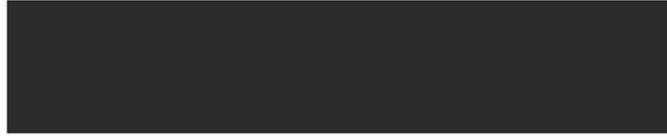


Curriculum Vitae of ROSARIO TOMASELLO



RESEARCH-RELATED KEY TERMS

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|----------------------------------|------------------------------------|----------------------------------|------------------------------------|
| ○ Linguistic theory and analysis | ○ Neurobiology of language | ○ Language use & acquisition | ○ Neurosemantics & Neuropragmatics |
| ○ Neurolinguistic methods | ○ Computational Cognitive modeling | ○ EEG/ERPs & source localization | ○ Behavioural experiments |

EDUCATION

8. May 2019	<p>PhD Linguistics - Neuroscience of Language Brain Language Laboratory, Freie Universität Berlin (DE) Grade: <i>Summa Cum Laude</i> Thesis title: '<i>Brain Mechanisms of Language and Semantic Processing in Sighted and Blind Populations: A Neurobiologically Constrained Model</i>' Supervisor: Prof. Dr. Dr. Friedemann Pulvermüller</p>
23. April 2014	<p>Master - European Languages - Structure and Use (Linguistics) Freie Universität Berlin (DE) Thesis title: '<i>Neurophysiological Evidence for the Whorfian Effects: The Case of Italian Blues</i>' (Winter Term 2012) Erasmus, University of Coimbra (PT), Linguistics</p>
13. April 2010	<p>Bachelor - Science for International Communication University of Catania (IT) (Winter Term 2009) Erasmus, University of Hanover (DE), Linguistics</p>
30. July. 2005	<p>High school diploma in foreign languages Institut' G. Verga' Adrano (IT)</p>

PROFESSIONAL EXPERIENCE

09.2020-	<p>Lecturer - Replacement Professorship W3 in Neuroscience of Language and Pragmatics (50%) Freie Universität Berlin (DE) – Brain Language Laboratory</p>
05.2019-	<p>Research Associate (50%)/co-project leader (since 2023) - Computational Neuroscience/Neurolinguistics Cluster of Excellence, "Matters of Activity", Humboldt-Universität (DE)</p>
04.2024-10.2024	<p>Replacement Professorship W2 in Cognitive Modeling (50%) Osnabrück University (DE) – Institute of Cognitive Science</p>
05.2019-09.2020	<p>Postdoctoral Fellow - Neuropragmatics Xprag DFG Grant, Brain Language Laboratory, Freie Universität Berlin (DE)</p>
02.2019-05.2019	<p>Postdoctoral DFG Fellow - Computational Neuroscience/Neurolinguistics Berlin School of Mind and Brain at the Humboldt-Universität (DE)</p>
07.2018-02.2019	<p>Research Fellow - Neuropragmatics Xprag DFG Grant, Brain Language Laboratory, Freie Universität Berlin (DE)</p>
06.2016-06.2018	<p>Doctoral Fellow - Computational Neuroscience Berlin School of Mind and Brain at the Humboldt-Universität (DE)</p>
01.2014-06.2016	<p>Research Fellow - Computational Neuroscience School of Engineering, Computing and Mathematics, Plymouth University (UK)</p>

TEACHING

Since Winter 2017	I have taught courses at various academic levels and sizes, from introductory lectures with over 900+ students to specialized seminars and practical courses. A comprehensive course list is available below.
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SUPERVISION

	I have served as a mentor for undergraduate and master's theses (>30), co-supervised PhD candidates (3), and PhD visiting researcher (2). Additionally, I have supported numerous student assistants, several of whom have successfully transitioned to academic careers.
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LIST OF PEER-REVIEWED PUBLICATIONS

	Overall, I have authored 21 papers published in prestigious, peer-reviewed international journals. A comprehensive list of my published works is provided below. Number of Citations according to Google Scholar (31.10.2024): 612, H-index 12; 5 years, 578, H-index 12
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SELECTED TALKS & WORKSHOPS

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- **Tomasello R**, Jäger A, Mohr B, Pulvermüller F, Speech act induced therapy led to neuroplasticity of language use in chronic post-stroke aphasia, *Xprag Conference, Venice (IT)*, abstract selected talk 09.2024
 - **Tomasello R**, Shaman K, Dobler F, Pulvermüller F, The Impact of Language on Neural Representations of Color Perception during learning: A brain constrained neural model, *German Cognitive Linguistics Association Conference, Osnabrück (DE)*, abstract selected talk 09.2024
 - **Tomasello R**, From Neurons to Symbolic Representation and Rapid Learning in Mind and Brain, Colloquium *SFB Data Assimilation, Potsdam (DE)*. Invited Talk 02.2024
 - **Tomasello R**, From Neurons to Symbolic Processing: Brain Constrained Neural Networks, Medical Research Council Cognition and Brain Sciences Unit, *University of Cambridge (UK)*. Online invited Talk 11.2023
 - **Tomasello R**, Villani. C., Boux I., Pulvermüller F, Time course of speech act recognition: A gating study, *Xprag Conference, Paris (FR)*, abstract selected talk 09.2023
 - **Tomasello R**, From Neural Matter to Symbolic processing: Hands-on workshop with Brain Constrained Neural Networks, Cluster of Excellence "Matters of Activity" Annual retreat, *Humboldt-Universität, Berlin (DE)*, Workshop 06.2023
 - **Tomasello R**, Actions Conveyed by Words: Neural Signatures of Speech Acts in Mind and Brain, *IUSS Linguistics Seminars, Pavia University (IT)*, Invited talk 06.2023
 - **Tomasello R**, From Neurons to Symbolic Representation and Rapid Learning in Mind and Brain, *Current Topics in Neurolinguistics, Collegio Ghislieri, Pavia University (IT)*, Invited talk 05.2023
 - **Tomasello R**, Plank S., Pulvermüller F, Common Ground in Action: rapid neural processing of speaker's perspective during communicative action understanding, *Xprag Conference, Pavia University (IT)*, abstract selected talk 09.2022
 - **Tomasello R**, Brain mechanisms of concept representation and learning in brain and mind, *Conference CARLA, Humboldt-Universität Berlin (DE)*, abstract selected talk 08.2022
 - **Tomasello R**, The neuropragmatics of speech acts, *Stockholm University*, online invited Talk 06.2022
 - **Tomasello R**, Brain connections of words: Neurobiological mechanisms of language and semantic processing, *Ferrara University (IT)*, online invited talk 06.2021
 - **Tomasello R**, Acting with words: The brain signatures of linguistic actions in communication, *Empirical linguistic colloquia, Humboldt-Universität, Berlin (DE)*, online invited talk 03.2021
 - **Tomasello R**, Neurophysiological evidence for rapid processing of verbal and gestural information in understanding communicative actions, *Xprag.de conference, ZAS, Berlin (DE)*, abstract selected talk 11.2019.
 - **Tomasello R**, Brain connections of word: A neurobiological mechanism of language and semantic processing - Colloquium *Cognitive Systems*, Ulm University, Ulm (DE), invited talk 07.2019.
 - **Tomasello R**, Neuromechanistics Perspectives on Language Processing - Brain Dynamics on Multiple Scales Conference at the *Max Planck Institute for the Physics of Complex Systems, Dresden (DE)*, Keynote Talk 06.2017.

SELECTED PUBLISHED ABSTRACTS & POSTER PRESENTATION

- **Tomasello R**, and Pulvermüller F., From Neural Matter to Symbolic Representation and Rapid Learning in Mind and Brain, *SNL conference, Marseille (FR)*, 10.2023.
- **Tomasello R**, Plank S., Pulvermüller F., Brain dynamics of speech act and common ground processing in communication, *SNL conference, Philadelphia (USA)*, 10.2022.
- **Tomasello R**, Brain mechanisms of concept representation and learning in brain and mind, *Conference CARLA, Humboldt-Universität Berlin (DE)*, 08.2022.
- **Tomasello R**, Plank S., Pulvermüller F., Common Ground in Action: rapid neural processing of speaker's perspective during communicative action understanding. *Xprag.it, Pavia (IT)*, 08.2022
- Constant, M., Pulvermüller F., **Tomasello R**, Neurobiological explanation of fast mapping in word acquisition: A brain-constrained cortex model. *CNS Virtual Meeting*, 03.2021.
- **Tomasello R**, Grisoni L., Sammler D., Boux I., Pulvermüller F., Neurophysiological evidence for instantaneous processing of speech prosody conveying different communicative actions, *SNL, Virtual Meeting*. 10.2020.
- Boux, I.*, **Tomasello, R.***, Grisoni, L., Pulvermüller, F. Brain signatures predict communicative function of speech production in interaction. **Both first authors. SfN, Virtual Meeting*. 10.2020.
- **Tomasello R**, Garagnani M, Wennekers T, Pulvermüller F, Recruitment of visual cortex for language processing in blind individuals is explained by Hebbian learning, *CNS, San Francisco (USA)*. 03.2019
- **Tomasello R**, Pulvermüller F, Neural correlates of basic gestures in communication, *Xprag.de Annual Meeting, Graz (AT)*. 06.2018
- **Tomasello R**, & Pulvermüller F, Neural correlates of speech act processing in gestural context, *Xprag.de Annual Meeting, Köln (DE)*. 09.2017
- **Tomasello R**, Garagnani M, Wennekers T, Pulvermüller F, A neurobiologically-constrained cortex model of semantic grounding with spiking neurons and brain-like connectivity, at *Max Planck Institute for the Physics of Complex Systems, Dresden (DE)*. 06.2017
- **Tomasello R**, Garagnani M, Wennekers T, Pulvermüller F, A neurobiologically-constrained cortex model of semantic grounding with spiking neurons and brain-like connectivity, *CNS, San Francisco (USA)*. 03.2017
- **Tomasello R**, Garagnani M, and Pulvermüller F, Category specificity, hubs, and time course of semantic brain activation: A neurocomputational model. *SNL. Chicago (USA)*. 10.2015

OTHER SCIENTIFIC ACTIVITIES

- **Editorial board (since 2021)**: Cognitive Processing - Springer Nature Journal;
- **Review editor (since 2022)**: Frontiers in Language Sciences –Neurobiology of language.
- **Co-Project leader (since 2023)**: Cluster of Excellent "Matters of Activity" subproject "Cutting", Humboldt-Universität.
- **Peer-reviewing**: Cerebral Cortex; PNAS; Language, Cognition and Neuroscience; Frontiers in Computational Neuroscience; Pragmatics & Cognition; Journal of Neurolinguistics; Neuropsychologia; Glossa Psycholinguistics; Neurobiology of Language; Neuroimage; Social Cognitive and Affective Neuroscience; Journal of Neuroscience; Cerebral Cortex; etc.
- **Interview & Application review PhD Candidates**: Einstein Center of Neurosciences Berlin selection panel PhD scholarships (2022-2023); Berlin School of Mind and Brain PhD Program, Humboldt-Universität (2020-2024); Conversational Brains ESR PhD Program – EU International innovative training (2020); Xprag conference (2023, 2025);
- **Co-manage Brain Language Laboratory**: Teaching support team and administrations, IT support; EEG and Zebris system maintenance; Linux Workstation; Neural Networks toolboxes; related administrative tasks; etc.

PREVIOUS AND CURRENT INTERNATIONAL COLLABORATIONS

Prof Thomas Wennekers, UK	Prof Angelo Cangelosi UK	Dr Luigi Grisoni, DE
Prof Valentina Bambini, IT	Prof Dr Patrick Krauss, DE	Prof Mingya Liu, DE
Dr Lucius Fekonja, Charite Berlin	Prof MD Thomas Pitch, Charite Ber	Dr Mathias Barthel, DE
Prof Friedemann Pulvermüller, FUB	Prof Dr Daniela Sammler, MPI DE	Dr Max Garagnani, UK

LIST OF PEER-REVIEWED PUBLICATIONS

- Carriere M., **Tomasello R.**, Pulvermüller F., (2024). Can human brain connectivity explain verbal working memory? *Networks: Computation in Neural Systems*
- Fekonja, L., Schenk, R., Schröder, E., **Tomasello, R.**, Tomšič, S., Picht, T., (2024) The Digital Twin in Neuroscience: From Theory to Tailored Therapy, *Frontiers in Neuroscience*, 18
- Salome A., Grisoni L., **Tomasello R.**, Pulvermüller F., (2024). The Prediction Potentials indexes the meaning and communicative functions of upcoming utterances. *Cortex*
- Barthel M.*, **Tomasello R.***, Mingya L., (2024). Conditionals in context: Brain signature of prediction and discourse processing. *Cognition*. 242, 105635 ***equal contributions**
- **Tomasello R.**, Maxime C., Pulvermüller F., (2024). The impact of early and late blindness in language and verbal working memory: A brain constrained model. *Neuropsychologia*, 108816
- Constant, M., Pulvermüller F., **Tomasello R.**, (2023). Neurobiological explanation of fast mapping in word acquisition: A brain-constrained cortex model. *Cerebral Cortex*. 33(11), 6872-6890
- **Tomasello, R.**, (2023). Linguistic signs in action: The neuropragmatics of speech acts. *Brain and Language*. 236, 105203
- **Tomasello, R.**, Grisoni, L., Boux, I., Sammler, D. and Pulvermüller, F., (2022). Instantaneous neural processing of communicative functions conveyed by speech prosody. *Cerebral cortex*, 32(21), pp.4885-4901.
- Shebani Z, Carota F, Hauk O, Rowe J B, Barsalou L B, **Tomasello R**, and Pulvermuller F, (2022) Brain correlates of action word memory revealed by fMRI. *Scientific Reports*. 12, 1–15
- Barthel M., **Tomasello R.**, Mingya L., (2022). Online interpretation of conditionals in context: A self-paced reading study on *wenn* (if) and *nur wenn* (only if) in German. *Linguistics Vanguard*. 8, 371–381.
- Boux, I., Margiotoudi, K., Dreyer, F., **Tomasello, R.**, & Pulvermüller, F., (2022) Cognitive features of indirect speech acts, *Language, Cognition and Neuroscience*, 1-25.
- Picht, T., Le Calve, M., **Tomasello, R.**, Fekonja, L., Gholami, F., Bruhn, M., Zwick, C., Rabe, J., Müller-Birn, C., Vajkoczy, P., Sauer, I., Zachow, D., Nyakatura, J., Ribault, P., & Pulvermüller, F. (2021) Letter: A note on neurosurgical resection and why we need to rethink cutting. *Neurosurgery*.
- Pulvermüller, F., **Tomasello, R.**, Henningsen-Schomers, M.R., Wennekers, T., (2021). Biological constraints on neural network models of cognitive function. *Nature Review Neuroscience* 22.
- Boux, I.*, **Tomasello, R.***, Grisoni, L., Pulvermüller, F. (2021). Brain signatures predict communicative function of speech production in interaction. *Cortex* 135, 127-145. ***equal contributions**
- Grisoni, L., **Tomasello R.**, Pulvermüller F., (2020). Correlated Brain Indexes of Semantic Prediction and Prediction Error: Brain Localization and Category Specificity. *Cerebral Cortex*.
- Schilling, A., **Tomasello, R.**, Henningsen-Schomers, M.R., Zankl, A., Surendra, K., Haller, M., Karl, V., Uhrig, P., Maier, A., Krauss, P., (2020). Analysis of continuous neuronal activity evoked by natural speech with computational corpus linguistics methods. *Language, Cognition and Neuroscience*. 1–20.
- **Tomasello R.**, Kim C., Dreyer FR., Grisoni L., Pulvermüller F., (2019) Neurophysiological Evidence For Rapid processing of Verbal and Gestural Information in Understanding Communicative Actions, *Scientific Reports*, 9(1): 1-17.
- **Tomasello, R.**, Wennekers, T., Garagnani, M., Pulvermüller, F., (2019). Recruitment of visual cortex for language processing in blind individuals is explained by Hebbian learning. *Scientific Reports* 9(1):3579.
- **Tomasello R.**, Garagnani M., Wennekers T., Pulvermüller F., (2018) A Neurobiologically Constrained Cortex Model of Semantic Grounding With Spiking Neurons and Brain-Like Connectivity, *Front. Comput. Neurosci.*, vol. 12, p. 88.

- **Tomasello R.**, Garagnani M., Wennekers T., Pulvermüller F., (2017) Brain connections of words, perceptions and actions: A neurobiological model of spatio-temporal semantic activation in the human cortex. *Neuropsychologia*. 98.
- Garagnani M.*, Lucchese G.*, **Tomasello R.**, Wennekers T., Pulvermüller F., (2017) A spiking neurocomputational model of high-frequency oscillatory brain responses to words and pseudowords. *Front. Comput. Neurosci.* 10. ***equal contribution**

UNDER REVIEW/ADVANCED PREPARATION

- Villani C., Boux I., Pulvermüller F., **Tomasello R.**, (under review). The time course of speech acts conveyed by speech prosody: A gating study.
- **Tomasello R.** *, Boux I. *, Pulvermüller F., (under review), Theory of Mind and brain regions involved in direct and indirect communicative functions understanding. Invited to contribute to the special issue in the Proceedings of The Royal Society B journal. ***equal contribution**
- Neymeyer, M L., Rybka, L., Hoekzema, N., Schneider, H., Engelhardt, M., **Tomasello, R.**, Vajkoczy, P., Rofes, A., Picht, T., Rosenstock, T., (under review), rTMS-based neuromodulation for treatment of postoperative aphasia after brain tumor resection – a case report
- **Tomasello, R.**, (under review) From neurons to rapid symbolic learning in brains and artificial neural networks: A brief overview and perspective. Abstract selected for a full paper in a special issue, Linguistic Vanguard journal.
- **Tomasello R.**, Shaman K, Dobler F, Pulvermüller F, (adv prep) The Impact of Language on Neural Representations of Color Perception during learning: A brain constrained neural model.
- **Tomasello R.**, Plank I, Pulvermüller F., (adv prep), Brain signatures of true vs test questions: Towards a neural basis for common ground

LIST OF THIRD-PARTY FUNDED PROJECTS

FUNDINGS

- 2023 & 2024 Performance funds for teaching and research (2023, 50% position, 2,185E, 2024, 50% position, 1,466E) - Freie Universität Berlin, Germany
- 2019 Postdoctoral Fellow (1.350E per month, 6 months: total 8.100 E): Awarded a DFG postdoctoral fellowship at Berlin's School of Mind and Brain, Humboldt Universität, Germany
- 2016-2018 Doctoral Fellow (2016-2018, 1.350 per month: Total 36.000E): Obtained a DFG doctoral scholarship at Berlin's School of Mind and Brain, Humboldt Universität, Germany

SUBMITTED

- *Brain Matter Underlying the Emergence of Rapid Symbolic Learning (SyMba)*: The grant has been submitted to the ERC Starting Grant program on 11.2024. The primary objective is to unravel the underlying mechanisms of fast mapping, with a particular focus on the influence of contextual and prosodic cues, social interactions and human-specific brain matter structure. The project plans to employ a combination of neural networks, EEG, and TMS methods to achieve this aim. An ethics application for this research has already been successfully approved by the Charité – Universitätsmedizin Berlin.
- *Brain Signatures of Communication 2 (BraiSiCo_2)*: I have submitted an application to the German Research Council (DFG) for my own position, with funding planned for three years. The proposed research systematically investigates various communicative speech acts—such as assertive, directive, and expressive—in social interaction guided by linguistic theories. The project explores these speech acts across different modalities, including prosody, encompassing both comprehension and production, and ranging from individual to multi-person recordings. Advanced methods such as EEG and fMRI will be employed. An ethics application for this research plan has been approved by the Charité – Universitätsmedizin Berlin.

CONTRIBUTION

- *Material Constraints Enabling Human Cognition (MatCo, 2020-2025)*: I am currently assisting with the European Research Council (ERC) project granted to Prof Pulvermüller. My role involves supervising projects and PhDs on neural network simulations of language acquisition and structural brain connectivity analyses, complementing my interdisciplinary ongoing research at the Cluster of Excellence "Matters of Activity" at Humboldt-Universität.
- *Brain Signature of Communication (BraiSiCo, 2018-2022)*: I supported Prof Pulvermüller's DFG Priority Programme 'Xprag' project, coordinating and co-supervising a set of works. The project focused on investigating the neural correlates underlying the processing of communicative functions in conversation, resulting in a series of peer-reviewed publications.

LIST OF COURSES TAUGHT

Term	Course Title	Type & Level	Institution
Winter 2024/25	Language, Cognition, and Neurocognitive Research Methods	Seminar (2h weekly) / BA/MA German Philology	Freie Universität Berlin

Winter 2017, 2022 - 2025	Neuropragmatik: Sprache und Handeln (Neuropragmatics: Language and action)	Advanced Seminar & Practical Course (4h weekly) / BA/MA German Philology	Freie Universität Berlin
Spring 2024	Language: Evolution, Its Use, and Social Interactions	Seminar (2h weekly) / BA/MA Cognitive Science	Osnabrück University
	Trends in Language and Brain Research	Seminar (2h weekly + 2h biweekly) / BA/MA Cognitive Science	Osnabrück University
Spring 2023	Spracherwerb und Sprachgebrauch (Language acquisition and use)	Advanced Seminar & Practical Course (4h weekly) / BA/MA German Philology	Freie Universität Berlin
	Neuropragmatics: Language, Action, and Context	Block Seminar (22.5h total) / BA/MA Linguistics	Vienna University
Winter 2023	Language Evolution, Its Use, and Social Interactions	Seminar (2h weekly) / MA Linguistics, MA/PhD Mind & Brain	Freie Universität Berlin & Humboldt-Universität
Spring 2022	Spracherwerb und Sprachgebrauch (Language acquisition and use)	Advanced Seminar & Practical Course (4h weekly) / BA/MA German Philology	Freie Universität Berlin
	Neuropragmatics: Language, Action, and Context	Block Seminar (22.5h total) / BA/MA Linguistics	Vienna University
Spring 2021	Neuropragmatik: Sprache und Handeln (Neuropragmatics: Language and action)	Advanced Seminar & Practical Course (4h weekly) / BA/MA German Philology	Freie Universität Berlin
Winter 2021	Language Evolution, Its Use, and Social Interactions	Seminar (2h weekly) / MA Linguistics, MA/PhD Mind & Brain	Freie Universität Berlin & Humboldt-Universität
	*Sprache im Geist und im Gehirn (Language in the Human Mind and Brain – Linguistic, Computational, and Biological Mechanisms)	Advanced Seminar & Practical Course (4h weekly) / BA German Philology	Freie Universität Berlin
Winter 2020	*Einführung in die Sprachwissenschaft (Introduction to Linguistics)	Lecture (2h weekly, 970 students) / BA German Philology & Educational Science	Freie Universität Berlin
Spring 2019	Computational Modelling and Language Processing	Invited Lecture / MA Embodied Cognition	Potsdam University

* Co-teaching, covering half of the seminar sessions