

CURRICULUM VITAE

(September 17, 2025)

PERSONAL INFORMATION	Name: Christian Hilbe Address: IT:U, Altenberger Str. 66c/Science Park 4, 4040 Linz, Austria Phone: +43 650 2209301 Mail: christian.hilbe@it-u.at Homepage: https://christian-hilbe.github.io/
RESEARCH INTERESTS	Classical and evolutionary game theory and its applications in biology and the social sciences, using the tools of stochastic processes, dynamical systems and experimental economics
TEACHING INTERESTS	Quantitative Methods: Calculus, linear algebra, ordinary differential equations and dynamical systems, stochastic processes, probability theory and statistics. Applications: Computational social science, (evolutionary and/or classical) game theory, decision theory, behavioral economics, biomathematics
CURRENT POSITION	IT:U Interdisciplinary Transformation University (Since 01/2025) Professor of Game Theory and Evolutionary Dynamics
PREVIOUS POSITIONS	Max Planck Institute (MPI) for Evolutionary Biology, Germany 2019 – 2024 Group leader, Max Planck Research Group Dynamics of Social Behavior
	Institute of Science and Technology Austria (ISTA) 2015 – 2019 Research scientist in the Chatterjee group (Krishnendu Chatterjee)
	Harvard University, USA 2013 – 2015 Research scientist at the Program for Evolutionary Dynamics (Martin Nowak)
	Max Planck Institute for Evolutionary Biology, Germany 2011 – 2013 Research scientist at the Evolutionary Theory Group (Arne Traulsen)
	University of Vienna, Austria 2008 – 2011 Research scientist at the Faculty of Mathematics (Karl Sigmund)
RESEARCH STAYS	Harvard University (several visits) 2016 – 2019 Max Planck Institute for Evolutionary Biology (several visits) 2014 – 2015 Center of Rationality, Hebrew University , Israel 2010 – 2011 International Institute for Applied Systems Analysis (IIASA) , Austria. 2009 Participant of the Young Scientists Summer Program
HIGHER EDUCATION	PhD in Mathematics, University of Vienna 03/2012 Thesis: “Public good games with incentives”, Advisor: Karl Sigmund Graduated ‘ <u>sub auspiciis Praesidentis rei publicae</u> ’, the highest honor in Austria
	MSc in Mathematics, University of Vienna 09/2008

GRANTS AND FELLOWSHIPS	ERC Starting Grant , European Research Council (EUR 1,439,000) Panel LS8 – Evolutionary, Population and Environmental Biology Project: “ <i>Evolution of direct reciprocity in complex environments</i> ”	2019
	IST Fellowship , funded by the People Programme (Marie Curie Actions) of the EU’s Seventh Framework Program (EUR 159,759) Project: “ <i>Partner and rival strategies in repeated games</i> ”	2015
	Erwin Schrödinger Fellowship , Austrian Science Fund (EUR 80,118) Project: “ <i>The evolution of extortion in repeated games</i> ”	2013
TRAVEL GRANTS, AWARDS	International exchanges grant of the Royal Society (UK), for a collaboration with Prof. Hong Duong of the University of Birmingham (£ 11,960 in total).	2022
	Award of excellence (“Würdigungspreis”) of the Ministry of Science and Research, awarded to Austria’s top 50 students (EUR 2,500 each)	2009, 2012
	Excellence scholarship of the University of Vienna (EUR 4,500)	2012
	Appreciation Award of the State Vorarlberg in recognition of my graduation ‘sub auspiciis Praesidentis rei publicae’ (EUR 2,000)	2012
	Mikhalevich Award of the International Institute for Applied Systems Analysis	2010
PROFESSIONAL ACTIVITIES, COMMUNITY SERVICE	<ul style="list-style-type: none"> • Chair of the PhD program at IT:U Austria (since 01/2025). • Group leader representative and Member of the Graduate Student Committee at the Max Planck Institute for Evolutionary Biology (2021–2024). • External reviewer for the PhD thesis of Cong Li (Mathematics, University of Montreal, 2020) and of Peter S. Park (Mathematics, Harvard University 2023). • Member of the thesis advisory committee for Christin Nyhoegen, MPI for Evolutionary Biology (2020-2023), and Maria Alejandra Ramirez, MPI for Evolutionary Biology (2022-2025). • Grant referee for the National Science Foundation (USA); German Research Foundation (GER); Hungarian National Research, Development, and Innovation Office (HUN); Hong Kong Research Grants Council (HK); Cultural Evolution Society Transformation Fund; Leverhulme Trust (UK); Marsden Fund (NZ); • Associate editor for PLoS Computational Biology (since 11/2021) and the Proceedings of the Royal Society B (since 04/2024). • Guest editor for the Proceedings of the National Academy of Sciences, and for PLoS Computational Biology; • Editor for a special issue in GAMES on <i>Cooperation, Trust, and Reciprocity</i> (2015); and in Dynamic Games and Applications on the <i>50th anniversary of evolutionary game theory</i> (2023). • Journal referee for various Nature journals (Nature, Nat. Human Behaviour, Nat. Climate Change, Nat. Sustainability, Nat. Communications), Science Advances, PNAS, Proceedings of the Royal Society B, Philosophical Transactions of the Royal Society B, PLoS Computational Biology, Journal of Theoretical Biology, Journal of Mathematical Biology, Bulletin of Mathematical Biology, Trends in Ecology and Evolution, among others. 	

**CONFERENCES,
WORKSHOPS**

- Evolutionary game theory and AI (Hangzhou 2025)
Talk: *Evolution of (seemingly) suboptimal learning in games*
- Mathematical Models in Ecology and Evolution (Vienna 2024)
Talk: *Efficiency and resilience of cooperation in asymmetric social dilemmas*
- Social Dilemmas (Leiden 2024)
Talk: *Efficiency and resilience of cooperation in asymmetric social dilemmas*
- Learning, Evolution, and Games (Amsterdam 2023)
Talk: *Evolutionary instability of selfish learning*
- Workshop: The Future of Mathematical Social Science (Pennsylvania 2023, virtual)
Talk: *Evolutionary game theory — the status quo and the gaps*
- Social Dilemmas (Copenhagen 2022)
Talk: *A unified framework of direct and indirect reciprocity*
- Mathematical Models in Ecology and Evolution (Reading 2022)
Talk: *A unified framework of direct and indirect reciprocity*
- Workshop: Future of Games in Biology (Plön 2022)
Talk: *Evolution of cooperation – what has happened, where are the gaps?*
- European Human Behavior and Evolution Association (Leipzig 2022, virtual)
Poster: *A unified framework of direct and indirect reciprocity*
- Oskar Morgenstern Platz Meeting (Vienna 2021)
Talk: *Robust cooperation in alternating games*
- Workshop on Evolutionary Game Theory (Vienna 2019)
Talk: *Social dilemmas among unequals*
- Ernst Strüngmann Forum (Frankfurt 2019)
Discussion paper: *The evolution of strategic ignorance in strategic interaction*
- GAMENET (Cracow 2018)
Talk: *Extortion and cooperation in repeated games*
- Mathematical models in Ecology and Evolution (London 2017)
Talk: *The signal-burying game: Why we hide positive traits and good deeds*
- European Conference for Mathematical and Theoretical Biology (Nottingham 2016)
Talk: *Extortion and generosity in repeated games*
- Symposium in honor of Karl Sigmund's 70th birthday (Vienna, 2015)
Talk: *Extortion and generosity in repeated games*
- Workshop: Current topic workshop: Evolutionary game theory (Columbus, 2015)
Poster: *Extortion and generosity in repeated social dilemmas*
- Evolution 2012 (Ottawa 2012).
Talk: *Emergence of responsible sanctions*
- European Conference on Complex Systems (Vienna 2011)
Talks: *Evolution of cooperation and punishment in non-anonymous societies, and Equilibrium selection with representation effects*
- Second Baltic Autumn School: Workshop on Systems Biology (Lübeck 2011)
Talk: *Evolutionary game theory*
- Workshop on Evolutionary approaches to international cooperation (Tilburg, 2011)
Talk: *Public good games under time pressure*
- TECT Conference (The evolution of cooperation and trading, Budapest 2010)
Talk: *Incentives and opportunism: From the carrot to the stick*

**INVITED
LECTURES**

- Johannes Kepler University Linz (May 2025)
Talk: *Evolution of cooperative social norms*
- University of Zürich (Oct 2024)
Talk: *Direct reciprocity in complex environments*
- Center for Humans & Machines, MPI for Human Development (Jan 2024)
Talk: *The evolutionary game theory of cooperation, social norms, and modesty*
- Peking University (Nov 2023, virtual)
Talk: *Modeling direct and indirect reciprocity*
- Dalian University (March 2023, virtual)
Talk: *Evolution of cooperation in asymmetric social dilemmas*
- Cooperation colloquium (Feb 2023, virtual)
Talk: *A brief history of modeling direct and indirect reciprocity*
- Technical University Munich (Feb 2022, virtual)
Talk: *Memory- n strategies of direct reciprocity*
- Beijing Institute of Technology (Dec 2021, virtual)
Talk: *The mathematics of direct reciprocity*
- Institute of Mathematics, University of Lübeck (Nov 2021)
Talk: *The dynamics of direct reciprocity under memory constraints*
- cege Research Colloquium, University of Göttingen (June 2021, virtual)
Talk: *The evolution of direct and indirect reciprocity*
- Institute for Advanced Study in Toulouse General Seminar (June 2021, virtual)
Talk: *The evolution of indirect reciprocity under noisy and incomplete information*
- Max Planck Research Group Leader Meeting (May 2020, virtual)
Talk: *Evolution of reciprocal cooperation.*
- University of Vienna, Vienna (Jan 2020).
Talk: *The dynamics of direct and indirect reciprocity.*
- University of Exeter, Exeter UK (Nov 2019).
Talk: *Social dilemmas among unequals.*
- University of Vienna, Vienna (Oct 2019).
Talk: *Social dilemmas among unequals.*
- University of British Columbia, Vancouver (Jan 2019).
Talks: *The evolution of indirect reciprocity under noisy and private information*, and
Modeling the dynamics of extortion and cooperation in repeated games.
- Research Platform Cognitive Science, Vienna (Oct 2018).
Talk: *Direct reciprocity under cognitive constraints.*
- Department of Economics, Middlesex University, London (Jan 2018)
Talk: *Extortion and cooperation in repeated games.*
- Max Planck Institute for Mathematics in the Sciences, Leipzig (Apr 2017)
Talk: *Extortion and cooperation in repeated games.*
- Max Planck Institute for Research on Collective Goods, Bonn (Oct 2016)
Talk: *Extortion and generosity in repeated games.*
- Colloquium for Complex Systems and Modeling, University of Oldenburg (Jan 2013)
Talk: *Reputation, opportunism, and the evolution of punishment.*

PHD STUDENT SUPERVISION	Adile Yasar (MPI for Evolutionary Biology, IT:U). Topic: <i>Experimental approaches to human cooperation.</i>	Since 2024
	Abir Utthasani (MPI for Evolutionary Biology, IT:U). Topic: <i>Cooperation in stochastic games.</i>	Since 2024
	Marta Couto (MPI for Evolutionary Biology, University of Lübeck). PhD thesis: <i>Mathematical models of cooperation among heterogeneous individuals.</i> Two joint papers published (New J. Physics, 2022; Phil. Trans. Royal Soc. B, 2023), one more in preparation. Currently a Post-Doc at the University of Amsterdam .	2020–2024
	Charlotte Rossetti (MPI for Evolutionary Biology, University of Kiel). PhD thesis: <i>Mechanisms and Benefits of Reciprocal Relationships.</i> Four joint papers published (e.g., Nature Comput. Sci., 2022; Nature Comms. 2025). Currently a Post-Doc at the University of Zürich .	2020–2024
	Saptarshi Pal (MPI for Evolutionary Biology, University of Kiel). PhD thesis: <i>The role of information on the evolution of cooperation.</i> First joint paper published (Nature Comms., 2022), three more in preparation. Currently a Post-Doc at Harvard University .	2020–2024
	Peter Park (Harvard University). Co-supervision of PhD thesis on <i>Game theory and the evolution of human cognition.</i> First joint paper published (Nature Comms., 2022). Currently a Post-Doc at MIT .	2020–2023
	Laura Schmid (Institute of Science and Technology Austria). Co-supervision of PhD thesis <i>Evolution of cooperation via (in)direct reciprocity under imperfect information.</i> Five joint articles published (e.g., PNAS, 2018; Nat. Hum. Behav., 2021; Nat. Comms., 2023). Currently an editor at Nature Communications .	2016–2021

UNDERGRADUATE SUPERVISION	Franziska Lesigang (TU Wien, Austria). Internship on reciprocity with bounded memory (Main supervisor: Nikoleta Glynatsi); resulted in a publication (Econ. Letters 2025).	2021
	Logan Cartau (University of Rennes, France). Internship on direct reciprocity in co-evolving populations (Main supervisor: Nikoleta Glynatsi)	2021
	Farbod Ekbatani (Sharif University of Technology, Tehran). Internship on evolution of norms; resulted in a publication (Nat. Comms. 2023).	2019
	Rachel Golombok (Harvard University). Bachelor's thesis on endogenous game choice, won the Harvard College Thomas T. Hoopes Prize.	2018–2019
	Pouya Shati (Sharif University of Technology, Tehran). Internship; resulted in a publication (Sci. Rep. 2021).	2018
	Štěpán Šimsa (Charles University Prague). Bachelor's thesis; resulted in two publications (Nature 2018, Nat. Comms. 2023)	2016
	Kate Donahue (Harvard University). Bachelor's thesis, won the Harvard College Thomas T. Hoopes Prize, and the Herb Alexander award. Published as article (Nature Comms., 2020).	2015
	Sarah Schoenmakers (University of Oldenburg). Master thesis, also published as an article (J. Theor. Biol., 2014).	2013

PUBLICATION LIST

(September 17, 2025)

PEER-
REVIEWED
ARTICLES

1. MCAVOY A, MADHUSHANI U, **HILBE C**, CHATTERJEE K, BARFUSS W, SU Q, LEONARD NE, PLOTKIN JB. Unilateral incentive alignment in two-player games. **Proceedings of the National Academy of Sciences** (2025), 122:e2319927121.
2. BARFUSS W, FLACK J, GOKHALE C, HAMMOND L, **HILBE C**, HUGHES E, LEIBO JZ, LENAERTS T, LEONARD NE, LEVIN S, MADHUSHANI U, MCAVOY A, MEYLAHN JM, SANTOS FP. Collective Cooperative Intelligence. **Proceedings of the National Academy of Sciences** (2025), 122:e2319948121.
3. HÜBNER V, SCHMID L, **HILBE C[†]**, CHATTERJEE[†] K. Stable strategies of direct and indirect reciprocity across all social dilemmas. **PNAS Nexus** (2025), 4:pgaf154.
4. LESIGANG F, **HILBE C**, GLYNATSI, NE. Can I afford to remember less than you? Best responses in repeated additive games. **Economics Letters** (2025), 250:112300.
5. HÜBNER, **HILBE C**, STAAB M, KLESHNINA M, CHATTERJEE K. Time-dependent strategies in repeated asymmetric public goods games. **Dynamic Games and Applications** (2025), s13235-025-00627-5.
6. ROSSETTI CL, HAUSER[†] OP, **HILBE[†] C**. Dynamics of cooperation in concurrent games. **Nature Communications** (2025), 16:1524.
7. GLYNATSI NE, AKIN E, NOWAK MA, **HILBE C**. Conditional cooperation with longer memory. **Proceedings of the National Academy of Sciences** (2024), 121:e2420125121.
8. MURASE Y AND **HILBE C**. Indirect reciprocity under opinion synchronization. **Proceedings of the National Academy of Sciences** (2024), 121:e2418364121.
9. MURASE Y AND **HILBE C**. Computational evolution of social norms in well-mixed and group-structured populations. **Proceedings of the National Academy of Sciences** (2024), 121:e2406885121.
10. GLYNATSI NE, MCAVOY A, **HILBE C**. Evolution of reciprocity with limited payoff memory. **Proceedings of the Royal Society B** (2024), 291:20232493.
11. HÜBNER V, STAAB M, **HILBE C**, CHATTERJEE K, KLESHNINA M. Efficiency and resilience of cooperation in asymmetric social dilemmas. **Proceedings of the National Academy of Sciences** (2024), 121:e2315558121.
12. ROSSETTI CL AND **HILBE C**. Direct reciprocity among humans. **Ethology** (2024), 130:e13407.
13. **HILBE C**, KLESHNINA M, STAŇKOVÁ K. Evolutionary games and applications: Fifty years of the logic of animal conflict. **Dynamic Games and Applications** (2023), 13:1035–1048.
14. PARK HJ, **HILBE C**, NOWAK MA, KIM BJ, JEONG H-C. Vacancies in growing habitats promote the evolution of cooperation. **Journal of Theoretical Biology** (2023), 575:111629.

15. KLESHNINA* M, **HILBE* C**, ŠIMSA S, CHATTERJEE K, NOWAK MA.
The effect of environmental information on evolution of cooperation in stochastic games.
Nature Communications (2023), 14:4153.
16. YOHSUKE M AND **HILBE C**.
Indirect reciprocity with stochastic and dual reputation updates.
PLoS Computational Biology (2023), 19:e1011271.
17. LAPORTE P, **HILBE C**, NOWAK MA.
Adaptive dynamics of memory-1 strategies in the repeated donation game.
PLoS Computational Biology (2023), 19:e1010987.
18. TKADLEC J, **HILBE[†] C**, NOWAK[†] MA.
Mutation enhances cooperation in direct reciprocity.
Proceedings of the National Academy of Sciences (2023), 120:e2221080120.
19. SCHMID L, EKBATANI F, **HILBE C**, CHATTERJEE K.
Quantitative assessment can stabilize reciprocity under imperfect information.
Nature Communications (2023), 14:2086.
20. WANG X, COUTO M, WANG N, AN X, CHEN B, DONG[†] Y, **HILBE[†] C**, ZHANG[†] B.
Cooperation and coordination in heterogeneous populations.
Philosophical Transactions of the Royal Society B (2023), 378:20210504.
21. MURASE Y, **HILBE C**, BAEK SK.
Evolution of direct reciprocity in group-structured populations.
Scientific Reports (2022), 12: 18645.
22. LI J, ZHAO X, LI B, ROSSETTI CL, **HILBE[†] C**, XIA[†] H.
Evolution of cooperation through cumulative reciprocity.
Nature Computational Science (2022), 2:677–686.
23. PAL S AND **HILBE C**.
Reputation effects drive the joint evolution of cooperation and social rewarding
Nature Communications (2022), 13:5928.
24. MCAVOY A, KATES-HARBECK J, CHATTERJEE K, **HILBE C**.
Evolutionary instability of selfish learning in repeated games
PNAS Nexus (2022), 4:pgac141.
25. SCHMID L, **HILBE C**, CHATTERJEE K, NOWAK MA.
Direct reciprocity between individuals that use different strategy spaces.
PLoS Computational Biology (2022), 18(6):e1010149.
26. COUTO MC, GAIMO S, **HILBE C**.
Introspection dynamics: A simple model of counterfactual learning in asymmetric games.
New Journal of Physics (2022), 24:063010.
27. PARK P, NOWAK MA, **HILBE, C**.
Cooperation in alternating interactions with memory constraints.
Nature Communications (2022), 13:737.
28. ROSSETTI C, **HILBE C**, HAUSER, OP.
(Mis)perceiving cooperativeness.
Current Opinion in Psychology (2022), 43:151–155.
29. SCHMID L, SHATI P, **HILBE C**, CHATTERJEE K.
The evolution of indirect reciprocity under action and assessment generosity.
Scientific Reports (2021), 11:17443.
30. SCHMID L, CHATTERJEE K, **HILBE[†] C**, NOWAK[†] MA.
A unified framework of direct and indirect reciprocity.
Nature Human Behaviour (2021), 5:1292–1302.

31. DONAHUE K, HAUSER O, NOWAK MA, **HILBE C**. Evolving cooperation in multichannel games. **Nature Communications** (2020), 11:3885.
32. MILUTINOVIC B, STOCK M, GRASSE AV, NADERLINGER E, **HILBE C**, CREMER S. Social immunity modulates competition between coinfecting pathogens. **Ecology Letters** (2020), 23:565–574.
33. HAUSER* O, **HILBE* C**, CHATTERJEE K, NOWAK MA. Social dilemmas among unequal. **Nature** (2019), 572:524–527.
34. **HILBE C**, SCHMID L, TKADLEC J, CHATTERJEE K, NOWAK MA. Indirect reciprocity with private, noisy, and incomplete information. **Proceedings of the National Academy of Sciences** (2018), 115:12241–12246.
35. **HILBE C**, SIMSA S, CHATTERJEE K, NOWAK MA. Evolution of cooperation in stochastic games. **Nature** (2018), 559: 246–249.
36. HOFFMAN* M, **HILBE* C**, NOWAK MA. The signal-burying game can explain why we obscure positive traits and good deeds. **Nature Human Behaviour** (2018), 2: 397–404.
37. **HILBE C**, CHATTERJEE K, NOWAK MA. Partners and rivals in direct reciprocity. **Nature Human Behaviour** (2018), 2: 469–477.
38. REITER* JG, **HILBE* C**, RAND DG, CHATTERJEE K, NOWAK MA. Crosstalk in concurrent repeated games impedes direct reciprocity and requires stronger levels of forgiveness. **Nature Communications** (2018), 9: 555.
39. VELLER C, HAYWARD LK, **HILBE C**, NOWAK MA. The Red Queen and King in finite populations. **Proceedings of the National Academy of Sciences** (2017), 114: E5396–E5405.
40. **HILBE* C**, MARTINEZ-VAQUERO* LA, CHATTERJEE K, NOWAK MA. Memory- n strategies of direct reciprocity. **Proceedings of the National Academy of Sciences** (2017), 114: 4715–4720.
41. **HILBE C**, HAGEL K, MILINSKI M. Asymmetric power boosts extortion in an economic experiment. **PLoS One** (2016), 11: e0163867.
42. ABOU CHAKRA M, **HILBE C**, TRAULSEN A. Coevolutionary interactions between farmers and mafia induce host acceptance of avian brood parasites. **Royal Society Open Science** (2016), 3: 160036.
43. BAEK, SK, JEONG H-C, **HILBE C**, NOWAK MA. Comparing reactive and memory-one strategies of direct reciprocity. **Scientific Reports** (2016), 6: 25676.
44. MILINSKI M, **HILBE C**, SEMMANN D, SOMMERFELD RD, MAROTZKE J. Humans choose representatives who enforce cooperation through extortion. **Nature Communications** (2016), 7: 10915.
45. YEATES JAM, **HILBE C**, ZWICK M, NOWAK MA, LEHMAN N. Dynamics of prebiotic RNA reproduction illuminated by chemical game theory. **Proceedings of the National Academy of Sciences** (2016), 113: 5030–5035.
46. **HILBE C**, HOFFMAN M, NOWAK MA. Cooperate without looking in a non-repeated game. **Games** (2015), 6: 458–472.

47. **HILBE C**, TRAULSEN A, SIGMUND K.
Partners or rivals? Strategies for the iterated prisoner's dilemma.
Games and Economic Behavior (2015), 92: 41–52.
48. **HILBE C**, WU B, TRAULSEN A, NOWAK MA
Evolutionary performance of zero-determinant strategies in multiplayer games.
Journal of Theoretical Biology (2015), 374: 115–124.
49. MISKA C, **HILBE C**, MAYER S
Reconciling different views on responsible leadership: A rationality-based approach.
Journal of Business Ethics, 2 (2014), 125: 349–360.
50. **HILBE C**, WU B, TRAULSEN A, NOWAK MA.
Cooperation and control in multiplayer social dilemmas.
Proceedings of the National Academy of Sciences (2014), 111: 16425–16430.
51. ABOU CHAKRA M, **HILBE C**, TRAULSEN A.
Plastic behaviors in hosts promote the emergence of retaliatory parasites.
Scientific Reports (2014), 4: 4251.
52. **HILBE C**, RÖHL T, MILINSKI M.
Extortion subdues human players but is finally punished in the prisoner's dilemma.
Nature Communications (2014), 5: 3976.
53. **HILBE C**, TRAULSEN A., RÖHL T, MILINSKI M. Democratic decisions establish stable authorities that overcome the paradox of second-order punishment.
Proceedings of the National Academy of Sciences (2014), 111: 752–756.
54. SCHOENMAKERS S, **HILBE C**, BLASIUS B, TRAULSEN A.
Sanctions as honest signals: The evolution of punishment by public sanctioning institutions.
Journal of Theoretical Biology (2014), 356: 36–46.
55. **HILBE C**, NOWAK MA, TRAULSEN A. Adaptive dynamics of extortion and compliance.
PLoS One (2013), 8: e77886.
56. **HILBE C**, NOWAK MA, SIGMUND K.
The evolution of extortion in iterated prisoner's dilemma games.
Proceedings of the National Academy of Sciences (2013), 110: 6913–6918.
57. **HILBE C**, ABOU CHAKRA M, ALTROCK PM, TRAULSEN, A.
The evolution of strategic timing in collective-risk dilemmas.
PLoS One (2013), 6: e66490.
58. **HILBE C** AND TRAULSEN A. Emergence of responsible sanctions without second order free riders, antisocial punishment or spite.
Scientific Reports (2012), 2: 458.
59. **HILBE C**. Local replicator dynamics: A simple link between deterministic and stochastic models of evolutionary game theory.
Bulletin of Mathematical Biology (2011), 73: 2068–2087.
60. **HILBE C** AND SIGMUND, K.
Incentives and opportunism: from the carrot to the stick.
Proceedings of the Royal Society B (2010), 277: 2427–2433.
61. **HILBE C**. Contrition does not ensure cooperation in the iterated prisoner's dilemma.
International Journal of Bifurcation and Chaos (2009), 19: 3877–3885.

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|--------------------------------------|---|
| BOOK CHAPTERS | 62. HILBE C AND SCHMID L. Modeling the evolution of strategic ignorance. In: Deliberate Ignorance: Choosing Not to Know , R. Hertwig and C. Engel. Strüngmann Forum Reports, vol. 29, Cambridge, MA: MIT Press, 2020.
63. TRIMMER PC, McELREATH R, AUSTER S, BROWN GDA, DANA J, GIGERENZER G, GOLMAN R, HILBE C , KANDLER A, KAREEV Y, SCHOOLER LJ, SZECH N. The zoo of models of deliberate ignorance. In: Deliberate Ignorance: Choosing Not to Know , R. Hertwig and C. Engel. Strüngmann Forum Reports, Cambridge, MA: MIT Press, 2020.
64. SIGMUND K AND HILBE C . Game theory. In Encyclopedia of Theoretical Ecology , A. Hastings and L. Gross, Eds. University of California Press, 2012.
65. SIGMUND K, AND HILBE C . Darwin and the evolution of human cooperation. In Principles of Evolution , H. Meyer-Ortmanns and S. Thurner, Eds. Springer, Berlin, 2011. |
| INVITED COMMENTARIES | 66. HILBE C AND TRAULSEN A. Only the combination of mathematics and agent based simulations can leverage the full potential of evolutionary modeling. Physics of Life Reviews (2016), 19: 29–31.
67. ABOU CHAKRA M AND HILBE C . Modelling the dynamics of cirme and punishment. Physics of Life Reviews (2015), 12: 22–23. |
| WORKING PAPERS
(submitted) | 68. LAPORTE P, HILBE C , GLYNATSI NE, NOWAK MA. Complete strategy spaces of direct reciprocity.
69. WANG X, HILBE[†] C , ZHANG [†] B. The dynamics of collective action in heterogeneous groups.
70. GLYNATSI N, HILBE C , MURASE Y. Exact conditions for evolutionary stability in indirect reciprocity under noise
71. COUTO M, SANTOS F, HILBE C . Evolution of boundedly rational learning in games. |

* Shared first authorship, † Shared last authorship