DANIEL KOSTIC
Curriculum Vitae
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HIGHLIGHTS

- **Research profile:** I work on scientific explanation, explanatory pluralism, and complexity, including an account of topological (network) explanations, an extension to non-causal explanation, and a pragmatic account of explanatory relevance. I also study the pragmatics of explainability in AI and use text-mining to investigate explanatory practice in neuroscience.
- **Areas of expertise:** Philosophy of science (particularly neuroscience, cognitive science, biology, ecology, and biomedical sciences); metaphysics; philosophy of AI; philosophy of mind; science and technology studies.
- **Publications:** 32 publications, in journals such as *Philosophy of Science*, *Synthese*, and *Philosophical Transactions of the Royal Society B: Biological Sciences*.
- **Research funding:** Approximately €457,000 in competitive research funding, including a Marie Skłodowska-Curie Individual Fellowship under Horizon 2020 (€185,076) and a Radboud Excellence Initiative Fellowship (€205,300), alongside additional competitive grants and scholarships.
- **Academic leadership:** Co-founder and founding coordinator of the East European Network for Philosophy of Science (EENPS, 2015–2020); co-founder and coordinator of the Dutch Distinguished Lecture Series in Philosophy and Neuroscience (DDLS, 2020–2022); co-founder and co-coordinator of the annual Scientific Understanding and Representation (SURe) workshop series (2019–present; eight editions).
- **Teaching and mentoring:** Designed and taught 16 university courses at undergraduate, master's, and doctoral levels, including courses with enrolments exceeding 300 students. Holds a Dutch University Teaching Qualification; teaching evaluations average 8–9/10. Supervised or co-supervised three MA theses and co-supervised two PhD projects. Mentors early-career scholars through EENPS and the Philosophy of Science Association's Underrepresented Scholars Mentoring Program.
- **International research service:** Expert evaluator of research proposals for the US National Science Foundation (NSF), the European Commission's Marie Skłodowska-Curie Postdoctoral Fellowships, the Dutch Research Council (NWO), the French National Research Agency (ANR), the Austrian Science Fund (FWF), and the German Academic Exchange Service (DAAD).

WORK EXPERIENCE

2025-	(Tenured) Associate Professor, Institute of Philosophy and Sociology | Polish Academy of Sciences.
2026-2027	Senior Research Associate (part-time), Faculty of Philosophy | University of Maribor.
2025-2027	Visiting Researcher, Donders Centre for Neuroscience | Radboud University.
2025-2025	Visiting Lecturer, University of Groningen | Faculty of Philosophy.
2023-2024	Research Fellow in Humane AI, Leiden University | Institute for Philosophy.
2020-2022	Radboud Excellence Initiative Fellow, Radboud University | Institute for Science in Society (ISiS).

2018-2020	Postdoctoral Researcher, University Bordeaux Montaigne | Department of Philosophy.
2016-2018	Marie Skłodowska-Curie Fellow, Institute for History and Philosophy of Science and Technology (IHPST) | University Paris 1 Panthéon-Sorbonne & French National Centre for Scientific Research.
May 2016	European Philosophy of Science Association (EPSA) Visiting Fellow, IHPST | University Paris 1 Panthéon-Sorbonne & French National Centre for Scientific Research.
2014-2016	Research Associate, University of Belgrade | Institute for Philosophy.
2012-2013	Principal Investigator, University of Novi Sad | Laboratory for Experimental Psychology.

EDUCATION

2012	Humboldt Universität zu Berlin, PhD in Philosophy.
Thesis Title	"The explanatory gap problem: how neuroscience might contribute to its solution".
Advisers	Michael Pauen, David Papineau, Christoph Herrmann.
2009-2010	King's College London, visiting research PhD student worked with Prof. David Papineau.
May 2007	Otto-Von-Guericke-Universität Magdeburg, visiting research PhD student worked with Prof. Michael Pauen.
2004-2007	University of Vienna, Graduate Program in Philosophy (transferred to Humboldt).
2003	University of Belgrade, BA in Philosophy.
Thesis Title	"The Turing Test and the Zombie Arguments".

LIST OF PUBLICATIONS

❖ Peer reviewed journal articles

1. de Regt, H. W., de Boer, N., Coumans, V., Cornelissen, M., De Haro, S., Disberg, P., González Barman, K., Kleinhans, M., **Kostić, D.,** and Schoenmakers, L. L. J. (2026). "Scientific Understanding Across Disciplines: In Varietate Concordia?" *Journal for General Philosophy of Science*.
2. Kostić, D. and Pincock, C. (2026) "Non-causal explanations of social and biological networks". *Philosophy of Science*: 1–10. doi: 10.1017/psa.2026.10231.
3. Kostić, D. and Khalifa, K. (2025). "Does Functional Connectivity Explain?" *Synthese*, 206:207. https://doi.org/10.1007/s11229-025-05296-w
4. Barman, K. G., Caron, S., Sullivan, E., de Regt, H. W., de Austri, R. R., Boon, M., Färber, M., Fröse, S., Golling, T., Lopez, L. G., Hasibi, F., Heinrich, L., Ipp, A., Kapoor, R., Kasieczka, G., **Kostić**, D., Krämer, M., Marco, J., Otten, S., Pawlowski, P., Vischia, P., Weber, E., Weniger, C. (2025). "Large physics models: towards a collaborative approach with large language models and foundation models". *European Physical Journal C*. 85, 1066. https://doi.org/10.1140/epjc/s10052-025-14707-8
5. Kostić, D. (2024). "On the Role of Erotetic Constraints in Non-causal Explanations". *Philosophy of Science, 91(5), 1078–1088. doi:10.1017/psa.2023.114*
6. Kostić, D., Halffman, W. (2023). "Mapping Explanatory Language in Neuroscience". *Synthese 202, 112. https://doi.org/10.1007/s11229-023-04329-6*.
7. de Boer, N., **Kostić**, D., Ross, M., de Bruin, L., Glas, G. (2022) "Using Network Models in Person-centered Care in Psychiatry: How Perspectivism Could Help to Draw Boundaries." *Frontiers in Psychiatry*, 13:925187, doi: 10.3389/fpsyt.2022.925187.
8. Kostić, D. and Khalifa, K. (2022). "Decoupling Topological Explanations from Mechanisms." *Philosophy of Science, 90(2), 245-268.*

9. Khalifa, K., Islam, F., Gamboa, J.P.,Wilkenfeld, D. A., **Kostić**, D. (2022). "Integrating Philosophy of Understanding with the Cognitive Sciences", *Frontiers in Systems Neuroscience. 16:764708. doi: 10.3389/fnsys.2022.764708*.
10. Kostić, D. and Khalifa, K. (2021) "The Directionality of Topological Explanations." *Synthese,* 199, 14143–14165 (2021). https://doi.org/10.1007/s11229-021-03414-y.
11. Kostić, D. (2020). "General Theory of Topological Explanations and Explanatory Asymmetry". *Philosophical Transactions of the Royal Society B: Biological Sciences*, 375: 20190321.
12. Kostić, D., Hilgetag, C., Tittgemeyer, M. (2020). "Unifying the Essential Concepts of Biological Networks". *Philosophical Transactions of the Royal Society B: Biological Sciences,* 375: 20190314.
13. Kostić, D. (2019). "Minimal Structure Explanations, Scientific Understanding and Explanatory Depth", *Perspectives on Science*, 27 (1), 48-67.
14. Kostić, D. (2019). "Unifying the Debates: Mathematical and Non-Causal Explanations", *Perspectives on Science*, 27 (1), 1-6.
15. Kostić, D. (2018). "The Topological Realization". *Synthese*, 195(1), 79-98.
16. Kostić, D. (2018). "Mechanistic and Topological Explanations: an Introduction". *Synthese*, 195(1), 1-10.
17. Kostić, D. (2017). "Explanatory Perspectivalism: Limiting the Scope of the Hard Problem of Consciousness". *Topoi*, 36(1), 119-125.
18. Kostić, D. (2012). "Foundations of Transparency of Explanations: Semantic Realization", *Treci program* 156/IV, pp. 1-12.
19. Kostić, D. (2012). "The Vagueness Constraint and the Quality Space for Pain", *Philosophical Psychology*, 25 (6), pp. 929-939.
20. Kostić, D. (2011). "The Two-dimensional Argument Against Physicalism and the Conceptual Analysis", *Belgrade Philosophical Annual*, 24, pp. 05-17.
21. Kostić, D. (2011). "The Explanatory Gap Account and Intelligibility of Explanation", *Theoria*, LIV, 3, pp. 27-43.

❖ **Invited book chapters**

22. Kostić, D. (2022). "Topological Explanations, an Opinionated Appraisal." In Lawler, I., Shech, E. and Khalifa, K. (eds): *Scientific Understanding and Representation: Mathematical Modeling in the Life and Physical Sciences*, Routledge, pp. 96-115. DOI: 10.4324/9781003202905-9.
23. Kostić, D. (2016). "The Role of Topological Representation of the Brain in Understanding its Properties, Functions and Behaviors", in *„Aspects of the Mental Representation Problems"*, Gvozdenovic, V. (Ed.), Akademska Misao, Belgrade.

❖ **Monographs**

24. Kostić, D. (2012). "The Explanatory Gap Problem – How Neuroscience Might Contribute to its Solution", Berlin, *Humboldt Universität zu Berlin*, DOI: 10.18452/16447.

❖ **Edited volumes**

25. Woodward, J. F. and Kostić, D. (2026). "New Work on Networks". Special Issue in *Synthese*.
26. Kostić, D., Hilgetag, C., Tittgemeyer, M. (2020). "Unifying the Essential Concepts of Biological Networks: Biological Insights and Philosophical Foundations", a Theme Issue in *Philosophical Transactions of the Royal Society B: Biological Sciences*.
27. Kostić, D. (2019). "Unifying the Debates: Mathematical and Non-causal Explanations", Special Issue in *Perspectives on Science*, 27 (1).
28. Kostić, D. (2018)."Mechanistic and Topological Explanations", Special Issue in *Synthese 195*(1).
29. Kostić, D. (2014). "Explanation, Evidence, Theory", Special Issue in *Treci program*, 163 (III).
30. Kostić, D. (2012). "Structure of Explanations", Special Issue in *Treci program*, 56 (IV).

❖ **Book reviews**

31. Kostić, D. (2018). "The Ultimate Articulation of the Account of Explanatory Understanding", Metascience, 28 (1): 61–64. (Review of K. Khalifa, *Understanding, Explanation, and Scientific Knowledge*.)

❖ **Commentaries**

32. Milkowski, M., and **Kostić**, D. (2023). "Forging Connections: Uniting Neuroscience and Philosophy of Science." eLetter, Levenstein, Daniel, et al. "On the role of theory and modeling in neuroscience." *Journal of Neuroscience*, 43.7 (2023): 1074-1088. https://www.jneurosci.org/content/43/7/1074/tab-e-letters#forging-connections-uniting-neuroscience-and-philosophy-of-science.

❖ **Under review**

33. Kostić, D. and Pincock, C. "Explanatory Underdetermination in Complex Systems." Invited contribution to a special issue on causality and complexity, *European Journal for Philosophy of Science*, eds. James Ladyman and Tobias Henschen.
34. Woodward, J. F. and **Kostić**, D. "New Work on Networks: Taking Stock and Setting the Agenda". in *Synthese*.

❖ **In progress**

35. Kostić, D. "Philosophical Foundations of Topological Explanations", a book manuscript.
36. Kostić, D., and Tintarev, N. "Pragmatics of Explainability Relevance in AI".
37. Kostić, D., Milkowski, M. "Text-mining Taxonomies of Opacity Contexts".
38. Khalifa, K., Kostić ,D., Mamana, J. R. "Social Networks and Strong Explanatory Pluralism."

PEDAGOGICAL EXPERIENCE

❖ **Teaching Qualifications**

08 July 2022: *University Teaching Qualification* from Radboud University. A nationally recognized certification in Dutch academia, the UTQ demonstrates proficiency in university-level teaching, including course design, effective teaching methods, student assessment, supervision of students, and reflective practice. It ensures adherence to high-quality education standards and is transferable across all Dutch universities.

❖ **Courses taught (SS-Summer semester; WS-Winter semester)**

SS 2025 BA3 level (Bachelor Philosophy of a Specific Discipline). *Philosophy of Illness and Medicine*, at University of Groningen. Number of students: 21.

SS 2025 BA3 level (Bachelor Philosophy of a Specific Discipline). *Philosophy of the Life Sciences*, at University of Groningen. Number of students: 21.

WS 2024 BA2 level (Bachelor programme Philosophy). *Philosophy of Science*, at Institute for Philosophy, Leiden University. Number of students: 76.

SS 2024 BA1 level (Bachelor International Studies / Urban Studies programme). *Philosophy of Science and the City*, at Leiden University. Number of students: 77.

WS 2023 MA level (MA programme Philosophy). *Philosophy of AI*, at Institute for Philosophy, Leiden University. Number of students: 6.

SS 2023 BA3 level (Bachelor programme Philosophy). *Philosophy of Neuroscience*, at Institute for Philosophy, Leiden University. Number of students: 26.

WS 2022 MA level (MA programme Science in Society). *Philosophy of Neuroscience*, at ISiS, Radboud University. Number of students: 28.

SS 2022 BA1 level (Bachelor of Science programme). *Introduction to Philosophy & Ethics* at ISiS, Radboud University. Number of students: 322.

WS 2021 MA level (MA programme Science in Society). *Science and Values* at ISiS, Radboud University. Number of students: 109.

WS 2021 MA level (MA programme Science in Society). *Philosophy of Neuroscience* at ISiS, Radboud University. Number of students: 9.

SS 2021 BA1 level (Bachelor of Science programme). *Introduction to Philosophy & Ethics* at ISiS, Radboud University. Number of students: 330.

SS 2021 MA level (MA programme Science in Society). *Science and Values* at ISiS, Radboud University. Number of students: 76.

SS 2019 MA level (MA programme in Philosophy). *Introduction to Philosophy of Science*, at the Philosophy Department, University Bordeaux Montaigne, France. Number of students: 24.

WS 2018 PhD level (PhD programme in Philosophy). *A Theory of Topological Explanations*, at the School of Philosophy, Beijing Normal University, China. Number of students: 12.

SS 2016 PhD level (PhD programme in Psychology). *Introduction to Metaphysics of Science*, within the graduate program "Models of knowledge and explanation in psychology" at the Department of Psychology, University of Novi Sad, Serbia. Number of students: 10.

WS 2015 PhD level (PhD programme in Psychology). *Introduction to Philosophy of Science*, within the graduate program "Models of knowledge and explanation in psychology" at the Department of Psychology, University of Novi Sad, Serbia. Number of students: 10.

❖ **Supervision-Master theses**

2022 Advisor, MA thesis by Tom van Iersel, thesis title: "Ethical Issues of Emerging Neuroimaging Technologies", at Radboud University.

2021 Advisor (with Leon de Bruin), MA thesis by Marcos Ross, thesis title: "The Complexity of Well-being: A Network Analysis", at the VU Amsterdam.

2019 Co- advisor (with Cédric Brun), master thesis by Théo Cazemajou, thesis title: "The Problem of Scientific Inquiry of Consciousness", at the Philosophy Department, University Bordeaux Montaigne, France.

❖ **Supervision-PhD theses**

2023 Co-advisor (with James McAllister and Marcin Miłkowski), a co-tutelle (Leiden-Polish Academy of Sciences), PhD thesis by Marcin Rabiza, dissertation title: "Opening the Black Box: Scientific Understanding and Explainable AI", at Leiden University, The Netherlands.

2020 Co-advisor (with Cédric Brun), PhD thesis by Marie Penavayre, dissertation title: "Epistemological issues of the judicial use of neurosciences: an analysis of the explanatory power of neurocriminology", at the Philosophy Department, University Bordeaux Montaigne, France.

Volunteer Mentoring

2025–2026 Dalibor Makovnik (postdoc, Comenius University, Bratislava), through the East European Network for Philosophy of Science (EENPS) mentoring program.

2022–2023 Soyeong An (PhD student, Ohio State University), through the Philosophy of Science Association's Underrepresented Scholars Mentoring Program.

GRANTS, SCHOLARSHIPS, AND AWARDS
(Total: € 457,273)

❖ **Grants**

2025 The National Science Centre (Poland), program Vectors of Science, funding for the 8th "Scientific Understanding and Representation" annual workshop that will take place at Polish Academy of Sciences 27-29 May 2026, in Warsaw. *Total amount:* ***€4,500***.

2023 Leiden University Fund, a grant for participation at the 5th Annual Workshop Scientific Understanding and Representation (SURe) in Toronto, Canada. *Total amount:* ***€1,000***.

2020-2022 Radboud Excellence Initiative Fellowship (Radboud Excellence Initiative). *Total amount:* ***€205,300.***

2016-2018 Marie Skłodowska-Curie Fellowship (EU's H2020-MSCA-IF-2015 Programme). *Total amount:* ***€185,076.***

May 2016 European Philosophy of Science Association Fellowship at the IHPST (CNRS/Université Paris I Sorbonne). *Total amount:* ***€1,905.***

2014-2016 Philosophy of Science Association (USA) Travel Grant. *Total amount:* ***€210.***

2012-2014 Research Grant of the Provincial Secretariat for Higher Education and Scientific Research (Serbia). *Total amount:* ***€11,032.***

2009 Villigst grant for a research stay at King's College London. *Total amount:* ***€5,000.***

May 2007 Research Grant of Otto-Von-Guericke-Universität Magdeburg (Germany). *Total amount:* ***€850.***

❖ **Scholarships**

2007-2010 Villigst-Doctoral Scholarship. *Total amount:* ***€41,400.***

❖ **Awards**

2000 Award of the Royal Norwegian Embassy for the best 1000 students in all disciplines and from all Universities in (former) Yugoslavia. *Total amount:* ***€1,000.***

SERVICE TO THE PROFESSION/LEADERSHIP

2025 **EPSA** Nomination Committee (with Alyssa Ney and Lorenzo Cassini).

❖ **Grant and scholarship evaluation panels**

2026 Expert evaluator for the European Commission's Horizon Europe MSCA Postdoctoral Fellowship programme.

2026 Expert evaluator for the 2026 Generic Call for Proposals (2026 AAPG) of the **French National Research Agency's (ANR)**. Evaluated grant proposals with a budget of **€800,000.**

2024 Expert evaluator for the Austrian Special Research Area (SFB) Programme of the **FWF Austrian Science Fund**. Evaluated consortia grant proposals with a budget of **€4 million**.

2022 Expert evaluator for the Science and Technology Studies (STS) Program at the **National Science Foundation (NSF)**, USA. Evaluated grant proposals with a budget of **$500,000**.

2021 Expert evaluator for the START Programme of the **FWF Austrian Science Fund**. Evaluated grant proposals with a budget of **€1,5 million**.

2019 Expert reviewer for the VENI funding program of the **Dutch NWO** Social Sciences and Humanities Board. Evaluated grant proposals with a budget of **€ 216,000**.

2015 **The German Academic Exchange Service** (**DAAD**) - Chair of the section for Philosophy and Psychology of the selection committee for master's scholarships.

❖ **Coordination experience of professional networks, and societies**

2020-2022 Co-founder and coordinator of The Dutch Distinguished Lecture Series in Philosophy and Neuroscience. http://daniel-Kostic.weebly.com/dutch-distinguished-lecture-series.html

2019- Co-founder and co-coordinator of the Annual Workshop Series "Scientific Understanding and Representation (SURe). https://sure-workshop.weebly.com

2015 Co-founder and founding coordinator (until 2020) of the East European Network for Philosophy of Science (EENPS). https://eenps.weebly.com

❖ **Organization of international workshops, and symposia**

27-29 May '26 Co-Organizer (with Anna Martin, and Marcin Miłkowski) of the workshop: "8th SURe Workshop" at The Polish Academy of Sciences, Warsaw, Poland. https://sure-workshop.weebly.com/current-workshop.html

16-21 Mar '26 Co-Organizer (with Francesco Battaglia and Katalin Gothard) of the workshop: "Brain, organisms, living communities: a foundation for neuroscience beyond computation" at The Lorentz Center, The Netherlands. https://shorturl.at/hccAa

15-17 Apr '21 Co-Organizer (with Henk de Regt) of the workshop: "3rd Scientific Understanding and Representation (SURe) annual workshop" at ISiS, Radboud University, The Netherlands. https://sure-workshop.weebly.com/the-3rd-sure-nijmegen-2021.html

7-12 Jul '19 Organizer of the symposium: "Idealizations in Computational Neuroscience: Facticity, Pragmatics and the Coding Heuristics" at the 2019 Meeting of the International Society for the History, Philosophy and Social Studies of Biology in Oslo, Norway.

5-6 Feb '19 Co-Organizer (with Kareem Khalifa and Cédric Brun), Inaugural Workshop "Scientific Understanding and Representation (SURe)" at University Bordeaux Montaigne, France. http://daniel-Kostic.weebly.com/sure-workshop.html

4-6 Apr '18 Organizer, International workshop "Levels, Hierarchies and Asymmetries" at the Ecole normale supérieure in Paris, France. https://daniel-Kostic.weebly.com/workshops.html

03 Nov '17 Organizer, International workshop "Understanding from models" at the IHPST in Paris, France. https://Kostic-workshops.weebly.com

28-29 Jun '17 Organizer, International workshop "Unifying the debates: mathematical and non-causal explanations" at the IHPST in Paris, France. http://Kostic.weebly.com

6-8 Nov '14 Organizer, Symposium "What's New in Network Analysis" at the Twenty-Fourth Biennial Meeting of the Philosophy of Science Association in Chicago.

❖ **Conference program committees**

2026 Poster Program Committee for the 2026 biennial meeting of the Philosophy of Science Association in San Diego.

2025 Member of the local organizing committees for the EPSA 2027 bids at University of Warsaw & The Polish Academy of Sciences, and another at University of Ljubljana.

2025 Member of the Program Committee of the CLEAR-AI Workshop "Collaborative Methods and Tools for Engineering and Evaluating Transparency in AI" at ECAI 2025, in Bologna, Italy.

2025 Member of the Program Committee of PSA Around the World 2025, Philosophy of Science Association. https://www.philsci.org/psa_around_the_world_2025.php

2025 Convenor and member of the program committee for the Seventh Annual Workshop "Scientific Understanding and Representation (SURe) at University of Miami, USA. https://sure-workshop.weebly.com/current-workshop.html

2024 Convenor and member of the program committee for the Sixth Annual Workshop "Scientific Understanding and Representation (SURe) at LSE/University of Cambridge, UK. https://sure-workshop.weebly.com/the-6th-sure-lse-london.html

2023 Reviewer for the 15th Conference of the Italian Society for Analytic Philosophy (SIFA) "Who is Afraid of Philosophy? New Challenges for Contemporary Society", at University of Eastern Piedmont. http://sifaphilosophy.eu/?p=4958

2023 Convenor and member of the Program Committee of the Fifth Annual Workshop "Scientific Understanding and Representation (SURe) at University of Toronto. https://sure-workshop.weebly.com/the-5th-sure-toronto-2023.html

2022 Convenor and member of the Program Committee of the Fourth Annual Workshop "Scientific Understanding and Representation (SURe) at Fordham University in New York. https://sure4.weebly.com

2021 Co-chair of the Program Committee of the Third Annual Workshop "Scientific Understanding and Representation (SURe) at Radboud University in Nijmegen. https://sure-workshop.weebly.com/the-3rd-sure-nijmegen-2021.html

2021 Member of the Program Committee of the Third East European Network for Philosophy of Science (EENPS) annual Meeting, at Belgrade University. https://eenps.weebly.com/eenps-2021.html

2018 Member of the Program Committee of the Second East European Network for Philosophy of Science (EENPS) annual Meeting in Bratislava. https://eenps.weebly.com/eenps-2018.html

2017 Member of the Program Committee of the European Philosophy of Science Association Conference (EPSA17), University of Exeter. https://philsci.eu/epsa17_organization

2016 Co-chair of the Program Committee of the Inaugural Conference of the East European Network for Philosophy of Science in Sofia. https://eenps.weebly.com/eenps-2016.html

❖ **Editorial and refereeing experience**

Editorial board:
- *Analiza: Journal for Critical Thought*
- *MetaScientia, Journal of the History and Philosophy of Science*

Guest Editor:
- *Philosophical Transactions of the Royal Society B: Biological Sciences*
- *Synthese*
- *Perspectives on Science*

Reviewer for: • *Inquiry* • *Philosophers' Imprint* • *Analysis* • *Neuroimage* • *The British Journal for the Philosophy of Science* • *Philosophy of Science* • *Synthese* • *Erkenntnis* • *Minds and Machines* • *Studies in History and Philosophy of Science* • *Philosophy & Biology* • *European Journal for Philosophy of Science* • *International Journal for the Philosophy of Science* • *Philosophical Psychology* • *Topoi: An International Review of Philosophy* • *Theory in Biosciences* • *Foundations of Science* • *Organon F* • *Croatian Journal of Philosophy*

INVITED TALKS

10 Aug 2026 "Complexity Underdetermination: Pragmatic and Ontic Constraints on Explanation", Keynote in the CASIP Symposium on Understanding, Models, and Explanation in Science, at Chinese Academy of Sciences, Beijing. Joint work with Chris Pincock.

22 Nov 2025 "Assessing Degrees of Understanding with Optimization Models", in the Symposium *Quantifying and Optimizing Scientific Understanding*, at the Philosophy of Science Around the World 2025 conference.

02 May 2025 "'Do Functional Connectivity Models Explain?", in the Philosophy of Science Lecture Series at The Hong Kong University of Science and Technology. Joint work with Kareem Khalifa.

24-25 Jun 2025 "Topological Explanation", at the Society for the Metaphysics of Science Summer School, online. With James F. Woodward.

8-11 Oct 2024 "Exploring the Philosophical Dimensions of Network Modeling", at the Autumn School: Networks – An Interdisciplinary Perspective on Connectivity, at University of Tübingen, Germany.

19-20 Oct 2023 "Narrow and General Pragmatic Accounts of Explainability Relevance", at the Annual Bergen Philosophy of Science Workshop, University of Bergen, Norway.

23 Jun 2021 "Perspectivism and Vertical-Horizontal Explanatory Modes in Ecological Networks", at The Carl Friedrich von Weizsäcker-Colloquium, University of Tubingen, Germany. Joint work with Nathalie Niquil.

12 Mar 2021 "Veridicality Problem in Non-Causal Explanations" at the workshop: Transdisciplinary Model Transfer and its Interfaces, in Vienna, Austria.

13 Oct 2020 "Understanding the Relationship Between Structural and Functional Connectivity?" at Neurophilosophy seminar at VU Amsterdam, The Netherlands. Joint work with Henk de Regt, Leon de Bruin, and Marc Slors.

23 Jan 2020 "Towards a Unifying Account of Causal and Non-causal Explanations" at the Konrad Lorenz Institute for Evolution and Cognition Research (KLI), Vienna-Klostenburg, Austria.

22 Oct 2019 "Towards a Unifying Account of Causal and Non-causal Explanations" at the Institute for Science in Society, Radboud University, Nijmegen, the Netherlands.

11 Jun 2019 "Unifying Account of Causal and Non-causal Explanations" at the Duesseldorf Center for Logic and Philosophy of Science, Heinrich Heine University Duesseldorf, Germany.

13 Feb 2019 "Unifying the Essential Concepts of Biological Networks: Explanatory Directionality" at the Laboratory BOREA - Biologie des Organismes et Ecosystèmes Aquatiques Université de Caen-Normandie, France.

15 Nov 2018 "Topological Controllability of the Brain & Non-causal Explanatory Asymmetries" at the Department of the History of Science at Tsinghua University in Beijing, China.

15-16 Feb 2018 "Non-causal Asymmetries in Topological Explanation", at the workshop: Explanatory Practices: Interaction, Dialogues, and Cognitive Processes, organized by the Center for Philosophy of Sciences (CFCUL) of the University of Lisbon, Portugal.

12 Dec 2017 "Topological Asymmetries and the Norms for Distinguishing Explanatory and Representational Role of Mathematics in Scientific Explanation" at the workshop Applicability of Mathematics: Representation and Explanation', University of Leeds, UK.

01 Dec 2017 "Minimal Structure Explanations and Explanatory Depth" in the Genoa-Turin Seminars on Neural Mechanisms, Turin, Italy.

06-07 Mar 2015 "Topological Models and Minimal Model Explanations", invited talk at the Meeting of the Danish Society for Philosophy in Aarhus, Denmark.

27 Mar 2012 "On the Difference Between the Explanatory Gap and the Hard Problem of Consciousness and Why it Matters", invited talk at the Laboratory for Experimental Psychology of the University of Novi Sad, Serbia.

17 Feb 2012 "Conscious-state Anti-realism" (by Pete Mandik) invited commentary at the Fourth Online Consciousness Conference.

PEER-REVIEWED CONFERENCE PRESENTATIONS

14-17 Nov 2024 "Non-causal explanations of social and biological networks", within the symposium "Causality and Explanation in Network Models", at the *Philosophy of Science Association (PSA) 29th biennial meeting* in New Orleans, USA. Joint work with Chris Pincock.

29-31 Jul 2024 "Understanding in Large Language Models: Exploring the Role of Agency" at the conference *Large Language Models & Philosophy of Mind/The 9th Descartes Lectures*, at Tilburg University, The Netherlands.

29-6 Jan 2024 "Using Question-Answering Machines to Increase Human Scientific Understanding" at the workshop *Physics & question-answering machines: artificial scientific understanding?*, at The Lorentz Center, The Netherlands. Joint work with Jelena Prokić.

20-23 Sep 2023 **"**Pragmatics for Explainable AI", at the *European Philosophy of Science Association (EPSA23) meeting*, in Belgrade, Serbia.

19-20 May 2023 "Pragmatics for Explainable AI", at the *5th annual SURe* workshop in Toronto, Canada.

10—13 Nov 2022 "On the Role of Perspectival Constraints in Scientific Explanations", within the Symposium "Constraints and Scientific Explanation" at the *Philosophy of Science Association (PSA) 28th biennial meeting* in Pittsburgh, USA. Participants: Marc Lange, Dani Bassett, Daniel Kostic, and Lauren Ross.

15—17 Aug 2022 "Empirical Evidence for the Claims About the Pervasiveness of "Mechanisms" in Life Sciences" at the *GWP.2022 The Fourth International Conference of the German Society for Philosophy of Science*, Technische Universität Berlin. Joint work with Willem Halffman.

02—04 Jul 2022 "Empirical Evidence for the Claims about the Pervasiveness of "Mechanisms" in Brain and Life Sciences" at the *9th Biennial Conference of the Society for Philosophy of Science in Practice* in Ghent, Belgium. Joint work with Willem Halffman.

11-14 Nov 2021 "Veridicality Problem in Non-Causal Explanations", at the *Philosophy of Science Association (PSA) 27th Biennial Meeting* in Baltimore, USA.

05-10 Jul 2021 "Can Structure Explain Function in the Brain?" at the *Networks 2021: A Joint Conference of Sunbelt and NetSci*, USA, Joint work with Henk de Regt, Leon de Bruin and Marc Slors.

15-17 Apr 2021 "Perspectivism and Vertical-Horizontal Explanatory Modes in Ecological Networks", at *3rd Scientific Understanding and Representation (SURe)* workshop organized at ISiS, Radboud University, Joint work with Nathalie Niquil and Quentin Nogues.

11-14 Sep 2019 **"**Non-causal Understanding via Spatially Embedded Networks in the Brain", at the *European Philosophy of Science Association (EPSA19) meeting EPSA19*, at the University of Geneva, Switzerland.

5-10 Aug 2019 **"**Facticity of Understanding in Non-causal Explanations", at *CLMPST2019: 16th International Congress of Logic, Methodology and Philosophy of Science and Technology* at the Institute of Philosophy of the Czech Academy of Sciences, in Prague, Czech Republic.

7-12 Jul 2019 "Non-causal Understanding via Spatially Embedded Networks in the Brain" within the symposium: "Idealizations in Computational Neuroscience: Facticity, Pragmatics and the Coding Heuristics" at the *2019 Meeting of the International Society for the History, Philosophy and Social Studies of Biology* in Oslo, Norway.

25-27 Feb 2019 "Non-causal Explanatory Asymmetries" at *the triennial conference of the German Society for Philosophy of Science (GWP.2019)*, at the University of Cologne, Germany.

19-21 Sep 2018 "Topological Controllability of the Brain & Non-causal Explanatory Asymmetries" at the workshop *Causality in the Neuro and Psychological Sciences*, University of Antwerp, Belgium.

4-6 Jul 2018 "Minimal Structure Explanations, Scientific Understanding and Explanatory Depth", at the *Société de philosophie des sciences 2018 conference* in Nantes, France.

23-25 May 2018 "Minimal Structure Explanations, Scientific Understanding and Explanatory Depth", at the workshop *Explanation and Understanding*, Ghent University, Belgium.

14-17 Aug 2017 "Understanding and the Structure of Topological Explanation in Neuroscience: a Noetic Account" poster presentation at the *25th Annual Meeting of the European Society for Philosophy and Psychology*, the University of Hertfordshire, UK.

14-16 Dec 2016 "Topological Controllability of the Brain: a Case of Non-causal Interventionism" at *the Third Lisbon International Conference on Philosophy of Science: Contemporary Issues (LICPOS)*, The Centre for Philosophy of Science of the University of Lisbon (CFCUL), Portugal.

27-29 Jun 2016 "Topological Controllability of the Brain: a Case of Non-causal Interventionism" at the workshop *CitSotMaB2016: Causality in The Sciences of The Mind and Brain*, at Aarhus University, Denmark.

29 Jun–1 Jul 2016 "Mathematical Features and Ontic Commitments in Topological Explanation" at *6e congrès de la société de philosophie des sciences (SPS)*, at University of Lausanne, Switzerland.

23-26 Sep 2015 "Non-causal Features of Topological Explanations: Expanding the Notions of Interventions, Counterfactual Dependencies and Difference-makers", presentation at the *European Philosophy of Science Association (EPSA15) meeting*, at the Duesseldorf Center for Logic and Philosophy of Science (DCLPS) at Heinrich Heine University Duesseldorf, Germany.

8-11 Sep 2014 "Does Network Analysis Provide a Novel Kind of Topological Explanations in Life and Brain Sciences?", at the International Conference *Causality and Complexity in the Sciences*, at the University of Cologne, Germany.

07 Jun 2009 "The Explanatory Gap Problem: How Neuroscience Might Contribute to its Solution", a poster presentation at the *ASSC13* (Association for the Scientific Study of Consciousness) conference in Berlin, Germany.

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

- Society for Philosophy of Science in Practice (SPSP)
- Philosophy of Science Association (PSA)
- European Philosophy of Science Association (EPSA)
- German Society for Philosophy of Science (GWP)
- French Society for Philosophy of Science (SPS)
- East European Network for Philosophy of Science
- Danish Society for Philosophy
- The Federation of European Neuroscience Societies (FENS).

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