

Dominik Peters

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Bio

- **Chargé de Recherche**
Centre National de la Recherche Scientifique (CNRS), 2022–
LAMSADE, Université Paris Dauphine-PSL
- **Postdoctoral Fellow**
Department of Computer Science, University of Toronto, 2021–22
Hosted by Prof. Nisarg Shah
- **Postdoctoral Fellow**
School of Engineering and Applied Sciences, Harvard University, 2020–21
Hosted by Prof. Ariel D. Procaccia
- **Postdoctoral Fellow**
Computer Science Department, Carnegie Mellon University, 2019–20
Hosted by Prof. Ariel D. Procaccia
- **DPhil, Computer Science** (with commendation)
Thesis: *Fair Division of the Commons* (defended 2 September 2019)
Balliol College, University of Oxford, 2015–19
Supervised by Prof. Edith Elkind
Examined by Prof. Michael Wooldridge and Prof. Vincent Conitzer
EurAI Distinguished Dissertation Award 2019
Victor Lesser Distinguished Dissertation Award 2020
- **MMathCompSci, Mathematics and Computer Science**
Thesis: *Extending Preferences in Hedonic Games*
St John’s College, University of Oxford, 2011–15

Journal Papers

19. Computing Lindahl Equilibrium for Public Goods with and without Funding Caps.
Christian Kroer and Dominik Peters. *Journal of the ACM*. Accepted subject to minor revisions,
February 2026.
18. Proportional Aggregation of Preferences for Sequential Decision Making.
Nikhil Chandak, Shashwat Goel, and Dominik Peters. *Journal of Artificial Intelligence
Research*. Accepted, October 2025.
17. Rank Aggregation Using Scoring Rules.
Niclas Boehmer, Robert Bredereck, and Dominik Peters. *Theory and Decision*. Accepted,
October 2025.
16. Condorcet-Consistent Choice Among Three Candidates.
Felix Brandt, Chris Dong, and Dominik Peters. *Games and Economics Behavior*. Vol. 153,

113–130, 2025.

15. In This Apportionment Lottery, the House Always Wins.
Paul Gözl, Dominik Peters, and Ariel D. Procaccia. *Operations Research*. March 2025.
14. Designing Digital Voting Systems for Citizens: Achieving Fairness and Legitimacy in Participatory Budgeting.
Joshua C. Yang, Carina I. Hausladen, Dominik Peters, Evangelos Pournaras, Regula Häenggli Fricker, Dirk Helbing. *ACM Digital Government: Research and Practice*. Special Issue on Smart Government Development and Applications, Vol. 5 (3), 2024.
13. Optimized Distortion and Proportional Fairness in Voting.
Soroush Ebadian, Anson Kahng, Dominik Peters, and Nisarg Shah. *ACM Transactions on Economics and Computation* Vol. 12, Issue 1, Article No. 3, 2024.
12. Portioning using Ordinal Preferences: Fairness and Efficiency.
Stéphane Airiau, Haris Aziz, Ioannis Caragiannis, Justin Kruger, Jérôme Lang, and Dominik Peters. *Artificial Intelligence (AIJ)*. Vol. 314, 103809, 2023.
11. Approval Voting under Dichotomous Preferences: A Catalogue of Characterizations.
Florian Brandl and Dominik Peters. *Journal of Economic Theory*. Vol. 205, 105532, 2022.
10. Approval-Based Apportionment.
Markus Brill, Paul Gözl, Dominik Peters, Ulrike Schmidt-Kraepelin, and Kai-Henning Wilker. *Mathematical Programming, Series B*. Special Issue on Mathematical Optimization and Fair Social Decisions, 2022.
9. Funding Public Projects: A Case for the Nash Product Rule.
Felix Brandt, Florian Brandl, Matthias Greger, Dominik Peters, Christian Stricker, and Warut Suksompong. *Journal of Mathematical Economics*. Vol. 99:102585, 2022.
8. Almost Envy-Free Allocations with Connected Bundles.
Vittorio Bilò, Ioannis Caragiannis, Michele Flammini, Ayumi Igarashi, Gianpiero Monaco, Dominik Peters, Cosimo Vinci, and William S. Zwicker. *Games and Economic Behavior*. Vol. 131, 2022.
7. Preferences Single-Peaked on a Tree: Multiwinner Elections and Structural Results.
Dominik Peters, Lan Yu, Hau Chan, and Edith Elkind. *Journal of Artificial Intelligence Research*. Vol. 73, 2022.
6. Truthful Aggregation of Budget Proposals.
Rupert Freeman, David M. Pennock, Dominik Peters, and Jennifer Wortman Vaughan. *Journal of Economic Theory*. Vol. 193, 2021.
5. Preferences Single-Peaked on a Circle.
Dominik Peters and Martin Lackner. *Journal of Artificial Intelligence Research*. Vol. 68, 2020.
4. k -Majority Digraphs and the Hardness of Voting with a Constant Number of Voters.
Georg Bachmeier, Felix Brandt, Christian Geist, Paul Harrenstein, Keyvan Kardel, Dominik Peters, and Hans Georg Seedig. *Journal of Computer and System Sciences* Vol. 105, 2019.
3. Fractional Hedonic Games.
Haris Aziz, Florian Brandl, Felix Brandt, Paul Harrenstein, Martin Olsen, and Dominik Peters. *ACM Transactions on Economics and Computation* Vol. 7(2), 2019.

2. An Axiomatic Characterization of the Borda Mean Rule.
Florian Brandl and Dominik Peters. *Social Choice and Welfare* Vol. 52(4), 2019.
1. Optimal Bounds for the No-Show Paradox via SAT Solving.
Felix Brandt, Christian Geist, and Dominik Peters. *Mathematical Social Sciences* Vol. 90, 2017.

Conference Papers

53. Reallocating Wasted Votes in Proportional Parliamentary Elections with Thresholds.
Théo Delemazure, Rupert Freeman, Jérôme Lang, Jean-François Laslier, and Dominik Peters. *ACM EC* 2025.
52. Computing Lindahl Equilibrium for Public Goods with and without Funding Caps.
Christian Kroer and Dominik Peters. *ACM EC* 2025.
51. Committee Monotonicity and Proportional Representation for Ranked Preferences.
Haris Aziz, Patrick Lederer, Dominik Peters, Jannik Peters, and Angus Ritossa. *ACM EC* 2025.
50. The Core of Approval-Based Committee Elections with Few Seats.
Dominik Peters. *IJCAI* 2025.
49. Generalizing Instant Runoff Voting to Allow Indifferences.
Théo Delemazure and Dominik Peters. *EC* 2024.
48. The Squared Kemeny Rule for Averaging Rankings.
Patrick Lederer, Dominik Peters, and Tomasz Wąs. *EC* 2024.
47. Comparing Ways of Obtaining Candidate Orderings from Approval Ballots.
Théo Delemazure, Chris Dong, Dominik Peters, Magdaléna Tydrichová. *IJCAI* 2024.
46. Evaluation of Project Performance in Participatory Budgeting.
Niclas Boehmer, Piotr Faliszewski, Łukasz Janeczko, Dominik Peters, Grzegorz Pierczyński, Šimon Schierreich, Piotr Skowron, and Stanisław Szufa. *IJCAI* 2024.
45. Proportional Aggregation of Preferences for Sequential Decision Making.
Nikhil Chandak, Shashwat Goel, and Dominik Peters. *AAAI* 2024. Outstanding Paper Award.
44. Participatory Budgeting: Data, Tools, and Analysis.
Piotr Faliszewski, Jarosław Flis, Dominik Peters, Grzegorz Pierczyński, Piotr Skowron, Dariusz Stolicki, Stanisław Szufa, and Nimrod Talmon. *IJCAI* 2023.
43. Rank Aggregation Using Scoring Rules.
Niclas Boehmer, Robert Bredereck, and Dominik Peters. *AAAI* 2023.
42. Robust Rent Division.
Dominik Peters, Ariel D. Procaccia, and David Zhu. *NeurIPS* 2022.
41. Optimized Distortion and Proportional Fairness in Voting.
Soroush Ebadian, Anson Kahng, Dominik Peters, and Nisarg Shah. *EC* 2022.
40. In This Apportionment Lottery, the House Always Wins.
Paul Gözl, Dominik Peters, and Ariel D. Procaccia. *EC* 2022.
39. How to Fairly Allocate Easy and Difficult Chores.
Soroush Ebadian, Dominik Peters, and Nisarg Shah. *AAMAS* 2022.

38. Funding Public Projects: A Case for the Nash Product Rule.
Felix Brandt, Florian Brandl, Matthias Greger, Dominik Peters, Christian Stricker, and Warut Suksompong. WINE 2021.
37. Proportional Participatory Budgeting with Additive Utilities.
Dominik Peters, Grzegorz Pierczyński, and Piotr Skowron. NeurIPS 2021.
36. Distribution Rules Under Dichotomous Preferences: Two Out of Three Ain't Bad.
Florian Brandl, Felix Brandt, Dominik Peters, and Christian Stricker. EC 2021.
35. Preference Elicitation as Average-Case Sorting.
Dominik Peters and Ariel D. Procaccia. AAAI 2021.
34. Market-Based Explanations of Collective Decisions.
Dominik Peters, Grzegorz Pierczyński, Nisarg Shah, and Piotr Skowron. AAAI 2021.
33. Aggregating Binary Judgments Ranked By Accuracy.
Daniel Halpern, Greg Kehne, Dominik Peters, Ariel D. Procaccia, Nisarg Shah, and Piotr Skowron. AAAI 2021.
32. District-Fair Participatory Budgeting.
D. Ellis Hershkowitz, Anson Kahng, Dominik Peters, and Ariel D. Procaccia. AAAI 2021.
31. Axioms for Learning from Pairwise Comparisons.
Ritesh Noothigattu, Dominik Peters, and Ariel D. Procaccia. NeurIPS 2020.
30. Explainable Voting,
Dominik Peters, Ariel D. Procaccia, Alexandros Psomas, and Zixin Zhou. NeurIPS 2020.
29. Proportionality and the Limits of Welfarism.
Dominik Peters and Piotr Skowron. EC 2020.
28. Approval-Based Apportionment.
Markus Brill, Paul Gözl, Dominik Peters, Ulrike Schmidt-Kraepelin, and Kai-Henning Wilker. AAAI 2020.
27. Preventing Arbitrage from Collusion When Eliciting Probabilities.
Rupert Freeman, David M. Pennock, Dominik Peters, and Bo Waggoner. AAAI 2020.
26. Price of Fairness in Budget Division and Probabilistic Social Choice.
Marcin Michorzewski, Dominik Peters, and Piotr Skowron. AAAI 2020.
25. Portioning using Ordinal Preferences: Fairness and Efficiency.
Stéphane Airiau, Haris Aziz, Ioannis Caragiannis, Justin Kruger, Jérôme Lang, and Dominik Peters. IJCAI 2019. Distinguished Paper Honorable Mention.
24. Correlating Preferences and Attributes: Nearly Single-Crossing Profiles.
Foram Lakhani, Dominik Peters, and Edith Elkind. IJCAI 2019.
23. Truthful Aggregation of Budget Proposals.
Rupert Freeman, David M. Pennock, Dominik Peters, and Jennifer Wortman Vaughan. EC 2019.
22. Single Transferable Vote: Incomplete Knowledge and Communication Issues.
Manel Ayadi, Nahla Ben Amor, Jérôme Lang, and Dominik Peters. AAMAS 2019.

21. Pareto-Optimal Allocation of Indivisible Goods with Connectivity Constraints.
Ayumi Igarashi and Dominik Peters. AAAI 2019.
20. Almost Envy-Free Allocations with Connected Bundles.
Vittorio Bilò, Ioannis Caragiannis, Michele Flammini, Ayumi Igarashi, Gianpiero Monaco, Dominik Peters, Cosimo Vinci, and William S. Zwicker. ITCS 2019.
19. Proportionality and Strategyproofness in Multiwinner Elections.
Dominik Peters. AAMAS 2018.
18. Single-Peakedness and Total Unimodularity: New Polynomial-Time Algorithms for Multi-Winner Elections.
Dominik Peters. AAAI 2018.
17. On Recognizing Nearly Single-Crossing Preferences.
Florian Jaeckle, Dominik Peters, and Edith Elkind. AAAI 2018.
16. Effective Heuristics for Committee Scoring Rules.
Piotr Faliszewski, Martin Lackner, Dominik Peters, and Nimrod Talmon. AAAI 2018.
15. Condorcet’s Principle and the Preference Reversal Paradox.
Dominik Peters. TARK 2017.
14. Precise Complexity of the Core in Dichotomous and Additive Hedonic Games.
Dominik Peters. ADT 2017.
13. Fair Division of a Graph.
Sylvain Bouveret, Katarína Cechlárová, Edith Elkind, Ayumi Igarashi, and Dominik Peters. IJCAI 2017.
12. Proportional Rankings.
Piotr Skowron, Martin Lackner, Markus Brill, Dominik Peters, and Edith Elkind. IJCAI 2017.
11. Preferences Single-Peaked on a Circle.
Dominik Peters and Martin Lackner. AAAI 2017.
10. Recognising Multidimensional Euclidean Preferences.
Dominik Peters. AAAI 2017.
9. Group Activity Selection on Social Networks.
Ayumi Igarashi, Dominik Peters, and Edith Elkind. AAAI 2017.
8. Preference Restrictions in Computational Social Choice: Recent Progress.
Edith Elkind, Martin Lackner, and Dominik Peters. IJCAI 2016 (Early Career Spotlight Track).
7. Interdependent Scheduling Games.
A. Abeliuk, H. Aziz, G. Berbeglia, S. Gaspers, J. Gudmundsson, P. Stursberg, P. Kalina, N. Mattei, D. Peters, P. Van Hentenryck, and T. Walsh. IJCAI 2016.
6. Optimal Bounds for the No-Show Paradox via SAT Solving.
Felix Brandt, Christian Geist, and Dominik Peters. AAMAS 2016. Nominated for Best Paper Award.
5. Preferences Single-Peaked on Nice Trees.
Dominik Peters and Edith Elkind. AAAI 2016.

4. Graphical Hedonic Games of Bounded Treewidth.
Dominik Peters. AAAI 2016.
3. Complexity of Hedonic Games with Dichotomous Preferences.
Dominik Peters. AAAI 2016.
2. Towards Structural Tractability in Hedonic Games.
Dominik Peters. AAAI 2016 Student Abstracts (Best Presentation Award).
1. Simple Causes of Complexity in Hedonic Games.
Dominik Peters and Edith Elkind. IJCAI 2015.

Awards, Distinctions, Scholarships

- **Outstanding Paper Award**, AAAI 2024, for *Proportional Aggregation of Preferences for Sequential Decision Making*.
- **Elected Member of the Council** of the Society for Social Choice and Welfare (2023–2029).
- **Best Student Paper Award**, WINE 2021, for *Funding Public Projects: A Case for the Nash Product Rule*.
- **EurAI Distinguished Dissertation Award 2019**.
- **Victor Lesser Distinguished Dissertation Award**, AAMAS 2020.
- **Outstanding Senior Program Committee (SPC) Member**, AAAI 2020.
- **Commendation** of the division of Mathematical, Physical & Life Sciences, for producing an excellent DPhil thesis. Oxford, 2019.
- **Distinguished Paper Honorable Mention**, IJCAI 2019, (one of 3 papers receiving special recognition out of 4752 submissions) for *Portioning using Ordinal Preferences: Fairness and Efficiency*.
- **Best Paper Award Nomination**, AAMAS 2016, (4 out of 550 submissions) for *Optimal Bounds for the No-Show Paradox via SAT Solving*.
- **Best Paper** at CoopMAS 2016.
- **AAAI Best Student 3-Minute Presentation Award** among 15 finalists selected from 95 submissions (*three minute thesis* format), Phoenix, AAAI 2016.
- **Gloucester Research Prize** for best computer science project in Oxford (equivalent to Master's thesis, title: *Extending Preferences in Hedonic Games*), 2015.
- **Junior Mathematics Prize** for outstanding performance in maths exams, Oxford, 2014.
- **IBM Prize** for best group design project, Oxford, 2013.
- **Casberd Scholar**, St John's College, Oxford, 2012–15.
- Scholarship from the **German Academic National Foundation**, 2010–15.

Book Chapters

3. Dominik Peters. Economic Design for Effective Altruism. In J.-F. Laslier, H. Moulin, M.R. Sanver, W.S. Zwicker, editors, *The Future of Economic Design*. Springer, 2019.

2. Christian Geist and Dominik Peters. Computer-aided Methods for Social Choice Theory. In U. Endriss, editor, *Trends in Computational Social Choice*, chapter 13. AI Access, 2017.
1. Edith Elkind, Martin Lackner, and Dominik Peters. Structured Preferences. In U. Endriss, editor, *Trends in Computational Social Choice*, chapter 10. AI Access, 2017.

Supervision

- Guanhao Li, PhD student, co-supervised with Tom ter Elst, University of Auckland, 2024–26.
- Théo Delemazure, PhD student, co-supervised with Jérôme Lang, Dauphine 2021–25. Thesis title: “Expressive Ballots for Voting Systems and Political Analysis”, defended 11 June 2025.
- Matthias Greger, postdoc, Dauphine 2025–26.
- Tomasz Waś, postdoc, co-hosted with Jérôme Lang, Dauphine 2023–24.
- Research internships supervised: Nikhil Chandak and Shashwat Goel, Dauphine 2022. Minrui Xu, Dauphine 2024 (Master’s thesis).
- 1 Senior dissertation co-supervised with Ariel D. Procaccia, Harvard 2020.
- 2 Master’s theses co-supervised with Edith Elkind, Oxford 2017–18.

Examination

- PhD committee membership
 - 2025-11-03: Matthieu Hervouin, Université Paris Dauphine - PSL, France.
 - 2024-10-17: Halvard Hummel, NTNU, Trondheim, Norway (second opponent)

Teaching

- Co-Lecturer for *Computational Social Choice* (Paris Dauphine, 2023, 2024, 2025, 2026).
- Guest Lecturer for *Optimized Democracy* (Harvard, Spring 2021, Fall 2025).
- Guest Lecturer for *Mathematical Structures in Informatics* (University of Tokyo, 2025).
- Guest Lecturer for *Computational Social Choice* (TU Munich, 2019).
- Guest Lecturer for *Algorithms and Data Structures* (Oxford, HT 2017).
- Class Tutor for *Computational Game Theory* (Oxford, MT 2017, MT 2016).
- Departmental Tutorials for *Functional Programming* (Oxford, MT 2015, MT 2016).
- Class Tutor for *Computational Learning Theory* (Oxford, MT 2015).

Reviewing

Associate Editor at the Journal of Artificial Intelligence Research (JAIR), 2025–28.

Journals. Management Science, Artificial Intelligence Journal (AIJ), Journal of Artificial Intelligence Research (JAIR), Theoretical Computer Science (TCS), Journal of Economic Theory (JET), Games and Economic Behavior (GEB), ACM Transactions on Economics and Computation

(ACM TEAC), Economics Letters, Annals of Mathematics and Artificial Intelligence, Mathematics of Operations Research, Social Choice and Welfare, Network Science, Autonomous Agents and Multi-Agent Systems (JAAMAS).

Conferences. IJCAI 2026 (PC), EC 2026 (PC), AAMAS 2026 (SPC), STOC 2026 (subreviewer), SODA 2026 (subreviewer), SOSA 2026 (subreviewer), COMSOC 2025 (PC), EC 2025 (PC), AAMAS 2025 (PC), ADT 2024 (PC), ECAI 2024 (PC), IJCAI 2024 (SPC), EC 2024 (PC), AAMAS 2024 (SPC), EC 2023 (area chair), AAMAS 2023 (SPC), AAAI 2023 (SPC), CPM 2022, ESA 2022, EC 2022 (PC), AAAI 2022 (SPC), AAMAS 2021 (PC), AAAI 2021 (SPC), WINE 2020, NeurIPS 2020 (PC), ACM EC 2020 (PC), AAMAS 2020 (PC), AAAI 2020 (SPC), STOC 2020, AAAI 2019 (PC), AAAI/ACM Conference on AI, Ethics, and Society 2019 (PC), AAAI 2018, SAGT 2017, IJCAI 2017, EXPLORE 2017 (PC), AAMAS 2017, AAAI 2017, SODA 2016, ECAI 2016, COMSOC 2016, ACM EC 2016, IJCAI 2016, AAMAS 2016, AAAI 2016, AAMAS 2015, SAGT 2015.

Invited Presentations

12. October 2025, Social Choice: Theory and Computation – An Interdisciplinary Conference on Voting, Representation, and Districting, Wellesley College, MA, USA.
11. August 2025, Invited Talk, Third IJCAI Workshop on Computational Fair Division, Montreal, Canada.
10. November 2024, Seminar of the Laboratory for Information, Networking and Communication Sciences (LINCS), Palaiseau, France.
9. October 2024. “Proportional Representation for Artificial Intelligence”, Frontiers in AI, 27th European Conference on AI (ECAI), Santiago de Compostela.
8. July 2024, Participatory Budgeting Workshop at the 17th Meeting of the Society for Social Choice and Welfare, Paris.
7. November 2023, Workshop on “New developments in games and social choice”, CRESE, Besançon.
6. October 2023, ILLC Workshop on Participatory Budgeting and Related Topics, Amsterdam.
5. October 2023, Conference on Voting Theory and Preference Aggregation Celebrating Klaus Nehring’s 65th, Karlsruhe Institute of Technology.
4. July 2023, Summer School on Computational Social Choice, three lectures on “computing desirable collective decisions”, University of Amsterdam.
3. April 2023, Workshop on Advances in Economic Design, CNAM, Paris.
2. November 2022, 15th OSGAD Seminar (Ordered Structures in Games and Decision), Université Paris I Panthéon-Sorbonne.
1. June 2022, Summer School on Game Theory and Social Choice, Department of Computer Science, City University of Hong Kong.

Organization

- New Direction in Social Choice workshop at EC 2025, program chair with Ashish Goel and Paul Gözl

- New Direction in Social Choice workshop at EC 2024, program chair with Ashish Goel and Paul Gözl
- Tutorial “Proportionality-Based Fairness in Social Choice” at the 24th ACM Conference on Economics and Computation, EC 2023, with Piotr Skowron.
- COMSOC Video Seminar, founding member of the steering committee (2020–23), chair of the steering committee (2023–)