

CURRICULUM VITAE

NAME: Thomas van Groen

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EDUCATION: HBS-B 1965-1971
Rijksuniversiteit Utrecht 1971-1975
Kandidaatsexamen 26-05-1975
Universiteit van Amsterdam
Doctoraalexamen 26-11-1980 (cum laude)
Promotie 20-11-1985

PROFESSIONAL TRAINING:

1975-1977	Physiology of the olfactory system in rabbits and study of their olfactory related behaviour. MS thesis project. University of Amsterdam; Dr. G Verberne
1975-1978	Instructor, in course of Animal Physiology. University of Amsterdam
1978	Pharmacology of the CNS of the cockroach. University of Amsterdam; Dr. T. Piek
1979	History of biology. University of Amsterdam; Dr. D. Hillenius
1980	Physiology of the olfactory and accessory olfactory bulb in rabbits. University of Amsterdam; Dr. F.H. Lopes da Silva
1981-1985	Physiology and anatomy of the entorhinal-hippocampal system. University of Amsterdam/ Vrije Universiteit; Drs. F.H. Lopes da Silva/ A.H.M. Lohman
1986-1987	Anatomy and physiology of the cingulate and subicular cortices. University of Alabama at Birmingham; Dr. J.M. Wyss
1988-1989	Anatomy and physiology of the hippocampal system, and Study of rat behaviour following lesions in the hippocampal system. University of Edinburgh; Drs. R.G.M. Morris/D. Willshaw
1989-1997	Anatomy, physiology and aging of the limbic system. University of Alabama at Birmingham; Dr. J.M. Wyss

1997-2005	Anatomy of the limbic system, study of rat and mouse behavior related to the limbic system, and transgenic animal models for Alzheimer's disease. University of Kuopio.
2005-present	Anatomy of the limbic system, study of rat and mouse behavior related to the limbic system, and transgenic animal models for Alzheimer's disease. University of Alabama at Birmingham.
2000	Appointed Docent in Neurobiology by University of Kuopio.
2005	Appointed Associate Director of Behavioral Core
EMPLOYMENT:	Instructor 01-04-1975 to 10-09-1978 by UvA (University of Amsterdam) Researcher 01-10-1981 to 31-03-1985 by FUNGO (Fundamental Medical Research Organization of ZWO) Researcher 01-05-1985 to 31-10-1985 by UvA (University of Amsterdam) Research associate 01-01-1986 to 31-12-1987 by UAB (University of Alabama at Birmingham) Research fellow 01-01-1988 to 31-04-1989 by MRC (University of Edinburgh, Scotland) Research associate 01-04-1989 to 31-09-1990 by UAB (University of Alabama at Birmingham) Research instructor 01-10-1990 to 31-09-1993 by UAB (University of Alabama at Birmingham) Assistant professor 01-10-1993 to 31-03-1997 by UAB (University of Alabama at Birmingham) Senior Researcher 01-04-1997 to 31-01-05 by UK (University of Kuopio) Associate professor 01-02-05 to present by UAB (University of Alabama at Birmingham)

Professional Societies

Finnish Neuroscience Association
 Dutch Society for the Advancement of Medical Research
 Society for Neuroscience
 International Brain Research Organization (IBRO)
 European Brain and Behaviour Society (EBBS)
 International Behavioural And Neural Genetics Society (IBANGS)

INVITED TALKS

Thomas van Groen. Different inflammatory properties of two types of amyloid deposits in APP/PS1 mutant mice. August 2003, IFN, Magdeburg, Germany

Thomas van Groen. The development of pathological changes and behavioral deficits in aging AD mutant mice. Is there a relation? May, 2003, Gladstone Institute, San Francisco, USA.

Thomas van Groen. Inflammation in transgenic AD model mice, effects of treatments on inflammation and pathology. May, 2004, OASI workshop, Troina, Italy.

Thomas van Groen. Alzheimer's disease, D-pep, imaging and possible treatments. July 2005, Julich, Germany

Thomas van Groen. Do anatomical connections play a role in the development of Alzheimer's disease pathology? July, 2006, Cajal Institute, Madrid, Spain

Thomas van Groen. Imaging A β in the brain. March 2007, Julich, Germany

Thomas van Groen. Anatomy of the anterior thalamus – retrosplenial system and its role in memory. September 2007, EBBS, Trieste, Italy

PUBLICATIONS

MANUSCRIPTS

- 1) Boeijinga PH. and Van Groen Th. Inputs from the olfactory bulb and olfactory cortex to the entorhinal cortex in the cat. II. Physiological studies. *Exp Brain Res* 57:40-48, 1984
- 2) Van Groen Th. and Lopes da Silva FH. Septotemporal distribution of entorhinal projections to the hippocampus in the cat, electrophysiological evidence. *J Comp Neurol* 238:1-9, 1985
- 3) Van Groen Th. and Witter MP. Electrophysiological and tracing study of the septotemporal distribution of entorhinal projections to the hippocampus in the cat. In: *Electrical Activity of the Archicortex*. pp. 107-123. G Buzsaki and CH Vanderwolf, eds. Akemiai Kiade, Budapest, 1985
- 4) Van Groen Th, Van Haren F, Witter MP. and Groenewegen HJ. Organization of the reciprocal connections between the subiculum and the entorhinal cortex in the cat. *J Comp Neurol* 250:485-497, 1986
- 5) Van Groen Th. and Lopes da Silva FH. Organization of the reciprocal connections between the subiculum and the entorhinal cortex in the cat. II. An electrophysiological study. *J Comp Neurol* 251:111-120, 1986
- 6) Van Groen Th, Ruardy L. and Lopes da Silva FH. Electrophysiological mapping of the accessory olfactory bulb of the rabbit (*Oryctolagus cuniculus*). *Exp Neurol* 93:67-93, 1986
- 7) Van Groen Th, Lopes da Silva FH. and Wadman WJ. Synaptic organization of olfactory inputs and local circuits in the entorhinal cortex, a current source density analysis. *Exp Brain Res* 67:615-622, 1987

- 8) Van Groen Th. and Wyss JM. Species differences in hippocampal commissural connections: studies in the rat, guinea pig, rabbit and cat. *J Comp Neurol* 267:322-334, 1988
- 9) Wyss JM. and Van Groen Th. The development of the hippocampal formation. In: *The Hippocampus, New Vistas* pp.1-16, 1989
- 10) Wyss JM, Van Groen T. and Sripanidkulchai, K. Dendritic bundling in retrosplenial cortex of the rat: input and output specificity. *J Comp Neurol* 295:33-42, 1990
- 11) Van Groen Th. and Wyss JM. The connections of the parasubiculum and the presubiculum in the rat. *Brain Res* 518:227-243, 1990
- 12) Van Groen Th. and Wyss JM. Connections of the retrosplenial granular a cortex in the rat. *J Comp Neurol* 300:593-606, 1990
- 13) Van Groen Th. and Wyss JM. Afferent and efferent connections of the postsubicular cortex in the rat: Characterization of the fourth region of the subicular cortex. *Brain Res* 529:165-177, 1990
- 14) Van Groen Th. and Wyss JM. Extrinsic projections from area CA1 of the rat hippocampus: Olfactory, cortical, subcortical and bilateral hippocampal formation projections. *J Comp Neurol* 302:515-528, 1990
- 15) Van Groen T. and Wyss JM. Connections of the retrosplenial dysgranular cortex in the rat. *J Comp Neurol* 315:200-216, 1992.
- 16) Wyss JM. and Van Groen T. Connections between the retrosplenial cortex and the hippocampal formation in the rat. *Hippocampus* 2:1-12, 1992.
- 17) Wyss JM, Fisk G. and Van Groen T. Impaired learning and memory in mature spontaneously hypertensive rats. *Brain Res* 592:135-140, 1992.
- 18) Van Groen T. and Wyss JM. Projections from the laterodorsal nucleus of the thalamus to the limbic and visual cortices in the rat. *J Comp Neurol* 324:427-448, 1992.
- 19) Wyss JM. and Van Groen T. Early breakdown of dendritic bundles in the retrosplenial granular cortex of hypertensive rats: Prevention by antihypertensive therapy. *Cerebral Cortex* 2:468-476, 1992.
- 20) Van Groen T, Vogt BA. and Wyss JM. Interconnections between the thalamus and the retrosplenial cortex in rodent brain. In Vogt B.A. and M. Gabriel (eds) *The Neurobiology of the Cingulate Cortex and Limbic Thalamus*. Birkhäuser, Boston, pp. 123-150, 1993.
- 21) Wyss JM. and Van Groen T. Neurologic consequences of hypertension and antihypertensive drug therapy. *Curr Opin Nephrol Hypertens* 3:228-235, 1994.
- 22) Wyss JM. and Van Groen T. The Limbic System. In Conn, M. (ed.) *Neuroscience in Medicine*. J.B. Lippincott, Philadelphia, pp. 321-337, 1994.
- 23) Van Groen T. and Wyss JM. Projections from the anterodorsal and anteroventral nuclei of the thalamus to the limbic cortex in the rat. *J Comp Neurol* 358:584-604, 1995.

- 24) Wyss JM, Tilokskulchai K, King K, Kadish I. and Van Groen Th. Distribution of neurons in the anterior hypothalamic nucleus activated by blood pressure changes in the rat. *Brain Res Bull* 49:163-172, 1999.
- 25) Rissanen A, Puolivali J, Van Groen T. and Riekkinen Jr P. In mice tonic estrogen replacement therapy improves non-spatial and spatial memory in a water maze task. *NeuroReport* 10:1369-1372, 1999.
- 26) Van Groen T, Kadish I. and Wyss JM. Projections from the anteromedial nucleus of the thalamus to the limbic system in the rat. *Brain Res Rev* 30:1-26, 1999.
- 27) Wyss JM, Chambless BD, Kadish I. and Van Groen Th. Age-related decline in water maze learning and memory in rats: strain differences. *Neurobiol Aging* 21:671-681, 2000.
- 28) Kadish I, Van Groen Th. and Wyss JM. Chronic, severe hypertension does not impair spatial learning and memory in Sprague Dawley rats. *Learning and Memory* 8:104-111, 2001.
- 29) Van Groen Th. The entorhinal cortex of the mouse. Cytoarchitectonical organization. *Hippocampus* 11:397-407, 2001.
- 30) Laitinen KSM, Van Groen T, Tanila H, Venäläinen J, Männistö PT. and Alafuzoff I. Prolyl oligopeptidase does not correlate with β -amyloid accumulation. *NeuroReport* 12:3309-3312, 2001.
- 31) Kadish I, Pradier L. and Van Groen Th. Transgenic mice expressing the human presenilin 1 gene demonstrate enhanced hippocampal reorganization following entorhinal cortex lesions. *Brain Res Bull* 57:587-594, 2002.
- 32) Van Groen T, Kadish I. and Wyss JM. The role of the laterodorsal nucleus of the thalamic nucleus in spatial learning and memory in the rat. *Behav Brain Res* 136:329-337, 2002.
- 33) Van Groen T, Kadish I. and Wyss, JM. Role of the anterodorsal and anteroventral thalamic nucleus in spatial learning memory in the rat. *Behav Brain Res* 132:19-28, 2002.
- 34) Van Groen Th, Kadish I. and Wyss JM. Species differences in the projections from the entorhinal cortex to the hippocampus. *Brain Res Bull* 57:553-556, 2002.
- 35) Kadish I. and Van Groen Th. Lack of estrogen diminishes neuronal sprouting following entorhinal cortex lesions in the mouse. *J Neurosci* 22:4095-4102, 2002
- 36) Liu L, Ikonen S, Heikkinen T, Tapiola T, Van Groen T. and Tanila H. The effects of long-term treatment with Metrifonate, a cholinesterase inhibitor, on cholinergic activity, amyloid pathology, and cognitive function in APP and PS1 doubly transgenic mice. *Exp Neurol* 173:196-204, 2002.
- 37) Puoliväli J, Wang J, Heikkinen T, Heikkilä, M, Tapiola T, van Groen T, and Tanila H. Hippocampal A β 42 levels correlate with spatial memory deficit in APP and PS1 double transgenic mice. *Neurobiol Dis* 9:339-347, 2002.
- 38) Wang J, Ikonen S, Gurevicius K, Van Groen T. and Tanila H. Alteration of cortical EEG in mice carrying mutated human APP transgene. *Brain Res* 943:181-190, 2002.

- 39) Liu L, Ikonen S, Heikkinen T, Heikkilä, M, Van Groen T. and Tanila H. Effects of fimbria-fornix lesion and amyloid pathology on spatial learning and memory in transgenic APP+PS1 mice. *Behav Brain Res* 134:433-445, 2002.
- 40) Liu L, Ikonen S, Tapiola T, Tanila H, van Groen T. Fimbria-fornix lesion does not affect APP levels and amyloid deposition in the hippocampus of APP+PS1 double transgenic mice. *Exp Neurol* 177:565-574, 2002.
- 41) Van Groen Th, Kadish I. and Wyss JM. Old rats remember old tricks: Memories of the water maze persist for at least twelve months. *Behav Brain Res* 136:247-255, 2002.
- 42) Kadish I. and Van Groen Th. Differences in lesion-induced hippocampal plasticity between mice and rats. *Neuroscience* 100:499-509, 2003.
- 43) Van Groen Th, Miettinen P, and Kadish, I. The entorhinal cortex of the mouse: Organization of the projection to the hippocampal formation. *Hippocampus* 13:133-149, 2003.
- 44) Wang J, Ikonen S, Gurevicius K, Van Groen T, Tanila H. Altered auditory-evoked potentials in mice carrying mutated human amyloid precursor protein and presenilin-1 transgenes. *Neuroscience* 116:511-517, 2003.
- 45) Van Groen Th, Liu L, Ikonen S. and Kadish I. Diffuse amyloid deposition, but not plaque number, is reduced in APP/ PS1 double transgenic mice by pathway lesions. *Neuroscience* 119:1185-1197, 2003.
- 46) Wyss JM, Van Groen T. and Canning K. The Limbic System. In: *Neuroscience in Medicine*. Chapter 17:369-388, 2003.
- 47) Wyss JM, Kadish I, and Van Groen T. Age-related decline in water maze learning and memory in spontaneously hypertensive rats: attenuation by antihypertensive treatments. *Clin Exp Hypertension* 25:455-474, 2003.
- 48) Wang J, Tanila H, Kadish, I, and Van Groen T. Gender differences in the amount and deposition of amyloid β in APP^{swe} and PS1 double transgenic mice. *Neurobiol Dis* 14:318-327, 2003.
- 49) Van Groen T. and Wyss JM. Connections of the retrosplenial granular b cortex in the rat. *J Comp Neurol*, 463:249-263, 2003.
- 50) Van Groen Th, Kadish I. and Wyss JM. Lesions of the retrosplenial granular b cortex (but not of area Rga) affect learning and memory in the rat. *Behav Brain Res*. 154:483-491, 2004.
- 51) Liu L, Herukka SK, Minkeviciene R, van Groen T, Tanila H. Longitudinal observation on CSF Abeta42 levels in young to middle-aged amyloid precursor protein/presenilin-1 doubly transgenic mice. *Neurobiol Dis*. 17:516-523, 2004.
- 52) Gureviciene I, Ikonen S, Gurevicius K, Sarkaki A, van Groen T, Pussinen R, Ylinen A, and Tanila H. Normal induction but accelerated decay of LTP in APP + PS1 transgenic mice. *Neurobiology Dis* 15:188-195, 2004.
- 53) Friedlich AL, Lee, J-Y, van Groen T, Cherny RA, Volitakis I, Cole TB, Palmiter RD, Koh J-Y, Bush AI. Neuronal zinc exchange with the blood vessel wall promotes cerebral amyloid angiopathy in an animal model of Alzheimer's disease. *J Neurosci*,

24:3453-3459, 2004

- 54) van Groen T, Kadish I. Transgenic AD model mice, effects of potential anti-AD treatments on inflammation and pathology. *Brain Res Rev.* 48:370-378, 2005.
- 55) van Groen T, Puurunen K, Maki HM, Sivenius J, Jolkkonen J. Transformation of diffuse beta- amyloid precursor protein and beta-amyloid deposits to plaques in the thalamus after transient occlusion of the middle cerebral artery in rats. *Stroke* 36:1551-1556, 2005.
- 56) van Groen T, Kadish I. Transgenic AD model mice, effects of potential anti-AD treatments on inflammation and pathology. *Brain Res Rev.* 48:370-378, 2005.
- 57) Huuskonen J, Suuronen T, Miettinen R, van Groen T, Salminen A. A refined in vitro model to study inflammatory responses in organotypic membrane culture of postnatal rat hippocampal slices. *J Neuroinflammation* 2:25, 2005
- 58) Popovic M, Caballero-Bleda M, Popovic N, Puelles L, van Groen T, Witter MP. Verapamil prevents, in a dose-dependent way, the loss of ChAT-immunoreactive neurons in the cerebral cortex following lesions of the rat nucleus basalis magnocellularis. *Exp Brain Res.* 170:368-375, 2006
- 59) van Groen T, Kiliaan AJ, Kadish I. Deposition of mouse amyloid beta in human APP/PS1 double and single AD model transgenic mice. *Neurobiol Dis.* 23:653-62, 2006
- 60) Malm TM, Iivonen H, Goldsteins G, Keksa-Goldsteine V, Ahtoniemi T, Kanninen K, Salminen A, Auriola S, Van Groen T, Tanila H, Koistinaho J. Pyrrolidine dithiocarbamate activates Akt and improves spatial learning in APP/PS1 mice without affecting beta-amyloid burden. *J Neurosci.* 2007 27:3712-3721.
- 61) Kadish I. and Van Groen Th. Changes in plasticity with ageing in Alzheimer's disease model mice. *J Neurosci*, submitted, 2007.
- 62) Kadish I. and Van Groen Th. Lesion-induced Hippocampal Plasticity In Mice, influences of sex, age and genotype. *Rest Neurol Neurosci*, submitted, 2007.
- 63) Van Groen Th, Kadish I, Wiesehan K, Willbold D. Staining of amyloid β with small, fluorescent A β 42 binding D-amino acid peptides in transgenic AD model mice. *J. Neurosci. Meth.*, submitted, 2007