Christian Pfeiffer

Ph.D.

Consulting for Professors

ETH Zurich
Vice-Presidency for Personnel Development and Leadership
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Citations:	1243 - H-Index: 16 - i10-Index: 24

Education

04/2010 - 10/2015 **PhD in Cognitive Neuroscience, EPF Lausanne**
Advisor: Prof. Olaf Blanke. Thesis nominated for EPFL PhD Award.

04/2003 - 03/2010 **Diploma (equivalent to Bachelor + Master) in Psychology, Free University Berlin, Germany**
Bachelor grade: 5.3/6.0; Master grade: 6.0/6.0

Work Experience

08/2023 - Today ***Consulting for Professors, ETH Zurich***
Vice-Presidency for Personnel Development and Leadership
Advisor: Madeleine Luethy

01/2022 - 07/2023 ***Promotion to Oberasisstent at Robotics and Perception Group, University of Zurich***
Advisor: Prof. Davide Scaramuzza

02/2020 - 12/2021 ***Post-doc at Robotics and Perception Group, University of Zurich***
Advisor: Prof. Davide Scaramuzza

02/2019 - 01/2020 ***Post-doc at Methods of Plasticity Research Group, University of Zurich***
Advisor: Prof. Nicolas Langer

01/2018 - 06/2018 ***Visiting researcher at Autonomous Systems Laboratory, ETH Zurich***
Advisor: Prof. Roland Siegwart

06/2015 - 05/2017 ***Post-doc at Laboratory of Neuroimaging Research, University Hospital Lausanne***
Advisor: Dr. Marzia De Lucia

04/2010 - 10/2015 ***Research and teaching assistant (PhD student), EPF Lausanne***
Advisor: Prof. Olaf Blanke

03/2008 - 03/2010 ***Research assistant at Charité Berlin, Germany***
Advisor: Prof. Gabriel Curio

03/2007 - 02/2008 ***Research assistant at Radboud University Nijmegen, The Netherlands***
Advisor: Prof. Harold Bekkering

Reserach Projects

Consortium member and UZH lead coordinator of the European Project AERIAL-CORE (2021-2023)

Consortium member and UZH lead coordinator of the Digitalization Initiative of the Zurich Higher Education

Institutions (DIZH) project LINA “A large-scale shared infrastructure for safe testing of autonomous systems” (2022-2023)

Teaching Activities

2023	*Volkshochschule Zürich, “Autonome Fliegende Roboter”,*
2022	*University of Zurich Seniorenuniversität, “Autonome Fliegende Roboter”, 20 students*
2019	*University of Zurich, “Big Data Science”, Master’s. 20 students*
2016	*University of Lausanne, “Introduction to Matlab”, Bachelor’s. >100 students*
2012	*EPF Lausanne, “Neuroscience for Engineers”, Master’s. >100 students*
2011	*EPF Lausanne, “Neuroscience III”, Master’s. >100 students*
2010	*EPF Lausanne, “EEG Physiology Laboratory Exercises”, Bachelor’s. 20 students*

Invited Presentations

08/2022	*Motion Capture Days, Fraunhofer Institute, Dortmund, Germany **(keynote speaker)***
06/2022	*Volketswil Economic Forum, Volketswil, Switzerland **(keynote speaker)***
05/2021	*ICRA’21 workshop on “Learning to Learn for Robotics”, virtual*
05/2021	*ICRA’21 workshop on “Machine Learning for Motion Planning”, virtual*
08/2020	*University of Zurich, Digital Science Initiative Mobility meeting*
02/2017	*Johns Hopkins University, ARO MidWinter Meeting, Baltimore, USA **(keynote speaker)***
06/2016	*Lionsclub Meeting, Murten, Switzerland **(keynote speaker)***
05/2014	*Congress on movement and balance, Bussigny, Switzerland **(keynote speaker)***
04/2014	*International Congress on Epilepsy, Brain and Mind, Brno, Czech Republic **(keynote speaker)***
05/2013	*Annual Meeting of the German-Swiss-Austrian Society for Epileptology, Interlaken, Switzerland. **(keynote speaker)***
04/2013	*Interdisciplinary Workshop on Consciousness Research, Ascona, Switzerland **(keynote speaker)***
04/2012	*Annual Meeting of Young Philosophers of Mind, Frankfurt, Germany*
01/2011	*Annual Meeting of the Feldenkrais Society, Berlin, Germany **(keynote speaker)***

Master and Bachelor Student Supervision

1. 2023 - **Agnar Petursson** - Master project
2. 2023 - **Levente Földesi** - Master project
3. 2022 - **Shivam Adarsh** - Master project
4. 2022 - **Rupal Saxena** - Master project
5. 2022 - **Florian Trautweiler** - Master thesis
6. 2021 - **Cafer Akcay** - Semester project
7. 2021 - **Ulrich Steger** - Semester project
8. 2021 - **Florian Trautweiler** - Semester project
9. 2021 - **Aurora Colagiorgio** - Master thesis
10. 2021 - **Nando Kaeslin** - Semester project
11. 2021 - **Simon Wengeler** - Master thesis
12. 2021 - **Jiaxu Xing** - Semester project

13. 2019 - **Jamila Willms** - Bachelor thesis
14. 2017 - **Vincent Pidoux** - Master thesis
15. 2017 - **Flavio Barbosa** - Master thesis
16. 2016 - **Magali Chytiris** - Master thesis
17. 2015 - **Marc Briquet** - Semester project
18. 2015 - **Serena Caverzasio** - Semester project
19. 2013 - **Petr Macku** - Master thesis
20. 2012 - **Miranda Morrison** - Bachelor thesis
21. 2011 - **Valentin Schmutz** - Semester project
22. 2010 - **Soo-Hyun Kim** - Summer project

Project Management Skills

12/2021 - 06/2022	***Lead coordinator of Swiss Drone Days outreach event*** *(1000 visitors)* *Responsible for event planning, funding acquisition, coordination of science and industry exhibition (20 companies, 10 labs, >100 persons staff), media coverage.*
06/2021 - 09/2021	***Lead coordinator of Scientifica 2021 public event*** *(>1000 visitors)* *Responsible for event planning, funding acquisition, coordination of exhibition partners (3 labs, 2 companies, >50 persons staff) at 2 exhibition sites (Dübendorf, Zürich), media coverage.*
01/2020 - 06/2020	***Lead coordinator acquisition of a large-scale flight test facility*** *Responsible for facility selection, fundraising, collection of competing offers for position-tracking equipment, and contract writing with UZH legal department and mobility department. Coordinating acquisition of research equipment, installation of the research facility, and coordination of staff training.*
06/2015 - 05/2017	***Coordinator of a multi-center clinical research project*** *Responsible for the acquisition of ethical approval in 3 Swiss Cantons (Vaud/Valais, Bern, Fribourg) for a research project across 4 hospital sites (Lausanne, Bern, Fribourg, Sion). Responsible for the coordination of multi-center data recordings in comatose patients (>400 patient testings).*

Technical Skills

Neuroscience	*Eye-Tracking, Electroencephalography, Magnetic Resonance Imaging*
Robotics	*Computer Vision, Planning, Control*
Programming	*Python, Matlab, R, ROS, C#, C++*
Project management	*Agile, Kanban, Project Canvas, Stakeholder analysis*

Additional Qualifications

2021	*Project Management for Postdocs, Dr. Sandra Dierig, University of Zurich*
2021	*Leadership Program, Prof. Kleinmann, University of Zurich*
2021	*Head First Python, Paul Barry, O'Reilly*
2020	*Flying Car and Autonomous Flight Engineer, Prof. Sebastian Thrun, Udacity*
2019	*Applied Data Science with Python Specialization, Prof. Christopher Brooks, Coursera*
2017	*Aerial Robotics and Perception, Prof. Vijay Kumar, Coursera*
2015	*Machine Learning, Prof. Andrew Ng, Coursera*

Collaborations with Industry Partners

12/2021 - Today	***Swiss Drone League***
10/2021 - Today	***Team Black Sheep***
08/2020 - Today	***LuGus Studios***
06/2015 - 05/2017	***G.tec Medical Engineering***

Publications

[1] Loued-Khenissi, L.*, **Pfeiffer, C.***, Saxena, R., Adarsh, S., & Scaramuzza, D. (2023). Microgravity induces overconfidence in perceptual decision-making. Nature Scientific Reports, 13, 9727. https://doi.org/10.1038/s41598-023-36775-0. (* shared first authorship)

[2] Tröndle, M., Popov, T., Pedroni, A., **Pfeiffer, C**., Baranczuk-Turska, Z., & Langer, N. (2021). Decomposing age effects in EEG alpha power. Cortex, 161, 116-144. https://doi.org/10.1016/j.cortex.2023.02.002.

[3] Popov, T., Tröndle, M., Barańczuk-Turska, Z., **Pfeiffer, C.**, Haufe, S. & Langer, N. (2023). *Test–retest reliability of resting-state EEG in young and older adults.* Psychophysiology. e14268

[4] Pelentritou, A., **Pfeiffer, C.**, Schwartz, S., & De Lucia, M. (2022) *Cardio-audio synchronization elicits prediction in auditory sequences during human wakefulness and sleep.* bioRxiv 2022.03.03.482861. https://doi.org/10.1101/2022.03.03.482861.

[5] **Pfeiffer, C.**, Wengeler, S, Loquercio, A., & Scaramuzza, D. (2021) *Visual Attention Prediction Improves Performance of Autonomous Drone Racing Agents,* PLOS ONE 17(3): e0264471. https://doi.org/10.1371/journal.pone.0264471.

[6] **Pfeiffer, C.** & Scaramuzza, D. (2021) *Expertise Affects Drone Racing Performance,* arXiv, preprint arXiv:2109.07307.

[7] **Pfeiffer, C.** & Scaramuzza, D. (2021) *Human-Piloted Drone Racing: Visual Processing and Control,* IEEE Robotics and Automation Letters, 6, 2, 3467-3474. doi: 10.1109/LRA.2021.3064282.

[8] Plomecka, M. B., Barańczuk-Turska, Z., **Pfeiffer, C**. & Langer, N. (2020) *Aging Effects and Test–Retest Reliability of Inhibitory Control for Saccadic Eye Movements*, eNeuro, 7, 5.

[9] Kustermann, T., Nguepnjo Nguissi, N. A., **Pfeiffer, C**., Haenggi, M., Kurmann, R., Zubler, F., Oddo, M., Rossetti, A. O. & De Lucia, M. (2020) *Brain functional connectivity during the first day of coma reflects long-term outcome.* NeuroImage: Clinical, 27, 102295.

[10] **Pfeiffer, C.**, Hollenstein, N., Zhang, C. & Langer, N. (2019) *Neural dynamics of sentiment processing during naturalistic sentence reading*. NeuroImage, 218, 116934.

[11] Kustermann, T., Nguepnjo Nguissi, N. A., **Pfeiffer, C.**, Haenggi, M., Kurmann, R., Zubler, F., Oddo, M., Rossetti, A. O. & De Lucia, M. (2019) *Electroencephalography-based power spectra allow coma outcome prediction within 24 h of cardiac arrest.* Resuscitation.

[12] Caporro, M., Rossetti, A. O., Seiler, A., Kustermann, T., Nguepnjo Nguissi, N. A., **Pfeiffer, C.**, Zimmermann, R., Haenggi, M., Oddo, M., De Lucia, M. & Zubler, F. (2019) *Electromyographic reactivity measured with scalp-EEG contributes to prognostication after cardiac arrest.* Resuscitation 138, 146–152.

[13] **Pfeiffer, C.**, Noel, J.-P., Serino, A. & Blanke, O. (2018) *Vestibular modulation of peripersonal space boundaries.* European Journal of Neuroscience 47, 800–811.

[14] Tsetsou, S., Novy, J., **Pfeiffer, C.**, Oddo, M. & Rossetti, A. O. (2018) *Multimodal outcome prognostication after cardiac arrest and targeted temperature management: analysis at 36° C.* Neurocritical Care 28, 104–109.

[15] **Pfeiffer, C.**, Nguissi, N. A. N., Chytiris, M., Bidlingmeyer, P., Haenggi, M., Kurmann, R., Zubler, F., Accolla, E., Viceic, D., Rusca, M., Oddo, M., Rossetti, A. O. & De Lucia, M. (2018) *Somatosensory and auditory deviance detection for outcome prediction during postanoxic coma.* Annals of Clinical Translational

Neurology 5, 1016–1024.

[16] **Pfeiffer, C.** & De Lucia, M. (2017) *Cardio-audio synchronization drives neural surprise response.* Scientific Reports 7.

[17] Ronchi, R., Bernasconi, F., **Pfeiffer, C.**, Bello-Ruiz, J., Kaliuzhna, M. & Blanke, O. (2017) *Interoceptive signals impact visual processing: Cardiac modulation of visual body perception*. Neuroimage 158, 176–185.

[18] **Pfeiffer, C.**, Nguissi, N. A. N., Chytiris, M., Bidlingmeyer, P., Haenggi, M., Kurmann, R., Zubler, F., Oddo, M., Rossetti, A. O. & De Lucia, M. (2017) *Auditory discrimination improvement predicts awakening of postanoxic comatose patients treated with targeted temperature management at 36° C.* Resuscitation, 118, 89–95.

[19] Park, H.-D., Bernasconi, F., Bello-Ruiz, J., **Pfeiffer, C.**, Salomon, R. & Blanke, O. (2016) *Transient Modulations of Neural Responses to Heartbeats Covary with Bodily Self-Consciousness.* Journal of Neuroscience 36, 8453–8460.

[20] **Pfeiffer, C.**, van Elk, M., Bernasconi, F. & Blanke, O. (2016) *Distinct vestibular effects on early and late somatosensory cortical processing in humans.* NeuroImage 125, 208–219.

[21] **Pfeiffer, C.**, Grivaz, P., Herbelin, B., Serino, A. & Blanke, O. (2016) *Visual gravity contributes to subjective first-person perspective.* Neuroscience of Consciousness 2016, niw006.

[22] Noel, J.-P., **Pfeiffer, C.**, Blanke, O. & Serino, A. (2015) *Peripersonal space as the space of the bodily self.* Cognition 144, 49–57.

[23] **Pfeiffer, C.** (2015) *Multisensory spatial mechanisms of the bodily self and social cognition-A commentary on Vittorio Gallese and Valentina Cuccio.* Open Mind 14, 1–14.

[24] **Pfeiffer, C.**, Schmutz, V. & Blanke, O. (2014) *Visuospatial viewpoint manipulation during full-body illusion modulates subjective first-person perspective.* Experimental Brain Research 232, 4021–4033.

[25] **Pfeiffer, C.**, Serino, A. & Blanke, O. (2014) *The vestibular system: a spatial reference for bodily self-consciousness.* Frontiers in Integrative Neuroscience 8, 31.

[26] Romano, D., **Pfeiffer, C.**, Maravita, A. & Blanke, O. (2014) *Illusory self-identification with an avatar reduces arousal responses to painful stimuli.* Behavioral Brain Research 261, 275–281.

[27] Salomon, R., Lim, M., **Pfeiffer, C.**, Gassert, R. & Blanke, O. (2013) *Full body illusion is associated with widespread skin temperature reduction.* Frontiers in Behavioral Neuroscience 7, 65.

[28] **Pfeiffer, C.**, Lopez, C., Schmutz, V., Duenas, J. A., Martuzzi, R. & Blanke, O. (2013) *Multisensory origin of the subjective first-person perspective: visual, tactile, and vestibular mechanisms.* PLoS One 8, e61751.

[29] Van Elk, M., Paulus, M., **Pfeiffer, C.**, van Schie, H. T. & Bekkering, H. (2011) *Learning to use novel objects: a training study on the acquisition of novel action representations.* Consciousness and Cognition 20, 1304–1314.

[30] Duenas, J., Chapuis, D., **Pfeiffer, C.**, Martuzzi, R., Ionta, S., Blanke, O. & Gassert, R. (2011) *Neuroscience robotics to investigate multisensory integration and bodily awareness.* Conference Proceedings IEEE Engineering in Medicine and Biology Society 2011, 8348–8352.

[31] **Pfeiffer, C.**, Palluel, E. & Blanke, O. (2011) *Neuroscience of Bodily Self-Consciousness.* Vereinigung der Schweizerischen Hochschuldozierenden Bulletin 2, 25–29.

[32] Rueschemeyer, S.-A., **Pfeiffer, C.** & Bekkering, H. (2010) Body schematics: *On the role of the body schema in embodied lexical–semantic representations.* Neuropsychologia, 48, 774–781.