Daniela Buchwald

Curriculum Vitae (April 2020)

Deutsches Primatenzentrum
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Date of birth: 26.01.1988 in Germany

Education

March 2020 **PhD in Sensory and Motor Neuroscience**, *University of Göttingen*.
Thesis: Monkey see, monkey touch, monkey do: Influence of tactile and visual information on the fronto-parietal grasping network, Supervised by Prof. Dr. H. Scherberger at the German Primate Center

Apr 2015 **Master of Science in Computer Science**, *University of Göttingen*.
Thesis: A region based combinatorial approach for object segmentation in computer vision, Supervised by Prof. Dr. F. Wörgötter

Mar 2011 **Bachelor of Science in Biology**, *University of Göttingen*.
Thesis: Nutzung von Motiven als Ankerpunkte für multiple Alignments, Supervised by Prof. Dr. B. Morgenstern

Working Experience

Mar 2020–Present **Postdoctoral researcher**, *German Primate Center*, Göttingen, Germany.
Work on the project on Visual and tactile signal processing for high-order object recognition

Jan 2016–Mar 2020 **Doctoral researcher**, *German Primate Center*, Göttingen, Germany.
Work on the project on Visual and tactile signal processing for high-order object recognition

Jul 2015–Dec 2015 **Research assistant**, *German Primate Center*, Göttingen, Germany.
Work on the project on Visual and tactile signal processing for high-order object recognition

Sep 2017–Present **Database manager**, *German Primate Center*, Göttingen, Germany.
Responsible for maintaining and updating the research animal documentation database system for the Neurobiology department

Mar 2011–Mar 2012 **Research assistant**, *University of Göttingen*, Dep. of Microbiology and Genetics, Department Bioinformatics.
Programmer for the PredPlantPTS1 project, supervisor: Dr. Thomas Lingner (see 2012 paper)

Jun 2009–Dec 2009 **Research assistant**, *University of Göttingen*, Dep. of Microbiology and Genetics, Department Bioinformatics.
Programmer for the MuSi project, supervisor: Dr. Ingo Bulla (see 2015 paper)

Feb 2006–April 2007 **Stagehand for light and sound**, *Brunnentheater Helmstedt*.
Set up light and sound for different events on a local theatre, including plays and concerts

Service

Jan 2019 **Fourth Night of Science**, Göttingen, Germany.
Poster contribution for the outreach event Night of Science at the Göttingen Campus

Aug 2018–Present **WoCaNet Symposium - Organiser**, Göttingen, Germany.
Member of the organisation team for the Women's Career and Networking Symposium in Göttingen, Germany

May 2017–Sep 2018 **Deputy Student representative**, *Georg-August University School of Science (GAUSS)*, Göttingen, Germany.
Deputy speaker for the local graduation school, representing the voices of doctoral students from different faculties

Jan 2017 **Third Night of Science**, Göttingen, Germany.
Participated in the outreach event Night of Science at the Göttingen Campus

Awards and Scholarships

2020 **NCM Scholarship**, *Scholarship of the Society for the Neural Control of Movement, Toyama, Japan*.

2019 **GGNB Travel Award**, *to attend the meeting of the Society for the Neural Control of Movement, Toyama, Japan*.

2018 **GGNB Travel Award**, *to attend Neuroscience 2018 Conference in San Diego, USA*.

2017 **Best Talk Award**, *Awarded at the 28th Neurobiology Doctoral Students Workshop (NeuroDoWo), Marburg, Germany.*

Publications

2015 Blagovesta Popova , Steffen Schubert, Ingo Bulla, Daniela Buchwald and Wilfried Kramer. **A Robust and Versatile Method of Combinatorial Chemical Synthesis of Gene Libraries via Hierarchical Assembly of Partially Randomized Modules.** PLoS One. 10(9):e0136778.

2012 Sigrun Reumann, Daniela Buchwald, and Thomas Lingner. **PredPlantPTS1: a web server for the prediction of plant peroxisomal proteins.** Frontiers in plant science 3, p. 194.

Presentations

Oral Presentations

May 2020 **Monkey see, monkey touch, monkey do - Grasp planning based on different sensory modalities in the non-human primate**, 30th Annual Meeting of the Society for the Neural Control of Movement, Dubrovnik, Croatia.
Unable to deliver, meeting canceled due to SARS-CoV-2 outbreak.

Apr 2020 **Monkey see, monkey touch, monkey do - Influence of tactile and visual information on the fronto-parietal grasping network**, Baylor College of Medicine, Department of Neuroscience, Houston, TX, United States of America.

Mar 2018 **Sensory signal processing during passive finger stimulation and grasping**, SMN/SFB889 Retreat 2018, Göttingen, Germany.

Mar 2018 **Sensory signal processing for object recognition and grasping in primates**, Evaluation of the Neurobiology Laboratory, German Primate Center, Göttingen, Germany.

Sep 2017 **Multimodal object recognition and grasping in primates**, PhD Symposium of the Bernstein Conference 2017, Göttingen, Germany.

Aug 2017 **Reach out and Touch - Multimodal object recognition for motor planning in primates**, 28th Neurobiological Doctoral Students Workshop, Marburg, Germany.

Jan 2017 **Vision vs. Touch: Multimodal object recognition for motor-planning in the primate brain**, SMN/SFB889 Retreat 2017, Pichl, Austria.

Aug 2016 **Vision vs. Touch: Does the type of sensory information alter the way primates plan grasps?**, 27th Neurobiology Doctoral Students Workshop, Bielefeld, Germany.

Poster Presentations

Jul 2019 **Influence of visual and tactile object recognition on motor planning in non-human primates**, *Daniela Buchwald and Hans Scherberger*, Summer School for Primate Cognitive Neuroscience, Bad Bevensen, Germany.

Apr 2019 **Influence of visual and tactile object recognition on motor planning in non-human primates**, *Daniela Buchwald and Hans Scherberger*, 29th Annual Meeting of the Society for the Neural Control of Movement, Toyama, Japan.

Mar 2019 **Multimodal object recognition in the primate brain during a delayed-grasp task**, *Daniela Buchwald and Hans Scherberger*, 13th Göttingen Meeting of the German Neuroscience Society, Göttingen, Germany.

Mar 2019 **Multimodal object recognition in the primate brain during a delayed-grasp task**, *Daniela Buchwald and Hans Scherberger*, 12th Primate Neurobiology Meeting, Göttingen, Germany.

Nov 2018 **Multimodal signal processing for grasp planning in the primate brain**, *Daniela Buchwald, Benjamin Dann and Hans Scherberger*, Neuroscience 2018, San Diego, United States of America.

Aug 2018 **Sensory signal processing during a delayed-grasp task in the primate brain**, *Daniela Buchwald, Benjamin Dann and Hans Scherberger*, Hand, Brain and Technology: the Somatosensory System, Ascona, Switzerland.

Mar 2018 **Tactile signal processing in the primate brain**, *Daniela Buchwald, Benjamin Dann, Domenico Camboni, Calogero M. Oddo and Hans Scherberger*, 11th Primate Neurobiology Meeting, Tübingen, Germany.

Mar 2017 **Comparison of visual and tactile object recognition for grasp planning in non-human primates**, *Daniela Buchwald and Hans Scherberger*, 10th Primate Neurobiology Meeting, Göttingen, Germany.

Oct 2016 **Comparison of visual and tactile object recognition for grasp-planning in non-human primates**, *Daniela Buchwald and Hans Scherberger*, Joint SFB 870/SFB 889 Symposium, Munich, Germany.

Sep 2016 **Comparison of visual and tactile object recognition for grasp-planning in non-human primates**, *Daniela Buchwald and Hans Scherberger*, 5th CITEC Summer School on Adaptive Systems, Bielefeld, Germany.

Scientific outreach

Mar 2020 **Interview for the Science for Societal Progress podcast**, *Topic: Animal research during the COVID-19 lockdown*.
Interview for a podcast about animal experiments and care in times of the COVID-19 pandemic

May 2019 **TV interview for X:enius**, *Topic: Alternativen zu Tierversuchen*.
Interview for a broadcast about alternatives to animal experiments, specifically why experiments on non-human primates are still necessary

Feb 2018 **Dem Tastsinn auf der Spur**, DPZ Science Slam 2018, German Primate Center, Göttingen, Germany.
Short talk about our work in passive finger stimulation on non-human primates for the public

Feb 2017 **Prothesen mit dem Gehirn steuern**, News paper article in the Göttinger Tageblatt.
Took part in a short interview about the work of the Neurobiology Laboratory at the German Primate Center

Teaching experience

October 2019 **Supervised one lab rotation of the SmartStart training program**, *German Primate Center*, Göttingen, Germany.

Jun/Jul 2019 **Supervised one lab rotation of the SmartStart training program**, *German Primate Center*, Göttingen, Germany.

Feb/Mar 2018 **Supervised one lab rotation of the International Max-Plank-Research School**, *German Primate Center*, Göttingen, Germany.

Apr–Oct 2018 **Teaching Assistant**, *German Primate Center*, Göttingen, Germany.
Organisation of the 'Motor Systems' lecture and seminar, taught by Prof. Dr. Hans Scherberger

Certifications and advanced training

2019 **Supervisory practice and leadership in science**, *Organized by the Career Service of the Georg-August-University School of Science (GAUSS)*.

2016 **Scientific integrity and the responsible conduct of research**, *Organized by the German Primate Center*.

2015 **Laboratory Animal Science Course on Primates**, *according to FELASA guidelines (Func. A and B), organized by the European Primate Network (EUPRIM-Net)*.

2012 **ISTQB Certified Tester**, *International Software Testing Qualifications Board*, Foundation Level.

Summer schools and Workshops

Nov 2019 **Intensive Communication Training for Researchers**, *Media Training for Researchers, Germany*.

Jul/Aug 2019 **Summer School for Primate Cognitive Neuroscience 2019**, *Graduate Training in Primate Neuroscience (GTPN)*, Bad Bevensen, Germany.

Aug 2018 **Wissenschaft Visuell Erzählen**, *Nationales Institut für Wissenschaftskommunikation*, Kassel, Germany.

Mar/Apr 2017 **G-Node Advanced Neural Data Analysis Course**, *Forschungszentrum Jülich*, Jülich-Barmen, Germany.

Feb 2017 **Blackrock Microsystems' hands-on electrophysiology workshop**, *Blackrock Microsystems*, Hannover, Germany.

Sep 2016 **5th CITEC Summer School on Adaptive Systems**, *CITEC*, Bielefeld, Germany.

Method skills

- Handling and training of non-human primates
- Surgical assistance (e.g. implantation of electrodes for central/peripheral nervous system, head holders)
- Care of implanted animals (e.g. wound margin care and brain chamber cleaning)
- Measuring primate behaviour (e.g. LabView, Data glove, DeepLabCut and camera systems)
- Setup building for experiments with non-human primates

- Isolation and analysis of DNA

- Transformation of bacterial, yeast and human HeLa cells
- PCR
- Gel electrophoresis
- Fluorescence microscopy

- Statistical data analysis with MatLab, Python and R
- Spike sorting with Wave_clus
- Analysis of genomic data (e.g. alignments
- 3D modelling and printing using different systems

Computer skills

Programming and Markup Languages

Advanced	MatLab, LabView, LaTeX, Java, C++, Perl, HTML
Intermediate	Python, R, Delphi
Basic	C, Assembler, Turbo Pascal, XML

IT-Skills

OS	Linux, Windows, MAC OS, Android
Versioning	git, SubVersion, Trac
Design	Adobe Illustrator/Photoshop, GIMP, Shotcut
Office	Windows Office (Word, Excel, PowerPoint)

Languages

German	Mothertongue
English	Fluent
Latin	Latinum

Memberships

Bernstein Association for Computational Neuroscience, Neurowissenschaftliche Gesellschaft (German Neuroscience Society), Society for the Neural Control of Movement, Interdisciplinary Network of Researchers in Touch