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Gerrit Bauch

game theorist, economist, mathematician

🏢 professional profile

I am a mathematical economist with a passion for game and decision theory under uncertainty. In my dissertation, I have used my mathematical background to analyze conflict resolution under Knightian uncertainty and study the impact of noise on the grammar of languages.

🎓 education

Bielefeld University, Germany

2019–2024

Dr. rer. pol (Ph.D. in economics), passed with distinction (*summa cum laude*).

“From words of approach to words of departure: Essays on noisy communication and partnership dissolution under uncertainty”

Supervisors: Prof. Dr. Riedel, Bielefeld University and Prof. Andreas Blume, PhD, University of Arizona.

Heidelberg University, Germany

2015–2019

M.Sc. in mathematics with economics as field of application. Overall grade: 1,1.

“Über eine Vermutung aus der Theorie Siegelscher Modulformen im Spezialfall $g = 2$ und $k = 5/2$ ”.

Supervised by Prof. Dr. Rainer Weissauer, Heidelberg University.

Heidelberg University, Germany

2012–2015

B.Sc. in mathematics with economics as field of application. Overall grade: 1,4.

“Algebraisch-Geometrische Codes”.

Supervised by Prof. Dr. Kay Wingberg, Heidelberg University.

🏢 research positions & work experience

Bielefeld University, Germany

2019–actual

graduate researcher (2019-2024) & postdoctoral researcher (since February 2024)

Center for Mathematical Economics and the Center for Uncertainty Studies at Bielefeld University.

Bielefeld University, Germany

2020–2023

IT support at the Center for Mathematical Economics. Tasks included general user assistance, website building (XML based CMS Roxen 5 & 17) and administration, AD & GPO management and hardware and software provisioning (ivanti landesk, citrix workspace).

Heidelberg University, Germany

2014

undergraduate research assistant

Chair of Labor Economics of Prof. Dr. Christina Gathmann, Alfred-Weber institute

📄 scientific output

publications

Gerrit Bauch and Frank Riedel. “The Texas Shoot-Out under Knightian uncertainty”. In: *Games and Economic Behavior* 146 (2024), pp. 35–50. ISSN: 0899-8256. DOI: <https://doi.org/10.1016/j.geb.2024.04.009>. URL: <https://www.sciencedirect.com/science/article/pii/S0899825624000605>.

working papers

Gerrit Bauch and Lorenz Hartmann. *Correlation uncertainty: a decision-theoretic approach*. 2025. arXiv: 2503.13416 [econ.TH]. URL: <https://arxiv.org/abs/2503.13416>.

Gerrit Bauch and Manuel Foerster. *Strategic communication of narratives*. Job Market Paper. 2025. URL: https://gbauch.github.io/assets/pdf/narratives_jmp.pdf.

Gerrit Bauch. “Effects of Noise on the Grammar of Languages”. In: *Center for Mathematical Economics Working Papers* (2021). R&R (minor revision) in the *International Journal of Game Theory*. Available at <https://pub.uni-bielefeld.de/record/2957927>.

Gerrit Bauch. “Underreaction and dynamic inconsistency in communication games under noise”. In: *arXiv* (2023). arXiv: 2311.12496 [econ.TH]. URL: <https://arxiv.org/abs/2311.12496>.

Gerrit Bauch. *Independence and indifferent points imply continuity*. 2024. arXiv: 2411.17883 [econ.TH]. URL: <https://arxiv.org/abs/2411.17883>.

work in progress

Gerrit Bauch, Arthur Dolgoplov, and Manuel Foerster. *Strategic communication of narratives: an experiment*. Data collection of the experiment currently running. 2025.

dissertation

Gerrit Bauch. “From words of approach to words of departure: Essays on noisy communication and partnership dissolution under uncertainty”. In: *Bielefeld University library* (2024). Available at <https://pub.uni-bielefeld.de/record/2988256>.

teaching

Bielefeld University

- teaching assistant for Microeconomics 2 (graduate),
coordinator of the Economic Theory Lunch Seminar summer 2025
- teaching assistant for Microeconomics 1 (graduate),
coordinator of the Economic Theory Lunch Seminar winter 2024
- *instructor* for an exercise course on Risk and Insurance (undergraduate)
including preparing exercise sheets and oral examinations summer 2023 & 2024
- *instructor* for a reading group on
“Recent developments in game theory and general equilibrium theory”
(graduates, PhD candidates, postdocs) winter 2022
- *teaching assistant* in mathematics for economists 2 winter 2021
- *teaching assistant* in microeconomics 2 (graduate) summer 2020
- *tutor* for game theory (undergraduate) winter 2019

Heidelberg University

- *teaching assistant* in complex analysis 1 (undergraduate)
including preparing exercise sheets and written examinations summer 2018
- *teaching assistant* in complex analysis 2 (undergraduate)
including preparing exercise sheets and oral examinations winter 2016
- *tutor* for real analysis, algebra, complex analysis (undergraduate) 2015–2019

talks & meetings

upcoming talks

- *Strategic communication of narratives* 2025
Talk at the Annual Conference 2025 of the Germany Economic Association (Verein für Socialpolitik)
in Cologne, Germany, September 2025.

past talks & meetings

- *Correlation Uncertainty: a decision-theoretic approach* **2025**
Talk and poster presentation at the 14th International Symposium on Imprecise Probabilities (ISIPTA) in Bielefeld, July 15, 2025.
- *Strategic communication of narratives* **2025**
Talk at the XXIV SAET Conference on Ischia, Italy, July 1, 2025.
- *Strategic communication of narratives* **2025**
Talk at the 14th Lisbon Meetings in Game Theory and Applications, Lisbon, Portugal, June 20, 2025.
- *Correlation Uncertainty: a decision-theoretic approach* **2025**
Talk at the Workshop on “Unforeseen Contingencies: Representations and Applications” in Grenoble, France, June 5, 2025.
- *Strategic communication of narratives* **2025**
Talk at the Seminar of Economics and Management (SEAM) at Paderborn University, Germany, May 18, 2025.
- *Strategic communication of narratives* **2025**
Talk at the Groupe d'Analyse et de Théorie Economique (GATE) at Saint-Étienne University, France, May 13, 2025.
- Guest of the *Standing Committee for Economic Theory* of the Germany Economic Association (Verein für Socialpolitik), May 9-10 in Berlin, Germany. **2025**
- *Correlation Uncertainty* **2025**
Talk at the 2nd Workshop on Learning Under Weakly Structured Information in Tübingen, Germany, April 8, 2025.
- *Strategic communication of narratives* **2024**
Talk at the ADRES conference in Strasbourg, France, January 30, 2025.
- *Strategic communication of narratives* **2024**
Talk at the LEMMA séminaire in Paris Panthéon-Assas, France, October 8, 2024.
- *The Texas Shoot-Out under Knightian Uncertainty* **2024**
Talk at the Conference on Mechanism and Institution Design in Budapest, Hungary, July 12, 2024.
- *The Texas Shoot-Out under Knightian Uncertainty* **2024**
Talk at the ESEM 2024 in Rotterdam, Netherlands, August, 2024.
- *Effects of noise on the grammar of languages* **2024**
Talk at the 2nd Paris Workshop on Games, Decisions, and Language in Paris, France, on June 13, 2024.
- *Ambiguity aversion and the direction of dynamic inconsistency in sender-receiver games of common interest* **2023**
Talk at the SAET 2023 in Paris, France, on July 17, 2023).
- *The Texas Shoot-Out under Knightian Uncertainty* **2023**
Talk at the Summer School on Risk and Uncertainty in Economics, Insurance and Finance 2023 in Bielefeld, Germany, on July 7, 2023.
- *The Texas Shoot-Out under Knightian Uncertainty* **2023**
Talk at the RUFFE 2023 conference in Johannesburg, South Africa, on April 4, 2023.
- *The Texas Shoot-Out under Knightian Uncertainty* **2022**
Talk at the Stony Brook International Conference on Game Theory in Stony Brook, Long Island, on July 21, 2022.
- *The Texas Shoot-Out under Knightian Uncertainty* **2022**
Online talk at the SAET 2022 at the ANU on July 21, 2022)
- *The Texas Shoot Out under Knightian Uncertainty* **2022**
Talk at the economics seminar at the Eller College of Management at the University of Arizona, Tucson on March 23, 2022.

- *What did you say? Introducing a Metric-Dependent Stochastic Noise to Voronoi Languages* **2022**
IBE/Brown bag seminar at the Eller College of Management at the University of Arizona, Tuscon on February 10, 2022.
- *Effects of noise on the grammar of Voronoi languages* **2021**
Online talk the advanced seminar on general linguistics at the University of Tübingen on May 4, 2021.

research stays

University of Basel, Switzerland **2024 & 2025**
Guest researcher at Basel University, March 18–22, 2024 & February 23–March 2. Invited by Georg Nöldeke and Lorenz Hartmann.

University of Arizona, USA **2022**
Research stay from January to May 2022 at the Eller College of Management, University of Arizona. Financial support through a DAAD scholarship and a BGTS mobility grant. Invited by Prof. Andreas Blume, PhD.

referee activities

Economic Theory, Games and Economic Behavior, International Journal of Game Theory, Journal of Economic Behavior & Organization

scholarships, nominations & rewards

- Best Teaching Price (Tutorial Microeconomics 2, graduate) **summer 2025**
- French professorial qualification (qualification MCF) in economics (section 5) and mathematics (section 25) **winter 2024/2025**
- Best Teaching Price (Tutorial Microeconomics 1, graduate) **winter 2024/2025**
- Best Dissertation Prize of Bielefeld University **2024**
- DAAD doctoral scholarship **2022**
- BGTS mobility grant **2022**

technical skills

sagemath, maple, mathematica, L^AT_EX, python, html, haskell, C++, desktop management with ivanti landesk (citrix), Roxen 17 (CMS)


languages

German (native), English (business competence), Swedish (fluent), French (upper intermediate, B2), Chinese (intermediate, HSK 4)

extracurricular activities

- Mid-level faculty representative of the Bielefeld Graduate School of Economics and Management **2024-actual**
- Representative of the academic mid level at the Faculty of Economics and Business Administration at Bielefeld University since October 2024 **2024-actual**
- Doctoral Representative of the Bielefeld Graduate School of Economics and Management from May 2021 to October 2023 **2021–2023**
- Member of the German-Swedish Society, Heidelberg e.V. **2019-actual**

hobbies

 hiking, table tennis, apnea diving, climbing, wave surfing

 learning new languages

 admirer of the poems by Wallace Stevens

references

For reference you may contact:

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Tucson, Arizona 85721-0108
USA

Prof. Dr. Yves Breitmoser
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