

Peter Sudhölter  
Professor  
Department of Business and Economics  
Microeconomics and Management Science  
FAIRCARE  
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## Research Areas

Game Theory, Social Choice, Dynamic Programming, Decision Theory

## Personal Information

Date of Birth: August 4, 1957  
Place of Birth: Wuppertal, Germany  
Marital Status: Married, three children

## Academic Degrees

1983	Diploma (M.Sc.), Department of Mathematics, University of Bielefeld
1988	Dr. math. (Ph.D.), Department of Mathematics, University of Bielefeld
1994	Habilitation (2nd doctorate), Department of Economics, University of Bielefeld

## Academic Appointments

University of Bielefeld, Institute of Mathematical Economics	1984 Scientific employee; 1985 – 1988 Scientific staff member; 1989 – 1993 Assistant; 1994 – 2001 'University docent'
Technical University of Chemnitz, Department of Mathematics	1995 (April – September) Visiting Professor (for Mathematical Economics)
The Hebrew University of Jerusalem, Center for Rationality	2000/2001 (November – August) Visiting Research Professor
SDU, Department of Business and Economics, COHERE	2001 – 2012 Associate Professor; 2013 – Full Professor

## Other Professional Positions

2002 -	Member of the Editorial Board of the International Journal of Game Theory
2009 -	Member of the Editorial Board of Mathematical Methods of Operations Research
2009 -	Member of the board of trustees of the School of International Studies, Dresden
2012 -	Member of the Editorial Board of the International Game Theory Review

## Supervision of Ph.D. Students

Department of Economics, University of Bielefeld	1995 Siegmart Moltzahn, 2000 Lutz Veldman, 2003 Sven Klauke and Christian Weiß, 2008 Evan Shellshear
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Department of Mathematics,  
Tsing Hua University,  
Hsinchu, Taiwan

1998 Yan-An Hwang

SDU, Department of Business and Economics

2017 Jesper Breinbjerg

## **Publications**

### **Preface to the Special Issue on Game Theory and Economic Applications**

Platz, T. T., Sudhölter, P., Zarzuelo, J. M. & Østerdal, L. P., 1 Sep 2018, In : International Game Theory Review. 20, 3, 2 p., 1802001.

### **On a class of vertices of the core**

Grabisch, M. & Sudhölter, P., 1 Mar 2018, In : Games and Economic Behavior. 108, March, p. 541-557

### **Decomposing bivariate dominance for social welfare comparisons**

Marling, T. G., Range, T. M., Sudhölter, P. & Østerdal, L. P., 2018, In : Mathematical Social Sciences. 95, p. 1-8

### **Generic finiteness of equilibrium distributions for bimatrix outcome game forms**

Litan, C., Marhuenda, F. & Sudhölter, P., 2018, In : Annals of Operations Research.

### **Characterizations of highway toll pricing methods**

Sudhölter, P. & Zarzuelo, J. M., 2017, In : European Journal of Operational Research. 260, 1, p. 161-170

### **Axiomatizations of symmetrically weighted solutions**

Kleppe, J., Reijnierse, H. & Sudhölter, P., 2016, In : Annals of Operations Research. 243, 1, p. 37-53

### **Characterizations of solutions for games with precedence constraints**

Grabisch, M. & Sudhölter, P., 2016, In : International Journal of Game Theory. 45, 1-2, p. 269-290

### **Characterizations of the core of TU and NTU games with communication structures**

Albizuri, J. M. & Sudhölter, P., 2016, In : Social Choice and Welfare. 46, 2, p. 451-475

### **Comments on: Remarkable polyhedra related to set functions, games and capacities**

Sudhölter, P., 2016, In : TOP. 24, p. 333-334

### **Determinacy of equilibrium in outcome game forms**

Litan, C., Marhuenda, F. & Sudhölter, P., 2015, In : Journal of Mathematical Economics. 60, p. 28-32

### **On bargaining sets of convex NTU games**

Peleg, B. & Sudhölter, P., 2015, In : International Game Theory Review. 17, 4, 7 p., 1550008 .

### **On extensions of the core and the anticore of transferable utility games**

Derks, J., Peters, H. & Sudhölter, P., 2014, In : International Journal of Game Theory. 43, 1, p. 37-63

### **On the restricted cores and the bounded core of games on distributive lattices**

Grabisch, M. & Sudhölter, P., 2014, In : European Journal of Operational Research. 235, 3, p. 709-717

### **Axiomatizations of symmetrically weighted solutions**

Kleppe, J., Reijnierse, H. & Sudhölter, P., 2013, In : CentER Discussion Paper Series. 2013-007, 19 p.

**Extending the Nash solution to choice problems with reference points**

Sudhölter, P. & Zarzuelo, J. M., 2013, In : Games and Economic Behavior. 80, p. 219-228

**The prenucleolus and the prekernel for games with communication structures**

Khmelnitskaya, A. & Sudhölter, P., 2013, In : Mathematical Methods of Operations Research. 78, 2, p. 285-299

**Nonsymmetric variants of the prekernel and the prenucleolus**

Orshan, G. & Sudhölter, P., Dec 2012, In : International Journal of Game Theory. 41, 4, p. 809–828

**The bounded core for games with precedence constraints**

Grabisch, M. & Sudhölter, P., Dec 2012, In : Annals of Operations Research. 201, 1, p. 251–264 14 p.

**Sequential legislative lobbying**

Le Breton, M., Sudhölter, P. & Zaporozhets, V., Jul 2012, In : Social Choice and Welfare. 39, 2-3, p. 491–520

**On the impact of independence of irrelevant alternatives: the case of two-person NTU games**

Peleg, B., Sudhölter, P. & Zarzuelo, J. M., Mar 2012, In : SERIEs: Journal of the Spanish Economic Association. 3, 1-2, p. 143-156

**Bezalel Peleg: a bibliography**

Peters, H. & Sudhölter, P., 2012, In : International Journal of Game Theory. 41, 4, p. 915–930 16 p.

**The positive core of a cooperative game**

Orshan, G. & Sudhölter, P., 2010, In : International Journal of Game Theory. 39, 1-2, p. 113-136 24 p.

**On core stability, vital coalitions, and extendability**

Shellshear, E. & Sudhölter, P., 1 Nov 2009, In : Games and Economic Behavior. 67, 2, p. 633-644

**Bargaining sets of majority voting games**

Holzman, R., Peleg, B. & Sudhölter, P., 1 Nov 2007, In : Mathematics of Operations Research. 32, 4, p. 857–872

**The Shapley value of exact assignment games**

Hoffmann, M. & Sudhölter, P., 1 Apr 2007, In : International Journal of Game Theory. 35, 4, p. 557-568 12 p.

**Introduction to the theory of cooperative games**

Peleg, B. & Sudhölter, P., 2007, 2 ed. Berlin, Heidelberg, New York: Springer Science+Business Media. 328 p. (Theory and Decision Library Series C, Vol. 34).

**On assignment games**

Raghavan, T. E. S. & Sudhölter, P., 2006, *Advances in Dynamic Games: Applications to Economics, Management Science, Engineering, and Environmental Management*. Haurie, A., Muto, S., Petrosjan, L. A. & Raghavan, T. E. S. (eds.). Birkhäuser Verlag, p. 179-193 (Annals of the International Society of Dynamic Games, Vol. 8).

**On bargaining sets and voting games**

Peleg, B. & Sudhölter, P., 2005, *Proceedings of the 4th Twente Workshop on Cooperative Games joint with the 3rd Dutch-Russian Symposium*. Driessen, T. S. H., Khmelnitskaya, A. B. & Timmer, J. B. (eds.). p. 89–104

**On the non-emptiness of the Mas-Colell bargaining set**

Peleg, B. & Sudhölter, P., 2005, In : Journal of Mathematical Economics. 41, 8, p. 1060–1068

**The modiclus and core stability**

Raghavan, T. E. S. & Sudhölter, P., 2005, In : International Journal of Game Theory. 33, 4, p. 467–478

**The Shapley value of exact assignment games**

Hoffmann, M. & Sudhölter, P., 2005, DP 4, Department of Economics.

**Bargaining sets of voting games**

Peleg, B. & Sudhölter, P., 2004, Discussion Paper 376, Center for Rationality, The Hebrew University of Jerusalem, 22 p.

**Cartels via the modiclus**

Rosenmüller, J. & Sudhölter, P., 2004, In : Discrete Applied Mathematics. 134, 1-3, p. 263-302

**Introduction to the Theory of Cooperative Games**

Peleg, B. & Sudhölter, P., 2003, Dordrecht: Kluwer Academic Publishers.

**Reconfirming the Prenucleolus**

Orshan, G. & Sudhölter, P., 2003, In : Mathematics of Operations Research. 28, p. 283-293

**A note on an axiomatization of the core of market games**

Sudhölter, P. & B. Peleg, B., 2002, In : Mathematics of Operations Research. 27, p. 441-444

**Equal treatment for both sides of assignment games in the modified least core**

Sudhölter, P., 2002, In : Homo Oeconomicus. 19, p. 413-437

**Formation of cartels in glove markets and the modiclus**

Rosenmüller, J. & Sudhölter, P., 2002, In : Journal of Economics. 76, p. 217-246

**The dummy paradox of the bargaining set**

Peleg, B. & Sudhölter, P., 2002, *Game Theory and Application*, 8. L.A. Petrosjan, L. A. & V.V. Mazalov (eds.), p. 119-124

**The dummy paradox of the bargaining set**

Peleg, B. & Sudhölter, P., 2002, In : International Journal of Mathematics, Game Theory and Algebra. 12, p. 443-446

**Axiomatizations of the core on the universal domain and other natural domains**

Hwang, Y-A. & Sudhölter, P., 2001, In : International Journal of Game Theory. 29, p. 597-623

**Equal Treatment for Both Sides of Assignment Games in the Modified Least Core**

Sudhölter, P., 2001, *Power Indices and Coalition Formation*. Holler, M. J. & Owen, G. (eds.). Boston/Dordrecht/London: Springer Science+Business Media, Vol. 2. p. 175-202

**The Semireactive Bargaining Set of a Cooperative Game**

Sudhölter, P. & Potters, J., 2001, In : International Journal of Game Theory. 30, p. 117-139

**Erratum: Nucleoli as maximizers of collective satisfaction functions**

Sudhölter, P. & Peleg, B., 2000, In : Social Choice and Welfare. 17, p. 379-380

**The canonical extensive form of a game form: Part II – Representation**

Sudhölter, P., Rosenmüller, J. & Peleg, B., 2000, In : Journal of Mathematical Economics. 33, 3, p. 299-338

**The positive prekernel of a cooperative game**

Sudhölter, P. & Peleg, B., 2000, In : International Game Theory Review. 2, 4, p. 287-305

**Airport problems and consistent allocation rules**

Potters, J. & Sudhölter, P., 1999, In : *Mathematical Social Sciences*. 38, p. 83-102

**Single-peakedness and coalition-proofness**

Peleg, B. & Sudhölter, P., 1999, In : *Review of Economic Design*. 4, p. 381-387

**The canonical extensive form of a game form: Part I – Symmetries**

Peleg, B., Rosenmüller, J. & Sudhölter, P., 1999, *Current Trends in Economics: Theory and Applications*. Alkan, A., Aliprantis, C. D. & Yannelis, N. C. (eds.). p. 367-387 (Studies in Economic Theory, Vol. 8).

**Axiomatizations of game theoretical solutions for one-output cost sharing problems**

Sudhölter, P., 1998, In : *Games and Economic Behavior*. 24, p. 142-171

**Nucleoli as maximizers of collective satisfaction functions**

Sudhölter, P. & Peleg, B., 1998, In : *Social Choice and Welfare*. 15, p. 383-411

**An axiomatization of Nash equilibria in economic situations**

Peleg, B. & Sudhölter, P., 1997, In : *Games and Economic Behavior*. 18, 2, p. 277-285

**Nonlinear self dual solutions for TU games**

Sudhölter, P., 1997, *Game Theoretical Applications to Economics and Operations Research*. Parthasarathy, T., Dutta, B., Potters, J. A. M., Raghavan, T. E. S., Ray, D. & Sen, A. (eds.). Kluwer Academic Publishers, p. 33-50 (Theory and Decision Library Series C, Vol. 18).

**The modified nucleolus: Properties and axiomatizations**

Sudhölter, P., 1997, In : *International Journal of Game Theory*. 26, p. 147-182

**Star-shapedness of the kernel for homogeneous games**

Sudhölter, P., 1996, In : *Mathematical Social Sciences*. 32, p. 179-214

**The modified nucleolus as canonical representation of weighted majority games**

Sudhölter, P., 1996, In : *Mathematics of Operations Research*. 21, 3, p. 734-756

**Directed and weighted majority games**

Krohn, I. & Sudhölter, P., 1995, In : *Mathematical Methods of Operations Research*. 42, p. 189-216

**Solution concepts for C-convex, assignment, and M2-games**

Sudhölter, P., 1994, Bielefeld: Institute of Economics, University of Bielefeld, 28 p. (Working Paper. Institute of Economics, University of Bielefeld, Vol. 232).

**The kernel of homogeneous games with steps**

Peleg, B., Rosenmüller, J. & Sudhölter, P., 1994, *Essays in Game Theory: In Honor of Michael Maschler*. Megiddo, N. (ed.). Springer, p. 163-192

**The nucleolus of homogeneous games with steps**

Rosenmüller, J. & Sudhölter, P., 1994, In : *Discrete Applied Mathematics*. 50, p. 53-76

**Independence for characterizing axioms of the pre-nucleolus**

Sudhölter, P., 1993, Working Paper 220, Institute of Mathematical Economics, University of Bielefeld, 12 p.

**Implementing the modified LH-algorithm**

Krohn, I., Moltzahn, S., Rosenmüller, J., Sudhölter, P. & Wallmeier, H-M., 1991, In : *Applied Mathematics and Computation*. 45, p. 31-72

**Homogeneous games as anti step functions**

Sudhölter, P., 1989, In : International Journal of Game Theory. 18, p. 433-469

**Construction of homogeneous zero-sum games**

Sudhölter, P., 1986, Working Paper 144, Institute of Mathematical Economics, University of Bielefeld, 43 p.

**Activities****11th Triennial Conference of Association of Asia Pacific Operational Research Societies**

Peter Sudhölter (Chairman)

6 Aug 2018 → 9 Aug 2018

**12th European Meeting on Game Theory (SING12)**

Peter Sudhölter (Organizer)

11 Jul 2016 → 13 Jul 2016

**3rd Workshop on Cooperative Game Theory in Business Practice**

Peter Sudhölter (Participant)

16 Jun 2016 → 17 Jun 2016

**5th World Congress of the Game Theory Society**

Peter Sudhölter (Organizer)

24 Jul 2016 → 26 Jul 2016

**7th Game Theory, Economics and Mathematics Workshop**

Peter Sudhölter (Organizer), Rafael Treibich (Organizer)

5 Oct 2018 → 6 Oct 2018

**Associate editor of International Game Theory Review (Journal)**

Peter Sudhölter (Editor)

1 Jan 2012 → ...

**Associate editor of International Journal of Game Theory (Journal)**

Peter Sudhölter (Editor)

15 Mar 2002 → ...

**Associate editor of Mathematical Methods of Operations Research (Journal)**

Peter Sudhölter (Editor)

1 Oct 2009 → ...

**Axiomatizations in Game Theory**

Peter Sudhölter (Participant)

1 Sep 2017 → 2 Sep 2017

**Axiomatizations of symmetrically weighted solutions**

Peter Sudhölter (Speaker)

9 Jul 2013

**Axiomatizations of the core of games with communication structures**

Peter Sudhölter (Speaker)

8 Jul 2014

**Board of trustees, School of International Studies, Dresden (External organisation)**

Peter Sudhölter (Chairman)  
2009

**Characterization of solutions of highway cost sharing problems**

Peter Sudhölter (Speaker)  
9 Jul 2015

**Characterization of solutions of highway cost sharing problems**

Peter Sudhölter (Speaker)  
12 Jul 2015

**Characterization of TU games with stable cores by nested balancedness**

Peter Sudhölter (Speaker)  
29 Jun 2017

**Characterization of TU games with stable cores by nested balancedness**

Peter Sudhölter (Speaker)  
6 Jul 2017

**Characterization of TU games with stable cores by nested balancedness**

Peter Sudhölter (Lecturer)  
Dec 2016

**Characterization of TU games with stable cores by nested balancedness**

Peter Sudhölter (Lecturer)  
Oct 2017

**Characterization of TU games with stable cores by nested balancedness**

Peter Sudhölter (Lecturer)  
Nov 2017

**Characterizations of solutions to highway cost allocation problems**

Peter Sudhölter (Speaker)  
25 Jul 2016

**Consistency and the core of games with communication structures**

Peter Sudhölter (Lecturer)  
Apr 2014

**Department of Business and Economics (Organisational unit)**

Peter Sudhölter (Member)  
2013 → ...

**DGPE PhD course "Markov Decision Processes and Stochastic Games"**

Peter Sudhölter (Organizer)  
5 Jul 2016 → 8 Jul 2016

**Discussion Papers on Business and Economics (Journal)**

Peter Sudhölter (Editor)  
2009 → ...

**Editorial Board, International Game Theory Review (External organisation)**

Peter Sudhölter (Member)  
2012 → ...

**Editorial Board, International Journal of Game Theory (External organisation)**

Peter Sudhölter (Member)

2002 → ...

**Editorial Board, Mathematical Methods of Operations Research (External organisation)**

Peter Sudhölter (Member)

2009 → ...

**Game Theory - Economics and Mathematics 2 (GEM2)**

Peter Sudhölter (Organizer)

15 Jun 2013 → 16 Jun 2013

**Game Theory - Economics and Mathematics 3 (GEM3)**

Peter Sudhölter (Organizer)

2 Oct 2014 → 3 Oct 2014

**Game Theory - Economics and Mathematics 4 (GEM4)**

Peter Sudhölter (Organizer)

1 Oct 2015

**Game Theory - Economics and Mathematics 5 (GEM5)**

Peter Sudhölter (Organizer)

11 Jul 2016 → 13 Jul 2016

**Game Theory - Economics and Mathematics 6 (GEM6)**

Peter Sudhölter (Organizer)

7 Jun 2017

**Game Theory Society (External organisation)**

Peter Sudhölter (Member)

2000 → ...

**Monotonicity and weighted nucleoli: A characterization without consistency**

Peter Sudhölter (Speaker)

10 Jul 2018

**Monotonicity and weighted nucleoli: A characterization without consistency**

Peter Sudhölter (Speaker)

7 Aug 2018

**On a class of vertices of the core**

Peter Sudhölter (Lecturer)

Dec 2016

**On bargaining sets of convex NTU games**

Peter Sudhölter (Speaker)

24 Jun 2015

**On bargaining sets of convex NTU games**

Peter Sudhölter (Speaker)

30 Jul 2015



**On symmetrically weighted prenucleoli, equal surplus division, and reduced game properties**

Peter Sudhölter (Lecturer)

Nov 2017

**On the core, prekernel, and prenucleolus of games with communication structures**

Peter Sudhölter (Speaker)

25 Aug 2015

**On the generic finiteness of equilibrium outcome distributions in game forms**

Peter Sudhölter (Lecturer)

Apr 2013

**Paris School of Economics, Sorbonne, Paris**

Peter Sudhölter (Visiting researcher)

Jul 2013

**Paris School of Economics, Sorbonne, Paris**

Peter Sudhölter (Visiting researcher)

Mar 2014 → Apr 2014

**Paris School of Economics, Sorbonne, Paris**

Peter Sudhölter (Visiting researcher)

Apr 2016

**Paris School of Economics, Sorbonne, Paris**

Peter Sudhölter (Visiting researcher)

Apr 2017

**Paris School of Economics, Sorbonne, Paris**

Peter Sudhölter (Visiting researcher)

Jul 2017

**Paris School of Economics, Sorbonne, Paris**

Peter Sudhölter (Visiting researcher)

22 Apr 2018 → 30 Apr 2018

**PhD assessment committee - Andrés Salamanca Lugo (Event)**

Peter Sudhölter (Member)

12 Nov 2016

**PhD assessment committee - Stéphane Gonzalez (Event)**

Peter Sudhölter (Member)

30 Jun 2016

**The Basque University of Bilbao**

Peter Sudhölter (Visiting researcher)

Jul 2013 → ...

**The Basque University of Bilbao**

Peter Sudhölter (Visiting researcher)

Dec 2015

**The bilateral consistent prekernel for balanced NTU games and resulting ordinal solutions for economic environments**

Peter Sudhölter (Speaker)

25 Jul 2013

**The Hebrew University of Jerusalem**

Peter Sudhölter (Visiting researcher)

Dec 2016

**Universities of Reus and Barcelona**

Peter Sudhölter (Visiting researcher)

Nov 2017

**University of Vigo**

Peter Sudhölter (Visiting researcher)

Oct 2017