

CHRISTOS-ALEXANDROS (ALEX) PSOMAS

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EMPLOYMENT

Carnegie Mellon University, Pittsburgh PA, USA
Post Doctoral Fellow hosted by Ariel Procaccia. **2017-present**

Microsoft Research, Redmond WA, USA
Research Internship under the supervision of Nikhil R. Devanur. **Summer 2015**

International Computer Science Institute (ICSI), Berkeley CA, USA
Research Internship under the supervision of Eric J. Friedman. **Summers 2013 and 2014**

National Center for Scientific Research (NCSR) "Demokritos", Athens, Greece
Research Internship under the supervision of Sergios Petridis. **March, 2011 - July, 2011**

EDUCATION

University of California, Berkeley, USA **2012-2017**
Ph.D. in Computer Science
Thesis: Algorithmic Mechanism Design in Dynamic Environments
Advisor: Christos H. Papadimitriou

University of Athens, Greece **2011-2012**
M.Sc. in Logic, Algorithms and Computation
GPA: 8.62/10
Thesis: Strategyproof Allocation of Multidimensional Tasks on Clusters

Athens University of Economics and Business, Greece **2007-2011**
B.S. in Computer Science
GPA: 9.18/10 (ranked 1st in a class of more than 200 students)

TEACHING EXPERIENCE

Carnegie Mellon University, USA
Instructor for the course *Truth, Justice, and Algorithms*. **Fall 2018**
Course website: <http://www.cs.cmu.edu/~15896/>

University of California, Berkeley, USA
Instructor for the course *Discrete Mathematics and Probability Theory*. **Summer 2016**
Course website: <https://inst.eecs.berkeley.edu/~cs70/su16/>

Teaching assistant for the course *Discrete Mathematics and Probability Theory*. **Spring 2016**

CS Scholars Tutor for the course *Discrete Mathematics and Probability Theory*. **Spring 2016**

Teaching assistant for the course *Efficient Algorithms and Intractable Problems*. **Spring 2015**

Athens University of Economics and Business, Greece

Teaching assistant for the course *Computational Mathematics and Scientific Calculations*.
Spring 2009, Spring 2010

JOURNAL ARTICLES

4. *Reductions in PPP.*
Frank Ban, Kamal Jain, Christos Papadimitriou, Christos-Alexandros Psomas, Aviad Rubinstein.
In Information Processing Letters (**IPL**).
3. *Optimal Multi-Unit Mechanisms with Private Demands.*
Nikhil R. Devanur, Nima Haghpahan, Christos-Alexandros Psomas.
Revise and resubmit in Games and Economic Behavior (**GEB**).
2. *Sample Complexity of Auctions with Side Information.*
Nikhil R. Devanur, Zhiyi Huang, Christos-Alexandros Psomas.
Under review in the Journal of the ACM (**JACM**).
1. *On the Complexity of Dynamic Mechanism Design.*
Christos H. Papadimitriou, George Pierrakos, Christos-Alexandros Psomas, Aviad Rubinstein.
Invited to the Special Issue of Games and Economic Behavior (**GEB**) for best algorithmic game theory papers from STOC/FOCS/SODA 2016-2017.

REFEREED CONFERENCE PROCEEDINGS

18. *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.
In the 22nd ACM Conference on Computer-Supported Cooperative Work and Social Computing (**CSCW**), 2019.
17. *Risk Robust Mechanism Design for a Prospect Theoretic Buyer.*
Siqi Liu, J. Benjamin Miller, Alexandros Psomas.
In the 12th International Symposium on Algorithmic Game Theory (**SAGT**), 2019.
16. *Achieving a Fairer Future by Changing the Past.*
Jiafan He, Ariel D. Procaccia, Alexandros Psomas, David Zeng.
In the 28th International Joint Conference on Artificial Intelligence (**IJCAI**), 2019.
15. *Formal Barriers to Proof-of-Stake Protocols.*
Jonah Brown-Cohen, Arvind Narayanan, Alexandros Psomas, S. Matthew Weinberg.
In the 20th ACM Conference on Economics and Computation (**EC**), 2019.
14. *Smoothed Analysis of Multi-Item Auctions with Correlated Values.*
Alexandros Psomas, Ariel Schvartzman, S. Matthew Weinberg.
In the 20th ACM Conference on Economics and Computation (**EC**), 2019.
13. *Statistical Foundations of Virtual Democracy.*
Anson Kahng, Min Kyung Lee, Ritesh Noothigattu, Ariel D. Procaccia, Alexandros Psomas
In the 36th International Conference on Machine Learning (**ICML**), 2019.
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.
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.
5. *On the Complexity of Dynamic Mechanism Design.*
Christos H. Papadimitriou, George Pierrakos, Christos-Alexandros Psomas, Aviad Rubinstein.
In the 27th ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2016.
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

Fairness-Efficiency Tradeoffs in Dynamic Fair Division.

David Zeng and Alexandros Psomas.

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.

SELECTED HONORS AND AWARDS

Outstanding Graduate Student Instructor (OGSI) Award , UC Berkeley.	2016-2017
Leventis Foundation Scholarship.	2013-2016
Mixalis Mytilinaios Award , Athens University of Economics and Business.	2010
Georgios Xalkiopoulos Foundation Award.	2010
Maria Dimopoulou Award , Athens University of Economics and Business.	2008
Award for high performance in the national exams , Athens University of Economics and Business.	2008
Scholarship , State Scholarships Foundation of Greece.	2008, 2010, 2011

SELECTED TALKS

<i>Fair Resource Allocation: From Theory to Practice</i> Duke University , CS-Econ seminar	Nov 2018
<i>Fair Resource Allocation: From Theory to Practice</i> University of Maryland , CS Department talk	Nov 2018
<i>Formal Barriers to Proof of Stake Protocols</i> INFORMS Annual Meeting	Nov 2018
<i>How To Make Envy Vanish Over Time</i> INFORMS Annual Meeting	Nov 2018
<i>On The Competition Complexity Of Dynamic Mechanism Design</i> INFORMS Annual Meeting	Nov 2018
<i>Fair Resource Allocation: From Theory to Practice</i> UC Irvine AI/ML Seminar Series	Oct 2018
<i>On Dynamic Mechanism Design</i> Carnegie Mellon University Theory lunch	Dec 2017
<i>Controlled Dynamic Fair Division with Applications to Multiple Resources</i> Carnegie Mellon University Theory lunch	Jan 2017
<i>Controlled Dynamic Fair Division with Applications to Multiple Resources</i> University of Pennsylvania Theory lunch	Jan 2017
<i>Sample Complexity of Auctions with Side Information</i> Symposium on Theory of Computing (STOC)	June 2016
<i>On Dynamic Fair Division</i> UC Berkeley Theory lunch	Oct 2016
<i>On the Complexity of Dynamic Mechanism Design</i> Symposium on Discrete Algorithms (SODA)	Jan 2016
<i>On the Complexity of Dynamic Mechanism Design</i> Stanford University Theory lunch	May 2015

ACADEMIC SERVICE

Programming Committee member:

<i>AAAI Conference on Artificial Intelligence (AAAI)</i>	2020
<i>Conference on Economics and Computation (EC)</i>	2018,2019
<i>Workshop on Internet and Network Economics (WINE)</i>	2019
<i>International Symposium on Algorithmic Game Theory (SAGT)</i>	2019

Journal Reviewer:

Transactions on Economics and Computation (TEAC)
Journal of Artificial Intelligence (JAIR)
Artificial Intelligence (AIJ)
Games and Economic Behavior (GEB)
Theoretical Computer Science (TCS)

Conference Reviewer:

Symposium on Theory of Computing (STOC), Symposium on Discrete Algorithms (SODA), Conference on Economics and Computation (EC), Workshop on Internet and Network Economics (WINE), International Symposium on Algorithmic Game Theory (SAGT), International Colloquium on Automata, Languages and Programming (ICALP), Innovations in Theoretical Computer Science (ITCS), International Conference on Algorithms and Complexity (CIAC), Autonomous Agents and MultiAgent Systems (AAMAS)

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