

Curriculum Vitae

Name	Prof. Dr. Viola Priesemann
Affiliation	Max-Planck-Institute for Dynamics and Self-Organization Georg-August-University Göttingen
Address	Am Fassberg 17, 37077 Göttingen, Germany
Website	www.viola-priesemann.de
Wikipedia	https://de.wikipedia.org/wiki/Viola_Priesemann
Google Scholar	https://scholar.google.de/citations?user=5oK8Ek4AAAAJ
Family	One child (2016)

ACADEMIC CAREER

2022 -	Professor , Department of Physics, University of Göttingen
2020 -	Board Member , Campus Institute for Data Science
2017 -	Max Planck Research Group Leader Max Planck Institute for Dynamics and Self-Organization Göttingen, Germany
2017	Guest Researcher at the Ernst Strüngmann Institute Frankfurt, Germany
2016/2017	Parental leave
2016 - 2017	Start-Up Phase of the Max-Planck-Research-Group
2014 - 2016	Bernstein Fellow Bernstein Center for Computational Neuroscience, Göttingen & Max Planck Institute for Dynamics and Self-Organization Göttingen, Germany
2013 - 2014	PostDoc with Theo Geisel Max Planck Institute for Dynamics and Self-Organization Göttingen, Germany
2009 - 2013	PhD Student Max Planck Institute for Brain Research , Frankfurt and Frankfurt Institute for Advanced Studies (FIAS) , Germany Supervisors: Gilles Laurent and Jochen Triesch
2009	Research Project on Insect Olfaction with Gilles Laurent Caltech, Pasadena, CA, USA
2008 - 2009	Research Project on Neural Networks with Christian Machens École Normale Supérieure, Paris, France

EDUCATION

23.09.2013	PhD in Physics (Dr. phil. nat.) “Subsampling in Critical Systems” Faculty of Physics, Goethe University Frankfurt, Germany
2010	Summer Course “Neural Systems and Behavior” Marine Biology Laboratories, Woods Hole, MA, USA funded by Thomas B. Grave and Elizabeth F. Grave Scholarship
2001 - 2008	Diploma (Master) in Physics Technical University Darmstadt, Germany
2006 - 2007	Diploma Thesis Max Planck Institute for Brain Research, Frankfurt, Germany Department of Wolf Singer
2004 - 2005	Erasmus Exchange Student , full academic year, Lisbon, Portugal Universidade Nova de Lisboa and Instituto Superior Técnico de Lisboa

GRANTS & SCHOLARSHIPS (SELECTION)

2021 - 2024	Main Coordinator and PI , BMBF Project “infoXpand”
2021 - 2024	Section Coordinator and PI , BMBF Project “RESPINOW”
2021 - 2024	Principal Investigator in the SFB 1528 “Cognition of Interaction”
2020 - 2024	Principal Investigator in the SFB 1286 “Quantitative Synaptology ”
2020 -	PI - COVID project, Max Planck Society
2020 - 2021	PI, NUM - Netzwerk Universitaetsmedizin
2020 -	Member of the Cluster of Excellence Multiscale Bioimaging
2020 - 2023	Principal Investigator in the SPP 2205 “ ”
2016 - 2018	Principal Investigator of a Project in the Phys2Med Initiative in preparation of the Excellence Initiative of the University and Medical Faculty, Göttingen
2015/2016	Research Stay at the Ben Gurion University , Beer-Sheva, Israel
2015	Successful Competition for a Max Planck Research Group
March/Apr. 2015	Research stay at the TECHNION , Haifa, Israel supported by the “Deutsche Technion Gesellschaft e.V.”
2014	Appointed as Bernstein Fellow Independent research position for two years, incl. consumables

AWARDS & DISTINCTIONS

2023	Member of the Göttingen Academy of Sciences and Humanities
2022	Lise-Meitner-Lecture of the Austrian and German Physical Societies (ÖPG & DPG)
2022	Arthur-Burkhardt-Award
2022	Minerva-Award , Jülich
2022	Offer to become Director at Helmholtz Munich (declined)
2021	Dannie-Heineman-Award of the Göttingen Academy of Sciences and Humanities
2021	Wissenschaftspreis Niedersachsen
2021	Hans-Jensen-Lecture , University of Heidelberg
2021	Offer of a W3 Professorship (Ruf): Department of Physics, University of Göttingen (accepted 2022)
2021 -	Member of “Die Junge Akademie” at the Berlin-Brandenburg Academy of Sciences and Humanities (BBAW) and the German National Academy of Sciences Leopoldina
2021	Medaille für Naturwissenschaftliche Publizistik of the DPG
2021	Communitas-Award of the Max Planck Society
2020	Invited Talk for the Senate of the Max Planck Society
2020	Offer of a W3 Professorship (Ruf): Department of Physics, University of Heidelberg (declined)
2016	German-Israel Foundation (GIF) Young Investigator Award
2015 - 2020	Fellow of the Schiemann Kolleg of the Max Planck Society

SERVICE TO THE COMMUNITY

2021 -	Member of the national expert panel on COVID-19 of the German Federal Government
2020 -	Author or initiator of position papers on COVID-19, digitalization and gender equality, for the Academia Leopoldina, the Max Planck Society, and others
2020 -	Political advising and public outreach on COVID-19 with numerous interviews in print, radio, TV & regular press briefings
2019 - 2022	Member , hiring committee for W2-positions
2019 -	Representative of the Scientific Staff , MPI for Dynamics and Self-Organization
2018 -	Organization of Workshops at CNS, FENS, and DPG conferences
2017	Organization Committee of the Bernstein Conference
2017 -	Faculty of the Smart Start Training Program in Computational Neuroscience

LIST OF PUBLICATIONS (SELECTION)

The current list of publications can be found on [Google Scholar \[link\]](#).

- [1] F. A. Mikulasch, L. Rudelt, M. Wibral, and V. **Priesemann**, “Where is the error? hierarchical predictive coding through dendritic error computation,” *Trends in Neurosciences*, vol. 46, no. 1, pp. 45–59, 2023.
- [2] F. Davenport, J. Gallacher, Z. Kourtzi, I. Koychev, P. M. Matthews, N. P. Oxtoby, L. M. Parkes, V. **Priesemann**, J. B. Rowe, S. W. Smye *et al.*, “Neurodegenerative disease of the brain: a survey of interdisciplinary approaches,” *Journal of the Royal Society Interface*, vol. 20, no. 198, p. 20220406, 2023.
- [3] J. Dehning, S. B. Mohr, S. Contreras, P. Dönges, E. N. Iftekhhar, O. Schulz, P. Bechtle, and V. **Priesemann**, “Impact of the euro 2020 championship on the spread of covid-19,” *Nature Communications*, vol. 14, no. 1, p. 122, 2023.
- [4] S. Contreras, K. Y. Oróstica, A. Daza-Sanchez, J. Wagner, P. Dönges, D. Medina-Ortiz, M. Jara, R. Verdugo, C. Conca, V. **Priesemann** *et al.*, “Model-based assessment of sampling protocols for infectious disease genomic surveillance,” *Chaos, Solitons & Fractals*, vol. 167, p. 113093, 2023.
- [5] J. Zierenberg, F. P. Spitzner, J. Dehning, V. **Priesemann**, M. Weigel, and M. Wilczek, “How contact patterns destabilize and modulate epidemic outbreaks,” *New Journal of Physics*, vol. 25, no. 5, p. 053033, May 2023. [Online]. Available: <https://doi.org/10.1088/1367-2630/acd1a7>
- [6] S. Contreras, E. N. Iftekhhar, and V. **Priesemann**, “From emergency response to long-term management: the many faces of the endemic state of COVID-19,” *The Lancet Regional Health - Europe*, vol. 30, p. 100664, Jul. 2023. [Online]. Available: <https://doi.org/10.1016/j.lanepe.2023.100664>
- [7] A. Kekić, J. Dehning, L. Gresele, J. von Kügelgen, V. **Priesemann**, and B. Schölkopf, “Evaluating vaccine allocation strategies using simulation-assisted causal modeling,” *Patterns*, vol. 4, no. 6, p. 100739, Jun. 2023. [Online]. Available: <https://doi.org/10.1016/j.patter.2023.100739>
- [8] K. Sherratt, H. Gruson, R. Grah, H. Johnson, R. Niehus, B. Prasse, F. Sandmann, J. Deuschel, D. Wolfram, S. Abbott, A. Ullrich, G. Gibson, E. L. Ray, N. G. Reich, D. Sheldon, Y. Wang, N. Wattanachit, L. Wang, J. Trnka, G. Obozinski, T. Sun, D. Thanou, L. Pottier, E. Krymova, J. H. Meinke, M. V. Barbarossa, N. Leithauser, J. Mohring, J. Schneider, J. Wlazlo, J. Fuhrmann, B. Lange, I. Rodiah, P. Baccam, H. Gurung, S. Stage, B. Suchoski, J. Budzinski, R. Walraven, I. Villanueva, V. Tucek, M. Smid, M. Zajicek, C. P. Alvarez, B. Reina, N. I. Bosse, S. R. Meakin, L. Castro, G. Fairchild, I. Michaud, D. Osthus, P. A. D. Loro, A. Maruotti, V. Eclerova, A. Kraus, D. Kraus, L. Pribylova, B. Dimitris, M. L. Li, S. Saksham, J. Dehning, S. Mohr, V. **Priesemann**, G. Redlarski, B. Bejar, G. Ardenghi, N. Parolini, G. Ziarelli, W. Bock, S. Heyder, T. Hotz, D. E. Singh, M. Guzman-Merino, J. L. Aznarte, D. Morina, S. Alonso, E. Alvarez, D. Lopez, C. Prats, J. P. Burgard, A. Rodloff, T. Zimmermann, A. Kuhlmann, J. Zibert, F. Pennoni, F. Divino, M. Catala, G. Lovison, P. Giudici, B. Tarantino, F. Bartolucci, G. J. Lasinio, M. Mingione,

- A. Farcomeni, A. Srivastava, P. Montero-Manso, A. Adiga, B. Hurt, B. Lewis, M. Marathe, P. Porebski, S. Venkatramanan, R. P. Bartczuk, F. Dreger, A. Gambin, K. Gogolewski, M. Gruzziel-Slomka, B. Krupa, A. Moszyński, K. Niedzielewski, J. Nowosielski, M. Radwan, F. Rakowski, M. Semeniuk, E. Szczurek, J. Zielinski, J. Kisielewski, B. Pabjan, K. Holger, Y. Kheifetz, M. Scholz, B. Przemyslaw, M. Bodych, M. Filinski, R. Idzikowski, T. Krueger, T. Ozanski, J. Bracher, and S. Funk, “Predictive performance of multi-model ensemble forecasts of COVID-19 across european nations,” *eLife*, vol. 12, Apr. 2023. [Online]. Available: <https://doi.org/10.7554/elife.81916>
- [9] D. A. Ehrlich, A. C. Schneider, V. **Priesemann**, M. Wibral, and A. Makkeh, “A measure of the complexity of neural representations based on partial information decomposition,” *Transactions on Machine Learning Research*, 2023. [Online]. Available: <https://openreview.net/forum?id=R8TU3pfzFr>
- [10] H. Yamamoto, F. P. Spitzner, T. Takemuro, V. Buendía, H. Murota, C. Morante, T. Konno, S. Sato, A. Hirano-Iwata, A. Levina, V. **Priesemann**, M. A. Muñoz, J. Zierenberg, and J. Soriano, “Modular architecture facilitates noise-driven control of synchrony in neuronal networks,” *Science Advances*, vol. 9, no. 34, Aug. 2023. [Online]. Available: <https://doi.org/10.1126/sciadv.ade1755>
- [11] B. Cramer, M. Kreft, S. Billaudelle, V. Karasenko, A. Leibfried, E. Müller, P. Spilger, J. Weis, J. Schemmel, M. A. Muñoz, V. **Priesemann**, and J. Zierenberg, “Autocorrelations from emergent bistability in homeostatic spiking neural networks on neuromorphic hardware,” *Phys. Rev. Res.*, vol. 5, p. 033035, Jul 2023. [Online]. Available: <https://link.aps.org/doi/10.1103/PhysRevResearch.5.033035>
- [12] J. M. Rowland, T. L. Van Der Plas, M. Loidolt, R. M. Lees, J. Keeling, J. Dehning, T. Akam, V. **Priesemann**, and A. M. Packer, “Propagation of activity through the cortical hierarchy and perception are determined by neural variability,” *Nature Neuroscience*, vol. 26, no. 9, pp. 1584–1594, Sep. 2023. [Online]. Available: <https://www.nature.com/articles/s41593-023-01413-5>
- [13] F. A. Mikulasch, L. Rudelt, and V. **Priesemann**, “Visuomotor Mismatch Responses as a Hallmark of Explaining Away in Causal Inference,” *Neural Computation*, vol. 35, no. 1, pp. 27–37, Jan. 2023. [Online]. Available: https://doi.org/10.1162/neco_a.01546
- [14] F. Funke, L. Mattauch, T. Merl, H. Mitter, V. **Priesemann**, L. Wenz, and A. Wiese, “Die Zukunft der ErnÄhrung in Europa: InterdisziplinÄre Perspektiven,” 2023, publisher: Die Junge Akademie an der Berlin-Brandenburgischen Akademie der Wissenschaften und der Nationalen Akademie der Wissenschaften Leopoldina. [Online]. Available: https://www.diejungeakademie.de/media/pages/presse/perspektiven-auf-herausforderungen-des-agrar-und-ernaehrungssystems/c8e4957b5f-1677004411/20230223_debattenbeitrag_ernaehrungswende_final.pdf
- [15] A. Levina, V. **Priesemann**, and J. Zierenberg, “Tackling the subsampling problem to infer collective properties from limited data,” *Nature Reviews Physics*, pp. 1–15, 2022.
- [16] F. A. Mikulasch, L. Rudelt, M. Wibral, and V. **Priesemann**, “Where is the error? hierarchical predictive coding through dendritic error computation,” *Trends in Neurosciences*, 2022.

- [17] D. P. Shorten, V. **Priesemann**, M. Wibral, and J. T. Lizier, “Early lock-in of structured and specialised information flows during neural development,” *Elife*, vol. 11, p. e74651, 2022.
- [18] P. Dönges, J. Wagner, S. Contreras, E. N. Iftexhar, S. Bauer, S. B. Mohr, J. Dehning, A. Calero Valdez, M. Kretzschmar, M. Mäs, and V. **Priesemann**, “Interplay between risk perception, behaviour, and covid-19 spread,” *Frontiers in Physics*, p. 68, 2022.
- [19] T. Czypionka, E. N. Iftexhar, B. Prainsack, V. **Priesemann**, S. Bauer, A. C. Valdez, S. Cuschieri, E. Glaab, E. Grill, J. Krutzinna *et al.*, “The benefits, costs and feasibility of a low incidence covid-19 strategy,” *The Lancet Regional Health-Europe*, vol. 13, p. 100294, 2022.
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- [21] K. Y. Oróstica, S. Contreras, A. Sanchez-Daza, J. Fernandez, V. **Priesemann**, and Á. Olivera-Nappa, “New year, new sars-cov-2 variant: Resolutions on genomic surveillance protocols to face omicron,” *The Lancet Regional Health–Americas*, vol. 7, 2022.
- [22] S. Contreras, J. Dehning, and V. **Priesemann**, “Describing a landscape we are yet discovering,” *AStA Advances in Statistical Analysis*, pp. 1–4, 2022.
- [23] K. Leite, P. Garg, F. P. Spitzner, S. G. Darvas, M. Bähr, V. **Priesemann**, and S. Kügler, “ α -synuclein impacts on intrinsic neuronal network activity through reduced levels of cyclic amp and diminished numbers of active presynaptic terminals,” *Frontiers in molecular neuroscience*, vol. 15, 2022.
- [24] S. Contreras, Á. Olivera-Nappa, and V. **Priesemann**, “Rethinking covid-19 vaccine allocation: it is time to care about our neighbours,” *The Lancet Regional Health–Europe*, vol. 12, 2022.
- [25] F. A. Mikulasch, L. Rudelt, and V. **Priesemann**, “Visuomotor mismatch responses as a hallmark of explaining away in causal inference,” *Neural computation*, vol. 35, no. 1, pp. 27–37, 2022.
- [26] J. P. Neto, F. P. Spitzner, and V. **Priesemann**, “Sampling effects and measurement overlap can bias the inference of neuronal avalanches,” *PLOS Computational Biology*, vol. 18, no. 11, p. e1010678, 2022.
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- [28] F. A. Mikulasch, L. Rudelt, and V. **Priesemann**, “Local dendritic balance enables learning of efficient representations in networks of spiking neurons,” *Proceedings of the National Academy of Sciences*, vol. 118, no. 50, p. e2001925118, 2021.
- [29] S. Contreras, J. Dehning, S. B. Mohr, S. Bauer, F. P. Spitzner, and V. **Priesemann**, “Low case numbers enable long-term stable pandemic control without lockdowns,” *Science Advances*, vol. 7, no. 41, p. eabg2243, 2021.

- [30] S. Bauer, S. Contreras, J. Dehning, M. Linden, E. Iftekhhar, S. B. Mohr, A. Olivera-Nappa, and V. **Priesemann**, “Relaxing restrictions at the pace of vaccination increases freedom and guards against further covid-19 waves,” *PLoS Computational Biology*, vol. 17, no. 9, p. e1009288, 2021.
- [31] L. Rudelt, D. G. Marx, M. Wibral, and V. **Priesemann**, “Embedding optimization reveals long-lasting history dependence in neural spiking activity,” *PLOS Computational Biology*, vol. 17, no. 6, p. e1008927, 2021.
- [32] S. Contreras and V. **Priesemann**, “Risking further covid-19 waves despite vaccination,” *The Lancet Infectious Diseases*, vol. 21, no. 6, pp. 745–746, 2021.
- [33] V. **Priesemann**, R. Balling, S. Bauer, P. Beutels, A. C. Valdez, S. Cuschieri, T. Czypionka, U. Dumpis, E. Glaab, E. Grill *et al.*, “Towards a european strategy to address the covid-19 pandemic,” *The Lancet*, vol. 398, no. 10303, pp. 838–839, 2021.
- [34] E. N. Iftekhhar, V. **Priesemann**, R. Balling, S. Bauer, P. Beutels, A. C. Valdez, S. Cuschieri, T. Czypionka, U. Dumpis, E. Glaab *et al.*, “A look into the future of the covid-19 pandemic in europe: an expert consultation,” *The Lancet Regional Health-Europe*, p. 100185, 2021.
- [35] S. Jähne, F. Mikulasch, H. G. Heuer, S. Truckenbrodt, P. Agüi-Gonzalez, K. Grewe, A. Vogts, S. O. Rizzoli, and V. **Priesemann**, “Presynaptic activity and protein turnover are correlated at the single-synapse level,” *Cell Reports*, vol. 34, no. 11, p. 108841, 2021.
- [36] S. Contreras, J. Dehning, M. Loidolt, F. P. Spitzner, J. H. Urrea-Quintero, S. B. Mohr, M. Wilczek, J. Zierenberg, M. Wibral, and V. **Priesemann**, “The challenges of containing sars-cov-2 via test-trace-and-isolate,” *Nature Communications*, vol. 12, no. 1, p. 378, 2021.
- [37] V. **Priesemann**, R. Balling, M. M. Brinkmann, S. Ciesek, T. Czypionka, I. Eckerle, G. Giordano, C. Hanson, Z. Hel, P. Hotulainen *et al.*, “An action plan for pan-european defence against new sars-cov-2 variants,” *The Lancet*, vol. 397, no. 10273, pp. 469–470, 2021.
- [38] V. **Priesemann**, M. M. Brinkmann, S. Ciesek, S. Cuschieri, T. Czypionka, G. Giordano, D. Gurdasani, C. Hanson, N. Hens, E. Iftekhhar *et al.*, “Calling for pan-european commitment for rapid and sustained reduction in sars-cov-2 infections,” *The Lancet*, vol. 397, no. 10269, pp. 92–93, 2021.
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- [40] F. P. Spitzner, J. Dehning, J. Wilting, A. Hagemann, J. P. Neto, J. Zierenberg, and V. **Priesemann**, “Mr. estimator, a toolbox to determine intrinsic timescales from subsampled spiking activity,” *Plos one*, vol. 16, no. 4, p. e0249447, 2021.
- [41] A. Hagemann, J. Wilting, B. Samimizad, F. Mormann, and V. **Priesemann**, “Assessing criticality in pre-seizure single-neuron activity of human epileptic cortex,” *PLoS Computational Biology*, vol. 17, no. 3, p. e1008773, 2021.
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- [44] N. A. Alwan, R. A. Burgess, S. Ashworth, R. Beale, N. Bhadelia, D. Bogaert, J. Dowd, I. Eckerle, L. R. Goldman, T. Greenhalgh *et al.*, “Scientific consensus on the covid-19 pandemic: we need to act now,” *The Lancet*, vol. 396, no. 10260, pp. e71–e72, 2020.
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- [51] M. Linden, J. Dehning, S. B. Mohr, J. Mohring, M. Meyer-Hermann, I. Pigeot, A. Schöbel, and V. **Priesemann**, “Case numbers beyond contact tracing capacity are endangering the containment of covid-19,” *Deutsches Arzteblatt International*, vol. 117, no. 46, pp. 790–791, 2020.
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