

Philip Lazos

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EDUCATION AND POSITIONS

- **Research Assistant** in Computer Science April 2019 –
Sapienza University of Rome, Italy
- **Research Assistant** in Computer Science Sep 2018 – Mar 2019
University of Oxford, United Kingdom
- **PhD** in Computer Science Oct 2018
University of Oxford, United Kingdom
Thesis: Online Market Algorithms
Advisor: Prof. Elias Koutsoupas
- **Diploma** in Electrical and Computer Engineering Aug 2015
National Technical University of Athens, Greece
Thesis: On the Price of Anarchy of Combinatorial Auctions
Advisor: Prof. Dimitris Fotakis
Committee: Prof. Efstathios Zachos, Prof. Nikos Papaspyrou

HONORS AND AWARDS • Engineering and Physical Sciences Research Council (EPSRC) Studentship 2014-2017

RESEARCH **Conference Publications**

1. **Fast Adaptive Non-Monotone Submodular Maximization Subject to a Knapsack Constraint**, Georgios Amanatidis, Federico Fusco, Philip Lazos, Stefano Leonardi, Rebecca Reiffenhäuser, The 34th Conference on Neural Information Processing Systems (NeurIPS'20), Virtually, 2020.
2. **Pandora's Box Problem with Order Constraints**, Shant Boodaghians, Federico Fusco, Philip Lazos and Stefano Leonardi, The 21st ACM Conference on Economics and Computation (EC'20), Virtually, 2020.
3. **Fairness and Efficiency in Blockchain based Cryptocurrencies**, Giorgos Birmipas, Elias Koutsoupas, Philip Lazos and Francisco Marmolejo-Cossio, The 24th International Conference on Financial Cryptography and Data Security (FC '20), Kota Kinabalu, Sabah, Malaysia, 2020.
4. **The Pareto Frontier of Inefficiency in Mechanism Design**, Aris Filos-Ratsikas, Yiannis Giannakopoulos, and Philip Lazos, The 15th Conference on Web and Internet Economics (WINE '19), New York, USA, 2019.
5. **Reallocating Multiple Facilities on the Line**, Dimitris Fotakis, Loukas Kavouras, Panagiotis Kostopanagiotis, Philip Lazos, Stratis Skoulakis and Nikolas Zarifis, The 28th International Joint Conference on Artificial Intelligence (IJCAI '19), Macao, China, 2019.
6. **Blockchain Mining Games with Pay-Forward**, Elias Koutsoupas, Philip Lazos, Foluso Ogunlana and Paolo Serafino, The Web Conference (WWW), San Francisco, USA, 2019.
7. **Multi-Unit Bilateral Trade**, Matthias Gerstgrasser, Paul W. Goldberg, Bart de Keijzer, Philip Lazos and Alexander Skopalik, The 33rd AAAI Conference on Artificial Intelligence (AAAI '19), Honolulu, USA, 2019.
8. **Online Trading as a Secretary Problem**, Elias Koutsoupas and Philip Lazos, The 11th International Symposium on Algorithmic Game Theory (SAGT), Beijing, China, 2018.
9. **Online Market Intermediation**, Yiannis Giannakopoulos, Elias Koutsoupas and Philip Lazos, The 44th International Colloquium on Automata, Languages and Programming (ICALP), Warsaw, Poland, 2017.
10. **The Infinite Server Problem**, Christian Coester, Elias Koutsoupas and Philip Lazos, The 44th International Colloquium on Automata, Languages and Programming (ICALP), Warsaw, Poland, 2017.

My research is generously sponsored by the ERC Advanced Grant ‘Algorithmic and Mechanism Design Research in Online Markets’ (AMDROMA) and previously by the ERC Advanced Grant ‘Algorithms, Games, Mechanisms, and the Price of Anarchy’ (ALGAME).

Working Papers

- **Maximising the Benefits of an Acutely Limited Number of COVID-19 Tests**, Jakob Jonnerby, Philip Lazos, Edwin Lock, Francisco J. Marmolejo-Cossío, Christopher Ramsay, Meghna Shukla and Divya Sridhar. *Presented at the AI for Social Good workshop at the Harvard CRCS and secured funding from the Global Challenges in Economics and Computation (GCEC’20) workshop.*
- **Efficient Two-Sided Markets with Limited Information**, Paul Dütting, Federico Fusco, Philip Lazos, Stefano Leonardi and Rebecca Reiffenhäuser.
- **RPPLNS: Pay-per-last-N-shares with a Randomised Twist**, Jonathan Katz, Philip Lazos, Francisco J. Marmolejo-Cossío and Xinyu Zhou.

TEACHING University of Oxford

College Lecturer at St. Catherine’s College, Oxford. I tutored undergraduate students in the following courses:

- Introduction to Formal Proof 2015 – 2017
- Logic and Proof 2015 – 2016
- Data Structures and Algorithms 2017

Teaching Assistant, Department of Computer Science, University of Oxford.

- Probability and Computing (*Graduate Course*) 2017
- Machine Learning 2017 – 2018

Guest Lecture on Secretary Problems for the Probability and Computing course. Jan 2018

Organized and presented labs for Machine Learning at the Autonomous, Intelligent Machines and Systems (AIMS) Doctoral Training Centre. 2018–2019

Admissions Interviewer for St. Catherine’s College 2016–2017

Co-supervised the master’s thesis of Foluso Ogunlana. 2017-2018

Sapienza University of Rome

Teaching Assistant (I was involved with homework assignments, exams and part of the lectures) for Advanced Algorithm Design at the Sapienza University of Rome. 2019–

VISITS AND TALKS Research Visits

Simons Institute for the Theory of Computing, University of Berkeley. I had monthly visits during the following programs:

- Algorithms and Uncertainty Fall 2016
- Economics and Computation Fall 2015

Invited Talks

- ‘Efficient Two-Sided Markets with Limited Information’, ECCO Seminar, University of Liverpool. Nov 2020
- Shonan Meeting, *New Tools for Markets: Information Design and Blockchains*, Shonan Village Center, Japan, *Postponed over concerns about the coronavirus outbreak.* March 2020
- ‘The Infinite Server Problem.’ Institut de Recherche en Informatique Fondamentale (IRIF) in Paris, France. Jan 2018

Conference Talks and Posters

- ‘RPPLNS: Pay-per-last-N-shares with a Randomised Twist’, Workshop on Game Theory in

Blockchain (part of WINE 2020), *virtual*.

- ‘Fast Adaptive Non-Monotone Submodular Maximization Subject to a Knapsack Constraint’, talk at Markets, Algorithms, Prediction, and Learning (MAPLE) 2020, *virtual*.
- ‘The Pareto Frontier of Inefficiency in Mechanism Design’, talk at Highlights of Algorithms 2020 (HALG), *virtual*.
- ‘Pandora’s Box Problem with Order Constraints’, talk at the 15th Athens Colloquium on Algorithms and Complexity (ACAC), 2020, *virtual*.
- ‘The Pareto Frontier of Inefficiency in Mechanism Design’, talk at the Conference of Web and Internet Economics (WINE) 2019, New York, USA.
- ‘The Pareto Frontier of Inefficiency in Mechanism Design’, talk at Markets, Algorithms, Prediction, and Learning (MAPLE) 2019, Milan, Italy.
- ‘The Pareto Frontier of Inefficiency in Mechanism Design’, poster presentation at 20PoA, Chania, Greece, 2019.
- ‘Blockchain Mining Games with Pay-Forward’ Poster presentation at The Web Conference 2019 (WWW), San Francisco, USA.
- ‘Online Market Intermediation.’ Talk at the International Colloquium on Automata, Languages and Programming 2017 (ICALP), Warsaw, Poland.
- ‘Online Market Intermediation.’ Poster presentation at Highlights of Algorithms 2017 (HALG), Berlin, Germany.
- ‘The Infinite Server Problem.’ Talk and poster presentation at Highlights of Algorithms 2017 (HALG), Berlin, Germany.

ACADEMIC ACTIVITIES

Program Committee Member

- The 30th International Joint Conference on Artificial Intelligence (IJCAI21).
- The Web Conference 2021 (WWW2021).
- The 35th AAAI Conference on Artificial Intelligence (AAAI21).
- The 34th Conference on Neural Information Processing Systems (NeurIPS20).
- The 34th AAAI Conference on Artificial Intelligence (AAAI20).

Reviewing

- **Journals:** SIAM Journal on Computing (SICOMP), Theoretical Computer Science (TCS), Theory of Computing Systems (TOCS), Artificial Intelligence (ARTINT).
- **Conferences:** International Colloquium on Automata, Languages and Programming (ICALP), Symposium of Discrete Algorithms (SODA), European Symposium on Algorithms (ESA), Symposium on Algorithmic Game Theory (SAGT), International Conference on Theory and Applications of Models of Computation (TAMC), ACM Conference on Economics and Computation (EC), Association for the Advancement of Artificial Intelligence (AAAI).

SELECT

Graduate Courses:

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| • Probability and Computing by Prof Standa Živný. | Michaelmas Term 2014 |
| • Probabilistic Combinatorics by Prof Colin McDiarmid. | Hillary Term 2015 |
| • Polynomial Method in Combinatorics by Prof Yufei Zhao. | Trinity Term 2016 |
| • Analytic Number Theory by Prof Ben Green. | Michaelmas Term 2016 |

Undergraduate Courses:

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| • Computational Learning Theory by Prof Ben Worrell. | Michaelmas Term 2014 |
| • Machine Learning by Prof Nando de Freitas. | Hillary Term 2015 |
| • Computational Social Choice by Prof Edith Elkind and Prof Michael Wooldridge. | Hillary Term 2016 |

Fulfilling the requirements for the PhD, I took exams in Computational Learning Theory and Machine Learning, while auditing the other courses.

LANGUAGES

- Greek: Native
- English: Fluent
- French: Fluent

- Italian: Elementary

REFERENCES Elias Koutsoupias E-mail: elias@cs.ox.ac.uk
Professor of Computer Science
Department Of Computer Science
University of Oxford

Stefano Leonardi E-mail: leonardi@diag.uniroma1.it
Full Professor
Department of Computer, Control and Management Engineering Antonio Ruberti
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Paul W. Goldberg E-mail: paul.goldberg@cs.ox.ac.uk
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