

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 (W3), 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**
“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)

2024 - 2029	Principle Investigator , RTG "Curiosity"
2024 - 2027	Principle Investigator , SPP "Evolutionary Optim. of Neuronal Processing"
2022 - 2025	Main Coordinator and PI , BMBF Project "infoXpand"
2022 - 2025	Section Coordinator and PI , BMBF Project "RESPINOW"
2021 - 2025	Principal Investigator in the SFB 1528 "Cognition of Interaction"
2020 - 2024	Principle Investigator , SPP "Evolutionary Optim. of Neuronal Processing"
2020 - 2025	Principal Investigator in the SFB 1286 "Quantitative Synaptology"
2020 -	Principle Investigator - COVID project, Max Planck Society
2020 - 2021	Principle Investigator , NUM - Netzwerk Universitätsmedizin
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

2024	Young Scientist Award for Socio- and Econophysics , DPG
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
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
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 - 2023	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 within the Max Planck Society
2019 - 2023	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 (AS OF 2023)

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

- [1] 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>
- [2] 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.
- [3] 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>
- [4] 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.
- [5] 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.
- [6] 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.
- [7] 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>
- [8] 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>
- [9] 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>
- [10] 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. **Priese mann**, 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>
- [11] D. A. Ehrlich, A. C. Schneider, V. **Priese mann**, M. Wibr al, 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>
- [12] B. Cramer, M. Kreft, S. Billaudelle, V. Karasenko, A. Leibfried, E. Müller, P. Spilger, J. Weis, J. Schemmel, M. A. Muñoz, V. **Priese mann**, 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>
- [13] F. A. Mikulasch, L. Rudelt, and V. **Priese mann**, “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] P. Wollstadt, D. L. Rathbun, W. M. Usrey, A. M. Bastos, M. Lindner, **Priese mann**, **Viola**, and M. Wibr al, “Information-theoretic analyses of neural data to minimize the effect of researchers’s assumptions in predictive coding studies,” *PLOS Computational Biology*, vol. 19, no. 11, p. e1011567, Nov. 2023. [Online]. Available: <https://dx.plos.org/10.1371/journal.pcbi.1011567>
- [15] A. Levina, V. **Priese mann**, 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. Wibr al, and V. **Priese mann**, “Where is the error? hierarchical predictive coding through dendritic error computation,” *Trends in Neurosciences*, 2022.
- [17] D. P. Shorten, V. **Priese mann**, M. Wibr al, and J. T. Lizier, “Early lock-in of structured and specialised information flows during neural development,” *Elife*, vol. 11, p. e74651, 2022.

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- [20] M. Oliu-Barton, B. S. Pradelski, Y. Algan, M. G. Baker, A. Binagwaho, G. J. Dore, A. El-Mohandes, A. Fontanet, A. Peichl, V. **Priesemann et al.**, “Elimination versus mitigation of sars-cov-2 in the presence of effective vaccines,” *The Lancet Global Health*, vol. 10, no. 1, pp. e142–e147, 2022.
- [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.
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- [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.
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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. Iftexhar, 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.
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- [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.
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- [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.
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- [39] V. **Priesemann**, M. Meyer-Hermann, I. Pigeot, and A. Schöbel, “The contribution of epidemiological models to the description of the outbreak of the covid-19 pandemic,” *Bundesgesundheitsblatt, Gesundheitsforschung, Gesundheitsschutz*, vol. 64, no. 9, pp. 1058–1066, 2021.
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- [57] V. **Priesemann*** and O. Shriki*, “Can a time varying external drive give rise to apparent criticality in neural systems?” *PLOS computational biology*, vol. 14, no. 5, p. e1006081, 2018.
- [58] M. Sogorski, T. Geisel, and V. **Priesemann**, “Correlated microtiming deviations in jazz and rock music,” *PLOS ONE*, vol. 13, no. 1, pp. 1–14, 01 2018. [Online]. Available: <https://doi.org/10.1371/journal.pone.0186361>
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