

# Daniela Buchwald

*Curriculum Vitae (May 2020)*

Deutsches Primatenzentrum  
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## Education

- 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

### Invited talks

- May 2020 **Investigating sensorymotor cortex through behaviour in monkeys**, Neuroscience Online Seminar Series, Göttingen, Germany.
- 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.

### Oral Presentations

- June 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.  
(Moved online)
- May 2020 **Processing of visual and tactile object information in the fronto-parietal grasping network**, Neuro-match 2.0 Unconference, Online.
- 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 (NeuroDoWo), 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 (NeuroDoWo), 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

### Contributions to Poster Presentations

- Sep 2018 **Marker-free primate hand tracking during reach and grasp movements of diverse objects**, *Swathi Sheshari, Daniela Buchwald, Benjamin Dann and Hans Scherberger*, Bernstein Conference 2018, Berlin, Germany.
- Mar 2019 **Markerless primate hand tracking during reach and grasp movements of diverse objects**, *Swathi Sheshari, Daniela Buchwald, Benjamin Dann and Hans Scherberger*, 12th Primate Neurobiology Meeting, Göttingen, Germany.

### Teaching experience

- May/Jun 2020 **Supervised one lab rotation student from the International Max-Planck-Research School for Neurosciences**, *German Primate Center, Göttingen, Germany*.
- October 2019 **Supervised one lab rotation student from the SmartStart training program**, *German Primate Center, Göttingen, Germany*.
- Jun/Jul 2019 **Supervised one lab rotation student from the SmartStart training program**, *German Primate Center, Göttingen, Germany*.
- Feb/Mar 2018 **Supervised one lab rotation student from the International Max-Planck-Research School for Neurosciences**, *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
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- Isolation and analysis of DNA
  - Transformation of bacterial, yeast and human HeLa cells
  - PCR
  - Gel electrophoresis
  - Fluorescence microscopy
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- 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, OSX, Android
- Versioning git, SubVersion, Trac
- Design Adobe Illustrator/Photoshop, GIMP, Shotcut
- Office Windows Office (Word, Excel, PowerPoint)

## Languages

- German Mother tongue
- English Fluent
- Latin Latinum

## Memberships

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