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RESEARCH POSITIONS

- Research Group Leader, *German Center for Vertigo and Postural Disorders, Ludwig-Maximilians University Hospital of Munich*, April 2010-Present
- Postdoc, Anatomy & Neurobiology, *Washington University in St. Louis, Medical School*, February 2007-March 2010.

EDUCATION

- PhD, Vision Science, *University of California, Berkeley*. May 2007.
- BA, Biological Anthropology and Psychology, *Harvard University*. June 1996.

CURRENT FUNDING

- “Moving heads, stable worlds”, Research grant MA 6233/1-1, sole applicant, DFG, 220.813 €, May 2015-May 2018
- “Efficient vestibular coding”, Research grant D-T1, with Martin Kleinstueber, BMBF through BCCN Munich. 129.180 €, May 2015-May 2017
- “Analyzing patient behavior as optimal adaptation”, Research grant TRFII-7, with Stefan Glasauer, BMBF through DSGZ. 411.500 €, Nov. 2014-Nov. 2017

PRIOR FUNDING & AWARDS

- “Proprioceptive stabilization of the auditory world”, Research grant B-T3, with Lutz Wiegrebe, Uwe Firzlaff, BMBF through BCCN Munich. 132.293 €, September 2013-September 2015
- “Probabilistic analysis of visual-vestibular perception”, Young scientist grant YSG-5, sole applicant, BMBF through DSGZ. 593.555 €, April 2010-October 2014
- Marie Curie postdoctoral fellowship – declined - from ERC through Royal Holloway, 75.000 £, Nov. 2009
- Postdoctoral fellowship, NIH training grant through Washington Univ. Ophthalmology, \$54.000, Feb. 2009-Feb. 2010
- Postdoctoral fellowship, sole applicant, NASA and *National Space Biomedical Research Institute*, \$108.000, February 2007-January 2009.
- Graduate student competition winner, *International Multisensory Research Forum*, June 2006.
- Graduate student fellowship, *NIH training grant to UC Berkeley School of Optometry*, September 2001-August 2004.
- BA Honors, Magna cum laude, *Harvard University*, June 1996.

PUBLICATIONS

- Cuturi, MacNeilage (2014) *Optic flow induces non-visual self-motion aftereffects*. *Current Biology*, 24(23):2817-2821.
- Nesti, Barnett-Cowan, MacNeilage, Bühlhoff (2014) *Human sensitivity to vertical self-motion*. *Exp Brain Res*. 232(1):303-14.
- Nesti, Beykirch, MacNeilage, Barnett-Cowan, & Bühlhoff (2014) *The importance of stimulus noise analysis for self-motion studies*. *PLoS one*, 9(4), e94570.

- Chang, Hiss, Sanders, Olomu, MacNeilage, Uchanski, & Hullar (2014) *Vestibular Perception and the Vestibulo-Ocular Reflex in Young and Older Adults*. *Ear and hearing*, 35(5), 565-570.
 - Agrawal, Bremova, Kremmyda, Strupp, MacNeilage (2013) *Clinical Testing of Otolith Function: Perceptual Thresholds and Myogenic Potentials*. *J Assoc Res Otolaryngol*. 14(6):905-15.
 - Dokka*, MacNeilage*, Deangelis, Angelaki (2013) *Multisensory Self-Motion Compensation During Object Trajectory Judgments*. *Cereb Cortex*. Sep 22. [Epub ahead of print]
 - Cuturi, MacNeilage (2013) *Systematic Biases in Human Heading Estimation*. *PLoS One* 8(2):e56862.
 - MacNeilage, Zhang, DeAngelis, Angelaki (2012) *Vestibular facilitation of optic flow parsing*. *PLoS One* 7(7).
 - Dokka*, MacNeilage*, DeAngelis, Angelaki (2011) *Estimating distance during self-motion: A role for visual-vestibular interactions*. *J Vis* 11(13): 2.
 - MacNeilage, Banks, DeAngelis, Angelaki (2010) *Vestibular heading discrimination and sensitivity to linear acceleration in head and world coordinates*. *J Neurosci* 30(27):9084-9094.
 - MacNeilage, Turner, Angelaki (2010) *Canal-otolith interactions and detection thresholds of linear and angular components during curved-path self-motion*. *J Neurophysiol*. Aug;104(2):765-73.
 - MacNeilage, Ganesan, Angelaki (2008) *Computational approaches to spatial orientation: from transfer functions to dynamic Bayesian inference*. *J Neurophysiol* 100: 2981-2996.
 - MacNeilage, Banks, Berger, Buelthoff (2007). *A Bayesian model of the disambiguation of gravito-inertial force by visual cues*. *Exp Brain Res* 179:263-90.
- *indicates equal author contributions

CONFERENCE TALKS

- MacNeilage (2015) Self-motion in virtual reality. Seattle. Workshop: Challenges in virtual reality. **International conference for robotics and automation**.
- MacNeilage (2015) Linear motion thresholds in vestibular migraine and Meniere's disease. Prague. **Congress of European ORL-HNS**.
- MacNeilage (2015) Vestibular-motor integration during self-motion perception. Pisa. **International Multisensory Research Forum**.
- Cuturi, MacNeilage (2015) Optic flow induces non-visual self-motion aftereffects. Pisa. **International Multisensory Research Forum**.
- MacNeilage (2014) Self-motion perception is modulated by eye fixation. Amsterdam, Vestibular processing in motor control. Satellite meeting of the **Neural Control of Movement** Conference.
- Cuturi, MacNeilage (2012) Similar systematic biases in visual and vestibular heading perception. Program No. 828.07. Neuroscience Meeting Planner. New Orleans, LA: **Society for Neuroscience**, 2012. Online.
- Dokka*, MacNeilage*, Deangelis, Angelaki (2012) Vestibular signals improve accuracy of object trajectory judgments in allocentric coordinates. Program No. 828.02. Neuroscience Meeting Planner. New Orleans, LA: **Society for Neuroscience**, 2012. Online.
- MacNeilage (2012) Vestibular Heading Discrimination and Sensitivity to Linear Acceleration in Head and World Coordinates. Program No. 571. San Diego, CA: **Assoc. Res. Otolaryngology**, 2012. Online.
- MacNeilage, Zhang, Angelaki (2009) Vestibular facilitation of optic flow parsing. **Vision Sciences Society**. *J Vis* August 5, 2009 9(8): 701; doi:10.1167/9.8.701
- MacNeilage, Angelaki (2008) Vestibular heading discrimination in humans is better for head-centric azimuth than elevation regardless of body orientation. Program No. 18.5. Neuroscience Meeting Planner. Washington, DC: **Society for Neuroscience**, 2008. Online.

- MacNeilage, Angelaki (2008) Visual and vestibular discrimination of heading azimuth and elevation for upright and side-down observers. **Vision Sciences Society**. J Vis May 10, 2008 8(6): 834; doi:10.1167/8.6.834
- MacNeilage, Angelaki (2008) Otolith sensitivity may not follow Weber's Law. **Barany Society meeting**, Kyoto, Japan.
- MacNeilage, Banks (2006) Bayesian model for the perception of body orientation. **International Multisensory Research Forum**. Dublin, Ireland.
- MacNeilage, Berger, Banks, Buelthoff (2004) Visual cues are used to interpret gravito-inertial force. **Vision Sciences Society**. J Vis August 13, 2004 4(8): 142; doi:10.1167/4.8.142

INVITED TALKS

- Psychology Dept., Ludwig-Maximilians University, Munich, Sept. 2015
- Zurich-Munich oculomotor meeting, January 2015
- Multisensory perception for action, IRTG 1901 spring school, Wildbad Kreuth, June 2014
- Cognitive Neuroscience Dept., Bielefeld Univ., January 2014
- Max-Planck Institute for Biological Cybernetics, Tuebingen, November 2013
- Donders Center for Cognition, Radboud Univ. Nijmegen, Netherlands. December 2012
- Psychology Dept., Bangor Univ. Bangor, Wales. November 2012
- Italian Institute of Technology, Genova, Italy. June 2010
- University Hospital of Munich, Munich, Germany. October 2009
- Aeronautics and Astronautics Dept., Massachusetts Institute of Technology. April 2009
- Physics of Man, Utrecht University. Utrecht, Netherlands. June 2006.
- Biophysics, Radboud University. Nijmegen, Netherlands. June 2006.

MENTORING

- Postdocs: Daria Genzel, BCCN (Sept. 2013-Sept. 2015), Vivian Holten (Oct. 2015-present)
- PhD students: Luigi Cuturi, GSN LMU (Oct. 2010-May 2015), Alessandro Nesti, MPI Tuebingen (Oct. 2010-May 2015), Isabelle Garzorz, GSN LMU (Oct. 2014-present), Peter Hausmann, TUM (June 2015-present), Fan Zhang (Oct. 2015-present)
- PhD thesis committees (GSN): Nadine Hummel, Saurabh Dhawan, Luigi Cuturi, Isabelle Garzorz
- Masters students: Barbara Schorr, NCP program (2011), Julia Rackerseder, Bioinformatics TUM-LMU (2013), David Scholz, Bioinformatics TUM-LMU (2014),
- Bachelor students: Amgen program 2010-15, six students, one per summer

TEACHING

- *Computational neuroscience ringvorlesung*, BCCN Munich, June 2015
- *Psychophysicis*. GSN Munich. December 2014
- *Bayesian Modeling Course*. Graduate seminar, GSN Munich. May, 2011, 2012.
- *Cognitive Neuroscience Course*. Psychology 127. Graduate student instructor, Fall 2005. UC Berkeley.
- *Perception Course*. Psychology 126. Guest lecturer. Fall 2004. UC Berkeley.
- *Anatomy and Physiology of the Eye Course*. Vision Science 106. Graduate student instructor, Fall 2001, 2002. UC Berkeley.

CONFERENCES & SYMPOSIA ORGANIZED

- Challenges in virtual reality, Symposium, International Conference on Robotics and Automation, May 2015, Seattle, WA
- Vestibular processing in motor control, Satellite Meeting, Neural Control of Movement Conference, April 21st 2014, Amsterdam, Netherlands.

REVIEWING & MEMBERSHIPS

- Nature Communications, Journal of Neuroscience, Journal of Neurophysiology, Vision Research, Journal of Vision, Experimental Brain Research, PLoS One, Neuroscience Letters, Multisensory Research, Journal of the Association for Research in Otolaryngology, Ear and Hearing, Journal of the American Aging Association
- Society for Neuroscience, Vision Sciences Society, Society for the Neural Control of Movement

COLLABORATORS

- **Stefan Glasauer**, Center for Sensorimotor Research, University Hospital of Munich, Germany.
- **Martin Kleinsteuber**, Dept. of Informatics, Technical University of Munich, Germany
- **Heiner Deubel**, Dept. of Psychology, Ludwig-Maximilians University, Munich, Germany.
- **Dora Angelaki**, Chair, Dept. of Neuroscience, Baylor College of Medicine, Houston, TX, USA
- **Greg DeAngelis**, Chair, Dept. of Brain and Cognitive Sciences, Rochester Univ., Rochester, NY, USA
- **Pieter Medendorp**, Director, Donders Center for Cognition, Radboud Univ., Nijmegen, Netherlands.
- **Heinrich Buelthoff**, Director, Dept. of Human Perception Cognition and Action, Max-Planck Institute for Biological Cybernetics, Tuebingen, Germany.
- **Michael Strupp**, Dept. of Neurology, University Hospital of Munich, Germany.
- **Lutz Wiegrebe**, Dept. of Neurobiology, Ludwig-Maximilians University, Munich, Germany.
- **Uwe Firzlaff**, Dept. of Zoology, Technical University of Munich, Germany