JAIR)
Games and Economic Behavior (GEB)
- **Conference Reviewer:**
Symposium on Theory of Computing (STOC) 2018, 2019
Innovations in Theoretical Computer Science (ITCS) 2018, 2019
Symposium on Discrete Algorithms (SODA) 2018, 2019
International Conference on Algorithms and Complexity (CIAC) 2017
Autonomous Agents and MultiAgent Systems (AAMAS) 2011, 2012, 2017
Workshop on Internet and Network Economics (WINE) 2016, 2017, 2018
- **Organizer:**
EC Tutorial: *Emerging Research Directions Regarding Incentives and Cryptocurrencies (2018)*
Co-organizers: Jacob Leshno, Arvind Narayanan, Georgios Piliouras and Matt Weinberg
Berkeley EconCS seminar (2013-2014)

MISCELLANEOUS

- **Rowing:** Greek National Championship (2004-2012): 3 gold, 4 silver and 3 bronze medals.
- **Running:** Athens Classic Marathon (2007-2008, 2010-2012), Euchidios Athlos (2011), Two Cities Marathon (2014), Morgan Hill Marathon (2015), Surfer's Path Marathon (2016).

REFERENCES

- Christos Papadimitriou, Columbia University, christos@cs.columbia.edu
- Ariel Procaccia, Carnegie Mellon University, arielpro@cs.cmu.edu
- Eric Friedman, UC Berkeley and ICSI, ejf@icsi.berkeley.edu
- Nikhil Devanur, Microsoft Research, nikdev@microsoft.com
- S. Matthew Weinberg, Princeton University, smweinberg@princeton.edu