CURRICULUM VITAE I Dr. Magdalena Boch

Website: www.magdalenaboch.com **E-mail**: magdalena.boch@univie.ac.at **Twitter:** @MagdalenaBoch

Nationality: Austrian

CV last updated: January 2023

Education & professional experience

since Oct 22 **Post-doctoral researcher I University of Vienna**
Faculty of Psychology, Department for Cognition, Emotion, and Methods in Psychology
Social Cognitive and Affective Neuroscience (SCAN) Unit of Prof. Claus Lamm
Domestication lab of Ass.-Prof. Friederike Range (University of Veterinary Medicine Vienna)

➥ using fMRI in humans to study the neural bases of how we perceive dogs vs. wolves, in comparison to other (threatening) species

09/2022 **Dr. rer. nat. in *Psychology* I University of Vienna** (graduated with honors)
Faculty of Psychology, Department for Cognition, Emotion, and Methods in Psychology, SCAN Unit
Faculty of Life Sciences, Department of Behavioural and Cognitive Biology

Supervisor: Prof. Claus Lamm, Co-supervisors: Prof. Ludwig Huber & Ass.-Prof. Isabella Wagner

Thesis: *How dogs and humans perceive and understand each other: a comparative neuroimaging approach*

➥ set up MRI scanning facilities for canine research, established BOLD signal properties for the canine brain, and showed novel evidence for convergent evolution of the neural bases of social cognition (agent & action perception) in dogs and humans applying uni- and multivariate neuroimaging analyses

2021-2022 **6-month research stay I University of Oxford**
University of Oxford, Wellcome Centre for Integrative Neuroimaging, Cognitive Neuroecology Lab of Assoc.-Prof. Rogier Mars

➥ established international collaboration with comparative MRI methods lab, established methods for analysis of canine resting state fMRI data, currently application of connectivity fingerprint analysis to test of social brain areas in dogs and humans

09/2017 **M.Sc. in *Psychology* I University of Vienna** (graduated with honors)
Track: Social Neuroscience, Cognitive Psychology and Research Methods

Supervisor: Prof. Martin Voracek

Thesis: *The triangular relationship between TV viewing, perception of capital punishment and chance. An endorsed and reviewed preregistered replication and meta-analysis.*

➥ conducted replication study and cumulative meta-analysis using state-of-the-art open science and reproducibility techniques showing that wrong statements about capital punishment in Austria reflected poor study design of original study not actual beliefs of participants

2016 **Research & applied neuropsychology internship I *Vienna General Hospital, Vienna, Austria***
Department of Paediatrics and Adolescent Medicine, Paediatric Neuro-Oncology sub-unit lead by Dr. Thomas Pletschko

➥ performed literature research on effects of neuropsychological trainings and conducted clinical and neuropsychological diagnostics with preschool children diagnosed with neurofibromatosis type 2 and paediatric neurological cancer survivors

09/2015 **B.Sc. in *Psychology* I University of Vienna**
Supervisors: Dr. Marco Jirasko, Dr. Elisabeth Stefanek

Theses: *The impact of learning strategies on test performance* **I** *Homophobic bullying & victimization of queer youth*

➥ empirical study investigating impact of learning strategies on test performance, and independent literature review on the impact of bullying and victimization on queer youth

Publications (*equal author contributions)

ORCID: orcid.org/0000-0003-3627-5180, **Google Scholar:** googlescholar/magdalenaboch, **Github:** github.com/magdalenaboch

Boch, M., Karl, S., Wagner, I.C., Huber, L.*, & Lamm, C.* (*in prep*). The neural correlates of action observation in dogs (*Canis familiaris*) and humans • OSF project site

2022 Guran, A. C.-N., Sladky, R., Karl, S., **Boch, M.**, Laistler, E., Windischberger, C., Huber, L., Lamm, C. (accepted). Validation of a new coil array tailored for dog functional magnetic resonance imaging (fMRI) studies. *eNeuro*, doi: 10.1101/2022.06.14.496064

Boch, M., Wagner, I.C., Karl, S., Huber, L.*, & Lamm, C.* (2022). Functionally analogous body- and animacy responsive areas in the dog (*Canis familiaris*) and human occipito-temporal lobe. *bioRxiv,* doi:10.1101/2021.08.17.456623. • under review, OSF project site

2021 **Boch, M.**, Karl, S., Sladky, R., Huber, L., Lamm*, C. & Wagner*, I. C. (2021). Tailored haemodynamic response function increases detection power of fMRI in awake dogs (*Canis familiaris*). *Neuroimage*, doi:10.1016/j.neuroimage.2020.117414 • code & data available in supplementary information

Bukowski, H., Todorova, B., **Boch, M.,** Silani, G., & Lamm, C. (2021). Socio-cognitive training impacts emotional and perceptual self-salience but not self-other distinction. *Acta Psychologica.* doi:10.1016/j.actpsy.2021.103297

2020 Karl, S., **Boch, M.,** Zamansky A, van der Linden D, Wagner IC, Völter CJ, Lamm* C, Huber* L (2020). Exploring the dog-human relationship by combining fMRI, eye-tracking and behavioural measures. *Scientific Reports,* doi:10.1038/s41598-020-79247-5 • OSF project site

Bukowski, H., **Boch, M.,** Lamm, C., & Silani, G. (2020). Is Self-Other distinction malleable? Egocentric and altercentric biases in empathy are modulated by priming attachment style and similarity mindsets. *psyArXiv*. doi: 10.31234/osf.io/bpyvz

Karl, S., **Boch, M.**, Virány, Z., Lamm, C., & Huber L. (2020). Training pet dogs for eye-tracking and awake fMRI. *Behavior Research Methods*, 1-19. doi:10.3758/s13428-019-01281-7

2019 **Boch, M.,** Tran, U. S., & Voracek, M. (2019). Does really one in ten believe capital punishment exists in a contemporary European Community country? An endorsed, prereviewed, preregistered replication study and meta-analysis. *Frontiers in psychology,* 10, 1601. doi:10.3389/fpsyg.2019.01601 • OSF project site

2017 **Boch, M.** & Lamm, C. (2017). The multiple facets of empathy. *Animal Sentience*, 14(14).

Conference proceedings, presentations & invited talks

11/2022 **Boch, M.*** & Guran, A. C.-N.* *Canine Social Cognition - Neuroimaging in dogs and humans.* Institutional talk at Lauri Parkkonen Lab, Aalto University, Eespo, Finnland. • online

07/2022 **Boch, M.**, Wagner, I.C., Karl. S., Huber, L., & Lamm, C. *Comparing brain areas for social cognition in dogs and humans: A case on convergent evolution?* Talk as part of the symposium "*Comparative insights into the development and evolution of the social brain*" co-organized by **Magdalena Boch** and Claus Lamm, European Society for Cognitive and Affective Neuroscience (ESCAN) Meeting, Vienna, Austria

07/2021 **Boch, M.**, Wagner, I.C., Karl. S., Huber, L., & Lamm, C. *Face, body and object representation in dog and human*

brain. Canine Science Forum • virtual

04/2021 **Boch, M.**, Wagner, I.C., Karl. S., Huber, L., & Lamm, C. *Face, body and object representation in the human and canine occipito-temporal cortex.* 28th International Conference on Comparative Cognition • online

01/2021 **Boch, M.**, *How dogs and humans perceive and understand each other: A comparative neuroimaging approach.* Institutional talk at the Cognitive Neuroecology Lab, University of Oxford, Oxford, United Kingdom • online

04/2018 **Boch M.**, Tran, U.S. & Voracek, M. *A State-of the-Art Replication Study: Close, conceptually extended, endorsed, preregistered, pre-reviewed*. Austrian Association of Psychological Science (ÖGP) annual meeting 2018, University of Linz, Austria.

Conference posters (selection)

2022 **Boch, M.,** Karl. S., Wagner, I. C., Huber*, L., & Lamm*, *Neural correlates of action observation in dogs (Canis familiaris) and humans.* 7th Computational Properties Prefrontal Cortex 2022, Oxford, United Kingdom. • poster

2021 **Boch, M.**, Wagner, I.C., Karl. S., Huber*, L., & Lamm*, C. *Face, body and object representations in the dog and human brain*. *43rd Annual Meeting of the Cognitive Science Society* • online

Boch, M., Wagner, I.C., Karl. S., Huber, L., & Lamm, C. *Face, body and object representation in canine temporal and occipital cortices*. *ESCAN* • online

Boch, M., Wagner, I.C., Karl. S., Huber*, L., & Lamm*, C. *Face, body and object representation in the human and canine occipito-temporal cortex*, SfN Global Connectome • online

2019 Karl, S., **Boch, M.**, Lamm, C. & Huber. *Who do you prefer? Investigating the human-dog attachment system in pet dogs*, 6th European Student Conference on Behaviour & Cognition, 2019, Padua, Italy.

Boch, M., Karl, S., Wagner, I. C., Windischberger, C., Huber L. & Lamm, C. *A rewarding human smile? Neural correlates of canine emotion perception*, OHBM Annual Meeting 2019, Rome, Italy.

Boch, M., Karl, S., Wagner, I. C., Huber L. & Lamm, C. *A rewarding Human Smile: An fMRI study investigating canine emotion perception*. Canine Science Forum, 2018, Budapest, Hungary.

Karl, S., **Boch, M.,** Lamm, C. & Huber L. *Training pet dogs to use functional magnetic resonance imaging (fMRI)*. Canine Science Forum, 2018, Budapest, Hungary.

2018 **Boch, M.,** Karl, S., Huber L. & Lamm, C. *How dogs and humans perceive and understand each other: A canine neuroimaging approach.* Annual Poster Session, Faculty of Psychology, University of Vienna, Austria. • Awarded best poster

Academic scholarships & awards

2022 **PostDoc Award**, Faculty of Psychology, University of Vienna, Austria (4700€)

2019-2022 **Travel grants**, Early Career Researchers-Fond, University of Vienna, Austria (> 1500€)

2017-2022 **Scholarships for excellent academic achievements**, University of Vienna, Vienna, Austria (3000€)

2021 **Marietta Blau Scholarship**, Austria's Agency for Education and Internationalisation, Austria (9.480€)

2018 **Best Poster Award**, Young Scientists Poster Session, Faculty of Psychology, Vienna Austria

Teaching & Supervision

since 2020 **Co-supervision of 2 master students**: one student ongoing; other student graduation in fall 2020 (graded with honors, now pursuing a PhD), thesis title: "*Emotion processing and lateralization in the canine brain*"

2017-2022 **Supervision of > 20 interns; supervision and training of 3 research assistants** in the acquisition of MRI data from awake and unrestrained dogs and human participants

2019-2022 Teaching assistant, seminar: "Theorie & Empirie wissenschaftlichen Arbeitens" (winter terms); intro to conceptual background & practical steps necessary to perform and interpret fMRI data analysis – lead practical preprocessing & analysis sessions and conceptual sessions focusing on comparative research in humans and non-human animals, and open science

Ad-hoc reviewer – Journal of Comparative Neurology, Neuroimage

Workshops, summer & winter schools (selection)

10/2021 Three-day **grant writing retreat and workshop**, online.
Organiser: Doctoral college Cognition & Communication 2, Writing Coach: Dr Iain Patten.

02/2021 Winter School: **MRInference: From data to knowledge**, University of Padua, Italy (virtual).
Organisers: Assoc. Prof. Livio Finos, Dr. Paolo Girardi

09/2020 **Pattern Recognition in Neuroimaging (PRNI) Virtual Summer School**, Vienna, Austria.
Organiser: Prof. Moritz Grosse-Wentrup

01/2020 Five-day **writing retreat and scientific writing workshop,** Baden, Austria.
Organiser: Doctoral college Cognition & Communication 2, Writing Coach: Dr Iain Patten.

09/2018 Summer School: **The Visceral Mind**. Bangor, United Kingdom.
Organiser: Drs Turnbull, Watson, Muhlert, Thiebaut de Schotten, Bracewell & Thierry.

Organization, involvement & scientific outreach (selection)

2022 Co-lead in creation of a SCAN Unit **lab handbook** to facilitate the start of new members.

2022 **Inside the dog brain with Guide Dogs UK**, a public engagement event organized by the **Centre for the Creative Brain, University of Oxford** – talk about my research for the general public

2022 Referee for **In-mind magazine** (popular science) to evaluate teaser submissions for a children's issue on research topics in psychology

2022 **Pint of Science Austria** – talk about my research for the general public • talk recording

2020-2022 **"Kinderuni"** (engl. children's university): half-day workshop for children (7-9 years) with a focus on social cognition (e.g., games to train perspective taking) & the brain (e.g., brain helmets, animals quiz) in 2020-2022

2021 **Co-organization of 2-day workshop** surrounding the topic "**How to become a Post-doc**" targeted at PhD candidates in their final year with international PIs and postdoctoral fellows

2018 **"Lange Nacht der Forschung"** (engl. Long night of research): Information booth on psychological research with quizzes (e.g., facts about the brain) and actual data collection (emotion discrimination task)

2018 Photo Competition **"My Research in one Picture"**, University of Vienna, Austria. • Top 10 finalist

Skills & Certifications

Data acquisition

- Extensive training and **certification for Siemens Magnetom Skyra MR system**
- Experimental control using Psychopy (**Python**) and Cogent (**Matlab**)
- **Eye-tracking** with Eyelink 1000 Plus, SR Research, Ontario, Canada

Data analysis & coding

- Excellent **Matlab** skills including toolboxes such as **SPM**:
  univariate, psycho-physiological interaction, representational similarity analysis
- Neuroimaging analysis using **FSL** and **bash** scripting
- **Python** including toolboxes such as nilearn (data visualization) and nipype (human MRI data analysis)
- **R** (multivariate statistics, data visualization)
- **ITK-snap** (manual segmentation and labelling)
- **State-of-the-art open science methods** such as pre-registration, safeguard power analysis, small telescopes approach and (better) *p*-curve
- Other: **SPSS** (multivariate statistics), Adobe **Illustrator** & **Photoshop**, **TYPO3** (Content Management System)

Languages – German (native), English (proficient), French (A-levels)