# **Warut Suksompong**

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## **Research Positions**

• School of Computing, National University of Singapore Singapore Assistant Professor (NUS Presidential Young Professor) 2020-present • Department of Computer Science, University of Oxford Oxford, UK 2018-2020 Postdoctoral Researcher Supervisor: Prof. Edith Elkind

### **Education**

• Stanford University Stanford, USA 2014-2018 PhD in Computer Science Thesis title: Resource Allocation and Decision Making for Groups Advisor: Prof. Tim Roughgarden • Stanford University Stanford, USA MS in Computer Science 2014-2016 • Massachusetts Institute of Technology Cambridge, USA MEng in Electrical Engineering and Computer Science 2013-2014 Thesis Title: Bounds on Multithreaded Computations by Work Stealing Advisor: Prof. Charles Leiserson

• Massachusetts Institute of Technology

Cambridge, USA BS in Computer Science and Engineering and in Mathematics (double major) 2009-2013

Minor in Economics GPA: 5.0/5.0

# **Papers in Refereed Journals**

- 1. Luisa Montanari, Ulrike Schmidt-Kraepelin, Warut Suksompong, and Nicholas Teh, "Weighted Envy-Freeness for Submodular Valuations", Social Choice and Welfare, Forthcoming.
- 2. Pasin Manurangsi and Warut Suksompong, "Ordinal Maximin Guarantees for Group Fair Division", Theoretical Computer Science, Vol. 1036, May 2025, Article 115151.
- 3. Xiaohui Bei, Edith Elkind, Erel Segal-Halevi, and Warut Suksompong, "Dividing a Graphical Cake", SIAM Journal on Discrete Mathematics, Vol. 39, No. 1, 2025, pp. 19–54.
- 4. Xiaohui Bei, Xinhang Lu, and Warut Suksompong, "Truthful Cake Sharing", Social Choice and Welfare, Vol. 64, No. 1–2, February 2025, pp. 309–343. Special issue on Fair Public Decision Making: Allocating Budgets, Seats, and Probability.
- 5. Ayumi Igarashi, Naoyuki Kamiyama, Warut Suksompong, and Sheung Man Yuen, "Reachability of Fair Allocations via Sequential Exchanges", Algorithmica, Vol. 86, No. 12, December 2024, pp. 3653–3683.
- 6. Sheung Man Yuen and Warut Suksompong, "Approximate Envy-Freeness in Graphical Cake Cutting", Discrete Applied Mathematics, Vol. 357, November 2024, pp. 112–131.

- 7. Mithun Chakraborty, Erel Segal-Halevi, and Warut Suksompong, "Weighted Fairness Notions for Indivisible Items Revisited", *ACM Transactions on Economics and Computation*, Vol. 12, No. 3, September 2024, Article 9.
- 8. Edith Elkind, Piotr Faliszewski, Ayumi Igarashi, Pasin Manurangsi, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "The Price of Justified Representation", *ACM Transactions on Economics and Computation*, Vol. 12, No. 3, September 2024, Article 11.
- 9. Ayumi Igarashi, Yasushi Kawase, Warut Suksompong, and Hanna Sumita, "Fair Division with Two-Sided Preferences", *Games and Economic Behavior*, Vol. 147, September 2024, pp. 268–287.
- 10. Xinhang Lu, Jannik Peters, Haris Aziz, Xiaohui Bei, and Warut Suksompong, "Approval-Based Voting with Mixed Goods", *Social Choice and Welfare*, Vol. 62, No. 4, June 2024, pp. 643–677.
- 11. Davin Choo, Yan Hao Ling, Warut Suksompong, Nicholas Teh, and Jian Zhang, "Envy-Free House Allocation with Minimum Subsidy", *Operations Research Letters*, Vol. 54, May 2024, Article 107103.
- 12. Martin Bullinger and Warut Suksompong, "Topological Distance Games", *Theoretical Computer Science*, Vol. 981, January 2024, Article 114238.
- 13. Felix Brandt, Patrick Lederer, and Warut Suksompong, "Incentives in Social Decision Schemes with Pairwise Comparison Preferences", *Games and Economic Behavior*, Vol. 142, November 2023, pp. 266–291.
- 14. Pasin Manurangsi and Warut Suksompong, "Fixing Knockout Tournaments With Seeds", *Discrete Applied Mathematics*, Vol. 339, November 2023, pp. 21–35.
- 15. Warut Suksompong and Nicholas Teh, "Weighted Fair Division with Matroid-Rank Valuations: Monotonicity and Strategyproofness", *Mathematical Social Sciences*, Vol. 126, November 2023, pp. 48–59.
- 16. Edith Elkind, Piotr Faliszewski, Ayumi Igarashi, Pasin Manurangsi, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "Justifying Groups in Multiwinner Approval Voting", *Theoretical Computer Science*, Vol. 969, August 2023, Article 114039. Special issue for SAGT 2022.
- 17. Edith Elkind, Erel Segal-Halevi, and Warut Suksompong, "Keep Your Distance: Land Division With Separation", *Computational Geometry*, Vol. 113, August 2023, Article 102006.
- 18. Pasin Manurangsi, Erel Segal-Halevi, and Warut Suksompong, "On Maximum Bipartite Matching with Separation", *Information Processing Letters*, Vol. 182, August 2023, Article 106388.
- 19. Erel Segal-Halevi and Warut Suksompong, "Cutting a Cake Fairly for Groups Revisited", *American Mathematical Monthly*, Vol. 130, No. 3, March 2023, pp. 203–213.
- 20. Sheung Man Yuen and Warut Suksompong, "Extending the Characterization of Maximum Nash Welfare", *Economics Letters*, Vol. 224, March 2023, Article 111030.
- 21. Warut Suksompong, "A Characterization of Maximum Nash Welfare for Indivisible Goods", *Economics Letters*, Vol. 222, January 2023, Article 110956.
- 22. Edith Elkind, Erel Segal-Halevi, and Warut Suksompong, "Mind the Gap: Cake Cutting With Separation", *Artificial Intelligence*, Vol. 313, December 2022, Article 103783.
- 23. Paul W. Goldberg, Alexandros Hollender, Ayumi Igarashi, Pasin Manurangsi, and Warut Suksompong, "Consensus Halving for Sets of Items", *Mathematics of Operations Research*, Vol. 47, No. 4, November 2022, pp. 3357–3379.
- 24. Pasin Manurangsi and Warut Suksompong, "Generalized Kings and Single-Elimination Winners in Random Tournaments", *Autonomous Agents and Multi-Agent Systems*, Vol. 36, No. 2, October 2022, Article 28.

- 25. Pasin Manurangsi and Warut Suksompong, "Almost Envy-Freeness for Groups: Improved Bounds via Discrepancy Theory", *Theoretical Computer Science*, Vol. 930, September 2022, pp. 179–195.
- 26. Xiaohui Bei, Ayumi Igarashi, Xinhang Lu, and Warut Suksompong, "The Price of Connectivity in Fair Division", *SIAM Journal on Discrete Mathematics*, Vol. 36, No. 2, 2022, pp. 1156–1186.
- 27. Warut Suksompong and Nicholas Teh, "On Maximum Weighted Nash Welfare for Binary Valuations", *Mathematical Social Sciences*, Vol. 117, May 2022, pp. 101–108.
- 28. Florian Brandl, Felix Brandt, Matthias Greger, Dominik Peters, Christian Stricker, and Warut Suksompong, "Funding Public Projects: A Case for the Nash Product Rule", *Journal of Mathematical Economics*, Vol. 99, March 2022, Article 102585.
- 29. Markus Brill, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "Margin of Victory for Tournament Solutions", *Artificial Intelligence*, Vol. 302, January 2022, Article 103600.
- 30. Aishwarya Agarwal, Edith Elkind, Jiarui Gan, Ayumi Igarashi, Warut Suksompong, and Alexandros A. Voudouris, "Schelling Games on Graphs", *Artificial Intelligence*, Vol. 301, December 2021, Article 103576.
- 31. Mithun Chakraborty, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "Picking Sequences and Monotonicity in Weighted Fair Division", *Artificial Intelligence*, Vol. 301, December 2021, Article 103578.
- 32. Xiaohui Bei, Xinhang Lu, Pasin Manurangsi, and Warut Suksompong, "The Price of Fairness for Indivisible Goods", *Theory of Computing Systems*, Vol. 65, No. 7, October 2021, pp. 1069–1093.
- 33. Mithun Chakraborty, Ayumi Igarashi, Warut Suksompong, and Yair Zick, "Weighted Envy-Freeness in Indivisible Item Allocation", *ACM Transactions on Economics and Computation*, Vol. 9, No. 3, September 2021, Article 18.
- 34. Martin Bullinger, Warut Suksompong, and Alexandros A. Voudouris, "Welfare Guarantees in Schelling Segregation", *Journal of Artificial Intelligence Research*, Vol. 71, 2021, pp. 143–174.
- 35. Naoyuki Kamiyama, Pasin Manurangsi, and Warut Suksompong, "On the Complexity of Fair House Allocation", *Operations Research Letters*, Vol. 49, No. 4, July 2021, pp. 572–577.
- 36. Pasin Manurangsi and Warut Suksompong, "Closing Gaps in Asymptotic Fair Division", *SIAM Journal on Discrete Mathematics*, Vol. 35, No. 2, 2021, pp. 668–706.
- 37. Hoon Oh, Ariel D. Procaccia, and Warut Suksompong, "Fairly Allocating Many Goods with Few Queries", *SIAM Journal on Discrete Mathematics*, Vol. 35, No. 2, 2021, pp. 788–813.
- 38. Erel Segal-Halevi and Warut Suksompong, "How to Cut a Cake Fairly: A Generalization to Groups", *American Mathematical Monthly*, Vol. 128, No. 1, January 2021, pp. 79–83.
- 39. Paul W. Goldberg, Alexandros Hollender, and Warut Suksompong, "Contiguous Cake Cutting: Hardness Results and Approximation Algorithms", *Journal of Artificial Intelligence Research*, Vol. 69, 2020, pp. 109–141.
- 40. Maria Kyropoulou, Warut Suksompong, and Alexandros A. Voudouris, "Almost Envy-Freeness in Group Resource Allocation", *Theoretical Computer Science*, Vol. 841, November 2020, pp. 110–123.
- 41. Xiaohui Bei, Guangda Huzhang, and Warut Suksompong, "Truthful Fair Division without Free Disposal", *Social Choice and Welfare*, Vol. 55, No. 3, October 2020, pp. 523–545.
- 42. Pasin Manurangsi and Warut Suksompong, "When Do Envy-Free Allocations Exist?", *SIAM Journal on Discrete Mathematics*, Vol. 34, No. 3, 2020, pp. 1505–1521.
- 43. Warut Suksompong, "On the Number of Almost Envy-Free Allocations", *Discrete Applied Mathematics*, Vol. 284, September 2020, pp. 606–610.

- 44. Tomer Ezra, Michal Feldman, Tim Roughgarden, and Warut Suksompong, "Pricing Multi-Unit Markets", *ACM Transactions on Economics and Computation*, Vol. 7, No. 4, February 2020, Article 20.
- 45. Christian Saile and Warut Suksompong, "Robust Bounds on Choosing from Large Tournaments", *Social Choice and Welfare*, Vol. 54, No. 1, January 2020, pp. 87–110.
- 46. Erel Segal-Halevi and Warut Suksompong, "Democratic Fair Allocation of Indivisible Goods", *Artificial Intelligence*, Vol. 277, December 2019, Article 103167.
- 47. Jiarui Gan, Warut Suksompong, and Alexandros A. Voudouris, "Envy-Freeness in House Allocation Problems", *Mathematical Social Sciences*, Vol. 101, September 2019, pp. 104–106.
- 48. Warut Suksompong, "On Black-Box Transformations in Downward-Closed Environments", *Theory of Computing Systems*, Vol. 63, No. 6, August 2019, pp. 1207–1227.
- 49. Ian A. Kash, Peter Key, and Warut Suksompong, "Simple Pricing Schemes for the Cloud", *ACM Transactions on Economics and Computation*, Vol. 7, No. 2, August 2019, Article 7.
- 50. Warut Suksompong, "Fairly Allocating Contiguous Blocks of Indivisible Items", *Discrete Applied Mathematics*, Vol. 260, May 2019, pp. 227–236.
- 51. Pasin Manurangsi and Warut Suksompong, "Computing a Small Agreeable Set of Indivisible Items", *Artificial Intelligence*, Vol. 268, March 2019, pp. 96–114.
- 52. Felix Brandt, Markus Brill, Hans Georg Seedig, and Warut Suksompong, "On the Structure of Stable Tournament Solutions", *Economic Theory*, Vol. 65, No. 2, March 2018, pp. 483–507.
- 53. Warut Suksompong, "Approximate Maximin Shares for Groups of Agents", *Mathematical Social Sciences*, Vol. 92, March 2018, pp. 40–47.
- 54. Michael P. Kim, Warut Suksompong, and Virginia Vassilevska Williams, "Who Can Win a Single-Elimination Tournament?", *SIAM Journal on Discrete Mathematics*, Vol. 31, No. 3, 2017, pp. 1751–1764.
- 55. Pasin Manurangsi and Warut Suksompong, "Asymptotic Existence of Fair Divisions for Groups", *Mathematical Social Sciences*, Vol. 89, September 2017, pp. 100–108.
- 56. Warut Suksompong, "Asymptotic Existence of Proportionally Fair Allocations", *Mathematical Social Sciences*, Vol. 81, May 2016, pp. 62–65.
- 57. Florian Brandl, Felix Brandt, and Warut Suksompong, "The Impossibility of Extending Random Dictatorship to Weak Preferences", *Economics Letters*, Vol. 141, April 2016, pp. 44–47.
- 58. Warut Suksompong, Charles E. Leiserson, and Tao B. Schardl, "On the Efficiency of Localized Work Stealing", *Information Processing Letters*, Vol. 116, No. 2, February 2016, pp. 100–106.
- 59. Charles E. Leiserson, Tao B. Schardl, and Warut Suksompong, "Upper Bounds on Number of Steals in Rooted Trees", *Theory of Computing Systems*, Vol. 58, No. 2, February 2016, pp. 223–240.
- 60. Felix Brandt, Markus Brill, and Warut Suksompong, "An Ordinal Minimax Theorem", *Games and Economic Behavior*, Vol. 95, January 2016, pp. 107–112.
- 61. Warut Suksompong, "Scheduling Asynchronous Round-Robin Tournaments", *Operations Research Letters*, Vol. 44, No. 1, January 2016, pp. 96–100.
- 62. Warut Suksompong, "Individual and Group Stability in Neutral Restrictions of Hedonic Games", *Mathematical Social Sciences*, Vol. 78, November 2015, pp. 1–5.
- 63. Sebastian A. Csar, Rik Sengupta, and Warut Suksompong, "On a Subposet of the Tamari Lattice", *Order*, Vol. 31, No. 3, March 2014, pp. 337–363.

# **Papers in Proceedings of Refereed Conferences**

- 1. Daniel Halpern, Ariel D. Procaccia, and Warut Suksompong, "The Proportional Veto Principle for Approval Ballots", in *Proceedings of the 34th International Joint Conference on Artificial Intelligence (IJ-CAI)*, August 2025, Forthcoming.
- 2. Pasin Manurangsi and Warut Suksompong, "Asymptotic Fair Division: Chores Are Easier Than Goods", in *Proceedings of the 34th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2025, Forthcoming.
- 3. Pasin Manurangsi, Warut Suksompong, and Tomohiko Yokoyama, "Asymptotic Analysis of Weighted Fair Division", in *Proceedings of the 34th International Joint Conference on Artificial Intelligence (IJ-CAI)*, August 2025, Forthcoming.
- 4. Ulrike Schmidt-Kraepelin, Warut Suksompong, and Markus Utke, "Discrete Budget Aggregation: Truthfulness and Proportionality", in *Proceedings of the 34th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2025, Forthcoming.
- 5. Karen Frilya Celine, Warut Suksompong, and Sheung Man Yuen, "On the Fairness of Additive Welfarist Rules", in *Proceedings of the 24th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, May 2025, Forthcoming.
- 6. Zihan Li, Pasin Manurangsi, Jonathan Scarlett, and Warut Suksompong, "Complexity of Round-Robin Allocation with Potentially Noisy Queries", in *Proceedings of the 17th International Symposium on Algorithmic Game Theory (SAGT)*, September 2024, pp. 520–537.
- 7. Xiaohui Bei, Alexander Lam, Xinhang Lu, and Warut Suksompong, "Welfare Loss in Connected Resource Allocation", in *Proceedings of the 33rd International Joint Conference on Artificial Intelligence (IJCAI)*, August 2024, pp. 2660–2668.
- 8. Pasin Manurangsi and Warut Suksompong, "Ordinal Maximin Guarantees for Group Fair Division", in *Proceedings of the 33rd International Joint Conference on Artificial Intelligence (IJCAI)*, August 2024, pp. 2922–2930.
- 9. Felix Brandt, Matthias Greger, Erel Segal-Halevi, and Warut Suksompong, "Optimal Budget Aggregation with Single-Peaked Preferences", in *Proceedings of the 25th ACM Conference on Economics and Computation (EC)*, July 2024, p. 49.<sup>1</sup>
- 10. Ayumi Igarashi, Naoyuki Kamiyama, Warut Suksompong, and Sheung Man Yuen, "Reachability of Fair Allocations via Sequential Exchanges", in *Proceedings of the 38th AAAI Conference on Artificial Intelligence (AAAI)*, February 2024, pp. 9773–9780.
- 11. Luisa Montanari, Ulrike Schmidt-Kraepelin, Warut Suksompong, and Nicholas Teh, "Weighted Envy-Freeness for Submodular Valuations", in *Proceedings of the 38th AAAI Conference on Artificial Intelligence (AAAI)*, February 2024, pp. 9865–9873.
- 12. Jiatong Han and Warut Suksompong, "Fast & Fair: A Collaborative Platform for Fair Division Applications", in *Proceedings of the 38th AAAI Conference on Artificial Intelligence (AAAI)*, Demonstration Track, February 2024, pp. 23796–23798.
- 13. Edith Elkind, Warut Suksompong, and Nicholas Teh, "Settling the Score: Portioning with Cardinal Preferences", in *Proceedings of the 26th European Conference on Artificial Intelligence (ECAI)*, September–October 2023, pp. 621–628.
- 14. Warut Suksompong and Nicholas Teh, "Weighted Fair Division with Matroid-Rank Valuations: Monotonicity and Strategyproofness", in *Proceedings of the 16th International Symposium on Algorithmic*

- Game Theory (SAGT), September 2023, pp. XXIII–XXIV.<sup>1</sup>
- 15. Ayumi Igarashi, Yasushi Kawase, Warut Suksompong, and Hanna Sumita, "Fair Division with Two-Sided Preferences", in *Proceedings of the 32nd International Joint Conference on Artificial Intelligence (IJCAI)*, August 2023, pp. 2756–2764.
- 16. Sheung Man Yuen and Warut Suksompong, "Approximate Envy-Freeness in Graphical Cake Cutting", in *Proceedings of the 32nd International Joint Conference on Artificial Intelligence (IJCAI)*, August 2023, pp. 2923–2930.
- 17. Felix Brandt, Matthias Greger, Erel Segal-Halevi, and Warut Suksompong, "Balanced Donor Coordination", in *Proceedings of the 24th ACM Conference on Economics and Computation (EC)*, July 2023, p. 299.
- 18. Haris Aziz, Warut Suksompong, Zhaohong Sun, and Toby Walsh, "Fairness Concepts for Indivisible Items with Externalities", in *Proceedings of the 37th AAAI Conference on Artificial Intelligence (AAAI)*, February 2023, pp. 5472–5480.
- 19. Martin Bullinger and Warut Suksompong, "Topological Distance Games", in *Proceedings of the 37th AAAI Conference on Artificial Intelligence (AAAI)*, February 2023, pp. 5549–5556.
- 20. Xinhang Lu, Jannik Peters, Haris Aziz, Xiaohui Bei, and Warut Suksompong, "Approval-Based Voting with Mixed Goods", in *Proceedings of the 37th AAAI Conference on Artificial Intelligence (AAAI)*, February 2023, pp. 5781–5788.
- 21. Pasin Manurangsi and Warut Suksompong, "Differentially Private Fair Division", in *Proceedings of the 37th AAAI Conference on Artificial Intelligence (AAAI)*, February 2023, pp. 5814–5822.
- 22. Edith Elkind, Piotr Faliszewski, Ayumi Igarashi, Pasin Manurangsi, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "Justifying Groups in Multiwinner Approval Voting", in *Proceedings of the 15th International Symposium on Algorithmic Game Theory (SAGT)*, September 2022, pp. 472–489.
- 23. Felix Brandt, Patrick Lederer, and Warut Suksompong, "Incentives in Social Decision Schemes with Pairwise Comparison Preferences", in *Proceedings of the 31st International Joint Conference on Artificial Intelligence (IJCAI)*, July 2022, pp. 130–136.
- 24. Pasin Manurangsi and Warut Suksompong, "Fixing Knockout Tournaments With Seeds", in *Proceedings* of the 31st International Joint Conference on Artificial Intelligence (IJCAI), July 2022, pp. 412–418.
- 25. Xiaohui Bei, Xinhang Lu, and Warut Suksompong, "Truthful Cake Sharing", in *Proceedings of the 36th AAAI Conference on Artificial Intelligence (AAAI)*, February–March 2022, pp. 4809–4817.
- 26. Mithun Chakraborty, Erel Segal-Halevi, and Warut Suksompong, "Weighted Fairness Notions for Indivisible Items Revisited", in *Proceedings of the 36th AAAI Conference on Artificial Intelligence (AAAI)*, February–March 2022, pp. 4949–4956.
- 27. Edith Elkind, Piotr Faliszewski, Ayumi Igarashi, Pasin Manurangsi, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "The Price of Justified Representation", in *Proceedings of the 36th AAAI Conference on Artificial Intelligence (AAAI)*, February–March 2022, pp. 4983–4990.
- 28. Florian Brandl, Felix Brandt, Matthias Greger, Dominik Peters, Christian Stricker, and Warut Suksompong, "Funding Public Projects: A Case for the Nash Product Rule", in *Proceedings of the 17th Conference on Web and Internet Economics (WINE)*, December 2021, p. 548.<sup>1,2</sup>

<sup>&</sup>lt;sup>1</sup>The paper was accepted to the conference as a full paper but published as an abstract.

<sup>&</sup>lt;sup>2</sup>Recipient of the WINE 2021 Best Student Paper Award

- 29. Mithun Chakraborty, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "Picking Sequences and Monotonicity in Weighted Fair Division", in *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2021, pp. 82–88.
- 30. Edith Elkind, Erel Segal-Halevi, and Warut Suksompong, "Graphical Cake Cutting via Maximin Share", in *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2021, pp. 161–167.
- 31. Edith Elkind, Erel Segal-Halevi, and Warut Suksompong, "Keep Your Distance: Land Division With Separation", in *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2021, pp. 168–174.<sup>3</sup>
- 32. Pasin Manurangsi and Warut Suksompong, "Generalized Kings and Single-Elimination Winners in Random Tournaments", in *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2021, pp. 328–334.
- 33. Pasin Manurangsi and Warut Suksompong, "Almost Envy-Freeness for Groups: Improved Bounds via Discrepancy Theory", in *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2021, pp. 335–341.
- 34. Xiaohui Bei, Ayumi Igarashi, Xinhang Lu, and Warut Suksompong, "The Price of Connectivity in Fair Division", in *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, February 2021, pp. 5151–5158.
- 35. Xiaohui Bei and Warut Suksompong, "Dividing a Graphical Cake", in *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, February 2021, pp. 5159–5166.
- 36. Markus Brill, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "Margin of Victory in Tournaments: Structural and Experimental Results", in *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, February 2021, pp. 5228–5235.
- 37. Martin Bullinger, Warut Suksompong, and Alexandros A. Voudouris, "Welfare Guarantees in Schelling Segregation", in *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, February 2021, pp. 5236–5243.
- 38. Edith Elkind, Erel Segal-Halevi, and Warut Suksompong, "Mind the Gap: Cake Cutting With Separation", in *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, February 2021, pp. 5330–5338.
- 39. Paul W. Goldberg, Alexandros Hollender, Ayumi Igarashi, Pasin Manurangsi, and Warut Suksompong, "Consensus Halving for Sets of Items", in *Proceedings of the 16th Conference on Web and Internet Economics (WINE)*, December 2020, pp. 384–397.
- 40. Mithun Chakraborty, Ayumi Igarashi, Warut Suksompong, and Yair Zick, "Weighted Envy-Freeness in Indivisible Item Allocation", in *Proceedings of the 19th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, May 2020, pp. 231–239.
- 41. Markus Brill, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "Refining Tournament Solutions via Margin of Victory", in *Proceedings of the 34th AAAI Conference on Artificial Intelligence (AAAI)*, February 2020, pp. 1862–1869.
- 42. Paul W. Goldberg, Alexandros Hollender, and Warut Suksompong, "Contiguous Cake Cutting: Hardness Results and Approximation Algorithms", in *Proceedings of the 34th AAAI Conference on Artificial Intelligence (AAAI)*, February 2020, pp. 1990–1997.

<sup>&</sup>lt;sup>3</sup>One of the 3 papers receiving the IJCAI 2021 Distinguished Paper Award out of 4204 submissions and 587 accepted papers

- 43. Xiaohui Bei, Xinhang Lu, Pasin Manurangsi, and Warut Suksompong, "The Price of Fairness for Indivisible Goods", in *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2019, pp. 81–87.
- 44. Edith Elkind, Jiarui Gan, Ayumi Igarashi, Warut Suksompong, and Alexandros A. Voudouris, "Schelling Games on Graphs", in *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2019, pp. 266–272.
- 45. Maria Kyropoulou, Warut Suksompong, and Alexandros A. Voudouris, "Almost Envy-Freeness in Group Resource Allocation", in *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2019, pp. 400–406.
- 46. Pasin Manurangsi and Warut Suksompong, "When Do Envy-Free Allocations Exist?", in *Proceedings of the 33rd AAAI Conference on Artificial Intelligence (AAAI)*, January–February 2019, pp. 2109–2116.
- 47. Hoon Oh, Ariel D. Procaccia, and Warut Suksompong, "Fairly Allocating Many Goods with Few Queries", in *Proceedings of the 33rd AAAI Conference on Artificial Intelligence (AAAI)*, January–February 2019, pp. 2141–2148.
- 48. Christian Saile and Warut Suksompong, "Robust Bounds on Choosing from Large Tournaments", in *Proceedings of the 14th Conference on Web and Internet Economics (WINE)*, December 2018, pp. 393–407.
- 49. Tomer Ezra, Michal Feldman, Tim Roughgarden, and Warut Suksompong, "Pricing Multi-Unit Markets", in *Proceedings of the 14th Conference on Web and Internet Economics (WINE)*, December 2018, pp. 140–153.
- Erel Segal-Halevi and Warut Suksompong, "Democratic Fair Allocation of Indivisible Goods", in *Proceedings of the 27th International Joint Conference on Artificial Intelligence (IJCAI)*, July 2018, pp. 482

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- 51. Xiaohui Bei, Guangda Huzhang, and Warut Suksompong, "Truthful Fair Division without Free Disposal", in *Proceedings of the 27th International Joint Conference on Artificial Intelligence (IJCAI)*, July 2018, pp. 63–69.
- 52. Ian A. Kash, Peter Key, and Warut Suksompong, "Simple Pricing Schemes for the Cloud", in *Proceedings* of the 13th Conference on Web and Internet Economics (WINE), December 2017, pp. 311–324.
- 53. Warut Suksompong, "Fairly Allocating Contiguous Blocks of Indivisible Items", in *Proceedings of the 10th International Symposium on Algorithmic Game Theory (SAGT)*, September 2017, pp. 333–344.
- 54. Warut Suksompong, "Approximate Maximin Shares for Groups of Agents", in *Proceedings of the 10th International Symposium on Algorithmic Game Theory (SAGT)*, September 2017, p. XIV.<sup>1</sup>
- 55. Warut Suksompong, "On Black-Box Transformations in Downward-Closed Environments", in *Proceedings of the 10th International Symposium on Algorithmic Game Theory (SAGT)*, September 2017, p. XV.<sup>1</sup>
- 56. Pasin Manurangsi and Warut Suksompong, "Asymptotic Existence of Fair Divisions for Groups", in *Proceedings of the 10th International Symposium on Algorithmic Game Theory (SAGT)*, September 2017, pp. XII–XIII.<sup>1</sup>
- 57. Pasin Manurangsi and Warut Suksompong, "Computing an Approximately Optimal Agreeable Set of Items", in *Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI)*, August 2017, pp. 338–344.
- 58. Warut Suksompong, "Assigning a Small Agreeable Set of Indivisible Items to Multiple Players", in *Proceedings of the 25th International Joint Conference on Artificial Intelligence (IJCAI)*, July 2016, pp. 489–495.

- 59. Michael P. Kim, Warut Suksompong, and Virginia Vassilevska Williams, "Who Can Win a Single-Elimination Tournament?", in *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI)*, February 2016, pp. 516–522.
- 60. Sebastian A. Csar, Rik Sengupta, and Warut Suksompong, "On a Subposet of the Tamari Lattice", in *Proceedings of the 24th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC)*, July–August 2012, pp. 567–578.

# Papers in Informal Proceedings of Refereed Workshops

- 1. Ayumi Igarashi, Yasushi Kawase, Warut Suksompong, and Hanna Sumita, "Fair Division with Two-Sided Preferences", in *Proceedings of the New Directions in Social Choice Workshop*, July 2024.
- 2. Felix Brandt, Matthias Greger, Erel Segal-Halevi, and Warut Suksompong, "Balanced Donor Coordination", in *Proceedings of the 9th International Workshop on Computational Social Choice (COMSOC)*, July 2023.
- 3. Mithun Chakraborty, Ayumi Igarashi, Warut Suksompong, and Yair Zick, "Weighted Envy-Freeness in Indivisible Item Allocation", in *Proceedings of the 8th International Workshop on Computational Social Choice (COMSOC)*, June 2021.
- 4. Edith Elkind, Erel Segal-Halevi, and Warut Suksompong, "Mind the Gap: Cake Cutting With Separation", in *Proceedings of the 8th International Workshop on Computational Social Choice (COMSOC)*, June 2021.
- 5. Mithun Chakraborty, Ulrike Schmidt-Kraepelin, and Warut Suksompong, "Picking Sequences and Monotonicity in Weighted Fair Division", in *Proceedings of the 3rd Games, Agents, and Incentives Workshop (GAIW)*, May 2021.
- 6. Mithun Chakraborty, Ayumi Igarashi, Warut Suksompong, and Yair Zick, "Weighted Envy-Freeness in Indivisible Item Allocation", in *Proceedings of the 2nd Games, Agents, and Incentives Workshop (GAIW)*, May 2020.
- 7. Florian Brandl, Felix Brandt, Dominik Peters, Christian Stricker, and Warut Suksompong, "Donor Coordination: Collective Distribution of Individual Contributions", in *Proceedings of the 1st Games, Agents, and Incentives Workshop (GAIW)*, May 2019.
- 8. Erel Segal-Halevi and Warut Suksompong, "Democratic Fair Allocation of Indivisible Goods", in *Proceedings of the 7th International Workshop on Computational Social Choice (COMSOC)*, June 2018.
- 9. Christian Saile and Warut Suksompong, "Robust Bounds on Choosing from Large Tournaments", in *Proceedings of the 7th International Workshop on Computational Social Choice (COMSOC)*, June 2018.
- 10. Ian A. Kash, Peter Key, and Warut Suksompong, "Simple Pricing Schemes for the Cloud", in *Proceedings* of the 12th Workshop on the Economics of Networks, Systems and Computation (NetEcon), June 2017.
- 11. Michael P. Kim, Warut Suksompong, and Virginia Vassilevska Williams, "Who Can Win a Single-Elimination Tournament?", in *Proceedings of the 6th International Workshop on Computational Social Choice (COMSOC)*, June 2016.

# **Surveys and Overview Papers**

1. Warut Suksompong, "Weighted Fair Division of Indivisible Items: A Review", *Information Processing Letters*, Vol. 187, January 2025, Article 106519. Special issue on Economics and Computation.

- Warut Suksompong, "Expanding the Reach of Social Choice Theory", in *Proceedings of the 33rd International Joint Conference on Artificial Intelligence (IJCAI)*, Early Career Track, August 2024, pp. 8571

  8576.
- 3. Warut Suksompong, "Constraints in Fair Division", *ACM SIGecom Exchanges*, Vol. 19, No. 2, November 2021, pp. 46–61.
- 4. Warut Suksompong, "Tournaments in Computational Social Choice: Recent Developments", in *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, Survey Track, August 2021, pp. 4611–4618.

#### **Editorials**

1. Edith Elkind, Nicolas Maudet, and Warut Suksompong, "Guest Editorial: Special Issue on Fair Division", *Autonomous Agents and Multi-Agent Systems*, Vol. 36, No. 2, October 2022, Article 33.

# **Theses**

- 1. Warut Suksompong, "Resource Allocation and Decision Making for Groups," PhD Thesis, *Stanford University*, August 2018.
- 2. Warut Suksompong, "Bounds on Multithreaded Computations by Work Stealing," Master's Thesis, *Massachusetts Institute of Technology*, June 2014.

#### **Honors and Awards**

# • Faculty Teaching Excellence Award

2023, 2024, 2025

Awarded to faculty members who have displayed a high level of commitment to and achievement of good teaching in the NUS School of Computing. Placed on the Honor Roll between 2026–2030.

### • IJCAI Early Career Track Presentation

2024

Invited as part of a select group of early career researchers upon the recommendation of senior researchers in AI to present in the IJCAI Early Career Track

#### • IJCAI Distinguished Paper Award

2021

One of the 3 papers to receive this recognition (and one of the 4 papers to receive special recognition) out of 4204 submissions and 587 accepted papers

#### • WINE Best Student Paper Award

2021

One of the 2 papers to receive special recognition out of 153 submissions and 41 accepted papers

#### • NUS Presidential Young Professorship

2020-present

Early career track at NUS for exceptional young academic talents with great potential to excel

#### • Stanford Graduate Fellowship

2014–2017

2013-2014

Full scholarship for three years of PhD study to support exceptional incoming and continuing doctoral students at Stanford

• Siebel Scholar

Awarded annually for academic excellence and demonstrated leadership to 85 top students from the world's leading graduate schools

# • King's Scholarship

2008-2013

Full scholarship awarded annually to 9 students in Thailand for undergraduate study abroad

# **Teaching**

- **Instructor**, National University of Singapore
  - Design and Analysis of Algorithms (CS 3230): Semester 2 2021/22, 2024/25
  - Algorithmic Mechanism Design (CS 4261/5461): Semester 1 2021/22, 2022/23, 2023/24, 2024/25
  - Topics in Computational Social Choice (CS 6235): Semester 2 2020/21, 2022/23, 2023/24
- Class Tutor, University of Oxford
  - Computational Game Theory: Michaelmas 2018
- Teaching Assistant, Stanford University
  - The Modern Algorithmic Toolbox (CS 168): Spring 2017, Spring 2018
  - Incentives in Computer Science (CS 269I): Fall 2016

#### **Services**

## Organizer

 Program on "Algorithmics of Fair Division and Social Choice", Institute for Mathematical Sciences, National University of Singapore, November–December 2024 (with Xiaohui Bei and Edith Elkind)

## • Program Committee Member

- AAAI Conference on Artificial Intelligence (AAAI): 2019, 2020, 2021<sup>4</sup>, 2022, 2023, 2024, 2025
- International Joint Conference on Artificial Intelligence (IJCAI): 2018<sup>5</sup>, 2019, 2020, 2022 (Survey Track), 2023 (Senior PC), 2024 (Senior PC), 2025 (Senior PC)
- International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS): 2020, 2021, 2022
- ACM Conference on Economics and Computation (EC): 2019, 2020, 2021, 2025
- Conference on Web and Internet Economics (WINE): 2021, 2023, 2025 (Senior PC)
- International Symposium on Algorithmic Game Theory (SAGT): 2018, 2022, 2025
- European Conference on Artificial Intelligence (ECAI): 2020, 2023, 2025
- International Conference on Algorithmic Decision Theory (ADT): 2024
- Annual Conference on Theory and Applications of Models of Computation (TAMC): 2024
- International Joint Conference on Theoretical Computer Science (IJTCS): 2024, 2025
- International Workshop on Computational Social Choice (COMSOC): 2023, 2025
- Games, Agents, and Incentives Workshop (GAIW): 2020, 2021, 2024, 2025
- Multidisciplinary Workshop on Advances in Preference Handling (M-PREF): 2023, 2025
- IJCAI Workshop on Computational Fair Division (CFD): 2023, 2024, 2025
- EC Workshop on New Directions in Social Choice: 2024

<sup>&</sup>lt;sup>4</sup>Included in the top 25% of program committee members

<sup>&</sup>lt;sup>5</sup>Recognized as a distinguished program committee member

- Workshop on Theoretical Aspects of Fairness (WTAF): 2019
- Journal Reviewer: ACM Transactions on Economics and Computation, Annals of Mathematics and Artificial Intelligence, Annals of Operations Research, Artificial Intelligence, Autonomous Agents and Multi-Agent Systems, Computers & Operations Research, Discrete Mathematics, Economic Theory, European Journal of Political Economy, Games and Economic Behavior, Information and Computation, Information Processing Letters, International Transactions in Operational Research, Journal of Artificial Intelligence Research, Journal of Combinatorial Optimization, Mathematical Programming, Mathematical Social Sciences, Mathematics of Operations Research, Networks, Omega, Operations Research Letters, SIAM Journal on Computing, SIAM Journal on Discrete Mathematics, Social Choice and Welfare, Theoretical Computer Science, Theory and Decision

#### • Conference Reviewer

- International Joint Conference on Artificial Intelligence (IJCAI): 2016, 2017
- ACM Conference on Economics and Computation (EC): 2018
- Conference on Web and Internet Economics (WINE): 2019, 2020
- International Symposium on Algorithmic Game Theory (SAGT): 2019, 2021
- Annual ACM Symposium on Theory of Computing (STOC): 2022, 2024, 2025
- IEEE Symposium on the Foundations of Computer Science (FOCS): 2023
- ACM-SIAM Symposium on Discrete Algorithms (SODA): 2021, 2022, 2023, 2024
- International Colloquium on Automata, Languages, and Programming (ICALP): 2024
- Innovations in Theoretical Computer Science Conference (ITCS): 2020
- Symposium on Theoretical Aspects of Computer Science (STACS): 2021, 2025
- European Symposium on Algorithms (ESA): 2018, 2021
- International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX): 2019, 2023
- International Symposium on Algorithms and Computation (ISAAC): 2019, 2020
- International Symposium on Mathematical Foundations of Computer Science (MFCS): 2022, 2023
- International Computer Science Symposium in Russia (CSR): 2022

#### • PhD Dissertation Committee Member

- NUS: Tianyuan Jin (2024), Arpan Losalka (2024), Davin Choo (2025), Ivan Adrian Koswara (2025),
   Rachael Hwee Ling Sim (2025), Xinyi Xu (2025)
- External: Louise Molitor (University of Potsdam, Germany, 2023)
- Grant Reviewer: Dutch Research Council, National Science Centre (Poland), Swiss National Science Foundation
- Problem Selection Committee Member & Coordinator, International Mathematical Olympiad, 2015
- Grader, USA Mathematical Olympiad, 2010–11, 2013–15, 2018, 2023–25

# **PhD Student Supervision**

- Karen Frilya Celine, 11/2024–present
- Sheung Man Yuen, 8/2022–2/2025, Thesis: "Fair Division of Resources: From Indivisible Goods to Cakes", NUS School of Computing Research Achievement Award (2023, 2024), subsequently a quantitative systematic trader at Susquehanna International Group, Australia

### **Hosted Postdoctoral Researchers**

- Jannik Peters, 10/2024–present
- Xinhang Lu, 9/2021–11/2021, subsequently a postdoc at the University of New South Wales, Australia

## **Selected Presentations**

- "Weighted Fair Division: Additive Preferences and Beyond", *Online Social Choice and Welfare Seminar*, Online, October 2024.
- "Weighted Fair Division: Additive Preferences and Beyond", *Engineering Systems and Design Seminar*, Singapore University of Technology and Design, September 2024.
- "Expanding the Reach of Social Choice Theory", Invited Early Career Track Presentation, 33rd International Joint Conference on Artificial Intelligence (IJCAI), Jeju, South Korea, August 2024.
- "Tournaments in Computational Social Choice", Tutorial, 33rd International Joint Conference on Artificial Intelligence (IJCAI), Jeju, South Korea, August 2024.
- "Envy-Free House Allocation with Minimum Subsidy", *Decision Science & Systems Seminar*, Technical University of Munich, Germany, May 2024.
- "Introduction to Fair Division", 4th International Research Workshop in Computer Science and Information Systems, Bangkok, Thailand, March 2024.
- "Matching and Cake Cutting with Separation", *Combinatorial Optimization Lab Seminar*, Tokyo Institute of Technology, Japan, November 2023.
- "Weighted Fair Division: Additive Preferences and Beyond", Invited Talk, 14th Multidisciplinary Workshop on Advances in Preference Handling (M-PREF), Macao, China (held in conjunction with the 32nd International Joint Conference on Artificial Intelligence), August 2023.
- "Welfarist Rules in Fair Division", *Decision Science & Systems Seminar*, Technical University of Munich, Germany, May 2023.
- "Weighted Fair Allocation of Indivisible Goods", *Computational Informatics Lab Seminar*, University of Tokyo, Japan, May 2023.
- "Mind the Gap: Fair Division With Separation", *NUS CS Colloquium*, National University of Singapore, November 2022.
- "Fairly Dividing Graphical Resources", 2nd International Research Workshop in Computer Science and Information Systems, Prince of Songkla University, Phuket, Thailand, October 2022.
- "Constraints in Fair Division", Tutorial, 31st International Joint Conference on Artificial Intelligence (IJCAI), Vienna, Austria, July 2022 (with Ayumi Igarashi).
- "The Price of Connectivity in Fair Division", *Facets of Complexity Colloquium*, Berlin, Germany, July 2022.
- "The Mathematics of Fair Division: 70 Years and Beyond", Invited Talk, *Annual Pure and Applied Mathematics Conference*, Chulalongkorn University, Bangkok, Thailand, June 2022.
- "Recent Progress on Tournaments", *Decision Science & Systems Seminar*, Technical University of Munich, Germany, May 2022.
- "Resource Allocation and Decision Making for Groups", *SEA AI Lab Seminar*, SEA AI Lab, Singapore, April 2022.

- "Picking Sequences and Monotonicity in Weighted Fair Division", *COMSOC Video Seminar*, Online, March 2022.
- "Asymptotic Results in Fair Division", Invited Talk, Workshop on Fair Resource Allocation: Concepts, Algorithms and Complexity, Online (held in conjunction with the 22nd ACM Conference on Economics and Computation), July 2021.
- "Tournaments in Computational Social Choice", Invited Tutorial, *Summer School on Game Theory and Social Choice*, Online (organized by the City University of Hong Kong), July 2021.
- "The Price of Connectivity in Fair Division", *AlgoTheory Seminar*, National University of Singapore, March 2021.
- "Resource Allocation and Decision Making for Groups", *Department of Computing Research Seminar*, Hong Kong Polytechnic University, November 2019.
- "Fair Division of Indivisible Items: Asymptotics and Graph-Theoretic Approaches", Tutorial, 28th International Joint Conference on Artificial Intelligence (IJCAI), Macao, China, August 2019 (with Ayumi Igarashi).
- "Schelling Games on Graphs", *Algorithm Engineering Research Seminar*, Hasso Plattner Institute, Potsdam, Germany, May 2019.
- "Almost Envy-Freeness in Group Resource Allocation", *Research Colloquium on Economics and Computation*, Technical University of Berlin, Germany, May 2019.
- "Asymptotic Results in Fair Division", *Kolloquium Mathematische Informatik*, Goethe University Frankfurt, Germany, February 2019.
- "Fairly Allocating Many Goods with Few Queries", 6th Day on Computational Game Theory, Hasso Plattner Institute, Potsdam, Germany, February 2019.
- "Simple Pricing Schemes for the Cloud", *Google Techtalk*, Google Mountain View, USA, January 2018.
- "Computing a Small Agreeable Set of Indivisible Items", *Division of Mathematical Sciences Seminar*, Nanyang Technological University, Singapore, December 2017.
- "On the Structure of Stable Tournament Solutions", *Theory Lunch*, Stanford University, USA, March 2017.
- "An Ordinal Minimax Theorem", 5th World Congress of the Game Theory Society (GAMES), Maastricht, Netherlands, July 2016.

#### **Skills**

• Languages: Thai (native), English, French, German