

# Pablo Barttfeld

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CONTACT INFORMATION	<a href="#">Cognitive Science Group.</a> Instituto de Investigaciones Psicológicas. CONICET Email: <a href="mailto:pbarttfeld@unc.edu.ar">pbarttfeld@unc.edu.ar</a>	
CURRENT POSITION	<b>Independent Researcher</b> National Scientific and Technical Research Council Argentina	since 2016
EDUCATION	<b>Diploma in Data Science and Machine Learning</b> Universidad Nacional de Córdoba, Argentina	2024
	<b>Postdoctoral studies</b> Inserm's Cognitive Neuroimaging Unit Neurospin Center, CEA-Saclay, France Supervisors: Stanislas Dehaene and Ghislaine Dehaene-Lambertz	2013 - 2015
	<b>Postdoctoral studies</b> Integrative Neuroscience Laboratory Physics Department, UBA, Argentina Supervisor: Mariano Sigman	2011 - 2013
	<b>Ph.D. in Engineering</b> Universidad de Buenos Aires, UBA, Argentina Supervisor: Mariano Sigman	2004 - 2010
	<b>Master of Sciences, Biology</b> Universidad Nacional de Córdoba, UNC, Argentina	1997 - 2002
SHORT-TERM RESEARCH STAYS	<b>3-month research stay</b> Institut du Cerveau et de la Moelle Épinière Paris, France	2019
	<b>2-month research stay</b> Addenbrooke's Hospital Cambridge University, United Kingdom	2012
	<b>2-month research stay</b> Institut de Neurosciences Cognitives de la Méditerranée Marseille, France	2009
GRANTS AND SCHOLARSHIPS	<a href="#">PICT 2022. PI</a>	2024
	<a href="#">STIC-AmSud Program. PI</a>	2023
	<a href="#">Center for Open Science - Templeton Foundation. PI</a>	2023
	<a href="#">PICT 2021 Argentina innovadora 2020. PI</a>	2021
	<a href="#">PICT 2018 Researcher</a>	2018
	<a href="#">Proyectos de grupos de reciente formación. PI</a>	2018
	CONICET short-stay grant for young researchers	2018
	<a href="#">Primar Grant. Co-PI</a>	2018
	<a href="#">PICT Young Investigator. PI</a>	2015
	Return home grant RAÍCES	2015
	INSERM postdoctoral grant	2013
	James S. McDonnell Foundation. II Latin American School for Education, Cognitive and Neural Sciences	2012

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Last updated: February 8, 2025

CONICET travel grant to University of Cambridge, UK	2012
Post-doctoral scholarship, CONICET	2011
Raul Carrea post-graduate Fellowship	2010
Travel grant by CNRS, France (ECOS project) to France	2009
PhD scholarship, University of Buenos Aires	2004
Santa Fe Institute's Summer School. Qingdao, China	2004

JOURNAL  
PUBLICATIONS

1. Hazelton J\*, Della Bella G\*, **Barttfeld, P**, Dottori M, Gonzalez-Gomez R, Migeot J, Moguilner S, Legaz A, Hernandez H, Prado P, Cuadros J, Maito M, Fraile-Vazques M, González Gadea M, Çatal Y, Miller B , Piguët O, Northoff G, Ibanez A. Altered spatiotemporal brain dynamics of interoception in behavioural-variant frontotemporal dementia. *eBioMedicine*. (2025). \* igual contribución.
2. Zapata J, Comay N, **Barttfeld, P**, Solovey G, Saal A, Ahumada, J. Metacognitive sensitivity on the Iowa Gambling Task reveals awareness as a necessary condition for advantageous performance. *Experimental Psychology*. (2025).
3. Legaz A, Altschuler F, Gonzalez-Gomez R, ..., **Barttfeld, P** ..., Yokoyama J, Miller B, Ibañez A. Structural inequality linked to brain volume and network dynamics in aging and dementia across the Americas. *Nature Aging*. (2024).
4. Embon I, Gerbaudo, MA, Ramos Usaj, A, Iorio A, **Barttfeld, P\***, Solovey G\*. Exploring the Relationship between Dysfunctional Personality Traits with Metacognition and Confidence. *Current Psychology*. (2024). \* equal contribution.
5. Ibanez A, Moguilner S, Sandra Baez S, ... **Barttfeld, P** ..., Valcour V, Yokoyama J, Miller B. Brain clocks capture diversity and disparities in aging and dementia across geographically diverse populations. *Nature Medicine*. (2024).
6. Teitelbaum Dorfman F, Kogan B, **Barttfeld, P**, García A. Bilinguals on the footbridge: The role of foreign-language proficiency in moral decision making. *Bilingualism: Language and Cognition*. (2024).
7. Legaz A, Prado P, Moguilner S, Báez S, Santamaría-García H, Birba A , **Barttfeld, P**, García A, Fittipaldi S, Ibañez A. Social and non-social working memory in neurodegeneration. *Neurobiology of Disease*. (2023).
8. Luna F, Aguirre J, Martín-Arévalo E, Lupiáñez J, **Barttfeld, P.** Different oscillatory rhythms anticipate failures in executive and arousal vigilance. *Frontiers in Cognition*. (2023).
9. Embon I, Cukier S, Iorio A, **Barttfeld, P.\***, Solovey, G\*. Is visual metacognition associated with ASD traits? A regression analysis shows no link between visual metacognition and AQ scores. *Consciousness and Cognition*. (2023). \* equal contribution.
10. Luna, F., Aguirre, J., Ibañez, A., Martín-Arévalo, E. Lupiáñez, J., **Barttfeld, P.\***. Event-related potentials associated with attentional networks evidence changes in executive and arousal vigilance. *Psychophysiology*. (2023).
11. Comay, N., Della Bella, G., Lamberti, W., Sigman, M., Solovey, G\*, **Barttfeld, P.\***. The presence of irrelevant alternatives paradoxically increases confidence in perceptual decisions. *Cognition*. (2023). \* equal contribution.
12. Della Bella G\*, Zang D\*, Gui P\*, Mateos D, Sitt J, Bekinschtein T, Manasova D, Sartori B, Ferre F, Silva S, Lamberti W. Wu X, Mao Y, Wang L\*, **Barttfeld, P.\***. EEG brain states for real-time detection of covert cognition in disorders of consciousness. *Preprint, psyarxiv*. (2022). \* equal contribution.

13. Luna, F., **Barttfeld, P.**, Martín-Arévalo, E., Lupiáñez, J. Cognitive load mitigates the executive but not the arousal vigilance decrement. *Consciousness and Cognition*. (2021).
14. Alcaide, S., Sitt, J., Horikawa T., Romano, A., Maldonado, A., Ibañez, A., Sigman M., Kamitani, Y., **Barttfeld, P.** fMRI lag structure during waking up from early sleep stages. *Cortex*. (2021)
15. Luna, F., **Barttfeld, P.**, Martín-Arévalo, Lupiáñez, J. The ANTI-Vea task: analyzing the executive and arousal vigilance decrements while measuring the three attentional networks. *Psicologica* (2021).
16. Luna, F., Román-Caballero, R., Lupiáñez, J., **Barttfeld, P.**, Martín-Arévalo, E. Online High-Definition tDCS over the right fronto-parietal network improves phasic alertness and reduces the executive vigilance decrement. *Neuropsychologia* (2020).
17. Demertzi, A., Tagliazucchi, E., Dehaene, S., Deco, G., **Barttfeld, P.**, Raimondo, F., Rohaut, B., Schiff, N., Owen, A., Laureys, S., Naccache, L., Sitt, J. Human consciousness is supported by dynamic complex patterns of brain signal coordination. *Science Advances* (2019).
18. Uhrig L., Sitt J., Jacob A., Tasserie J., **Barttfeld, P.**, Dupont M., Dehaene S., Jarraya B. Resting-state dynamics as a cortical signature of anesthesia in monkeys. *Anesthesiology*(2018). [Highlighted in “Highways of the Brain, Traffic of the Mind”](#).
19. **Barttfeld\***, P., Abboud\* S, Lagercrantz H, Adén U, Padilla N, Edwards AD, Cohen L, Sigman M, Dehaene S, Dehaene-Lambertz G. A lateral-to-mesial organization of human ventral visual cortex at birth. *Brain Structure and Function* (2018). \* equal contribution.
20. Ais, J., Zylberberg, A., **Barttfeld, P.**, Sigman, M. Individual differences in the shape, bias and precision of confidence distributions across perceptual decisions. *Cognition* (2016).
21. **Barttfeld, P.**, Bekinschtein, T., Salles, A., Stamatakis, A., Adapa, R., Menon, T., Sigman, M. Frontoparietal connectivity predicts anaesthetic concentration but thalamic networks index conscious report. *Neuroimage Clinical* (2015).
22. **Barttfeld\***, P., Uhrig\*, L., Sitt\*, J., Sigman, M., Jarraya, B., Dehaene, S. A signature of consciousness in the dynamics of resting-state brain activity. *Proceedings of the National Academy of Sciences* (2015). \* equal contribution.
23. Sedeño, L., Couto, B., Melloni, M., Canales-Johnson, A., Yoris, A., Baez, S., Estevez, S., Velasquez, M., **Barttfeld, P.**, Sigman, M., Kichic, R., Chialvo, D., Manes, F., Bekinschtein, T., Ibañez, A. How do you feel when you can't feel your body?: Interoception, functional, connectivity and emotional processing in Depersonalization-Derealization Disorder. *PLoS One* (2014).
24. **Barttfeld\***, P., Petroni\*, P., Baez, S., Urquina, H., Sigman, M., Cetkovich, M., Torralva, T., Torrente, F., Lischinsky, A., Manes, F., Ibañez, A. Functional Connectivity and Temporal Variability of Brain Connections in Adults with ADHD or Bipolar Disorder: A Default Mode Network Analysis. *Neuropsychobiology* (2014). \* equal contribution.
25. Couto, B., Salles, A., Sedeño, L., Pederajordi, M., **Barttfeld, P.**, Canales-Johnson, A., Vidal Dos Santos, Y., Huepe, D., Bekinschtein, T., Sigman, M., Favaloro, R., Manes, F., Ibañez, A. The man who feels two hearts: The different pathways of interoception. *Social Cognitive and Affective Neuroscience* (2013).

26. **Barttfeld, P.**, Amoroso, L., Ais, J., Cukier, S., Bavassi, L., Tomio, A., Manes, F., Ibañez, A. Organization of brain networks governed by long-range connections index autistic traits in the general population. *Journal of Neurodevelopmental Disorders* (2013).
27. **Barttfeld, P.**, Wicker, B., Graziano, M., Leiguarda, R., Sigman, M., Distinct patterns of functional brain connectivity correlate with objective performance and subjective beliefs. *Proceedings of the National Academy of Sciences* (2013).
28. Gallos, L., **Barttfeld, P.**, Havlin, S., Sigman, M., Makse, H. Collective behavior and critical fluctuations in the spatial spreading of obesity, diabetes and cancer. *Scientific Reports* (2012).
29. Zylberberg, A., **Barttfeld, P.**, Sigman, M. The construction of confidence in a perceptual decision. *Frontiers in Integrative Neuroscience* (2012).
30. **Barttfeld, P.**, Wicker, B., Cukier, S., Navarta, S., Leiguarda, R., Sigman, M. State-dependent changes of connectivity patterns and functional brain network topology in Autism Spectrum Disorder. *Neuropsychologia* (2012).
31. **Barttfeld, P.**, Wicker, B., Cukier, S., Navarta, S., Lew, S., Sigman, M. A big world network in ASD: Dynamical connectivity analysis reflects a deficit in long-range connections and an excess of short-range connections. *Neuropsychologia* (2011). [Comment on the Autism Blog “Cracking the enigma”](#).
32. Jourdan, I., **Barttfeld, P.**, Zanuto, BS. A Theory about a Role of the Hyperdirect Pathway in Pattern Expression by the Basal Ganglia. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. Buenos Aires, Argentina* (2010).
33. Yorio, A., Tabullo, A., Wainelboim, A., **Barttfeld, P.**, Segura, E. Event-related potential correlates of perceptual and functional categories: Comparison between stimuli matching by identity and equivalence. *Neuroscience Letters* (2008).
34. Abril, A., **Barttfeld, P.**, Bucher, E. The effect of fire and overgrazing disturbs on soil carbon balance in the Dry Chaco forest. *Forest Ecology and Management* (2005).

#### SELECTED PRESENTATIONS

1. Talk at the [Behavioral Neuroscience and Behavioral Disorders School](#), Montevideo, Uruguay (2024).
2. Talk at the [Workshop of Sleep, Dreams, and Consciousness](#), Buenos Aires, Argentina (2023).
3. Event-related potentials associated with attentional and vigilance components. Luna F, Aguirre, M, Martín-Arévalo, E., Lupiáñez, J.**Barttfeld P.**, [Jornadas virtuales SEPEX](#), España (2021).
4. Talk at the [Applied Math Institute](#), Santa Fe, Argentina (2019).
5. Mola D, **Barttfeld P**, Ibañez A, Godoy J, Reyna C. The effect of self and other social status in behavior and neural responses during Ultimatum Game. Second Latin-American Workshop on Experimental and Behavioural Social Sciences, Santiago, Chile (2018).
6. Talk at the conference *Mind, Society and Behavior*. CONICET, Buenos Aires, Argentina (2018).

7. Luna F, Barttfeld P, Roca J, Lupiáñez J. Measuring attentional networks together with executive and arousal vigilance: the ANTI-Vea task. Poster at XII Congreso de la Sociedad Española de Psicología Experimental, Madrid, Spain (2018).
8. Demertzi A, Tagliazucchi E, Dehaene S, Deco G, **Barttfeld, P.**, Raimondo F, Rohaut B, Schiff N, Owen A, Laureys S, Naccache L, Sitt J. Human consciousness is supported by specific dynamic coordination patterns. Poster at the Human Brain Project conference, Barcelona, Spain (2018).
9. Demertzi A, Tagliazucchi E, Dehaene S, Deco G, **Barttfeld, P.**, Raimondo F, Rohaut B, Schiff N, Owen A, Laureys S, Naccache L, Sitt J. Human consciousness is supported by temporally evolving brain processes. eSession at the 4th EAN Congress in Lisbon, Portugal (2018).
10. Talk at the 2nd Latin American Brain Mapping Network Meeting. Buenos Aires, Argentina (2017).
11. Talk at the International Symposium INECO “New tendencies in neurodev. and cognition”, Buenos Aires, Argentina (2015).
12. Talk at Conference “Brain dynamics in the primate brain”, Neurospin, Saclay, France (2015).
13. Vidal Dos Santos, Y., **Barttfeld, P.**, Marno, H., Sigman, M., Mehler, J., Dehaene, S., Dehaene-Lambertz, G. Metacognition in 15-month-old infants. *Budapest Conference on Cognitive Development* (2015).
14. Talk at “First Theory-Cognitive workshop”, European Institute for Theoretical Neuroscience, Paris, France (2014).
15. **Barttfeld, P.**, Calvar, J., Cukier, S., Deriche, R., Leiguarda, R., Navarta, S., Sigman, M., Wassermann, D., Wicker, B. Large-scale network analysis reflects big-world characteristics in Autism Spectrum Disorders. *17th Annual Meeting of the Organization for Human Brain Mapping. Quebec* (2011).
16. **Barttfeld, P.**, Petroni, A., Urquina, H., Sigman, M., Cetkovich, M., Torralva, T., Torrente, F., Báez, S., Lischinsky, A., Manes, F., Ibañez, A. Default mode network (DMN) impairments in adults with ADHD and Bipolar Disorder: Connectivity and Variability. *3rd International Congress on ADHD, Berlin* (2011).
17. **Barttfeld, P.**, Sigman, M., Cukier, S., Navarta, S., Calvar, J., Leiguarda, R., Wicker, B. Intrinsic brain connectivity in Autism Spectrum Disorders. *16th Annual Meeting of the Organization for Human Brain Mapping, Barcelona* (2010).
18. **Barttfeld, P.**, Jourdan, I., Yorio, A., Zanutto, B., Seitz, A. Reward driven learning of associative rules in the absence of awareness. *Society For Neuroscience 38° Annual Meeting. USA* (2007).

EXPERIENCE AS  
REVIEWER AND  
ADVISOR

## Editorial and Peer Review Experience

### Editorial Roles

Associate Editor of <i>Imaging Neuroscience</i>	since 2023
Associate Editor of <i>Neuroimage: Reports</i>	since 2024

### Peer Review for Journals

*Nature Communications, Communications Psychology, Communications Biology, Journal of Neuroscience, Frontiers in Human Neuroscience, Frontiers in Aging Neuroscience, Neuroimage, Cerebral Cortex, Cognitive Affective and Behavioral Neuroscience, Human Brain Mapping, Journal of Psychiatry Research, Autonomic Neuroscience, Translational*

## Thesis and Grant Evaluation Experience

### Grant Review

Fédération pour la Recherche sur le Cerveau (France)	2024
Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina	2019–2024
Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina	2017

### Ph.D. Theses Evaluated

Raúl González Gómez. Neuroscience, Universidad Adolfo Ibáñez, Chile	2024
Agustina Legaz. Psychology, UNC	2024
Fabrizio Baglivo. Engineering, UBA	2024
Marcos Pietto. Psychology, UNC	2020
Noelia Calvo. Psychology, UNC	2019
Débora Mola. Psychology, UNC	2019
Soledad Picco. Biology, UBA	2018
Santiago Redondo. Psychology, UNC	2018
Lucas Sedeño. Medicine, Favaloro University	2018
María González Gadea. Neuroscience, UNC	2015

### MS. Theses Evaluated

Evaluated more than 15 MS. theses in Psychology, from Universidad Nacional de Córdoba, Universidad de Buenos Aires and Universidad Favaloro.

## HUMAN RESOURCES TRAINING

### Postdoctoral Fellows

Santiago Redondo. Psychology, UNC	2024–2026
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### Ph.D. Students

Sebastián Galván Rial. Neuroscience, UNC	2029 (est.)
Lorenzo Fuchs Herrera. Neuroscience, UNC	2029 (est.)
Julietta Zapata. Psychology, UNC	2025 (est.)
Julietta Aguirre. Psychology, UNC	2026 (est.)
Iair Embon, Neuroscience, UNC	2026 (est.)
Nicolás Comay. Neuroscience, UNC	2026 (est.)
Gabriel Della Bella. Physics, UNC	2025 (est.)
Renato Paredes. Neuroscience, UNC	2024
Matías Palmucci. Neuroscience, UNC	2024
Leticia Sarli. Neuroscience, UNC	2024
Federico Cavana. Neuroscience, UNC	2024
Fernando Luna. Psychology, UNC	2019

### Masters' Students

Florencia López. Psychology, UNC	2024 (est.)
Florencia Pereyra. Psychology, UNC	2024 (est.)
María Victoria Bidondo. Psychology, UNC	2024 (est.)
Sebastián Galván Rial. Psychology, UNC	2024 (est.)
Federico Teitelbaum Dorfman. Psychology, UNC	2022
Rocío Rodríguez. Psychology, UNC	2021
Nicolás Comay. Psychology, UNC	2020

	Julieta Aguirre. Psychology, UNC	2019
	Santiago Alcaide. Biomedical Engineering, UNC	2018
	Álvaro Romano. Biomedical Engineering, UNC	2018
	Marcos Grillo. Psychology, Universidad Favaloro	2018
	Joaquín Ais (co-supervision). Biology, UBA	2016
TEACHING EXPERIENCE	<b>Biological Systems course, Electronic Engineering program</b> Assistant Professor Engineering School Buenos Aires University, Argentina	2005–2018
	<b>Introduction to Cognitive Science Practices</b> Psychology School, UNC, Argentina	2019–2024
	<b>A Practical Introduction to Cognitive Science</b> Postgraduate course Psychology, UNC, Argentina	2023
ADMINISTRATIVE POSITIONS	<b>Member of the Board of Directors</b> Instituto de Investigaciones Psicológicas - CONICET	since 2022
	<b>Member of the Ethics Committee</b> Instituto de Investigaciones Psicológicas - CONICET	2021–2024