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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've used my mathematical background to analyze conflict resolution under Knightian uncertainty and study the impact of noise on the grammar of languages.

🏢 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

🎓 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.

📌 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. “Effects of Noise on the Grammar of Languages”. In: *Center for Mathematical Economics Working Papers* (2021). Available at <https://pub.uni-bielefeld.de/record/2957927>.

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

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). Dissertation available at <https://pub.uni-bielefeld.de/record/2988256>.

teaching

Bielefeld University 2019–actual

- *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
- *eaching 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

upcoming talks

- *The Texas Shoot-Out under Knightian Uncertainty* 2024
Talk at the Conference on Mechanism and Institution Design in Budapest, Hungary, July 2024.
- *The Texas Shoot-Out under Knightian Uncertainty* 2024
Talk at the ESEM 2024 in Rotterdam, Netherlands, August 2024.

past talks

- *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 RUFE 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, Tuscon 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**
Guest researcher at Basel University, March 18–22, 2024. 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

scholarships

- 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

- 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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