NICHOLAS A. DEL GROSSO

PERSONAL INFO

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GOALS

- Obtain a PhD in cognitive neuroscience by studying multimodal sensory integration and sensorimotor interactions.
- Obtain teaching, project management, and laboratory experience sufficient to one day become a competent university professor.
- Build technical skills in a wide variety of fields in order to perform high-quality research at institutes with limited resources.

EDUCATION

Aug 2012 — *M.Sc. Neuroscience* — Max Planck International Research School, Graduate School of Neural and Behavioural Sciences

May 2010 — *B.Sc. Psychology* — Wittenberg University

RESEARCH EXPERIENCE

Aug 2012 - May 2013 — *Universität Tübingen* — Prof. Dr. Christoph Braun

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.

Nov 2011 - July 2012 — *Universität Tübingen* — Prof. Dr. Niels Birbaumer

Programmed in Matlab a time-frequency and evoked potential analysis on three years' worth of MEG data assessing longitudinal changes in stroke patients receiving physiotherapy.

Oct 2012 - Nov 2012 — *Universität Tübingen* — Prof. Dr. Cornelius Schwarz

In this lab rotation, I trained rats to perform whisking in response to barrel cortex stimulation viachronically-implanted electrodes, mapping stimulation sensitivity to each cortical layer.

INDUSTRY EXPERIENCE

Technical 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.

Research Internship — The Neuromarketing Labs

I completed set-up of an EEG laboratory, including software calibration and noise measurements. Designed and ran two experiments estimating the evoked responses of semantic agreement and price agreement, then analyzed the data. The results from the second experiment are the basis of Dr. Müller's recently-published book, "Neuropricing". Currently volunteering as an EEG consultant by giving one-day workshops on Fieldtrip, SPM, and artifact correction methods.

JOURNAL PUBLICATIONS

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 Hygience. May 2007; 76(5), 987-93.

CONFERENCE PUBLICATIONS

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.

SKILLS

- **Languages**: English (Mother Tongue), German (Level B1), French (Level A1-2)
- **Programming**: Python, Matlab, C-Sharp, GLSL, R, LabView, C, Bash, LaTeX
- **Stimulus Presentation**: Psychopy, Neurobs Presentation, Psychophysics Toolbox, OpenGL, Pyglet, SuperLab, RatCAVE
- **Statistical Analysis**: 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

AWARDS

2015 — Best Poster Award at Interact Munich Conference

2011 — National Science Foundation Graduate Research Fellowship

2008 — NSF Neuroscience REU Fellowship at Duke University

Full List of Positions and Publications Available Upon Request.

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