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Education and academic degrees:

MD from University of Copenhagen 1984. Board certified user of radioisotopes 1986. FMGEMS exam (US) 1989. Board certified in neurology 1994. DMSc (dr.med.) from Univ. Copenhagen 1994.

I am a translational neurobiologist and clinical neurologist with interest in advanced methodological developments that I subsequently apply in my research to address pertinent neurobiological and clinical issues. My scientific interests have fallen in three sequentially separated categories: (i) blood-brain barrier transport - which was the basis for my DMSc thesis (1985-1992), (ii) neurobiology of cerebral blood flow and metabolism (1992-2000) and (iii) neurobiology of the neurotransmission with particular emphasis on molecular brain imaging (1998- current). Cimbi focuses on the neural bases of personality dimensions that predispose individuals to e.g., affective and substance use disorders, with special emphasis on the serotonergic neurotransmitter system.

Leadership:

Leader of Neurobiology Research Unit (NRU) at Rigshospitalet since 2004 (www.nru.dk). NRU encompasses around 50 staff members, publishes around 35 peer-reviewed papers per year and has an annual budget of roughly 5 mio $ or 3.5 mio €.
Director of the Lundbeck Foundation Center for Integrated Molecular Brain Imaging (Cimbi) since 2006; based on a 11 mio € grant donation from the Lundbeck Foundation to establish a neuroscience center (www.cimbi.org).

Previous appointments:

Visiting scientist at NIH and at Stony Brook, USA (1985-90), at Institute of Physiology, Bonn, Germany (1988-89), and at MGH Harvard, Boston (2011-12). Clinical education has predominantly taken place at Rigshospitalet and has been interspersed by a three years appointment as research fellow (1986-1989) at the Dept. of Neurology, and by maternal leave in 1989, 1992, and 1995. Appointed as research

professor in Neurobiology and chief neurologist in 1999. Professor of Neurology at University of Copenhagen 2005-2006 and of Neurobiology from 2004.

Present appointments:

Professor of neurobiology, chief consultant, Chairman of the Neurobiology Research Unit
Director of Center for Integrated Molecular Brain Imaging (www.cimbi.org)
Director of Center for Experimental Medicine Neuropharmacology (www.neuropharm.eu)

Positions of trust, reviews for journals, teaching, etc.:

Scientific Secretary 2001-2005 of the International Society of Cerebral Blood Flow and Metabolism; President of the Danish Society for 2010-12; of the Scientific Ethics Committee for Copenhagen and Frederiksberg from 1998-2002; of the Research Council of the Medical Faculty at the University of Copenhagen 1999-2005; Chairman for the steering group for research laboratories at Rigshospitalet from 1999, Scientific Advisory Board Member, Health Science Faculty, University of Lund 2007-2011, and the Strategic Research Council from 2010. Member of the European College of Neuropsychopharmacology (ECNP) Executive Board since 2010. Field Editor at the International Journal of Neuropsychopharmacology since 2013. Regularly expert panel scientist for the EU commission, Brussels.

Examiner at PhD and DMSc theses in Denmark, Canada, Sweden, Australia, and Finland. Expert Evaluator at the EU Commission for evaluation of research proposals, Brussels, in 1999, 2000, 2005 and 2013, and for the Norwegean Research Council 2006-7, Danish Multiple Sclerosis Foundation Research Committee 2007-9. Expert evaluator at the Swedish Research Council and VINNOVA 2005-2008 and Norwegian Research Council 2007-2010. Member of the Danish Health Advisory Group for the EU 7th Framework Program 2009-12. Teaching of pregraduate medical students and organizer of international courses for postgraduates.

Research, international collaboration, supervisor:

DMSc (dr.med.) thesis defended in 1994, title: 'Application of the double-indicator technique for measurement of blood-brain barrier permeability in humans'. The research has predominantly dealt with aspects of blood-brain barrier transport, and cerebral hemodynamics, and with molecular brain imaging.

International collaboration within the EUREKA Program (Dopimag EU1836) (1998-2000); the EU Program (COST) (1999-2000). Coordinator of EU Fifth Framework program on "Neuroreceptor mapping in patients with mild cognitive impairment", 2001-6. Member of the steering group of EU 6th Framework Network of Excellence DiMI (2005-10). EU 7th Framework program EURIPIDES (2009-12), InMIND (2011-). Since 1999 supervised a total of 19 PhD-students who have defended their PhD degree.

Honours:

Mogens Fog Prize 1993 (lecture competition) of the Danish Neurological Society
Synthelabo Recherche Award 1994 of the Société de Circulation et Métabolism du Cerveau, France
Anne Bochardt Prize 1999 awarded by the Medical Society in Copenhagen
Member of the Royal Danish Academy of Sciences and Letters since 2004
William Ottesen & Wife's Foundation 2008
Monrad Krohn Prize, Oslo, Norway 2010
Lassen Prize, 2011
Carlsberg Foundation Researcher Award for Sciences, 2014

Publications:

Published more than 300 Medline indexed scientific papers and reviews. Number of Citations: >8700. H-index: 48.

Selected papers:

- Svarer C, Madsen K, Hasselbalch SG, Pinborg LH, Haugbøl S, Frøkjær VG, Holm S, Paulson OB, Knudsen GM. MR-based automatic delineation of volumes of interest in human brain PET-images using probability maps. NeuroImage 2005;24:969-79
- Kalbitzer J, Erritzoe D, Holst KK, Nielsen FA, Marner L, Lehel S, Arentzen T, Jernigan TL, Knudsen GM. Seasonal changes in brain serotonin transporter binding in short serotonin transporter linked polymorphic region-allele carriers but not in long-allele homozygotes. Biol Psychiatry. 2010;67:1033-9
- Erritzoe D, Holst K, Frokjaer VG, Licht CL, Kalbitzer J, Nielsen FA, Svarer C, Madsen J, Knudsen G. A Nonlinear Relationship between Cerebral Serotonin Transporter and 5-HT2A Receptor Binding: An In Vivo Molecular Imaging Study in Humans. J Neurosci. 2010;30:3391-7
- Erritzoe D, Frokjaer VG, Holst KK, Christoffersen M, Johansen SS, Svarer C, Madsen J, Rasmussen PM, Ramsøy T, Jernigan TL, Knudsen GM. In Vivo Imaging of Cerebral Serotonin Transporter and Serotonin2A Receptor Binding in 3,4-Methylenedioxymethamphetamine (MDMA or "Ecstasy") and Hallucinogen Users. Arch Gen Psychiatry. 2011;68:562-76
- Ettrup A, Mikkelsen JD, Lehel S, Madsen J, Nielsen EO, Timmermann DB, Peters D, Knudsen GM. [11C]NS14492 as a novel PET radioligand for imaging cerebral α7 nicotinic acetylcholine receptors: in vivo evaluation and drug occupancy measurements. J Nucl Med 2011;52:1449-56
- Sander CY, Hooker JM, Catana C, Normandin MD, Alpert NM, Knudsen GM, Vanduffel W, Rosen BR, Mandeville JB. Neurovascular coupling to D2/D3 dopamine receptor occupancy using simultaneous PET/functional MRI. Proc Natl Acad Sci U S A. 2013;110:11169-74
- Haahr ME, Fisher PM, Jensen CG, Frokjaer VG, Mc Mahon B, Madsen K, Baaré WFC, Lehel S, Norremolle A, Rabiner EA, Knudsen GM. Central 5-HT4 receptor binding as biomarker of serotonergic tonus in humans: a [11C]SB207145 PET study. Mol Psychiatry. 2014 Apr;19(4):427-32

- Fisher PM, Madsen MK, Mc Mahon B, Holst KK, Andersen SB, Laursen HR, Hasholt LF, Siebner HR, Knudsen GM. Three-week bright-light intervention has dose-related effects on threat-related corticolimbic reactivity and functional coupling. Biol Psychiatry. 2014 Aug 15;76(4):332-9
- Fisher PM, Ewers Haahr M, Jensen CG, Frokjaer VG, Siebner HR, Knudsen GM. Fluctuations in [11C]SB207145 PET Binding Associated with Change in Threat-Related Amygdala Reactivity in Humans. Neuropsychopharmacology. 2015 May;40(6):1510-8