

# Pablo Barttfeld

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CONTACT INFORMATION	<a href="#">Cognitive Sciences Group.</a> Instituto de Investigaciones Psicológicas. CONICET Email: <a href="mailto:cabalangofeld@gmail.com">cabalangofeld@gmail.com</a>	
FACULTY POSITIONS	<b>Independent Researcher</b> National Scientific and Technical Research Council Argentina	2016 - present
EDUCATION	<b>Universidad de Buenos Aires (UBA), Argentina</b> PhD, Engineering	2004 - 2010
	<b>Universidad Nacional de Córdoba (UNC), Argentina</b> Master of Sciences, Biology	1997 - 2002
TRAINING	<b>Short research stay (3 months)</b> Institut du Cerveau et de la Moelle Épinière (Paris, France)	2019
	<b>Postdoctoral Student</b> Inserm's Cognitive Neuroimaging Unit Neurospin Center, CEA-Saclay, France Supervisors: Stanislas Dehaene and Ghislaine Dehaene-Lambertz	2013 - 2015
	<b>Short research stay (2 months)</b> Addenbrooke's Hospital Cambridge University, United Kingdom	2012
	<b>Postdoctoral Student</b> Integrative Neuroscience Laboratory Physics Department, UBA, Argentina Supervisor: Mariano Sigman	2011 - 2013
	<b>Short research stay (2 months)</b> Institut de Neurosciences Cognitives de la Méditerranée Marseille, France Supervisor: Bruno Wicker	2009
	<b>PhD. student</b> Integrative Neuroscience Laboratory Physics Department, UBA, Argentina Supervisor: Mariano Sigman	2008 - 2010
JOURNAL PUBLICATIONS	<ol style="list-style-type: none"><li>Embon I, Gerbaudo, MA, Ramos Usaj, A, Iorio A, <b>Barttfeld, P*</b>, Solovey G*. Exploring the Relationship between Dysfunctional Personality Traits with Metacognition and Confidence. <i>Current Psychology</i>. (2024). * igual contribución.</li><li>Ibanez A, Moguilner S, Sandra Baez S, ... <b>Barttfeld, P</b> ..., Valcour V, Yokoyama J, Miller B. Brain clocks capture diversity and disparities in aging and dementia across geographically diverse populations. <i>Nature Medicine</i>. (2024).</li></ol>	

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3. 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).
4. 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).
5. 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).
6. 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.
7. 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).
8. 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.
9. Della Bella G\*, Zang D\*, Gui P\*, Mateos D, Sitt J, Bekinschtein T, Manasova D, Sarton 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). \* igual contribución.
10. Luna, F., **Barttfeld, P.**, Martín-Arévalo, E., Lupiáñez, J. Cognitive load mitigates the executive but not the arousal vigilance decrement. *Consciousness and Cognition*. (2021).
11. 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)
12. 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).
13. 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).
14. 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).

15. 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”](#).
16. **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.
17. Ais, J., Zylberberg, A., **Barttfeld, P.**, Sigman, M. Individual differences in the shape, bias and precision of confidence distributions across perceptual decisions. *Cognition* (2016).
18. **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).
19. **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.
20. 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).
21. **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.
22. 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).
23. **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).
24. **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). [Comment on PNAS Blog](#).
25. 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).

26. Zylberberg, A., **Barttfeld, P.**, Sigman, M. The construction of confidence in a perceptual decision. *Frontiers in Integrative Neuroscience* (2012).
27. **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).
28. **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”](#).
29. 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).
30. Yorio, A., Tabullo, A., Wainseboim, 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).
31. 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  
POSTERS AND  
PRESENTATIONS

1. Talk at the [Workshop of Sleep, Dreams, and Consciousness](#), Buenos Aires, Argentina (2023).
2. 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).
3. Talk at the [Applied Math Institute](#), Santa Fe, Argentina (2019).
4. 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).
5. Talk at the conference *Mind, Society and Behavior*. CONICET, Buenos Aires, Argentina (2018).
6. 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).
7. 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).

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 temporally evolving brain processes. eSession at the 4th EAN Congress in Lisbon, Portugal (2018).
9. Talk at the 2nd Latin American Brain Mapping Network Meeting. Buenos Aires, Argentina (2017).
10. Talk at the International Symposium INECO “New tendencies in neurodev. and cognition”, Buenos Aires, Argentina (2015).
11. Talk at Conference “Brain dynamics in the primate brain”, Neurospin, Saclay, France (2015).
12. 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).
13. Talk at “First Theory-Cognitive workshop”, European Institute for Theoretical Neuroscience, Paris, France (2014).
14. **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).
15. **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).
16. **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).
17. **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).

GRANTS AND  
SCHOLARSHIPS

PICT 2022. PI	2024
STIC-AmSud Program. PI	2023
Center for Open Science - Templeton Foundation. PI	2023
PICT 2021 Argentina innovadora 2020. PI	2021
PICT 2018 Researcher	2018
Proyectos de grupos de reciente formación. PI	2018
CONICET short-stay grant for young researchers	2018
Primar Grant. Co-director	2018
PICT Young Investigator. PI	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
	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
TEACHING EXPERIENCE	<b>Biological Systems</b>	2005 - 2018
	Assistant professor	
	Engineering school	
	Buenos Aires University, Argentina	
	<b>Introduction to Research</b>	2019 - 2020
	Psychology School, Universidad de Córdoba, Arg.	
MENTORING	<b>MSc. students</b>	
	Florencia López. Psychology, UNC	2024 (est.)
	Florencia Pereyra. Psychology, UNC	2024 (est.)
	María Victoria Bidondo. Psychology, UNC	2024 (est.)
	Sebastián Galván Rial. Psychology, UNC	2023 (est.)
	María Florencia Molina. Physics, UNC	2023 (est.)
	Federico Teitelbaum. Psychology, UNC	2022
	Rocío Rodríguez. Psychology UNC	2021
	Nicolás Comay. Psychology, UNC	2020
	Julieta Aguirre. Psychology, UNC	2019
	Santiago Alcaide. Biomedical Engineering, UNC	2018
	Alvaro Romano. Biomedical Engineering, UNC	2018
	Marcos Grillo. Psychology, Universidad Favaloro	2018
	Joaquín Ais (codirección). Biology. UBA	2016
	<b>PhD students</b>	
	Julieta Zapata. Psychology, UNC	2025
	Iair Embon. Neuroscience, UBA	2025
	Julieta Aguirre. Psychology, UNC	2025
	Iair Embon, Computer Sciences, UBA	2025
	Nicolás Comay. Neuroscience, UNC	2025
	Gabriel Della Bella. Physics, UNC	2024
	Renato Paredes. Neuroscience, UNC	2024
	Matías Palmucci. Neuroscience, UNC	2023
	Leticia Sarli. Neuroscience, UNC	2023
	Federico Cavana. Neuroscience, UNC	2023
	Fernando Luna. Psychology, UNC	2019
REVIEWING AND EDITORIAL EXPERIENCE	<b>Thesis committee member</b>	
	Raúl González Gómez. Neuroscience, Universidad Adolfo Ibañez, Chile	2024
	Agustina Legaz. Psychology, UNC	2024
	Fabrizio Baglivo. Engineering, UBA	2024
	Marcos Pietto. PhD. Psychology, UNC	2020
	Noelia Calvo. PhD. Psychology, UNC	2019

Débora Mola. PhD. Psychology, UNC	2019
Soledad Picco. MSc. Biology, UBA	2018
Santiago Redondo. PhD. Psychology, UNC	2018
Lucas Sedeño. PhD. Medicine, Favaloro University	2018
Rocío Alvarez Mence. MSc. Physics, UBA	2016
María González Gadea. PhD, Neuroscience, UNC	2015
Federico Santa Coloma. MSc. Engineering, UBA	2011

### **Scientific journal reviewing**

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 Psychiatry, Journal of Neurophysiology, Learning and Individual Differences, Eye and Vision, Journal of Biological Physics, Developmental Psychology.

### **Editorial work on journals**

Imaging Neuroscience. Associate editor.

Neuroimage: Reports. Associate editor.

### **Grant Reviewing**

Agencia Nacional de Promoción Científica y Tecnológica (Arg.)	2017
Consejo Nacional de Investigaciones Científicas y Técnicas (Arg.)	2019
Consejo Nacional de Investigaciones Científicas y Técnicas (Arg.)	2020