

## *Curriculum Vitae*

### トーケル・クリングバーグ

#### アドレス

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#### 現在のポジション

カロリンスカ大学認知神経科学教授  
Professor in Cognitive Neuroscience at Karolinska Institutet  
王立科学アカデミー研究職  
Research position from the Royal Academy of Science (KVA).

#### 学業・研究歴

- 1997** カロリンスカ大学博士号。論文名: “The Neurophysiology of Working Memory - functional mapping of the human brain with positron emission tomography”. 指導教授 Per E Roland。
- 1998** カロリンスカ大学および病院より医学博士号(1998年1月)。
- 1998** P 米国カリフォルニア州スタンフォード大学心理学科(John Gabrieli 教授)および放射線医学科(Michael Moseley 教授)にてポストドク。
- 2001** カロリンスカ大学ポストドク。
- 2002** スウェーデン研究評議会助教授(Assistant professor (“forskarassistent tj·nst” ), Swedish Research Council (VR))。
- 2004** カロリンスカ大学脳神経科学准教授(Associate Professor (“docent”) in Neuroscience at Karolinska Institutet)。
- 2005** 王立科学アカデミー資金による研究職(Research position financed by the Royal Academy of Sciences (KVA))。
- 2006** カロリンスカ大学認知神経科学教授(Professor in Cognitive Neuroscience at Karolinska Institutet)。

#### 受賞

- 国際神経心理学会より重要な貢献 Butter's 賞 2002 年(Butter's award 'for outstanding contribution.' From the International Neuropsychological Society, 2002)。
- スウェーデン失読症基金重要な研究賞 2002 年(Swedish Dyslexia Foundation reward for outstanding research, 2002)。
- 戦略研究基金より 2004 年度”未来の研究指導者”賞、6 年間、1000 万スウェーデンクローネ寄附金およびキャリア開発計画。4 年毎に 17 人の若手教授に与えられる。“Research Leader of the Future” - award from Strategic Research Foundation, 2004, a 6-year, 10 MSEK grant and a career development program given to 17 junior professors in Sweden every 4 years.
- 博士課程学生 Pernille Olesen が 2005 年カロリンスカ大学ベスト論文として Chorafa 賞と、2007 年”Child medicin”から受賞。PhD student Pernille Olesen got the Chorafa prize for best thesis at the Karolinska Institute, 2005, and prize from “Child medicin” 2007.
- フィリップス北欧賞 2006。Philips Nordic Prize, 2006.

#### 授与と表彰(英文のままとさせていただきます)

Brain Foundation's (Hj·rnfonden) Post-doc Stipend 2000; Wenner-Gren Post-doc Stipend 1998 and 1999; Sven Jerrings Foundation, 2000; Dyslexia Foundation, 2000  
 Stiftelsen Barnav·rd, grant, 2000; Jeansson Stiftelse stipendiat, 2000, 2001  
 RBU, grant 2000; Linn·a och Josef Carlsson Stifelse, grant 2000; KI “Young promising researcher” grant, 2001; Medical Research Council (MFR/VR) 1999, 2000, 2001, 2002, 2003, 2004; Wallenberg Global Learning Network (Principal applicant, in collaboration with Stanford University) 2002-2003, 2005-2006. Elected member of the Rodin Remediation Academy, 2002. Future Research Leader gran (6 years 10 MSEK) from Foundation for Strategic Research. 2004-2010; Elected member of the Swedish Dyslexia Foundation, 2006; Riksbanken Jubileumsfond Grant: “Learning and memory in children and young adults”, 3 year, 16 MSEK, 2006.

#### 査読者(論文誌、学会)

Science, Brain, Archives of General Psychiatry, Trends in Cognitive Sciences, Cerebral Cortex, Journal of Neuroscience, Cognitive Brain Research, Human Brain Mapping, NeuroImage, NeuroReport, Neuroscience Letters, Neuropsychology, J Clinical and Experimental

Neuropsychology, Quarterly Journal of Experimental Psychology, Medical Research Council UK, Developmental Science, J Affective and Behavioral Neuroscience.

### 招聘國際講演

- Intern. Summer School of Brain Research, Amsterdam, 1999.
- Functional Mapping of the Human Brain, Brighton, UK, 2001
- Memory and the Brain”, Sendai, Japan, 2001
- ISMRM Diffusion MRI Workshop”, Saint-Malo, France, 2002.
- Rodin Remediation Academy”, Munich, Germany, 2002
- IBRO/FENS Summer School 2003, entitled "Development and Plasticity of the Human Cerebral Cortex".
- New York Academy of Sciences meeting, 2004
- European Academy of Child Disability, Edinburgh, GB, 2004.
- Advances in developmental cognitive neurosci., Amsterdam. April 2005.
- European Soc. for on Cognitive Psychol.. Leiden, Holland, August 2005.
- IBRO/FENS Summer School, Zagreb, Croatia, September, 2005.
- Conference Children and Adults with ADHD (CHADD), Chicago, 2006.
- European Society for Neuropsychology, Toulouse, 2006.
- Cognitive Neuroscience Society, New York, April, 2007.
- European College of Neuropsychopharmacology, Vienna, Oct 2007.
- Conf. Children and Adults with ADHD (CHADD), Washington, Nov 2007

### 特許

- Main inventor on US patent 6,463,315 “Analysis of Cerebral White Matter For Prognosis and Diagnosis of Neurological Disorders”.
- Main inventor on European patent 1387644 “Computer training system”
- Inventor of US patent 7,186,116 “System and method for improving memory capacity of a user”.

## 指導生徒

### **Co-supervisor of graduate students**

Fritjof Norrelgen (dissertation 2002)

Zoltan Nagy (2001-2003)

Fredrik Edin (starting 2003, dissertation jan 2008)

### **Main supervisor of graduate students**

Helena Westerberg (dissertation, May 2004)

Pernille Olesen (dissertation Nov 2005)

Julian Macoveanu (dissertation Sep 2006).

Sissela Bergman (registered, Sep 2006)

### **Supervision of post-docs**

Fabien Schneider (2005 - 2006)

Lisa Thorell (2005)

Fiona McNab (Aug 2005 -)

Ga·lle Leroux (2006-2007)

Henrik Larsson (Jan 2007-)

## 出版物

Klingberg T, Roland PE, Kawashima R (1994) The human entorhinal cortex participates in associative memory. *NeuroReport* 6:57-60.

Klingberg T, Roland PE, Kawashima R (1996) Activation of multi-modal cortical areas underlies short-term memory. *European J Neurosci.*, 8, 1965-1971.

Geyer, S, Ledberg, A., Schleicher, A., Kinomura, S., Schormann, T., B·rgel, U., Klingberg, T., Larsson, J., Zilles, K., Roland, PE. (1996) Two different areas within the primary motor cortex of man. *Nature* 382: 805-807.

Klingberg T, Roland PE (1997) Interference between two concurrent tasks is associated with activation of overlapping fields in the cortex. *Cognitive Brain Res.*, 6, 1-8.

Klingberg T, O'Sullivan BT, Roland PE (1997) Bilateral activation of fronto-parietal networks by incrementing demand in a working memory task. *Cerebral Cortex*, 7, 465-471.

Klingberg, T. (1997) The neurophysiology of working memory · functional mapping of the human brain with positron emission tomography. *Thesis*.

Klingberg T, Roland PE (1998) Right prefrontal activation during encoding, but not during retrieval, in a non-verbal paired associates task. *Cerebral Cortex* 8:73-9.

Klingberg T (1998) Concurrent performance of two working memory tasks: potential mechanisms of interference. *Cerebral Cortex* 8:593-601.

Klingberg T, Vaidya CJ, Gabrieli JDE, Moseley ME, Hedehus M (1999) Myelination and organization of the frontal white matter in children: a diffusion tensor MRI study. *Neuroreport* 10:2817-21.

Nilsson LG, Nyberg L, Klingberg T, Berg C, Persson J, Roland PE (2000) Activity in motor areas while remembering action events. *NeuroReport* 11: 2199-2201.

Bunge SA, Klingberg T, Jacobsen RB, Gabrieli JDE. (2000) A resource model of the neural basis of executive working memory. *Proc Natl Acad Sci, USA*,97(7): 3573-3578

Klingberg T, Hedehus M, Temple E, Salz T, Gabrieli JDE, Moseley ME, Poldrack RA (2000) Microstructure of Temporo-Parietal White Matter as a Basis for Reading Ability : Evidence from Diffusion Tensor Magnetic Resonance Imaging. *Neuron*: 25:493-500

Klingberg T, (2000) Limitations in information processing in the human brain: neuroimaging of dual-task performance and working memory tasks. *Prog Brain Res*.126:95-102.

Herath P, Klingberg T, Young J, Roland PE (2001) Neural correlates of dual task interference can be dissociated from those of divided attention: an fMRI study. *Cerebral Cortex* 11(9):796-805

Klingberg, T, Forssberg, H, Westerberg, H (2002) Increased Brain Activity in Frontal and Parietal Cortex Underlies the Development of Visuo-spatial Working Memory Capacity During Childhood. *J Cognitive Neuroscience*.14(1):1-10.

Klingberg, T, Forssberg, H, Westerberg, H (2002) Training of Working Memory in Children with ADHD *J Clinical and Experimental Neuropsychology* 24(6): 781-91.

Nagy, Z, Westerberg, H, Skare, S, Andersson, JL, Fernell, E, Holmberg, K, B·hm, B, Forssberg, H, Lagercrantz, H, Klingberg, T (2003) Preterm children have disturbances of white matter at 11 years of age as shown by diffusion tensor imaging. *Paediatric Research* Nov;54(5):672-9.

Olesen, P, Nagy, Z, Westerberg, H, Klingberg, T (2003) Combined analysis of DTI and fMRI data reveals a joint maturation of white and grey matter in a fronto-parietal network. *Cognitive Brain Research* 18(1) 48-57

Olesen, P, Westerberg, H, Klingberg, T (2004) Increased prefrontal and parietal brain activity after training of working memory. *Nature Neuroscience* 7 (1):75-79

Westerberg, H, Hirvikoski, T, Forssberg, H, Klingberg, T (2004) Visuo-spatial working memory span: a sensitive measure of cognitive deficits in children with ADHD. *Child Neuropsychology* 10 (3) 155-61

Nagy, Z, Westerberg, H, Klingberg, T (2004) Regional maturation of white matter during childhood and development of function. *Journal of Cognitive Neuroscience* 16:1227-33

Nagy Z, Lindström, K, Westerberg, H, Skare, S., Andersson, J., Hallberg, B, Lagercrantz, H, Klingberg, T, Fernell, E., (2005) Diffusion tensor imaging on teenagers, born at term with moderate hypoxic-ischemic encephalopathy. *Pediatr Res.* 58 (5): 936-40.

Klingberg, T, Fernell, E, Olesen, P, Johnson, M, Gustafsson, P, Dahlström, K, Gillberg, CG, Forssberg, H, Westerberg, H. (2005) Computerized Training of Working Memory in Children with ADHD - a Randomized, Controlled Trial. *J Am Acad Child Adolesc Psychiatry* 44 (2):177-186

Klingberg, T. (2006) Development of a superior frontal - intraparietal network for visuo-spatial working memory.. *Neuropsychologia*.44 (11):2171-7

Hedman L. Klingberg T. Kjellin A. Wredmark T. Enochsson L. Fellander-Tsai L. (2006) Working memory and image guided surgical simulation. *Studies in Health Technology & Informatics* 119:188-93, 2006.

Macoveanu J, Tegnér J, Klingberg, T (2006) A biophysical model of multiple-item working memory: a computational and neuroimaging study. *Neuroscience* 141(3):1611-8.

Olesen, PJ; Macoveanu, J, Tegnér, J, Klingberg, T (2006) Development of Brain Activity During Separate Working Memory Events - Altered Frontal Activity Related to Distraction in Children. *Cerebral Cortex Epub 2006 Jun 26. Paper version May 2007* 17(5):1047-54.

Shavelson, R.J., Yuan, K., Alonzo, A.C., Klingberg, T., & Andersson, M. (2006). On the Impact of Computer Cognitive Training on Working Memory and Fluid Intelligence. In D.C. Berliner & H. Kuppermintz (Eds.), *Contributions of Educational Psychology to Changing Institutions, Environments, and People*. Mahwah, NJ: Erlbaum.

Hedman, L, Klingberg T, Kjellin A, Wredmark T, Enochsson L, Fellander-Tsai L (2006) Working memory and image guided surgical simulation. *Stud Health Technol Inform.* 119:188-93.

Edin, F, Macoveanu, J, Olesen, P, Tegn r, J, Klingberg, T. (2007) Stronger synaptic connectivity as a mechanism behind development of working memory-related brain activity during childhood. *J. Cogn. Neurosci.*19(5):750-60.

Macoveanu, J., Klingberg T., Tegn r J. (2007) Behavioral evidence supports a strong NMDA receptor dominant recurrent mode of action for working memory as revealed by computational modeling. *Biological Cybernetics* 96(4):407-19.

Westerberg H, Jacobaeus H, Hirvikoski T, Clevberger P, Ostensson J, Bartfai A, Forssberg H, Klingberg T (2007), Computerized working memory training after stroke - a pilot study. *Brain Injury*21 (1) 21-9.

Westerberg, H., Klingberg, T. (2007) Changes in Cortical Activity after Training of Working Memory - a single subject analysis. *Physiology and Behavior*.

Thorell, LB, Lindqvist, S, Bergman, S, Bohlin, G, Klingberg, T (in press) Training and transfer effects of executive functions in preschool children. *Developmental Science*

McNab, F, Klingberg, T (in press) Prefrontal cortex and basal ganglia control access to working memory. *Nature Neuroscience*.

## 提出済み原稿

Klingberg, T, Andersson, M, Ljungb ck, H, Forssberg, H (submitted) The Effect of Stimulant Medication on Cognitive Training

Strand, F, Norrelgen, F, Forssberg, H, Klingberg, T (submitted) Phonological Working Memory with Auditory Presentation of Non-Words - An Event Related FMRI Study

McNab, F, Strand, F, Thorell, L, Klingberg, T (submitted) Common and unique components of inhibition and working memory.

Edin, F, Klingberg, T, St dberg, T, Tegn r, T (submitted) Fronto-parietal connection assymetry regulates working memory distractability.