

# NICHOLAS A. DEL GROSSO

## PERSONAL INFO

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## GOALS

- Inspire others through mentoring, teaching and leadership.
- Build technical skills in a wide variety of fields in order to perform high-quality research at institutes with limited resources.
- Support open science by building tools and teaching research methodology that promotes reproducible research.
- Obtain teaching, project management, and laboratory experience sufficient to one day become an excellent university professor.

## EDUCATION

<i>Oct 2014 - Dec 2018</i>	<i>PhD. Candidate</i>	Graduate School of Systemic Neurosciences, Ludwig-Maximilians Universitaet
<i>Aug 2012</i>	<i>M.Sc. Neuroscience</i>	Graduate Training Centre of Neuroscience, Eberhard Karls Universitaet Tübingen
<i>May 2010</i>	<i>B.Sc. Psychology</i>	Wittenberg University

## RESEARCH EXPERIENCE

<i>Nov 2018 - Present</i>	<i>Max Planck Institute of Biochemistry</i>	<b>Prof. Dr. Matthias Mann</b>  A Postdoctoral research position designing scientific software for open science practices in a proteomics department.
<i>May 2013 - Nov 2018</i>	<i>Ludwig-Maximilians Universitaet</i>	<b>Prof. Dr. Anton Sirota</b>  Programmed a 3D graphics engine in Python to build virtual reality system for freely moving rats, supervised students in programming, engineering, and cognitive science projects, organized weekly journal clubs, and ordered new equipment, trained rodents to perform behavioral tasks, and performed surgery on said rodents as part of brain research.
<i>Aug 2012 - May 2013</i>	<i>Universitaet Tübingen</i>	<b>Prof. Dr. Christoph Braun</b>  Wrote a research grant to study the top-down and bottom-up interactions by computational modeling information propagation in early sensory pathways as measured by MEG, designed and administrated an institute wiki, organized a student lecture series, and supervised two students' EEG research projects.

## INDUSTRY EXPERIENCE

*Freelance Scientific Consultant*

UKT Psychosomatic Med. and Sports Med.

I evaluated and designed a solution for performing medical science studies in a placebo study, and taught the PhD student who carried out the study over several remote sessions and a few travel consultations.

#### JOURNAL PUBLICATIONS

Nicholas A. Del Grosso, Justin J. Graboski, Weiwei Chen, Eduardo Blanco Hernández, Anton Sirota. "Virtual Reality system for freely-moving rodents." *bioRxiv* 161232. July 2017; doi=<https://doi.org/10.1101/161232>

Broetz D., Del Grosso, N.A., Rea M., Ramos-Murguialday, A., Soekadar S.R., Birbaumer, N. "A New Hand Assessment Instrument for Severely Affected Stroke Patients." *Journal of Neurorehabilitation*. 2014; 34(3), 409-27.

Benoit, J.B., Del Grosso, N.A., Yoder, J.A., Denlinger, D.L. "Resistance to Dehydration between Bouts of Blood Feeding in the Bed Bug, *Cimex Lectularius*, is Enhanced by Water Conservation, Aggregation, and Quiescence." *American Journal of Tropical Medical Hygiene*. May 2007; 76(5), 987-93.

#### CONFERENCE PUBLICATIONS

September 2018	Harvard-LMU Young Scientists Forum	Testing CAVE virtual reality systems for use in animal behavior research
November 2017	Society for Neuroscience	Generalized Rat Spontaneous Behavior in a CAVE Experimental Setup.
July 2017	PyData Barcelona	The Neuroscience Lab; A Tour Through the Eyes of a Pythonista
November 2016	Munich Interact	Tracking Rats Exploring a Virtual World; Do They Believe what they See?
July 2016	FENS Forum of Neuroscience	Probing Rodent Perception of Virtual Environments with Freely-Moving Virtual Reality
June 2015	Synergy Munich	ratCAVE, A Novel Virtual Reality System for Freely-Moving Rodents
March 2015	Interact Munich	Demonstrating a Freely-Moving Virtual Reality Approach for Rodent Research
Nov 2014	Society for Neuroscience	ratCAVE, A Novel Virtual Reality System for Freely-Moving Rodents.
Nov. 2012	NENA Tübingen	Interpreting (M)EEG, A First Look at Dynamic Causal Modeling.  Introduced a probabilistic nonlinear modeling framework for interpretation of MEG and EEG data, along with the results of a pilot study in which we applied the approach.
Nov. 2011	NENA Tübingen	The Intrinsic Bias During the Blind-Walking Task is Not Caused by an Aberrant Intrinsic Ground-Slope Model.

## SKILLS

- **Languages:** English (Mother Tongue), German (Level B1), French (Level A1-2)
- **Programming:** Python, Matlab, C-Sharp, GLSL, R, LabView, C, Bash/Linux, LaTeX
- **Stimulus Presentation:** Psychopy, Neurobs Presentation, Psychophysics Toolbox, OpenGL, Pyglet, SuperLab, RatCAVE
- **Statistical Analysis:** Python SciPy Stack (Pandas, Numpy, Matplotlib), Statistical Parametric Mapping (SPM), SPSS, R, Matlab Statistics Toolbox, Fieldtrip, gTec Analyze, BrainVision Analyzer
- **Graphics:** Blender, Adobe Suite (Photoshop, Illustrator, and InDesign), OpenGL, Google SketchUp, GIMP, Inkspace
- **Wet Lab Skills:** Rat Neurosurgery, Animal Behavioral training (rats and monkeys), in vivo electrophysiology (single needle electrodes, chronically-implanted electrode arrays, noninvasive arrays of EEG electrodes and MEG sensors), Basic Electronics, Comfortable with building custom laboratory equipment
- **EEG System Experience:** BrainProducts, gTec, Grass Instruments, CTF

Full List of Positions and Publications Available Upon



Request.

March 22, 2019