

# Curriculum Vitae

Prof. Dr. med. Andreas Rüdiger Johannes Luft

## Personal Information

DATE OF BIRTH: June 19, 1972 in Erlangen, Germany  
MARITAL STATUS: married, 1 child  
NATIONALITY: Swiss, German  
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## Education

MEDICAL SCHOOL	<i>Sept. 91 – April 98</i>	Universität of Tübingen, Germany
	<i>May 14, 1998</i>	MD Degree (3. Staatsexamen)
	<i>July 2, 1998</i>	Dr. med. (summa cum laude)
POSTGRADUATE	<i>December 2005</i>	Board Certification in Neurology
	<i>May 2006</i>	Habilitation in Neurology at University of Tübingen, Germany

## Current and past positions

<i>since February 2023</i>	Ordinarius for Vascular Neurology and Rehabilitation, University of Zürich, Switzerland
<i>February 2014 – January 2023</i>	Extraordinarius for Vascular Neurology and Rehabilitation, University of Zürich, Switzerland
<i>since February 2014</i>	Head of the Stroke Center, Department of Neurology, University Hospital Zürich, Switzerland
<i>since February 2014</i>	Medical Director, cereneo Center for Neurology and Rehabilitation, Vitznau, Switzerland
<i>since September 2016</i>	Adjunct Professor at the ETH Zurich
<i>since April 2019</i>	Adjunct Professor, Mohammed bin Rashid University, Dubai, UAE
<i>since January 2007</i>	Adjunct Professor, Department of Neurology, Johns Hopkins University, USA
<i>April 2009 - Dec 2013</i>	Leitender Arzt, Center for Outpatient Rehabilitation, Zürcher Höhenklinik Wald
<i>Juli 06 – Juli 08</i>	Head of the Neurological Intensive Care and Stroke Unit, University Hospital of Tübingen, Germany
<i>Oct. 04 – Sep. 05</i>	Resident physician, Div. of Geriatric Psychiatry, Dept. of Psychiatry, University of Tübingen, Germany
<i>April 01 – June 06</i>	Resident physician, Dept. of Neurology & the Hertie Inst. for Clinical Brain Research, University of Tübingen, Germany
<i>April 99 – March 01</i>	Clinical Fellow, Neurology and Neurocritical Care at the Division of Neurosciences Critical Care, Department of Neurology, Johns Hopkins University, Baltimore MD, USA
<i>July 98 – March 99</i>	Clinical Fellow, Neuroendovascular Surgery at Millard Fillmore Hospital, State University of New York at Buffalo, NY, USA

## Active funding

Clinical Research Focus Program (KFSP) - University of Zurich, PI, 1/22 - 12/24, CHF 1.5 Mio  
The LOOP Zürich, PI, 5/2021 – 4/2026, CHF 5 Mio  
The Hartmann Müller Foundation, PI, 5/2021 – 4/2022, CHF 32'000

## Supervision of junior scientists

PhD students: M. Buitrago (2004), K. Molina-Luna (2007), Judith Lam (2013), R. Kundert (2019), M. Widmer (2016), Lauriane Nallet Khosrofian (2019), Jeremia Held (2019), Anne Schwarz (2021), Yesica Martinez (ongoing), Belen Valladeres (ongoing)

Dr. med. students: B. Hertler (2012), M. Schubring (2013), S. Röhrich (2010), J. Erharhaghen (2008), S. Mann (2011), S. Heim (2010), Natalie Lucia Scherrer (2017), Philipp Baumgartner (2019), Riccardo Steffen (2019), Dominic Wirth (2021), Dea Flury (2021)

Master students: D. Wirth (2014), C. Gloor (2014), D. Flury (2014), E. Wiedmer (2014), C. Gmür (2015), M. Kälin (2015), Roni Widmer (2017).

Post-Docs: T. Ringer (2004), Ana Pekanovic (2009), J. Hosp (2016), S. Schwarz (2011), T. Kaffenberger (2014), J. Schneider (2013), M. Branscheidt (2021), J. Held (2021), A. Schwarz (ongoing), L. LeGrand (ongoing)

Habilitations: S. Wegener (2015), C. Globas (2016), P. Gruber (2020)

## Teaching

Lectures in Clinical Neurology, Neuroscience and Rehabilitation for medical students, neuroscience/biology students, engineering students (ETH), Neurorehabilitation academy for young neurologists.

## Activities in panels, boards and as scientific expert

Swiss Society for Neuroscience, Steering Committee, since 2018

Committee for the Development of Nationwide Stroke Unit Criteria for Switzerland, since 2011

Swiss Stroke Society, Steering Committee, since 2012, cashier since 2020

European Stroke Organization, Chair Neurorehabilitation Committee, 2017 - 2021

Zürich Neuroscience Center (ZNZ), Steering Committee, 2010-2014

Clinical Ethics Committee, University of Tübingen, Germany, 2006-2008

Internal Research Review Board, University of Tübingen, Germany, 2006-2008

EU COST Action Rehabilitation Robotics, Work Group 4 (Neurophysiological Mechanisms of Robotic Therapies), Role: Co-Work Group Leader, <http://www.rehabilitationrobotics.eu>, 2011-2015

Master Program Advanced Rehabilitation Technologies (MscART), EU Erasmus Project lead by the University of Southampton, Role: Co-Organizer, <http://www.rehabtech.soton.ac.uk>, 2012-2015

Invited Reviewer for: JAMA, Proc Natl. Acad. Sci. USA, Journal of Neuroscience, Journal of Neurophysiology, Brain, Stroke, American Journal of Psychiatry, Neuroimage, Cerebral Cortex, Human Brain Mapping, Behavioral Brain Research, Experimental Brain Research, Experimental Neurology, European Journal of Neuroscience, Pesticide Biochemistry and Physiology, Movement Disorders, Neurorehabilitation and Neural Repair, Neuroscience Letters, Neuroreport, INRS Neurology

## Organization of conferences

Yearly since 2014      Stroke Symposium of the Stroke Center Zurich

February 2015      Neurorehabilitation meets Neuroeconomics, Vitznau, Switzerland

## Honors and awards

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|------|---|
| 2021 | “Der Visionär”, Research Award, P&K Pühringer Foundation                  |
| 2010 | Susanne Klein Vogelbach Prize for Rehabilitation Research                 |
| 2006 | Alois Kornmüller Award of the German Society for Clinical Neurophysiology |
| 2005 | Research Price of the Commerzbank Foundation                              |
| 2005 | Attempto Prize of the University of Tübingen                              |
| 2004 | Poster Prize of the German Soc. for Neurology (DGN)                       |
| 2003 | Poster Prize of the German Soc. for Neurology (DGN)                       |
| 1991 | Award of the Bavarian Scholarship Foundation                              |
| 1990 | Award in the German Scholar Contest in Computer Science                   |

## Scientific achievements

### Basic science

- The role of the motor cortex in motor skill learning: We confirmed by role of the motor cortex for motor skill learning by demonstrating that skill consolidation depends on protein synthesis in motor cortex (Luft, J Neurosci 2004). This research was extended to post-stroke recovery, which was also shown to be dependent on protein synthesis in motor cortex (Schubring, PlosOne 2016)
- Dopaminergic control of motor skill learning in the rat: The **major focus of our basic research group** has been the dopaminergic projection to motor cortex in the rat and its role for skill learning. We described the anatomy (Hosp, J Neurosci 2011), behavioral relevance (Molina-Luna, PlosOne 2010, Leemburg Sci Reports 2018), electrophysiology (Hosp, Neuroscience 2009, Hosp Neuroimage 2010, Molina-Luna Neuroimage 2008) and cellular biology (Rioult-

Pedotti, PlosOne 2015) of dopaminergic innervation of motor cortex in the rat. We are currently investigating the role of the dopaminergic system in post-stroke recovery and its functioning in vivo using a combination of electrophysiological, optogenetic and behavioral methods.

### Clinical science

- Clinical trials in Stroke Rehabilitation are our **major clinical research focus**. During my post-doctoral fellowship at the Johns Hopkins University, I started clinical research in stroke rehabilitation. Together with partners from the University of Maryland I conducted two clinical trial programs investigating bilateral arm therapy and treadmill exercise in chronically disabled stroke survivors. I performed functional imaging studies as part of these controlled trials (Luft JAMA 2004, Luft Stroke 2008, Whitall Neurorehabil Neural Repair 2011, McCombe Waller, BMC Neurology 2014). The first trial that I designed and sponsored was an RCT on treadmill exercise in elderly stroke subjects (Globas, Neurorehabil Neural Repair 2012). After moving to Zurich, I participated in the design and the recruitment of the Armin Trial to investigate the efficacy of robotic training for arm recovery (Klammroth, Lancet Neurol 2014). My group has recently conducted (with myself as PI) three RCTs in acute stroke recovery: One multicenter trial together with Johns Hopkins and Columbia University on robotic training during the subacute phase after stroke (SMARTS 2, Krakauer Neurorehabil Neural Repair 2021). The second is the Armeo Senso Reward investigating concurrent feedback and monetary reward versus control in rehabilitative arm training (Widmer Neurorehabil Neural Repair 2021). The third trial investigated sleep cueing using musical stimuli to facilitate arm recovery after stroke (together with Christian Baumann, UZH). My group also completed several non-randomized clinical trials including studies with telerehabilitation arm therapy (e.g., Wittmann, J Neuroeng Rehabil 2016). We are currently actively recruiting for the ESTREL Trial (PI Stefan Engelter, Basel) investigating the role of oral levodopa for post-stroke recovery.